Appendix C
Black & Veatch Backup Data

GE Energy

Mark* VIe Control
Product Description

GEI-100600C

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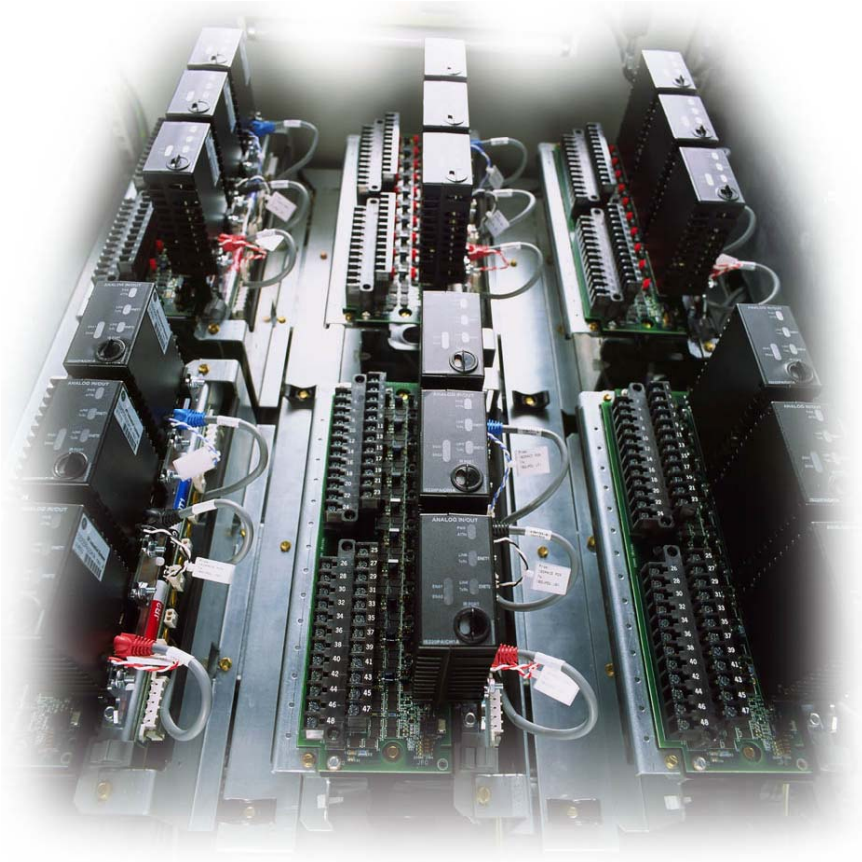

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Introduction

Mark* VIe is a flexible control system for multiple applications. It features high-speed, networked I/O for simplex, dual, and triple redundant systems. Industry-standard Ethernet communications are used for I/O, controllers, and supervisory interface to operator and maintenance stations, and third-party systems.

ToolboxST* is used for Mark VIe and related controls as a common software platform for programming, configuring I/O, trending, and analyzing diagnostics. It provides a single source of quality, time-coherent data at the controller and plant level for effectively managing equipment assets.

Architecture

A single-board controller is the heart of the system. It includes the main processor and redundant Ethernet drivers for communicating with networked I/O and additional Ethernet drivers for the control network. A QNX® real-time, multitasking operating system is used for the main processor and I/O. Application software is provided in a configurable control block language, and is stored in non-volatile memory. It conforms to IEEE-854 32-bit floating-point format.

IONet is a dedicated, full-duplex, point-to-point protocol that provides a deterministic, high-speed 100 MB communications network suitable for local or remote I/O with a fiber interface. It provides communication between the main processor(s) and networked I/O blocks, called I/O packs.

100 MB Ethernet is used for communication to local and remote I/O packs. The IONet is available in single, dual, and triple configurations.

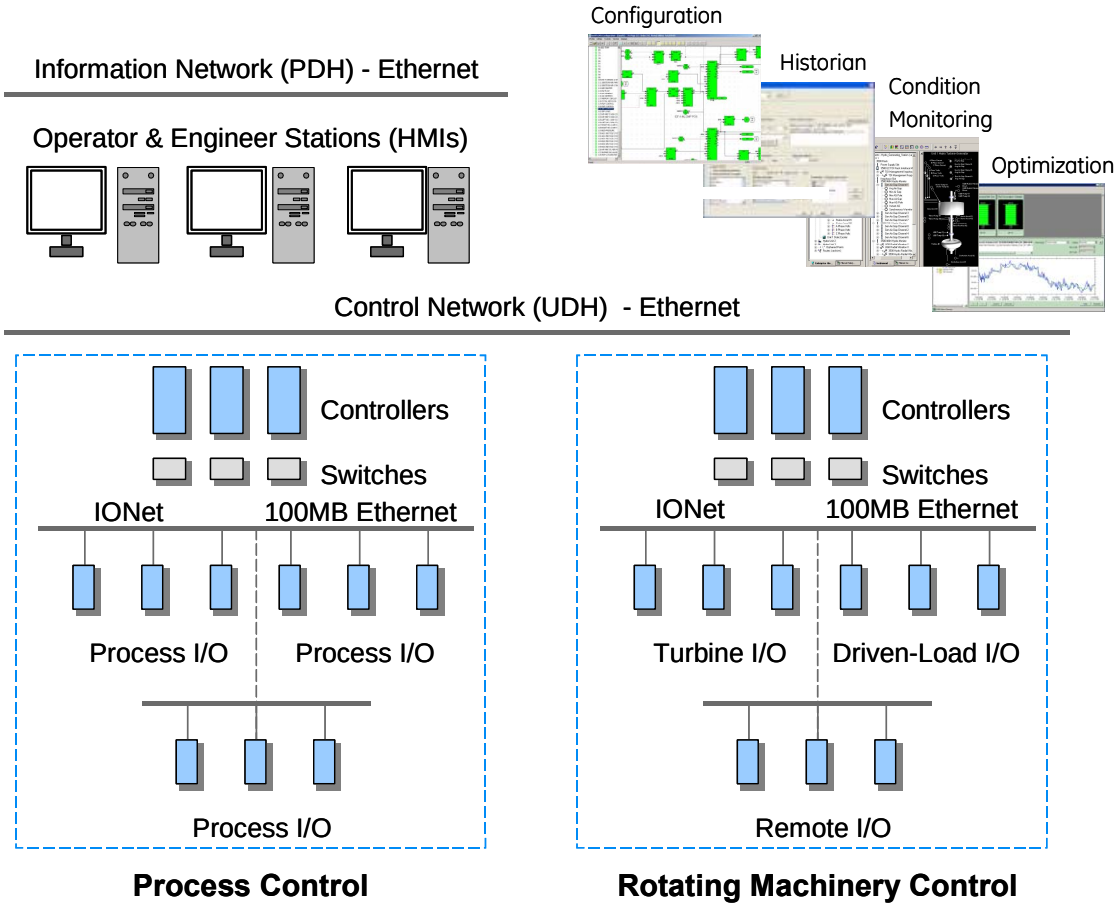
Each I/O pack is mounted on a board with barrier or box-type terminal blocks. The I/O pack contains two Ethernet ports, a power supply, a local processor, and a data acquisition board. Computation power grows as I/O packs are added to the control system, enabling an overall control system frame rate of 10 ms in simplex, dual, or triple redundant configuration. Some process sub-systems require even more performance; therefore, the local processors in each I/O pack run algorithms at higher rates as required for the application.

Redundancy

Every application has different requirements for redundancy depending on the importance of the process. Mark VIe provides a wide range of redundancy options that can be supplied in virtually any combination and mounted local or remote. Some of these redundancy options include:

- Power sources and supplies — single, dual, and triple
- Controllers (main processor) — single, dual, and triple
- I/O network redundancy — single, dual, and triple
- I/O packs per terminal board — single, dual, and triple
- Ethernet Ports / I/O pack — single or dual

System Architecture



Controllers are continuously online and read input data directly from IONet. Dual redundant systems transmit inputs from one or redundant I/O packs on dual IONets to dual controllers. Outputs are transmitted to an output I/O pack that selects either the first healthy signal or the signal of choice. Three output packs can be provided to vote output signals for mission-critical field devices.

Dual redundant systems can be configured for single, dual, and triple sensors. Their dual internal networks and controllers keep the process online if a controller or power supply fails. Triple redundant systems are available to protect against soft or partial failures of devices that continue to run but with incorrect signals/data.

These systems *out vote* a failed component with a 2-out-of-3 selection of the signal. Application software in all three controllers runs on the voted value of the signal while diagnostics identify the failed device. These sophisticated diagnostics minimize the mean-time-to-repair (MTTR) while the on-line repair capability maximizes the mean-time-between-forced-outages (MTBFO). Field sensors for these systems can be single, dual, or triple.

A second controller can be provided to separate the application software for different pieces of equipment. For example, a core engine control for an air-fuel governor can run in one controller while a second controller can be dedicated to auxiliary control.

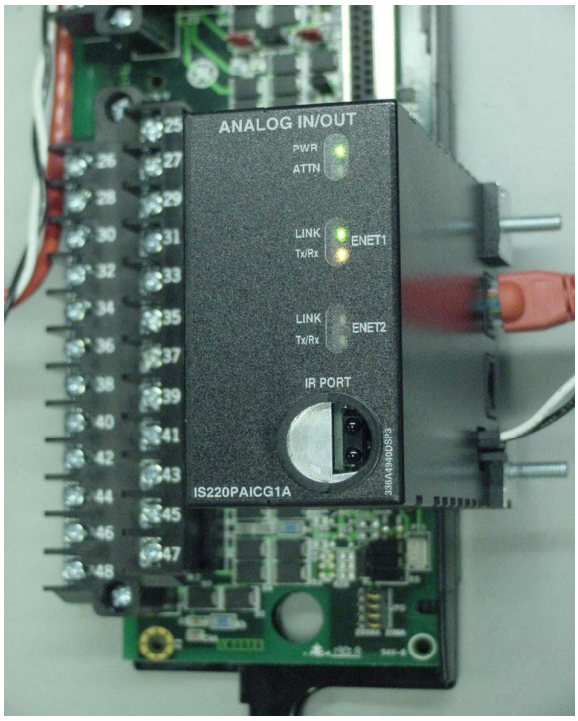
Note Every I/O pack communicates directly on IONet, which enables each I/O pack to be replaced individually without affecting any other I/O in the system. Also, the I/O pack can be replaced without disconnecting any field wiring.

I/O Interface

One or multiple I/O packs are mounted on each board to digitize the sensor signal, perform algorithms, and communicate with a separate controller that contains the main processor. I/O packs have a local processor board that runs a QNX operating system and a data acquisition board that is unique to the type of input device. Local processors run algorithms at faster speeds than the overall control system.

An infrared transceiver is useful for low-level diagnostics. I/O values can be monitored, I/O pack host/function names can be programmed, and error statuses can be checked. This requires a Windows®-based diagnostic tool on a laptop or a handheld computer.

An on-board temperature sensor provides continuous monitoring of the environment in remote locations.



- Dual 100 MB Ethernet ports
- 100 MB full duplex ports
- Online repair per I/O pack
- Operation -30°C to 65°C (-22 °F to 149 °F)
- Accuracy -30°C to 65°C (-22 °F to 149 °F)
- I/O packs rated Class 1, Div. 2
- Ambient temperature sensor
- LEDs: power status and attention
- LEDs: Ethernet link-connected and communication-active
- LEDs: application-specific
- Processor: 32-bit RISC CPU 266 mHz
- Infrared Transceiver: Low level diagnostics, monitor I/O, set host/function names, error status
- Power: 28 V dc (typical)
- Internal solid-state circuit breaker and soft start

The I/O Processor contains a temperature sensor that is accurate to within ±2°C (±3.6 °F). Detection of an excessive temperature generates a diagnostic alarm, and the logic is available in the database (signal space) to facilitate additional control action or unique process alarm messages. In addition, the temperature is continuously available in the database.

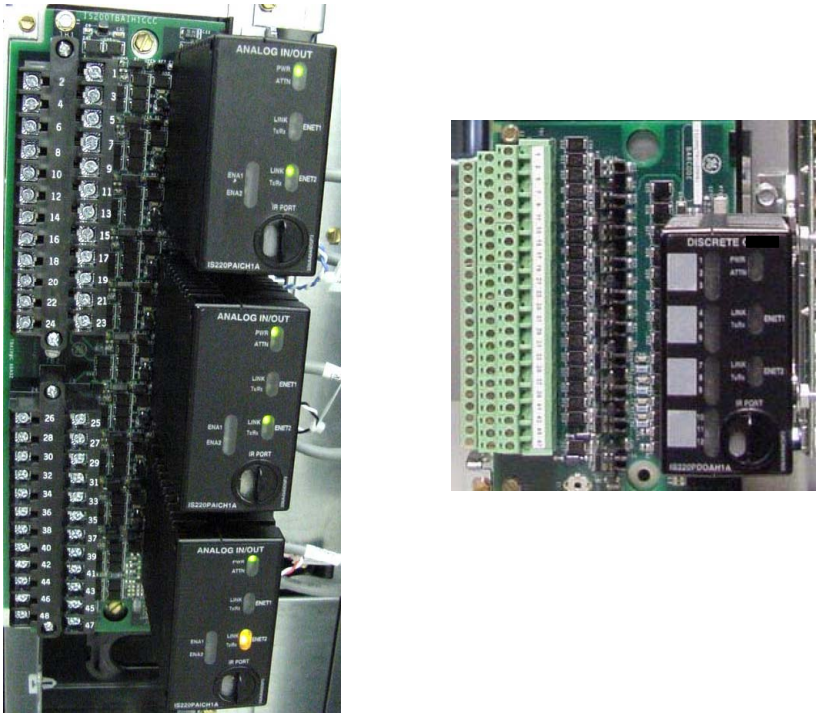
A power supply provides a regulated 28 V dc power feed to each I/O pack. The negative side of the 28 V dc is grounded through the I/O pack metal enclosure and its mounting base. The positive side has solid-state circuit protection built-into the I/O pack with a nominal 2 A trip point. Online repair is possible by removing the 28 V dc connector, replacing the I/O pack, reinserting the power connector, and downloading software from the software maintenance tools.

Note Every I/O pack communicates directly on IONet, which enables each I/O pack to be replaced individually without affecting any other I/O in the system. Also, the I/O pack can be replaced without disconnecting any field wiring.

Terminal Blocks

Signal flow begins with a sensor connected to a terminal block on a board. There are two types of boards available. T-type boards contain two 24 point, barrier-type, removable, terminal blocks. Each point can accept two 3.0 mm^2 (#12AWG) wires with 300 V insulation per point with spade or ring type lugs. In addition, *captive clamps* are provided for terminating bare wires. Screw spacing is 9.53 mm (0.375 inch) minimum, center-to-center.

A shield strip is provided next to each block, which is actually the left-hand side of the metal base where the board is mounted. Wide and narrow boards are arranged in vertical columns of high and low-level wiring that can be accessed from top and/or bottom cable entrances. An example of a wide board is a board that contains magnetic relays with fused circuits for solenoid drivers. T-type boards are normally surface mounted, but can also be DIN-rail mounted.



Barrier and Box Type Boards with I/O Packs

S-type boards have one I/O pack for simplex and dual redundant systems. They are half the size of T-type boards and are DIN-rail or surface mounted. Two versions of the boards are available, H1 and H3. H1 boards have fixed terminal blocks, and H3 boards have removable terminal blocks. A H2 version is available for mounting of custom blocks such as spring-cage or insulation displacement.

S-type boards have box type terminal blocks that accept one 3.0 mm^2 (#12AWG) wire or two 2.0 mm^2 (#14AWG) wires with 300 V insulation per point. Screw spacing is 5.08 mm (0.2 inch) minimum, center-to-center. A shield strip is provided to the left of each block. It can be connected to a metal base for immediate grounding or floated to allow individual ground wires from each board to be wired to a centralized, cabinet ground strip.

I/O Types

General purpose I/O is used for both turbine applications and process control. Turbine-specific I/O is used for direct interface to the unique sensors and actuators on turbines. This reduces or eliminates a substantial amount of interposing instrumentation. As a result, many potential single point failures are eliminated in the most critical area for improved running reliability and reduced long-term maintenance. Direct interface to the sensors and actuators also enables the diagnostics to directly interrogate the devices on the equipment for maximum effectiveness. This data is used to analyze device and system performance. Also, fewer spare parts are needed.

I/O Type - General Purpose	Board	Redundant Packs/Boards
24 DI (125 V dc, group isolated) 1 ms SOE	TBCIH1	1 or 2 or 3
24 DI (24 V dc, group isolated) 1 ms SOE	TBCIH2	1 or 2 or 3
24 DI (48 V dc, group isolated) 1 ms SOE	TBCIH3	1 or 2 or 3
24 DI (115/230 V ac, 125 V dc, point isolated) 1 ms SOE on 125 V dc	TBCIH1	1 or 2 or 3
24 DI (24 V dc, point isolated)	TBCIH2	1 or 2 or 3
24 DI (24 V dc, group isolated)	STCIH1	1
12 C mechanical relays w/6 solenoids, coil diagnostics (115/230 V ac, 24/125 V dc)	TRLYH1B	1 or 3
12 C mechanical relays w/6 solenoids, voltage diagnostics (115/230 V ac, 125 V dc)	TRLYH1C	1 or 3
12 C mechanical relays w/6 solenoids, voltage diagnostics (24 V dc)	TRLYH2C	
6 A mechanical relays for solenoids, solenoid impedance diagn. (24/125 V dc)	TRLYH1D	1 or 3
12 A solid-state relays/inputs (115/230 V ac)	TRLYH1E	1 or 3
12 A solid-state relays/inputs (125 V dc)	TRLYH2E	1 or 3
12 A solid-state relays/inputs (24 V dc)	TRLYH3E	1 or 3
36 mechanical relays, 12 voted form A outputs	TRLYH1F	3
12 fused branches	WPDFH1A	
36 mechanical relays, 12 voted form B outputs	TRLYH2F	3
12 fused branches	WPDFH2A	
10 AI (V/I inputs) and (2AO (4-20/0-200 mA outputs)	TBAIH1C	1 or 2 or 3
10 AI (V/I inputs) and (2AO (4-20/0-200 mA outputs)	STAIH1A	1 or 2 or 3
16 AO (4-20 mA outputs) 8 per I/O pack	TBAOH1C	1 or 2
8 AO (4-20 mA outputs)	STAOH1A	1
12 thermocouples	TBTCH1B	1 or 2 or 3
24 thermocouples (12 per I/O pack)	TBTCH1C	1 or 2
12 thermocouples	STTCH1A	1
16 RTDs 3 wires/RTD (8 per I/O pack)	TRTDH1C	1 or 2
8 RTDs 3 wires/RTD	SRTDH1A	1
6 serial ports for I/O drivers RS-232, RS422, RS485	SSCAH1A	1
10/2 analog I/O - HART communications	SHRAH1A	1
PROFIBus communications	SPIDH1A	1

I/O Type - Turbine	Board	Redundant Packs/Boards
Mixed I/O: 4 speed inputs/pack, synchronizing, shaft V/I monitor	TTURH1C	1 or 3
2 servo channels: up to 3 coils, 4 LVDTs/channel, includes excitation	TSVCH1A	1 or 3
8 vibration (seismic, proximity, accel.), 4 position, 1 reference probe, buffered out	TVBAH1A	1 or 2 or 3

Controller

Features

- Single board including:
  Main Processor
  Control Network Communications - Ethernet
  IO Network Communications – Ethernet
  USB and COM ports
- Processor: Freescale 8349, 667MHz
- Operating system: QNX
- Base mounting
- Status LEDs

Environment

- Operating temperature 0°C to +65 °C
- No fans required

Mark VIe Controller

The single-board controller is a compact and flexible design for processing and network communications.

The controller is a single board, which is base-mounted in the cabinet. For dual and triple redundant systems, a second and third board can be mounted adjacent for a compact packaging arrangement. An 8349, 667 MHz processor is provided with a QNX operating system. The board is powered by 18-36 V dc, 12 watt source.

This rugged design is rated for an operating range of 0 to 65°C (32 to 149 °F) to match the maximum operating temperature of the I/O modules. Also, it does not require any cooling fans even at maximum temperature, and is suitable for NFPA Class 1, Div. 2 applications.

Each controller has three 100 MB Ethernet drivers for the IONet, so that each controller can communicate with up to three network switches. In redundant systems, this allows each controller to monitor redundant inputs directly and compare them for any potential discrepancies. Connectors are color-coded and labeled to simplify maintenance.

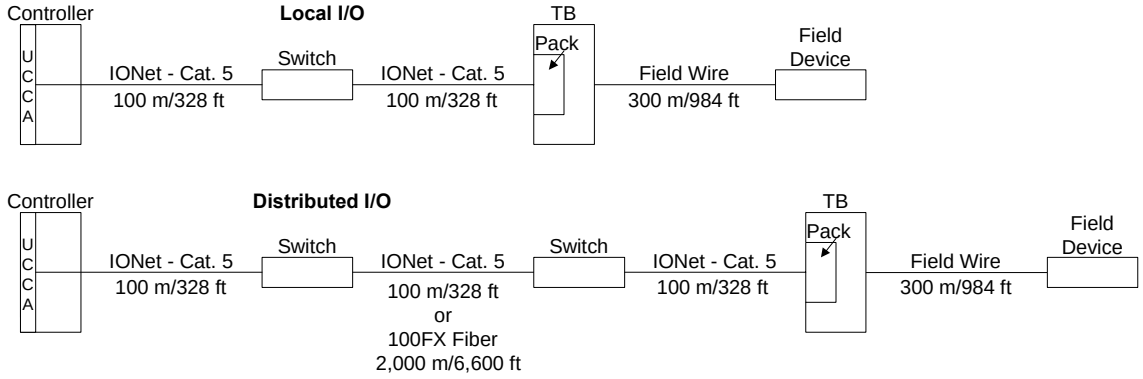
Controllers also have two Ethernet drivers for the control network to communicate peer-to-peer with other Mark VI, Mark VIe, and EX2100 generator excitation controls, as well as operator and maintenance stations. Controllers can be synchronized between units or to a local or remote time source for accurate plant-wide sequence of events monitoring.

I/ONet

Switches manage the communication traffic to eliminate collisions and increase network determinism

Communication between the controller and the I/O packs is performed with the internal IONet. This is a 100 MB Ethernet network available in non-redundant, dual redundant, and triple redundant configurations. Ethernet Global Data (EGD) and other protocols are used for communication. EGD is based on the UDP/IP standard (RFC 768). EGD packets are broadcast at the system frame rate from the controller to the I/O packs, which respond with input data.

IONet conforms to the IEEE 802.3 standard. It is supplied as 100BaseTx and 100BaseFx (fiber) for greater distances, noise rejection, lightning immunity, and ground immunity. A star topology is used with the controller on one end, a network switch in the middle, and I/O packs at the end.



Maximum IONet Distances Including Field Devices

Industrial grade switches are used for the IONet that meet the codes, standards, performance, and environmental criteria for industrial applications including an operating temperature of -40°C to 85°C (-40 °F to 185 °F) and Class 1, Div. 2. Switches have provision for redundant 10 to 30 V dc power sources (200/400 mA) and are mounted on a DIN-rail. LEDs indicate the status of the IONet link, speed, activity, and duplex.

	100BaseTx	**100BaseFx**
IEEE specification	802.3u	802.3u
Wire speed	100 Mbps	100 Mbps
Cable type	UTP Cat. 5	Fiber (multi-mode)
Connector type	RJ-45	SC
Maximum length of a segment at full-duplex	100 m/328 ft	2 km/6,600 ft
Maximum taps per segment	2	2
Maximum I/O packs per network	199	199
Maximum number of switches	2	2
Topology	Star	Star

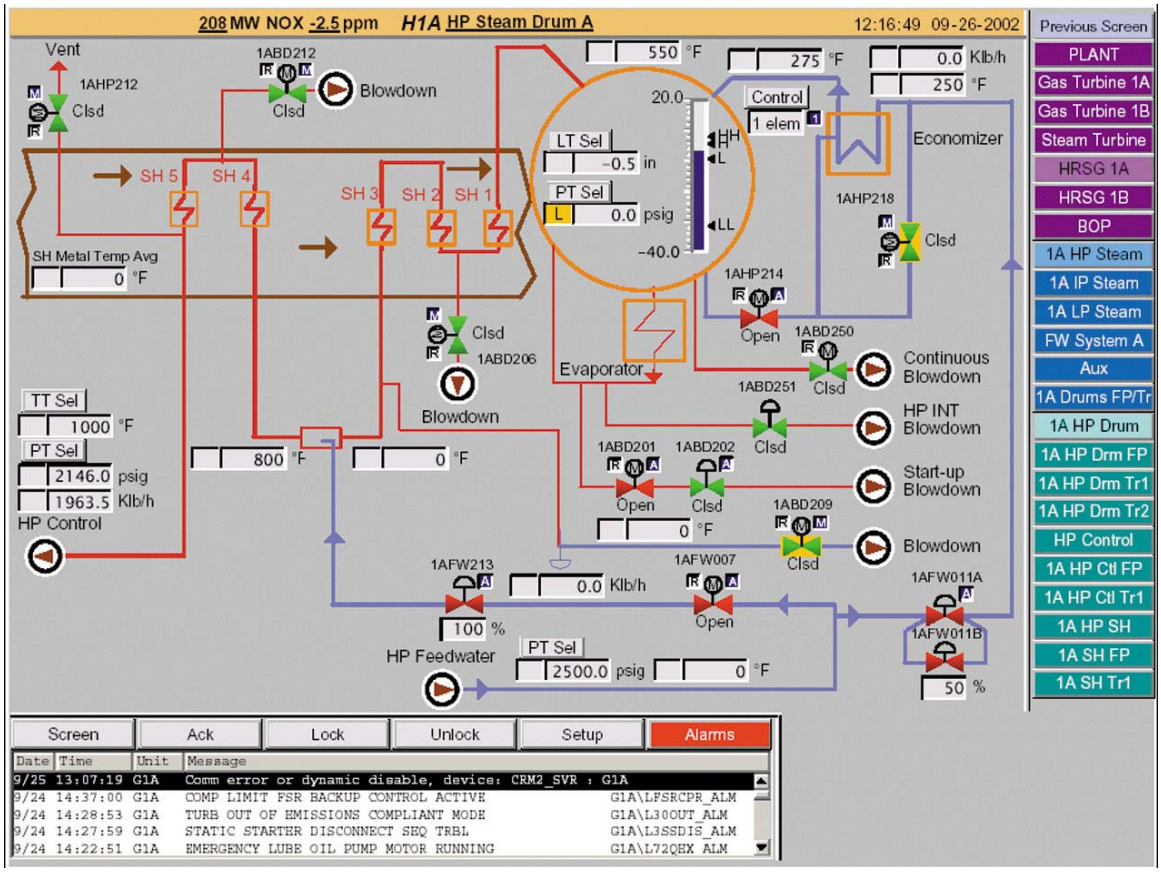
Operator Interface

The operator interface is commonly referred to as the Human-Machine Interface (HMI). It is a computer with a Microsoft® Windows-based operating system, client/server capability, a CIMPLICITY® graphics display system, and software maintenance tools (ToolboxST). It can be applied as:

- Primary operator station for one unit or the entire plant
- Maintenance station gateway
- Engineers station
- Gateway for communications

All local and remote data in the Mark VIe is accessible for screens with high-resolution time tags for alarms and events.

The HMI can be re-initialized or replaced with the process running with no impact on the control system. It communicates with the main processor board in the Mark VIe controller(s) through the control network Unit Data Highway (UDH) and to third-party control and monitoring systems through the information network Plant Data Highway (PDH).



Typical Operator Screen

System (process) alarms for fault conditions are time-tagged at frame rate in the controller(s) and transmitted to the HMI alarm management system. System events are time-tagged at frame rate, and sequence of events (SOE) for contact inputs are time-tagged at 1 ms in the I/O packs. Alarms can be sorted according to ID, Resource, Device, Time, and Priority. Operators can add comments to alarm messages or link specific alarm messages to supporting graphics.

A standard alarm/event log stores data for 30 days and can be sorted in chronological order or according to the frequency of occurrence. In addition, a trip history is provided that stores the key control parameters and alarms/events for the last 30 trips. This includes up to 200 alarms, 200 events, 200 SOE messages, and analog data before and after the trip.

Data is displayed in English or Metric engineering units with a one-second update rate and one second to repaint a typical display graphic. Operator commands can be issued to increment/decrement a setpoint, or a numerical value can be entered for a new setpoint.

Security for HMI users is important to restrict access to certain maintenance functions, such as editors and tuning capability, and to limit certain operations. A system called *User Accounts* is provided to limit access or use of particular HMI features.

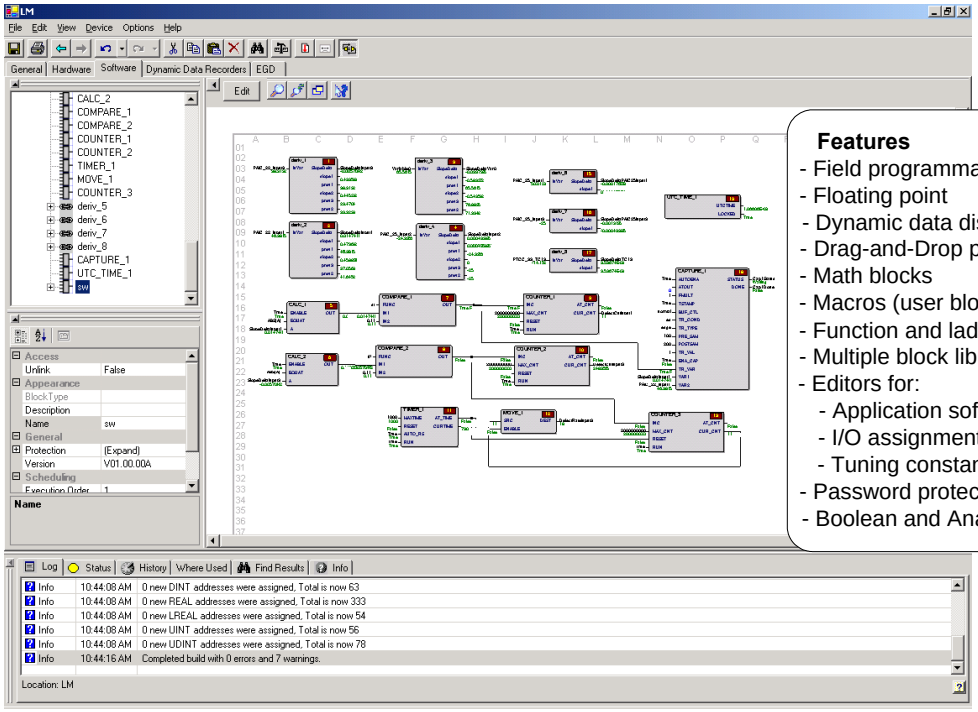
Software Maintenance Tools (ToolboxST)

The Mark VIe is a fully programmable control system. Application software is maintained by factory software automation tools that select proven GE control and protection algorithms and integrate them with the I/O, sequencing, and displays for each application. Multiple block libraries are provided with general-purpose blocks, math blocks, macros (user blocks), and application-specific blocks.

Changes to the application software can be made with multi-level password protection and downloaded to the controller(s) while the system is running without rebooting the main processors. In redundant control systems, the application software in each controller is identical, and is represented as a single program to maintenance personnel. Downloads of changes are automatically distributed to the redundant controllers by the control system, and any discrepancies between the controllers are monitored by diagnostics. All application software is stored in the controller(s) in non-volatile memory.

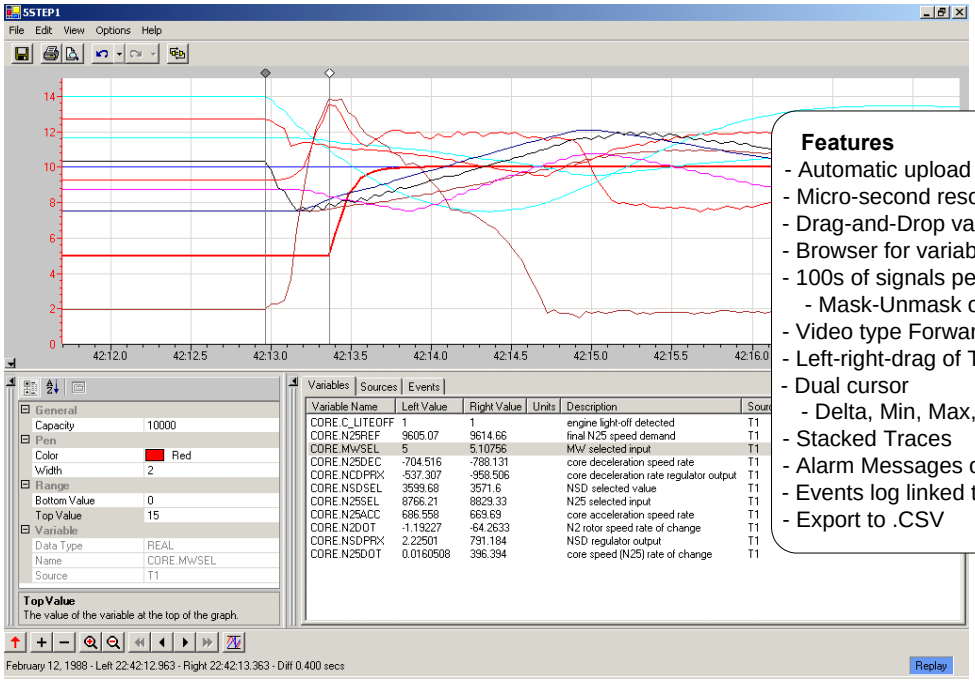
Application software is run sequentially, and dynamic data displays in function block and ladder diagram formats. Maintenance personnel can add, delete, or change analog loops, sequencing, I/O assignments, and tuning constants. To simplify editing, data points can be selected, dragged, and dropped on the screen from one block to another. Points can also be dragged from the application software diagrams onto trends. Other features include Boolean (digital) forcing, analog forcing, and trending at the rate the application software is running, frame rate.

Application software documentation is created directly from source code and can be compiled and printed at the site. This includes the application software diagram, I/O assignments, the settings of tuning constants, and such. The software maintenance tools are available for use in the HMI or as a separate software package on a Windows-based computer.



Features
- Field programmable
- Floating point
- Dynamic data display
- Drag-and-Drop points
- Math blocks
- Macros (user blocks)
- Function and ladder blocks
- Multiple block libraries
- Editors for:
  - Application software
  - I/O assignments
  - Tuning constants
- Password protection
- Boolean and Analog forcing

ToolboxST Editing Tools



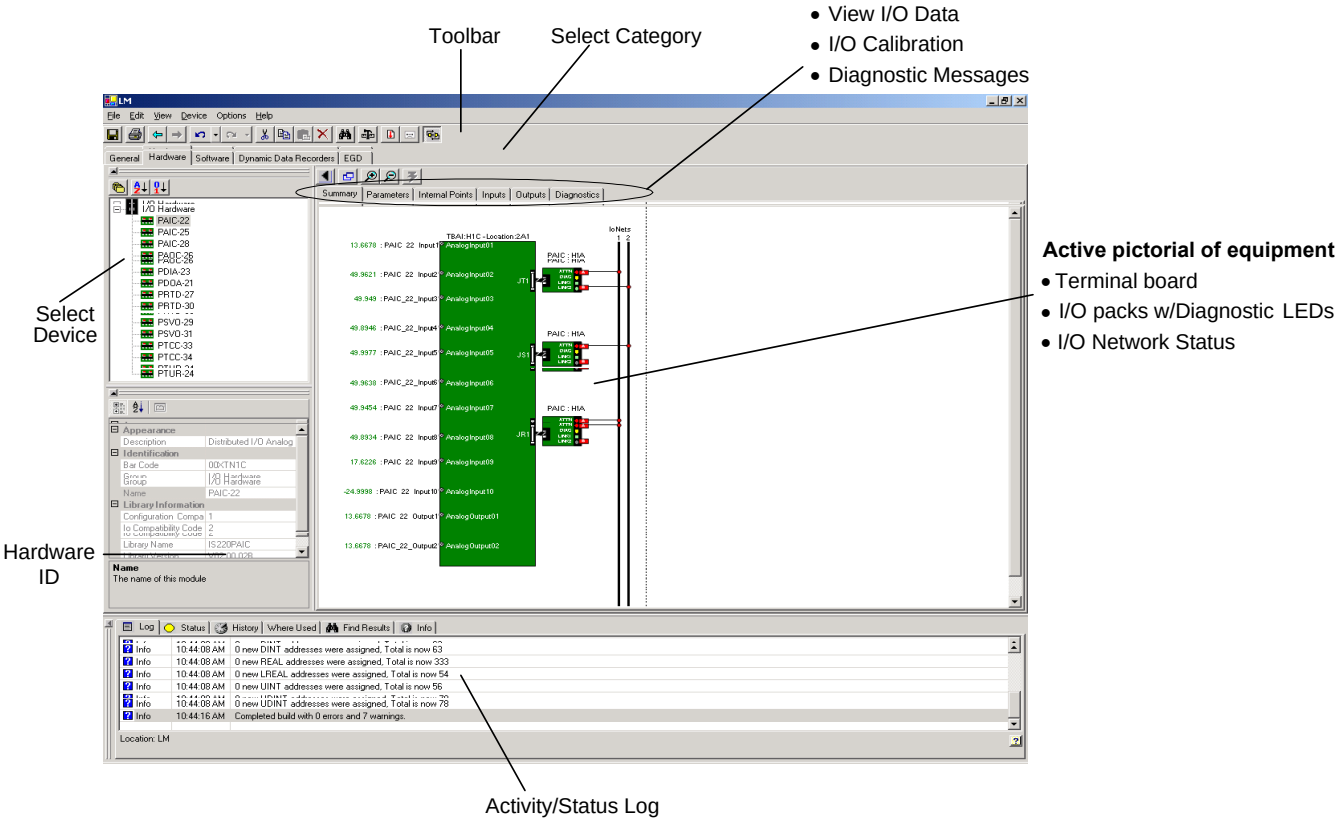
Features
- Automatic upload of Capture Blocks
- Micro-second resolution
- Drag-and-Drop variables to Trender
- Browser for variables selection
- 100s of signals per Trend
  - Mask-Unmask of selected variables
- Video type Forward-reverse
- Left-right-drag of Time Axis
- Dual cursor
  - Delta, Min, Max, Average
- Stacked Traces
- Alarm Messages on Trip Trend
- Events log linked to Trend
- Export to .CSV

ToolboxST Trending Tools

High/low (hardware) limit checking is provided for each analog input. These limits are not configurable, and are selected to be outside the normal operating range but inside the linear hardware operational range (before the hardware reaches saturation). Diagnostic messages for hardware limit checks and all other hardware diagnostics for the board can be accessed with the software maintenance tools. A composite diagnostic alarm state is provided in the database for each I/O pack, and a separate logic state is provided to indicate a high/low (hardware) limit fault of any analog input or the associated communications for that signal.

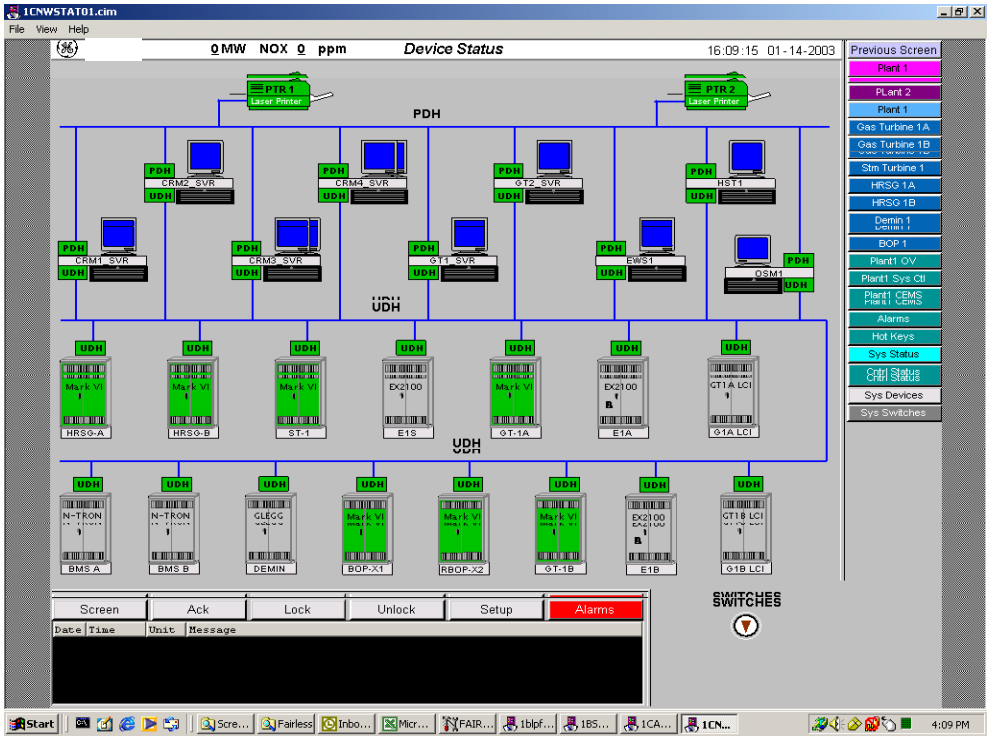
Diagnostic and system (process) alarms are time-stamped in the controller(s) and transmitted to operator and maintenance stations. Communication links to a plant-distributed control system (DCS) can contain both the software (system) diagnostics and composite hardware diagnostics.

Diagnostic LEDs are provided on I/O packs as previously shown for the Analog I/O pack. Standard LEDs indicate: power status, attention (abnormality detected), Ethernet link connected, and Ethernet link communicating. LEDs on discrete I/O packs also indicate the status of each point. All boards feature an electronic ID that contains the board name, revision, and a unique serial number. When power is applied to the I/O processor, it reads the ID of the terminal board, application board, and itself. It then uses this information for a start permissive, diagnostics, and system asset management. Since the terminal boards can be mounted remote at the equipment, local temperature sensors monitor the temperature at each I/O pack. Excessive temperature causes an alarm message. The alarm state and current temperature value are available for display and for use in the application software.



I/O Pack Diagnostics

Plant level control systems integrate the diagnostic data from the individual turbine and generator controls with the overall plant. This allows maintenance personnel to quickly identify the defective control node, switch, or station and locate the particular device needing service.



Plant Network Diagnostics

Network Diagnostics for:

- Operator Stations
- Maintenance Stations
- Engineers Stations
- Switches on:
  - Plant Data Highway
  - Unit Data Highway
  - IONet
- Control Nodes
  - Boards Within Nodes
  - I/O Packs

Codes and Standards

Safety Standards	EN 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements CAN/CSA 22.2 No. 1010.1-92 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements ANSI/ISA S82.02.01 1999 Safety Standard for Electrical and Electronic Test, Measuring, Controlling, and Related Equipment – General Requirements
Printed wire board assemblies	UL 796 Printed Circuit Boards ANSI IPC Guidelines ANSI IPC/EIA Guidelines
Electromagnetic Compatibility (EMC) EMC Directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC	EN 55081-2 General Emission Standard EN 50082-2 Generic Immunity Industrial Environment EN 55011 Radiated and Conducted Emissions IEC 61000-4-2 Electrostatic Discharge Susceptibility IEC 61000-4-3 Radiated RF Immunity IEC 61000-4-4 Electrical Fast Transit Susceptibility IEC 61000-4-5 Surge Immunity IEC 61000-4-6 Conducted RF Immunity IEC61000-4-11 Voltage Variation, Dips and Interruptions ANSI/IEEE C37.90.1 Surge
Low-Voltage Directive 72/23/EEC	EN 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
ATEX Directive 94/9/EC	EN 50021 Electrical Apparatus for Potentially Explosive Atmospheres

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City of Jasper JMEU CHP
Estimated CHP Operating Costs

Energy Unit Cost for Steam			
Description	Boiler Efficiency	Energy Cost per mmBtu	Steam Cost Per mmBtu
Hospital Boilers	75%	$9.00	$13.26
Jasper Rubber Boilers	75%	$9.00	$13.26
JMEU Boiler with $70.00 Per Ton Coal	80%	$3.91	$4.67
JMEU STG 300 Psi Extraction Steam - 0 to 16,000 lbs/hr	NA	$0.00	$0.00
CHP Water Heat Loss	NA	$0.00	$0.20
Water Treatment Cost	NA	$0.00	$0.60
CHP Extraction Steam Total Cost	NA	NA	**$0.80**
JMEU CHP boiler 625 Psi Header	NA	NA	**$5.47**
CHP Avoid Energy Cost Based on 60 % Extraction Steam & 40% Boiler Steam	NA	NA	**$2.67**
CHP System O&M	NA	NA	**$0.50**
CHP Steam Avoided Cost	NA	NA	**$3.17**

City of Jasper JMEU CHP
Estimated Annual Energy Sales and Cost

Memorial Hospital & Health Care - Energy Usage				
Month	Gas Purchased Cu. Ft.	Gas Cost @ $9.00	Average Steam Lb/hr	Monthly Steam Lbs/Mo
Jan	8,453,200	$76,079	9,468	5,635,467
Feb	9,446,900	$85,022	11,715	6,297,933
Mar	7,408,600	$66,677	8,298	4,939,067
April	7,005,800	$63,052	8,109	4,670,533
May	6,221,800	$55,996	6,969	4,147,867
June	5,751,200	$51,761	6,656	3,834,133
July	5,065,800	$45,592	5,674	3,377,200
Sept	5,267,700	$47,409	6,097	3,511,800
Oct	6,488,200	$58,394	7,267	4,325,467
Nov	6,855,400	$61,699	7,934	4,570,267
Dec	6,702,000	$60,318	7,507	4,468,000
Total	74,666,600	$671,999		49,777,733
Peak Steam Demand			14,644	
Energy Cost		$9.00 mmBtu		$3.17 mmbtu
Annual Energy Cost		$671,999		$157,795
Steam Sales		$10.60 mmBtu		$527,644
User Estimated Savings				**$144,355**
JMEU CHP Estimated Gross Profit				**$369,849**

Jasper Rubber Company - Energy Usage				
Month	Gas Purchased Cu. Ft.	Gas Cost @ $9.00	Average Steam Lb/hr	Monthly Steam Lbs/Mo
Jan	3,650,200	$32,852	4,088	2,433,467
Feb	5,446,100	$49,015	6,754	3,630,733
Mar	5,272,700	$47,454	5,906	3,515,133
April	5,188,500	$46,697	6,005	3,459,000
May	4,656,300	$41,907	5,215	3,104,200
June	3,368,400	$30,316	3,899	2,245,600
July	2,153,500	$19,382	2,412	1,435,667
Sept	1,572,200	$14,150	1,820	1,048,133
Oct	8,140,300	$73,263	9,118	5,426,867
Nov	3,995,100	$35,956	4,624	2,663,400
Dec	5,037,100	$45,334	5,642	3,358,067
Total	48,480,400	$436,324		32,320,267
Peak Steam Demand			8,442	
Energy Cost		$9.00 mmBtu		$3.17 mmbtu
Annual Energy Cost		$436,324		$102,455
Steam Sales		$10.60 mmBtu		$342,595
User Estimated Savings				**$93,729**
JMEU CHP Estimated Gross Profit				**$240,140**

JMEU CHP Annual Estimated Sales	
CHP Total Estimated Annual Sales	$870,239
CHP Total Estimated Operating Cost	-$260,251
CHP Annual Gross Profit	**$609,988**

City of Jasper JMEU
Cost Estimate Co-Firing with 20 % Biomass

JMEU 20% Biomass System Construction Estimate			
Number	Description	Quantity	Estimated Cost
1	JMEU Plant Site Work	1	$60,000
2	Two Storage silos 20' dia. By 40' height	1	$160,000
3	Two Vertical Leg material Convayors	1	$110,000
4	Material Screening	1	$65,000
5	Unloading Convayor	1	$55,000
6	Dumper Building	1	$80,000
7	Six screw conveyors	1	$42,000
8	Belt Conveyor to feeder bin	1	$110,000
9	Three Boiler feed bins w/feeder blower	1	$250,000
10	Milling/griding system	1	$120,000
11	Design for Future Waste heat dryer	1	$40,000
12	Subtotal -Direct Costs		$1,092,000
13			
14	Construction Indirects		
15	Eniginering	9%	$98,280
16	Primit, Insurance, Etc.	8%	$87,360
17	Contingency	20%	$218,400
			$404,040
	Total Construction Cost		$1,496,040

City of Jasper JMEU
Combine Heat and Power Renovation

JMEU CHP Renovation Construction Estimate			
Number	Description	Quantity	Estimated Cost
1	7000 Ft of 6" Prefab Insulated Steam Pipe	1	$770,000
2	14 - 6" Pipe Expansion loops	1	$26,800
3	Condensate Traps at Manholes	1	$4,000
4	6" Valve and Vault	1	$20,000
5	Two PRV Station with Controls	1	$12,000
6	6" Manual Valves	1	$12,000
7	Desuper Heater	1	$24,000
8	Steam Metering	1	$15,000
9	User Meters	1	$15,000
10	Right-away Demo & Reconstruction For 6" Steam Line	1	$2,000,000
11	Control System Integration	1	$80,000
12			
13	Subtotal -Direct Costs		$2,978,800
14			
15	Construction Indirects		
16	Eniginering	9%	$268,092
17	Primit, Insurance, Etc.	3%	$89,364
18	Contingency	25%	$744,700
			$1,102,156
	Total Construction Cost		$4,080,956

CCSolutions
Composite Cooling Solutions, L.P.
4150 International Plaza, Suite 500
Fort Worth, Texas 76109
Phone 817.246.8700
Fax 817.246.8717
www.compositecooling.com

WHORTON ASSOCIATES
4831 W. 77th Street
Prairie Village, Kansas 66208
Phone/FAX (913) 642-3643

12-21-09

913-458-2934

F A X F A X F A X

Jim Reichenbach
Black and Veatch

JASPER, INDIANA ENERGY PROJECT

CCS has advised through Kris Dorasami, Regional Marketing Manager, a replacement of the fill on the existing three cooling tower cells, measuring 24' x 57' each could be replaced with PVC fill at a budget cost of:

$275,000

This would also include removing old fill support beams and replacing them with FRP beams.

As a matter of interest, new, complete Fiberglass cooling tower cells could be supplied for $350,000. An estimated cost for removing the old three cells would be about $50,000.

Please advise if additional information is needed.

Thank you for the request for this estimate.

Art

Art Whorton
CC: Kris Dorasami, CCS

City Of Jasper
Power Plant Assessment

B&V Project No. 166083.0100
November 20, 2009
December 10, 2009 Rev A

CONFERENCE MEMORANDUM No. 1
Jasper Power Plant Assessment Project Kickoff Meeting and Data Gathering Meeting Minutes

A meeting and data gathering activities were held at the City of Jasper Power Plant in Jasper, Indiana the week of November 16, 2009. The purpose of the meeting was to kickoff the JMEU Plant assessment and carry out the field inspection of the plant.

The following personnel participated in the meeting:

Attend	Name	Company	Title/Responsibility	Telephone	Email Address:
		City of Jasper			
X*	Gerald "Bud" Hauersperger	City of Jasper	General Manager Of Utilities	812-482-9131	hauersperger@ci.jasper.in.us
	Sandra K. Hemmerlein	City of Jasper	City Attorney	812-482-4255	shemmerlein@ci.jasper.in.us
X*	Windell Toby	City of Jasper	Manager	812-482-3003	wtoby@ci.jasper.in.us
X*	William J. Kaiser Jr.	Bingham McHale	Partner	812-482-5500	bkaiser@binghammchale.com
X*	Eric J. Schue	Bingham McHale	Partner	812-482-5500	eschue@binghammchale.com
		Bingham McHale			
	Doug Friedel	Black & Veatch	Project Director	913-458-8041	friedeldr@bv.com
X	Jorge Vizcarra	Black & Veatch	Project Manager	913-458-8106	vizcarraje@bv.com
X	Jim Reichenbach	Black & Veatch	Engineering Manager		reichenbach@bv.com
X*	Lud Funke	Black & Veatch	Lead Electrical Engineer	913-458-2181	funkelf@bv.com
X*	Blair Van Dyne	Black & Veatch	Electrical Senior Consultant	913-458-2278	vandynebt@bv.com
X*	Matt Oakes	Black & Veatch	Mechanical Engineer	913-458-7594	oakesmm@bv.com
	Mike Deal	Black & Veatch	Mechanical Engineer	913-458-2844	dealm@bv.com
X*	Tim Locke	Locke Equipment Co.	Project Manager	913- 782-8500	Tim@lockeequipment.com
X*	Scott Kessler	Metallurgical Consultant	President	816-392-9470	president@kestek.com
X*	Mike Broeker	Locke Equipment Co	Boilermaker Superintendent		n/a
X*	Brian Barker	Locke Equipment Co	Boilermaker- General Forman		n/a

X* part time attendance of discussion.

0.1 Reference Documents;

The following information was distributed:

Item:	Notes:	Responsible Party	Remarks
0.1	Preliminary CHP Facility List	Bingham McHale	**n/a**
0.2	Kimball 2007/2008 Sawdust/Wood Lab analysis	Bingham McHale	**n/a**
0.3	Preliminary Analysis of Manufacturing Wood Waste	Bingham McHale	**n/a**

1.0 Items Discussed

Item:	Notes:	Responsible Party to follow up	Due Date
1.1	Locke Equipment Company is providing B&V Task 2 – Boiler inspection as stated in B&V proposal on page 4. Tim Locke with Scott Kessler (metallurgical analysis), Mike Broeker (Boilermaker) and Brian Barker (Boilermaker) will inspect boiler, obtain material samples and document findings to B&V. B&V and Locke will prepare report documenting Jasper Power Plant Assessment.	B&V	n/a
1.2	B&V plant assessment team (Jorge Vizcarrai, Jim Reichebach, Lud Funke, Matt Oakes and Blair Van Dyne) will collect plant system technical information, historical operating & maintenance data, evaluate plant confirmation, obtain operating costs and major maintenance cost, O&M practices, equipment performance and present condition and other issues that impact performance.	B&V	n/a
1.3	Potential biomass fuel sources (sawdust/ wood waste) from local manufacturer are delivered to plant was Bingham McHale/ City of Jasper work task. Bingham McHale provided preliminary reference document listed above. Master Brand plants were discussed and estimated may provide 1,100 ton per month. Existing boiler requires 140 MMBtuh, therefore, 20% fuel load is 28 MMBtuh. Biomass fuel required for 20% loading is 1.9 ton per hour at 6 % moisture or 1368 ton per month or more. Bingham McHale and City of Jasper to confirm cost delivery to Jasper Power Plant.	Bingham McHale and City of Jasper	12/2/2009
1.4	Combined Heat and Power (CHP) was discussed based on Bingham McHale and City of Jasper preliminary information which City Hall and County Court House were natural gas and small loads; Kimball – 15th Cherry generated steam from wood and natural gas; no other customers were listed. It was agreed that these load would not be adequate to justify a CHP upgrade. After review annual gas usage for Jasper large facilities, it was determined that Memorial Hospital & Health Care (three fire tube boilers, Boiler 3- 22 MMBtu, Boiler 2 -8.25 MMBtu and Boiler 1- 12,5 MMBtu) and Jasper Rubber Co (three boilers Boiler 1- 7,2 MM Btu, Boiler 2-	B&V	Preliminary design concept by 12/3/2009

	8.37 MMBtu and Boiler 3 – 11.72 MMBtu). B&V will use gas loads for the Memorial Hospital and Jasper Rubber to justify CHP upgrade of the existing Plant. Hospital Steam operating average		
1.5	A short meeting was held between the City of Jasper (Bud Hauersperger) Bingham McHale (Eric Schue, Bill Kaiser and Pete Grills) and B&V (Jim Reichenbach and Jorge Vizcarra) to discuss the scope of work of the project. B&V will provide all the scope of work outlined in the proposal and particularly defined. when it refers to Biomass, CHP and Plant valuation	B&V	
1.6	Thursday, 11:00 AM Meeting at plant review site visit, general findings and open issues that need clarification. • B&V provide general summary of the data collection for the power plant assessment. • Boiler inspection (Locke team) was completing inspection today and boiler tube samples for lab testing. All findings and conclusion will be included in final report. • City of Jasper provide electric and gas utility cist summary for 2004 to 2008 , 2004 to2008 monthly kWH purchased and sold, 2006 to 2008 annual production report and to date 2009 gas and power summary. • B&V requested calculation breakdown for the existing power plant $ per KWh, (fuel cost, schedule maintenance cost, labor cost, annual major and upgrade costs. Etc.). • Bingham McHale and City of Jasper to provide biomass fuel criteria ($/Ton delivered to power Plant, Btu/lb dry and moisture %, and test burn criteria) • City of Jasper to finalize CHP customers for steam to for study; preliminary selected were Memorial Hospital and Jasper Rubber.		
1.7	Power Plant Mechanical System General Condition. B&V summarized the plant site visit data collection as follows: • During a walk-down of the plant, the operating configuration was noted and the steam turbine and balance of plant equipment was visually inspected. • Nameplate data, age and maintenance history of plant equipment was documented. This included items such as pumps, fans, motors, control valves, tanks, heat exchangers, etc. • Major steam turbine and generator maintenance since the 1993 plant upgrade was documented. • Major capital expenditures at the plant since the 1993 plant upgrade were provided.	B&V	

	• An organizational chart was provided and the operating history was discussed with plant manager and superintendent. • Coal information, delivery method and costs were provided. Ash disposal method and costs were provided. • Operations & Maintenance procedures were supplied by plant personnel and reviewed by B&V. This included start-up and shut-down procedures as well as a checklist for the daily rounds during operations. • Obtained plant heat balances and several years of operating data during the site visit.		
1.8	Power Plant Electrical System General Condition. • Motor Control Center There are three motor control centers (MCC); two arranged back to back on the turbine deck floor and one associated with the precipitator. The two MCCs on the turbine deck were supplied by Cutler Hammer and are the original equipment. The MCC are approximately 40 years old and are approaching the end of their service life. Visually, the MCC appears to be clean and in relatively good shape for their age. Cutler Hammer no longer supports this vintage of MCC, but custom retrofit starters and breakers are available. According to staff (James Stallman) several breakers have been replaced on an as required basis. The bucket space on this issue of MCC appears to be limited and it may be difficult to install retrofit starters in the limited space. If a major upgrade is made to the plant, these MCCs need to be replaced in order to extend the reliable operation life of the plant for an additional 20 years. However, if no major plant upgrade is anticipated, and the plant is expected to be operated for a limited number of hours per year, then the MCCs could continue to be repaired on an as-needed basis. The MCC associated with the precipitator was installed in 1992 and is therefore 17 years old. It appears to be in good shape and should be serviceable for an additional 20 years. Maintenance is performed on the MCCs on an as required basis. • Secondary Unit Substations There are two secondary unit substations (SUS) designated In House and Out of House. The In House SUS serves major 480 V loads in the power plant. The Out of House SUS serves the cooling tower loads. The SUS were supplied by Westinghouse and are original equipment. The SUS are approximately 40 years old and are approaching the end of their service life. Westinghouse no longer supports this vintage of 480 V	B&V	

	switchgear breakers, but custom retrofit breakers are available. The switchgear was reconfigured in 1993 to support the precipitator. The In House SUS has a 1500/1680 kva transformer. This transformer was installed in 1994 to replace the original transformer that had PCB fluid in it. The transformer should be serviceable for an additional 20 years. The 480 V switchgear needs to be replaced in order to extend the reliable operation life of the plant for an additional 20 years. • Outside SUS The Out of House SUS has a 1000/1120 kva transformer. This transformer is original. However, the transformer oil is tested every year and the tests indicate that the transformer is still serviceable. The transformer should be serviceable for an additional 20 years. The 480 V switchgear needs to be replaced in order to extend the reliable operation life of the plant for an additional 20 years. Plant staff indicated that the switchgear is serviced approximately every five years.		

2.0 Action Items

Item:	Notes:	Responsible Party to follow up	Due Date
2.1	Bingham McHale to provide biomass fuel information and CHP requested earlier . To this date this information received is very preliminary and not sufficient to make a good evaluation. Bingham McHale to confirm biomass fuel cost delivery to Jasper Power Plant. Fuel cost delivered per Ton plus Btu/Lb dry, % moisture, and tons per month. With 100 % biomass power plant, fuel cost delivered per Ton plus BTU/Lb dry, % moisture, and tons per month.	Bingham McHale	ASAP
2.2	JMEU to provide B&V a breakdown of how their cost of generation is calculated	City of Jasper	12/03/2009
2.3	JMEU to provide B&V the latest outage report for the steam turbine generator.	City of Jasper	12/03/2009
2,4	JMEU to provide B&V costs for Operations and Maintenance which includes water costs, water treatment costs and sewage charges.	City of Jasper	12/03/2009
2.5	Biomass credits and tax breaks criteria to be developed by Pete Grills, Bingham McHale and City of Jasper so that B&V could provide high level evaluation of CHP or repowering with 20 % biomass or 100% biomass.	Pete Grills, Bingham McHale and City of Jasper	12/03/2009

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	1	1	32.49	33.85	34.24	36.00	57.28	56.50	59.76	55.97	56.04	63.53	61.50	65.28	66.96	65.58	68.08	71.45	74.83	78.20	81.58	84.95	86.26	87.57	88.87	90.18	91.49
1	1	2	31.20	32.77	33.48	35.71	53.48	55.32	57.37	54.69	55.56	62.98	60.21	63.02	64.53	64.00	66.47	69.49	72.51	75.54	78.56	81.58	83.13	84.67	86.22	87.76	89.31
1	1	3	30.60	32.33	33.41	36.04	53.09	54.88	56.12	54.39	55.26	62.19	59.04	62.09	63.09	63.78	64.86	67.89	70.93	73.96	77.00	80.03	81.83	83.63	85.44	87.24	89.04
1	1	4	30.39	31.71	33.37	36.60	52.95	54.91	56.31	54.43	55.30	63.48	59.02	61.71	62.52	63.44	64.78	67.76	70.74	73.72	76.70	79.68	81.44	83.20	84.95	86.71	88.47
1	1	5	31.68	31.88	33.42	37.89	54.04	56.29	57.87	55.18	55.88	64.63	59.87	62.78	62.93	63.62	65.45	68.49	71.53	74.56	77.60	80.64	82.26	83.88	85.51	87.13	88.75
1	1	6	34.53	32.39	33.91	42.29	56.75	60.28	60.92	55.11	58.05	68.92	62.29	65.62	64.34	64.40	68.98	72.24	75.50	78.77	82.03	85.29	86.19	87.10	88.00	88.91	89.81
1	1	7	36.14	33.60	34.93	49.87	61.17	63.37	63.65	55.79	63.82	73.59	66.15	68.64	66.09	65.56	73.34	76.29	79.24	82.19	85.14	88.09	88.81	89.54	90.26	90.99	91.71
1	1	8	39.81	35.04	35.83	52.23	63.34	65.63	65.71	57.90	66.91	75.00	70.09	70.94	68.07	68.17	76.91	79.55	82.19	84.84	87.48	90.12	90.90	91.69	92.47	93.26	94.04
1	1	9	42.30	36.42	36.99	52.21	63.72	66.00	65.76	59.52	66.07	74.99	70.81	73.02	69.85	70.41	76.23	78.79	81.35	83.90	86.46	89.02	90.24	91.46	92.68	93.90	95.12
1	1	10	42.10	38.63	38.12	50.41	64.38	66.32	65.76	61.03	66.17	75.24	70.81	73.02	70.99	72.69	77.17	79.72	82.28	84.83	87.39	89.94	91.10	92.26	93.41	94.57	95.73
1	1	11	42.91	40.06	38.32	50.01	65.21	66.00	65.75	61.24	66.58	74.04	71.82	73.10	72.75	73.61	78.28	80.96	83.65	86.33	89.02	91.70	93.19	94.68	96.18	97.67	99.16
1	1	12	39.43	39.10	39.03	49.51	63.83	65.96	65.67	61.92	65.41	73.59	71.52	71.70	72.66	73.78	77.60	80.10	82.61	85.11	87.62	90.12	92.07	94.01	95.96	97.90	99.85
1	1	13	37.51	37.65	39.31	48.48	62.86	65.08	63.43	61.74	64.40	73.59	69.11	69.56	71.14	73.61	76.59	79.24	81.88	84.53	87.17	89.82	91.78	93.74	95.70	97.66	99.62
1	1	14	36.47	36.28	39.10	47.03	61.78	62.51	62.26	61.34	63.97	73.13	67.46	67.96	69.09	73.24	76.93	79.33	81.73	84.12	86.52	88.92	90.85	92.77	94.70	96.62	98.55
1	1	15	35.81	35.04	38.53	45.60	60.15	61.48	61.70	60.95	63.45	71.99	66.37	67.12	67.94	72.27	75.60	77.85	80.09	82.34	84.58	86.83	88.85	90.87	92.89	94.91	96.93
1	1	16	35.47	35.07	38.53	44.05	59.84	61.27	61.61	60.86	63.51	71.41	65.13	66.63	67.35	72.40	75.59	77.85	80.11	82.36	84.62	86.88	88.80	90.71	92.63	94.54	96.46
1	1	17	37.46	37.17	39.39	47.33	61.38	63.02	63.30	61.70	65.21	71.99	66.53	69.05	69.04	73.99	76.76	79.26	81.75	84.25	86.74	89.24	90.98	92.73	94.47	96.22	97.96
1	1	18	45.36	42.48	50.93	50.95	66.60	68.42	65.54	69.10	68.90	76.69	71.82	73.10	73.98	76.88	80.03	82.68	85.34	87.99	90.65	93.30	95.65	98.01	100.36	102.72	105.07
1	1	19	81.37	46.50	53.11	54.21	70.61	121.32	127.37	71.81	74.37	80.23	73.81	96.73	79.75	78.35	85.38	87.86	90.34	92.81	95.29	97.77	99.27	100.76	102.26	103.75	105.25
1	1	20	50.36	43.93	51.14	51.71	67.63	83.64	74.16	71.62	73.42	76.01	71.41	74.92	77.64	76.99	81.81	84.69	87.57	90.45	93.33	96.21	98.08	99.96	101.83	103.71	105.58
1	1	21	40.81	42.52	44.36	50.01	66.59	69.98	67.63	69.10	69.34	73.59	71.26	74.01	74.39	76.15	80.03	82.83	85.63	88.44	91.24	94.04	95.91	97.79	99.66	101.54	103.41
1	1	22	38.31	37.94	41.48	47.03	63.90	66.32	65.68	65.25	65.98	71.99	69.51	70.92	73.75	74.37	77.04	79.56	82.09	84.61	87.14	89.66	91.69	93.71	95.74	97.76	99.79
1	1	23	41.94	35.25	38.89	45.44	62.78	66.32	65.71	61.34	62.85	69.66	68.17	72.31	69.58	72.44	74.43	76.64	78.85	81.06	83.27	85.48	87.71	89.94	92.16	94.39	96.62
1	1	24	36.65	32.95	36.60	39.55	58.95	63.34	62.32	57.34	59.62	64.97	63.87	68.42	66.79	67.87	70.68	72.91	75.14	77.38	79.61	81.84	84.13	86.43	88.72	91.02	93.31
1	2	1	31.69	31.88	35.11	36.68	56.85	57.17	59.14	56.66	57.14	63.45	61.58	63.83	63.91	65.21	68.00	70.34	72.68	75.01	77.35	79.69	82.01	84.33	86.65	88.97	91.29
1	2	2	30.55	30.92	34.24	36.57	53.78	56.04	57.27	56.27	57.22	62.21	60.95	62.55	62.06	64.07	66.35	68.91	71.46	74.02	76.57	79.13	81.18	83.24	85.29	87.35	89.40
1	2	3	29.83	30.49	33.93	37.19	53.59	54.86	56.64	56.11	57.07	61.90	59.77	61.62	61.81	63.19	66.21	68.74	71.26	73.79	76.31	78.84	80.71	82.57	84.44	86.30	88.17
1	2	4	29.44	30.36	34.03	38.12	53.38	54.82	55.47	56.04	57.54	63.53	60.01	60.23	61.60	63.21	66.92	69.34	71.75	74.17	76.58	79.00	80.82	82.64	84.45	86.27	88.09
1	2	5	29.51	30.77	34.97	39.79	54.71	55.73	55.43	56.53	59.04	65.21	60.94	60.32	61.81	63.99	68.20	70.64	73.08	75.53	77.97	80.41	82.14	83.86	85.59	87.31	89.04
1	2	6	30.54	31.16	37.10	45.58	58.85	58.68	56.45	58.01	63.32	70.06	64.36	61.71	62.40	66.50	72.42	75.04	77.66	80.27	82.89	85.51	87.01	88.51	90.02	91.52	93.02
1	2	7	32.32	31.76	41.34	53.79	62.48	61.50	57.93	62.82	70.11	75.76	68.25	62.87	63.55	71.68	78.59	80.93	83.28	85.62	87.97	90.31	92.63	94.94	97.26	99.57	101.89
1	2	8	33.37	32.48	46.48	102.04	65.96	64.52	60.79	66.87	73.72	145.83	70.52	65.08	66.62	74.96	83.09	85.67	88.26	90.84	93.43	96.01	97.20	98.39	99.58	100.77	101.96
1	2	9	35.92	34.06	45.97	64.61	66.41	64.29	62.79	66.86	73.98	89.62	71.77	66.50	68.47	74.49	83.09	85.68	88.26	90.85	93.43	96.02	97.05	98.08	99.10	100.13	101.16
1	2	10	37.60	35.09	46.38	57.36	66.34	64.67	64.38	66.37	73.48	79.23	71.82	68.42	70.11	75.15	82.93	85.55	88.17	90.78	93.40	96.02	97.04	98.06	99.08	100.10	101.12
1	2	11	37.61	36.24	47.41	58.16	66.52	64.29	63.98	66.84	73.01	76.50	73.48	70.18	70.83	76.82	81.53	84.36	87.18	90.01	92.83	95.66	96.83	98.00	99.16	100.33	101.50
1	2	12	37.00	36.41	45.19	56.20	65.96	63.81	63.30	65.65	71.23	75.20	71.82	69.36	71.77	75.94	80.79	83.44	86.09	88.74	91.39	94.04	95.46	96.89	98.31	99.74	101.16
1	2	13	35.80	37.00	42.91	51.34	65.18	63.09	62.22	64.70	70.00	73.59	69.42	68.13	72.09	74.69	80.03	82.59	85.15	87.72	90.28	92.84	94.43	96.02	97.61	99.20	100.79
1	2	14	33.14	36.41	42.47	50.65	64.33	59.89	60.51	64.50	68.96	73.59	67.31	66.17	71.23	75.21	79.84	82.01	84.19	86.36	88.54	90.71	92.63	94.55	96.47	98.39	100.31
1	2	15	32.43	36.24	41.47	48.47	63.17	59.57	59.83	63.31	68.10	73.43	66.51	65.28	70.58	74.06	78.63	80.66	82.69	84.71	86.74	88.77	90.94	93.10	95.27	97.43	99.60
1	2	16	32.39	36.34	41.20	48.47	61.83	58.69	59.24	63.31	67.60	72.54	66.11	65.19	70.37	74.31	78.01	79.81	81.61	83.42	85.22	87.02	89.49	91.95	94.42	96.88	99.35
1	2	17	33.81	38.72	43.60	49.48	64.77	60.07	60.41	64.92	68.87	73.11	69.43	66.41	72.90	76.09	79.00	81.16	83.33	85.49	87.66	89.82	91.87	93.92	95.97	98.02	100.07
1	2	18	43.31	46.37	49.19	52.40	70.00	66.00	64.86	68.08	74.12	75.07	75.52	71.52	75.65	77.50	81.54	84.25	86.96	89.66	92.37	95.08	96.86	98.65	100.43	102.22	104.00
1	2	19	44.55	49.73	54.77	61.35	116.13	69.48	69.66	75.44	78.72	78.47	99.13	73.83	82.77	83.43	83.95	86.41	88.86	91.32	93.77	96.23	98.40	100.57	102.73	104.90	107.07
1	2	20	43.37	49.31	50.55	59.81	73.26	68.32	68.90	71.26	74.39	78.40	77.72	73.16	78.93	80.47	81.08	83.92	86.77	89.61	92.46	95.30	97.56	99.81	102.07	104.32	106.58
1	2	21	41.64	44.99	49.36	56.29	67.45	68.06	64.53	66.60	71.31	75.20	74.00	72.31	75.75	77.50	80.03	82.70	85.36	88.03	90.69	93.36	95.33	97.30	99.26	101.23	103.20
1	2	22	37.40	40.97	43.74	51.49	66.52	65.76	62.28	64.92	69.01	73.59	71.68	69.67	73.75	76.82	78.69	80.92	83.14	85.37	87.59	89.82	92.08	94.33	96.59	98.84	101.10
1	2	23	32.72	37.42	40.60	50.08	65.77	66.74	60.92	62.38	67.60	73.28	71.82	67.16	71.23	74.41	77.28	79.61	81.94	84.26	86.59	88.92	90.66	92.40	94.15	95.89	97.63
1	2	24	31.49	33.85	37.58	43.10	61.31	62.54	57.69	59.21	62.69	68.71	65.19	63.86	67.03	69.64	72.87	75.06	77.26	79.45	81.65	83.84	85.90	87.95	90.01	92.06	94.12
1	3	1	29.48	32.50	35.59	37.82	56.28	56.88	55.88	56.32	59.52	63.25	61.78	62.06	63.71	65.39	69.76	71.81	73.85	75.90	77.94	79.99	81.98	83.96	85.95	87.93	89.92
1	3	2	28.93	32.13	35.18	36.74	53.59	55.46	54.34	55.82	59.08	63.03	60.73	60.29	62.56	63.82	68.62	70.89	73.16	75.43	77.70	79.97	81.77	83.57	85.36	87.16	88.96
1	3	3	28.82	31.90	35.29	36.47	52.91	55.02	54.20	55.70	58.90	61.97	59.54	60.15	61.60	64.00	69.21	71.37	73.52	75.68	77.83	79.99	81.71	83.42	85.14	86.85	88.57
1	3	4	28.70	32.10	35.75	36.29	52.97	54.13	54.20	56.53	60.25	62.32	58.80	60.05	61.56	64.89	70.45	72.60	74.75	76.89	79.04	81.19	82.77	84.36	85.94	87.53	89.11
1	3	5	28.76	32.77	37.16	37.53	53.94	54.39	54.86	57.44	62.34	63.74	60.54	60.61	62.43	66.17	72.08	74.43	76.78	79.14	81.49	83.84	85.26	86.68	88.10	89.52	90.94
1	3	6	28.84	36.09	41.55	43.20	56.95	55.49	54.51	63.31	68.10	69.05	63.08	60.87	65.15	70.66	76.59	79.20	81.82	84.43	87.05	89.66	90.82	91.98	93.14	94.30	95.46
1	3	7	29.42	42.06	49.30	50.40	60.40	56.47	55.60	68.82	75.37	73.43	65.36	61.49	70.16	76.81	83.50	86.04	88.58	91.13	93.67	96.21	97.29	98.36	99.44	100.51	101.59
1	3	8	30.64	45.45	51.87	65.82	62.48	58.92	58.04	70.90	153.58	80.22	67.57	64.06	73.75	79.94	135.00	133.54	132.08	130.62	129.16	127.70	123.26	118.82	114.37	109.93	105.49
1	3	9	32.28	45.04	51.87	56.83	62.41	61.38	59.73	69.60	104.01	77.23	68.76	66.25	72.96	80.44	110.97	109.25	107.54	105.82	104.11	102.39	103.01	103.63	104.25	104.87	105.49
1	3	10	33.08	45.45	50.79	52.19	63.96	61.60	61.33	69.53	80.43	75.04	68.54	67.99	73.11	79.92	84.75	87.58	90.41	93.24	96.07	98.90	100.17	101.44	102.71	103.98	105.25
1	3	11	33.17	45.80	50.56	51.29	63.80	63.34	61.70	69.19	75.05	74.99	69.34	69.42	75.18	79.86	83.61	86.67	89.74	92.80	95.87	98.93	100.19	101.46	102.72	103.99	105.25

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	3	12	34.61	44.36	49.50	48.84	63.04	61.82	61.78	69.22	72.49	73.59	68.09	70.29	72.96	79.24	82.19	84.99	87.80	90.60	93.41	96.21	97.54	98.88	100.21	101.55	102.88
1	3	13	35.79	42.66	48.95	46.73	61.80	61.01	61.70	68.24	71.75	73.43	66.82	70.41	72.66	78.50	80.99	83.95	86.91	89.86	92.82	95.78	97.02	98.26	99.51	100.75	101.99
1	3	14	34.07	42.26	48.19	46.32	59.84	59.57	60.97	68.63	70.98	72.94	65.44	68.92	72.89	77.83	80.51	83.06	85.61	88.15	90.70	93.25	94.83	96.42	98.00	99.59	101.17
1	3	15	33.12	41.49	47.30	43.57	58.58	58.05	60.41	67.66	68.20	71.44	65.22	68.21	71.82	76.88	79.98	82.23	84.47	86.72	88.96	91.21	92.99	94.77	96.54	98.32	100.10
1	3	16	33.14	41.47	46.33	42.46	58.33	57.79	60.15	66.84	67.73	70.38	64.93	67.79	71.61	76.87	79.50	81.66	83.83	85.99	88.16	90.32	92.28	94.23	96.19	98.14	100.10
1	3	17	36.28	43.31	48.19	46.14	59.84	59.90	61.32	67.81	67.95	71.99	66.52	70.35	72.66	76.88	79.26	81.77	84.28	86.80	89.31	91.82	93.60	95.37	97.15	98.92	100.70
1	3	18	45.16	48.64	51.46	50.87	65.00	65.96	68.82	70.76	71.54	73.60	74.91	75.04	76.58	80.46	81.66	84.56	87.45	90.35	93.24	96.14	98.28	100.41	102.55	104.68	106.82
1	3	19	48.44	63.20	63.97	57.88	76.54	68.67	74.45	78.00	76.73	78.27	82.55	81.70	84.55	106.54	84.46	87.36	90.26	93.17	96.07	98.97	101.10	103.22	105.35	107.47	109.60
1	3	20	48.44	52.25	51.46	54.72	67.45	67.09	74.30	70.53	76.05	75.85	75.64	81.01	78.19	80.01	83.45	86.40	89.35	92.30	95.25	98.20	99.78	101.37	102.95	104.54	106.12
1	3	21	46.53	48.64	50.83	51.13	66.60	66.44	69.22	68.36	74.75	73.60	74.53	74.85	76.73	79.24	82.41	85.21	88.02	90.82	93.63	96.43	98.03	99.62	101.22	102.81	104.41
1	3	22	39.42	43.61	48.75	49.70	64.25	63.77	63.85	67.30	70.98	73.60	71.77	71.74	72.96	76.88	80.38	83.44	86.49	89.55	92.60	95.66	96.67	97.68	98.68	99.69	100.70
1	3	23	35.16	41.06	47.40	46.70	64.17	60.13	60.42	65.61	69.69	70.38	72.66	68.24	71.23	76.87	79.91	82.58	85.25	87.92	90.59	93.26	94.36	95.45	96.55	97.64	98.74
1	3	24	32.33	37.39	40.82	39.14	61.56	56.67	57.17	61.92	65.37	65.44	67.18	64.66	67.36	71.69	75.04	77.02	79.01	80.99	82.98	84.96	86.99	89.02	91.06	93.09	95.12
1	4	1	31.16	33.19	37.96	35.85	57.70	54.26	56.47	59.12	60.54	62.66	64.08	62.57	63.61	68.21	70.63	72.63	74.62	76.62	78.61	80.61	82.90	85.18	87.47	89.75	92.04
1	4	2	30.74	33.11	37.80	34.64	54.71	52.84	55.64	59.02	59.46	60.74	62.15	61.96	62.48	68.18	68.99	70.90	72.81	74.72	76.63	78.54	81.17	83.81	86.44	89.08	91.71
1	4	3	30.34	33.01	38.58	34.48	53.94	52.50	55.39	59.33	58.39	59.81	61.02	60.72	62.15	68.82	68.59	70.54	72.48	74.43	76.37	78.32	81.19	84.07	86.94	89.82	92.69
1	4	4	29.83	33.44	39.62	34.59	53.76	52.51	55.39	60.80	58.53	59.28	59.87	60.69	63.15	70.04	68.70	70.72	72.74	74.76	76.78	78.80	81.83	84.87	87.90	90.94	93.97
1	4	5	30.59	35.39	41.71	35.76	53.89	52.99	56.00	62.96	60.14	61.37	60.05	62.05	64.44	72.81	70.39	72.43	74.47	76.52	78.56	80.60	83.50	86.41	89.31	92.22	95.12
1	4	6	33.07	41.93	48.17	39.01	54.73	53.68	59.57	67.71	65.35	65.06	60.92	63.76	69.65	76.82	75.38	77.30	79.23	81.15	83.08	85.00	88.23	91.46	94.70	97.93	101.16
1	4	7	40.27	47.54	53.43	47.37	55.87	54.39	64.71	73.65	71.34	71.39	62.75	68.49	75.19	82.79	79.68	82.63	85.58	88.54	91.49	94.44	97.00	99.57	102.13	104.70	107.26
1	4	8	43.55	51.34	113.34	51.97	58.32	56.49	66.38	147.01	89.86	73.85	65.58	71.00	79.04	179.02	86.54	88.73	90.92	93.12	95.31	97.50	115.81	134.12	152.43	170.74	189.05
1	4	9	43.43	51.58	107.31	51.37	60.77	58.91	65.79	106.17	75.21	73.61	67.85	70.29	78.13	140.29	83.16	85.90	88.64	91.39	94.13	96.87	104.56	112.24	119.93	127.61	135.30
1	4	10	43.55	50.69	60.37	50.78	61.07	59.63	66.39	76.46	73.72	73.60	68.54	70.93	78.13	87.44	81.24	84.23	87.22	90.22	93.21	96.20	101.04	105.88	110.72	115.56	120.40
1	4	11	43.55	49.72	57.22	50.13	61.56	59.89	67.15	71.51	71.24	73.60	71.52	71.75	78.12	82.35	80.64	83.75	86.86	89.98	93.09	96.20	100.02	103.84	107.66	111.48	115.30
1	4	12	41.24	49.18	54.41	49.47	61.56	60.15	66.38	70.76	70.11	73.59	69.87	70.96	77.76	80.55	79.98	82.63	85.29	87.94	90.60	93.25	96.10	98.94	101.79	104.63	107.48
1	4	13	39.55	48.74	52.72	46.93	61.56	60.18	65.79	70.51	68.97	72.55	67.83	70.33	76.60	80.12	79.08	81.66	84.23	86.81	89.38	91.96	94.77	97.58	100.39	103.20	106.01
1	4	14	39.30	47.60	50.87	45.74	58.71	59.65	65.78	69.83	68.71	71.53	65.70	70.95	75.94	79.37	77.88	80.45	83.01	85.58	88.14	90.71	93.63	96.54	99.46	102.37	105.29
1	4	15	37.77	44.82	49.35	43.73	58.28	59.01	65.14	68.26	67.52	70.60	64.51	69.82	75.20	77.49	77.03	79.20	81.38	83.55	85.73	87.90	90.94	93.98	97.01	100.05	103.09
1	4	16	37.63	43.85	48.93	42.42	57.83	58.97	65.14	67.69	66.37	69.89	64.04	70.11	74.26	77.12	76.37	78.59	80.81	83.03	85.25	87.47	90.53	93.60	96.66	99.73	102.79
1	4	17	40.07	45.77	49.19	46.06	58.28	61.49	66.66	68.08	68.69	72.56	65.58	71.75	75.18	76.99	77.26	80.06	82.85	85.65	88.44	91.24	93.51	95.78	98.06	100.33	102.60
1	4	18	45.56	51.48	53.03	53.82	62.02	69.21	70.27	70.76	70.98	77.91	70.86	74.05	80.32	80.12	80.35	83.13	85.91	88.69	91.47	94.25	96.99	99.74	102.48	105.23	107.97
1	4	19	53.47	65.01	65.07	57.37	65.21	72.39	83.36	79.83	78.00	80.24	73.72	83.42	97.36	89.36	83.72	86.57	89.42	92.28	95.13	97.98	100.61	103.24	105.87	108.50	111.13
1	4	20	48.09	51.70	62.83	53.82	63.82	72.08	71.50	79.78	75.21	79.05	71.47	75.76	79.07	88.14	83.16	86.03	88.90	91.76	94.63	97.50	100.04	102.59	105.13	107.68	110.22
1	4	21	45.36	48.36	54.33	51.29	61.83	69.59	69.26	74.57	73.28	76.03	70.24	74.05	75.78	84.72	80.33	83.40	86.46	89.53	92.59	95.66	98.17	100.69	103.20	105.72	108.23
1	4	22	40.61	46.48	51.38	49.94	61.76	65.28	65.76	69.60	70.46	73.60	67.43	72.20	74.45	79.29	79.08	81.91	84.75	87.58	90.42	93.25	95.78	98.31	100.84	103.37	105.90
1	4	23	37.02	44.92	50.55	46.84	58.28	61.50	63.55	68.63	69.01	72.94	64.89	69.91	73.60	76.90	77.39	79.67	81.94	84.22	86.49	88.77	91.67	94.58	97.48	100.39	103.29
1	4	24	34.59	39.37	44.85	39.61	57.52	57.55	59.80	64.70	62.71	67.24	62.75	66.35	69.70	75.79	72.55	74.52	76.49	78.45	80.42	82.39	85.25	88.11	90.96	93.82	96.68
1	5	1	30.28	35.06	38.85	36.94	53.23	55.17	56.42	60.35	57.93	63.74	60.56	62.24	66.21	69.92	68.48	70.41	72.34	74.26	76.19	78.12	81.05	83.98	86.92	89.85	92.78
1	5	2	30.34	34.81	37.69	36.29	52.52	54.51	55.84	59.26	57.09	62.96	58.91	60.85	66.07	68.67	66.79	68.72	70.66	72.59	74.53	76.46	79.50	82.53	85.57	88.60	91.64
1	5	3	31.15	35.09	36.73	36.07	52.02	54.36	55.59	58.87	56.98	61.68	57.97	60.45	67.11	68.22	65.80	67.84	69.89	71.93	73.98	76.02	79.09	82.16	85.23	88.30	91.37
1	5	4	32.31	36.51	36.86	36.06	51.67	54.81	56.16	59.09	56.79	60.40	57.95	61.27	68.31	68.62	65.58	67.67	69.76	71.86	73.95	76.04	79.31	82.59	85.86	89.14	92.41
1	5	5	34.06	40.22	38.60	36.25	52.18	55.57	57.60	61.03	58.34	61.28	58.83	62.55	70.85	70.28	67.35	69.27	71.19	73.12	75.04	76.96	80.35	83.74	87.12	90.51	93.90
1	5	6	38.13	45.73	43.32	37.33	52.73	57.65	63.94	65.01	62.16	63.33	58.94	67.92	74.97	74.30	71.88	73.93	75.99	78.04	80.10	82.15	85.22	88.29	91.36	94.43	97.50
1	5	7	45.62	51.08	48.66	39.83	53.59	63.36	68.26	69.46	68.51	65.93	60.49	73.14	80.32	78.71	77.48	80.07	82.66	85.26	87.85	90.44	93.11	95.78	98.46	101.13	103.80
1	5	8	51.53	99.01	59.32	45.00	56.73	64.29	71.27	76.00	71.96	69.91	62.63	76.04	155.19	87.99	80.03	83.23	86.42	89.62	92.81	96.01	98.65	101.29	103.93	106.57	109.21
1	5	9	51.23	66.98	53.73	47.37	58.14	64.06	71.21	72.74	72.21	73.25	64.64	76.99	116.54	82.56	80.21	83.06	85.91	88.77	91.62	94.47	96.98	99.49	101.99	104.50	107.01
1	5	10	47.78	54.27	52.77	52.75	58.54	64.62	70.83	71.67	72.69	77.32	66.82	76.90	84.07	80.81	80.64	83.34	86.03	88.73	91.42	94.12	96.52	98.92	101.32	103.72	106.12
1	5	11	46.97	53.99	51.97	50.78	58.54	65.52	70.36	70.07	71.90	75.99	67.23	76.04	83.06	79.92	80.64	83.28	85.92	88.57	91.21	93.85	96.04	98.23	100.42	102.61	104.80
1	5	12	46.59	51.93	50.10	48.07	58.65	64.02	70.35	68.85	70.72	73.50	66.82	75.07	80.32	78.71	80.11	82.76	85.41	88.06	90.71	93.36	95.29	97.22	99.16	101.09	103.02
1	5	13	45.31	50.46	48.47	44.48	58.71	63.30	68.85	67.61	69.01	70.10	67.39	74.25	79.29	77.69	79.76	82.09	84.43	86.76	89.10	91.43	93.44	95.46	97.47	99.49	101.50
1	5	14	44.63	49.49	47.50	40.28	58.46	63.33	67.89	66.85	68.10	67.09	66.78	73.44	78.15	76.88	79.19	81.38	83.56	85.75	87.93	90.12	92.40	94.67	96.95	99.22	101.50
1	5	15	42.61	47.01	46.78	38.50	57.87	62.69	66.25	66.03	66.04	66.61	65.90	73.13	76.72	76.21	78.62	80.48	82.33	84.19	86.04	87.90	90.25	92.59	94.94	97.28	99.63
1	5	16	41.71	46.42	46.48	37.98	57.85	62.87	65.76	65.67	66.04	66.22	66.71	72.25	75.26	76.13	78.42	80.13	81.84	83.55	85.26	86.97	89.38	91.79	94.21	96.62	99.03
1	5	17	44.51	48.44	47.40	39.14	59.35	64.78	66.27	66.84	68.87	66.96	66.87	73.13	75.78	76.88	79.45	81.80	84.15	86.49	88.84	91.19	93.25	95.31	97.38	99.44	101.50
1	5	18	48.43	52.01	51.85	46.37	65.39	67.56	70.67	70.89	75.66	71.44	74.80	78.06	80.36	78.18	84.18	86.37	88.55	90.74	92.92	95.11	97.29	99.47	101.65	103.83	106.01
1	5	19	61.73	56.71	71.80	49.78	73.26	75.07	81.55	98.41	93.11	76.27	83.83	82.50	87.13	96.27	89.08	91.01	92.94	94.87	96.80	98.73	100.63	102.53	104.43	106.33	108.23
1	5	20	52.54	54.98	54.90	47.15	68.41	70.68	69.90	74.18	79.01	74.26	80.38	76.86	85.53	83.70	84.68	87.12	89.57	92.01	94.46	96.90	99.09	101.27	103.46	105.64	107.83
1	5	21	46.74	52.02	52.92	43.58	65.32	67.99	68.60	71.47	75.99	73.13	72.82	73.63	83.86	79.29	82.39	85.15	87.92	90.68	93.45	96.21	98.03	99.84	101.66	103.47	105.29
1	5	22	45.56	48.71	50.14	40.42	62.72	64.26	66.22	68.81	72.23	69.86	70.18	73.13	78.73	76.88	80.63	83.14	85.65	88.15	90.66	93.17	95.04	96.91	98.77	100.64	102.51

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	5	23	43.63	47.19	48.59	38.26	58.95	63.09	65.72	67.07	70.98	67.83	66.61	72.97	76.52	76.57	80.03	82.48	84.93	87.39	89.84	92.29	93.93	95.57	97.20	98.84	100.48
1	5	24	37.47	41.37	40.44	36.68	57.39	58.41	62.14	62.43	63.96	64.73	63.51	68.08	73.06	71.07	75.07	77.31	79.56	81.80	84.05	86.29	88.04	89.79	91.54	93.29	95.04
1	6	1	34.00	35.22	36.03	34.75	55.28	55.05	58.87	58.57	59.26	61.87	61.17	64.39	67.68	66.60	70.58	72.84	75.11	77.37	79.64	81.90	83.66	85.42	87.18	88.94	90.70
1	6	2	33.52	34.92	34.99	34.02	53.50	54.49	58.77	57.61	58.13	60.16	60.57	64.14	66.75	65.63	69.29	71.54	73.79	76.04	78.29	80.54	82.25	83.97	85.68	87.40	89.11
1	6	3	34.14	34.73	34.82	33.72	53.09	54.60	58.96	57.07	58.00	59.05	59.72	65.04	66.60	64.55	68.88	71.17	73.45	75.74	78.02	80.31	81.98	83.65	85.32	86.99	88.66
1	6	4	35.80	34.79	34.91	33.51	53.01	55.13	60.17	56.97	57.81	59.50	59.68	66.41	66.66	64.46	68.29	70.69	73.10	75.50	77.91	80.31	81.99	83.67	85.36	87.04	88.72
1	6	5	38.26	36.07	35.88	34.00	53.87	56.85	62.21	58.79	58.15	59.59	60.73	68.56	68.31	66.54	68.96	71.30	73.64	75.97	78.31	80.65	82.50	84.34	86.19	88.03	89.88
1	6	6	45.10	42.70	39.93	34.65	57.84	62.02	66.40	63.60	59.64	60.13	63.24	72.73	72.93	70.76	70.95	73.19	75.43	77.67	79.91	82.15	84.71	87.27	89.84	92.40	94.96
1	6	7	51.66	47.55	47.94	36.47	61.48	67.49	71.23	68.00	62.73	61.58	68.62	76.91	77.34	75.60	72.99	75.35	77.71	80.08	82.44	84.80	87.97	91.14	94.31	97.48	100.65
1	6	8	95.72	52.02	52.07	37.81	63.13	68.69	126.01	70.72	67.32	64.33	73.46	146.91	100.46	78.07	75.86	78.64	81.41	84.19	86.96	89.74	92.85	95.96	99.07	102.18	105.29
1	6	9	95.71	51.04	51.85	40.01	63.76	68.79	123.95	70.30	70.04	66.90	73.73	95.44	82.78	79.29	79.51	82.57	85.62	88.68	91.73	94.79	97.04	99.28	101.53	103.77	106.02
1	6	10	78.69	49.57	51.12	41.41	62.79	68.52	77.80	71.09	73.51	68.65	72.42	82.22	79.56	79.24	81.56	84.90	88.25	91.59	94.94	98.28	99.83	101.37	102.92	104.46	106.01
1	6	11	56.10	48.77	51.62	40.61	63.31	68.18	72.18	71.38	73.51	68.71	72.42	77.10	78.38	79.24	81.12	84.13	87.14	90.14	93.15	96.16	98.13	100.10	102.08	104.05	106.02
1	6	12	52.16	47.83	50.82	39.88	62.05	68.52	70.10	70.89	71.28	67.39	71.43	75.86	75.26	78.18	80.03	82.72	85.41	88.09	90.78	93.47	95.68	97.88	100.09	102.29	104.50
1	6	13	50.29	47.30	48.35	39.14	61.24	67.93	69.61	69.23	68.47	66.92	70.46	75.02	74.52	77.37	77.62	80.43	83.23	86.04	88.84	91.65	93.90	96.15	98.40	100.65	102.90
1	6	14	47.64	46.62	46.88	38.58	60.48	67.52	67.04	68.76	64.70	65.91	69.08	74.27	74.02	76.88	75.30	77.76	80.22	82.69	85.15	87.61	90.52	93.42	96.33	99.23	102.14
1	6	15	45.16	43.87	45.19	38.05	59.84	66.00	65.76	67.58	62.35	64.39	67.82	73.15	72.96	76.83	72.24	74.72	77.20	79.69	82.17	84.65	87.94	91.23	94.52	97.81	101.10
1	6	16	44.94	42.75	43.97	37.92	59.84	64.72	65.76	66.84	61.72	64.39	66.66	72.67	72.60	76.53	72.10	74.60	77.09	79.59	82.08	84.58	87.63	90.68	93.72	96.77	99.82
1	6	17	45.31	45.80	47.27	38.94	60.69	65.76	65.76	68.81	63.41	64.97	68.47	73.13	73.88	76.89	73.22	75.66	78.09	80.53	82.96	85.40	88.71	92.02	95.34	98.65	101.96
1	6	18	51.39	50.46	52.92	47.28	66.15	69.22	68.59	72.96	69.01	71.44	73.73	74.23	77.76	82.19	79.68	82.38	85.07	87.77	90.46	93.16	97.03	100.90	104.78	108.65	112.52
1	6	19	92.00	64.33	78.86	60.44	76.39	74.45	78.62	77.84	71.35	87.68	78.46	80.01	104.82	102.54	81.42	84.68	87.94	91.19	94.45	97.71	101.52	105.32	109.13	112.93	116.74
1	6	20	65.56	52.02	60.70	56.43	70.87	68.23	74.52	75.07	69.69	73.61	74.30	80.45	85.05	87.81	80.15	83.35	86.55	89.76	92.96	96.16	100.14	104.12	108.11	112.09	116.07
1	6	21	55.87	49.94	52.77	48.91	65.90	67.52	73.64	72.73	68.63	71.99	72.21	76.59	77.05	80.63	79.62	82.33	85.04	87.74	90.45	93.16	95.84	98.52	101.21	103.89	106.57
1	6	22	48.78	47.91	50.92	44.29	61.83	65.05	67.74	71.16	67.19	71.99	68.03	73.63	75.32	78.68	76.55	78.86	81.17	83.47	85.78	88.09	91.09	94.09	97.09	100.09	103.09
1	6	23	47.91	46.19	49.57	42.42	60.65	66.00	66.33	69.94	63.59	68.42	66.76	73.15	74.14	77.51	73.84	75.97	78.10	80.24	82.37	84.50	88.53	92.56	96.58	100.61	104.64
1	6	24	40.03	39.31	41.69	37.98	58.46	60.72	62.54	64.86	60.24	64.32	63.54	68.81	69.43	74.93	71.15	73.38	75.60	77.83	80.05	82.28	85.37	88.47	91.56	94.66	97.75
1	7	1	35.39	33.92	38.22	36.25	54.00	58.40	59.10	60.20	58.00	61.38	60.83	64.97	65.04	68.86	68.56	70.84	73.12	75.41	77.69	79.97	82.64	85.32	87.99	90.67	93.34
1	7	2	34.00	33.11	36.41	35.40	52.95	58.44	58.19	58.57	57.21	60.58	59.51	63.98	64.10	67.71	65.98	68.56	71.13	73.71	76.28	78.86	81.43	84.00	86.57	89.14	91.71
1	7	3	33.51	32.88	36.21	35.20	53.12	59.57	57.74	58.24	56.47	60.57	58.98	63.56	62.63	66.95	65.53	68.01	70.48	72.96	75.43	77.91	80.65	83.39	86.13	88.87	91.61
1	7	4	33.76	32.95	36.36	35.78	53.67	60.74	57.97	58.54	56.76	60.71	59.62	63.70	62.98	67.68	65.18	67.66	70.15	72.63	75.12	77.60	80.43	83.26	86.10	88.93	91.76
1	7	5	35.45	34.35	37.50	36.64	54.71	61.85	59.06	59.71	57.35	61.81	61.29	65.04	64.41	68.22	66.30	68.79	71.27	73.76	76.24	78.73	81.50	84.27	87.05	89.82	92.59
1	7	6	41.95	39.11	39.13	39.79	59.44	65.52	63.29	61.83	57.87	66.33	66.28	69.42	69.50	69.41	66.66	69.09	71.51	73.94	76.36	78.79	82.04	85.29	88.54	91.79	95.04
1	7	7	47.72	45.42	42.44	47.26	63.49	69.73	66.98	64.12	59.09	71.44	71.25	73.15	75.05	72.80	68.48	70.97	73.47	75.96	78.46	80.95	84.00	87.05	90.11	93.16	96.21
1	7	8	88.74	50.38	47.12	52.71	67.84	114.62	71.23	66.93	62.67	75.47	74.27	78.31	79.04	75.81	72.09	74.36	76.62	78.89	81.15	83.42	86.59	89.76	92.93	96.10	99.27
1	7	9	60.19	50.69	50.92	57.67	67.91	88.33	70.81	68.85	64.81	76.98	74.19	76.71	78.68	77.77	75.07	77.51	79.94	82.38	84.81	87.25	90.80	94.35	97.91	101.46	105.01
1	7	10	52.23	50.69	56.35	49.89	66.68	71.91	69.49	69.36	66.47	73.60	74.17	75.07	79.06	79.29	75.60	77.99	80.37	82.76	85.14	87.53	91.08	94.63	98.19	101.74	105.29
1	7	11	50.51	50.68	53.97	49.60	66.50	70.54	68.31	69.38	65.70	73.60	74.27	74.16	77.81	79.98	74.84	77.20	79.56	81.93	84.29	86.65	90.32	93.99	97.67	101.34	105.01
1	7	12	46.95	49.11	50.12	47.93	65.90	69.31	66.39	68.57	64.30	72.10	73.81	72.80	76.73	77.24	74.77	77.02	79.27	81.51	83.76	86.01	89.42	92.84	96.25	99.67	103.08
1	7	13	45.87	46.92	47.24	46.09	65.66	68.00	65.52	66.84	63.21	71.44	72.66	72.03	76.35	76.83	74.12	76.22	78.31	80.41	82.50	84.60	87.97	91.34	94.72	98.09	101.46
1	7	14	44.57	45.22	41.55	44.38	65.07	67.76	64.81	64.12	62.22	69.66	71.36	72.13	75.20	74.41	73.87	76.00	78.12	80.25	82.37	84.50	87.28	90.06	92.84	95.62	98.40
1	7	15	42.08	42.62	39.92	42.06	64.21	66.52	64.48	62.85	61.25	67.96	68.71	70.96	75.18	71.22	73.28	75.34	77.40	79.46	81.52	83.58	86.01	88.44	90.87	93.30	95.73
1	7	16	41.18	42.17	39.45	41.91	63.09	65.05	64.48	62.38	60.79	66.62	69.19	70.58	74.97	70.83	71.88	73.98	76.08	78.19	80.29	82.39	85.06	87.73	90.39	93.06	95.73
1	7	17	44.74	43.94	41.20	44.15	64.77	65.76	65.06	63.26	62.81	68.17	71.15	71.62	75.20	72.23	73.95	76.05	78.14	80.24	82.33	84.43	86.69	88.95	91.21	93.47	95.73
1	7	18	50.01	51.29	48.23	49.94	67.86	69.24	68.83	66.85	68.63	73.60	76.54	73.63	82.50	76.89	79.19	81.64	84.09	86.54	88.99	91.44	93.50	95.56	97.61	99.67	101.73
1	7	19	88.04	66.98	57.42	68.20	87.32	75.07	89.44	68.76	74.99	80.99	83.49	85.88	105.57	79.97	81.56	84.80	88.04	91.29	94.53	97.77	98.82	99.88	100.93	101.99	103.04
1	7	20	64.23	55.81	49.83	64.54	70.00	75.07	73.35	67.92	70.39	77.16	75.98	80.05	86.38	77.84	80.46	83.02	85.58	88.14	90.70	93.26	95.18	97.11	99.03	100.96	102.88
1	7	21	52.16	51.70	47.14	51.15	66.25	72.68	69.18	66.37	69.29	73.60	74.01	74.63	79.28	76.67	79.99	82.13	84.28	86.42	88.57	90.71	92.79	94.87	96.94	99.02	101.10
1	7	22	47.52	48.99	44.19	46.92	65.07	67.52	67.20	65.08	66.40	69.32	72.25	72.86	77.58	75.33	76.29	78.21	80.13	82.05	83.97	85.89	88.49	91.10	93.70	96.31	98.91
1	7	23	46.44	48.39	40.51	42.94	65.90	67.56	65.66	62.79	62.34	69.32	71.00	71.29	75.97	72.49	73.24	75.16	77.08	79.00	80.92	82.84	85.30	87.75	90.21	92.66	95.12
1	7	24	36.74	41.02	37.59	38.36	60.70	63.11	61.46	60.03	58.49	64.92	67.15	67.04	72.86	69.48	70.19	72.15	74.11	76.07	78.03	79.99	82.34	84.69	87.05	89.40	91.75
1	8	1	32.56	36.24	35.49	36.10	58.42	59.57	57.83	57.45	56.40	62.19	64.26	63.85	66.75	67.58	68.17	70.07	71.97	73.86	75.76	77.66	80.06	82.46	84.87	87.27	89.67
1	8	2	31.28	34.99	34.97	35.37	58.01	58.05	56.93	56.84	55.83	60.09	64.20	62.57	65.23	65.55	66.57	68.53	70.49	72.46	74.42	76.38	78.97	81.56	84.16	86.75	89.34
1	8	3	30.93	34.35	34.81	35.39	58.21	57.57	56.64	56.55	55.67	60.04	64.31	61.99	65.15	64.63	65.99	68.00	70.01	72.01	74.02	76.03	78.57	81.11	83.64	86.18	88.72
1	8	4	31.00	34.82	34.62	36.09	60.13	57.83	56.66	55.81	55.67	60.41	65.90	61.90	65.15	63.20	66.06	68.08	70.10	72.11	74.13	76.15	78.56	80.98	83.39	85.81	88.22
1	8	5	32.50	35.09	34.97	37.25	61.07	60.06	58.24	56.53	56.08	62.07	68.19	62.79	65.62	63.79	67.28	69.36	71.43	73.51	75.58	77.66	79.94	82.22	84.51	86.79	89.07
1	8	6	36.38	37.55	35.46	39.14	64.43	63.11	62.20	57.24	58.83	66.47	72.35	67.12	67.47	64.98	70.19	72.31	74.42	76.54	78.65	80.77	82.76	84.75	86.75	88.74	90.73
1	8	7	44.85	41.22	36.36	47.59	68.74	68.14	65.76	59.25	65.34	71.99	76.92	71.55	70.80	67.48	75.34	77.55	79.75	81.96	84.16	86.37	87.89	89.41	90.94	92.46	93.98
1	8	8	50.97	45.39	39.04	55.65	123.68	72.25	69.40	63.00	69.69	79.51	131.27	73.46	73.06	70.39	80.12	82.73	85.34	87.94	90.55	93.16	93.74	94.32	94.90	95.48	96.06
1	8	9	50.23	47.86	41.71	55.65	92.31	70.54	68.54	65.63	70.72	76.86	89.13	73.62	76.63	72.37	80.64	83.18	85.73	88.27	90.82	93.36	94.47	95.57	96.68	97.78	98.89

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	8	10	50.88	49.88	42.90	51.34	74.01	68.23	68.31	66.13	68.37	75.42	81.60	74.21	77.76	73.18	79.98	82.27	84.56	86.85	89.14	91.43	92.94	94.45	95.95	97.46	98.97
1	8	11	48.96	49.43	42.62	51.30	70.85	68.23	69.07	65.08	67.77	74.98	78.92	75.00	77.95	73.24	79.63	81.99	84.35	86.71	89.07	91.43	92.77	94.11	95.44	96.78	98.12
1	8	12	46.59	47.15	41.20	50.38	68.84	67.56	68.25	64.12	67.40	73.25	76.09	73.63	76.35	73.11	78.40	80.71	83.02	85.32	87.63	89.94	91.54	93.13	94.73	96.32	97.92
1	8	13	45.13	44.18	40.03	47.86	66.60	66.00	67.20	63.26	65.93	71.99	74.52	73.57	74.81	71.76	77.33	79.35	81.37	83.40	85.42	87.44	89.29	91.14	92.99	94.84	96.69
1	8	14	43.63	41.40	39.24	47.11	66.15	65.43	66.05	62.81	64.57	71.21	74.01	73.14	72.33	72.25	76.00	78.07	80.14	82.20	84.27	86.34	88.51	90.68	92.84	95.01	97.18
1	8	15	40.88	39.44	38.67	43.98	65.90	63.34	65.07	61.92	63.45	69.46	72.84	72.87	69.34	71.54	75.30	77.38	79.46	81.55	83.63	85.71	87.71	89.72	91.72	93.73	95.73
1	8	16	40.27	38.84	38.16	43.31	65.51	63.11	64.81	61.39	62.67	69.32	71.83	72.20	68.62	70.69	74.56	76.67	78.77	80.88	82.98	85.09	87.08	89.08	91.07	93.07	95.06
1	8	17	43.77	40.99	39.88	46.68	65.96	63.68	66.25	63.16	64.04	70.09	73.81	73.15	70.85	71.76	75.61	77.63	79.65	81.68	83.70	85.72	88.09	90.46	92.83	95.20	97.57
1	8	18	52.22	47.61	47.79	52.70	70.38	67.27	71.00	68.09	68.68	75.16	76.87	78.56	75.20	76.83	79.15	81.61	84.07	86.53	88.99	91.45	94.11	96.77	99.42	102.08	104.74
1	8	19	90.90	52.99	59.23	68.48	94.52	78.67	93.58	78.03	78.87	104.40	85.99	83.51	78.33	80.10	90.18	90.99	91.81	92.62	93.44	94.25	97.27	100.29	103.32	106.34	109.36
1	8	20	56.85	50.79	51.59	61.23	88.94	73.34	78.00	71.34	72.74	83.37	84.79	82.54	76.25	76.90	82.59	84.85	87.10	89.36	91.61	93.87	95.81	97.75	99.70	101.64	103.58
1	8	21	52.25	47.15	49.02	54.54	73.76	67.76	69.73	68.85	69.17	76.86	80.53	76.59	75.08	76.89	79.19	81.72	84.25	86.77	89.30	91.83	94.07	96.31	98.56	100.80	103.04
1	8	22	48.38	45.12	45.61	49.77	69.60	66.00	68.51	67.07	65.37	73.60	74.88	73.58	73.70	74.56	75.16	77.66	80.16	82.65	85.15	87.65	90.05	92.44	94.84	97.23	99.63
1	8	23	45.88	40.76	39.03	47.21	66.54	66.44	67.20	62.53	63.57	71.76	74.00	73.14	71.26	71.76	75.03	77.02	79.02	81.01	83.01	85.00	87.02	89.05	91.07	93.10	95.12
1	8	24	38.65	36.12	36.21	38.85	62.52	61.08	62.74	59.06	60.29	66.38	68.51	69.05	68.08	68.76	71.20	73.07	74.94	76.81	78.68	80.55	82.83	85.10	87.38	89.65	91.93
1	9	1	34.06	33.77	34.43	36.74	58.28	57.18	58.96	56.51	57.58	62.27	64.28	65.55	66.71	65.32	68.69	70.52	72.36	74.19	76.03	77.86	80.12	82.37	84.63	86.88	89.14
1	9	2	32.79	32.88	33.59	35.10	56.98	55.96	58.59	55.69	56.34	60.84	64.10	64.10	64.34	64.32	66.19	68.39	70.59	72.80	75.00	77.20	79.40	81.61	83.81	86.02	88.22
1	9	3	32.56	32.53	33.51	34.64	56.95	54.90	58.08	55.73	56.52	60.54	63.64	63.82	63.77	63.80	65.77	68.04	70.31	72.59	74.86	77.13	79.26	81.38	83.51	85.63	87.76
1	9	4	32.49	32.45	33.53	34.66	57.70	54.90	58.35	55.73	56.68	60.77	64.10	64.15	62.53	63.95	66.41	68.75	71.09	73.43	75.77	78.11	80.09	82.07	84.04	86.02	88.00
1	9	5	33.13	32.79	34.31	35.89	58.65	56.78	59.14	56.15	57.89	62.49	65.69	64.35	62.58	65.13	68.40	70.47	72.54	74.62	76.69	78.76	80.84	82.92	85.01	87.09	89.17
1	9	6	35.07	33.41	36.88	38.03	61.55	60.95	60.51	59.74	61.74	64.62	69.91	65.87	63.61	69.07	73.38	75.13	76.89	78.64	80.40	82.15	84.52	86.89	89.26	91.63	94.00
1	9	7	37.23	34.89	44.85	45.86	65.86	64.78	62.93	66.47	66.32	69.41	74.01	68.56	66.62	74.35	78.16	80.12	82.08	84.05	86.01	87.97	90.33	92.69	95.05	97.41	99.77
1	9	8	41.95	37.83	50.10	52.71	85.93	67.27	65.59	69.34	69.99	78.21	80.38	71.44	69.18	78.49	82.97	85.58	88.18	90.79	93.39	96.00	97.77	99.54	101.30	103.07	104.84
1	9	9	46.67	41.98	49.62	52.34	76.01	67.56	67.14	71.06	69.99	79.54	78.39	73.50	71.51	78.65	80.67	83.74	86.81	89.87	92.94	96.01	97.97	99.93	101.90	103.86	105.82
1	9	10	49.25	42.83	49.36	50.01	70.97	67.56	69.28	68.85	69.99	75.94	76.54	74.11	71.85	76.89	80.64	83.14	85.65	88.15	90.66	93.16	95.14	97.12	99.10	101.08	103.06
1	9	11	47.24	41.88	49.36	49.48	68.35	68.18	69.96	68.79	69.99	74.76	74.87	75.31	71.84	76.89	80.04	82.21	84.38	86.56	88.73	90.90	93.68	96.46	99.24	102.02	104.80
1	9	12	45.36	40.65	47.36	48.10	66.40	67.66	66.89	66.98	68.87	73.11	73.51	73.40	71.90	76.09	79.15	81.37	83.59	85.82	88.04	90.26	92.60	94.94	97.28	99.62	101.96
1	9	13	40.53	40.25	45.24	47.59	65.55	66.90	65.20	64.70	67.52	72.16	71.47	73.12	72.26	75.12	78.44	80.57	82.69	84.82	86.94	89.07	91.52	93.96	96.41	98.85	101.30
1	9	14	37.66	38.84	42.37	46.33	64.80	65.96	63.27	64.15	65.73	71.43	70.90	68.86	70.85	74.55	77.60	79.60	81.60	83.60	85.60	87.60	90.10	92.60	95.10	97.60	100.10
1	9	15	36.14	36.82	41.18	44.25	61.94	64.50	61.70	63.66	64.71	69.63	70.13	66.94	69.97	73.90	75.83	78.19	80.55	82.91	85.27	87.63	89.85	92.07	94.30	96.52	98.74
1	9	16	35.60	36.51	40.69	43.57	60.78	63.69	61.27	63.31	64.71	69.48	68.68	66.03	68.89	72.64	74.90	77.32	79.73	82.15	84.56	86.98	89.16	91.34	93.52	95.70	97.88
1	9	17	36.98	39.96	41.96	46.33	61.94	65.74	62.28	64.47	65.10	71.43	70.89	67.89	71.22	74.10	76.28	78.61	80.94	83.28	85.61	87.94	90.42	92.90	95.39	97.87	100.35
1	9	18	45.33	46.20	49.64	51.46	65.90	70.70	65.99	68.76	72.09	76.98	74.01	73.14	75.19	76.89	80.12	82.81	85.50	88.19	90.88	93.57	95.41	97.26	99.10	100.95	102.79
1	9	19	51.06	52.66	53.15	67.40	82.94	83.26	71.32	77.47	89.76	86.00	82.45	73.52	89.57	82.24	95.97	97.56	99.15	100.73	102.32	103.91	104.76	105.62	106.47	107.33	108.18
1	9	20	47.91	50.65	50.12	66.01	71.36	74.36	69.61	70.45	74.12	86.00	79.95	73.15	79.95	80.74	84.68	87.54	90.40	93.26	96.12	98.98	100.41	101.84	103.26	104.69	106.12
1	9	21	44.27	48.76	48.85	53.95	66.60	69.75	66.25	68.31	69.43	79.76	74.52	73.15	78.07	76.89	80.24	82.88	85.52	88.17	90.81	93.45	95.33	97.21	99.09	100.97	102.85
1	9	22	38.97	44.93	45.30	48.34	65.74	67.52	65.59	65.85	66.00	71.75	72.21	72.25	75.19	74.56	77.80	80.26	82.73	85.19	87.66	90.12	91.95	93.78	95.61	97.44	99.27
1	9	23	36.37	40.28	41.96	45.00	65.70	67.56	62.80	63.45	63.59	69.67	71.57	69.05	71.93	74.02	77.63	79.37	81.11	82.86	84.60	86.34	88.60	90.87	93.13	95.40	97.66
1	9	24	33.14	35.09	38.12	37.89	60.02	63.03	60.32	60.54	59.92	65.02	65.78	66.15	67.53	69.83	71.54	73.67	75.80	77.94	80.07	82.20	84.51	86.82	89.13	91.44	93.75
1	10	1	30.95	33.15	35.17	36.10	56.63	58.92	58.04	57.39	57.65	61.54	62.03	64.49	64.66	67.50	69.50	71.29	73.08	74.86	76.65	78.44	80.68	82.92	85.17	87.41	89.65
1	10	2	30.11	32.27	34.83	35.08	54.52	57.19	56.76	57.12	56.99	60.34	60.57	63.11	63.61	66.50	68.64	70.62	72.60	74.59	76.57	78.55	80.58	82.61	84.64	86.67	88.70
1	10	3	29.77	31.49	34.83	34.50	53.89	56.83	56.44	56.89	56.24	59.06	60.61	62.25	63.60	65.38	68.07	70.02	71.96	73.91	75.85	77.80	80.00	82.20	84.41	86.61	88.81
1	10	4	29.64	31.93	34.97	34.41	54.03	57.37	55.62	57.44	56.16	59.06	60.21	60.78	63.54	66.50	68.36	70.29	72.22	74.14	76.07	78.00	80.34	82.69	85.03	87.38	89.72
1	10	5	29.83	33.11	35.75	35.38	55.69	58.35	55.75	58.88	57.52	60.44	62.55	60.93	64.11	68.29	69.11	70.92	72.72	74.53	76.33	78.14	80.86	83.58	86.29	89.01	91.73
1	10	6	31.15	36.29	38.74	37.89	59.83	59.78	56.84	62.78	59.47	63.83	67.87	62.63	67.66	71.26	71.18	73.28	75.38	77.49	79.59	81.69	84.38	87.06	89.75	92.43	95.12
1	10	7	32.39	44.18	44.13	45.79	63.50	63.06	58.96	68.57	64.12	67.27	72.14	64.67	72.96	76.89	75.14	77.48	79.82	82.16	84.50	86.84	89.78	92.72	95.66	98.60	101.54
1	10	8	35.05	52.72	50.00	50.98	66.84	65.31	61.72	81.21	71.73	75.35	75.46	67.37	77.40	80.25	80.58	83.70	86.83	89.95	93.08	96.20	98.16	100.12	102.08	104.04	106.00
1	10	9	37.19	52.72	49.84	50.98	66.75	67.52	64.22	73.02	71.75	76.11	74.52	69.56	77.37	79.11	81.36	84.32	87.28	90.24	93.20	96.16	98.45	100.75	103.04	105.34	107.63
1	10	10	38.37	51.08	48.93	50.55	66.53	68.18	64.66	71.63	70.24	73.60	74.17	70.12	75.44	78.49	79.67	82.37	85.06	87.76	90.45	93.15	95.80	98.45	101.10	103.75	106.40
1	10	11	37.75	51.05	48.70	49.16	66.53	69.95	64.20	70.90	70.24	73.60	74.17	69.23	75.20	78.04	79.37	82.13	84.88	87.64	90.39	93.15	95.72	98.29	100.87	103.44	106.01
1	10	12	36.69	46.13	47.22	47.30	65.96	67.76	63.40	68.85	68.33	71.64	74.01	68.30	74.80	77.28	78.44	80.87	83.30	85.72	88.15	90.58	93.30	96.01	98.73	101.44	104.16
1	10	13	36.32	44.39	45.72	45.86	65.80	66.89	62.28	68.22	68.20	69.94	73.81	67.52	73.95	76.21	77.62	79.84	82.07	84.29	86.52	88.74	91.75	94.76	97.78	100.79	103.80
1	10	14	35.80	42.20	43.47	43.79	65.36	64.99	61.44	67.92	67.20	69.21	72.72	67.34	73.36	75.33	76.94	79.06	81.18	83.29	85.41	87.53	90.43	93.33	96.22	99.12	102.02
1	10	15	34.36	40.99	41.76	42.17	64.21	63.34	60.41	66.28	63.90	67.37	71.52	66.47	72.96	74.38	75.83	77.93	80.03	82.14	84.24	86.34	89.12	91.90	94.69	97.47	100.25
1	10	16	34.05	40.87	41.38	41.73	63.31	61.50	59.66	65.22	63.90	67.08	71.02	65.70	72.87	74.38	75.43	77.49	79.55	81.60	83.66	85.72	88.60	91.48	94.36	97.24	100.12
1	10	17	36.08	42.66	42.38	44.43	65.31	64.12	61.70	67.61	64.36	68.71	74.00	67.29	73.69	75.15	76.46	78.70	80.93	83.17	85.40	87.64	90.45	93.26	96.06	98.87	101.68
1	10	18	43.07	49.77	49.33	50.65	69.89	67.76	65.11	70.07	72.75	73.59	78.43	71.44	76.30	77.41	80.04	83.23	86.42	89.60	92.79	95.98	97.83	99.69	101.54	103.40	105.25
1	10	19	53.33	55.78	61.27	65.70	89.15	69.96	69.07	93.44	79.77	79.80	98.40	76.82	83.20	89.24	87.15	89.84	92.53	95.23	97.92	100.61	103.27	105.93	108.58	111.24	113.90
1	10	20	50.07	51.79	54.28	51.95	76.96	68.73	66.39	82.46	79.07	79.05	83.65	73.15	79.23	81.27	85.00	88.24	91.48	94.73	97.97	101.21	103.60	106.00	108.39	110.79	113.18

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	10	21	45.72	49.23	48.93	49.63	67.44	67.52	65.62	72.34	73.13	73.59	75.52	73.14	77.37	78.57	81.51	84.42	87.32	90.23	93.13	96.04	98.37	100.70	103.02	105.35	107.68
1	10	22	39.76	44.32	46.19	46.99	65.68	65.29	64.04	68.85	68.44	69.58	74.30	70.36	75.14	76.90	77.63	80.22	82.81	85.40	87.99	90.58	93.22	95.87	98.51	101.16	103.80
1	10	23	36.04	41.85	42.82	42.77	65.77	61.49	61.47	67.76	64.08	68.06	74.01	66.95	72.96	76.04	76.43	78.33	80.22	82.12	84.01	85.91	88.53	91.16	93.78	96.41	99.03
1	10	24	32.39	36.56	38.42	38.12	60.76	58.92	57.99	61.46	60.49	64.00	69.67	64.80	69.04	71.14	71.51	73.60	75.69	77.77	79.86	81.95	84.51	87.07	89.63	92.19	94.75
1	11	1	30.42	33.67	34.97	35.70	57.41	56.71	55.39	57.65	57.60	61.04	64.32	62.15	66.17	67.64	68.68	70.41	72.14	73.87	75.60	77.33	79.86	82.39	84.93	87.46	89.99
1	11	2	29.73	33.15	34.19	35.03	56.43	55.43	54.99	57.30	57.05	60.21	63.23	61.58	65.54	66.62	67.71	69.54	71.37	73.20	75.03	76.86	79.26	81.67	84.07	86.48	88.88
1	11	3	29.35	33.01	33.62	34.97	55.45	55.27	54.45	57.25	56.63	60.41	62.52	60.62	64.31	66.43	66.97	68.81	70.66	72.50	74.35	76.19	78.71	81.24	83.76	86.29	88.81
1	11	4	29.47	33.40	33.65	35.60	55.39	54.42	54.53	57.20	56.63	60.88	62.80	60.37	65.48	66.61	66.49	68.53	70.57	72.61	74.65	76.69	79.10	81.51	83.93	86.34	88.75
1	11	5	30.39	34.03	34.78	37.13	56.73	54.53	55.41	57.35	57.09	62.39	64.06	61.61	67.34	68.22	68.11	70.01	71.92	73.82	75.73	77.63	80.09	82.55	85.00	87.46	89.92
1	11	6	33.79	38.08	37.09	40.28	58.28	55.56	59.25	61.24	58.68	64.82	65.52	64.66	71.28	70.94	70.58	72.46	74.34	76.23	78.11	79.99	82.91	85.84	88.76	91.69	94.61
1	11	7	39.81	45.74	40.85	51.97	59.95	58.58	64.50	66.85	64.85	73.59	68.25	70.35	75.99	74.56	74.84	77.15	79.46	81.77	84.08	86.39	89.26	92.13	94.99	97.86	100.73
1	11	8	45.62	61.64	46.86	56.99	61.62	61.37	67.17	69.09	71.97	78.83	71.26	73.15	80.19	79.80	79.73	82.33	84.92	87.52	90.11	92.71	95.15	97.60	100.04	102.49	104.93
1	11	9	46.95	54.79	46.28	54.66	65.60	63.71	68.23	68.85	73.93	79.51	74.01	73.15	78.81	78.49	80.03	82.70	85.36	88.03	90.69	93.36	95.45	97.54	99.62	101.71	103.80
1	11	10	45.21	51.14	44.98	54.06	66.15	63.65	65.90	68.76	71.90	76.77	75.13	73.14	77.42	77.28	79.56	82.28	85.00	87.72	90.44	93.16	95.10	97.03	98.97	100.90	102.84
1	11	11	45.21	50.07	44.98	52.86	66.60	65.23	66.22	68.65	69.98	75.97	76.04	73.14	76.97	76.83	77.63	80.32	83.01	85.71	88.40	91.09	93.44	95.79	98.14	100.49	102.84
1	11	12	42.78	49.37	43.73	51.47	65.96	65.00	64.55	68.08	67.26	73.59	74.01	72.05	75.84	76.48	76.43	78.90	81.37	83.83	86.30	88.77	91.35	93.93	96.52	99.10	101.68
1	11	13	40.15	46.96	43.27	49.76	64.57	63.34	63.68	66.62	66.20	73.59	71.83	70.94	75.11	76.17	75.63	78.03	80.43	82.83	85.23	87.63	90.79	93.94	97.10	100.25	103.41
1	11	14	39.31	45.51	42.35	48.63	61.83	61.74	63.04	66.36	65.61	73.12	68.72	69.24	74.34	75.54	75.47	77.88	80.30	82.71	85.13	87.54	90.46	93.37	96.29	99.20	102.12
1	11	15	38.16	42.05	40.91	47.58	59.84	60.48	62.35	64.15	65.38	71.43	66.85	68.24	73.11	74.56	74.40	76.83	79.25	81.68	84.10	86.53	89.24	91.96	94.67	97.39	100.10
1	11	16	37.14	41.57	40.77	47.13	59.84	60.19	62.15	63.64	64.38	70.63	66.78	67.40	72.96	74.28	73.37	75.88	78.39	80.91	83.42	85.93	88.49	91.05	93.62	96.18	98.74
1	11	17	38.99	43.64	42.47	49.70	60.85	63.11	62.90	66.47	65.59	73.59	69.63	68.56	73.88	74.65	74.50	77.12	79.74	82.36	84.98	87.60	90.29	92.97	95.66	98.34	101.03
1	11	18	45.80	51.17	49.35	53.52	65.96	67.56	66.25	70.23	70.98	80.99	74.01	73.14	77.61	76.89	79.73	82.07	84.41	86.76	89.10	91.44	94.08	96.72	99.36	102.00	104.64
1	11	19	49.60	64.51	55.87	95.29	70.39	71.00	73.67	85.24	76.22	142.28	76.11	78.67	94.59	85.51	80.04	82.80	85.56	88.31	91.07	93.83	98.26	102.69	107.13	111.56	115.99
1	11	20	47.13	58.20	54.90	65.38	68.95	70.07	69.71	80.59	75.30	92.88	76.11	75.87	80.75	82.19	80.04	82.66	85.29	87.91	90.54	93.16	97.32	101.47	105.63	109.78	113.94
1	11	21	45.62	51.38	48.85	53.79	66.53	69.19	65.78	70.06	70.67	74.66	74.01	72.03	78.99	78.02	78.53	81.15	83.76	86.38	88.99	91.61	94.77	97.93	101.09	104.25	107.41
1	11	22	41.51	49.54	43.91	51.15	65.96	67.27	63.85	67.81	67.73	73.59	74.01	68.70	76.72	76.06	76.28	78.62	80.96	83.29	85.63	87.97	90.77	93.57	96.36	99.16	101.96
1	11	23	38.26	43.01	42.01	48.63	62.74	62.92	62.00	67.06	64.38	71.67	70.53	69.45	75.20	74.56	75.44	77.49	79.54	81.60	83.65	85.70	88.38	91.06	93.75	96.43	99.11
1	11	24	34.62	37.55	37.64	41.74	59.84	59.56	58.98	60.57	61.11	66.83	65.56	65.91	71.47	70.16	70.93	72.90	74.87	76.84	78.81	80.78	83.52	86.26	88.99	91.73	94.47
1	12	1	31.52	33.53	35.04	37.88	56.79	55.21	56.05	57.44	58.35	63.10	64.03	62.88	66.89	67.56	68.54	70.26	71.98	73.69	75.41	77.13	79.83	82.52	85.22	87.91	90.61
1	12	2	30.71	31.69	34.39	37.54	54.45	54.39	55.90	57.08	57.97	62.39	62.34	62.60	66.17	66.49	67.74	69.60	71.46	73.31	75.17	77.03	79.51	81.99	84.47	86.95	89.43
1	12	3	30.54	31.26	34.03	37.53	54.13	54.39	55.83	56.23	57.70	62.65	61.34	62.41	65.72	65.24	68.42	70.02	71.62	73.23	74.83	76.43	78.76	81.09	83.41	85.74	88.07
1	12	4	31.15	31.26	33.93	38.40	53.87	54.43	56.44	56.12	58.24	63.37	60.73	63.05	65.86	64.46	68.01	70.06	72.10	74.15	76.19	78.24	80.07	81.89	83.72	85.54	87.37
1	12	5	32.33	32.12	34.46	39.53	54.26	55.44	57.62	56.51	59.17	63.53	61.17	64.93	66.75	66.21	69.37	71.49	73.61	75.73	77.85	79.97	81.78	83.60	85.41	87.23	89.04
1	12	6	35.96	35.09	37.52	41.64	55.00	59.60	61.33	58.12	63.51	64.87	62.46	67.79	70.24	69.48	73.02	75.07	77.12	79.18	81.23	83.28	85.21	87.14	89.07	91.00	92.93
1	12	7	42.30	41.00	43.73	48.05	57.35	65.04	66.04	64.71	70.98	68.06	65.37	70.65	75.18	74.69	80.04	82.06	84.07	86.09	88.10	90.12	92.04	93.96	95.87	97.79	99.71
1	12	8	57.28	45.80	49.33	50.87	60.19	68.17	72.34	68.85	78.21	70.33	68.89	77.58	79.19	77.51	84.89	87.61	90.33	93.05	95.77	98.49	99.94	101.39	102.83	104.28	105.73
1	12	9	51.71	47.78	49.27	55.96	61.83	68.23	70.01	69.62	78.01	73.11	71.51	75.91	78.33	78.41	84.20	86.56	88.92	91.29	93.65	96.01	97.91	99.80	101.70	103.59	105.49
1	12	10	47.92	45.80	48.75	60.62	62.06	67.64	67.37	68.86	75.81	76.94	71.15	74.92	77.24	77.51	81.16	83.94	86.72	89.50	92.28	95.06	96.98	98.89	100.81	102.72	104.64
1	12	11	47.82	43.93	48.31	55.87	61.05	67.56	66.82	68.36	73.65	75.26	69.88	74.22	76.97	76.89	80.28	83.38	86.49	89.59	92.70	95.80	97.40	99.00	100.60	102.20	103.80
1	12	12	44.61	43.27	46.38	52.15	60.63	66.76	65.99	67.81	71.90	71.14	68.96	73.14	75.20	75.41	80.04	82.63	85.22	87.80	90.39	92.98	94.78	96.57	98.37	100.16	101.96
1	12	13	41.65	42.31	43.01	48.05	60.17	65.45	65.20	65.69	70.98	67.67	68.72	72.45	75.18	74.38	79.56	81.96	84.36	86.77	89.17	91.57	93.26	94.95	96.63	98.32	100.01
1	12	14	39.55	41.57	41.86	41.80	59.84	65.10	64.53	64.21	69.99	66.23	67.21	71.66	74.05	73.95	78.26	80.67	83.08	85.50	87.91	90.32	92.08	93.84	95.60	97.36	99.12
1	12	15	38.26	40.81	40.51	39.77	58.28	64.50	62.81	62.83	68.45	64.97	65.59	69.45	73.11	72.93	77.63	79.95	82.28	84.60	86.93	89.25	90.99	92.74	94.48	96.23	97.97
1	12	16	38.17	40.64	40.16	39.69	58.26	63.34	62.78	62.42	68.29	64.45	65.44	68.70	72.87	72.75	77.42	79.57	81.71	83.86	86.00	88.15	89.96	91.76	93.57	95.37	97.18
1	12	17	39.76	41.75	42.03	40.97	59.84	65.10	63.85	63.26	69.02	64.92	67.82	69.62	73.69	74.28	78.55	81.11	83.66	86.22	88.77	91.33	92.89	94.45	96.00	97.56	99.12
1	12	18	47.34	46.78	48.35	49.05	65.90	67.62	66.26	68.28	78.87	69.88	72.80	73.14	76.07	76.89	86.74	88.77	90.80	92.82	94.85	96.88	97.93	98.98	100.02	101.07	102.12
1	12	19	60.26	60.93	55.83	52.55	67.92	74.60	90.81	77.56	126.12	76.14	75.78	90.61	82.85	81.43	142.33	142.96	143.59	144.21	144.84	145.47	137.69	129.92	122.14	114.37	106.59
1	12	20	56.39	55.71	50.46	52.42	67.95	69.06	72.85	71.45	90.45	74.60	75.78	78.26	83.83	79.08	97.47	98.84	100.21	101.58	102.95	104.32	104.65	104.99	105.32	105.66	105.99
1	12	21	50.32	48.69	47.94	49.63	67.10	68.26	68.07	68.08	73.87	71.43	74.30	74.23	78.19	76.71	80.74	83.79	86.85	89.90	92.96	96.01	97.65	99.29	100.94	102.58	104.22
1	12	22	43.77	42.29	43.25	47.57	65.39	66.41	65.77	66.15	70.98	69.32	73.48	73.14	75.79	75.54	80.04	82.32	84.60	86.88	89.16	91.44	93.38	95.33	97.27	99.22	101.16
1	12	23	39.92	41.51	41.16	42.44	60.02	65.07	65.20	64.17	70.29	65.93	68.21	72.05	75.05	74.56	79.56	81.22	82.87	84.53	86.18	87.84	89.71	91.58	93.44	95.31	97.18
1	12	24	35.92	34.94	37.87	38.77	57.70	61.39	60.72	59.08	64.06	63.53	64.26	66.92	69.27	70.13	75.09	76.99	78.89	80.78	82.68	84.58	86.20	87.82	89.43	91.05	92.67
1	13	1	31.53	31.75	35.08	36.53	53.98	58.03	56.83	57.31	61.58	61.52	61.14	64.12	66.01	67.76	71.09	73.11	75.13	77.15	79.17	81.19	82.95	84.71	86.47	88.23	89.99
1	13	2	30.32	31.22	34.55	35.48	52.72	57.05	55.90	57.02	60.37	60.01	60.51	63.24	65.32	67.77	70.53	72.61	74.69	76.77	78.85	80.93	82.73	84.53	86.33	88.13	89.93
1	13	3	29.82	30.95	34.45	35.18	52.31	55.85	55.35	56.83	60.12	59.46	60.55	62.82	64.43	67.51	70.36	72.42	74.48	76.53	78.59	80.65	82.33	84.02	85.70	87.39	89.07
1	13	4	29.83	30.88	34.83	35.24	52.39	56.96	55.44	57.20	60.77	59.15	60.58	62.79	64.07	68.37	70.45	72.45	74.44	76.44	78.43	80.43	82.47	84.50	86.54	88.57	90.61
1	13	5	30.76	31.51	35.47	35.45	53.13	58.75	56.64	57.58	61.74	59.72	61.58	63.23	64.93	69.82	70.36	72.58	74.81	77.03	79.26	81.48	83.61	85.74	87.86	89.99	92.12
1	13	6	34.94	34.69	39.16	36.57	56.94	61.64	60.20	62.28	63.59	60.38	65.19	65.79	67.86	75.55	71.55	73.91	76.27	78.62	80.98	83.34	85.89	88.44	90.98	93.53	96.08
1	13	7	38.97	42.06	47.48	38.99	61.52	68.96	64.38	69.34	66.82	62.94	70.78	68.76	72.66	78.49	74.78	77.05	79.33	81.60	83.88	86.15	89.93	93.71	97.50	101.28	105.06

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	13	8	47.13	46.19	51.80	40.84	66.16	74.14	65.99	73.39	69.60	65.05	76.26	73.14	75.76	83.86	77.63	80.22	82.81	85.40	87.99	90.58	94.16	97.75	101.33	104.92	108.50
1	13	9	48.13	48.60	51.17	47.15	66.15	69.50	65.99	75.42	73.05	68.60	74.19	73.14	76.65	83.21	80.04	83.06	86.08	89.11	92.13	95.15	97.82	100.49	103.16	105.83	108.50
1	13	10	43.62	48.35	50.87	48.06	65.96	68.67	65.77	75.19	80.42	68.60	74.00	73.14	75.50	82.08	83.42	86.37	89.32	92.27	95.22	98.17	100.24	102.30	104.37	106.43	108.50
1	13	11	44.71	47.72	49.44	45.94	65.94	68.61	65.93	74.08	73.48	66.46	73.96	73.12	75.21	81.93	80.05	82.69	85.33	87.97	90.61	93.25	96.30	99.35	102.40	105.45	108.50
1	13	12	42.08	43.50	48.15	41.63	65.33	67.77	64.04	71.25	71.27	65.48	73.10	72.14	73.98	79.11	79.13	81.59	84.05	86.52	88.98	91.44	94.25	97.06	99.87	102.68	105.49
1	13	13	41.62	41.77	46.51	40.64	63.56	67.27	63.89	70.08	67.91	65.67	72.42	70.96	73.95	79.35	76.28	78.39	80.50	82.62	84.73	86.84	90.23	93.62	97.02	100.41	103.80
1	13	14	39.92	41.37	44.92	38.40	64.43	65.97	63.75	68.93	64.08	64.65	71.82	70.96	73.17	78.02	73.37	75.55	77.72	79.90	82.07	84.25	88.02	91.78	95.55	99.31	103.08
1	13	15	38.90	40.60	43.31	38.02	61.47	65.14	62.24	66.12	63.55	63.74	70.78	69.62	71.60	76.41	71.58	73.73	75.88	78.04	80.19	82.34	86.10	89.87	93.63	97.40	101.16
1	13	16	38.31	40.09	42.79	37.96	60.58	65.00	61.70	66.02	63.41	63.53	69.83	68.86	71.41	75.97	71.40	73.56	75.71	77.87	80.02	82.18	85.94	89.71	93.47	97.24	101.00
1	13	17	40.12	41.49	45.19	38.42	63.09	65.82	63.17	68.86	63.57	64.80	71.83	70.96	72.14	78.49	73.02	75.07	77.12	79.18	81.23	83.28	87.37	91.46	95.54	99.63	103.72
1	13	18	46.65	46.19	51.34	46.18	66.66	68.24	66.18	75.38	67.94	68.71	75.32	73.14	75.85	82.72	78.11	80.19	82.28	84.36	86.45	88.53	92.50	96.48	100.45	104.43	108.40
1	13	19	64.04	53.47	62.61	51.14	72.24	88.94	83.71	99.66	74.12	73.01	85.85	86.49	83.07	124.40	80.04	82.67	85.29	87.92	90.54	93.17	100.70	108.22	115.75	123.27	130.80
1	13	20	60.26	49.66	58.41	51.14	69.53	77.46	80.04	83.55	71.75	73.13	78.07	83.55	78.81	92.88	80.04	82.61	85.18	87.74	90.31	92.88	99.45	106.02	112.58	119.15	125.72
1	13	21	48.12	46.20	49.27	50.55	66.16	69.98	68.28	74.08	68.87	71.99	75.33	75.08	75.21	80.74	79.11	81.25	83.39	85.54	87.68	89.82	93.79	97.76	101.72	105.69	109.66
1	13	22	40.24	42.63	47.65	47.29	64.43	67.76	64.50	68.86	67.25	69.46	73.61	72.52	73.98	78.96	77.23	79.40	81.57	83.73	85.90	88.07	91.07	94.07	97.07	100.07	103.07
1	13	23	38.86	39.95	44.66	41.13	65.32	67.10	62.59	68.36	63.80	66.63	71.30	70.96	73.47	76.89	73.40	75.61	77.81	80.02	82.22	84.43	87.75	91.08	94.40	97.73	101.05
1	13	24	33.81	35.09	39.72	38.21	59.85	61.74	59.14	62.37	60.16	63.74	66.82	65.85	68.17	74.56	70.33	72.68	75.02	77.37	79.71	82.06	84.79	87.53	90.26	93.00	95.73
1	14	1	30.44	33.18	36.98	36.92	56.62	58.06	56.07	58.24	57.77	61.99	62.97	63.20	66.19	70.52	69.05	71.24	73.43	75.61	77.80	79.99	82.92	85.84	88.77	91.69	94.62
1	14	2	29.77	31.63	36.16	35.71	55.21	56.75	55.24	57.62	57.45	60.98	62.41	62.65	65.65	69.72	68.17	70.44	72.71	74.98	77.25	79.52	82.27	85.02	87.76	90.51	93.26
1	14	3	29.19	31.47	36.03	35.70	54.34	55.93	54.54	58.05	57.10	60.84	61.58	62.36	65.52	69.48	67.62	69.85	72.09	74.32	76.56	78.79	81.64	84.48	87.33	90.17	93.02
1	14	4	29.13	31.83	36.29	36.32	54.99	56.52	54.51	59.87	56.68	62.03	62.50	62.22	66.07	69.64	66.84	69.22	71.60	73.98	76.36	78.74	81.78	84.82	87.86	90.90	93.94
1	14	5	29.86	33.24	37.16	37.17	56.63	57.32	55.34	61.15	57.09	62.95	63.83	62.78	67.01	69.84	66.90	69.32	71.74	74.16	76.58	79.00	82.16	85.32	88.49	91.65	94.81
1	14	6	33.96	38.71	38.58	40.64	60.19	61.37	58.35	63.16	57.84	65.56	67.82	64.66	70.85	71.76	68.46	70.76	73.06	75.35	77.65	79.95	82.98	86.02	89.05	92.09	95.12
1	14	7	39.65	46.56	40.91	49.47	65.49	65.84	63.64	66.33	59.88	71.44	74.30	69.45	78.39	73.48	70.47	72.77	75.06	77.36	79.65	81.95	85.30	88.66	92.01	95.37	98.72
1	14	8	46.59	51.83	45.30	52.26	100.38	69.92	69.51	67.53	63.20	75.36	129.09	73.14	85.74	76.89	72.86	75.05	77.25	79.44	81.64	83.83	87.68	91.53	95.38	99.23	103.08
1	14	9	46.59	52.17	47.70	52.36	71.53	69.00	69.73	69.60	66.64	74.99	79.17	73.14	84.26	80.33	74.94	77.64	80.34	83.03	85.73	88.43	91.94	95.45	98.95	102.46	105.97
1	14	10	46.15	50.96	48.70	51.53	68.03	67.80	69.42	75.27	66.64	74.08	76.42	73.13	81.45	87.99	74.90	77.43	79.95	82.48	85.00	87.53	91.07	94.62	98.16	101.71	105.25
1	14	11	45.16	49.66	48.35	51.53	66.60	67.56	68.74	72.01	64.25	74.43	75.52	73.13	80.52	79.88	74.84	76.85	78.86	80.88	82.89	84.90	88.98	93.06	97.13	101.21	105.29
1	14	12	42.08	48.93	46.76	49.48	66.15	66.81	65.62	68.85	64.08	73.55	74.19	71.63	77.47	77.99	72.09	74.57	77.05	79.54	82.02	84.50	88.36	92.22	96.08	99.94	103.80
1	14	13	39.68	47.48	42.42	47.90	65.70	66.41	63.85	65.81	63.67	70.78	73.48	69.62	77.47	75.93	71.51	74.11	76.70	79.30	81.89	84.49	87.75	91.01	94.27	97.53	100.79
1	14	14	38.93	45.18	39.68	47.11	63.87	65.72	63.72	63.16	62.75	70.66	71.48	69.61	76.93	74.38	71.02	73.48	75.94	78.40	80.86	83.32	85.71	88.11	90.50	92.90	95.29
1	14	15	37.60	42.65	38.52	44.64	62.37	64.01	62.05	61.53	61.56	69.19	70.24	67.82	75.11	72.40	70.56	72.79	75.01	77.24	79.46	81.69	84.34	86.98	89.63	92.27	94.92
1	14	16	37.19	42.31	38.09	43.16	60.76	63.63	61.62	61.28	61.50	67.61	69.64	67.35	74.57	72.27	70.58	72.75	74.92	77.08	79.25	81.42	84.12	86.82	89.52	92.22	94.92
1	14	17	39.36	45.22	39.39	46.33	63.56	65.91	62.32	62.74	63.21	70.11	71.83	68.86	77.13	73.68	71.21	73.48	75.76	78.03	80.31	82.58	85.21	87.84	90.47	93.10	95.73
1	14	18	45.21	50.09	46.24	51.11	66.60	69.32	66.25	67.99	70.13	73.60	75.64	73.13	82.25	76.82	74.90	77.34	79.78	82.21	84.65	87.09	89.90	92.71	95.51	98.32	101.13
1	14	19	51.30	72.86	48.35	62.33	85.50	79.10	73.62	70.03	74.22	83.21	87.01	78.61	111.80	78.66	78.98	81.47	83.96	86.46	88.95	91.44	93.91	96.38	98.86	101.33	103.80
1	14	20	46.16	61.25	48.23	55.98	70.75	75.07	71.17	68.85	73.69	77.28	79.33	75.46	91.98	78.49	79.12	81.58	84.05	86.51	88.98	91.44	93.76	96.08	98.41	100.73	103.05
1	14	21	45.45	51.83	45.82	51.71	67.45	68.23	65.77	68.08	72.86	73.60	75.95	72.22	81.13	77.46	77.93	80.63	83.33	86.02	88.72	91.42	93.50	95.58	97.67	99.75	101.83
1	14	22	40.49	48.26	42.63	48.48	65.77	66.44	63.72	65.63	70.53	71.76	75.08	69.61	78.72	76.44	76.00	78.42	80.84	83.25	85.67	88.09	90.56	93.03	95.51	97.98	100.45
1	14	23	37.58	45.48	39.50	47.13	65.33	65.17	61.97	63.31	65.11	70.10	73.48	69.45	75.21	74.55	72.83	75.45	78.07	80.68	83.30	85.92	88.31	90.70	93.10	95.49	97.88
1	14	24	33.58	39.60	36.37	41.40	59.84	60.23	58.87	60.54	62.28	66.25	67.49	65.69	71.93	70.37	70.53	72.86	75.19	77.52	79.85	82.18	84.77	87.36	89.94	92.53	95.12
1	15	1	30.54	35.24	34.81	37.97	56.59	57.42	56.08	57.34	59.59	63.74	63.12	63.50	67.57	68.22	68.54	70.83	73.12	75.41	77.70	79.99	82.39	84.78	87.18	89.57	91.97
1	15	2	29.53	34.69	34.09	38.08	55.85	56.72	55.43	56.64	59.04	63.14	62.42	63.20	66.97	67.22	68.28	70.54	72.79	75.05	77.30	79.56	81.70	83.84	85.99	88.13	90.27
1	15	3	29.43	34.39	33.90	38.22	54.68	55.49	55.24	56.22	59.04	63.10	61.98	62.78	66.88	66.35	68.17	70.36	72.55	74.73	76.92	79.11	81.22	83.33	85.45	87.56	89.67
1	15	4	29.82	34.71	33.83	38.58	54.41	55.22	55.79	56.35	59.23	63.77	62.08	63.20	67.01	65.75	68.17	70.28	72.39	74.49	76.60	78.71	80.88	83.05	85.21	87.38	89.55
1	15	5	32.14	34.85	34.09	41.23	55.64	56.65	56.88	56.65	60.16	65.13	62.93	64.03	67.40	65.84	69.35	71.69	74.03	76.38	78.72	81.06	82.78	84.50	86.21	87.93	89.65
1	15	6	36.01	36.32	35.04	48.08	59.23	59.89	60.92	57.98	64.59	71.70	66.85	67.48	69.49	67.14	72.22	74.69	77.16	79.64	82.11	84.58	85.88	87.17	88.47	89.76	91.06
1	15	7	45.46	41.08	36.24	53.75	61.38	63.11	65.80	60.36	70.00	76.37	71.15	73.62	72.66	69.50	78.48	81.00	83.51	86.03	88.54	91.06	91.62	92.18	92.75	93.31	93.87
1	15	8	52.33	44.11	38.66	67.38	66.98	67.76	69.96	63.06	74.03	81.99	78.14	75.55	75.31	72.32	82.44	85.33	88.22	91.12	94.01	96.90	96.89	96.87	96.86	96.84	96.83
1	15	9	51.54	48.63	40.91	64.24	67.63	68.24	69.75	66.47	72.90	78.36	75.52	76.59	78.60	76.38	81.01	84.05	87.09	90.13	93.17	96.21	96.94	97.67	98.40	99.13	99.86
1	15	10	49.53	50.98	41.30	58.09	66.53	67.76	69.19	66.49	71.99	77.49	74.01	75.50	84.20	75.81	80.04	82.68	85.32	87.96	90.60	93.24	94.37	95.51	96.64	97.78	98.91
1	15	11	48.91	49.23	40.55	56.74	65.96	67.56	68.91	64.92	71.99	75.57	72.65	75.73	80.19	74.93	80.04	82.67	85.29	87.92	90.54	93.17	94.38	95.59	96.80	98.01	99.22
1	15	12	45.73	46.20	39.71	53.25	65.49	66.90	67.69	62.80	70.56	73.60	71.83	73.14	77.73	73.68	79.17	81.63	84.09	86.54	89.00	91.46	92.78	94.11	95.43	96.76	98.08
1	15	13	45.16	42.66	38.85	50.01	65.32	65.28	66.39	61.38	68.32	73.59	71.65	73.13	75.13	73.37	77.32	80.00	82.68	85.36	88.04	90.72	91.72	92.72	93.73	94.73	95.73
1	15	14	42.36	40.19	37.30	48.36	64.43	64.29	65.72	60.57	67.73	70.22	70.52	73.11	72.87	72.23	77.32	79.84	82.37	84.89	87.42	89.94	90.94	91.94	92.94	93.94	94.94
1	15	15	40.53	37.37	36.20	47.67	61.11	63.25	63.85	59.42	65.93	68.95	69.52	71.49	70.85	69.87	76.31	78.63	80.94	83.26	85.57	87.89	88.85	89.80	90.76	91.71	92.67
1	15	16	40.10	36.53	36.19	45.96	60.64	63.07	63.75	59.41	65.41	67.96	68.51	71.15	70.51	69.64	76.01	78.31	80.62	82.92	85.23	87.53	88.52	89.51	90.51	91.50	92.49
1	15	17	42.93	39.63	37.64	48.22	64.33	64.29	65.77	60.82	67.70	71.43	71.15	73.13	71.44	71.03	77.32	79.92	82.52	85.12	87.72	90.32	91.12	91.91	92.71	93.50	94.30
1	15	18	47.37	45.19	42.54	53.16	66.53	67.76	69.60	64.88	72.41	73.74	74.09	75.55	75.20	76.78	80.05	82.71	85.37	88.04	90.70	93.36	94.53	95.70	96.88	98.05	99.22

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	15	19	68.56	47.32	47.93	63.04	70.85	72.39	79.74	70.81	80.78	82.30	80.90	90.48	77.98	78.39	87.52	90.80	94.08	97.36	100.64	103.92	103.95	103.99	104.02	104.06	104.09
1	15	20	59.03	46.79	47.93	59.67	69.45	71.43	76.65	68.99	78.13	79.37	78.65	83.42	76.41	78.22	84.70	87.77	90.84	93.92	96.99	100.06	100.87	101.68	102.50	103.31	104.12
1	15	21	48.70	44.48	46.82	55.38	66.34	68.11	69.14	68.57	73.93	75.57	73.73	75.30	75.20	78.02	81.26	83.68	86.10	88.52	90.94	93.36	95.51	97.66	99.82	101.97	104.12
1	15	22	45.13	43.44	42.52	50.53	65.33	66.50	66.39	65.61	69.99	73.70	71.52	73.13	75.19	76.78	79.99	82.32	84.65	86.99	89.32	91.65	93.25	94.84	96.44	98.03	99.63
1	15	23	41.94	40.28	38.80	48.60	64.01	65.08	65.20	62.82	68.29	71.99	69.27	72.13	71.59	72.79	79.09	80.96	82.84	84.71	86.59	88.46	89.79	91.12	92.46	93.79	95.12
1	15	24	36.49	35.02	36.38	41.73	58.61	60.72	61.62	60.02	63.57	67.08	64.28	67.71	67.48	69.64	74.39	76.40	78.41	80.41	82.42	84.43	86.01	87.59	89.17	90.75	92.33
1	16	1	33.25	32.83	34.97	37.42	56.15	57.91	58.01	57.82	60.69	63.41	61.74	64.35	65.37	67.76	70.65	72.78	74.91	77.05	79.18	81.31	82.96	84.60	86.25	87.89	89.54
1	16	2	33.21	32.10	34.46	36.87	54.54	57.18	57.32	57.20	60.49	62.95	60.61	64.03	64.34	67.14	70.84	72.93	75.03	77.12	79.22	81.31	82.90	84.48	86.07	87.65	89.24
1	16	3	33.53	31.70	34.35	36.92	53.49	56.96	57.83	57.20	60.44	62.95	60.21	64.02	64.11	66.83	71.09	73.19	75.29	77.39	79.49	81.59	83.14	84.69	86.24	87.79	89.34
1	16	4	33.79	31.62	34.75	37.32	53.30	57.38	58.90	57.33	61.50	63.10	60.21	64.03	63.82	68.17	71.71	73.91	76.12	78.32	80.53	82.73	84.52	86.30	88.09	89.87	91.66
1	16	5	34.14	31.90	35.23	38.03	54.41	58.18	59.42	58.62	63.44	63.83	61.14	64.70	63.71	68.85	73.90	76.06	78.21	80.37	82.52	84.68	86.30	87.92	89.53	91.15	92.77
1	16	6	35.97	32.95	38.57	43.42	56.73	62.33	61.33	62.82	69.73	68.46	63.68	66.83	65.57	72.90	80.04	82.07	84.10	86.13	88.16	90.19	91.57	92.96	94.34	95.73	97.11
1	16	7	39.18	34.27	46.65	51.79	61.83	68.91	63.47	68.09	75.22	73.74	69.58	68.61	68.17	77.69	84.30	86.71	89.11	91.52	93.92	96.33	97.99	99.65	101.30	102.96	104.62
1	16	8	44.00	36.48	49.62	55.98	65.77	72.34	65.20	70.48	82.35	78.52	74.01	71.80	71.20	80.55	90.74	92.54	94.34	96.14	97.94	99.74	101.44	103.14	104.85	106.55	108.25
1	16	9	49.95	40.99	49.36	57.42	65.77	72.25	68.41	70.35	77.31	78.92	74.01	73.13	73.54	80.06	87.64	89.90	92.16	94.42	96.68	98.94	100.61	102.28	103.95	105.62	107.29
1	16	10	54.41	41.39	49.19	56.74	65.70	72.03	72.56	70.35	76.12	75.98	73.88	73.26	73.41	78.55	84.66	87.29	89.92	92.55	95.18	97.81	99.77	101.72	103.68	105.63	107.59
1	16	11	49.61	40.35	48.76	53.60	65.70	71.79	66.04	70.13	75.65	75.20	73.89	73.13	72.96	78.49	84.30	86.81	89.33	91.84	94.36	96.87	98.70	100.53	102.36	104.19	106.02
1	16	12	45.36	38.27	47.89	52.09	65.33	71.21	64.75	68.85	71.98	73.74	72.21	70.96	72.95	77.82	81.07	83.53	85.99	88.44	90.90	93.36	95.79	98.21	100.64	103.06	105.49
1	16	13	42.08	37.75	46.24	49.70	63.09	69.21	63.11	67.92	71.98	73.61	71.98	68.80	71.20	76.83	80.04	82.38	84.72	87.05	89.39	91.73	94.17	96.61	99.05	101.49	103.93
1	16	14	37.33	35.62	45.68	48.40	61.83	67.76	61.62	66.47	68.67	71.44	71.08	67.79	70.74	76.53	77.80	79.87	81.94	84.01	86.08	88.15	91.06	93.97	96.88	99.79	102.70
1	16	15	36.24	34.25	42.35	47.20	61.38	66.50	60.51	64.87	66.40	70.35	69.51	66.52	68.29	74.75	76.73	78.86	81.00	83.13	85.27	87.40	90.19	92.98	95.77	98.56	101.35
1	16	16	35.97	34.25	41.63	46.09	60.15	66.50	60.42	64.32	65.90	69.46	68.82	66.18	67.66	74.41	76.30	78.28	80.25	82.23	84.20	86.18	89.08	91.98	94.87	97.77	100.67
1	16	17	37.38	36.21	45.58	48.47	61.83	67.76	61.03	66.98	69.51	71.44	71.48	66.14	69.67	76.11	78.59	80.69	82.78	84.88	86.97	89.07	91.58	94.10	96.61	99.13	101.64
1	16	18	45.20	41.98	49.91	52.26	66.15	72.03	63.85	70.51	72.53	75.10	74.75	69.57	73.46	80.94	80.64	83.18	85.73	88.27	90.82	93.36	95.79	98.21	100.64	103.06	105.49
1	16	19	49.88	45.98	54.35	57.00	72.28	101.80	65.56	75.27	87.68	82.17	82.56	73.11	78.33	84.29	88.78	91.07	93.35	95.64	97.92	100.21	101.44	102.68	103.91	105.15	106.38
1	16	20	48.48	46.09	52.10	56.05	69.32	80.96	65.20	71.64	81.33	81.71	79.22	72.29	78.33	81.70	88.02	90.29	92.56	94.83	97.10	99.37	102.17	104.98	107.78	110.59	113.39
1	16	21	45.56	45.61	49.69	53.52	65.77	72.03	63.89	70.76	75.65	77.49	74.01	70.95	78.24	79.86	83.43	85.76	88.10	90.43	92.77	95.10	97.28	99.47	101.65	103.84	106.02
1	16	22	42.47	41.53	47.50	50.57	64.33	69.21	63.52	68.57	72.30	73.57	72.43	68.32	75.18	77.68	81.04	83.25	85.46	87.66	89.87	92.08	94.29	96.49	98.70	100.90	103.11
1	16	23	38.31	39.38	44.20	48.63	64.43	68.24	61.67	68.85	70.17	73.43	70.61	67.04	71.27	76.89	80.01	81.79	83.57	85.36	87.14	88.92	91.66	94.41	97.15	99.90	102.64
1	16	24	34.36	35.21	39.24	42.06	59.35	63.91	59.14	63.06	64.06	67.40	66.21	64.82	67.67	74.56	75.93	77.41	78.90	80.38	81.87	83.35	86.02	88.68	91.35	94.01	96.68
1	17	1	31.57	33.32	37.04	37.98	56.53	59.68	56.55	59.61	60.43	64.39	62.83	62.60	65.52	69.99	71.27	73.15	75.03	76.90	78.78	80.66	83.33	86.01	88.68	91.36	94.03
1	17	2	30.90	32.56	37.09	37.54	55.63	58.71	55.95	59.92	59.04	63.57	62.23	62.06	65.02	69.72	70.84	72.67	74.49	76.32	78.14	79.97	82.76	85.54	88.33	91.11	93.90
1	17	3	30.36	32.48	37.33	37.83	55.23	57.55	55.73	60.17	58.94	63.27	62.30	61.76	65.07	70.14	70.58	72.52	74.46	76.39	78.33	80.27	83.05	85.82	88.60	91.37	94.15
1	17	4	30.32	32.80	38.44	37.96	55.45	58.08	55.42	61.13	59.20	63.81	62.78	61.23	66.41	71.44	70.65	72.57	74.50	76.42	78.35	80.27	83.27	86.28	89.28	92.29	95.29
1	17	5	30.49	33.85	40.03	38.88	56.40	59.31	55.68	62.94	61.27	65.17	63.19	61.36	67.25	74.10	71.54	73.44	75.35	77.25	79.16	81.06	84.49	87.92	91.35	94.78	98.21
1	17	6	31.30	38.29	47.50	46.71	60.56	61.40	56.76	68.63	66.82	70.40	67.44	62.55	72.24	76.90	74.95	77.22	79.49	81.77	84.04	86.31	89.81	93.31	96.80	100.30	103.80
1	17	7	33.48	45.51	52.99	52.52	66.28	63.73	58.07	72.57	72.69	75.77	74.96	64.47	75.20	81.45	79.95	82.99	86.02	89.06	92.09	95.13	97.35	99.57	101.79	104.01	106.23
1	17	8	35.71	49.24	61.98	59.67	70.86	65.43	60.12	84.52	77.86	79.53	81.51	66.53	79.40	91.33	86.77	89.21	91.65	94.09	96.53	98.97	101.78	104.58	107.39	110.19	113.00
1	17	9	38.32	48.98	56.34	58.87	70.75	67.27	63.49	78.17	79.66	78.36	79.91	69.04	78.95	82.66	85.72	88.41	91.10	93.78	96.47	99.16	101.57	103.98	106.40	108.81	111.22
1	17	10	39.18	48.16	54.38	57.56	69.46	68.17	63.52	74.92	76.87	77.56	79.00	68.84	78.66	82.27	83.90	86.91	89.91	92.92	95.92	98.93	100.80	102.67	104.53	106.40	108.27
1	17	11	38.31	47.53	52.99	56.03	67.70	68.17	62.28	71.51	73.66	77.27	78.76	68.11	78.67	80.95	81.41	84.51	87.61	90.70	93.80	96.90	98.88	100.87	102.85	104.84	106.82
1	17	12	36.84	45.56	50.56	53.53	68.56	67.52	61.41	70.76	71.98	75.77	76.54	67.08	77.61	79.87	80.04	82.66	85.29	87.91	90.54	93.16	95.58	98.00	100.41	102.83	105.25
1	17	13	36.22	44.19	48.71	51.79	65.96	65.91	60.44	70.35	71.98	73.75	75.25	66.82	75.65	78.18	79.37	82.13	84.89	87.65	90.41	93.17	95.16	97.15	99.13	101.12	103.11
1	17	14	34.75	42.72	47.30	50.39	65.90	63.34	58.96	68.85	70.45	73.60	74.73	66.14	75.20	76.89	78.21	80.62	83.03	85.44	87.85	90.26	92.35	94.45	96.54	98.64	100.73
1	17	15	33.73	41.57	46.09	48.05	64.99	61.50	57.79	67.63	68.39	71.55	74.01	65.58	74.61	76.48	76.66	79.11	81.56	84.02	86.47	88.92	91.11	93.30	95.48	97.67	99.86
1	17	16	33.47	41.36	44.38	46.93	64.43	61.21	57.70	65.07	66.82	71.14	72.38	65.29	73.77	75.96	76.15	78.26	80.37	82.48	84.59	86.70	89.23	91.76	94.29	96.82	99.35
1	17	17	35.02	42.84	48.04	50.21	65.45	62.69	59.14	67.81	70.21	73.56	74.45	66.35	75.19	76.89	77.62	79.94	82.27	84.59	86.92	89.24	91.74	94.24	96.73	99.23	101.73
1	17	18	41.94	48.98	52.40	55.38	70.23	66.00	63.70	70.76	73.94	76.27	79.70	68.25	77.81	80.25	80.86	84.03	87.20	90.37	93.54	96.71	98.47	100.22	101.98	103.73	105.49
1	17	19	49.31	53.43	59.40	60.78	73.52	68.17	65.84	75.86	82.96	83.02	88.82	73.13	80.83	82.85	88.83	90.93	93.04	95.14	97.25	99.35	101.35	103.35	105.35	107.35	109.35
1	17	20	48.98	52.20	57.89	58.22	72.16	67.76	65.80	78.08	81.27	80.17	82.74	73.13	78.50	84.12	87.65	89.99	92.33	94.67	97.01	99.35	101.34	103.33	105.31	107.30	109.29
1	17	21	45.21	50.71	53.27	56.05	66.60	66.90	65.20	74.24	74.36	77.54	79.25	71.58	77.24	81.51	80.86	84.41	87.96	91.51	95.06	98.61	100.25	101.89	103.54	105.18	106.82
1	17	22	41.18	45.52	50.46	52.73	65.66	65.10	63.72	70.52	71.69	75.64	75.13	69.45	75.51	80.25	80.04	82.36	84.68	86.99	89.31	91.63	94.34	97.05	99.75	102.46	105.17
1	17	23	36.70	43.54	47.86	52.63	65.66	63.04	61.08	70.06	70.00	74.26	74.59	68.53	74.66	77.51	77.88	80.09	82.30	84.50	86.71	88.92	91.71	94.51	97.30	100.10	102.89
1	17	24	34.06	38.72	40.62	44.69	60.25	58.35	58.28	63.41	64.57	69.28	68.06	65.52	71.65	75.55	74.82	76.70	78.57	80.45	82.32	84.20	86.55	88.89	91.24	93.58	95.93
1	18	1	31.68	34.99	37.38	39.32	57.05	56.24	57.07	59.00	60.30	64.55	63.89	63.27	69.12	70.37	71.21	73.03	74.84	76.66	78.47	80.29	83.01	85.73	88.46	91.18	93.90
1	18	2	30.67	35.06	36.61	38.58	56.56	55.51	56.08	57.96	59.29	64.41	62.89	62.79	69.80	69.83	70.58	72.46	74.33	76.21	78.08	79.96	82.47	84.99	87.50	90.02	92.53
1	18	3	30.23	35.62	36.61	38.59	56.39	54.73	56.07	57.72	59.46	64.55	63.47	62.75	70.52	69.83	70.58	72.62	74.65	76.69	78.72	80.76	83.11	85.45	87.80	90.14	92.49
1	18	4	30.70	36.85	36.93	39.71	56.93	54.63	56.16	58.37	60.79	65.89	64.07	63.42	70.98	70.00	71.40	73.46	75.52	77.57	79.63	81.69	83.85	86.01	88.17	90.33	92.49
1	18	5	31.70	39.12	38.47	42.04	57.64	54.42	57.10	60.58	63.07	69.06	64.23	64.32	72.21	72.05	72.54	74.69	76.84	78.99	81.14	83.29	85.41	87.53	89.66	91.78	93.90

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	18	6	35.87	45.80	44.66	50.09	59.11	55.70	60.36	66.37	68.97	73.57	65.52	66.90	75.52	76.48	76.94	79.07	81.21	83.34	85.48	87.61	89.72	91.83	93.95	96.06	98.17
1	18	7	44.38	50.71	50.46	54.93	61.87	58.35	65.20	69.34	73.95	79.45	68.00	71.46	78.75	79.92	82.30	85.42	88.54	91.66	94.78	97.90	99.52	101.15	102.77	104.40	106.02
1	18	8	48.67	57.23	56.13	99.36	63.36	60.03	68.01	73.42	77.21	145.82	71.08	74.92	90.59	86.32	85.40	88.66	91.92	95.17	98.43	101.69	103.29	104.89	106.49	108.09	109.69
1	18	9	47.95	54.61	55.79	63.87	65.05	62.58	66.93	73.42	76.62	81.30	72.97	73.62	83.82	85.81	84.36	87.43	90.51	93.58	96.66	99.73	101.89	104.05	106.21	108.37	110.53
1	18	10	46.58	52.19	54.47	56.98	66.15	63.35	66.39	72.54	76.87	78.91	74.32	73.16	81.49	82.66	84.24	87.19	90.13	93.08	96.02	98.97	100.98	102.98	104.99	106.99	109.00
1	18	11	46.14	52.04	53.30	56.03	65.96	63.11	66.39	70.76	76.02	77.71	74.01	73.29	79.63	81.51	83.43	86.53	89.63	92.73	95.83	98.93	100.74	102.55	104.35	106.16	107.97
1	18	12	44.32	49.72	50.55	51.98	65.66	63.11	65.72	70.03	74.17	77.28	73.61	73.14	77.24	80.33	80.05	83.11	86.17	89.22	92.28	95.34	97.19	99.04	100.89	102.74	104.59
1	18	13	41.55	46.93	49.26	50.95	62.52	62.49	63.86	69.23	73.69	75.39	69.88	71.01	76.11	79.29	80.05	82.67	85.30	87.92	90.55	93.17	95.27	97.37	99.48	101.58	103.68
1	18	14	39.83	44.45	48.32	50.39	60.48	60.74	63.72	68.19	71.98	75.36	67.75	71.01	75.20	78.07	79.70	82.05	84.40	86.74	89.09	91.44	93.59	95.75	97.90	100.06	102.21
1	18	15	38.52	42.52	47.51	49.03	59.06	59.57	62.28	67.26	71.12	74.83	66.78	70.41	75.07	76.85	77.93	80.18	82.44	84.69	86.95	89.20	91.42	93.64	95.85	98.07	100.29
1	18	16	38.01	42.25	47.02	48.56	58.66	59.57	62.15	66.84	68.87	73.60	66.23	69.08	73.89	76.47	76.66	78.90	81.13	83.37	85.60	87.84	90.20	92.57	94.93	97.30	99.66
1	18	17	39.76	44.80	48.35	49.58	59.95	61.18	63.85	68.24	71.98	74.01	68.25	70.97	75.20	77.02	78.78	81.31	83.84	86.38	88.91	91.44	93.67	95.90	98.14	100.37	102.60
1	18	18	47.42	50.84	53.32	54.94	65.66	65.52	68.23	71.17	76.84	77.36	74.59	73.15	77.37	80.55	81.86	84.90	87.95	90.99	94.04	97.08	98.92	100.76	102.61	104.45	106.29
1	18	19	51.01	55.38	60.64	60.25	66.93	67.76	73.17	72.56	84.75	86.07	80.80	78.77	83.30	84.22	89.41	92.25	95.09	97.94	100.78	103.62	104.75	105.89	107.02	108.16	109.29
1	18	20	49.60	53.33	56.71	56.96	65.96	67.73	72.25	72.48	82.90	83.46	77.45	77.52	83.18	82.98	88.46	90.94	93.42	95.89	98.37	100.85	102.62	104.40	106.17	107.95	109.72
1	18	21	47.42	52.04	53.62	54.93	64.84	67.38	67.15	70.76	77.08	77.77	74.58	74.64	80.71	80.94	84.36	87.28	90.20	93.13	96.05	98.97	100.87	102.78	104.68	106.59	108.49
1	18	22	44.32	48.80	50.46	53.04	62.41	65.70	65.46	68.85	74.17	77.01	71.98	73.14	77.21	79.87	80.05	83.45	86.84	90.24	93.63	97.03	98.35	99.68	101.00	102.33	103.65
1	18	23	39.97	46.08	48.04	52.71	59.99	62.30	63.86	68.85	73.95	75.39	66.99	72.07	76.34	78.35	80.96	83.72	86.47	89.23	91.98	94.74	96.37	98.00	99.63	101.26	102.89
1	18	24	36.01	39.66	41.83	45.79	56.94	60.15	61.08	63.41	67.73	69.46	64.05	67.75	72.96	74.83	75.93	78.29	80.65	83.00	85.36	87.72	89.92	92.13	94.33	96.54	98.74
1	19	1	32.43	35.09	38.28	38.40	54.46	58.11	58.01	59.38	62.66	65.07	61.18	65.26	68.61	70.37	73.09	75.19	77.30	79.40	81.51	83.61	85.64	87.67	89.70	91.73	93.76
1	19	2	32.52	34.25	37.59	37.09	53.50	57.20	57.81	58.96	62.34	63.53	60.23	65.48	68.15	70.30	71.90	74.19	76.48	78.76	81.05	83.34	85.15	86.96	88.76	90.57	92.38
1	19	3	32.91	34.18	37.98	36.43	53.19	57.09	58.01	59.98	62.41	63.18	60.21	65.87	68.29	69.97	72.31	74.62	76.92	79.23	81.53	83.84	85.82	87.81	89.79	91.78	93.76
1	19	4	33.91	34.93	39.03	35.88	52.91	57.65	59.12	61.89	63.21	62.94	59.57	66.45	68.48	70.01	74.03	76.29	78.55	80.81	83.07	85.33	87.29	89.25	91.20	93.16	95.12
1	19	5	36.08	36.50	40.28	36.10	53.23	59.24	61.83	63.96	66.15	63.11	59.58	68.42	70.72	71.42	75.43	77.94	80.46	82.97	85.49	88.00	89.68	91.36	93.03	94.71	96.39
1	19	6	42.39	42.42	47.72	37.01	54.56	62.69	66.25	68.70	71.05	63.53	60.89	73.14	74.06	76.83	79.99	83.24	86.48	89.73	92.97	96.22	97.22	98.23	99.23	100.24	101.24
1	19	7	49.24	48.28	52.48	38.85	56.95	66.09	68.18	73.85	78.09	65.08	61.98	76.29	76.41	80.37	86.01	89.32	92.63	95.95	99.26	102.57	103.91	105.25	106.60	107.94	109.28
1	19	8	59.05	52.19	57.25	43.81	58.35	68.22	73.75	76.63	137.99	69.12	64.31	86.31	84.91	82.33	165.45	159.60	153.75	147.89	142.04	136.19	131.30	126.42	121.53	116.65	111.76
1	19	9	54.01	52.43	56.13	48.29	60.04	67.56	70.60	74.88	84.22	71.63	66.60	78.91	84.46	82.27	89.07	92.42	95.76	99.11	102.45	105.80	106.94	108.09	109.23	110.38	111.52
1	19	10	51.64	52.19	54.92	50.95	60.29	67.56	69.99	74.07	79.36	73.11	67.52	76.75	80.72	81.48	87.78	90.79	93.80	96.80	99.81	102.82	104.35	105.87	107.40	108.92	110.45
1	19	11	51.50	52.04	54.77	50.87	59.35	67.56	69.88	73.69	79.24	73.60	67.32	76.53	77.88	81.12	86.06	89.02	91.98	94.93	97.89	100.85	102.56	104.26	105.97	107.67	109.38
1	19	12	47.37	50.71	53.06	49.47	58.83	67.46	68.28	72.92	77.86	72.47	66.90	74.64	76.62	80.07	84.68	87.73	90.78	93.82	96.87	99.92	101.64	103.36	105.08	106.80	108.52
1	19	13	46.51	48.16	51.49	46.39	58.83	66.90	66.39	72.48	76.43	70.40	66.63	73.62	76.34	80.16	81.80	85.23	88.67	92.10	95.54	98.97	100.27	101.58	102.88	104.19	105.49
1	19	14	44.03	46.55	49.14	43.51	58.63	66.00	64.03	71.17	76.12	68.89	65.57	72.40	75.51	78.68	81.19	84.63	88.07	91.52	94.96	98.40	99.34	100.28	101.22	102.16	103.10
1	19	15	41.78	44.72	48.19	41.99	57.76	65.43	62.35	69.95	74.29	67.24	64.64	71.52	75.19	77.51	80.64	83.31	85.99	88.66	91.34	94.01	95.74	97.46	99.19	100.91	102.64
1	19	16	40.22	44.72	48.03	41.54	57.72	64.26	61.90	69.55	73.94	66.63	64.59	70.91	75.18	76.90	80.04	82.32	84.60	86.89	89.17	91.45	93.46	95.47	97.49	99.50	101.51
1	19	17	44.32	46.56	49.52	42.91	58.84	65.63	64.86	71.17	73.94	68.38	66.20	72.41	75.19	78.35	80.05	82.77	85.48	88.20	90.91	93.63	95.52	97.41	99.31	101.20	103.09
1	19	18	48.67	51.90	54.85	49.71	63.47	67.92	68.01	73.48	78.69	74.07	73.06	75.07	77.21	82.69	86.47	88.99	91.52	94.04	96.57	99.09	100.83	102.57	104.32	106.06	107.80
1	19	19	54.01	54.37	59.15	56.24	66.15	72.98	71.07	79.12	91.05	76.87	80.49	77.56	84.17	85.96	94.28	97.33	100.38	103.42	106.47	109.52	110.54	111.56	112.57	113.59	114.61
1	19	20	52.79	52.86	58.37	55.07	66.15	71.37	73.88	79.83	86.30	75.68	80.64	79.47	83.82	86.32	90.18	92.96	95.74	98.51	101.29	104.07	106.64	109.21	111.79	114.36	116.93
1	19	21	49.92	52.10	54.92	51.00	65.96	67.76	69.86	73.90	77.80	74.88	79.15	76.71	81.49	82.56	85.75	88.69	91.64	94.58	97.53	100.47	102.23	104.00	105.76	107.53	109.29
1	19	22	47.72	48.80	52.83	48.66	63.09	66.90	66.63	72.96	76.12	73.60	74.00	73.15	77.21	80.95	83.79	86.39	88.99	91.58	94.18	96.78	99.12	101.47	103.81	106.16	108.50
1	19	23	44.62	46.53	52.41	44.78	60.65	67.46	65.20	72.59	75.91	68.40	70.21	73.14	76.34	80.12	80.83	83.71	86.59	89.46	92.34	95.22	97.56	99.90	102.24	104.58	106.92
1	19	24	37.38	41.03	46.09	39.37	58.58	63.11	60.37	68.08	69.99	64.28	66.37	69.45	73.12	76.90	76.29	78.79	81.28	83.78	86.27	88.77	91.41	94.05	96.68	99.32	101.96
1	20	1	32.69	36.44	40.51	36.56	56.70	59.87	57.63	63.06	62.69	63.10	63.79	65.77	69.04	74.35	71.24	73.37	75.49	77.62	79.74	81.87	84.84	87.81	90.77	93.74	96.71
1	20	2	32.05	35.82	39.78	35.68	56.15	59.98	56.78	62.80	60.43	61.79	62.93	65.24	67.98	72.91	70.53	72.42	74.31	76.19	78.08	79.97	83.12	86.28	89.43	92.59	95.74
1	20	3	32.11	35.91	40.27	35.27	56.43	60.79	56.68	63.81	59.06	61.54	62.94	65.19	67.64	72.92	69.11	71.11	73.11	75.10	77.10	79.10	82.53	85.96	89.39	92.82	96.25
1	20	4	32.40	37.41	41.83	35.27	56.53	61.49	56.84	65.84	58.73	61.43	63.62	65.24	67.80	74.16	68.68	70.67	72.66	74.65	76.64	78.63	82.49	86.36	90.22	94.09	97.95
1	20	5	33.77	39.32	45.33	35.59	56.73	63.30	58.57	68.06	59.06	61.10	65.13	66.07	70.23	75.62	68.96	71.04	73.12	75.19	77.27	79.35	83.87	88.39	92.91	97.43	101.95
1	20	6	39.14	45.49	51.10	36.64	59.84	66.90	63.86	72.16	60.43	62.38	69.00	70.23	75.17	78.99	70.19	72.42	74.65	76.88	79.11	81.34	86.51	91.68	96.85	102.02	107.19
1	20	7	47.13	51.02	54.87	37.89	64.50	68.98	66.69	75.05	63.21	64.10	74.30	73.41	79.03	83.28	71.89	74.28	76.68	79.07	81.47	83.86	89.60	95.35	101.09	106.84	112.58
1	20	8	52.11	54.37	103.19	39.96	68.66	79.62	70.56	147.87	66.66	66.57	77.54	76.98	83.18	165.39	74.77	77.36	79.95	82.54	85.13	87.72	100.88	114.04	127.20	140.36	153.52
1	20	9	52.22	53.39	62.29	44.89	68.22	73.18	70.28	83.30	69.98	69.28	77.44	76.82	83.07	90.02	76.65	79.56	82.48	85.39	88.31	91.22	98.89	106.55	114.22	121.88	129.55
1	20	10	50.60	52.78	56.13	47.26	67.89	70.09	69.41	75.92	71.56	69.44	76.79	75.55	80.66	86.08	77.90	80.66	83.41	86.17	88.92	91.68	96.99	102.30	107.61	112.92	118.23
1	20	11	49.24	52.19	55.22	46.73	67.39	69.46	67.13	74.10	71.98	68.88	75.26	74.44	80.42	85.26	78.94	81.55	84.16	86.77	89.38	91.99	96.12	100.25	104.39	108.52	112.65
1	20	12	47.39	51.27	54.60	43.62	65.90	67.56	66.39	73.15	70.98	67.93	74.01	73.14	80.08	83.91	77.90	80.48	83.05	85.63	88.20	90.78	94.59	98.40	102.20	106.01	109.82
1	20	13	46.15	49.89	52.64	42.42	64.85	67.27	66.39	72.48	68.87	67.35	74.01	73.14	79.07	82.56	75.94	78.46	80.97	83.49	86.00	88.52	92.67	96.82	100.98	105.13	109.28
1	20	14	44.32	48.71	51.98	40.63	63.97	66.28	65.35	71.40	66.69	66.30	71.76	73.12	77.81	81.27	75.11	77.49	79.87	82.26	84.64	87.02	91.13	95.25	99.36	103.48	107.59
1	20	15	42.68	46.87	49.26	39.17	61.41	65.76	63.86	70.46	65.55	65.85	69.88	71.17	76.03	79.97	74.50	76.78	79.07	81.35	83.64	85.92	90.03	94.14	98.25	102.36	106.47
1	20	16	41.94	45.54	49.35	39.11	61.42	65.08	63.72	70.46	64.36	65.04	70.14	70.96	75.20	79.92	74.22	76.48	78.74	81.00	83.26	85.52	89.53	93.54	97.56	101.57	105.58

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	20	17	44.32	48.44	51.39	40.81	64.21	65.76	65.62	71.19	65.98	65.95	71.52	72.13	76.05	81.86	74.85	77.24	79.63	82.01	84.40	86.79	91.08	95.37	99.66	103.95	108.24
1	20	18	49.39	52.10	54.92	49.44	66.60	67.56	68.23	73.43	72.57	72.39	74.27	74.76	80.88	84.91	79.00	81.85	84.70	87.54	90.39	93.24	97.09	100.94	104.78	108.63	112.48
1	20	19	54.01	54.75	64.25	67.43	68.97	72.97	72.66	80.48	78.02	79.05	77.68	77.56	84.20	88.61	82.14	85.27	88.41	91.54	94.68	97.81	102.16	106.52	110.87	115.23	119.58
1	20	20	52.22	54.75	60.37	61.12	68.53	72.62	70.37	79.83	76.02	84.40	76.79	77.42	84.56	88.23	80.05	83.24	86.43	89.63	92.82	96.01	100.54	105.07	109.60	114.13	118.66
1	20	21	50.68	52.69	55.85	55.38	67.89	68.24	69.86	76.24	73.34	76.95	75.52	76.75	80.66	86.41	79.76	82.48	85.20	87.92	90.64	93.36	97.27	101.18	105.09	109.00	112.91
1	20	22	46.38	51.60	54.43	50.73	65.13	67.27	66.88	73.16	70.98	73.74	74.00	74.63	79.56	82.28	77.93	80.98	84.03	87.07	90.12	93.17	96.40	99.63	102.87	106.10	109.33
1	20	23	44.44	49.92	52.77	48.97	65.70	65.87	66.09	72.42	65.97	71.86	72.54	73.14	77.73	80.95	75.07	77.65	80.23	82.80	85.38	87.96	92.07	96.18	100.28	104.39	108.50
1	20	24	37.61	43.90	47.50	45.44	60.96	63.11	62.35	66.86	62.67	68.38	68.85	70.96	75.19	76.83	71.21	73.60	75.98	78.37	80.75	83.14	86.76	90.38	94.00	97.62	101.24
1	21	1	33.76	39.81	40.03	39.87	58.37	59.77	58.46	61.92	59.04	64.97	65.46	66.35	71.06	71.76	69.76	71.91	74.06	76.21	78.36	80.51	83.43	86.35	89.28	92.20	95.12
1	21	2	33.32	39.54	38.28	39.68	58.42	59.12	57.99	59.45	58.33	65.03	65.59	66.02	70.06	69.72	68.95	71.11	73.26	75.42	77.57	79.73	82.32	84.92	87.51	90.11	92.70
1	21	3	33.82	39.71	37.04	39.87	58.83	58.97	58.65	58.40	58.11	65.61	66.21	65.96	70.79	69.04	67.98	70.13	72.28	74.44	76.59	78.74	81.33	83.92	86.51	89.10	91.69
1	21	4	35.03	40.90	36.29	41.98	59.57	58.97	59.95	57.73	58.13	67.58	66.99	66.44	71.94	68.70	67.19	69.60	72.00	74.41	76.81	79.22	81.61	84.01	86.40	88.80	91.19
1	21	5	36.35	42.72	36.73	46.00	60.48	60.15	61.79	58.52	58.74	69.98	68.06	67.99	73.60	68.85	67.40	69.76	72.13	74.49	76.86	79.22	81.64	84.07	86.49	88.92	91.34
1	21	6	42.08	48.82	37.97	51.91	64.43	63.34	66.31	60.66	60.69	73.42	74.00	72.80	77.06	69.47	68.84	71.04	73.24	75.44	77.64	79.84	82.62	85.40	88.18	90.96	93.74
1	21	7	49.24	52.04	39.44	53.68	66.97	66.90	69.54	62.81	62.75	77.35	78.14	76.18	81.15	71.31	70.83	72.97	75.10	77.24	79.37	81.51	84.22	86.92	89.63	92.33	95.04
1	21	8	51.75	102.93	46.31	86.44	73.23	71.56	72.59	66.47	65.41	151.23	84.80	78.25	159.26	74.56	72.90	75.26	77.61	79.97	82.32	84.68	87.49	90.30	93.10	95.91	98.72
1	21	9	51.64	60.50	47.65	76.56	72.19	72.49	70.57	67.60	68.53	101.24	83.50	77.42	87.13	76.89	74.78	77.44	80.09	82.75	85.40	88.06	90.55	93.04	95.53	98.02	100.51
1	21	10	51.33	53.57	50.46	57.96	70.98	71.37	70.01	69.47	69.14	82.33	79.85	76.87	83.27	79.37	75.25	78.07	80.89	83.70	86.52	89.34	92.17	95.00	97.84	100.67	103.50
1	21	11	51.30	52.49	50.92	54.34	68.80	70.09	69.87	69.66	67.73	77.54	78.13	76.78	81.95	79.97	74.90	77.63	80.35	83.08	85.80	88.53	91.74	94.95	98.15	101.36	104.57
1	21	12	49.00	52.04	49.66	51.53	67.39	67.80	68.53	68.81	66.40	73.87	76.53	75.31	80.52	79.63	74.10	76.83	79.56	82.30	85.03	87.76	90.78	93.80	96.82	99.84	102.86
1	21	13	47.95	51.17	47.37	50.33	66.61	67.52	67.84	67.50	66.20	73.60	75.52	73.14	79.59	77.22	73.60	76.00	78.40	80.79	83.19	85.59	88.65	91.72	94.78	97.85	100.91
1	21	14	45.67	49.66	46.43	49.05	65.90	66.90	67.05	66.31	64.34	72.47	74.17	73.14	78.73	76.48	73.13	75.42	77.71	80.00	82.29	84.58	87.65	90.72	93.80	96.87	99.94
1	21	15	44.03	48.80	42.86	47.90	65.26	66.00	65.91	64.72	63.45	71.43	73.41	73.12	78.15	75.39	72.44	74.40	76.36	78.32	80.28	82.24	85.54	88.83	92.13	95.42	98.72
1	21	16	42.73	47.72	42.47	47.59	64.59	65.63	65.20	63.93	63.41	69.88	73.69	71.24	77.06	74.75	72.08	74.05	76.03	78.00	79.98	81.95	85.17	88.39	91.62	94.84	98.06
1	21	17	45.73	48.98	44.84	49.05	65.69	66.00	67.01	66.29	64.34	71.99	74.00	73.14	78.39	76.11	73.40	75.67	77.93	80.20	82.46	84.73	87.72	90.70	93.69	96.67	99.66
1	21	18	50.94	52.39	50.92	52.71	68.14	67.95	69.99	70.33	70.87	73.61	76.48	76.53	82.36	80.44	79.70	82.00	84.31	86.61	88.92	91.22	93.98	96.75	99.51	102.28	105.04
1	21	19	54.01	60.52	60.63	64.34	72.16	72.61	72.94	73.22	86.47	81.23	80.12	79.38	86.77	83.87	86.86	88.89	90.93	92.96	95.00	97.03	98.83	100.63	102.42	104.22	106.02
1	21	20	53.06	56.55	55.37	60.64	71.59	72.59	76.98	72.96	88.71	79.92	79.83	81.25	84.91	83.00	90.74	92.10	93.46	94.81	96.17	97.53	99.23	100.92	102.62	104.31	106.01
1	21	21	51.33	53.20	51.56	55.05	70.84	70.54	70.10	71.17	79.06	77.49	77.83	76.98	83.18	81.67	85.61	87.92	90.24	92.55	94.87	97.18	98.79	100.40	102.00	103.61	105.22
1	21	22	48.71	52.19	49.84	51.16	66.15	67.56	68.42	69.53	72.22	73.61	76.72	76.00	79.68	79.87	81.41	84.14	86.88	89.61	92.35	95.08	96.82	98.57	100.31	102.06	103.80
1	21	23	47.95	52.04	46.47	50.41	65.96	67.76	68.42	64.96	70.35	73.43	75.26	74.44	79.40	75.62	80.04	82.46	84.89	87.31	89.74	92.16	93.33	94.50	95.66	96.83	98.00
1	21	24	39.97	45.54	40.25	44.85	61.83	64.54	63.86	62.06	66.37	67.93	70.03	71.91	75.19	71.76	77.62	79.80	81.97	84.15	86.32	88.50	89.82	91.15	92.47	93.80	95.12
1	22	1	36.11	39.32	37.50	37.95	58.40	60.78	60.43	58.79	63.55	63.95	65.26	67.37	69.08	69.24	74.12	76.44	78.76	81.08	83.40	85.72	86.89	88.06	89.24	90.41	91.58
1	22	2	35.78	36.32	36.36	37.01	57.68	59.89	60.43	57.90	63.59	63.78	64.89	66.49	67.35	68.62	74.35	76.62	78.89	81.17	83.44	85.71	86.71	87.71	88.70	89.70	90.70
1	22	3	35.97	35.08	36.11	36.68	57.34	60.60	60.92	57.65	65.32	63.23	64.62	66.87	66.79	68.20	75.07	77.27	79.47	81.67	83.87	86.07	86.89	87.71	88.52	89.34	90.16
1	22	4	36.43	34.25	36.05	37.29	57.69	61.73	61.90	57.65	66.85	63.31	65.11	68.81	66.63	68.17	75.76	78.36	80.96	83.57	86.17	88.77	88.99	89.21	89.44	89.66	89.88
1	22	5	38.99	34.81	36.27	38.93	58.33	64.29	64.48	58.16	69.73	64.63	66.41	70.65	66.75	68.70	77.42	80.38	83.34	86.31	89.27	92.23	91.77	91.31	90.84	90.38	89.92
1	22	6	46.44	36.17	37.15	45.77	61.83	67.20	67.05	60.54	72.51	69.28	69.89	73.36	67.01	69.20	80.32	83.32	86.32	89.33	92.33	95.33	94.53	93.73	92.93	92.13	91.33
1	22	7	49.86	38.71	38.69	51.47	64.43	70.15	72.07	62.79	75.99	74.65	74.01	78.73	69.37	69.95	83.41	86.52	89.63	92.75	95.86	98.97	97.94	96.91	95.87	94.84	93.81
1	22	8	94.34	42.71	40.85	66.64	69.75	78.55	125.77	64.89	162.27	84.04	77.68	167.97	71.93	71.76	180.93	171.62	162.31	153.01	143.70	134.39	126.66	118.93	111.19	103.46	95.73
1	22	9	58.28	46.79	47.17	57.68	70.70	77.13	79.64	66.82	95.67	78.01	77.43	85.96	74.27	74.19	111.25	109.87	108.48	107.10	105.71	104.33	103.22	102.11	100.99	99.88	98.77
1	22	10	52.18	48.80	48.11	54.34	69.48	73.63	71.84	67.62	77.72	75.13	76.79	78.91	75.51	76.22	85.35	88.45	91.55	94.65	97.75	100.85	100.57	100.29	100.01	99.73	99.45
1	22	11	51.62	50.29	47.84	52.63	69.07	72.62	70.60	66.94	76.26	74.27	76.17	77.42	77.21	75.81	84.36	87.28	90.20	93.13	96.05	98.97	98.96	98.95	98.93	98.92	98.91
1	22	12	51.23	50.62	47.02	51.94	66.27	69.25	70.10	65.76	74.30	73.31	75.46	76.82	75.20	76.06	80.64	83.75	86.86	89.98	93.09	96.20	96.68	97.17	97.65	98.14	98.62
1	22	13	48.71	45.20	46.29	50.41	65.90	67.76	69.41	65.36	73.21	72.39	74.01	76.33	75.20	75.17	80.05	83.26	86.47	89.68	92.89	96.10	96.31	96.52	96.72	96.93	97.14
1	22	14	47.95	42.95	44.14	49.47	65.66	67.52	68.56	63.81	70.79	71.99	74.01	75.07	74.30	73.68	80.05	82.31	84.56	86.82	89.07	91.33	92.21	93.09	93.97	94.85	95.73
1	22	15	46.10	41.57	41.22	47.73	64.43	66.65	67.17	62.79	68.70	69.83	74.00	74.25	72.61	73.10	79.06	80.99	82.92	84.85	86.78	88.71	89.99	91.27	92.55	93.83	95.11
1	22	16	45.86	41.35	40.91	46.76	64.21	65.88	66.64	62.68	68.02	69.58	71.52	73.14	71.98	72.69	78.78	80.87	82.97	85.06	87.16	89.25	90.41	91.57	92.72	93.88	95.04
1	22	17	47.93	42.37	43.73	49.03	65.33	66.98	68.17	64.01	70.26	70.46	74.01	74.92	72.99	73.30	79.99	82.20	84.41	86.63	88.84	91.05	91.88	92.71	93.54	94.37	95.20
1	22	18	51.54	48.80	51.20	52.71	66.60	68.73	70.57	69.01	74.90	73.92	76.24	77.62	75.49	78.91	81.26	84.38	87.50	90.63	93.75	96.87	98.16	99.46	100.75	102.05	103.34
1	22	19	59.18	53.71	60.94	62.99	71.29	73.52	78.31	75.18	78.77	79.35	78.39	82.31	78.49	83.81	87.64	89.94	92.25	94.55	96.86	99.16	100.60	102.05	103.49	104.94	106.38
1	22	20	54.01	52.19	60.53	61.02	70.97	74.45	78.31	76.72	79.02	79.48	78.19	82.60	77.81	84.84	86.36	89.25	92.14	95.04	97.93	100.82	102.05	103.29	104.52	105.76	106.99
1	22	21	51.64	50.68	58.73	55.13	70.80	72.61	74.38	73.96	76.84	75.10	76.24	80.95	76.34	83.22	84.36	87.25	90.14	93.04	95.93	98.82	100.42	102.02	103.62	105.22	106.82
1	22	22	49.67	47.41	54.07	51.97	66.53	68.18	69.48	70.33	73.94	73.51	75.82	76.75	75.29	81.79	80.05	83.08	86.11	89.14	92.17	95.20	97.22	99.24	101.25	103.27	105.29
1	22	23	48.91	43.88	49.84	50.74	66.60	69.46	68.56	68.63	71.98	70.70	75.46	76.29	73.11	79.65	80.04	82.66	85.29	87.91	90.54	93.16	95.44	97.72	100.01	102.29	104.57
1	22	24	42.36	39.92	46.98	42.04	64.43	66.90	65.01	66.32	66.66	65.42	71.30	71.17	69.27	76.89	75.02	77.42	79.82	82.22	84.62	87.02	90.17	93.33	96.48	99.64	102.79
1	23	1	36.06	35.94	41.80	36.94	59.84	62.69	60.30	63.26	61.35	62.17	66.23	67.45	66.88	74.35	71.22	73.21	75.21	77.20	79.20	81.19	84.65	88.10	91.56	95.01	98.47
1	23	2	33.50	35.01	41.59	35.71	59.35	61.50	58.17	63.30	60.41	61.21	64.96	65.91	66.38	74.35	71.22	73.19	75.16	77.13	79.10	81.07	84.42	87.78	91.13	94.49	97.84
1	23	3	32.33	34.69	41.94	34.97	58.90	61.58	57.07	64.21	60.35	60.89	65.03	65.13	65.58	74.68	71.18	73.22	75.26	77.31	79.35	81.39	84.94	88.48	92.03	95.57	99.12

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	23	4	31.52	34.75	44.66	34.93	59.54	63.11	56.74	66.47	60.79	60.37	65.50	64.58	65.99	75.64	71.59	73.60	75.62	77.63	79.65	81.66	85.58	89.49	93.41	97.32	101.24
1	23	5	32.04	34.84	47.89	35.92	61.05	65.52	56.95	67.84	62.87	61.54	68.03	64.66	66.63	76.90	72.64	74.69	76.74	78.80	80.85	82.90	86.85	90.81	94.76	98.72	102.67
1	23	6	32.86	35.87	54.43	38.35	63.99	67.27	58.38	70.89	67.76	64.72	74.01	65.22	67.01	80.75	76.53	79.11	81.69	84.28	86.86	89.44	92.75	96.07	99.38	102.70	106.01
1	23	7	35.96	38.33	55.88	48.98	67.23	72.51	61.32	73.16	73.94	69.45	77.82	67.51	67.90	83.23	81.81	85.02	88.23	91.44	94.65	97.86	100.23	102.59	104.96	107.32	109.69
1	23	8	39.70	41.78	104.34	52.36	75.82	137.96	63.64	162.99	77.60	73.35	84.79	70.23	70.08	170.72	85.75	88.77	91.80	94.82	97.85	100.87	106.60	112.32	118.05	123.77	129.50
1	23	9	45.13	43.32	72.49	51.54	74.83	86.73	65.09	106.01	76.44	73.60	84.21	71.45	72.23	113.72	84.13	87.10	90.07	93.03	96.00	98.97	105.34	111.71	118.08	124.45	130.82
1	23	10	48.48	43.85	58.52	51.07	71.68	74.35	66.09	79.34	75.26	71.99	79.43	72.73	74.60	88.28	81.44	84.44	87.43	90.43	93.42	96.42	101.05	105.68	110.32	114.95	119.58
1	23	11	46.77	43.86	56.03	50.78	70.97	71.96	65.80	77.54	73.94	71.44	78.64	73.14	72.96	85.19	80.07	83.19	86.31	89.42	92.54	95.66	99.02	102.39	105.75	109.12	112.48
1	23	12	45.62	42.65	52.77	47.59	67.44	70.54	65.22	72.16	73.94	69.81	76.76	73.12	72.96	80.94	80.05	82.68	85.30	87.93	90.55	93.18	96.40	99.62	102.85	106.07	109.29
1	23	13	43.43	42.31	51.61	45.47	66.15	69.95	64.50	70.07	71.98	68.56	74.40	71.24	74.12	80.05	79.70	82.21	84.73	87.24	89.76	92.27	95.08	97.89	100.69	103.50	106.31
1	23	14	39.76	40.81	50.12	43.45	65.90	68.71	62.67	68.14	70.33	67.46	74.01	70.96	72.73	78.48	79.31	81.47	83.63	85.80	87.96	90.12	93.02	95.92	98.82	101.72	104.62
1	23	15	38.15	39.85	48.75	42.75	65.33	67.86	61.78	66.90	68.64	66.25	73.96	69.08	71.20	76.96	77.81	80.10	82.38	84.67	86.95	89.24	91.82	94.39	96.97	99.54	102.12
1	23	16	37.69	39.64	48.75	41.99	64.59	67.52	61.33	66.95	67.55	65.53	72.52	68.56	70.81	76.99	77.39	79.41	81.43	83.46	85.48	87.50	90.62	93.74	96.86	99.98	103.10
1	23	17	38.83	41.37	50.92	43.55	65.66	67.76	62.26	68.52	70.21	68.71	74.18	69.57	72.33	78.41	78.21	80.48	82.76	85.03	87.31	89.58	92.47	95.36	98.26	101.15	104.04
1	23	18	46.15	48.26	53.22	49.88	68.53	71.11	66.69	72.32	73.94	73.13	77.92	73.14	76.47	81.27	80.05	82.76	85.47	88.17	90.88	93.59	96.51	99.44	102.36	105.29	108.21
1	23	19	54.15	54.52	64.92	52.56	73.57	92.50	70.14	78.24	78.18	73.68	82.44	76.60	84.91	88.15	83.84	86.87	89.89	92.92	95.94	98.97	102.80	106.62	110.45	114.27	118.10
1	23	20	49.70	55.60	59.17	51.91	72.66	77.88	71.39	79.25	80.74	73.60	84.36	75.55	84.90	88.12	84.36	87.27	90.19	93.10	96.02	98.93	102.19	105.45	108.71	111.97	115.23
1	23	21	47.93	53.35	55.32	51.16	70.90	75.07	67.13	78.06	75.76	73.60	79.13	73.14	80.88	85.14	81.32	84.12	86.93	89.73	92.54	95.34	98.50	101.67	104.83	108.00	111.16
1	23	22	44.78	51.91	51.93	48.52	66.53	70.09	66.25	69.88	71.99	71.44	77.47	73.14	79.57	80.55	80.05	82.69	85.32	87.96	90.59	93.23	96.26	99.30	102.33	105.37	108.40
1	23	23	39.60	46.35	51.38	46.68	66.53	70.09	63.69	68.86	71.99	71.43	75.46	69.78	77.21	79.29	80.00	82.22	84.44	86.66	88.88	91.10	93.98	96.86	99.73	102.61	105.49
1	23	24	36.01	43.46	43.73	39.60	64.43	66.90	60.43	65.39	65.35	64.80	71.84	66.90	75.20	76.84	73.41	75.43	77.44	79.46	81.47	83.49	86.84	90.19	93.55	96.90	100.25
1	24	1	32.46	40.29	38.58	36.94	59.92	61.49	57.11	61.59	60.08	63.25	66.85	65.19	71.24	71.76	70.16	71.85	73.53	75.22	76.90	78.59	81.85	85.10	88.36	91.61	94.87
1	24	2	31.69	39.95	37.67	36.97	59.84	59.62	56.43	60.77	58.47	63.09	66.41	64.35	71.18	69.97	68.68	70.34	71.99	73.65	75.30	76.96	80.35	83.74	87.12	90.51	93.90
1	24	3	31.28	40.44	37.59	37.01	59.84	58.35	56.08	60.20	58.19	63.18	66.42	64.03	71.30	69.49	67.75	69.44	71.12	72.81	74.49	76.18	79.78	83.37	86.97	90.56	94.16
1	24	4	31.31	41.62	37.92	37.53	60.43	57.55	56.16	61.09	58.15	63.71	67.15	63.76	72.96	70.35	67.57	69.34	71.11	72.89	74.66	76.43	80.00	83.58	87.15	90.73	94.30
1	24	5	31.48	46.19	39.20	38.40	61.70	58.36	56.97	62.68	58.91	64.00	70.60	63.87	75.00	72.12	69.18	70.87	72.55	74.24	75.92	77.61	81.22	84.82	88.43	92.03	95.64
1	24	6	32.31	49.70	45.52	45.07	65.33	59.42	58.79	68.02	63.05	68.54	75.32	64.58	77.73	74.95	72.06	74.11	76.16	78.20	80.25	82.30	86.18	90.05	93.93	97.80	101.68
1	24	7	34.05	52.10	52.06	52.61	69.92	61.49	60.51	72.57	69.97	72.29	78.80	65.91	80.32	80.06	77.09	79.78	82.47	85.15	87.84	90.53	93.81	97.09	100.38	103.66	106.94
1	24	8	36.34	95.96	61.29	61.88	126.96	64.04	62.36	76.21	73.93	77.61	134.20	68.37	163.81	83.22	79.85	82.55	85.25	87.96	90.66	93.36	96.71	100.06	103.42	106.77	110.12
1	24	9	39.65	59.42	59.50	62.87	84.49	66.44	65.13	73.66	74.29	79.51	88.52	70.67	110.79	82.56	81.06	83.78	86.50	89.21	91.93	94.65	98.45	102.25	106.06	109.86	113.66
1	24	10	41.78	55.06	55.11	57.56	72.71	68.18	65.57	72.95	74.29	77.54	80.78	71.24	86.84	82.40	79.54	82.07	84.60	87.12	89.65	92.18	95.59	99.00	102.42	105.83	109.24
1	24	11	40.98	52.63	52.83	56.30	69.48	70.00	65.21	72.16	73.93	76.50	79.13	72.86	83.37	81.41	78.86	81.19	83.52	85.85	88.18	90.51	93.97	97.43	100.90	104.36	107.82
1	24	12	38.97	51.82	51.94	52.29	68.35	68.23	63.86	70.33	70.98	74.45	77.81	72.64	79.63	80.33	77.81	80.10	82.39	84.69	86.98	89.27	92.67	96.07	99.47	102.87	106.27
1	24	13	38.81	50.71	51.24	50.39	66.15	67.52	63.59	68.86	70.00	73.59	76.92	72.14	79.11	79.65	75.03	77.35	79.68	82.00	84.33	86.65	90.28	93.91	97.54	101.17	104.80
1	24	14	37.47	47.78	50.81	49.26	65.90	66.18	62.02	68.34	68.90	71.45	74.96	69.45	77.95	78.65	74.35	76.74	79.13	81.52	83.91	86.30	89.66	93.02	96.37	99.73	103.09
1	24	15	36.30	45.61	49.33	47.51	65.33	65.09	61.62	66.87	66.37	70.41	74.02	69.45	76.00	77.13	74.90	77.02	79.15	81.27	83.40	85.52	88.99	92.46	95.92	99.39	102.86
1	24	16	36.15	45.61	48.81	46.48	64.43	64.66	61.13	66.47	64.92	70.26	74.01	69.45	75.21	76.90	74.90	76.90	78.90	80.90	82.90	84.90	88.26	91.61	94.97	98.32	101.68
1	24	17	38.15	46.56	50.55	49.10	65.72	65.76	62.26	67.99	70.00	71.64	74.92	69.08	77.53	78.45	76.76	78.80	80.84	82.89	84.93	86.97	90.17	93.37	96.57	99.77	102.97
1	24	18	45.36	51.19	53.51	57.36	68.66	67.56	66.22	70.90	72.22	73.68	78.49	73.13	80.31	80.94	80.01	82.11	84.21	86.31	88.41	90.51	93.86	97.21	100.56	103.91	107.26
1	24	19	54.82	55.38	58.54	73.47	86.34	72.97	79.64	73.16	75.99	81.93	84.58	81.70	85.59	85.20	82.78	85.38	87.98	90.58	93.18	95.78	98.66	101.55	104.43	107.32	110.20
1	24	20	55.98	54.19	57.16	60.83	77.34	72.59	82.74	73.24	76.31	81.99	85.85	88.55	85.24	84.94	82.17	84.76	87.35	89.93	92.52	95.11	97.96	100.81	103.66	106.51	109.36
1	24	21	52.67	52.90	54.85	57.56	72.16	68.24	75.99	72.39	74.30	76.63	83.50	78.49	81.95	82.91	80.05	82.68	85.30	87.93	90.55	93.18	96.40	99.62	102.83	106.05	109.27
1	24	22	48.19	50.71	52.43	51.54	68.43	67.56	67.13	69.86	72.87	73.60	78.81	75.55	78.74	80.55	79.05	81.63	84.20	86.78	89.35	91.93	94.81	97.69	100.58	103.46	106.34
1	24	23	45.20	50.47	51.07	50.11	66.60	65.74	66.42	68.28	71.12	71.44	76.12	73.14	76.62	78.03	78.42	80.72	83.03	85.33	87.64	89.94	92.85	95.76	98.67	101.58	104.49
1	24	24	39.61	42.52	42.84	43.07	65.33	61.49	65.45	64.50	63.52	65.54	74.01	72.44	73.32	75.73	72.22	74.43	76.64	78.86	81.07	83.28	85.89	88.50	91.10	93.71	96.32
1	25	1	36.06	36.43	37.54	37.92	59.84	57.84	61.78	59.54	60.49	63.83	66.73	69.45	68.42	70.02	70.20	72.16	74.12	76.07	78.03	79.99	82.33	84.67	87.02	89.36	91.70
1	25	2	35.92	35.40	36.21	37.54	57.83	57.06	61.82	57.78	59.55	63.38	64.60	69.36	67.68	68.99	70.53	72.51	74.49	76.47	78.45	80.43	82.32	84.21	86.11	88.00	89.89
1	25	3	36.12	35.09	35.77	37.00	56.73	56.74	62.59	57.40	59.47	63.42	63.90	70.35	67.81	68.62	70.51	72.52	74.53	76.53	78.54	80.55	82.28	84.00	85.73	87.45	89.18
1	25	4	37.30	35.64	35.81	37.01	56.54	56.67	64.20	57.38	60.40	63.53	62.96	72.03	68.53	68.75	70.65	72.73	74.82	76.90	78.99	81.07	82.74	84.40	86.07	87.73	89.40
1	25	5	40.63	37.04	36.40	38.64	56.59	57.20	65.78	58.79	62.48	64.11	63.28	73.14	70.65	69.64	71.22	73.34	75.46	77.58	79.70	81.82	83.45	85.09	86.72	88.36	89.99
1	25	6	47.90	42.79	39.79	45.86	56.99	58.35	68.92	62.77	67.69	67.61	64.07	76.61	73.74	72.73	74.78	77.25	79.72	82.18	84.65	87.12	88.72	90.33	91.93	93.54	95.14
1	25	7	49.68	49.57	49.67	51.53	58.95	60.23	70.68	67.72	73.93	73.61	65.87	80.12	78.66	76.89	79.70	82.35	85.00	87.64	90.29	92.94	94.85	96.76	98.66	100.57	102.48
1	25	8	90.84	56.81	52.56	59.96	60.70	63.08	131.16	70.82	85.27	84.65	68.30	156.79	87.68	80.33	84.36	87.38	90.39	93.41	96.42	99.44	101.11	102.79	104.46	106.14	107.81
1	25	9	59.42	53.82	52.41	58.36	64.43	64.24	88.89	70.05	84.67	84.16	71.52	107.77	80.89	80.55	84.72	87.76	90.80	93.84	96.88	99.92	101.53	103.14	104.74	106.35	107.96
1	25	10	54.42	52.02	52.07	58.36	65.90	64.29	79.45	69.53	79.22	80.61	74.01	83.28	80.12	80.25	83.85	86.87	89.90	92.92	95.95	98.97	100.54	102.11	103.69	105.26	106.83
1	25	11	51.68	50.71	52.07	56.47	66.15	63.81	73.70	69.27	76.84	75.39	74.01	79.02	78.47	79.11	82.50	85.76	89.03	92.29	95.56	98.82	100.15	101.49	102.82	104.16	105.49
1	25	12	48.07	49.24	50.12	52.71	65.96	63.68	69.86	68.03	75.31	74.67	74.01	74.49	76.93	76.84	81.00	83.47	85.94	88.42	90.89	93.36	95.48	97.61	99.73	101.86	103.98
1	25	13	46.24	48.39	48.26	50.49	65.33	63.81	68.28	66.86	73.94	73.11	73.69	75.23	76.15	75.73	80.05	82.33	84.61	86.89	89.17	91.45	93.60	95.75	97.89	100.04	102.19
1	25	14	44.64	47.60	46.27	49.24	64.21	63.18	66.64	65.38	73.93	71.44	71.52	73.14	75.21	74.74	79.36	81.68	83.99	86.31	88.62	90.94	92.79	94.64	96.48	98.33	100.18

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	25	15	43.72	45.61	44.60	47.72	61.83	61.50	65.70	64.17	71.98	69.39	70.15	73.13	75.21	74.35	78.21	80.56	82.90	85.25	87.59	89.94	91.82	93.70	95.58	97.46	99.34
1	25	16	43.77	44.83	44.60	46.65	60.70	61.49	65.20	63.76	71.22	68.63	68.85	73.13	75.07	74.28	77.53	79.84	82.15	84.45	86.76	89.07	91.15	93.23	95.30	97.38	99.46
1	25	17	45.20	46.56	47.68	49.47	61.83	63.28	65.78	66.66	71.98	71.43	71.52	73.13	75.21	76.53	78.48	80.98	83.48	85.98	88.48	90.98	93.12	95.26	97.39	99.53	101.67
1	25	18	50.65	50.69	51.98	53.68	65.70	66.90	69.88	70.03	77.72	76.02	74.27	75.41	78.71	78.48	80.05	82.98	85.91	88.83	91.76	94.69	97.02	99.35	101.68	104.01	106.34
1	25	19	57.41	54.75	56.13	74.38	70.61	71.99	77.42	75.62	82.42	80.87	77.49	84.17	80.89	82.78	88.42	91.52	94.62	97.72	100.82	103.92	105.09	106.27	107.44	108.62	109.79
1	25	20	56.17	54.79	55.66	60.32	66.60	73.31	76.41	71.27	82.83	83.46	75.82	82.39	80.52	80.33	88.02	91.20	94.39	97.57	100.76	103.94	105.11	106.28	107.45	108.62	109.79
1	25	21	51.50	52.90	51.93	55.18	65.96	70.06	73.70	69.64	78.51	82.29	74.65	81.23	79.56	79.37	83.43	86.54	89.65	92.75	95.86	98.97	100.85	102.73	104.62	106.50	108.38
1	25	22	48.28	48.80	50.56	52.63	64.43	67.56	68.00	68.79	75.03	75.06	71.83	75.89	77.81	78.65	80.05	82.69	85.33	87.98	90.62	93.26	95.66	98.06	100.45	102.85	105.25
1	25	23	47.22	50.17	48.75	50.11	60.76	66.90	66.26	68.03	72.10	72.47	69.61	74.03	75.92	76.31	79.67	82.02	84.38	86.73	89.09	91.44	93.98	96.51	99.05	101.58	104.12
1	25	24	39.30	40.99	40.53	44.24	58.82	65.10	63.47	62.74	66.09	67.24	65.74	70.96	72.50	73.70	74.50	76.66	78.82	80.97	83.13	85.29	87.98	90.68	93.37	96.07	98.76
1	26	1	33.93	35.09	37.55	37.89	56.53	61.76	59.73	58.90	61.96	63.57	64.04	66.84	67.35	70.03	70.58	72.78	74.97	77.17	79.36	81.56	84.26	86.95	89.65	92.34	95.04
1	26	2	32.74	34.09	37.58	36.58	55.63	61.75	58.46	58.49	60.78	63.35	63.03	65.79	66.41	70.07	71.02	73.17	75.32	77.46	79.61	81.76	84.38	87.00	89.63	92.25	94.87
1	26	3	32.67	33.82	38.29	36.14	55.15	61.89	58.19	59.04	60.49	62.91	62.78	65.36	65.23	69.99	70.36	72.39	74.42	76.46	78.49	80.52	83.39	86.26	89.13	92.00	94.87
1	26	4	33.31	33.81	38.60	35.98	55.22	62.63	58.73	60.54	60.77	62.23	62.76	66.06	65.10	70.23	70.54	72.58	74.63	76.67	78.72	80.76	83.62	86.47	89.33	92.18	95.04
1	26	5	35.02	34.53	39.91	36.57	55.48	64.88	60.82	62.10	61.96	62.66	62.90	68.44	66.71	71.54	71.21	73.34	75.46	77.59	79.71	81.84	84.60	87.36	90.12	92.88	95.64
1	26	6	39.99	38.93	46.65	37.46	56.31	66.78	65.51	65.85	67.18	63.30	64.07	71.93	70.52	76.15	75.25	77.53	79.82	82.10	84.39	86.67	89.53	92.39	95.25	98.11	100.97
1	26	7	48.96	47.17	51.93	40.23	58.33	68.75	69.40	70.11	73.94	64.79	65.53	76.99	73.90	78.24	80.05	83.28	86.51	89.74	92.97	96.20	98.36	100.52	102.67	104.83	106.99
1	26	8	59.31	50.71	64.28	46.73	61.09	133.96	75.88	78.92	82.45	67.27	68.42	86.24	78.07	83.33	86.15	89.70	93.26	96.81	100.37	103.92	105.67	107.42	109.17	110.92	112.67
1	26	9	58.41	50.69	59.78	49.92	62.24	87.43	74.03	79.65	81.53	69.50	70.48	80.70	76.93	86.03	87.58	90.85	94.12	97.40	100.67	103.94	106.30	108.65	111.01	113.36	115.72
1	26	10	51.54	50.69	56.88	50.74	62.62	73.57	70.10	73.65	78.58	70.04	71.18	77.72	76.21	82.56	84.67	88.33	92.00	95.66	99.33	102.99	104.70	106.41	108.11	109.82	111.53
1	26	11	49.87	48.39	56.47	50.41	61.91	72.31	68.31	72.97	76.36	70.38	70.37	74.84	75.81	81.51	82.78	85.91	89.03	92.16	95.28	98.41	100.60	102.79	104.97	107.16	109.35
1	26	12	48.91	46.35	54.85	49.47	61.03	69.23	66.69	72.16	75.99	69.46	70.03	74.03	75.07	81.27	81.78	85.03	88.27	91.52	94.76	98.01	100.20	102.39	104.57	106.76	108.95
1	26	13	48.03	44.32	51.56	46.09	60.76	68.17	66.39	70.32	74.29	67.46	70.09	73.65	73.71	79.37	80.05	83.17	86.29	89.42	92.54	95.66	97.77	99.89	102.00	104.12	106.23
1	26	14	47.26	42.95	49.84	42.05	60.06	67.86	65.78	69.84	72.66	65.74	68.38	73.13	72.74	79.11	78.85	81.19	83.52	85.86	88.19	90.53	93.63	96.72	99.82	102.91	106.01
1	26	15	44.75	41.75	48.75	39.95	59.84	66.29	64.91	68.76	70.98	64.60	67.33	73.13	72.23	77.38	77.64	80.14	82.63	85.13	87.62	90.12	93.02	95.93	98.83	101.74	104.64
1	26	16	44.31	41.61	48.27	39.80	59.84	66.05	63.86	68.69	69.99	63.83	67.18	72.44	71.50	77.16	77.64	79.81	81.98	84.14	86.31	88.48	91.61	94.75	97.88	101.02	104.15
1	26	17	46.59	44.23	49.94	40.19	60.48	66.29	65.70	69.86	73.93	64.69	68.51	73.13	73.12	79.27	80.05	82.06	84.08	86.09	88.11	90.12	93.25	96.38	99.50	102.63	105.76
1	26	18	49.87	49.72	55.37	48.08	64.59	68.81	69.10	73.69	77.38	69.73	74.27	75.55	76.12	83.61	82.15	85.51	88.87	92.22	95.58	98.94	101.54	104.14	106.74	109.34	111.94
1	26	19	57.61	52.70	59.21	52.27	71.59	73.59	76.91	82.77	81.53	73.74	82.29	79.81	79.91	87.78	88.81	92.09	95.37	98.66	101.94	105.22	107.26	109.30	111.35	113.39	115.43
1	26	20	54.09	52.02	58.52	50.73	72.21	74.52	73.67	80.29	82.80	73.74	82.29	78.92	78.14	88.62	89.39	92.38	95.36	98.35	101.33	104.32	106.43	108.54	110.65	112.76	114.87
1	26	21	50.65	50.71	56.74	48.45	66.84	73.38	69.88	73.93	81.34	69.63	78.19	76.75	77.51	83.89	88.67	91.49	94.31	97.14	99.96	102.78	104.74	106.69	108.65	110.60	112.56
1	26	22	48.48	48.80	52.97	46.05	65.90	67.86	68.28	71.59	76.02	66.63	75.26	73.99	75.82	80.90	84.47	87.03	89.59	92.14	94.70	97.26	99.51	101.76	104.00	106.25	108.50
1	26	23	46.80	45.73	50.46	40.61	64.59	68.06	66.34	69.23	72.96	65.60	74.04	73.13	75.16	79.11	81.32	83.69	86.06	88.42	90.79	93.16	95.77	98.38	101.00	103.61	106.22
1	26	24	37.81	40.28	43.59	37.56	61.94	63.46	62.30	65.44	68.87	62.94	71.15	69.39	70.55	76.83	75.78	78.24	80.70	83.17	85.63	88.09	90.57	93.05	95.52	98.00	100.48
1	27	1	32.61	36.24	38.76	35.20	60.09	60.18	58.40	61.12	63.07	60.34	67.38	65.74	67.01	72.09	71.35	73.57	75.80	78.02	80.25	82.47	85.08	87.69	90.31	92.92	95.53
1	27	2	31.56	36.01	38.21	34.42	60.08	59.43	57.27	59.48	60.90	59.82	67.15	64.61	67.34	71.15	70.84	72.82	74.81	76.79	78.78	80.76	83.65	86.55	89.44	92.34	95.23
1	27	3	31.03	36.36	37.92	34.12	60.61	58.89	56.76	58.88	60.10	59.40	67.62	63.78	67.33	70.72	70.26	72.30	74.34	76.37	78.41	80.45	83.36	86.26	89.17	92.07	94.98
1	27	4	31.20	37.55	38.03	34.12	61.03	59.39	56.75	59.37	58.90	59.38	70.34	63.68	67.67	70.64	69.86	71.85	73.84	75.84	77.83	79.82	82.88	85.94	89.00	92.06	95.12
1	27	5	32.17	39.65	39.46	34.49	62.71	60.85	57.37	61.79	59.23	59.79	72.20	64.74	68.62	72.63	70.04	72.04	74.04	76.04	78.04	80.04	83.20	86.36	89.53	92.69	95.85
1	27	6	36.32	44.23	46.84	35.27	66.25	64.52	61.56	67.43	60.77	60.31	75.61	68.66	71.37	76.90	70.70	72.68	74.66	76.64	78.62	80.60	84.77	88.95	93.12	97.30	101.47
1	27	7	46.79	49.34	51.87	36.53	67.18	69.06	65.42	71.45	63.45	61.58	79.04	72.04	75.38	80.76	71.75	73.84	75.92	78.01	80.09	82.18	87.59	93.01	98.42	103.84	109.25
1	27	8	50.39	55.17	57.04	38.40	108.06	81.22	68.28	75.76	66.53	63.25	139.59	75.01	80.34	87.10	74.35	76.85	79.35	81.86	84.36	86.86	92.10	97.34	102.58	107.82	113.06
1	27	9	50.39	54.82	56.97	40.15	75.73	74.29	69.86	73.63	70.98	64.87	87.73	75.55	81.08	85.52	76.71	79.34	81.98	84.61	87.25	89.88	95.02	100.16	105.31	110.45	115.59
1	27	10	50.39	52.64	56.77	41.87	72.59	69.23	69.18	73.69	71.98	65.01	84.67	73.24	79.74	83.29	77.87	80.39	82.91	85.43	87.95	90.47	95.27	100.07	104.88	109.68	114.48
1	27	11	50.35	52.08	54.93	40.19	70.87	68.45	68.28	73.63	71.98	64.97	82.09	73.14	78.95	82.47	77.63	80.13	82.63	85.12	87.62	90.12	94.68	99.25	103.81	108.38	112.94
1	27	12	47.93	51.17	52.98	39.06	66.80	67.86	66.55	72.05	70.98	64.28	76.78	72.95	78.47	82.27	76.97	79.28	81.59	83.89	86.20	88.51	92.78	97.05	101.31	105.58	109.85
1	27	13	44.19	49.43	50.92	38.29	66.31	67.57	65.70	69.47	67.50	64.07	76.12	71.11	76.53	80.94	76.00	78.35	80.70	83.06	85.41	87.76	91.89	96.02	100.16	104.29	108.42
1	27	14	40.45	48.26	49.34	37.38	66.01	66.05	65.28	68.19	64.86	63.53	75.67	71.24	75.82	79.37	75.10	77.32	79.53	81.75	83.96	86.18	90.15	94.12	98.09	102.06	106.03
1	27	15	39.31	46.56	48.19	36.84	64.77	65.10	63.86	66.86	63.36	62.89	74.42	70.95	75.20	78.07	74.35	76.50	78.66	80.81	82.97	85.12	89.28	93.44	97.60	101.76	105.92
1	27	16	38.86	45.80	47.34	36.68	64.69	64.29	63.86	66.47	62.29	62.12	74.27	69.66	75.20	77.52	73.85	75.84	77.84	79.83	81.83	83.82	88.02	92.21	96.41	100.60	104.80
1	27	17	41.81	48.44	49.34	38.30	65.52	65.74	64.91	68.39	63.59	63.10	74.42	72.20	75.50	79.41	74.40	76.54	78.68	80.81	82.95	85.09	89.29	93.49	97.70	101.90	106.10
1	27	18	48.70	52.08	55.11	43.93	67.80	68.45	67.86	72.96	69.02	67.08	77.66	73.14	79.63	84.58	76.53	79.21	81.89	84.58	87.26	89.94	94.26	98.57	102.89	107.20	111.52
1	27	19	53.07	59.14	58.47	49.88	76.01	74.85	74.82	75.35	73.87	71.31	84.14	79.45	86.52	88.16	81.04	83.50	85.97	88.43	90.90	93.36	98.26	103.15	108.05	112.94	117.84
1	27	20	51.62	57.57	56.59	50.13	72.21	76.96	70.14	75.03	72.13	73.07	84.68	76.71	85.04	85.81	80.04	82.68	85.32	87.95	90.59	93.23	97.82	102.42	107.01	111.61	116.20
1	27	21	49.69	52.49	55.85	49.00	70.74	70.40	68.28	73.16	71.75	70.26	79.68	75.28	80.44	85.10	77.63	80.01	82.39	84.76	87.14	89.52	94.15	98.78	103.42	108.05	112.68
1	27	22	46.49	50.71	52.98	45.77	66.25	67.82	66.18	71.64	66.40	67.56	76.40	73.14	77.81	82.33	74.35	76.72	79.08	81.45	83.81	86.18	90.85	95.52	100.20	104.87	109.54
1	27	23	43.98	49.54	50.46	39.79	66.25	67.86	65.78	70.95	63.51	64.28	74.30	73.06	76.53	81.00	71.51	73.80	76.08	78.37	80.65	82.94	88.05	93.15	98.26	103.36	108.47
1	27	24	36.86	41.57	43.59	37.04	60.93	62.13	61.86	66.14	60.77	62.08	69.72	68.80	72.82	76.84	70.14	72.27	74.39	76.52	78.64	80.77	85.02	89.27	93.52	97.77	102.02
1	28	1	33.26	36.64	38.54	35.37	58.46	58.89	58.62	61.67	58.19	61.35	66.14	65.24	68.27	71.76	68.39	70.65	72.92	75.18	77.45	79.71	83.01	86.30	89.60	92.89	96.19

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	28	2	33.39	35.82	37.51	34.34	57.39	57.20	58.12	58.57	57.37	60.03	64.70	64.88	67.41	69.71	66.97	69.17	71.37	73.57	75.77	77.97	81.16	84.35	87.55	90.74	93.93
1	28	3	33.83	35.83	37.04	33.97	57.44	56.97	58.06	57.77	57.14	59.48	64.57	65.48	67.67	69.30	66.52	68.67	70.82	72.96	75.11	77.26	80.40	83.54	86.68	89.82	92.96
1	28	4	34.36	36.17	36.40	34.15	57.42	57.03	58.40	57.71	57.03	59.48	65.19	66.03	68.21	68.80	66.63	68.82	71.02	73.21	75.41	77.60	80.41	83.21	86.02	88.82	91.63
1	28	5	36.12	38.01	37.08	34.54	59.82	57.89	60.43	58.29	57.09	60.16	67.43	68.15	69.48	68.99	67.23	69.45	71.68	73.90	76.13	78.35	81.19	84.03	86.87	89.71	92.55
1	28	6	42.13	43.44	38.09	37.47	62.89	61.21	63.86	60.04	57.37	62.08	72.97	71.17	74.07	69.83	67.92	70.18	72.43	74.69	76.94	79.20	82.09	84.98	87.88	90.77	93.66
1	28	7	48.67	48.80	40.98	44.40	65.88	65.55	67.14	64.17	58.19	66.96	78.17	75.09	78.14	73.01	68.81	71.07	73.33	75.60	77.86	80.12	83.25	86.38	89.50	92.63	95.76
1	28	8	57.07	54.91	46.50	50.01	72.21	68.07	82.50	66.98	61.27	73.93	83.87	79.55	80.55	76.47	70.30	72.53	74.77	77.00	79.24	81.47	84.96	88.45	91.93	95.42	98.91
1	28	9	54.17	54.52	49.11	53.04	70.97	67.86	77.64	68.49	63.59	73.93	79.06	78.75	81.63	76.90	71.70	74.10	76.50	78.89	81.29	83.69	87.38	91.06	94.75	98.43	102.12
1	28	10	53.38	53.82	50.56	52.91	67.89	67.86	72.74	68.86	63.89	73.93	77.14	78.06	80.32	76.90	72.29	74.72	77.15	79.57	82.00	84.43	88.21	91.99	95.78	99.56	103.34
1	28	11	51.71	52.10	50.92	53.03	66.50	67.86	70.59	68.76	63.17	73.70	75.43	76.98	79.56	76.90	71.70	73.81	75.92	78.02	80.13	82.24	86.61	90.98	95.35	99.72	104.09
1	28	12	50.41	50.71	48.26	48.94	66.31	66.44	69.86	67.61	62.04	70.76	74.57	76.18	79.40	76.90	71.35	73.41	75.48	77.54	79.61	81.67	86.10	90.52	94.95	99.37	103.80
1	28	13	49.17	48.39	46.37	47.93	66.01	65.86	68.28	65.75	61.50	69.32	73.94	74.63	78.14	75.62	71.20	73.25	75.31	77.36	79.42	81.47	85.33	89.19	93.06	96.92	100.78
1	28	14	47.95	45.80	42.38	46.04	65.67	65.10	66.92	64.05	60.37	67.48	72.03	73.14	75.94	74.47	70.07	72.27	74.47	76.67	78.87	81.07	84.78	88.49	92.21	95.92	99.63
1	28	15	45.24	44.83	40.40	44.41	64.54	63.68	65.80	62.68	58.90	67.34	71.28	73.00	75.21	73.43	69.64	71.86	74.09	76.31	78.54	80.76	84.35	87.94	91.54	95.13	98.72
1	28	16	44.80	44.45	39.91	43.40	64.36	63.46	65.78	62.28	58.61	67.34	71.28	72.27	75.00	72.63	69.66	71.88	74.10	76.32	78.54	80.76	84.06	87.36	90.65	93.95	97.25
1	28	17	46.53	45.80	40.91	46.68	66.01	63.88	66.80	62.80	60.66	68.71	74.16	73.13	76.54	74.03	71.09	73.19	75.29	77.38	79.48	81.58	85.01	88.44	91.86	95.29	98.72
1	28	18	53.63	52.02	47.81	50.11	68.32	67.13	71.46	67.48	64.30	72.41	76.75	75.55	80.98	76.11	74.35	76.58	78.82	81.05	83.29	85.52	88.92	92.32	95.71	99.11	102.51
1	28	19	59.75	55.60	51.20	60.70	72.83	72.55	79.48	70.05	71.20	76.48	77.60	83.96	84.74	79.11	77.62	80.38	83.14	85.91	88.67	91.43	94.37	97.32	100.26	103.21	106.15
1	28	20	57.70	54.45	50.92	52.82	74.30	69.23	79.45	69.23	70.74	73.93	78.17	83.58	84.17	77.64	77.90	80.99	84.08	87.18	90.27	93.36	95.89	98.42	100.95	103.48	106.01
1	28	21	53.38	52.10	48.26	52.15	70.89	68.06	72.92	68.08	68.53	73.87	75.47	78.69	81.95	76.90	76.99	79.88	82.76	85.65	88.53	91.42	93.56	95.70	97.84	99.98	102.12
1	28	22	50.82	50.69	45.00	45.85	66.50	66.29	68.28	65.77	65.55	69.19	74.54	75.00	79.11	74.69	74.94	77.37	79.81	82.24	84.68	87.11	89.14	91.17	93.19	95.22	97.25
1	28	23	46.53	50.47	39.45	42.92	66.50	67.26	67.72	63.05	62.04	64.92	73.16	73.14	76.93	71.33	73.02	75.33	77.64	79.96	82.27	84.58	86.63	88.68	90.74	92.79	94.84
1	28	24	39.35	41.98	37.15	37.80	62.24	63.24	64.69	59.52	59.74	62.21	68.57	70.96	72.27	68.78	70.36	72.51	74.66	76.81	78.96	81.11	83.18	85.26	87.33	89.41	91.48
1	29	1	34.07	36.13	35.19	35.10	58.85	58.97	60.36	57.30	58.55	59.69	64.36	66.03	67.46	66.51	68.29	70.37	72.44	74.52	76.59	78.67	80.50	82.33	84.15	85.98	87.81
1	29	2	33.37	34.74	34.64	34.99	57.25	58.14	58.60	57.30	57.37	59.21	62.79	65.79	67.30	64.90	66.52	68.74	70.96	73.18	75.40	77.62	79.51	81.40	83.28	85.17	87.06
1	29	3	33.05	34.26	34.64	35.38	56.63	58.23	58.28	57.21	56.92	60.98	62.19	65.91	66.69	64.78	65.95	68.09	70.23	72.37	74.51	76.65	78.73	80.81	82.90	84.98	87.06
1	29	4	33.38	34.18	34.75	36.39	56.62	58.97	58.44	57.03	57.00	61.85	62.21	66.45	66.41	65.16	66.14	68.24	70.34	72.44	74.54	76.64	78.35	80.06	81.77	83.48	85.19
1	29	5	35.34	34.94	34.78	37.80	57.44	60.20	59.81	57.20	57.60	63.18	63.99	68.49	66.60	65.74	66.59	68.74	70.90	73.05	75.21	77.36	79.06	80.76	82.46	84.16	85.86
1	29	6	40.39	36.34	34.97	44.97	60.56	64.01	65.01	57.33	60.22	64.75	68.63	72.14	67.35	66.91	68.68	70.92	73.16	75.41	77.65	79.89	81.57	83.24	84.92	86.59	88.27
1	29	7	48.67	40.76	36.21	51.94	65.67	66.44	68.41	59.00	68.68	71.73	74.42	76.78	69.02	68.85	74.77	76.80	78.84	80.87	82.91	84.94	86.11	87.27	88.44	89.60	90.77
1	29	8	56.92	44.72	38.41	58.68	70.63	72.96	70.80	61.91	73.60	76.12	76.43	83.28	71.26	70.86	80.44	83.02	85.61	88.19	90.78	93.36	93.52	93.68	93.83	93.99	94.15
1	29	9	55.17	47.05	40.04	57.88	69.45	74.51	70.75	64.09	73.58	76.98	75.87	82.60	75.08	73.16	80.44	83.02	85.61	88.19	90.78	93.36	93.71	94.06	94.42	94.77	95.12
1	29	10	54.10	47.30	41.34	57.88	68.80	70.22	70.56	64.38	73.49	74.47	75.67	78.74	75.20	74.00	79.86	82.33	84.79	87.26	89.72	92.19	92.78	93.37	93.96	94.55	95.14
1	29	11	52.79	47.24	40.03	55.39	68.80	69.89	69.96	63.55	73.53	73.93	75.87	77.63	75.20	73.28	80.44	82.79	85.14	87.48	89.83	92.18	92.77	93.36	93.94	94.53	95.12
1	29	12	50.98	45.61	38.80	51.97	68.01	68.54	69.86	62.68	71.01	72.72	74.27	76.91	73.06	72.40	76.45	79.02	81.59	84.16	86.73	89.30	90.41	91.53	92.64	93.76	94.87
1	29	13	48.66	43.26	38.45	49.53	66.53	67.86	68.00	61.40	68.51	71.97	72.75	75.14	72.27	71.06	75.76	78.11	80.47	82.82	85.18	87.53	88.82	90.11	91.40	92.69	93.98
1	29	14	47.83	40.97	37.62	48.05	65.35	67.18	66.55	59.37	67.45	70.36	70.72	73.78	70.85	69.73	74.90	77.40	79.90	82.39	84.89	87.39	88.60	89.81	91.02	92.23	93.44
1	29	15	44.84	39.81	37.01	45.96	64.50	66.29	65.62	58.16	65.93	69.58	70.15	73.14	70.85	68.95	74.84	77.04	79.25	81.45	83.66	85.86	87.23	88.61	89.98	91.36	92.73
1	29	16	44.03	38.87	36.91	45.96	63.70	65.84	64.78	57.99	64.79	69.46	70.09	72.44	70.13	68.61	74.84	77.02	79.19	81.37	83.54	85.72	87.08	88.44	89.80	91.16	92.52
1	29	17	47.26	40.36	38.12	48.73	64.69	66.29	66.32	59.52	67.46	69.53	70.74	73.14	70.85	69.99	74.84	77.35	79.87	82.38	84.90	87.41	88.74	90.07	91.41	92.74	94.07
1	29	18	53.28	44.23	42.09	51.27	66.96	70.82	70.60	63.26	71.75	71.42	74.42	78.06	74.52	73.78	78.21	80.94	83.67	86.39	89.12	91.85	93.23	94.61	95.99	97.37	98.75
1	29	19	63.96	51.19	48.67	55.59	72.26	78.76	79.31	67.81	77.19	74.40	78.92	86.16	77.37	76.48	82.29	84.98	87.67	90.37	93.06	95.75	97.40	99.05	100.69	102.34	103.99
1	29	20	57.07	48.36	48.75	56.21	68.93	77.23	74.23	68.14	74.86	74.75	75.93	82.79	76.93	76.83	80.49	83.10	85.70	88.31	90.91	93.52	95.65	97.79	99.92	102.06	104.19
1	29	21	53.38	45.56	48.19	54.18	67.79	70.68	72.73	66.86	72.98	73.93	74.83	80.29	75.19	76.18	78.76	81.44	84.12	86.81	89.49	92.17	94.35	96.53	98.72	100.90	103.08
1	29	22	50.39	42.31	44.39	50.75	65.67	67.86	69.87	64.35	65.96	73.87	72.01	77.56	71.93	74.96	75.41	77.74	80.07	82.39	84.72	87.05	89.60	92.15	94.69	97.24	99.79
1	29	23	48.50	39.60	39.47	48.29	65.75	68.32	69.18	62.49	64.41	72.41	70.21	74.92	70.70	72.24	72.74	74.76	76.79	78.81	80.84	82.86	85.40	87.94	90.49	93.03	95.57
1	29	24	39.25	35.93	36.24	41.73	60.74	63.63	63.86	58.90	58.98	67.37	66.57	71.62	67.35	68.70	69.76	71.86	73.96	76.07	78.17	80.27	82.56	84.84	87.13	89.41	91.70
1	30	1	33.82	33.57	35.13	37.92	57.93	60.18	59.31	58.42	58.19	63.34	62.89	66.78	64.97	67.25	67.40	69.58	71.77	73.95	76.14	78.32	80.59	82.86	85.12	87.39	89.66
1	30	2	33.03	32.56	33.82	37.66	57.49	59.61	57.59	57.19	57.68	62.93	62.72	65.64	64.11	66.51	67.40	69.51	71.62	73.73	75.84	77.95	79.97	81.98	84.00	86.01	88.03
1	30	3	32.42	32.30	33.41	37.69	57.39	59.28	57.20	56.78	57.80	63.34	63.13	65.19	63.96	65.50	67.51	69.66	71.81	73.95	76.10	78.25	80.01	81.77	83.54	85.30	87.06
1	30	4	32.55	32.30	33.24	39.03	57.91	59.42	56.95	56.85	58.39	64.32	64.61	64.88	64.04	65.51	68.68	70.83	72.97	75.12	77.26	79.41	81.12	82.82	84.53	86.23	87.94
1	30	5	33.14	32.79	33.59	40.12	59.55	60.48	57.10	57.30	58.94	65.69	66.66	65.19	64.23	66.61	69.45	71.56	73.67	75.77	77.88	79.99	81.72	83.44	85.17	86.89	88.62
1	30	6	34.29	33.50	36.36	48.45	63.12	64.01	58.13	60.17	64.04	71.66	72.02	65.91	64.82	68.78	72.87	74.84	76.81	78.78	80.75	82.72	84.56	86.40	88.24	90.08	91.92
1	30	7	36.42	34.75	43.12	54.46	68.68	67.82	61.03	63.69	71.95	77.35	77.32	68.42	66.09	74.75	79.06	81.45	83.84	86.24	88.63	91.02	92.28	93.54	94.80	96.06	97.32
1	30	8	42.75	37.50	48.92	63.89	89.93	73.55	64.69	69.08	74.52	83.94	83.39	71.17	67.33	77.42	81.93	85.09	88.24	91.40	94.55	97.71	98.63	99.55	100.47	101.39	102.31
1	30	9	45.99	41.06	48.92	59.72	75.05	73.45	66.18	71.32	74.38	80.18	80.36	73.12	69.04	77.64	82.27	85.69	89.10	92.52	95.93	99.35	100.04	100.73	101.42	102.11	102.80
1	30	10	47.39	42.10	49.14	58.63	71.18	73.18	66.47	71.32	72.73	80.18	79.15	73.14	69.49	77.30	80.97	83.54	86.11	88.69	91.26	93.83	95.62	97.42	99.21	101.01	102.80
1	30	11	46.71	40.65	48.83	57.60	69.41	71.37	66.84	71.32	72.59	80.08	78.10	73.14	68.99	77.23	80.44	83.06	85.67	88.29	90.90	93.52	95.41	97.30	99.19	101.08	102.97
1	30	12	44.88	39.27	48.66	55.18	68.80	68.45	65.89	68.79	72.34	78.44	75.93	73.12	68.38	76.16	80.44	82.79	85.13	87.48	89.82	92.17	94.27	96.37	98.47	100.57	102.67

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	30	13	40.11	38.38	47.89	52.81	67.88	67.86	63.85	67.84	71.44	76.46	74.42	69.66	68.11	75.17	77.96	80.74	83.52	86.29	89.07	91.85	93.89	95.93	97.97	100.01	102.05
1	30	14	37.99	36.84	46.59	52.47	67.09	67.82	61.90	67.16	69.18	75.36	74.41	68.84	67.41	74.38	77.32	79.96	82.60	85.23	87.87	90.51	92.72	94.93	97.13	99.34	101.55
1	30	15	36.70	35.75	44.66	50.81	66.36	66.29	61.62	66.04	68.29	74.62	73.69	68.21	67.34	73.30	76.77	79.05	81.32	83.60	85.87	88.15	90.48	92.82	95.15	97.49	99.82
1	30	16	36.37	35.64	43.41	49.03	66.01	65.86	60.77	64.86	68.22	73.91	72.45	67.47	67.08	73.24	75.78	78.19	80.59	83.00	85.40	87.81	90.16	92.51	94.87	97.22	99.57
1	30	17	36.96	37.26	46.59	50.23	66.50	66.29	61.33	66.99	69.20	73.91	74.42	68.27	68.37	73.40	77.10	79.73	82.36	85.00	87.63	90.26	92.49	94.72	96.94	99.17	101.40
1	30	18	43.77	42.09	49.36	54.05	71.27	70.76	65.40	69.76	71.76	75.36	78.63	71.24	72.61	76.46	78.68	81.53	84.38	87.22	90.07	92.92	94.98	97.03	99.09	101.14	103.20
1	30	19	47.68	45.74	52.95	58.75	87.24	79.68	67.81	75.71	76.16	87.51	88.19	73.14	75.26	78.94	80.44	83.16	85.89	88.61	91.34	94.06	96.31	98.55	100.80	103.04	105.29
1	30	20	46.51	45.91	50.14	57.97	79.02	74.11	67.19	71.32	77.19	81.04	83.95	73.14	75.44	77.29	81.32	84.22	87.12	90.02	92.92	95.82	97.60	99.38	101.15	102.93	104.71
1	30	21	45.20	45.24	49.62	55.59	72.84	72.08	66.25	68.22	74.45	78.90	78.63	72.73	75.18	76.83	81.09	83.88	86.68	89.47	92.27	95.06	96.73	98.40	100.07	101.74	103.41
1	30	22	39.65	43.60	46.65	51.62	68.80	68.45	63.85	65.47	72.27	75.36	75.87	70.83	73.87	74.99	80.43	82.78	85.13	87.47	89.82	92.17	93.68	95.19	96.70	98.21	99.72
1	30	23	36.08	39.14	42.56	49.92	67.80	67.86	60.73	65.37	70.86	73.93	74.19	67.61	70.81	72.78	77.96	80.43	82.89	85.36	87.82	90.29	91.37	92.46	93.54	94.63	95.71
1	30	24	33.04	34.75	38.40	42.42	64.54	63.60	58.06	61.29	64.04	67.40	70.15	64.96	67.44	70.00	74.84	77.06	79.28	81.49	83.71	85.93	87.34	88.75	90.15	91.56	92.97
1	31	1	30.80	32.12	35.89	38.14	59.17	60.15	56.43	58.20	59.89	63.25	64.93	62.87	65.21	67.25	71.71	73.74	75.76	77.79	79.81	81.84	83.61	85.38	87.16	88.93	90.70
1	31	2	29.71	31.15	35.44	37.55	58.49	57.72	55.35	57.65	59.88	62.73	63.72	62.19	64.34	67.25	71.47	73.51	75.55	77.60	79.64	81.68	83.30	84.92	86.53	88.15	89.77
1	31	3	29.53	30.92	35.83	37.25	58.03	57.19	55.05	57.94	60.16	62.69	63.90	62.01	63.81	67.25	71.55	73.61	75.67	77.72	79.78	81.84	83.56	85.28	87.00	88.72	90.44
1	31	4	29.50	30.77	37.02	37.61	58.28	56.10	54.78	60.15	61.43	62.64	64.04	62.01	63.82	68.17	72.36	74.49	76.61	78.74	80.86	82.99	84.71	86.44	88.16	89.89	91.61
1	31	5	29.71	31.18	38.72	39.23	59.17	56.52	54.98	61.06	62.84	64.36	65.22	62.11	64.26	68.84	73.34	75.56	77.79	80.01	82.24	84.46	86.15	87.84	89.52	91.21	92.90
1	31	6	30.47	34.11	45.62	47.81	62.89	58.16	55.45	64.98	70.25	71.09	71.15	62.74	66.73	73.87	80.33	82.37	84.41	86.45	88.49	90.53	91.57	92.61	93.64	94.68	95.72
1	31	7	32.35	41.00	51.52	54.33	68.28	61.07	57.01	68.53	73.94	75.60	77.41	64.16	71.75	77.30	82.80	85.48	88.16	90.84	93.52	96.20	97.53	98.86	100.20	101.53	102.86
1	31	8	34.70	45.88	54.19	62.39	76.17	63.77	60.42	74.14	78.51	86.84	82.73	65.73	75.64	81.78	85.70	88.51	91.33	94.14	96.96	99.77	101.48	103.18	104.89	106.59	108.30
1	31	9	36.45	46.28	53.51	58.85	76.17	65.17	61.96	74.26	78.51	79.35	88.19	67.37	75.64	81.35	85.49	88.25	91.01	93.78	96.54	99.30	101.03	102.76	104.50	106.23	107.96
1	31	10	38.01	45.52	53.33	58.10	72.22	66.28	62.15	73.29	78.51	78.81	79.36	68.02	75.64	80.41	84.96	87.68	90.39	93.11	95.82	98.54	100.10	101.66	103.21	104.77	106.33
1	31	11	36.75	46.54	53.11	56.94	71.46	66.44	61.65	73.29	77.99	77.84	78.74	67.93	75.35	78.68	84.47	87.23	89.98	92.74	95.49	98.25	99.55	100.86	102.16	103.47	104.77
1	31	12	35.83	45.17	51.39	53.16	68.63	65.10	60.42	71.64	73.89	74.35	75.13	66.99	75.62	77.30	82.63	85.56	88.48	91.41	94.33	97.26	98.76	100.26	101.77	103.27	104.77
1	31	13	34.94	43.46	50.08	51.94	66.96	63.60	59.21	68.53	72.86	73.93	74.42	66.13	74.86	77.29	81.47	84.41	87.35	90.29	93.23	96.17	97.86	99.56	101.25	102.95	104.64
1	31	14	33.60	42.66	49.08	50.92	66.50	61.75	57.85	67.61	72.09	73.93	74.42	65.24	74.54	76.01	81.07	83.23	85.38	87.54	89.69	91.85	94.22	96.58	98.95	101.31	103.68
1	31	15	32.65	41.76	48.48	49.95	66.25	61.58	57.10	67.16	72.34	73.87	73.76	64.61	73.80	75.04	80.44	82.47	84.50	86.54	88.57	90.60	92.87	95.14	97.42	99.69	101.96
1	31	16	32.49	41.37	47.89	49.95	65.35	60.53	56.97	67.16	69.98	70.38	72.01	64.06	73.80	75.04	80.43	81.98	83.54	85.09	86.65	88.20	90.79	93.38	95.98	98.57	101.16
1	31	17	34.48	42.63	48.93	50.37	66.31	61.32	57.83	68.35	71.26	71.15	74.29	64.93	74.43	75.56	80.43	82.17	83.91	85.65	87.39	89.13	91.55	93.97	96.40	98.82	101.24
1	31	18	37.99	43.95	49.68	52.71	69.38	64.24	61.47	68.64	72.97	76.24	77.33	68.80	75.16	76.48	80.44	82.79	85.13	87.48	89.82	92.17	94.16	96.15	98.14	100.13	102.12
1	31	19	44.78	48.09	53.73	67.26	73.39	66.78	66.25	72.66	82.62	89.15	85.19	71.24	77.62	77.69	88.94	91.11	93.27	95.44	97.60	99.77	100.95	102.13	103.30	104.48	105.66
1	31	20	45.16	46.24	56.08	68.72	72.27	66.29	66.55	73.60	78.42	94.66	80.68	72.41	75.30	80.12	85.04	87.99	90.93	93.88	96.82	99.77	101.56	103.36	105.15	106.95	108.74
1	31	21	43.83	44.89	53.33	58.91	69.41	65.04	65.36	72.66	76.80	81.82	78.18	71.26	75.06	78.03	83.85	86.64	89.42	92.21	94.99	97.78	99.28	100.78	102.29	103.79	105.29
1	31	22	39.38	42.66	50.15	52.26	66.96	63.50	63.58	68.53	73.94	74.45	75.78	70.11	73.37	77.29	80.97	83.77	86.57	89.36	92.16	94.96	96.91	98.85	100.80	102.74	104.69
1	31	23	36.08	40.64	49.05	50.35	66.31	61.58	60.22	68.76	72.34	73.87	74.30	67.26	71.65	76.13	80.10	82.29	84.48	86.66	88.85	91.04	93.45	95.86	98.27	100.68	103.09
1	31	24	32.14	35.87	42.17	43.73	61.75	58.89	57.60	63.58	65.21	68.71	71.45	63.84	67.68	73.30	75.16	77.05	78.94	80.82	82.71	84.60	87.47	90.34	93.20	96.07	98.94
2	1	1	29.82	33.53	37.58	40.47	57.94	56.93	56.86	61.24	61.96	64.62	64.50	63.01	66.13	71.08	70.45	73.09	75.73	78.36	81.00	83.64	85.95	88.26	90.56	92.87	95.18
2	1	2	29.16	33.44	37.46	38.04	56.60	55.45	55.71	60.81	61.11	64.33	63.66	62.09	66.34	70.82	69.62	72.28	74.95	77.61	80.28	82.94	85.41	87.88	90.36	92.83	95.30
2	1	3	28.84	33.96	37.46	38.01	56.42	54.92	55.21	60.84	60.43	64.29	62.85	61.55	66.86	71.15	69.37	71.89	74.40	76.92	79.43	81.95	84.67	87.39	90.12	92.84	95.56
2	1	4	28.76	35.07	38.04	38.53	54.72	54.80	55.18	61.75	61.37	64.62	61.58	61.52	67.35	72.26	69.85	72.27	74.69	77.11	79.53	81.95	85.01	88.07	91.13	94.19	97.25
2	1	5	29.05	36.90	38.91	40.06	55.14	55.17	55.71	62.99	64.40	66.99	61.92	62.13	68.41	74.21	71.55	74.09	76.63	79.18	81.72	84.26	87.30	90.35	93.39	96.44	99.48
2	1	6	32.08	42.58	46.39	48.04	56.71	56.04	57.21	68.51	72.25	73.45	63.72	64.21	72.27	77.29	75.78	79.02	82.25	85.49	88.72	91.96	94.35	96.73	99.12	101.50	103.89
2	1	7	37.60	48.78	53.33	55.17	59.22	57.53	60.93	73.29	76.68	81.57	65.24	68.25	78.25	82.56	81.83	85.34	88.85	92.37	95.88	99.39	101.16	102.93	104.69	106.46	108.23
2	1	8	44.68	55.38	62.57	75.54	60.56	58.93	65.60	87.35	101.47	115.65	67.25	73.56	80.92	95.21	155.08	148.00	140.91	133.83	126.74	119.66	118.94	118.22	117.50	116.78	116.06
2	1	9	46.10	55.39	57.80	67.26	62.24	60.24	66.18	80.04	83.53	91.40	70.13	73.56	80.46	86.97	87.60	90.24	92.88	95.52	98.16	100.80	103.28	105.76	108.24	110.72	113.20
2	1	10	46.04	54.40	56.58	61.06	64.77	61.32	65.60	76.96	80.76	82.76	72.01	73.54	80.15	86.07	85.77	88.54	91.32	94.09	96.87	99.64	101.92	104.20	106.47	108.75	111.03
2	1	11	45.95	52.29	56.08	58.34	64.77	61.32	67.25	76.17	78.25	79.35	71.30	73.54	79.05	84.84	82.23	85.65	89.06	92.48	95.89	99.31	101.40	103.48	105.57	107.65	109.74
2	1	12	44.59	50.27	54.42	54.79	62.52	60.48	65.60	74.63	75.51	76.89	70.14	72.78	77.99	83.14	81.59	84.74	87.89	91.03	94.18	97.33	99.80	102.27	104.75	107.22	109.69
2	1	13	39.96	47.42	51.32	53.24	60.48	60.18	64.13	73.31	73.62	75.25	67.44	71.53	76.53	80.12	81.12	84.15	87.17	90.20	93.22	96.25	98.51	100.77	103.03	105.29	107.55
2	1	14	39.56	45.22	50.43	51.85	60.02	59.34	62.32	72.66	73.31	73.93	66.41	71.08	75.98	79.66	80.09	82.95	85.81	88.66	91.52	94.38	96.43	98.48	100.54	102.59	104.64
2	1	15	38.76	43.58	48.78	49.03	59.17	58.18	62.17	71.78	72.10	73.87	64.70	70.41	75.13	79.38	78.93	81.82	84.70	87.59	90.47	93.36	95.34	97.32	99.29	101.27	103.25
2	1	16	38.07	42.49	47.44	48.10	58.65	57.55	61.78	68.51	71.42	71.53	64.13	69.87	75.07	78.12	76.90	79.89	82.89	85.88	88.88	91.87	93.87	95.87	97.88	99.88	101.88
2	1	17	39.63	44.35	48.93	49.03	59.11	58.81	62.21	69.75	72.33	72.41	64.86	70.75	75.79	78.66	78.60	81.44	84.28	87.12	89.96	92.80	94.66	96.53	98.39	100.26	102.12
2	1	18	46.33	47.49	51.32	53.44	60.09	61.74	66.35	72.53	75.94	75.41	67.25	73.56	77.22	80.76	81.86	85.37	88.88	92.38	95.89	99.40	100.51	101.61	102.72	103.82	104.93
2	1	19	51.03	54.91	56.73	62.99	63.81	63.63	73.36	76.01	96.26	87.06	70.78	78.12	80.32	86.12	106.68	108.74	110.81	112.87	114.94	117.00	115.55	114.10	112.64	111.19	109.74
2	1	20	48.77	55.38	58.29	65.91	63.09	64.27	68.34	78.33	102.84	87.47	70.44	73.56	83.95	85.86	105.53	107.82	110.12	112.41	114.71	117.00	116.38	115.77	115.15	114.54	113.92
2	1	21	46.75	52.27	55.37	57.18	62.52	63.63	65.60	75.01	80.76	79.35	69.89	73.56	80.02	83.72	84.44	88.37	92.29	96.22	100.14	104.07	105.30	106.53	107.77	109.00	110.23
2	1	22	39.65	47.68	52.82	54.11	60.15	62.50	62.17	73.29	75.14	76.12	67.44	69.49	77.37	80.76	81.27	84.72	88.18	91.63	95.09	98.54	100.22	101.91	103.59	105.28	106.96
2	1	23	37.58	46.06	48.47	54.26	59.17	61.11	61.36	71.64	72.73	75.36	65.91	68.74	75.73	78.68	79.30	82.14	84.99	87.83	90.68	93.52	95.62	97.72	99.83	101.93	104.03

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	1	24	33.14	40.69	40.56	47.00	56.70	58.97	58.48	66.28	68.22	71.21	63.81	65.57	72.72	75.27	74.49	77.19	79.89	82.58	85.28	87.98	90.34	92.70	95.05	97.41	99.77
2	2	1	31.31	36.16	37.59	40.17	55.45	57.45	56.52	62.28	61.21	65.51	62.23	62.79	68.48	71.25	70.26	72.95	75.63	78.32	81.00	83.69	85.93	88.16	90.40	92.63	94.87
2	2	2	31.00	35.65	36.35	39.02	54.00	56.03	56.16	61.39	59.37	64.07	61.22	62.79	68.44	70.65	69.41	72.14	74.87	77.59	80.32	83.05	85.36	87.66	89.97	92.27	94.58
2	2	3	31.21	35.91	36.21	38.83	53.11	55.66	56.16	60.81	59.28	63.81	60.57	63.49	68.54	69.99	69.14	71.76	74.39	77.01	79.64	82.26	84.64	87.02	89.41	91.79	94.17
2	2	4	32.21	37.07	36.91	39.14	53.21	55.84	56.95	61.12	60.35	63.83	60.71	64.30	69.44	70.83	69.29	71.92	74.56	77.19	79.83	82.46	84.94	87.42	89.89	92.37	94.85
2	2	5	33.45	39.37	38.43	39.93	53.59	56.78	57.65	62.54	62.75	64.50	61.54	65.22	71.14	73.11	71.21	73.81	76.41	79.02	81.62	84.22	86.75	89.28	91.80	94.33	96.86
2	2	6	38.98	45.17	45.62	42.91	54.41	59.51	61.82	67.37	71.15	66.34	61.66	69.83	75.55	76.15	75.96	78.91	81.86	84.81	87.76	90.71	93.22	95.73	98.24	100.75	103.26
2	2	7	47.07	50.30	53.21	48.76	55.45	62.08	66.93	72.47	77.54	69.91	62.90	73.78	80.40	81.80	83.84	87.12	90.40	93.67	96.95	100.23	101.99	103.75	105.52	107.28	109.04
2	2	8	54.12	58.70	101.56	52.79	57.74	67.82	70.87	83.03	85.34	73.93	64.34	77.15	91.40	151.80	91.54	94.62	97.70	100.79	103.87	106.95	112.23	117.51	122.78	128.06	133.34
2	2	9	52.42	55.65	61.77	54.96	58.79	67.86	70.44	80.33	80.58	73.93	66.14	77.14	85.59	89.69	86.75	90.79	94.83	98.87	102.91	106.95	108.66	110.37	112.07	113.78	115.49
2	2	10	51.11	54.33	56.96	57.20	58.84	67.57	70.20	78.30	77.99	74.13	66.77	76.32	84.59	88.19	84.47	87.96	91.46	94.95	98.45	101.94	104.19	106.45	108.70	110.96	113.21
2	2	11	50.45	53.89	54.07	55.15	58.81	67.57	69.95	77.32	76.18	73.94	66.78	75.43	84.42	84.27	83.97	87.31	90.65	94.00	97.34	100.68	102.58	104.49	106.39	108.30	110.20
2	2	12	47.51	52.67	53.32	52.73	58.33	67.20	68.83	73.60	74.38	71.99	66.60	74.51	80.53	80.77	82.39	85.77	89.16	92.54	95.93	99.31	101.08	102.85	104.61	106.38	108.15
2	2	13	46.45	52.27	51.39	47.26	57.55	66.28	67.41	73.29	72.69	67.85	64.95	73.43	80.32	78.94	80.33	83.66	87.00	90.33	93.67	97.00	99.03	101.07	103.10	105.14	107.17
2	2	14	44.79	49.95	49.54	42.65	56.70	65.74	66.33	71.64	72.11	65.59	64.52	71.82	79.84	77.97	79.13	81.57	84.01	86.45	88.89	91.33	94.20	97.06	99.93	102.79	105.66
2	2	15	41.48	47.55	48.83	40.20	56.47	64.44	65.52	69.95	71.29	64.10	63.72	71.50	78.15	77.29	77.79	80.37	82.95	85.53	88.11	90.69	93.51	96.32	99.14	101.95	104.77
2	2	16	40.64	46.19	48.67	39.57	56.41	63.46	65.26	67.84	69.88	63.77	63.52	71.38	76.52	76.42	76.77	79.52	82.27	85.03	87.78	90.53	93.32	96.12	98.91	101.71	104.50
2	2	17	42.33	46.93	49.62	40.72	56.94	64.90	66.36	68.53	69.88	64.01	64.83	73.14	76.67	77.23	77.67	80.27	82.88	85.48	88.09	90.69	93.53	96.37	99.22	102.06	104.90
2	2	18	46.76	50.33	52.88	48.06	59.46	67.44	68.66	73.29	73.72	68.04	68.11	73.57	78.63	79.92	80.44	83.92	87.40	90.89	94.37	97.85	99.71	101.57	103.43	105.29	107.15
2	2	19	52.63	55.85	74.67	54.54	60.83	72.29	71.45	92.76	82.33	73.91	70.38	76.75	81.10	105.14	87.18	90.59	94.00	97.40	100.81	104.22	106.06	107.89	109.73	111.56	113.40
2	2	20	52.70	56.26	76.80	55.15	60.91	67.86	73.06	96.44	81.98	73.93	70.82	81.89	83.75	106.39	86.94	90.66	94.38	98.11	101.83	105.55	107.75	109.95	112.15	114.35	116.55
2	2	21	51.13	52.72	54.96	54.40	60.46	67.20	70.87	78.02	76.68	72.72	70.23	76.93	80.40	84.39	83.85	86.82	89.79	92.75	95.72	98.69	101.67	104.64	107.62	110.59	113.57
2	2	22	46.76	51.44	52.07	51.10	59.46	63.46	67.62	73.30	74.56	69.66	67.59	74.01	78.39	81.42	82.39	85.18	87.98	90.77	93.57	96.36	98.72	101.08	103.43	105.79	108.15
2	2	23	45.10	47.77	48.67	47.59	58.71	62.38	65.60	73.11	73.57	68.04	65.13	73.54	77.44	78.37	80.05	83.71	87.37	91.03	94.69	98.35	99.80	101.25	102.70	104.15	105.60
2	2	24	37.51	41.97	40.64	43.07	55.96	59.90	61.68	67.16	69.43	65.33	63.02	69.34	72.79	73.91	74.94	77.71	80.47	83.24	86.00	88.77	91.37	93.97	96.57	99.17	101.77
2	3	1	33.37	37.28	37.62	38.17	54.12	57.15	57.99	62.33	61.57	62.74	61.24	65.79	68.48	71.06	70.51	73.09	75.67	78.24	80.82	83.40	85.75	88.10	90.46	92.81	95.16
2	3	2	32.85	35.87	36.62	37.13	52.64	56.81	57.31	60.41	60.16	61.27	60.25	65.85	67.90	69.27	69.60	72.12	74.63	77.15	79.66	82.18	84.64	87.11	89.57	92.04	94.50
2	3	3	33.14	35.07	36.40	36.60	52.27	56.97	57.27	59.36	59.88	60.49	60.10	65.88	67.39	69.05	69.44	71.92	74.40	76.88	79.36	81.84	84.42	87.00	89.58	92.16	94.74
2	3	4	33.83	35.65	36.40	36.70	52.38	57.33	57.65	60.23	60.60	60.78	60.11	66.92	67.79	69.80	69.44	71.97	74.50	77.03	79.56	82.09	84.81	87.52	90.24	92.95	95.67
2	3	5	36.03	38.71	38.08	36.94	53.01	58.92	59.19	62.03	61.48	61.33	60.56	68.50	70.37	72.24	69.76	72.39	75.02	77.65	80.28	82.91	86.00	89.09	92.17	95.26	98.35
2	3	6	42.25	45.17	43.45	38.40	55.93	63.46	64.47	68.29	63.51	63.09	63.44	73.54	75.55	76.45	71.39	74.11	76.83	79.56	82.28	85.00	88.47	91.94	95.42	98.89	102.36
2	3	7	48.91	49.65	53.11	40.99	58.34	66.45	68.85	75.27	67.14	64.62	66.78	77.14	80.32	82.56	74.85	77.55	80.25	82.96	85.66	88.36	92.64	96.91	101.19	105.46	109.74
2	3	8	64.34	60.09	58.58	46.56	63.59	72.71	81.53	91.58	72.25	67.25	72.01	82.98	120.39	89.69	77.90	81.15	84.39	87.64	90.88	94.13	100.21	106.28	112.36	118.43	124.51
2	3	9	55.61	55.80	56.82	48.04	63.66	71.98	77.17	80.12	72.69	70.06	72.18	79.51	88.99	86.55	78.61	82.34	86.07	89.80	93.53	97.26	101.49	105.72	109.94	114.17	118.40
2	3	10	54.84	55.51	55.28	49.83	63.53	70.40	73.69	76.96	72.69	70.51	71.28	78.98	86.36	83.23	79.14	82.84	86.53	90.23	93.92	97.62	100.48	103.34	106.21	109.07	111.93
2	3	11	52.35	52.67	54.72	48.41	62.63	69.04	72.72	74.08	72.34	69.49	71.80	78.98	84.19	82.56	77.96	81.32	84.68	88.05	91.41	94.77	97.76	100.76	103.75	106.75	109.74
2	3	12	50.74	50.87	51.87	47.08	61.78	68.06	70.46	73.30	68.65	68.65	70.52	77.72	80.15	80.76	76.97	79.63	82.29	84.96	87.62	90.28	94.15	98.02	101.89	105.76	109.63
2	3	13	49.43	49.13	51.05	45.33	60.65	67.20	69.52	72.66	66.04	66.38	70.06	76.65	78.14	78.52	73.30	75.88	78.45	81.03	83.60	86.18	90.49	94.80	99.11	103.42	107.73
2	3	14	46.76	48.89	49.47	41.69	60.19	66.29	68.62	71.35	62.92	65.58	69.18	75.05	77.31	77.69	71.71	74.22	76.73	79.23	81.74	84.25	88.78	93.31	97.84	102.37	106.90
2	3	15	45.48	47.22	47.38	40.63	60.08	65.31	66.67	69.08	61.78	64.21	68.23	74.51	76.52	76.87	70.10	72.47	74.84	77.21	79.58	81.95	86.64	91.33	96.03	100.72	105.41
2	3	16	44.32	46.28	45.65	40.29	59.67	65.15	65.60	68.51	61.27	64.28	67.63	73.56	76.52	75.58	69.60	71.92	74.24	76.55	78.87	81.19	85.88	90.57	95.26	99.95	104.64
2	3	17	45.50	46.58	47.49	43.07	60.19	66.05	66.24	69.33	61.88	65.70	69.38	73.54	76.93	76.95	69.75	72.25	74.75	77.24	79.74	82.24	86.75	91.26	95.76	100.27	104.78
2	3	18	48.36	50.68	52.07	48.74	65.67	67.82	68.66	72.66	67.14	71.28	73.62	75.14	78.14	79.23	72.92	75.83	78.74	81.65	84.56	87.47	91.59	95.71	99.83	103.95	108.07
2	3	19	55.41	65.49	56.53	51.75	70.62	70.78	72.50	75.65	72.10	73.93	79.26	78.36	109.72	82.56	76.06	79.50	82.94	86.37	89.81	93.25	97.02	100.79	104.55	108.32	112.09
2	3	20	54.94	70.81	56.82	51.75	66.60	72.08	73.60	76.96	72.10	73.93	73.26	79.37	110.07	84.49	77.90	80.99	84.08	87.18	90.27	93.36	97.20	101.04	104.89	108.73	112.57
2	3	21	51.17	54.40	55.43	51.75	65.45	70.18	70.95	73.97	71.39	73.93	71.05	77.42	85.90	82.56	75.88	78.96	82.03	85.11	88.18	91.26	95.00	98.74	102.47	106.21	109.95
2	3	22	48.17	50.73	53.33	50.04	60.83	67.82	67.38	72.88	68.65	72.41	68.98	74.61	80.15	80.68	75.12	78.13	81.14	84.14	87.15	90.16	93.77	97.38	100.98	104.59	108.20
2	3	23	44.68	48.65	51.06	48.55	60.76	65.81	65.60	73.29	66.82	68.02	66.14	73.57	77.54	78.02	73.93	76.77	79.62	82.46	85.31	88.15	91.58	95.01	98.43	101.86	105.29
2	3	24	37.81	41.75	42.54	42.75	58.28	61.91	60.94	66.60	63.41	64.23	63.72	69.05	74.77	74.42	71.45	73.93	76.41	78.89	81.37	83.85	87.50	91.16	94.81	98.47	102.12
2	4	1	33.81	36.53	38.74	38.06	55.57	59.65	57.51	62.14	59.72	62.89	60.77	65.55	69.73	70.83	68.41	70.94	73.47	76.00	78.53	81.06	84.28	87.51	90.73	93.96	97.18
2	4	2	32.43	35.34	38.10	37.89	55.04	59.34	57.17	61.70	58.39	62.43	60.16	65.25	68.29	69.28	67.40	69.85	72.30	74.75	77.20	79.65	82.75	85.85	88.94	92.04	95.14
2	4	3	32.18	34.98	38.09	38.04	55.04	58.97	56.99	61.70	58.18	62.66	60.24	65.23	68.48	69.27	67.04	69.44	71.84	74.24	76.64	79.04	82.24	85.44	88.64	91.84	95.04
2	4	4	32.43	35.26	38.40	40.16	55.93	59.94	57.11	61.92	58.19	63.48	61.24	65.26	68.48	69.61	67.40	69.84	72.28	74.71	77.15	79.59	82.68	85.77	88.86	91.95	95.04
2	4	5	34.74	37.97	39.11	43.89	56.73	61.74	59.12	62.63	58.39	64.46	62.67	66.49	70.61	70.32	67.40	69.90	72.39	74.89	77.38	79.88	82.91	85.94	88.98	92.01	95.04
2	4	6	40.24	43.94	40.66	51.47	59.98	65.25	64.14	64.37	59.48	70.52	66.68	71.17	75.55	72.33	69.09	71.57	74.06	76.54	79.03	81.51	84.48	87.45	90.41	93.38	96.35
2	4	7	48.73	50.85	44.74	56.75	65.70	68.07	68.62	67.96	62.29	75.73	74.16	76.15	83.18	75.01	71.25	73.73	76.21	78.70	81.18	83.66	87.18	90.69	94.21	97.72	101.24
2	4	8	62.44	55.28	49.68	68.50	68.93	91.88	79.12	69.28	65.59	85.21	80.96	95.08	91.03	77.69	73.80	76.35	78.91	81.46	84.02	86.57	90.30	94.03	97.75	101.48	105.21
2	4	9	56.05	54.53	53.02	64.83	68.93	75.24	75.57	73.30	68.97	77.90	78.57	85.45	88.64	78.03	76.00	79.14	82.29	85.43	88.58	91.72	94.65	97.58	100.52	103.45	106.38
2	4	10	52.74	53.61	52.68	58.36	68.93	73.44	73.35	75.77	70.02	76.62	78.45	80.47	81.78	78.03	76.20	79.19	82.18	85.17	88.16	91.15	94.64	98.13	101.62	105.11	108.60

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	4	11	51.13	52.67	50.61	57.06	68.06	72.89	72.14	73.84	68.61	75.03	75.27	76.78	81.50	77.28	75.08	78.03	80.99	83.94	86.90	89.85	93.16	96.47	99.77	103.08	106.39
2	4	12	48.96	51.61	48.27	56.53	66.96	70.86	69.64	69.40	67.53	73.94	74.27	75.13	80.32	77.28	73.01	76.03	79.05	82.08	85.10	88.12	91.42	94.73	98.03	101.34	104.64
2	4	13	46.23	49.37	41.77	53.02	66.31	69.33	66.98	67.62	65.36	73.93	72.19	74.06	77.53	75.36	72.54	75.25	77.96	80.68	83.39	86.10	89.03	91.95	94.88	97.80	100.73
2	4	14	45.86	47.24	39.92	52.30	65.53	68.45	66.56	64.23	63.45	73.87	70.52	73.57	76.67	74.00	72.06	74.64	77.22	79.80	82.38	84.96	87.58	90.21	92.83	95.46	98.08
2	4	15	45.50	45.99	38.74	51.04	64.39	67.82	66.03	62.79	61.99	72.41	70.09	72.64	76.03	71.65	71.47	74.06	76.65	79.25	81.84	84.43	86.69	88.95	91.20	93.46	95.72
2	4	16	43.77	45.13	38.52	50.09	62.24	66.32	65.26	62.42	61.97	71.74	69.68	72.14	75.62	70.64	71.40	74.02	76.64	79.26	81.88	84.50	86.59	88.68	90.78	92.87	94.96
2	4	17	45.65	46.19	39.17	50.40	64.18	66.63	65.62	62.79	63.51	72.41	69.89	72.39	75.79	71.65	72.06	74.79	77.52	80.24	82.97	85.70	87.69	89.68	91.68	93.67	95.66
2	4	18	47.51	49.37	43.78	53.02	65.83	68.45	68.35	66.32	68.22	73.94	71.43	75.13	78.57	73.99	74.98	78.62	82.25	85.89	89.52	93.16	94.44	95.72	97.01	98.29	99.57
2	4	19	75.02	55.51	51.02	61.00	70.21	74.90	92.06	71.13	72.10	94.53	74.89	99.90	85.21	77.28	79.62	82.78	85.93	89.09	92.24	95.40	97.08	98.76	100.44	102.12	103.80
2	4	20	86.81	55.98	51.06	59.75	68.93	75.00	97.88	71.70	73.01	83.75	75.64	106.46	83.91	77.93	79.62	83.09	86.57	90.04	93.52	96.99	98.55	100.11	101.66	103.22	104.78
2	4	21	54.86	52.74	50.08	56.50	66.96	72.64	72.95	70.03	71.47	76.98	74.41	80.03	80.52	77.28	78.21	81.45	84.68	87.92	91.15	94.39	96.16	97.93	99.69	101.46	103.23
2	4	22	48.62	51.48	48.27	51.97	66.01	68.54	68.56	69.21	68.65	73.94	72.01	75.14	78.44	76.16	76.15	79.08	82.00	84.93	87.85	90.78	92.87	94.96	97.06	99.15	101.24
2	4	23	45.08	50.00	45.33	51.53	64.43	67.86	66.36	66.70	66.71	72.73	69.88	73.57	78.47	74.38	73.14	76.06	78.99	81.91	84.84	87.76	90.13	92.51	94.88	97.26	99.63
2	4	24	38.83	42.84	39.77	45.22	60.17	63.58	61.51	64.62	62.67	66.85	65.60	70.11	73.74	72.09	70.22	72.83	75.44	78.06	80.67	83.28	85.77	88.26	90.75	93.24	95.73
2	5	1	33.82	39.18	37.85	37.98	57.64	59.90	57.37	61.70	59.74	62.89	62.69	65.83	69.46	68.86	68.75	71.23	73.70	76.18	78.65	81.13	83.84	86.54	89.25	91.95	94.66
2	5	2	32.88	37.50	36.62	37.62	57.13	59.04	56.80	60.17	59.23	62.17	61.92	64.61	68.11	67.55	68.62	71.05	73.48	75.90	78.33	80.76	83.00	85.24	87.49	89.73	91.97
2	5	3	32.46	37.17	36.29	37.81	57.49	58.62	56.76	59.87	59.47	62.25	61.74	64.66	68.01	67.64	68.75	71.15	73.55	75.96	78.36	80.76	82.90	85.04	87.17	89.31	91.45
2	5	4	33.00	37.61	36.36	38.09	57.94	58.95	56.95	59.67	61.45	62.95	62.54	64.82	68.27	66.99	69.37	71.83	74.30	76.76	79.23	81.69	83.73	85.77	87.82	89.86	91.90
2	5	5	34.70	38.84	36.39	40.86	58.84	60.46	58.40	60.17	63.88	63.89	64.04	66.98	68.75	67.76	70.58	73.12	75.67	78.21	80.76	83.30	85.16	87.02	88.88	90.74	92.60
2	5	6	40.02	40.85	37.61	48.74	61.57	63.42	64.09	61.92	71.23	69.32	68.51	71.44	70.65	69.00	75.77	78.57	81.37	84.16	86.96	89.76	90.69	91.62	92.54	93.47	94.40
2	5	7	48.91	44.16	39.32	54.96	66.96	67.86	70.66	64.12	75.25	75.58	75.53	78.32	75.07	70.93	82.24	84.99	87.74	90.50	93.25	96.00	96.05	96.10	96.14	96.19	96.24
2	5	8	54.94	47.19	42.66	102.01	77.99	81.78	78.69	66.94	78.01	141.40	84.15	84.46	77.94	73.84	87.48	89.94	92.40	94.87	97.33	99.79	99.87	99.95	100.04	100.12	100.20
2	5	9	53.34	52.27	46.33	64.44	73.45	74.48	74.00	67.89	77.13	92.76	81.77	79.51	78.85	76.23	82.63	85.70	88.77	91.84	94.91	97.98	98.78	99.58	100.39	101.19	101.99
2	5	10	51.21	55.08	46.47	59.14	70.97	73.31	70.98	67.96	75.66	81.74	80.84	77.67	79.31	76.11	81.79	84.81	87.83	90.86	93.88	96.90	97.88	98.85	99.83	100.80	101.78
2	5	11	50.78	52.27	44.65	56.88	70.97	72.81	70.45	67.36	74.61	78.12	77.95	77.14	78.25	75.99	80.44	83.55	86.66	89.78	92.89	96.00	96.89	97.78	98.67	99.56	100.45
2	5	12	49.33	48.02	41.96	55.15	68.06	71.24	69.51	66.70	73.89	74.01	75.67	75.33	76.35	73.95	80.44	83.48	86.52	89.55	92.59	95.63	96.55	97.48	98.40	99.33	100.25
2	5	13	46.93	42.79	40.23	53.36	67.48	68.54	67.62	65.31	73.32	73.94	74.41	73.57	75.00	72.74	80.04	82.83	85.62	88.40	91.19	93.98	94.88	95.78	96.68	97.58	98.48
2	5	14	46.23	40.64	39.20	52.71	66.30	68.06	66.86	64.19	72.49	73.93	74.00	73.57	73.48	72.26	78.21	81.00	83.80	86.59	89.39	92.18	93.25	94.31	95.38	96.44	97.51
2	5	15	43.43	39.18	38.70	51.53	66.01	65.57	66.36	62.68	72.10	73.05	72.01	72.31	70.99	71.01	76.97	80.01	83.05	86.08	89.12	92.16	92.87	93.58	94.30	95.01	95.72
2	5	16	41.87	37.61	38.47	50.35	65.43	64.53	65.60	62.54	71.53	72.28	71.50	72.20	69.49	70.83	75.93	78.90	81.88	84.85	87.83	90.80	91.78	92.77	93.75	94.74	95.72
2	5	17	43.22	39.40	39.34	50.63	66.06	65.15	66.66	64.68	71.68	73.03	72.68	72.34	70.99	71.86	76.06	79.22	82.38	85.53	88.69	91.85	93.09	94.33	95.56	96.80	98.04
2	5	18	48.91	43.49	45.51	52.61	66.96	66.78	69.98	67.41	74.11	73.93	74.41	74.08	73.36	74.91	80.44	83.63	86.81	90.00	93.18	96.37	97.81	99.25	100.69	102.13	103.57
2	5	19	53.41	50.68	50.14	59.14	73.57	91.56	73.36	71.37	85.49	84.33	81.62	77.93	77.98	78.03	89.64	93.18	96.73	100.27	103.82	107.36	107.50	107.63	107.77	107.90	108.04
2	5	20	55.41	50.73	52.23	58.48	75.74	106.37	71.74	73.34	77.99	80.85	82.36	78.07	78.39	78.29	83.17	86.28	89.40	92.51	95.63	98.74	101.27	103.79	106.32	108.84	111.37
2	5	21	51.81	50.57	50.14	56.52	68.06	73.57	70.98	70.39	76.68	75.54	78.35	77.39	78.25	78.03	81.88	85.10	88.31	91.53	94.74	97.96	99.44	100.93	102.41	103.90	105.38
2	5	22	49.43	48.70	47.28	54.04	66.50	69.14	69.53	68.63	74.85	73.93	74.41	74.61	76.67	76.16	80.33	83.50	86.68	89.85	93.03	96.20	97.61	99.01	100.42	101.82	103.23
2	5	23	48.37	45.67	42.53	51.67	64.71	68.54	66.92	67.21	73.32	72.23	71.23	73.56	73.36	74.75	75.93	79.42	82.90	86.39	89.87	93.36	94.92	96.48	98.04	99.60	101.16
2	5	24	40.34	40.61	39.27	43.70	60.57	64.10	62.46	64.32	65.98	67.40	67.15	70.36	70.13	72.26	72.11	74.82	77.52	80.23	82.93	85.64	87.99	90.34	92.69	95.04	97.39
2	6	1	34.87	36.03	37.66	37.88	57.91	60.18	59.46	62.42	60.79	62.59	63.33	65.77	67.67	69.75	68.98	71.52	74.06	76.61	79.15	81.69	84.36	87.03	89.70	92.37	95.04
2	6	2	33.72	34.69	37.52	37.03	56.70	58.81	58.66	62.38	60.09	61.63	62.79	64.62	66.88	69.57	68.66	71.16	73.66	76.16	78.66	81.16	83.82	86.48	89.15	91.81	94.47
2	6	3	33.47	34.11	37.97	36.79	56.63	57.65	58.32	62.44	60.93	61.33	63.02	64.36	66.20	69.71	68.83	71.40	73.97	76.55	79.12	81.69	84.32	86.95	89.58	92.21	94.84
2	6	4	33.75	34.11	38.85	36.74	56.73	57.98	58.91	62.74	61.97	61.46	63.47	64.36	66.20	71.19	69.09	71.66	74.23	76.81	79.38	81.95	84.71	87.46	90.22	92.97	95.73
2	6	5	34.33	34.25	40.61	37.46	58.46	60.18	59.52	66.48	64.04	62.08	64.13	65.31	66.59	73.06	70.39	72.94	75.49	78.04	80.59	83.14	86.05	88.96	91.88	94.79	97.70
2	6	6	36.08	35.62	49.81	43.89	60.87	64.75	61.52	71.32	70.35	66.12	67.49	67.70	67.79	77.28	75.02	77.85	80.67	83.50	86.32	89.15	92.09	95.02	97.96	100.89	103.83
2	6	7	39.44	38.94	55.51	52.59	66.01	69.05	64.64	74.43	76.39	73.94	74.39	70.01	69.99	81.63	83.46	86.30	89.14	91.97	94.81	97.65	99.57	101.49	103.42	105.34	107.26
2	6	8	45.50	41.99	63.15	58.36	75.54	75.15	67.29	85.60	143.20	79.30	92.97	73.56	72.62	89.71	164.45	154.73	145.01	135.29	125.57	115.85	116.47	117.09	117.72	118.34	118.96
2	6	9	47.35	45.48	56.86	56.88	72.26	72.44	68.20	82.57	91.07	78.18	81.92	74.60	75.55	83.73	95.95	96.98	98.01	99.04	100.07	101.10	103.27	105.45	107.62	109.80	111.97
2	6	10	51.80	46.84	55.25	55.95	70.24	70.86	68.34	78.49	81.29	77.63	79.51	75.23	75.11	82.56	90.64	92.84	95.05	97.25	99.46	101.66	103.27	104.88	106.50	108.11	109.72
2	6	11	46.83	44.58	55.25	54.89	69.89	70.22	67.02	76.96	78.20	75.54	78.50	73.56	74.26	80.77	85.70	88.19	90.68	93.17	95.66	98.15	99.86	101.57	103.29	105.00	106.71
2	6	12	45.50	42.49	53.33	53.76	66.80	68.07	65.77	73.54	76.65	74.27	75.26	72.42	73.13	78.79	81.59	84.55	87.52	90.48	93.45	96.41	98.18	99.95	101.71	103.48	105.25
2	6	13	38.06	40.62	52.55	52.35	66.31	67.57	62.38	73.29	75.10	73.93	74.42	70.36	72.40	78.29	80.70	83.52	86.35	89.17	92.00	94.82	96.81	98.80	100.80	102.79	104.78
2	6	14	36.04	39.02	51.26	49.71	66.25	66.55	61.51	72.66	74.88	73.31	74.30	69.25	71.61	77.28	80.44	83.28	86.12	88.96	91.80	94.64	96.49	98.34	100.18	102.03	103.88
2	6	15	34.61	37.95	49.76	48.70	65.67	66.05	60.01	71.64	74.11	71.96	72.98	67.86	71.14	77.28	79.07	81.93	84.79	87.64	90.50	93.36	95.34	97.31	99.29	101.26	103.24
2	6	16	33.83	37.81	48.47	48.57	64.69	65.31	59.28	70.10	73.94	70.38	71.30	67.12	70.99	76.78	78.21	81.00	83.80	86.59	89.39	92.18	94.36	96.54	98.71	100.89	103.07
2	6	17	34.77	39.35	49.51	49.03	64.54	66.00	60.32	70.59	74.11	72.41	72.01	67.72	72.22	77.51	79.00	81.90	84.81	87.71	90.62	93.52	95.59	97.65	99.72	101.78	103.85
2	6	18	38.70	43.31	53.02	51.97	66.31	67.57	62.44	72.66	74.93	73.87	74.86	68.92	76.99	80.72	80.44	83.50	86.56	89.63	92.69	95.75	97.77	99.79	101.80	103.82	105.84
2	6	19	46.71	48.66	62.15	56.89	89.04	70.72	66.67	85.34	86.96	79.21	99.37	73.55	81.12	94.15	85.85	88.33	90.82	93.30	95.79	98.27	105.06	111.85	118.64	125.43	132.22
2	6	20	46.75	50.43	62.19	58.55	95.91	71.56	67.02	90.51	80.18	79.44	100.13	73.55	81.75	97.43	86.32	89.09	91.86	94.62	97.39	100.16	102.60	105.04	107.47	109.91	112.35
2	6	21	46.11	48.02	55.25	56.81	71.59	70.40	66.52	74.12	77.13	77.03	79.08	73.55	78.67	83.72	82.63	85.35	88.06	90.78	93.49	96.21	98.72	101.22	103.73	106.23	108.74

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	6	22	42.25	46.08	53.02	53.66	66.50	67.86	65.60	72.96	74.11	73.94	74.41	72.14	76.51	79.92	80.43	83.05	85.67	88.28	90.90	93.52	96.02	98.51	101.01	103.50	106.00
2	6	23	38.83	42.65	50.08	49.96	66.01	67.86	62.59	71.64	72.46	72.09	73.62	69.07	74.22	78.37	76.96	79.67	82.39	85.10	87.82	90.53	93.20	95.87	98.55	101.22	103.89
2	6	24	35.56	39.54	42.00	42.17	60.76	64.24	61.27	68.19	65.99	66.23	67.44	67.47	71.26	75.20	71.88	74.47	77.06	79.64	82.23	84.82	87.62	90.43	93.23	96.04	98.84
2	7	1	32.68	37.50	38.01	37.56	57.57	60.13	58.88	62.54	59.93	62.95	63.00	65.20	69.50	71.06	68.68	71.08	73.48	75.88	78.28	80.68	83.51	86.33	89.16	91.98	94.81
2	7	2	31.34	36.56	37.55	36.90	57.39	58.75	57.58	62.38	58.89	61.66	61.78	64.19	68.98	69.87	67.82	70.19	72.56	74.94	77.31	79.68	82.57	85.46	88.35	91.24	94.13
2	7	3	31.28	37.28	37.66	36.41	57.48	58.95	57.36	61.92	58.83	61.46	61.22	63.78	69.51	69.69	67.39	69.76	72.12	74.49	76.85	79.22	82.21	85.20	88.19	91.18	94.17
2	7	4	31.27	39.00	38.47	36.53	57.47	59.57	57.58	62.38	58.83	61.60	61.11	63.65	70.82	70.23	67.60	69.87	72.15	74.42	76.70	78.97	82.12	85.28	88.43	91.59	94.74
2	7	5	31.32	40.99	39.91	37.42	58.14	60.55	58.12	63.69	59.47	63.20	62.72	63.76	72.63	72.73	68.69	70.95	73.21	75.47	77.73	79.99	83.00	86.01	89.02	92.03	95.04
2	7	6	32.36	47.56	48.17	44.72	61.32	61.86	59.37	67.96	66.48	67.21	68.06	64.66	76.96	76.13	72.44	74.93	77.41	79.90	82.38	84.87	88.09	91.31	94.52	97.74	100.96
2	7	7	34.05	51.40	54.43	52.07	66.46	64.28	61.12	73.97	73.89	74.15	76.63	66.10	80.32	83.23	80.70	83.36	86.02	88.67	91.33	93.99	96.64	99.30	101.95	104.61	107.26
2	7	8	36.36	53.11	92.34	60.91	74.44	66.00	62.99	108.73	78.23	86.85	84.68	69.17	96.71	132.71	85.20	88.04	90.88	93.71	96.55	99.39	105.85	112.31	118.77	125.23	131.69
2	7	9	39.91	52.87	70.48	57.78	70.46	68.49	64.87	93.27	77.99	84.36	80.01	71.22	83.03	106.03	83.53	86.69	89.85	93.02	96.18	99.34	104.05	108.76	113.48	118.19	122.90
2	7	10	41.05	52.75	61.69	55.98	69.38	67.82	64.70	81.70	76.68	78.48	77.95	70.89	80.32	91.64	81.86	84.64	87.42	90.19	92.97	95.75	99.47	103.19	106.92	110.64	114.36
2	7	11	38.65	52.54	57.49	56.30	66.96	67.82	63.96	78.78	77.99	77.64	76.54	69.96	80.32	85.67	81.93	84.60	87.27	89.94	92.61	95.28	97.97	100.66	103.36	106.05	108.74
2	7	12	37.31	51.37	54.53	52.73	66.25	66.28	62.59	74.95	74.53	75.37	74.41	69.54	79.93	83.22	80.43	83.05	85.67	88.28	90.90	93.52	96.16	98.79	101.43	104.06	106.70
2	7	13	36.25	51.10	53.07	51.11	65.70	62.53	61.86	73.69	73.03	74.45	72.18	68.03	79.18	82.34	80.32	82.69	85.06	87.44	89.81	92.18	94.80	97.43	100.05	102.68	105.30
2	7	14	35.13	49.21	52.12	50.35	64.91	60.85	60.60	73.30	72.07	73.94	71.27	67.04	78.57	81.35	78.78	81.45	84.13	86.80	89.48	92.15	94.77	97.39	100.01	102.63	105.25
2	7	15	34.13	48.79	50.08	48.97	62.86	59.66	59.20	72.47	70.28	72.16	69.68	66.14	77.31	78.41	76.99	79.70	82.42	85.13	87.85	90.56	93.35	96.14	98.92	101.71	104.50
2	7	16	34.09	47.37	48.47	47.36	62.89	59.27	59.19	71.91	69.52	70.77	69.41	65.93	76.03	78.02	75.93	78.78	81.63	84.49	87.34	90.19	92.93	95.67	98.41	101.15	103.89
2	7	17	35.64	49.19	49.62	48.94	63.58	59.90	60.97	71.58	71.42	71.74	70.82	67.39	76.35	78.11	76.53	79.42	82.31	85.21	88.10	90.99	93.64	96.29	98.95	101.60	104.25
2	7	18	39.00	50.84	52.51	50.80	66.01	63.17	63.81	72.66	73.32	73.94	74.34	69.96	79.66	79.92	80.27	82.65	85.03	87.42	89.80	92.18	94.88	97.57	100.27	102.96	105.66
2	7	19	46.36	56.00	62.79	57.10	73.18	66.29	66.67	83.10	78.95	77.63	78.18	72.99	94.13	91.87	83.53	86.42	89.32	92.21	95.11	98.00	100.50	103.01	105.51	108.02	110.52
2	7	20	48.87	58.87	61.89	59.23	72.34	66.32	67.01	83.58	77.99	77.84	80.78	73.56	99.86	95.62	84.00	86.85	89.70	92.55	95.40	98.25	100.54	102.84	105.13	107.43	109.72
2	7	21	46.11	52.76	56.63	56.53	68.43	66.05	66.60	75.71	76.18	78.29	77.25	73.56	80.32	83.72	81.54	84.71	87.88	91.05	94.22	97.39	99.71	102.03	104.34	106.66	108.98
2	7	22	42.73	51.40	55.01	52.26	66.31	64.27	64.14	73.97	74.11	75.12	74.96	71.05	78.63	79.36	80.04	82.52	85.01	87.49	89.98	92.46	94.90	97.33	99.77	102.20	104.64
2	7	23	38.31	48.94	50.15	51.78	66.27	62.69	62.25	71.00	71.42	70.38	72.18	68.86	76.58	78.29	76.15	79.06	81.97	84.87	87.78	90.69	92.70	94.71	96.71	98.72	100.73
2	7	24	35.40	41.97	41.20	42.69	61.09	60.05	60.20	67.63	64.24	65.90	66.15	66.59	73.89	73.39	71.25	73.89	76.52	79.16	81.79	84.43	86.69	88.95	91.20	93.46	95.72
2	8	1	34.27	36.84	38.47	37.04	58.21	58.57	57.87	62.01	58.94	61.58	62.94	65.78	68.13	70.23	68.75	71.17	73.59	76.00	78.42	80.84	83.25	85.66	88.07	90.48	92.89
2	8	2	33.96	36.20	37.62	35.51	57.98	57.30	57.46	60.83	58.68	60.21	61.77	65.79	67.39	69.30	68.16	70.53	72.91	75.28	77.66	80.03	82.35	84.67	86.99	89.31	91.63
2	8	3	34.36	36.43	37.11	35.16	57.70	57.01	58.04	60.29	58.47	59.03	61.58	66.29	67.43	68.95	68.17	70.61	73.05	75.48	77.92	80.36	82.53	84.71	86.88	89.06	91.23
2	8	4	35.74	37.80	37.03	35.27	58.05	57.01	59.37	60.18	58.51	59.44	61.90	67.75	68.48	69.05	68.48	70.94	73.41	75.87	78.34	80.80	82.88	84.96	87.03	89.11	91.19
2	8	5	37.49	40.54	38.14	36.68	58.33	57.31	61.74	61.34	59.21	61.38	62.75	69.32	70.27	70.94	68.66	71.16	73.66	76.16	78.66	81.16	83.37	85.58	87.79	90.00	92.21
2	8	6	45.07	46.24	43.45	42.93	60.19	58.42	66.67	66.97	65.97	64.92	64.57	72.64	75.55	73.91	73.49	75.92	78.35	80.77	83.20	85.63	87.87	90.11	92.36	94.60	96.84
2	8	7	49.59	52.68	52.83	51.22	61.81	59.99	69.86	71.95	72.40	72.31	67.87	77.06	80.32	80.82	81.49	84.06	86.62	89.19	91.75	94.32	96.38	98.45	100.51	102.58	104.64
2	8	8	62.16	95.18	64.33	55.96	63.50	61.64	71.71	79.95	81.02	82.55	72.55	83.28	136.63	87.27	90.43	94.00	97.58	101.15	104.73	108.30	108.58	108.87	109.15	109.44	109.72
2	8	9	54.50	65.26	58.10	57.19	66.25	63.48	71.34	75.01	78.21	75.73	75.69	80.69	102.55	85.79	83.91	87.99	92.07	96.16	100.24	104.32	105.07	105.83	106.58	107.34	108.09
2	8	10	51.18	56.43	56.19	53.81	66.50	63.55	69.97	73.75	75.50	75.36	76.02	78.98	85.13	82.78	82.25	85.74	89.24	92.73	96.23	99.72	100.83	101.95	103.06	104.18	105.29
2	8	11	51.14	54.41	56.18	52.66	66.50	61.87	69.52	73.70	75.68	75.14	74.40	78.01	81.78	80.77	82.23	85.66	89.09	92.53	95.96	99.39	100.57	101.75	102.93	104.11	105.29
2	8	12	50.10	53.24	53.99	51.07	66.25	61.03	68.74	73.05	74.14	73.87	71.58	75.55	80.15	79.29	80.43	83.49	86.56	89.62	92.69	95.75	97.54	99.33	101.11	102.90	104.69
2	8	13	48.73	52.68	52.07	49.53	62.24	60.33	68.36	72.53	73.89	71.74	69.89	74.77	79.93	78.29	78.76	81.44	84.12	86.81	89.49	92.17	94.50	96.82	99.15	101.47	103.80
2	8	14	47.64	52.54	50.08	47.59	60.48	59.43	67.33	70.52	72.86	69.95	67.25	73.61	77.06	77.28	76.92	79.97	83.02	86.06	89.11	92.16	94.09	96.03	97.96	99.90	101.83
2	8	15	45.08	50.36	47.34	45.85	59.64	58.61	65.60	68.53	71.47	67.80	65.87	73.56	76.07	77.28	75.72	78.74	81.76	84.79	87.81	90.83	92.81	94.79	96.77	98.75	100.73
2	8	16	43.87	48.99	47.02	45.84	58.84	58.33	65.11	67.92	70.07	67.68	65.13	73.40	75.94	76.48	75.35	78.19	81.03	83.87	86.71	89.55	91.69	93.83	95.97	98.11	100.25
2	8	17	45.50	50.08	49.06	47.00	59.53	59.71	65.55	69.20	71.42	69.43	65.28	73.54	76.07	77.28	75.65	78.63	81.60	84.58	87.55	90.53	92.66	94.78	96.91	99.03	101.16
2	8	18	48.66	52.60	52.75	49.95	60.78	63.12	68.36	72.66	73.32	73.13	69.27	75.55	77.53	78.72	77.95	80.75	83.56	86.36	89.17	91.97	93.97	95.98	97.98	99.99	101.99
2	8	19	63.00	59.27	57.93	55.22	66.31	66.29	78.21	78.25	75.51	80.98	74.27	86.24	89.00	85.77	81.86	84.97	88.07	91.18	94.28	97.39	99.46	101.53	103.59	105.66	107.73
2	8	20	55.95	63.16	58.29	56.14	66.27	66.49	82.02	76.01	76.86	80.33	74.40	86.74	90.06	85.39	83.09	86.15	89.22	92.28	95.35	98.41	100.35	102.28	104.22	106.15	108.09
2	8	21	50.56	53.84	56.19	52.64	66.01	66.29	69.57	74.08	75.69	75.36	74.33	78.25	81.28	81.61	83.24	86.24	89.24	92.25	95.25	98.25	99.74	101.23	102.72	104.21	105.70
2	8	22	48.66	51.19	52.32	50.35	62.97	63.81	68.18	73.29	74.14	73.94	70.76	75.05	79.84	78.84	80.43	82.93	85.43	87.92	90.42	92.92	95.28	97.63	99.99	102.34	104.70
2	8	23	45.45	48.43	47.62	48.66	60.76	61.76	65.68	71.32	72.10	71.14	68.78	73.56	78.19	77.28	76.77	79.45	82.14	84.82	87.51	90.19	92.35	94.51	96.66	98.82	100.98
2	8	24	38.33	41.14	40.19	40.37	58.66	60.18	61.33	66.64	63.09	64.38	65.98	69.39	73.36	73.24	71.97	74.46	76.95	79.44	81.93	84.42	86.68	88.94	91.20	93.46	95.72
2	9	1	34.27	35.91	38.04	36.89	57.42	57.89	57.74	61.19	58.90	62.15	63.72	65.55	68.48	69.64	68.74	71.12	73.50	75.89	78.27	80.65	83.12	85.60	88.07	90.55	93.02
2	9	2	33.54	34.37	37.02	35.88	56.01	57.51	57.30	60.18	58.33	61.04	62.80	64.90	67.71	68.90	67.77	70.15	72.52	74.90	77.27	79.65	82.02	84.39	86.77	89.14	91.51
2	9	3	33.75	33.76	36.43	35.27	55.64	57.55	57.37	59.98	57.79	60.21	62.75	64.90	67.34	68.70	67.40	69.73	72.07	74.40	76.74	79.07	81.54	84.01	86.48	88.95	91.42
2	9	4	34.27	34.26	36.53	35.35	55.79	58.71	58.06	60.17	57.68	60.21	62.71	65.52	67.43	68.99	67.55	69.90	72.24	74.59	76.93	79.28	81.80	84.33	86.85	89.38	91.90
2	9	5	35.86	36.41	38.12	35.80	56.78	60.16	60.51	61.47	59.23	60.50	63.25	66.49	68.23	69.82	68.81	71.14	73.48	75.81	78.15	80.48	82.89	85.30	87.71	90.12	92.53
2	9	6	42.77	42.77	43.60	37.04	57.49	64.24	64.14	66.99	64.85	61.99	64.30	71.62	72.64	74.06	71.82	74.14	76.46	78.77	81.09	83.41	85.98	88.55	91.11	93.68	96.25
2	9	7	48.91	51.11	53.23	39.27	59.01	67.20	69.52	71.78	72.36	63.57	66.53	78.01	79.07	79.29	80.25	82.75	85.26	87.76	90.27	92.77	95.19	97.62	100.04	102.47	104.89
2	9	8	104.34	53.97	57.37	45.39	60.91	73.34	118.33	75.10	80.18	67.46	69.46	115.53	81.60	87.29	86.64	89.57	92.50	95.43	98.36	101.29	102.98	104.66	106.35	108.03	109.72

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	9	9	63.37	53.42	56.25	49.36	61.90	71.33	87.36	74.24	76.64	71.73	72.01	98.76	81.50	82.63	84.42	87.26	90.11	92.95	95.80	98.64	100.40	102.16	103.91	105.67	107.43
2	9	10	53.75	52.88	55.43	49.95	61.90	68.54	76.07	73.54	74.61	73.75	72.01	81.44	80.39	80.68	83.09	85.76	88.43	91.10	93.77	96.44	98.43	100.41	102.40	104.38	106.37
2	9	11	52.03	52.88	54.85	49.95	61.03	68.45	72.73	73.54	73.89	73.91	70.05	79.04	80.32	79.91	81.47	84.33	87.19	90.06	92.92	95.78	97.76	99.73	101.71	103.68	105.66
2	9	12	51.11	52.42	53.29	47.59	60.47	67.86	70.87	72.66	72.34	71.74	68.93	78.12	79.11	78.75	80.42	83.27	86.12	88.96	91.81	94.66	96.79	98.91	101.04	103.16	105.29
2	9	13	49.40	49.42	51.94	44.22	59.84	67.20	70.22	69.67	70.73	68.33	67.44	76.18	77.31	78.11	78.76	81.28	83.80	86.33	88.85	91.37	94.04	96.70	99.37	102.03	104.70
2	9	14	48.95	47.32	49.62	40.57	58.84	66.29	69.51	68.53	68.29	65.42	66.82	74.81	75.61	77.28	77.78	79.99	82.19	84.40	86.60	88.81	91.98	95.16	98.33	101.51	104.68
2	9	15	45.45	44.91	47.39	38.47	58.26	66.05	65.72	68.53	67.40	63.94	65.42	74.01	75.17	76.16	75.61	77.95	80.30	82.64	84.99	87.33	90.23	93.13	96.04	98.94	101.84
2	9	16	44.68	44.63	46.09	38.04	57.91	65.39	65.60	67.61	66.82	63.25	65.42	73.56	75.54	75.48	74.90	77.28	79.66	82.04	84.42	86.80	89.80	92.81	95.81	98.82	101.82
2	9	17	45.50	45.83	47.44	38.42	58.85	66.15	66.05	67.63	68.24	63.85	65.91	73.56	75.85	75.77	75.01	77.61	80.21	82.80	85.40	88.00	90.77	93.54	96.30	99.07	101.84
2	9	18	48.95	48.61	51.94	42.69	61.80	67.57	66.67	69.12	72.10	67.08	70.82	74.92	77.17	77.28	77.41	80.14	82.87	85.59	88.32	91.05	93.80	96.55	99.30	102.05	104.80
2	9	19	55.06	53.11	55.56	48.94	64.34	78.35	78.05	78.19	74.14	72.41	74.33	85.64	83.22	85.83	82.96	85.94	88.91	91.89	94.86	97.84	99.80	101.76	103.73	105.69	107.65
2	9	20	59.88	53.24	63.31	48.94	64.34	83.10	83.91	82.74	74.37	72.41	74.40	87.15	81.86	88.57	83.53	86.51	89.50	92.48	95.47	98.45	100.37	102.29	104.20	106.12	108.04
2	9	21	51.29	52.81	54.53	47.26	62.89	68.54	73.03	73.97	73.93	71.73	71.58	78.98	79.18	82.00	81.76	84.68	87.60	90.51	93.43	96.35	98.45	100.55	102.64	104.74	106.84
2	9	22	47.16	51.22	53.02	45.17	60.87	67.20	69.95	70.39	72.36	67.58	70.04	77.73	77.94	78.94	80.32	83.21	86.10	88.99	91.88	94.77	96.87	98.98	101.08	103.19	105.29
2	9	23	45.63	46.56	48.60	40.63	60.15	67.57	66.32	69.63	70.72	64.62	67.83	73.56	75.62	77.43	75.56	78.42	81.28	84.13	86.99	89.85	92.50	95.15	97.80	100.45	103.10
2	9	24	37.60	40.15	40.44	37.62	59.17	63.28	63.17	64.32	63.21	62.25	65.42	70.73	71.20	73.18	71.02	73.48	75.95	78.41	80.88	83.34	86.20	89.07	91.93	94.80	97.66
2	10	1	33.14	34.76	37.92	35.13	57.83	59.97	59.42	59.04	58.90	60.98	64.14	65.55	67.39	69.15	68.17	70.63	73.09	75.56	78.02	80.48	83.07	85.66	88.24	90.83	93.42
2	10	2	32.66	33.70	36.87	34.37	57.41	59.28	58.12	57.65	58.31	59.96	64.04	64.61	67.05	67.64	67.55	69.97	72.40	74.82	77.25	79.67	82.12	84.56	87.01	89.45	91.90
2	10	3	32.41	33.97	35.75	34.11	58.02	59.28	57.59	57.39	57.80	59.66	64.28	64.10	66.97	66.62	67.78	70.15	72.53	74.90	77.28	79.65	81.86	84.08	86.29	88.51	90.72
2	10	4	32.64	34.99	35.82	34.05	58.24	60.15	57.37	57.31	57.80	59.98	65.13	64.42	67.03	66.74	68.01	70.39	72.77	75.14	77.52	79.90	82.03	84.16	86.29	88.42	90.55
2	10	5	33.89	37.26	37.66	34.30	60.97	60.85	58.48	58.24	58.19	60.04	66.51	65.66	67.90	68.26	68.62	71.00	73.38	75.77	78.15	80.53	82.89	85.25	87.60	89.96	92.32
2	10	6	39.45	43.94	42.17	35.04	63.56	64.15	62.40	63.86	59.53	60.44	72.79	69.57	72.46	73.24	69.23	71.62	74.00	76.39	78.77	81.16	84.07	86.99	89.90	92.82	95.73
2	10	7	47.56	50.71	50.89	36.66	66.50	68.47	68.34	69.13	62.41	61.72	77.60	74.96	76.75	79.98	70.63	72.94	75.25	77.57	79.88	82.19	86.46	90.73	95.00	99.27	103.54
2	10	8	53.64	53.97	75.17	39.08	81.58	119.06	73.88	73.05	66.71	64.02	81.07	79.23	81.16	83.22	74.84	77.22	79.60	81.97	84.35	86.73	91.37	96.02	100.66	105.31	109.95
2	10	9	52.24	53.24	62.26	45.17	71.93	85.62	72.19	73.05	71.75	67.46	77.56	78.91	79.84	82.56	77.82	80.26	82.70	85.15	87.59	90.03	93.95	97.87	101.79	105.71	109.63
2	10	10	50.78	52.87	56.03	47.67	70.83	74.17	71.60	72.39	72.46	70.04	76.19	78.32	78.72	80.56	77.95	81.03	84.11	87.20	90.28	93.36	95.85	98.34	100.82	103.31	105.80
2	10	11	51.29	52.81	53.02	47.26	69.16	71.29	71.60	71.64	72.46	71.38	75.71	78.33	79.11	79.98	77.95	81.03	84.11	87.20	90.28	93.36	95.66	97.96	100.27	102.57	104.87
2	10	12	49.19	50.98	50.08	46.48	67.48	69.91	70.44	69.58	71.98	70.38	74.83	76.32	78.39	78.35	76.34	79.21	82.08	84.95	87.82	90.69	93.49	96.30	99.10	101.91	104.71
2	10	13	47.64	49.85	48.27	45.85	66.70	68.17	68.62	67.61	68.05	69.88	73.52	74.60	76.51	77.28	74.84	77.24	79.64	82.04	84.44	86.84	90.28	93.72	97.15	100.59	104.03
2	10	14	45.02	48.89	46.42	43.57	66.31	67.99	66.66	67.16	64.29	69.47	72.92	73.46	76.03	76.60	72.73	75.20	77.67	80.15	82.62	85.09	88.52	91.94	95.37	98.79	102.22
2	10	15	42.25	46.82	44.16	41.30	64.69	67.20	65.70	65.26	62.37	68.31	71.80	73.54	74.24	75.58	71.54	74.01	76.48	78.96	81.43	83.90	87.14	90.37	93.61	96.84	100.08
2	10	16	40.10	46.13	43.27	41.01	64.26	66.32	65.53	65.26	61.67	68.27	70.81	73.54	73.98	74.91	70.53	73.06	75.58	78.11	80.63	83.16	86.55	89.94	93.34	96.73	100.12
2	10	17	41.87	46.72	45.00	44.37	64.54	67.20	66.35	66.12	62.34	70.02	72.75	73.56	74.50	75.58	71.18	73.66	76.14	78.62	81.10	83.58	87.16	90.74	94.33	97.91	101.49
2	10	18	47.64	49.85	49.82	48.94	66.52	67.86	69.11	68.32	66.72	74.14	74.94	74.59	75.62	78.19	74.20	76.41	78.63	80.84	83.06	85.27	89.03	92.79	96.54	100.30	104.06
2	10	19	52.70	53.50	60.47	53.53	74.88	78.03	74.64	73.05	72.05	79.48	86.66	80.78	82.43	80.20	77.35	80.13	82.91	85.70	88.48	91.26	94.63	97.99	101.36	104.72	108.09
2	10	20	51.21	59.27	58.04	54.35	84.32	86.74	72.71	75.48	71.98	79.48	91.91	79.55	85.05	81.06	77.21	80.14	83.07	86.00	88.93	91.86	95.41	98.97	102.52	106.08	109.63
2	10	21	50.78	52.88	53.23	50.11	68.18	70.86	71.41	72.53	71.47	74.85	77.56	77.08	79.40	80.08	76.34	79.21	82.08	84.95	87.82	90.69	94.10	97.51	100.91	104.32	107.73
2	10	22	46.56	50.99	50.12	48.66	66.50	68.07	69.51	69.58	66.93	71.73	75.71	75.05	78.72	77.66	74.84	77.24	79.64	82.04	84.44	86.84	90.44	94.05	97.65	101.26	104.86
2	10	23	41.48	48.57	47.50	43.73	64.54	67.82	67.88	68.04	63.30	67.48	73.90	73.56	75.62	76.11	72.73	75.20	77.67	80.15	82.62	85.09	88.72	92.35	95.98	99.61	103.24
2	10	24	35.97	41.43	40.17	39.82	60.57	63.30	61.86	62.49	59.17	64.88	68.06	69.41	70.02	72.64	69.76	72.20	74.64	77.07	79.51	81.95	84.68	87.42	90.15	92.89	95.62
2	11	1	31.78	35.72	37.56	38.86	57.49	59.34	58.87	57.82	57.69	64.08	64.32	65.55	67.39	68.42	68.02	70.41	72.80	75.19	77.58	79.97	82.48	84.99	87.50	90.01	92.52
2	11	2	30.80	34.03	36.16	38.64	56.73	58.23	58.07	57.30	57.30	63.71	63.72	64.61	66.13	67.21	67.82	70.08	72.34	74.61	76.87	79.13	81.58	84.03	86.47	88.92	91.37
2	11	3	31.00	33.76	35.55	38.78	56.73	57.55	58.04	57.12	57.05	63.54	63.72	64.38	64.94	66.59	67.82	70.04	72.26	74.47	76.69	78.91	81.20	83.49	85.79	88.08	90.37
2	11	4	31.69	33.92	35.49	38.58	57.49	57.55	58.04	57.12	56.87	63.79	64.06	64.71	64.71	66.59	67.89	70.10	72.31	74.51	76.72	78.93	81.28	83.62	85.97	88.31	90.66
2	11	5	32.88	35.87	36.24	41.73	58.85	59.20	58.31	57.29	57.05	64.92	66.14	65.79	66.30	66.69	67.90	70.19	72.48	74.78	77.07	79.36	81.78	84.20	86.63	89.05	91.47
2	11	6	37.60	42.19	38.09	51.08	61.57	63.46	64.14	58.66	57.58	72.41	71.38	70.96	71.06	67.98	68.57	70.92	73.27	75.61	77.96	80.31	82.93	85.55	88.17	90.79	93.41
2	11	7	47.37	49.33	40.24	53.71	66.50	67.20	67.61	61.84	58.67	77.28	78.22	75.57	76.59	69.80	69.76	72.12	74.49	76.85	79.22	81.58	84.37	87.16	89.95	92.74	95.53
2	11	8	57.04	53.56	44.19	81.49	121.68	72.64	74.00	64.61	62.23	108.67	141.64	82.86	80.06	73.18	71.99	74.24	76.48	78.73	80.97	83.22	86.21	89.21	92.20	95.20	98.19
2	11	9	53.39	52.87	48.69	66.84	81.83	71.11	72.73	67.15	66.71	86.15	94.70	79.62	79.74	76.10	74.93	77.06	79.19	81.33	83.46	85.59	89.40	93.21	97.02	100.83	104.64
2	11	10	51.93	52.68	51.58	62.11	70.83	70.40	72.19	69.09	69.26	79.68	78.57	78.98	78.25	77.27	76.34	78.89	81.45	84.00	86.56	89.11	92.23	95.35	98.47	101.59	104.71
2	11	11	51.11	52.64	51.59	56.30	69.41	69.89	71.96	69.21	70.20	78.52	77.17	78.91	76.51	76.57	76.41	79.49	82.57	85.66	88.74	91.82	94.40	96.97	99.55	102.12	104.70
2	11	12	49.71	49.70	48.47	53.36	68.49	69.20	70.48	67.41	69.55	77.33	75.71	75.55	75.25	75.77	76.41	79.29	82.17	85.05	87.93	90.81	93.07	95.33	97.60	99.86	102.12
2	11	13	48.95	47.22	43.98	51.10	66.80	67.86	69.51	64.99	68.87	74.49	74.56	73.56	73.87	73.99	76.41	79.17	81.93	84.68	87.44	90.20	92.32	94.44	96.55	98.67	100.79
2	11	14	45.08	46.71	40.48	50.35	66.31	66.90	68.62	62.63	67.90	73.93	74.27	73.56	74.04	72.92	76.41	78.77	81.14	83.50	85.87	88.23	90.20	92.17	94.14	96.11	98.08
2	11	15	42.40	44.63	39.32	49.15	65.68	66.05	65.72	61.70	66.03	73.93	72.26	73.34	72.52	72.26	74.90	77.12	79.34	81.57	83.79	86.01	88.13	90.25	92.38	94.50	96.62
2	11	16	41.18	44.21	38.89	48.94	64.54	65.48	65.19	61.41	65.50	73.87	70.76	72.44	72.52	71.20	74.84	77.09	79.34	81.60	83.85	86.10	88.03	89.95	91.88	93.80	95.73
2	11	17	42.33	45.27	39.39	49.03	64.54	66.28	65.60	61.70	66.71	73.92	71.35	73.31	73.80	71.22	75.18	77.79	80.40	83.01	85.62	88.23	89.73	91.23	92.72	94.22	95.72
2	11	18	46.11	49.37	43.31	51.05	66.25	67.57	67.07	64.73	71.53	73.93	74.28	73.56	75.61	72.26	78.08	81.14	84.19	87.25	90.30	93.36	94.71	96.06	97.42	98.77	100.12
2	11	19	54.85	52.71	50.81	67.52	71.29	72.82	74.17	68.24	74.86	96.92	83.04	82.52	78.57	76.57	84.22	87.05	89.88	92.72	95.55	98.38	99.64	100.91	102.17	103.44	104.70

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	11	20	56.96	54.98	51.09	74.91	78.59	71.77	74.45	68.19	74.86	101.73	93.50	85.33	80.47	76.60	81.86	84.93	87.99	91.06	94.12	97.19	98.69	100.19	101.70	103.20	104.70
2	11	21	51.74	52.68	47.68	60.09	69.89	70.40	71.09	66.86	72.41	81.35	76.41	79.35	77.98	76.38	81.12	83.60	86.07	88.55	91.02	93.50	95.56	97.63	99.69	101.76	103.82
2	11	22	48.95	49.82	43.60	51.94	66.50	68.54	69.51	64.63	70.50	77.84	74.94	76.65	75.53	75.05	78.66	80.62	82.58	84.54	86.50	88.46	90.73	92.99	95.26	97.52	99.79
2	11	23	44.60	47.22	40.41	51.18	66.01	67.77	66.28	62.44	65.97	73.92	74.16	73.56	73.80	73.04	76.00	78.15	80.29	82.44	84.58	86.73	88.89	91.05	93.20	95.36	97.52
2	11	24	36.38	41.17	37.97	43.73	60.59	63.46	60.75	59.15	62.19	68.33	68.73	68.61	69.39	69.99	71.64	73.96	76.27	78.59	80.90	83.22	85.55	87.88	90.21	92.54	94.87
2	12	1	32.22	36.20	35.35	38.24	58.25	59.81	58.12	57.25	63.90	63.15	64.61	64.66	67.01	67.45	71.54	73.46	75.39	77.31	79.24	81.16	83.34	85.52	87.70	89.88	92.06
2	12	2	31.21	34.60	34.93	37.47	56.69	58.81	56.95	56.85	63.55	61.94	64.19	63.86	65.71	66.60	71.43	73.38	75.32	77.27	79.21	81.16	83.07	84.98	86.88	88.79	90.70
2	12	3	30.70	33.86	34.80	36.89	56.41	58.05	56.45	56.55	63.55	61.46	63.46	62.79	64.72	66.60	71.50	73.43	75.36	77.30	79.23	81.16	82.96	84.76	86.56	88.36	90.16
2	12	4	30.64	34.10	34.90	36.55	56.26	58.76	56.18	56.43	64.38	60.68	63.37	62.73	64.64	66.60	71.90	73.65	75.41	77.16	78.92	80.67	82.63	84.59	86.54	88.50	90.46
2	12	5	32.39	35.09	34.97	37.98	57.51	60.15	57.20	56.52	68.21	62.63	64.61	64.23	65.14	66.89	74.33	75.76	77.19	78.61	80.04	81.47	83.41	85.35	87.28	89.22	91.16
2	12	6	36.37	37.68	35.41	44.90	60.87	64.24	61.05	56.97	72.95	67.64	69.63	68.79	66.61	67.76	78.76	80.36	81.97	83.57	85.18	86.78	87.92	89.06	90.21	91.35	92.49
2	12	7	46.67	40.81	37.55	53.30	66.01	67.57	66.67	57.99	77.81	74.13	76.24	74.59	68.42	69.35	84.36	86.45	88.53	90.62	92.70	94.79	94.68	94.56	94.45	94.33	94.22
2	12	8	60.26	45.17	39.53	62.58	70.83	76.59	69.85	61.70	120.58	84.17	80.30	78.41	71.74	72.09	139.05	131.89	124.73	117.57	110.41	103.25	101.92	100.60	99.27	97.95	96.62
2	12	9	53.55	49.48	43.60	61.28	69.51	72.82	70.22	64.97	88.55	91.84	75.93	77.21	74.52	73.68	89.80	91.89	93.98	96.06	98.15	100.24	100.08	99.92	99.77	99.61	99.45
2	12	10	50.78	49.80	46.72	55.49	68.79	70.82	68.62	66.68	81.79	78.34	74.81	75.94	75.71	76.13	87.66	89.67	91.68	93.68	95.69	97.70	98.90	100.09	101.29	102.48	103.68
2	12	11	49.09	49.54	47.02	55.15	66.80	70.40	68.36	66.28	78.49	75.10	74.19	74.77	75.71	76.57	86.46	88.32	90.18	92.03	93.89	95.75	97.60	99.45	101.31	103.16	105.01
2	12	12	45.92	48.02	46.38	52.71	66.25	69.70	66.36	65.68	76.02	73.93	72.91	73.53	74.31	76.38	81.86	84.53	87.19	89.86	92.52	95.19	97.11	99.03	100.96	102.88	104.80
2	12	13	42.33	45.82	44.88	50.35	65.36	68.37	65.02	65.24	75.40	73.93	70.73	72.04	72.40	76.09	80.41	82.59	84.78	86.96	89.15	91.33	93.63	95.93	98.22	100.52	102.82
2	12	14	40.22	43.25	43.01	49.95	63.10	67.86	63.75	64.91	75.37	73.93	70.19	71.36	70.31	74.91	80.41	82.47	84.52	86.58	88.63	90.69	92.96	95.22	97.49	99.75	102.02
2	12	15	38.71	41.14	40.95	49.49	60.70	67.18	62.59	64.23	72.33	72.22	69.07	70.36	68.29	73.30	79.56	81.70	83.83	85.97	88.10	90.24	92.17	94.10	96.02	97.95	99.88
2	12	16	37.84	40.63	40.84	47.51	60.08	66.32	62.25	64.23	72.33	69.32	68.35	69.93	67.39	73.21	79.31	81.16	83.01	84.86	86.71	88.56	90.82	93.08	95.34	97.60	99.86
2	12	17	38.99	40.99	43.34	49.13	61.66	66.44	63.63	65.03	72.33	69.32	69.18	71.17	67.90	74.98	79.30	81.33	83.36	85.38	87.41	89.44	91.87	94.30	96.73	99.16	101.59
2	12	18	45.21	45.17	48.84	50.90	64.93	68.45	65.64	68.05	75.95	72.28	71.58	73.35	71.26	77.93	81.38	83.78	86.17	88.57	90.96	93.36	95.93	98.50	101.07	103.64	106.21
2	12	19	50.54	49.80	59.01	55.49	70.29	78.35	71.69	73.71	95.58	80.36	76.61	76.32	75.26	80.33	108.58	108.36	108.13	107.91	107.68	107.46	107.89	108.32	108.76	109.19	109.62
2	12	20	49.66	49.45	59.01	60.91	70.62	87.40	72.18	75.74	98.81	89.37	76.27	79.93	75.61	80.33	129.71	125.42	121.14	116.85	112.57	108.28	108.53	108.78	109.03	109.28	109.53
2	12	21	48.20	47.68	52.81	55.40	69.03	70.86	69.95	70.39	83.62	74.49	74.45	74.92	74.82	78.37	86.77	88.95	91.14	93.32	95.51	97.69	99.21	100.73	102.25	103.77	105.29
2	12	22	45.45	46.54	47.74	51.79	66.31	68.75	66.67	67.92	77.90	72.41	72.75	72.76	72.69	76.57	81.86	84.19	86.52	88.85	91.18	93.51	94.96	96.41	97.85	99.30	100.75
2	12	23	39.87	42.52	42.19	50.63	64.54	68.11	65.60	63.81	75.55	72.41	71.36	72.27	70.13	74.38	79.90	82.53	85.16	87.79	90.42	93.05	94.11	95.16	96.22	97.27	98.33
2	12	24	35.11	38.76	38.66	42.26	59.64	62.08	61.78	61.92	70.30	67.08	65.60	67.85	67.22	72.26	74.84	77.00	79.16	81.32	83.48	85.64	87.64	89.65	91.65	93.66	95.66
2	13	1	31.92	34.42	38.41	38.09	56.86	59.60	58.01	62.71	62.04	62.25	63.24	64.06	65.52	71.28	70.22	72.44	74.66	76.87	79.09	81.31	83.87	86.42	88.98	91.53	94.09
2	13	2	30.77	32.41	38.04	37.27	56.50	57.38	57.17	62.44	60.49	61.64	62.46	63.20	64.60	70.28	69.27	71.51	73.76	76.00	78.25	80.49	83.22	85.95	88.67	91.40	94.13
2	13	3	30.32	32.08	38.04	36.66	56.26	56.28	56.85	62.74	59.66	60.47	62.24	62.78	64.39	70.96	68.96	71.17	73.37	75.58	77.78	79.99	82.85	85.71	88.58	91.44	94.30
2	13	4	30.29	32.11	38.41	36.44	56.51	55.65	56.64	62.99	59.47	60.56	62.46	62.78	64.17	71.75	69.08	71.20	73.33	75.45	77.58	79.70	82.54	85.38	88.21	91.05	93.89
2	13	5	30.80	32.72	40.03	37.89	57.24	57.65	57.07	65.96	61.26	62.66	64.57	62.99	64.39	73.89	70.53	72.65	74.77	76.89	79.01	81.13	83.91	86.69	89.48	92.26	95.04
2	13	6	32.39	33.98	49.94	41.95	61.09	62.02	58.17	69.26	69.92	66.95	70.23	64.19	65.22	77.28	75.29	77.17	79.05	80.92	82.80	84.68	87.60	90.52	93.43	96.35	99.27
2	13	7	34.77	36.84	54.15	50.40	65.08	66.32	60.01	74.33	74.36	72.41	77.64	66.80	67.01	82.40	81.49	83.84	86.19	88.54	90.89	93.24	96.37	99.50	102.62	105.75	108.88
2	13	8	38.29	40.78	89.05	55.98	75.42	70.24	62.21	97.68	83.70	77.63	95.19	68.32	68.75	133.10	104.80	104.51	104.22	103.93	103.64	103.35	107.59	111.83	116.07	120.31	124.55
2	13	9	42.87	44.91	64.00	55.40	71.18	69.69	65.60	86.76	89.79	74.27	85.89	71.95	72.32	94.52	94.65	95.67	96.70	97.72	98.75	99.77	103.30	106.83	110.36	113.89	117.42
2	13	10	45.08	46.19	58.83	54.83	69.06	68.17	68.34	78.86	80.84	73.93	78.63	73.55	74.30	86.07	83.96	86.37	88.78	91.18	93.59	96.00	98.92	101.84	104.75	107.67	110.59
2	13	11	44.68	46.19	56.82	54.15	68.71	68.07	68.36	75.80	78.12	73.93	76.81	73.56	75.61	82.40	82.47	84.96	87.44	89.93	92.41	94.90	97.71	100.52	103.34	106.15	108.96
2	13	12	41.48	45.27	52.55	52.71	66.80	67.57	65.60	74.68	77.19	72.41	75.46	72.44	75.50	79.22	81.59	83.94	86.30	88.65	91.01	93.36	95.72	98.08	100.43	102.79	105.15
2	13	13	37.99	45.16	50.12	50.35	66.27	66.29	62.24	73.85	74.88	70.52	74.16	71.36	74.50	77.93	79.97	82.11	84.26	86.40	88.55	90.69	93.20	95.71	98.22	100.73	103.24
2	13	14	36.08	43.91	49.62	49.65	65.67	65.74	60.89	72.53	74.74	69.51	71.94	68.62	73.48	77.42	79.01	81.31	83.62	85.92	88.23	90.53	93.07	95.62	98.16	100.71	103.25
2	13	15	34.26	42.83	48.47	45.86	64.03	63.55	59.46	70.42	74.12	67.58	70.64	67.37	72.30	76.83	76.32	78.72	81.12	83.53	85.93	88.33	91.20	94.07	96.93	99.80	102.67
2	13	16	33.32	42.72	47.89	44.78	61.79	63.04	59.19	68.53	72.39	66.43	69.57	65.98	72.05	76.53	74.94	77.29	79.63	81.98	84.32	86.67	89.48	92.29	95.10	97.91	100.72
2	13	17	34.59	45.16	48.66	46.65	62.52	63.49	59.37	68.76	72.39	67.96	70.09	66.07	73.73	77.27	75.68	77.85	80.02	82.20	84.37	86.54	89.77	93.00	96.24	99.47	102.70
2	13	18	38.31	47.49	52.07	50.35	65.80	66.52	62.24	72.27	75.26	71.74	72.75	69.15	76.30	78.29	79.25	81.48	83.71	85.93	88.16	90.39	93.37	96.35	99.33	102.31	105.29
2	13	19	44.68	56.02	70.90	56.10	70.81	70.68	65.30	102.56	81.11	76.38	78.67	73.14	83.16	109.03	84.42	86.81	89.20	91.58	93.97	96.36	100.46	104.56	108.67	112.77	116.87
2	13	20	44.68	57.07	71.80	56.30	72.34	70.05	66.32	103.73	92.01	76.10	80.45	73.55	82.43	111.23	87.29	89.64	91.99	94.35	96.70	99.05	103.29	107.53	111.78	116.02	120.26
2	13	21	42.39	53.38	58.29	52.21	69.12	68.54	64.91	79.15	77.99	73.93	74.54	72.05	77.73	86.73	80.96	84.04	87.12	90.19	93.27	96.35	100.04	103.72	107.41	111.09	114.78
2	13	22	39.60	47.22	53.30	50.11	66.50	66.63	62.24	74.18	75.99	73.08	73.54	70.42	75.62	82.78	79.37	81.40	83.42	85.45	87.47	89.50	92.82	96.14	99.46	102.78	106.10
2	13	23	36.81	44.19	50.43	47.49	64.61	66.21	61.33	71.64	76.35	69.58	70.47	67.37	72.79	78.93	78.42	80.43	82.44	84.46	86.47	88.48	91.71	94.94	98.18	101.41	104.64
2	13	24	33.23	39.82	41.18	40.28	60.57	61.75	58.31	67.16	68.70	64.39	64.95	65.00	68.94	76.91	72.13	74.62	77.11	79.60	82.09	84.58	87.47	90.35	93.24	96.12	99.01
2	14	1	30.96	39.60	38.08	37.13	57.25	57.65	57.01	61.71	61.72	60.26	62.54	63.17	69.10	70.23	69.89	72.13	74.37	76.61	78.85	81.09	83.69	86.29	88.89	91.49	94.09
2	14	2	30.42	38.76	36.75	35.88	56.35	56.74	56.16	60.17	60.06	59.90	61.63	62.60	69.27	69.11	69.64	71.70	73.76	75.83	77.89	79.95	82.59	85.22	87.86	90.49	93.13
2	14	3	29.48	39.17	36.16	35.83	54.87	55.76	56.16	58.90	58.87	59.52	60.56	62.60	69.67	68.27	69.08	71.10	73.13	75.15	77.18	79.20	81.99	84.78	87.58	90.37	93.16
2	14	4	29.45	39.96	36.06	36.38	54.80	55.68	56.18	58.78	58.66	60.21	60.56	62.60	69.79	68.29	69.01	71.09	73.18	75.26	77.35	79.43	82.26	85.08	87.91	90.73	93.56
2	14	5	29.77	42.84	37.52	37.86	56.27	56.15	56.44	60.76	60.29	62.02	61.63	62.78	72.44	69.96	70.21	72.35	74.49	76.62	78.76	80.90	83.74	86.59	89.43	92.28	95.12
2	14	6	30.68	49.73	43.60	42.14	60.76	57.33	56.70	66.98	67.91	64.62	65.87	63.76	76.99	74.91	73.12	75.40	77.67	79.95	82.22	84.50	87.35	90.20	93.04	95.89	98.74

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	14	7	32.67	52.82	52.07	51.10	63.43	60.05	57.44	71.48	73.94	73.94	74.40	64.79	79.25	81.26	78.21	80.26	82.32	84.37	86.43	88.48	92.06	95.64	99.23	102.81	106.39
2	14	8	35.56	86.93	63.53	60.63	68.77	62.41	59.14	76.00	77.21	82.49	77.68	66.61	118.80	96.13	81.86	84.73	87.60	90.46	93.33	96.20	99.34	102.48	105.63	108.77	111.91
2	14	9	38.82	63.17	58.63	60.22	68.58	66.05	61.86	75.32	76.37	82.48	76.24	69.52	91.64	86.73	80.41	82.59	84.78	86.96	89.15	91.33	95.51	99.69	103.86	108.04	112.22
2	14	10	41.15	59.27	53.63	58.70	66.80	66.29	63.17	75.14	76.63	78.71	74.54	71.35	84.85	85.39	80.40	82.48	84.55	86.63	88.70	90.78	94.49	98.20	101.91	105.62	109.33
2	14	11	40.36	55.53	53.33	56.36	66.41	66.32	64.09	74.84	76.63	76.93	74.41	72.27	83.65	83.64	80.40	82.46	84.52	86.57	88.63	90.69	93.79	96.89	100.00	103.10	106.20
2	14	12	39.81	53.50	52.12	55.15	65.43	64.24	62.44	73.98	75.55	75.26	72.09	72.43	81.83	81.85	79.31	81.53	83.74	85.96	88.17	90.39	93.37	96.35	99.33	102.31	105.29
2	14	13	39.30	52.72	49.62	51.64	64.36	62.13	62.25	72.50	74.66	74.05	71.17	72.02	80.13	79.79	76.99	79.35	81.70	84.06	86.41	88.77	91.79	94.81	97.84	100.86	103.88
2	14	14	37.88	52.42	48.78	50.35	62.24	61.14	61.78	71.32	74.17	73.78	71.02	70.96	78.47	78.41	75.93	78.22	80.51	82.79	85.08	87.37	90.32	93.27	96.22	99.17	102.12
2	14	15	36.89	50.49	47.30	47.75	61.37	60.48	61.05	71.21	71.42	71.74	70.72	69.74	77.37	77.56	74.56	76.93	79.29	81.66	84.02	86.39	89.45	92.51	95.56	98.62	101.68
2	14	16	36.81	49.13	45.66	46.36	60.78	60.02	61.05	68.19	70.29	70.38	70.21	69.57	75.62	76.75	73.47	75.68	77.88	80.09	82.29	84.50	87.76	91.02	94.27	97.53	100.79
2	14	17	38.26	49.37	46.43	47.89	61.77	60.02	61.84	68.22	71.02	71.06	70.81	71.21	76.56	77.27	74.84	77.23	79.62	82.02	84.41	86.80	89.36	91.93	94.49	97.06	99.62
2	14	18	44.60	52.72	49.82	51.45	65.02	61.85	65.60	71.32	73.94	73.93	73.14	73.58	79.25	78.91	75.63	78.12	80.61	83.11	85.60	88.09	91.08	94.07	97.07	100.06	103.05
2	14	19	52.16	68.92	53.30	64.54	69.12	65.00	71.82	80.00	80.08	82.55	80.96	80.45	97.60	82.78	81.38	84.37	87.37	90.36	93.36	96.35	98.79	101.24	103.68	106.13	108.57
2	14	20	53.86	72.32	56.82	61.48	68.43	64.56	71.82	89.09	77.99	84.39	80.45	78.81	92.97	83.75	80.98	84.13	87.27	90.42	93.56	96.71	99.30	101.88	104.47	107.05	109.64
2	14	21	48.81	58.83	52.83	56.50	66.96	64.06	68.34	75.31	76.15	76.61	76.57	74.92	84.49	81.78	80.04	82.36	84.68	87.01	89.33	91.65	94.74	97.82	100.91	103.99	107.08
2	14	22	42.36	52.81	50.08	51.79	65.67	63.46	64.90	72.53	74.19	73.93	74.41	72.43	81.34	79.86	76.97	79.27	81.57	83.88	86.18	88.48	91.44	94.41	97.37	100.34	103.30
2	14	23	37.67	50.43	48.26	47.99	64.16	61.74	63.75	68.76	74.01	71.27	74.27	70.42	78.30	77.28	74.79	77.24	79.70	82.15	84.61	87.06	89.96	92.86	95.77	98.67	101.57
2	14	24	33.96	45.56	40.28	40.42	59.46	58.81	60.87	64.90	66.36	64.92	67.52	67.28	73.47	74.91	70.93	73.19	75.45	77.71	79.97	82.23	85.15	88.07	90.99	93.91	96.83
2	15	1	34.80	38.17	37.33	36.74	56.63	56.34	61.84	60.17	61.19	60.98	64.30	66.69	68.48	69.99	68.50	70.71	72.92	75.14	77.35	79.56	82.31	85.06	87.81	90.56	93.31
2	15	2	33.46	36.17	36.21	35.01	56.15	55.00	61.51	57.65	59.77	59.62	63.17	66.11	67.67	68.52	67.46	69.74	72.01	74.29	76.56	78.84	81.31	83.78	86.25	88.72	91.19
2	15	3	33.77	35.10	35.59	34.47	55.15	54.51	61.48	57.27	59.82	58.88	62.89	66.55	67.35	67.34	67.84	70.12	72.39	74.67	76.94	79.22	81.40	83.57	85.75	87.92	90.10
2	15	4	34.60	35.26	35.59	34.45	54.68	54.53	61.83	57.34	60.49	58.73	62.67	67.57	67.39	67.34	68.59	70.86	73.13	75.41	77.68	79.95	81.94	83.94	85.93	87.93	89.92
2	15	5	37.20	37.48	36.41	35.47	55.15	54.94	63.88	59.15	62.04	60.21	63.75	69.60	67.90	69.03	69.68	71.95	74.22	76.49	78.76	81.03	83.30	85.58	87.85	90.13	92.40
2	15	6	44.66	44.91	40.77	38.58	56.49	55.61	67.57	65.26	69.34	63.74	65.28	73.53	73.37	75.24	73.73	76.01	78.29	80.56	82.84	85.12	87.92	90.72	93.52	96.32	99.12
2	15	7	50.68	49.99	49.38	48.94	58.81	57.37	71.05	68.76	77.99	67.79	68.14	77.14	79.02	78.66	81.64	83.74	85.84	87.94	90.04	92.14	94.12	96.09	98.07	100.04	102.02
2	15	8	65.39	55.53	53.23	52.71	60.12	60.32	94.42	74.33	81.96	73.93	71.10	128.15	89.02	82.45	89.19	91.05	92.92	94.78	96.65	98.51	100.12	101.72	103.33	104.93	106.54
2	15	9	61.44	57.38	52.37	52.71	65.02	62.08	80.42	74.18	81.60	73.91	74.40	90.37	84.90	81.06	86.55	88.94	91.33	93.73	96.12	98.51	99.95	101.39	102.82	104.26	105.70
2	15	10	56.22	54.62	51.28	52.71	66.15	63.88	74.86	73.37	81.35	72.71	74.41	80.42	84.10	80.30	84.25	86.76	89.28	91.79	94.31	96.82	98.48	100.15	101.81	103.48	105.14
2	15	11	54.15	54.08	50.56	52.71	66.15	64.47	74.38	72.69	81.35	73.08	74.28	78.73	81.84	79.79	82.47	85.12	87.77	90.42	93.07	95.72	97.55	99.38	101.20	103.03	104.86
2	15	12	52.24	52.81	49.68	49.95	65.43	64.06	73.48	71.78	79.16	73.08	72.75	77.14	80.53	78.71	81.11	83.82	86.53	89.23	91.94	94.65	96.66	98.67	100.69	102.70	104.71
2	15	13	49.65	51.40	47.41	49.95	62.24	63.55	71.48	71.53	76.74	72.41	70.04	75.45	78.25	78.00	80.41	82.97	85.52	88.08	90.63	93.19	95.48	97.77	100.06	102.35	104.64
2	15	14	48.29	49.91	45.95	49.03	60.12	63.12	70.22	68.76	75.43	72.41	67.37	74.76	76.69	77.18	79.25	81.49	83.73	85.97	88.21	90.45	92.76	95.08	97.39	99.71	102.02
2	15	15	47.06	48.54	43.49	47.08	59.64	61.75	68.83	67.61	74.17	70.25	65.98	74.01	75.39	74.90	77.06	79.21	81.37	83.52	85.68	87.83	89.85	91.87	93.88	95.90	97.92
2	15	16	46.08	46.51	42.42	45.86	59.17	61.75	67.55	67.16	71.42	69.70	65.69	73.55	74.43	74.10	74.84	77.20	79.57	81.93	84.30	86.66	88.71	90.76	92.82	94.87	96.92
2	15	17	46.48	47.37	44.12	46.63	60.07	63.25	68.83	67.37	72.53	71.73	66.13	74.36	75.03	74.91	76.20	78.51	80.82	83.14	85.45	87.76	89.85	91.95	94.04	96.14	98.23
2	15	18	50.68	49.31	49.68	49.14	60.76	66.32	71.45	68.19	75.55	73.13	69.30	76.78	77.17	78.73	79.89	82.05	84.21	86.37	88.53	90.69	92.70	94.71	96.71	98.72	100.73
2	15	19	63.14	54.19	53.11	66.52	66.31	70.76	99.34	74.68	91.44	79.58	74.19	128.15	84.12	80.98	86.64	89.50	92.37	95.23	98.10	100.96	102.13	103.29	104.46	105.62	106.79
2	15	20	65.42	55.13	54.53	62.46	66.31	70.76	101.78	74.68	100.59	79.36	73.59	128.15	84.12	81.85	90.99	93.34	95.70	98.05	100.41	102.76	103.80	104.84	105.88	106.92	107.96
2	15	21	56.10	52.81	51.26	54.24	65.68	67.82	76.39	73.05	79.63	74.93	72.75	82.16	81.83	80.49	82.01	84.89	87.77	90.65	93.53	96.41	98.27	100.13	101.98	103.84	105.70
2	15	22	51.54	49.37	48.84	48.51	64.06	66.29	73.37	68.57	76.15	73.93	70.04	77.85	78.72	78.71	80.31	82.50	84.69	86.88	89.07	91.26	93.41	95.56	97.72	99.87	102.02
2	15	23	46.03	48.02	44.91	47.25	60.97	63.46	69.95	67.96	75.28	71.73	67.13	75.30	76.93	77.27	75.31	77.79	80.27	82.75	85.23	87.71	90.17	92.62	95.08	97.53	99.99
2	15	24	38.89	42.79	39.14	40.42	58.68	61.75	63.76	62.44	65.71	65.81	64.04	71.36	72.37	73.04	71.51	73.58	75.66	77.73	79.81	81.88	84.65	87.42	90.18	92.95	95.72
2	16	1	33.24	36.52	36.93	37.66	56.70	60.74	60.32	58.57	59.89	61.87	62.34	65.87	67.67	68.99	68.47	70.53	72.60	74.66	76.73	78.79	81.53	84.27	87.01	89.75	92.49
2	16	2	32.43	34.79	35.94	36.45	55.94	60.53	58.87	56.98	58.74	60.30	61.58	64.61	67.00	67.01	67.40	69.34	71.28	73.23	75.17	77.11	79.94	82.77	85.60	88.43	91.26
2	16	3	32.18	33.80	35.81	36.10	55.42	60.53	57.31	56.85	58.44	60.39	61.58	64.06	65.75	67.22	66.49	68.51	70.53	72.55	74.57	76.59	79.40	82.22	85.03	87.85	90.66
2	16	4	32.14	33.68	36.27	36.16	55.40	60.72	57.31	57.08	58.31	60.39	61.58	64.03	65.66	68.27	67.06	69.00	70.94	72.87	74.81	76.75	79.68	82.61	85.54	88.47	91.40
2	16	5	33.52	36.09	37.54	36.94	55.90	63.46	59.14	58.01	59.37	61.54	61.78	65.19	67.27	69.48	67.55	69.64	71.73	73.83	75.92	78.01	81.16	84.31	87.46	90.61	93.76
2	16	6	39.65	42.98	40.52	38.22	56.65	66.49	64.30	63.77	64.13	62.90	62.34	70.90	73.49	74.41	70.81	72.94	75.07	77.21	79.34	81.47	84.92	88.36	91.81	95.25	98.70
2	16	7	50.99	48.32	51.61	40.86	57.55	70.86	69.51	71.32	71.42	66.59	64.22	75.69	76.35	82.48	75.45	77.73	80.00	82.28	84.55	86.83	90.74	94.65	98.56	102.47	106.38
2	16	8	59.18	53.08	57.92	47.08	59.59	96.28	83.77	76.01	76.64	71.63	65.90	89.36	80.61	86.22	80.41	82.58	84.75	86.92	89.09	91.26	95.47	99.69	103.90	108.12	112.33
2	16	9	57.60	52.72	58.26	52.59	60.08	80.54	77.38	78.87	77.21	74.45	69.62	82.46	78.72	86.16	80.36	82.41	84.46	86.52	88.57	90.62	95.18	99.75	104.31	108.88	113.44
2	16	10	54.37	52.02	56.18	54.22	61.78	74.45	74.13	75.76	77.19	75.85	70.21	79.51	77.77	85.87	79.66	81.95	84.25	86.54	88.84	91.13	94.53	97.93	101.32	104.72	108.12
2	16	11	52.61	51.40	54.72	54.22	62.24	73.25	73.70	75.27	77.19	75.84	70.05	77.97	76.91	85.01	79.50	81.65	83.81	85.96	88.12	90.27	93.58	96.89	100.21	103.52	106.83
2	16	12	51.81	50.09	51.87	51.78	62.52	71.46	72.73	73.64	76.37	73.93	70.09	76.93	75.62	81.98	79.70	81.54	83.38	85.23	87.07	88.91	92.23	95.54	98.86	102.17	105.49
2	16	13	49.26	49.37	49.49	47.70	62.24	70.24	70.32	72.53	75.99	71.21	70.15	74.35	75.12	80.42	78.76	80.64	82.52	84.39	86.27	88.15	91.49	94.83	98.18	101.52	104.86
2	16	14	48.18	48.66	47.34	43.68	61.07	69.75	69.51	71.32	75.55	67.58	68.56	73.53	74.96	78.33	77.93	80.09	82.25	84.42	86.58	88.74	91.93	95.13	98.32	101.52	104.71
2	16	15	46.15	46.97	44.16	42.07	60.08	67.86	68.14	68.12	75.26	67.08	67.82	71.72	73.37	76.95	76.90	79.07	81.24	83.42	85.59	87.76	90.62	93.49	96.35	99.22	102.08
2	16	16	42.61	46.24	41.85	41.99	60.08	67.86	65.60	67.45	74.66	67.27	67.44	71.01	73.11	75.27	76.77	78.85	80.93	83.02	85.10	87.18	89.38	91.58	93.79	95.99	98.19
2	16	17	43.19	47.47	43.59	42.07	61.07	68.06	65.79	68.00	75.40	68.61	68.75	71.01	73.37	76.13	77.65	79.65	81.64	83.64	85.63	87.63	89.96	92.29	94.61	96.94	99.27

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	16	18	47.89	49.82	48.48	47.25	64.36	70.22	68.62	69.95	77.99	72.92	71.92	72.76	75.86	78.64	80.41	82.39	84.37	86.36	88.34	90.32	92.71	95.09	97.48	99.86	102.25
2	16	19	54.15	54.19	55.83	54.64	66.92	104.94	73.56	78.40	98.04	75.97	74.41	77.15	80.49	86.66	89.80	90.74	91.68	92.63	93.57	94.51	97.53	100.55	103.57	106.59	109.61
2	16	20	54.56	54.19	57.68	55.17	67.02	105.59	75.88	83.85	98.09	73.94	75.13	78.01	80.53	90.13	88.33	90.41	92.50	94.58	96.67	98.75	100.99	103.23	105.48	107.72	109.96
2	16	21	52.22	52.45	53.23	51.78	66.50	80.05	72.84	74.68	81.35	73.93	74.15	77.14	78.25	80.68	81.86	84.16	86.46	88.76	91.06	93.36	96.09	98.82	101.56	104.29	107.02
2	16	22	48.86	49.37	49.82	48.22	65.67	72.08	69.51	71.64	77.19	71.74	71.31	73.53	75.65	78.08	79.96	82.22	84.48	86.74	89.00	91.26	93.61	95.97	98.32	100.68	103.03
2	16	23	44.66	46.60	44.37	42.42	62.76	68.75	66.27	68.53	77.25	67.46	67.45	73.55	73.95	77.26	79.58	81.21	82.83	84.46	86.08	87.71	90.31	92.92	95.52	98.13	100.73
2	16	24	37.99	40.92	38.60	39.32	59.70	64.33	61.34	62.74	69.66	63.83	65.19	69.34	70.70	72.31	71.70	73.77	75.84	77.90	79.97	82.04	84.64	87.24	89.84	92.44	95.04
2	17	1	32.49	35.26	36.21	37.39	58.52	60.36	58.87	57.89	63.57	61.92	65.76	64.61	66.82	69.15	69.73	71.79	73.84	75.90	77.95	80.01	82.08	84.14	86.21	88.27	90.34
2	17	2	32.10	33.90	34.96	36.16	58.22	59.34	57.10	56.55	61.55	60.82	64.98	63.19	66.06	67.14	69.16	71.24	73.32	75.40	77.48	79.56	81.32	83.07	84.83	86.58	88.34
2	17	3	31.52	33.85	34.19	35.85	58.06	57.79	55.91	55.70	60.69	60.23	65.11	62.37	65.61	65.88	68.98	71.17	73.36	75.55	77.74	79.93	81.60	83.27	84.93	86.60	88.27
2	17	4	31.52	34.02	34.24	35.59	58.28	57.69	56.00	56.22	61.27	60.21	65.90	62.63	66.10	65.59	68.68	70.94	73.20	75.45	77.71	79.97	81.46	82.95	84.44	85.93	87.42
2	17	5	32.39	36.24	35.12	36.05	59.46	59.57	57.58	56.31	62.29	60.25	67.44	63.79	67.47	66.68	69.34	71.53	73.73	75.92	78.12	80.31	82.12	83.93	85.73	87.54	89.35
2	17	6	37.51	42.49	38.29	37.35	64.34	64.29	62.24	60.76	65.38	61.43	72.67	69.52	71.38	71.48	70.64	72.75	74.86	76.97	79.08	81.19	83.55	85.90	88.26	90.61	92.97
2	17	7	46.03	51.51	43.60	39.13	66.50	67.86	66.67	67.37	71.29	62.86	78.38	72.27	78.92	75.96	73.13	75.39	77.64	79.90	82.15	84.41	86.95	89.49	92.03	94.57	97.11
2	17	8	52.06	54.43	50.15	42.81	89.97	76.81	71.45	72.16	74.87	65.33	118.10	76.32	84.55	80.98	75.82	78.27	80.73	83.18	85.64	88.09	91.69	95.28	98.88	102.47	106.07
2	17	9	51.67	55.78	49.62	47.38	78.47	76.13	70.45	72.46	79.14	69.79	86.66	75.12	84.45	81.35	80.40	82.99	85.58	88.18	90.77	93.36	95.80	98.25	100.69	103.14	105.58
2	17	10	50.68	54.91	49.51	48.94	71.83	73.18	70.45	71.64	80.84	72.11	80.13	73.55	82.39	80.68	81.86	84.16	86.46	88.76	91.06	93.36	95.74	98.12	100.49	102.87	105.25
2	17	11	49.43	54.36	48.93	47.10	69.63	72.33	70.20	71.64	80.84	70.11	77.17	73.55	80.15	80.41	81.86	84.16	86.46	88.76	91.06	93.36	95.62	97.87	100.13	102.38	104.64
2	17	12	48.48	53.50	48.66	45.61	68.40	71.42	69.38	68.76	79.30	69.85	76.73	73.44	77.87	78.91	80.40	82.75	85.09	87.44	89.78	92.13	94.11	96.09	98.06	100.04	102.02
2	17	13	46.48	52.72	46.84	42.37	66.60	69.89	68.36	68.53	76.84	69.53	76.15	73.14	76.51	78.71	77.60	79.86	82.12	84.38	86.64	88.90	91.37	93.84	96.30	98.77	101.24
2	17	14	43.63	49.91	45.95	41.00	66.50	68.40	65.73	68.53	72.55	66.62	75.87	71.36	75.63	78.71	74.84	77.22	79.60	81.97	84.35	86.73	89.62	92.50	95.39	98.27	101.16
2	17	15	41.74	48.66	44.16	38.58	66.25	68.06	64.47	67.82	72.05	64.68	75.05	69.93	74.92	77.93	74.61	76.94	79.27	81.61	83.94	86.27	89.16	92.05	94.94	97.83	100.72
2	17	16	40.23	46.26	42.56	38.40	65.67	67.57	64.14	67.61	71.42	64.07	74.41	69.43	73.37	77.55	74.33	76.63	78.92	81.22	83.51	85.81	88.61	91.41	94.22	97.02	99.82
2	17	17	41.47	48.79	45.27	39.43	65.67	66.32	64.91	68.01	72.05	64.92	74.41	69.96	74.50	78.18	74.50	76.94	79.38	81.82	84.26	86.70	89.29	91.87	94.46	97.04	99.63
2	17	18	46.87	50.68	47.62	42.42	66.96	67.57	68.62	69.21	74.27	67.46	76.73	71.84	76.91	79.97	76.31	78.74	81.17	83.60	86.03	88.46	91.17	93.87	96.58	99.28	101.99
2	17	19	51.65	55.53	62.40	51.47	93.34	73.79	73.18	94.33	80.84	72.41	100.29	75.79	84.45	109.00	81.34	83.77	86.20	88.63	91.06	93.49	97.87	102.25	106.64	111.02	115.40
2	17	20	52.59	55.54	62.70	54.70	100.50	74.45	73.18	89.81	80.59	74.27	101.03	76.32	85.64	102.67	80.41	83.03	85.65	88.26	90.88	93.50	96.81	100.12	103.43	106.74	110.05
2	17	21	51.62	52.82	52.07	53.50	76.91	71.06	70.48	72.93	76.63	73.94	82.01	74.90	77.98	82.56	79.89	82.34	84.80	87.25	89.71	92.16	94.79	97.41	100.04	102.66	105.29
2	17	22	46.87	50.96	49.92	50.25	67.62	67.94	68.62	68.79	75.55	71.95	76.57	72.56	75.65	80.42	76.53	79.25	81.98	84.70	87.43	90.15	92.83	95.51	98.20	100.88	103.56
2	17	23	43.83	47.49	46.36	42.94	64.54	67.20	65.36	67.86	70.17	67.40	74.39	73.53	74.40	79.13	71.83	74.75	77.67	80.58	83.50	86.42	89.54	92.66	95.78	98.90	102.02
2	17	24	37.05	40.20	39.40	38.58	60.98	62.36	60.84	62.74	65.34	63.87	67.87	67.88	69.03	75.13	69.21	71.82	74.43	77.03	79.64	82.25	85.07	87.89	90.72	93.54	96.36
2	18	1	32.65	34.16	36.93	38.33	58.07	59.34	58.60	59.27	60.07	63.21	64.26	64.61	65.79	70.25	67.97	70.45	72.94	75.42	77.91	80.39	82.91	85.44	87.96	90.49	93.01
2	18	2	32.16	33.40	36.21	37.62	56.91	56.52	56.39	57.44	58.47	61.76	62.78	62.68	64.13	69.01	67.75	70.07	72.40	74.72	77.05	79.37	81.94	84.50	87.07	89.63	92.20
2	18	3	32.08	32.99	35.82	37.06	55.16	55.45	56.18	56.78	57.94	60.98	62.46	62.41	64.03	68.22	67.14	69.53	71.92	74.31	76.70	79.09	81.65	84.20	86.76	89.31	91.87
2	18	4	32.57	32.12	36.21	37.11	55.18	55.32	56.44	56.97	57.80	60.98	62.51	62.78	63.69	68.22	66.80	69.22	71.63	74.05	76.46	78.88	81.57	84.26	86.94	89.63	92.32
2	18	5	33.52	33.48	36.60	38.20	56.68	57.25	56.68	57.32	58.30	63.13	63.82	64.10	64.53	68.70	67.35	69.81	72.27	74.73	77.19	79.65	82.40	85.14	87.89	90.63	93.38
2	18	6	39.00	38.84	38.01	45.30	60.56	61.89	61.78	59.98	59.37	66.89	69.40	69.66	68.04	70.23	68.02	70.51	73.00	75.50	77.99	80.48	83.41	86.34	89.27	92.20	95.13
2	18	7	50.01	46.97	40.41	53.25	66.01	66.29	69.95	63.68	61.86	75.10	75.17	76.06	73.79	75.13	70.18	72.55	74.91	77.28	79.64	82.01	85.04	88.08	91.11	94.15	97.18
2	18	8	56.03	52.24	46.48	60.40	74.45	70.90	76.02	67.43	65.41	81.74	80.54	82.34	77.35	78.14	72.31	74.58	76.85	79.13	81.40	83.67	87.55	91.42	95.30	99.17	103.05
2	18	9	55.43	52.02	51.96	58.68	74.12	70.62	75.60	69.25	72.33	81.45	79.04	81.93	76.93	82.22	76.58	78.86	81.13	83.41	85.68	87.96	91.43	94.89	98.36	101.82	105.29
2	18	10	54.84	51.40	53.84	58.57	71.29	69.18	75.03	70.99	73.46	75.10	77.59	81.14	76.35	82.86	79.03	81.36	83.69	86.03	88.36	90.69	93.61	96.53	99.45	102.37	105.29
2	18	11	53.88	51.37	54.52	56.30	69.03	68.54	74.63	73.37	72.88	73.94	78.27	79.41	76.35	83.43	77.30	79.65	81.99	84.34	86.68	89.03	92.34	95.65	98.96	102.27	105.58
2	18	12	51.49	50.75	52.41	53.60	68.06	68.03	71.45	70.12	73.40	73.94	76.87	76.82	75.62	81.78	76.03	78.59	81.14	83.70	86.25	88.81	91.81	94.81	97.82	100.82	103.82
2	18	13	49.43	49.37	47.38	53.03	67.36	67.51	69.95	68.53	71.42	73.31	75.87	74.35	75.60	79.61	74.84	77.24	79.64	82.05	84.45	86.85	89.67	92.49	95.31	98.13	100.95
2	18	14	48.48	49.37	42.17	51.79	66.92	66.63	68.55	67.92	68.91	73.03	74.40	72.64	75.25	77.24	73.12	75.48	77.84	80.20	82.56	84.92	87.89	90.86	93.83	96.80	99.77
2	18	15	43.36	47.71	41.25	50.35	66.25	65.36	66.36	66.28	67.24	72.41	72.75	72.00	75.03	76.06	70.84	73.39	75.95	78.50	81.06	83.61	86.74	89.86	92.99	96.11	99.24
2	18	16	41.35	46.51	40.66	49.03	65.47	64.06	64.48	64.98	65.98	70.82	71.58	70.57	74.47	76.03	70.16	72.73	75.30	77.88	80.45	83.02	86.22	89.42	92.63	95.83	99.03
2	18	17	42.40	46.97	41.47	50.08	65.67	64.88	65.57	67.16	67.39	71.75	72.75	71.82	75.33	75.96	70.80	73.36	75.92	78.49	81.05	83.61	86.67	89.73	92.79	95.85	98.91
2	18	18	49.64	48.96	45.54	51.79	66.50	66.96	69.11	68.22	71.42	73.87	75.17	73.27	75.76	77.18	72.93	75.33	77.73	80.14	82.54	84.94	88.14	91.34	94.55	97.75	100.95
2	18	19	62.36	60.12	55.12	62.63	72.32	72.08	74.46	71.99	77.21	77.02	79.92	78.51	99.89	82.56	79.50	81.85	84.20	86.56	88.91	91.26	94.07	96.87	99.68	102.48	105.29
2	18	20	58.89	58.94	55.65	76.92	78.87	72.31	75.64	72.04	80.67	79.69	81.05	84.53	97.66	81.35	80.41	83.23	86.05	88.87	91.69	94.51	96.38	98.25	100.11	101.98	103.85
2	18	21	53.64	52.02	53.16	56.17	69.44	70.62	71.99	70.56	78.08	75.60	77.59	76.06	76.93	78.91	80.40	83.02	85.64	88.27	90.89	93.51	95.39	97.28	99.16	101.05	102.93
2	18	22	48.73	49.13	47.50	52.26	67.35	67.86	68.92	68.53	75.80	73.84	76.14	73.94	75.62	77.27	77.32	79.55	81.78	84.01	86.24	88.47	90.93	93.40	95.86	98.33	100.79
2	18	23	44.66	47.95	42.03	49.67	64.34	65.06	65.60	67.15	71.30	70.66	72.92	73.54	75.43	73.93	73.19	75.72	78.25	80.79	83.32	85.85	88.12	90.40	92.67	94.95	97.22
2	18	24	37.25	41.01	39.18	42.18	60.15	60.84	61.83	61.83	66.21	64.65	66.82	67.82	70.45	70.64	70.81	73.15	75.49	77.83	80.17	82.51	85.02	87.52	90.03	92.53	95.04
2	19	1	32.18	35.40	37.32	37.45	57.62	58.50	58.46	58.76	63.19	61.59	63.72	64.15	67.01	68.81	70.03	71.96	73.90	75.83	77.77	79.70	82.46	85.21	87.97	90.72	93.48
2	19	2	30.98	34.19	36.38	36.15	54.08	56.28	55.83	57.40	61.89	60.44	62.12	62.49	66.41	66.65	68.83	70.69	72.56	74.42	76.29	78.15	80.85	83.55	86.24	88.94	91.64
2	19	3	30.51	33.90	35.94	35.41	53.06	55.72	55.38	56.66	61.33	60.09	61.28	61.86	65.79	65.28	68.36	70.18	72.00	73.82	75.64	77.46	80.12	82.78	85.44	88.10	90.76
2	19	4	30.14	33.92	36.24	35.78	53.06	56.04	55.28	56.65	61.31	60.21	61.18	61.18	65.64	65.07	68.86	70.61	72.36	74.10	75.85	77.60	80.17	82.74	85.30	87.87	90.44

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	19	5	31.44	34.60	36.57	37.43	54.67	57.19	56.44	57.02	63.14	61.86	62.69	62.60	66.33	65.76	69.15	71.25	73.35	75.45	77.55	79.65	81.85	84.05	86.26	88.46	90.66
2	19	6	33.90	37.28	37.89	42.52	59.70	62.69	60.01	58.35	68.90	64.75	66.73	66.84	67.90	66.72	72.31	74.74	77.18	79.61	82.05	84.48	86.13	87.78	89.43	91.08	92.73
2	19	7	44.32	41.02	39.58	51.18	64.83	68.38	64.14	61.92	76.37	74.87	74.28	70.92	71.48	70.36	80.96	82.91	84.85	86.80	88.74	90.69	91.57	92.45	93.34	94.22	95.10
2	19	8	53.40	45.16	42.11	60.41	68.79	74.12	70.22	64.73	91.00	78.11	78.71	73.66	74.61	72.98	91.42	93.34	95.25	97.17	99.08	101.00	100.02	99.05	98.07	97.10	96.12
2	19	9	53.40	48.87	47.62	59.42	69.12	73.91	70.44	67.74	87.73	79.31	78.61	73.67	75.62	76.91	86.64	89.48	92.32	95.17	98.01	100.85	101.04	101.23	101.41	101.60	101.79
2	19	10	51.70	51.17	48.72	56.25	69.16	73.08	70.22	68.08	82.12	77.34	77.75	73.56	77.53	77.33	81.69	84.29	86.88	89.48	92.07	94.67	96.10	97.53	98.97	100.40	101.83
2	19	11	51.54	50.63	46.84	55.40	68.79	72.13	70.22	67.63	81.30	76.08	76.57	73.55	77.98	76.95	81.69	83.86	86.03	88.21	90.38	92.55	94.40	96.26	98.11	99.97	101.82
2	19	12	48.32	49.55	44.13	54.45	67.64	70.24	69.51	66.37	79.86	75.54	75.67	72.76	76.77	76.91	80.40	82.83	85.26	87.69	90.12	92.55	94.00	95.44	96.89	98.33	99.78
2	19	13	46.48	47.47	42.44	53.36	66.50	69.20	68.46	65.53	76.80	73.94	74.40	72.35	74.42	76.29	80.16	82.17	84.17	86.18	88.18	90.19	92.02	93.85	95.69	97.52	99.35
2	19	14	46.45	44.21	40.82	52.71	66.25	68.06	66.98	64.13	76.01	73.49	73.36	72.56	72.52	74.29	79.89	81.67	83.44	85.22	86.99	88.77	90.28	91.80	93.31	94.83	96.34
2	19	15	42.64	42.84	39.39	50.08	64.77	66.32	66.67	62.68	72.93	72.41	71.41	72.27	72.49	72.14	79.24	80.96	82.68	84.40	86.12	87.84	89.40	90.95	92.51	94.06	95.62
2	19	16	41.48	42.20	38.97	49.13	64.63	64.88	66.18	62.35	72.07	71.74	70.09	72.19	72.06	71.20	78.61	80.30	82.00	83.69	85.39	87.08	88.67	90.26	91.86	93.45	95.04
2	19	17	42.33	43.26	39.67	49.53	64.66	66.29	66.72	63.00	72.33	72.21	70.21	72.39	72.38	72.26	79.25	81.06	82.87	84.67	86.48	88.29	89.67	91.05	92.42	93.80	95.18
2	19	18	47.04	45.99	42.47	52.21	66.25	67.86	67.97	65.26	73.89	73.87	73.05	73.55	73.95	74.90	80.91	83.16	85.42	87.67	89.93	92.18	93.08	93.98	94.88	95.78	96.68
2	19	19	59.18	52.55	51.59	63.83	68.78	72.13	92.58	71.40	83.44	77.12	75.87	95.68	76.67	80.49	92.60	93.44	94.29	95.13	95.98	96.82	98.05	99.28	100.51	101.74	102.97
2	19	20	59.91	52.72	57.70	60.47	70.32	76.35	86.16	72.48	85.99	77.12	76.57	89.19	77.73	82.52	92.83	94.34	95.84	97.35	98.85	100.36	101.31	102.27	103.22	104.18	105.13
2	19	21	52.40	49.85	56.39	56.12	69.12	71.42	72.18	71.99	79.24	76.08	76.15	77.14	76.67	81.35	82.63	85.16	87.69	90.22	92.75	95.28	97.01	98.73	100.46	102.18	103.91
2	19	22	48.84	46.93	48.47	54.23	66.31	67.57	70.08	68.74	73.89	73.94	72.95	73.79	75.62	78.89	81.27	83.44	85.62	87.79	89.97	92.14	94.05	95.96	97.86	99.77	101.68
2	19	23	43.76	43.37	41.53	48.20	63.14	66.49	67.24	66.22	72.07	72.64	70.25	73.55	71.98	75.22	77.59	79.38	81.17	82.95	84.74	86.53	88.76	90.99	93.21	95.44	97.67
2	19	24	37.53	38.51	38.58	41.99	59.83	60.98	62.35	62.43	65.41	66.79	64.95	68.24	68.11	71.00	72.31	74.26	76.21	78.17	80.12	82.07	84.79	87.51	90.22	92.94	95.66
2	20	1	33.08	34.95	38.38	37.37	56.60	58.81	58.53	61.21	60.83	62.28	62.53	65.19	66.79	69.77	69.11	71.11	73.11	75.10	77.10	79.10	81.68	84.26	86.83	89.41	91.99
2	20	2	32.33	33.80	37.51	36.45	54.08	54.49	57.53	59.92	59.37	62.22	61.73	64.06	65.59	67.20	68.10	69.99	71.88	73.78	75.67	77.56	80.05	82.54	85.04	87.53	90.02
2	20	3	32.33	33.29	36.98	35.75	53.83	53.95	56.39	59.05	58.85	60.13	61.74	63.00	63.69	66.86	67.40	69.32	71.24	73.16	75.08	77.00	79.41	81.82	84.22	86.63	89.04
2	20	4	32.39	33.27	37.04	36.30	54.41	54.08	56.76	58.90	58.84	60.21	62.29	62.95	63.44	67.74	67.52	69.51	71.49	73.48	75.46	77.45	79.76	82.07	84.38	86.69	89.00
2	20	5	32.39	33.84	38.28	37.85	55.62	55.14	56.91	61.16	60.51	62.75	63.10	63.76	63.91	69.34	68.67	70.64	72.62	74.59	76.57	78.54	81.00	83.46	85.91	88.37	90.83
2	20	6	34.19	35.00	42.09	43.35	59.37	60.33	57.83	67.53	67.24	68.22	68.54	65.24	64.62	74.19	71.70	74.01	76.31	78.62	80.92	83.23	85.73	88.23	90.72	93.22	95.72
2	20	7	39.06	38.05	53.14	52.62	66.96	65.05	62.02	70.69	74.66	76.17	76.76	69.57	68.36	80.68	80.66	82.69	84.72	86.75	88.78	90.81	93.05	95.30	97.54	99.79	102.03
2	20	8	44.45	41.86	65.28	62.34	71.83	70.85	66.18	79.36	81.97	79.56	78.80	73.53	71.20	87.78	84.36	86.61	88.86	91.10	93.35	95.60	99.11	102.62	106.12	109.63	113.14
2	20	9	48.01	45.27	60.24	59.06	71.18	70.67	68.41	76.96	81.41	78.71	78.07	75.19	73.44	86.11	84.74	86.75	88.76	90.78	92.79	94.80	98.14	101.49	104.83	108.18	111.52
2	20	10	50.24	46.08	57.39	57.56	70.32	70.24	69.52	76.09	81.30	78.45	76.73	77.85	75.01	83.78	82.47	84.77	87.07	89.38	91.68	93.98	97.27	100.56	103.85	107.14	110.43
2	20	11	50.72	45.17	56.76	56.86	69.57	69.46	70.22	75.02	80.82	77.90	76.66	77.97	75.16	83.13	81.86	84.16	86.46	88.76	91.06	93.36	96.41	99.46	102.50	105.55	108.60
2	20	12	49.48	43.94	52.75	54.65	68.49	67.86	68.92	71.51	78.16	77.00	75.47	74.65	73.98	82.48	81.37	83.53	85.69	87.85	90.01	92.17	94.66	97.16	99.65	102.15	104.64
2	20	13	45.01	42.52	52.07	53.30	66.50	67.16	66.79	71.13	74.19	75.45	74.30	73.53	73.80	81.35	80.40	82.75	85.10	87.46	89.81	92.16	94.15	96.14	98.14	100.13	102.12
2	20	14	43.63	40.69	49.35	51.50	66.25	67.16	66.10	70.53	73.89	73.94	74.05	72.14	72.06	80.30	79.96	82.18	84.39	86.61	88.82	91.04	93.22	95.41	97.59	99.78	101.96
2	20	15	41.23	37.80	48.66	49.15	65.37	65.06	64.37	69.52	72.69	72.41	72.00	70.90	70.70	77.28	79.25	81.03	82.81	84.59	86.37	88.15	90.89	93.63	96.36	99.10	101.84
2	20	16	39.60	36.53	47.30	48.92	64.99	65.03	64.13	69.13	72.50	70.52	70.71	70.54	69.74	77.28	78.40	80.13	81.86	83.60	85.33	87.06	90.22	93.38	96.54	99.70	102.86
2	20	17	41.28	37.65	48.26	49.21	65.43	65.20	64.81	69.41	72.83	71.73	72.01	70.48	70.89	77.28	79.42	81.12	82.82	84.53	86.23	87.93	90.74	93.55	96.37	99.18	101.99
2	20	18	44.95	42.09	52.56	51.74	66.69	67.18	66.59	70.88	74.15	73.49	74.54	72.27	73.49	78.11	80.40	82.75	85.10	87.46	89.81	92.16	94.13	96.09	98.06	100.02	101.99
2	20	19	52.23	51.43	71.09	56.21	89.83	85.45	70.44	88.29	79.24	75.64	79.60	75.64	76.58	96.75	83.06	85.71	88.36	91.02	93.67	96.32	101.33	106.35	111.36	116.38	121.39
2	20	20	52.70	52.39	81.29	56.21	93.01	77.32	70.48	92.72	82.05	76.13	86.06	76.32	80.20	99.68	82.87	85.58	88.29	90.99	93.70	96.41	102.37	108.33	114.28	120.24	126.20
2	20	21	49.78	51.81	57.92	55.33	71.86	69.33	69.91	74.54	81.04	77.79	77.96	74.78	79.34	83.71	82.47	84.68	86.89	89.10	91.31	93.52	96.32	99.12	101.92	104.72	107.52
2	20	22	46.45	46.09	50.86	51.27	68.56	67.57	67.02	70.47	74.19	73.94	76.24	73.04	75.62	79.72	81.27	83.45	85.63	87.81	89.99	92.17	94.50	96.82	99.15	101.47	103.80
2	20	23	41.32	42.19	47.62	47.67	64.54	64.78	64.81	68.53	72.38	72.41	72.79	72.01	73.11	77.27	78.97	80.63	82.30	83.96	85.63	87.29	89.92	92.55	95.19	97.82	100.45
2	20	24	36.36	36.95	39.39	41.65	60.15	60.53	61.76	64.90	65.49	66.43	65.87	68.07	68.74	73.20	72.93	74.71	76.50	78.28	80.07	81.85	84.62	87.39	90.15	92.92	95.69
2	21	1	32.90	38.08	37.09	38.05	56.53	58.05	59.14	59.57	61.45	63.22	62.46	64.96	67.90	67.92	69.44	71.46	73.49	75.51	77.54	79.56	81.99	84.42	86.84	89.27	91.70
2	21	2	32.34	36.39	36.00	37.89	53.22	57.19	57.53	57.82	59.45	61.72	60.01	62.63	66.98	66.59	68.66	70.82	72.98	75.13	77.29	79.45	81.54	83.63	85.71	87.80	89.89
2	21	3	32.06	35.24	35.60	38.08	53.09	55.93	56.39	57.27	57.89	61.93	60.21	61.34	65.63	65.55	68.06	70.28	72.49	74.71	76.92	79.14	81.17	83.20	85.23	87.26	89.29
2	21	4	32.01	35.20	35.79	38.77	53.09	56.04	56.64	57.62	58.13	62.70	60.21	61.37	65.63	65.61	68.20	70.36	72.51	74.67	76.82	78.98	81.09	83.20	85.32	87.43	89.54
2	21	5	32.31	37.72	37.09	40.08	54.38	56.49	57.12	59.15	60.07	63.66	61.35	62.07	68.20	68.08	69.29	71.57	73.84	76.12	78.39	80.67	82.80	84.93	87.06	89.19	91.32
2	21	6	33.47	45.99	40.47	47.93	59.14	57.73	58.01	65.21	68.58	72.47	65.47	62.95	74.10	72.18	75.33	76.95	78.56	80.18	81.79	83.41	85.85	88.29	90.73	93.17	95.61
2	21	7	36.35	51.40	51.28	55.49	64.77	61.76	60.82	72.53	75.43	77.51	72.91	67.50	78.53	78.30	83.62	85.33	87.04	88.75	90.46	92.17	94.44	96.71	98.97	101.24	103.51
2	21	8	40.10	56.38	59.64	69.73	70.91	65.22	64.46	79.15	81.41	91.91	78.63	69.59	86.18	83.41	93.63	93.88	94.13	94.39	94.64	94.89	97.70	100.50	103.31	106.11	108.92
2	21	9	44.59	55.87	60.38	67.86	70.75	67.20	66.36	78.72	81.17	87.26	77.61	73.55	83.65	83.41	89.39	90.31	91.23	92.15	93.07	93.99	96.93	99.88	102.82	105.77	108.71
2	21	10	44.65	54.33	58.53	59.72	70.62	68.89	66.72	78.18	80.85	82.67	76.09	73.79	79.44	83.13	88.79	89.74	90.68	91.63	92.57	93.52	96.48	99.43	102.39	105.34	108.30
2	21	11	44.32	52.72	58.01	56.95	70.32	70.35	66.59	78.03	79.50	77.32	75.87	73.29	78.23	82.56	84.73	86.46	88.18	89.91	91.63	93.36	96.10	98.83	101.57	104.30	107.04
2	21	12	42.75	52.28	54.72	55.49	68.56	67.86	66.18	74.28	77.19	75.64	74.54	71.39	77.67	81.78	82.47	84.41	86.35	88.30	90.24	92.18	95.02	97.86	100.71	103.55	106.39
2	21	13	40.92	51.37	53.45	53.36	67.32	66.48	65.60	71.13	74.11	74.13	74.27	70.98	76.58	80.41	81.86	83.86	85.86	87.86	89.86	91.86	94.48	97.10	99.72	102.34	104.96
2	21	14	38.58	50.38	52.29	52.73	66.31	65.69	64.30	70.88	72.46	73.94	72.58	69.45	76.07	79.90	80.40	82.46	84.52	86.57	88.63	90.69	93.48	96.27	99.06	101.85	104.64
2	21	15	36.80	49.16	49.62	51.53	66.01	64.24	62.24	69.52	72.34	73.87	72.08	68.42	75.94	77.65	79.24	80.72	82.20	83.69	85.17	86.65	89.68	92.71	95.74	98.77	101.80

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	21	16	35.95	46.51	47.36	48.87	64.69	63.09	61.86	68.70	72.11	73.13	70.79	68.11	75.63	77.18	77.47	79.16	80.86	82.55	84.25	85.94	89.00	92.06	95.12	98.18	101.24
2	21	17	37.21	47.32	49.62	48.87	65.31	63.46	62.08	69.52	72.34	73.31	71.51	69.01	75.63	77.28	77.93	79.60	81.28	82.95	84.63	86.30	89.27	92.24	95.22	98.19	101.16
2	21	18	41.64	50.36	53.33	52.71	66.50	65.27	64.34	70.89	72.46	75.12	74.04	71.36	76.24	79.49	80.40	81.95	83.50	85.05	86.60	88.15	90.89	93.64	96.38	99.13	101.87
2	21	19	53.57	60.31	66.96	73.04	86.71	70.68	72.51	76.39	79.20	102.33	94.46	74.86	97.60	82.56	81.59	83.94	86.30	88.65	91.01	93.36	96.13	98.90	101.67	104.44	107.21
2	21	20	55.91	62.53	69.08	78.81	85.01	70.72	74.13	76.09	79.20	105.45	79.62	78.95	101.47	83.23	84.20	86.15	88.10	90.04	91.99	93.94	96.93	99.92	102.90	105.89	108.88
2	21	21	54.56	53.40	56.29	59.23	69.05	67.93	73.04	75.52	79.03	82.38	75.67	77.85	80.15	82.94	81.81	84.15	86.49	88.83	91.17	93.51	96.22	98.93	101.63	104.34	107.05
2	21	22	47.42	51.40	54.26	55.49	66.31	66.48	69.61	71.13	72.46	75.64	71.94	75.21	77.06	80.49	80.40	82.21	84.02	85.82	87.63	89.44	92.60	95.76	98.93	102.09	105.25
2	21	23	41.32	46.62	48.59	50.43	64.54	63.46	65.60	69.23	71.42	73.87	69.77	71.62	75.62	77.28	77.91	79.86	81.82	83.77	85.73	87.68	90.30	92.92	95.55	98.17	100.79
2	21	24	36.89	40.76	40.09	42.51	59.70	60.19	62.24	64.35	65.67	66.23	65.90	67.49	71.82	72.26	72.68	74.83	76.97	79.12	81.26	83.41	86.10	88.79	91.49	94.18	96.87
2	22	1	34.49	34.99	37.54	37.53	57.29	57.18	61.17	59.28	60.21	62.66	62.48	65.98	66.41	68.37	69.27	71.51	73.75	75.98	78.22	80.46	82.94	85.41	87.89	90.36	92.84
2	22	2	33.01	33.92	36.37	35.85	55.93	56.04	59.14	57.37	59.48	59.38	61.78	64.74	64.92	67.41	67.89	70.29	72.68	75.08	77.47	79.87	82.18	84.49	86.80	89.11	91.42
2	22	3	32.41	33.84	36.03	35.08	53.31	55.33	56.92	57.03	59.68	58.38	61.37	63.63	64.34	66.72	68.46	70.83	73.19	75.56	77.92	80.29	82.34	84.40	86.45	88.51	90.56
2	22	4	32.33	33.93	36.15	35.39	53.33	55.42	57.04	57.31	60.86	58.23	61.44	63.76	64.88	66.74	69.27	71.63	73.99	76.34	78.70	81.06	82.96	84.86	86.76	88.66	90.56
2	22	5	33.57	34.99	37.33	37.03	54.00	55.73	59.14	59.27	61.79	58.88	61.62	65.64	66.71	68.77	69.89	72.27	74.66	77.04	79.43	81.81	84.13	86.45	88.77	91.09	93.41
2	22	6	41.32	41.85	40.95	41.17	54.99	56.77	63.38	67.09	71.42	65.08	62.75	70.98	71.55	74.51	77.93	79.86	81.79	83.72	85.65	87.58	89.74	91.91	94.07	96.24	98.40
2	22	7	51.54	51.37	52.69	50.35	58.66	60.13	70.58	72.86	79.02	73.94	64.35	76.82	78.19	80.30	84.20	86.30	88.41	90.51	92.62	94.72	96.87	99.03	101.18	103.34	105.49
2	22	8	61.50	55.38	59.65	52.71	60.76	63.43	75.89	80.65	91.69	75.59	67.82	80.74	82.85	83.43	145.06	137.20	129.34	121.49	113.63	105.77	106.42	107.08	107.73	108.39	109.04
2	22	9	55.76	55.67	58.60	52.83	64.32	64.83	75.88	78.72	82.16	75.60	72.78	80.21	82.62	83.22	98.43	98.97	99.52	100.06	100.61	101.15	102.62	104.09	105.56	107.03	108.50
2	22	10	54.94	55.49	55.09	54.39	66.27	65.22	75.23	77.83	81.41	75.82	74.40	79.28	80.54	83.42	89.39	90.89	92.39	93.90	95.40	96.90	99.10	101.30	103.51	105.71	107.91
2	22	11	54.61	55.38	54.50	54.39	66.50	65.04	73.00	75.72	80.54	75.82	73.55	78.01	80.15	82.33	87.08	88.82	90.56	92.29	94.03	95.77	98.04	100.30	102.57	104.83	107.10
2	22	12	52.50	53.89	52.38	53.55	66.31	64.24	70.37	73.98	77.21	75.53	71.58	75.55	77.81	80.49	82.23	84.67	87.12	89.56	92.01	94.45	96.66	98.87	101.07	103.28	105.49
2	22	13	51.31	52.72	50.57	51.15	64.32	62.08	68.89	70.88	76.14	73.87	70.09	74.76	77.53	79.10	81.33	83.70	86.06	88.43	90.79	93.16	95.48	97.80	100.13	102.45	104.77
2	22	14	48.93	51.40	48.84	50.11	63.00	61.43	68.43	70.36	74.53	73.49	68.37	73.55	76.52	77.78	80.41	82.47	84.52	86.58	88.63	90.69	93.31	95.93	98.56	101.18	103.80
2	22	15	47.86	46.56	46.21	48.60	61.33	60.15	67.53	68.76	72.36	72.93	67.57	73.55	75.64	75.78	80.41	82.05	83.68	85.32	86.95	88.59	90.93	93.27	95.60	97.94	100.28
2	22	16	45.51	46.08	45.39	47.45	60.57	59.90	66.98	68.53	72.34	72.41	67.25	73.53	75.25	75.17	80.04	81.64	83.24	84.84	86.44	88.04	90.36	92.68	94.99	97.31	99.63
2	22	17	47.75	48.25	45.72	48.04	61.05	59.93	67.31	68.53	72.34	73.13	67.44	73.55	75.63	75.31	80.40	81.95	83.50	85.05	86.60	88.15	90.48	92.80	95.13	97.45	99.78
2	22	18	51.54	50.53	49.68	50.90	64.18	61.88	69.70	70.39	74.14	73.93	69.93	74.86	75.79	77.15	80.51	82.55	84.58	86.62	88.65	90.69	92.78	94.88	96.97	99.07	101.16
2	22	19	62.23	56.18	54.50	59.99	67.05	65.85	81.17	74.33	99.65	98.83	74.40	82.36	82.76	80.49	100.28	100.58	100.89	101.19	101.50	101.80	102.43	103.05	103.68	104.30	104.93
2	22	20	62.23	56.00	59.57	58.82	68.67	70.42	84.30	76.22	97.75	85.17	74.40	82.67	81.66	81.35	102.96	104.30	105.65	106.99	108.34	109.68	109.00	108.32	107.65	106.97	106.29
2	22	21	54.20	54.91	55.09	53.73	66.31	69.08	73.02	75.42	82.12	75.68	73.38	79.79	78.71	81.78	85.39	87.63	89.88	92.12	94.37	96.61	98.22	99.82	101.43	103.03	104.64
2	22	22	51.59	51.25	49.87	51.94	64.32	65.06	69.70	70.40	77.21	74.49	70.21	75.23	76.95	77.65	81.97	84.03	86.09	88.16	90.22	92.28	94.14	96.00	97.87	99.73	101.59
2	22	23	45.99	46.85	47.12	49.53	60.70	61.91	66.85	69.02	72.46	73.91	67.38	73.55	75.61	77.19	79.81	81.98	84.15	86.32	88.49	90.66	92.35	94.04	95.74	97.43	99.12
2	22	24	38.31	40.69	39.97	42.20	59.10	60.15	62.24	63.07	66.00	66.89	64.83	68.20	71.60	72.52	73.16	75.19	77.22	79.26	81.29	83.32	85.61	87.91	90.20	92.50	94.79
2	23	1	33.78	35.20	37.53	38.05	55.98	58.05	58.31	60.17	59.23	63.22	63.23	64.16	66.41	69.04	69.31	71.30	73.29	75.29	77.28	79.27	82.10	84.93	87.75	90.58	93.41
2	23	2	32.39	34.28	37.17	37.30	53.48	57.25	56.39	58.47	57.97	61.85	61.75	63.11	66.07	68.29	66.49	68.66	70.82	72.99	75.15	77.32	80.39	83.46	86.53	89.60	92.67
2	23	3	31.98	34.02	37.33	36.45	53.59	56.69	55.30	59.55	57.05	60.44	60.87	62.20	64.88	68.85	66.97	68.92	70.87	72.81	74.76	76.71	80.05	83.39	86.74	90.08	93.42
2	23	4	32.34	34.59	37.61	36.94	53.55	56.69	55.30	60.76	56.68	60.73	60.81	62.24	64.88	69.48	66.92	68.83	70.75	72.66	74.58	76.49	80.08	83.67	87.25	90.84	94.43
2	23	5	34.02	35.94	38.48	37.25	54.27	57.55	57.12	62.43	57.30	61.11	61.06	64.19	67.39	71.08	67.40	69.48	71.56	73.64	75.72	77.80	81.34	84.89	88.43	91.98	95.52
2	23	6	39.27	41.79	47.06	38.34	55.10	63.09	63.74	68.12	63.30	62.51	61.98	68.92	73.29	77.28	71.54	73.46	75.38	77.29	79.21	81.13	84.96	88.78	92.61	96.43	100.26
2	23	7	50.77	51.34	53.98	43.45	57.89	67.78	70.60	73.30	72.34	65.42	64.57	75.23	77.95	82.56	79.83	81.69	83.55	85.40	87.26	89.12	92.39	95.67	98.94	102.22	105.49
2	23	8	58.21	55.24	79.82	48.12	61.11	76.03	75.50	87.51	76.37	69.85	66.41	79.79	82.85	107.25	81.85	84.13	86.41	88.69	90.97	93.25	101.97	110.68	119.40	128.11	136.83
2	23	9	56.11	55.73	68.07	51.00	62.72	75.97	75.05	86.51	74.11	74.00	68.61	79.79	80.46	94.52	81.86	84.16	86.46	88.76	91.06	93.36	99.63	105.90	112.18	118.45	124.72
2	23	10	54.61	55.73	56.80	51.51	62.72	70.41	74.85	78.54	74.93	73.93	68.63	79.27	79.34	85.71	81.86	84.28	86.70	89.13	91.55	93.97	97.87	101.76	105.66	109.55	113.45
2	23	11	53.67	53.61	56.63	51.10	61.94	70.04	74.63	76.26	74.91	73.91	68.38	78.37	79.05	84.30	82.23	84.48	86.74	88.99	91.25	93.50	96.73	99.96	103.18	106.41	109.64
2	23	12	51.98	51.37	53.15	50.29	62.24	67.33	73.05	74.50	73.70	72.02	67.44	77.59	77.81	81.35	81.59	83.70	85.82	87.93	90.05	92.16	94.83	97.49	100.16	102.82	105.49
2	23	13	50.45	49.95	50.86	47.26	61.07	65.95	71.55	73.50	72.34	68.65	67.15	75.94	76.52	79.58	80.41	82.75	85.10	87.44	89.79	92.13	94.28	96.42	98.57	100.71	102.86
2	23	14	50.29	49.14	49.25	43.58	60.57	65.43	70.15	70.89	71.75	67.91	65.89	74.65	75.76	78.28	79.37	81.46	83.55	85.64	87.73	89.82	92.21	94.60	97.00	99.39	101.78
2	23	15	47.99	47.39	48.26	41.73	60.02	64.66	67.31	69.52	71.42	66.25	65.13	73.55	74.43	77.40	79.29	80.95	82.62	84.28	85.95	87.61	90.10	92.59	95.09	97.58	100.07
2	23	16	46.48	45.66	46.79	40.23	59.30	64.20	66.82	69.22	69.68	65.11	64.95	73.08	74.22	77.28	78.21	79.75	81.29	82.82	84.36	85.90	88.64	91.38	94.13	96.87	99.61
2	23	17	48.17	46.91	47.34	40.53	60.38	64.43	67.31	69.22	70.98	65.63	64.95	73.55	74.31	77.28	78.21	80.11	82.00	83.90	85.79	87.69	90.12	92.55	94.98	97.41	99.84
2	23	18	50.94	49.14	49.82	43.81	64.27	65.97	69.34	70.81	72.39	67.92	67.61	74.42	76.15	80.68	80.34	82.64	84.94	87.24	89.54	91.84	93.77	95.71	97.64	99.58	101.51
2	23	19	62.23	51.88	61.29	50.43	69.96	84.22	75.83	83.03	92.86	71.75	75.47	80.61	79.11	102.40	93.83	95.37	96.90	98.44	99.97	101.51	103.14	104.76	106.39	108.01	109.64
2	23	20	56.12	52.81	61.45	52.93	71.43	87.84	76.13	89.60	87.42	71.82	79.92	80.34	79.11	112.36	86.14	88.26	90.38	92.50	94.62	96.74	100.78	104.82	108.86	112.90	116.94
2	23	21	53.04	52.81	56.76	50.40	71.13	70.50	74.98	78.26	74.43	70.49	78.99	79.79	78.14	87.12	81.33	83.20	85.07	86.95	88.82	90.69	94.50	98.31	102.13	105.94	109.75
2	23	22	50.45	49.37	52.90	48.37	64.54	65.95	71.60	73.97	73.88	68.02	72.79	76.37	76.50	81.65	80.40	82.28	84.17	86.05	87.94	89.82	93.10	96.39	99.67	102.96	106.24
2	23	23	46.15	46.62	48.94	42.90	64.07	64.47	66.51	70.69	72.34	65.59	69.06	73.55	75.12	77.28	78.87	80.62	82.37	84.12	85.87	87.62	90.49	93.36	96.22	99.09	101.96
2	23	24	37.86	40.76	40.44	38.08	59.98	60.65	62.25	64.90	63.92	62.25	65.13	69.96	71.35	72.56	72.31	74.59	76.87	79.16	81.44	83.72	86.12	88.52	90.92	93.32	95.72
2	24	1	33.14	35.65	37.01	36.16	58.84	57.18	58.52	59.57	59.48	60.50	64.95	65.24	67.90	68.35	69.50	71.61	73.71	75.82	77.92	80.03	82.30	84.57	86.83	89.10	91.37
2	24	2	32.39	35.00	35.52	35.37	56.15	55.78	56.78	56.67	58.36	58.88	62.85	63.96	66.71	66.11	68.48	70.57	72.66	74.74	76.83	78.92	81.00	83.08	85.15	87.23	89.31

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	24	3	31.69	35.19	34.81	35.08	55.48	54.35	55.69	56.35	58.15	58.18	62.24	63.37	66.71	65.11	67.75	69.87	71.99	74.10	76.22	78.34	80.49	82.63	84.78	86.92	89.07
2	24	4	32.08	36.24	34.08	35.08	55.48	54.44	55.99	56.26	57.61	58.18	62.72	63.25	68.49	64.94	67.86	69.95	72.04	74.14	76.23	78.32	80.46	82.59	84.73	86.86	89.00
2	24	5	33.37	38.51	35.13	35.09	56.99	56.14	58.04	56.75	58.13	58.29	64.40	65.05	71.37	66.28	68.17	70.32	72.47	74.62	76.77	78.92	81.18	83.43	85.69	87.94	90.20
2	24	6	39.54	46.21	39.32	36.10	63.08	60.86	63.99	62.23	59.72	58.86	70.18	71.51	75.63	70.77	69.56	71.65	73.75	75.84	77.94	80.03	83.03	86.03	89.04	92.04	95.04
2	24	7	51.27	52.72	49.68	37.53	68.80	68.17	70.29	69.28	63.76	61.83	76.25	76.37	84.27	77.28	72.06	74.08	76.11	78.13	80.16	82.18	85.83	89.48	93.14	96.79	100.44
2	24	8	54.61	62.26	53.02	39.58	72.93	72.71	75.03	72.48	67.15	63.81	90.88	80.74	140.60	83.14	74.98	77.04	79.10	81.15	83.21	85.27	89.12	92.97	96.82	100.67	104.52
2	24	9	54.61	58.57	53.30	45.53	72.70	74.27	74.78	70.89	72.11	67.31	83.29	79.85	92.00	81.78	77.15	79.55	81.94	84.34	86.73	89.13	92.08	95.03	97.98	100.93	103.88
2	24	10	54.36	56.27	54.55	46.71	71.48	73.14	74.46	71.79	72.34	68.00	76.82	79.85	85.54	81.78	79.50	81.74	83.98	86.21	88.45	90.69	93.33	95.98	98.62	101.27	103.91
2	24	11	53.91	53.99	54.47	45.51	71.27	72.55	74.34	72.09	72.34	68.00	77.51	78.79	82.49	80.17	80.16	82.27	84.37	86.48	88.58	90.69	93.26	95.84	98.41	100.99	103.56
2	24	12	51.42	52.72	51.44	43.36	70.47	70.51	72.85	70.89	68.23	67.24	75.71	77.15	79.05	78.29	78.21	80.08	81.96	83.83	85.71	87.58	90.48	93.39	96.29	99.20	102.10
2	24	13	49.95	52.25	49.68	41.72	68.80	68.33	70.44	70.39	65.67	66.12	74.40	76.00	77.67	77.28	75.36	77.24	79.13	81.01	82.90	84.78	88.19	91.60	95.01	98.42	101.83
2	24	14	48.91	51.57	49.62	40.47	66.95	66.15	67.46	69.52	63.80	64.10	72.59	74.77	75.63	77.28	72.57	74.74	76.90	79.07	81.23	83.40	87.04	90.69	94.33	97.98	101.62
2	24	15	46.28	50.47	46.77	38.54	66.37	64.48	66.67	69.13	61.97	63.20	71.80	73.35	75.63	77.28	71.71	73.76	75.81	77.85	79.90	81.95	85.50	89.04	92.59	96.13	99.68
2	24	16	43.79	50.47	45.02	38.22	65.73	63.84	66.18	67.63	61.27	63.20	70.03	72.44	75.63	75.96	70.81	72.87	74.94	77.00	79.07	81.13	84.69	88.24	91.80	95.35	98.91
2	24	17	45.59	50.55	46.38	39.87	66.31	64.20	66.66	68.53	61.57	64.10	71.04	72.76	75.63	77.19	71.21	73.21	75.20	77.20	79.19	81.19	84.76	88.33	91.89	95.46	99.03
2	24	18	48.91	52.45	50.14	44.74	67.75	65.78	68.79	70.39	64.55	68.35	73.98	73.55	77.73	77.28	72.06	74.12	76.19	78.25	80.32	82.38	86.30	90.22	94.15	98.07	101.99
2	24	19	52.71	64.60	56.69	52.11	71.39	70.50	73.36	74.20	69.85	73.93	79.54	78.12	89.07	88.80	77.39	79.55	81.71	83.86	86.02	88.18	91.60	95.02	98.45	101.87	105.29
2	24	20	53.67	67.52	56.59	60.34	72.32	71.58	72.85	75.01	70.61	80.17	79.60	80.14	95.90	83.22	79.37	81.26	83.16	85.05	86.95	88.84	92.08	95.31	98.55	101.78	105.02
2	24	21	52.62	56.38	52.61	56.83	70.89	70.42	72.04	70.40	68.38	76.37	75.42	79.93	85.58	80.68	77.43	79.31	81.19	83.08	84.96	86.84	90.01	93.17	96.34	99.50	102.67
2	24	22	48.91	52.72	49.68	49.59	67.56	66.31	67.89	69.95	66.17	73.88	74.00	75.23	80.53	78.30	75.62	77.46	79.30	81.15	82.99	84.83	88.52	92.22	95.91	99.61	103.30
2	24	23	44.79	50.43	47.79	46.42	64.60	64.09	66.12	68.28	62.14	68.24	69.51	73.54	76.93	77.27	71.88	74.17	76.46	78.74	81.03	83.32	86.99	90.66	94.34	98.01	101.68
2	24	24	37.51	43.52	39.32	39.01	60.28	60.63	62.96	62.68	58.43	63.25	65.28	70.64	73.32	71.20	69.60	71.65	73.70	75.76	77.81	79.86	83.16	86.47	89.77	93.08	96.38
2	25	1	33.78	35.65	36.36	36.51	56.37	57.32	59.23	59.15	57.49	62.01	62.74	66.84	67.46	68.59	68.32	70.19	72.06	73.92	75.79	77.66	80.46	83.25	86.05	88.84	91.64
2	25	2	33.14	33.92	35.85	35.51	54.64	56.41	57.44	57.92	56.63	60.86	60.87	64.66	64.08	67.65	66.96	68.81	70.65	72.50	74.34	76.19	79.10	82.01	84.93	87.84	90.75
2	25	3	33.27	33.34	35.56	35.28	54.02	54.38	57.63	56.82	55.73	60.10	60.55	65.04	63.69	66.02	65.95	67.99	70.02	72.06	74.09	76.13	78.79	81.45	84.12	86.78	89.44
2	25	4	34.16	33.16	35.77	35.31	54.27	54.53	58.55	57.12	55.67	60.10	60.55	66.42	62.83	66.27	65.92	67.95	69.98	72.02	74.05	76.08	78.84	81.60	84.37	87.13	89.89
2	25	5	36.12	34.18	36.21	36.58	55.45	56.04	60.74	57.51	55.97	61.23	61.91	68.36	64.55	66.59	66.01	68.16	70.31	72.46	74.61	76.76	79.44	82.12	84.79	87.47	90.15
2	25	6	44.74	40.76	37.54	41.01	59.64	61.87	66.67	59.95	56.40	65.33	66.80	73.95	71.92	69.66	66.58	68.89	71.20	73.52	75.83	78.14	80.91	83.67	86.44	89.20	91.97
2	25	7	52.32	49.31	39.87	50.26	67.85	68.38	71.45	63.69	58.27	74.78	74.95	80.14	76.53	71.00	69.28	71.27	73.26	75.24	77.23	79.22	82.15	85.07	88.00	90.92	93.85
2	25	8	87.04	54.79	46.30	54.01	71.78	70.20	97.83	66.51	60.87	77.29	81.63	112.04	82.85	74.23	70.97	72.99	75.01	77.03	79.05	81.07	84.16	87.26	90.35	93.45	96.54
2	25	9	67.03	54.34	49.68	53.64	71.60	70.46	83.26	68.53	63.99	77.80	79.68	90.95	81.78	77.27	73.36	75.67	77.98	80.28	82.59	84.90	87.87	90.85	93.82	96.80	99.77
2	25	10	55.33	52.81	51.01	53.18	71.17	70.50	75.38	69.52	65.37	75.86	76.42	82.54	80.15	77.28	74.17	76.34	78.51	80.69	82.86	85.03	88.45	91.87	95.28	98.70	102.12
2	25	11	54.61	52.81	50.14	53.17	70.94	69.69	74.41	69.61	65.45	76.09	76.10	80.74	79.17	77.28	73.68	75.80	77.92	80.04	82.16	84.28	87.85	91.42	94.98	98.55	102.12
2	25	12	52.58	51.40	46.47	51.15	69.94	69.38	73.54	68.53	64.85	74.88	75.71	79.85	77.81	77.27	72.83	75.01	77.18	79.36	81.53	83.71	87.09	90.47	93.85	97.23	100.61
2	25	13	52.19	50.47	41.07	49.99	69.22	67.30	72.58	67.21	63.36	74.05	74.74	76.82	76.35	74.91	71.75	74.04	76.33	78.63	80.92	83.21	85.90	88.59	91.29	93.98	96.67
2	25	14	51.07	49.91	39.61	49.57	68.80	65.97	71.48	63.81	61.78	73.72	74.28	76.10	75.63	72.91	70.19	72.52	74.85	77.18	79.51	81.84	84.48	87.12	89.76	92.40	95.04
2	25	15	48.48	47.94	38.44	49.03	66.37	64.48	67.90	62.49	60.43	73.46	72.05	74.38	75.63	69.84	69.76	72.00	74.23	76.47	78.70	80.94	83.49	86.04	88.60	91.15	93.70
2	25	16	47.90	46.08	37.54	47.58	66.31	63.91	66.80	61.70	60.57	72.28	71.80	73.54	75.52	69.47	69.27	71.55	73.83	76.11	78.39	80.67	83.10	85.53	87.96	90.39	92.82
2	25	17	48.40	46.51	37.59	48.06	66.31	64.20	67.46	61.70	61.80	73.46	72.06	73.54	75.62	69.48	70.48	72.69	74.89	77.10	79.30	81.51	83.78	86.05	88.33	90.60	92.87
2	25	18	51.68	49.40	40.02	49.99	68.48	65.97	68.85	63.41	66.09	74.25	74.23	75.55	75.63	71.44	74.17	76.19	78.21	80.23	82.25	84.27	86.28	88.29	90.29	92.30	94.31
2	25	19	67.03	52.81	47.50	55.48	72.21	67.96	94.94	67.41	72.34	80.46	79.33	99.40	81.91	75.15	80.40	82.41	84.42	86.42	88.43	90.44	92.14	93.83	95.53	97.22	98.92
2	25	20	70.06	52.81	49.35	53.90	71.33	69.54	104.24	67.60	83.12	78.54	77.43	107.34	82.85	77.28	88.85	90.58	92.31	94.04	95.77	97.50	98.51	99.52	100.53	101.54	102.55
2	25	21	54.94	52.45	46.47	50.40	71.13	69.19	75.50	67.21	75.04	74.60	76.61	83.15	80.15	77.18	82.80	85.03	87.27	89.50	91.74	93.97	95.33	96.70	98.06	99.43	100.79
2	25	22	52.29	49.65	41.43	48.99	68.19	66.00	73.50	65.06	71.42	72.99	74.83	79.93	77.68	74.90	79.33	81.49	83.66	85.82	87.99	90.15	91.70	93.26	94.81	96.37	97.92
2	25	23	48.07	47.56	38.59	47.23	64.83	63.58	68.14	63.06	64.93	68.35	71.81	74.86	75.62	71.02	72.73	74.87	77.00	79.14	81.27	83.41	85.56	87.71	89.87	92.02	94.17
2	25	24	38.99	41.04	35.96	40.41	60.18	60.53	62.82	59.06	61.00	64.88	66.82	72.10	71.84	69.35	70.34	72.48	74.63	76.77	78.92	81.06	82.99	84.92	86.86	88.79	90.72
2	26	1	33.14	36.20	34.47	37.15	56.63	58.05	58.31	56.31	58.68	62.03	63.12	65.87	66.72	65.09	68.00	70.72	73.44	76.15	78.87	81.59	82.92	84.24	85.57	86.89	88.22
2	26	2	32.18	35.04	34.16	36.74	53.43	56.14	56.27	55.19	57.97	60.21	61.58	62.72	66.01	63.91	67.40	69.98	72.55	75.13	77.70	80.28	81.72	83.15	84.59	86.02	87.46
2	26	3	31.21	34.69	34.18	37.40	53.19	57.17	55.47	55.03	57.54	60.78	61.22	62.20	64.58	63.73	66.85	69.42	71.99	74.55	77.12	79.69	81.24	82.79	84.34	85.89	87.44
2	26	4	30.95	34.98	34.17	37.96	53.45	57.55	55.44	55.84	57.52	62.03	61.50	62.10	65.03	64.07	66.85	69.40	71.95	74.51	77.06	79.61	81.10	82.58	84.07	85.55	87.04
2	26	5	32.32	35.93	34.47	40.03	54.86	59.90	56.20	55.14	58.35	64.93	62.76	62.77	65.52	63.87	68.17	70.77	73.38	75.98	78.59	81.19	82.58	83.97	85.37	86.76	88.15
2	26	6	37.99	38.38	34.96	49.73	60.18	64.25	61.32	55.99	62.71	73.31	68.06	69.28	68.16	64.78	71.20	74.35	77.51	80.66	83.82	86.97	87.53	88.09	88.65	89.21	89.77
2	26	7	48.74	41.86	35.85	56.26	66.74	67.96	67.53	57.33	72.94	79.86	74.69	74.53	71.54	66.50	77.49	80.97	84.45	87.94	91.42	94.90	94.38	93.86	93.34	92.82	92.30
2	26	8	52.71	46.65	37.54	62.50	69.50	81.41	70.95	60.46	78.06	84.86	76.25	78.31	75.57	69.12	81.86	85.39	88.93	92.46	96.00	99.53	98.45	97.37	96.28	95.20	94.12
2	26	9	52.71	49.34	39.85	60.59	70.79	76.13	72.76	63.73	76.10	79.85	75.90	76.59	75.63	72.24	81.86	85.63	89.40	93.17	96.94	100.71	99.60	98.48	97.37	96.25	95.14
2	26	10	52.71	50.43	41.30	55.70	69.33	72.49	72.69	64.68	74.99	77.62	75.24	77.01	76.07	73.14	81.81	85.35	88.90	92.44	95.99	99.53	98.77	98.01	97.24	96.48	95.72
2	26	11	51.98	50.43	40.52	55.41	69.28	70.50	72.75	64.68	75.09	77.52	74.41	77.21	75.63	73.00	81.12	84.29	87.46	90.62	93.79	96.96	96.81	96.67	96.52	96.38	96.23
2	26	12	50.77	47.49	39.70	53.55	67.93	70.05	70.07	64.23	73.94	76.62	72.74	76.58	75.63	72.52	80.04	83.12	86.20	89.27	92.35	95.43	95.69	95.95	96.20	96.46	96.72
2	26	13	48.40	44.75	39.15	51.51	66.37	68.75	68.88	63.73	72.72	75.82	71.39	74.38	74.22	72.26	79.37	82.17	84.97	87.76	90.56	93.36	93.83	94.30	94.78	95.25	95.72

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	26	14	48.17	42.02	38.47	51.15	65.67	68.46	68.35	62.13	72.40	75.63	70.15	73.54	72.85	70.14	78.76	81.68	84.60	87.52	90.44	93.36	93.62	93.89	94.15	94.42	94.68
2	26	15	44.72	40.76	37.02	49.76	64.72	68.17	67.31	60.76	72.24	74.05	70.09	73.54	71.83	69.66	76.99	80.17	83.35	86.54	89.72	92.90	93.04	93.18	93.32	93.46	93.60
2	26	16	41.48	39.77	37.02	49.67	63.09	65.67	66.35	60.75	71.43	74.05	69.90	73.54	71.07	69.47	75.61	78.63	81.65	84.67	87.69	90.71	91.29	91.87	92.44	93.02	93.60
2	26	17	43.45	40.54	38.28	49.75	64.42	65.68	66.98	61.70	72.24	74.03	70.60	73.54	71.37	70.79	75.78	79.00	82.22	85.44	88.66	91.88	92.45	93.02	93.59	94.16	94.73
2	26	18	48.39	42.83	40.84	50.40	66.37	69.22	69.09	65.06	72.68	75.00	72.31	74.66	72.38	73.90	78.04	81.39	84.74	88.08	91.43	94.78	95.54	96.30	97.06	97.82	98.58
2	26	19	56.12	47.56	49.62	55.41	69.18	91.46	71.55	68.01	78.15	77.67	75.09	87.34	75.63	77.28	84.43	87.77	91.11	94.46	97.80	101.14	101.88	102.62	103.37	104.11	104.85
2	26	20	54.30	48.27	52.49	63.69	71.22	106.76	73.01	69.67	78.50	78.99	75.62	80.14	75.63	80.42	81.86	85.39	88.92	92.46	95.99	99.52	100.96	102.40	103.83	105.27	106.71
2	26	21	51.54	47.49	50.18	56.79	68.97	72.67	70.22	69.23	72.68	78.57	74.41	76.82	75.63	79.58	80.24	83.38	86.52	89.66	92.80	95.94	97.84	99.74	101.64	103.54	105.44
2	26	22	48.93	45.17	47.83	53.55	68.00	70.30	68.56	69.23	72.06	76.37	72.75	74.92	74.24	76.74	76.34	79.21	82.09	84.96	87.84	90.71	93.21	95.71	98.22	100.72	103.22
2	26	23	47.42	41.50	40.82	51.77	64.57	66.15	66.86	63.74	66.61	74.60	70.09	73.54	71.83	74.10	73.51	76.21	78.91	81.62	84.32	87.02	89.03	91.05	93.06	95.08	97.09
2	26	24	38.93	37.00	37.70	46.18	60.41	61.07	61.67	60.02	62.07	70.16	66.69	69.99	67.90	69.78	70.22	72.65	75.08	77.51	79.94	82.37	84.73	87.09	89.44	91.80	94.16
2	27	1	33.92	33.85	35.95	39.17	57.99	57.65	58.31	58.41	58.22	64.45	64.26	65.57	64.08	67.69	67.46	69.68	71.89	74.11	76.32	78.54	81.41	84.28	87.16	90.03	92.90
2	27	2	33.14	32.77	34.90	38.80	56.15	54.41	57.62	57.53	57.63	62.70	62.18	64.32	62.47	66.40	66.05	68.69	71.34	73.98	76.63	79.27	81.67	84.08	86.48	88.89	91.29
2	27	3	32.69	32.27	34.47	38.73	56.15	54.33	56.88	57.14	58.33	62.85	61.90	62.78	62.42	66.42	66.52	69.31	72.09	74.88	77.66	80.45	82.51	84.57	86.64	88.70	90.76
2	27	4	33.25	32.22	34.48	39.21	56.53	54.31	56.92	57.10	59.72	64.33	62.89	62.86	62.18	66.62	67.67	70.47	73.28	76.08	78.89	81.69	83.48	85.28	87.07	88.87	90.66
2	27	5	33.92	32.56	35.83	41.70	57.99	54.84	57.58	57.82	62.85	67.46	65.19	63.40	62.48	67.47	68.90	72.05	75.21	78.36	81.52	84.67	86.12	87.56	89.01	90.45	91.90
2	27	6	35.92	33.76	39.38	51.55	63.08	60.03	60.44	61.15	72.40	75.03	71.41	66.47	63.38	71.85	76.53	80.17	83.81	87.44	91.08	94.72	95.79	96.86	97.93	99.00	100.07
2	27	7	38.26	35.24	48.82	57.15	68.80	65.52	63.18	71.68	77.28	80.91	76.24	69.87	65.08	78.64	83.64	86.82	90.00	93.17	96.35	99.53	100.59	101.65	102.70	103.76	104.82
2	27	8	43.84	37.90	55.03	91.04	97.36	70.51	66.04	74.50	79.82	140.19	113.22	72.67	68.64	79.86	85.75	89.11	92.47	95.84	99.20	102.56	103.34	104.13	104.91	105.70	106.48
2	27	9	47.42	42.63	56.20	67.46	87.96	68.32	66.98	74.50	79.37	87.49	94.83	73.54	71.37	79.39	84.55	87.67	90.79	93.92	97.04	100.16	101.42	102.68	103.95	105.21	106.47
2	27	10	47.42	43.52	52.38	57.61	72.79	68.72	67.55	73.58	77.28	79.76	82.03	73.54	72.42	79.00	83.94	87.06	90.18	93.29	96.41	99.53	100.73	101.93	103.14	104.34	105.54
2	27	11	47.42	42.83	52.10	56.74	71.33	69.19	67.01	73.64	77.52	79.48	77.32	73.54	71.93	79.00	81.99	85.50	89.01	92.51	96.02	99.53	100.70	101.87	103.05	104.22	105.39
2	27	12	45.65	42.06	50.35	55.48	69.94	66.15	65.60	72.50	77.52	77.41	78.80	73.54	71.37	78.03	81.21	84.84	88.46	92.09	95.71	99.34	100.40	101.46	102.52	103.58	104.64
2	27	13	41.86	41.47	48.15	53.41	68.80	65.55	65.60	71.36	77.28	75.14	75.72	72.44	71.37	77.33	80.49	84.11	87.73	91.35	94.97	98.59	99.42	100.24	101.07	101.89	102.72
2	27	14	38.60	40.14	46.48	50.40	67.75	65.44	62.44	69.75	76.42	75.05	74.39	71.35	70.38	77.33	80.49	83.98	87.46	90.95	94.43	97.92	98.74	99.57	100.39	101.22	102.04
2	27	15	36.74	39.02	44.79	50.15	66.37	64.72	61.86	68.59	74.41	74.13	73.18	69.08	69.03	77.27	80.02	82.60	85.18	87.75	90.33	92.91	94.73	96.55	98.38	100.20	102.02
2	27	16	36.14	38.97	42.47	49.99	65.76	64.25	61.46	67.24	72.96	73.62	72.23	68.38	68.03	76.61	80.04	82.61	85.19	87.76	90.34	92.91	94.60	96.30	97.99	99.69	101.38
2	27	17	36.35	39.87	43.61	50.40	66.31	65.06	61.72	67.78	72.68	73.82	72.31	68.42	69.68	77.09	80.07	82.64	85.21	87.77	90.34	92.91	94.72	96.54	98.35	100.17	101.98
2	27	18	38.93	42.84	48.78	51.16	68.48	65.97	62.80	70.34	76.06	74.41	75.71	69.96	72.30	77.33	80.49	83.71	86.94	90.16	93.39	96.61	97.86	99.11	100.36	101.61	102.86
2	27	19	46.33	49.41	54.01	53.86	84.70	73.68	66.60	72.66	79.45	77.89	88.60	72.99	75.63	77.48	83.36	86.59	89.83	93.06	96.30	99.53	100.68	101.83	102.99	104.14	105.29
2	27	20	47.42	55.16	52.77	70.03	99.79	70.50	66.66	73.34	81.31	85.39	103.02	73.54	77.53	77.34	88.53	91.08	93.64	96.19	98.75	101.30	102.16	103.01	103.87	104.72	105.58
2	27	21	45.92	52.65	50.73	58.37	73.60	67.96	65.67	72.58	79.45	78.91	80.10	73.43	76.93	77.34	85.51	88.56	91.61	94.65	97.70	100.75	101.53	102.31	103.08	103.86	104.64
2	27	22	43.84	49.19	45.85	55.50	68.85	65.84	62.72	68.58	77.51	76.78	75.91	72.18	75.61	76.66	81.81	85.35	88.90	92.44	95.99	99.53	100.00	100.47	100.94	101.41	101.88
2	27	23	37.88	42.52	41.12	50.38	65.73	64.53	61.83	67.72	73.48	74.88	73.36	69.06	72.01	73.47	80.49	83.75	87.02	90.28	93.55	96.81	97.32	97.83	98.33	98.84	99.35
2	27	24	34.13	38.95	37.92	47.28	61.17	61.74	58.46	63.69	71.23	71.00	67.57	66.03	68.26	69.26	76.20	78.70	81.21	83.71	86.22	88.72	89.76	90.79	91.83	92.86	93.90
2	28	1	31.64	34.52	35.19	41.19	57.39	59.18	55.69	58.08	63.67	65.73	63.68	62.63	65.70	66.59	70.97	73.44	75.91	78.38	80.85	83.32	84.72	86.13	87.53	88.94	90.34
2	28	2	30.77	33.53	35.41	38.83	54.39	57.18	54.51	58.49	61.35	62.82	61.01	61.73	64.14	66.72	68.32	71.01	73.70	76.38	79.07	81.76	83.61	85.47	87.32	89.18	91.03
2	28	3	30.73	33.24	36.19	38.80	53.61	55.73	54.41	59.15	60.78	62.19	60.76	61.03	63.91	67.64	68.17	70.97	73.77	76.58	79.38	82.18	84.12	86.06	87.99	89.93	91.87
2	28	4	30.71	33.01	37.62	40.01	53.79	56.01	54.38	61.42	62.35	62.88	60.67	60.75	63.86	69.19	69.09	72.04	74.99	77.94	80.89	83.84	85.83	87.82	89.80	91.79	93.78
2	28	5	30.75	34.25	39.11	43.35	54.46	56.55	54.59	63.52	65.55	66.67	61.12	61.28	64.61	72.10	70.97	74.16	77.35	80.53	83.72	86.91	88.82	90.74	92.65	94.57	96.48
2	28	6	31.80	40.49	46.79	50.46	58.80	59.41	55.41	68.76	74.13	74.05	66.26	62.04	67.88	77.34	79.59	83.29	87.00	90.70	94.41	98.11	99.22	100.33	101.43	102.54	103.65
2	28	7	33.63	49.06	53.27	56.26	64.81	61.74	56.62	72.42	81.42	78.55	73.78	62.72	75.63	81.39	86.10	89.66	93.22	96.77	100.33	103.89	104.81	105.73	106.66	107.58	108.50
2	28	8	36.00	51.27	57.12	77.02	68.03	64.20	59.91	75.43	94.71	96.23	76.54	66.90	78.77	82.44	120.18	118.88	117.58	116.28	114.98	113.68	112.92	112.16	111.39	110.63	109.87
2	28	9	39.65	51.85	56.05	67.72	69.85	65.96	61.86	75.42	88.55	90.22	76.54	69.93	78.39	81.23	97.52	99.03	100.54	102.06	103.57	105.08	106.04	107.00	107.95	108.91	109.87
2	28	10	40.95	51.85	54.48	60.61	69.00	65.97	62.24	74.69	81.63	82.98	75.57	69.96	77.53	80.55	85.75	89.21	92.67	96.12	99.58	103.04	103.99	104.94	105.89	106.84	107.79
2	28	11	39.69	52.03	53.27	56.88	67.61	65.67	62.25	74.53	81.14	80.37	74.41	68.53	77.50	80.74	82.32	86.37	90.42	94.48	98.53	102.58	103.57	104.55	105.54	106.52	107.51
2	28	12	39.65	50.33	51.48	56.07	66.37	64.53	62.24	74.02	78.78	76.20	72.74	68.08	75.90	80.74	81.21	84.95	88.69	92.44	96.18	99.92	101.38	102.85	104.31	105.78	107.24
2	28	13	37.97	49.07	50.99	54.60	65.57	63.89	61.77	73.07	76.19	75.48	71.64	68.25	75.63	80.55	80.49	84.14	87.80	91.45	95.11	98.76	100.24	101.72	103.20	104.68	106.16
2	28	14	36.28	49.06	49.92	52.21	64.60	61.91	60.60	73.07	75.68	74.05	70.46	67.79	75.60	80.47	80.04	83.47	86.91	90.34	93.78	97.21	98.87	100.52	102.18	103.83	105.49
2	28	15	34.96	48.66	48.35	49.91	62.97	60.82	59.66	71.91	74.56	74.05	70.21	66.55	75.39	77.81	78.76	82.33	85.90	89.47	93.04	96.61	98.22	99.82	101.43	103.03	104.64
2	28	16	34.82	47.36	47.80	49.27	61.94	60.28	59.42	71.36	72.40	74.05	69.88	66.03	74.85	77.90	77.39	81.04	84.69	88.34	91.99	95.64	97.27	98.90	100.54	102.17	103.80
2	28	17	36.14	48.55	48.38	49.51	62.89	60.62	60.36	71.68	72.40	74.05	70.26	66.25	75.17	77.81	76.06	79.43	82.80	86.17	89.54	92.91	95.26	97.60	99.95	102.29	104.64
2	28	18	39.60	49.20	49.79	50.46	65.73	61.72	62.73	72.42	73.36	74.05	71.79	68.32	75.63	79.50	78.00	81.71	85.41	89.12	92.82	96.53	98.32	100.11	101.91	103.70	105.49
2	28	19	45.92	50.83	53.86	56.74	69.22	64.43	67.25	73.59	78.90	76.47	77.30	73.54	77.05	82.00	81.81	85.35	88.90	92.44	95.99	99.53	101.24	102.95	104.65	106.36	108.07
2	28	20	46.36	50.22	57.81	75.43	71.33	64.53	67.96	78.45	93.23	93.07	78.71	74.48	77.06	82.92	89.12	92.16	95.20	98.23	101.27	104.31	105.42	106.53	107.65	108.76	109.87
2	28	21	45.65	49.55	54.26	61.43	69.92	64.53	68.31	75.51	82.00	82.59	75.71	73.55	75.72	82.56	84.12	88.00	91.88	95.75	99.63	103.51	104.78	106.05	107.33	108.60	109.87
2	28	22	42.33	47.23	51.06	56.72	66.37	63.71	67.25	73.58	78.90	78.48	74.23	72.62	75.17	81.43	81.81	85.35	88.90	92.44	95.99	99.53	101.13	102.72	104.32	105.91	107.51
2	28	23	36.77	44.62	48.72	51.18	64.34	60.48	62.30	72.18	73.84	74.65	71.81	69.05	73.65	79.49	79.64	83.06	86.49	89.91	93.34	96.76	98.74	100.72	102.69	104.67	106.65
2	28	24	33.71	39.47	41.36	47.13	60.18	57.79	59.59	68.58	72.06	69.83	67.63	65.68	69.64	77.27	74.95	78.43	81.90	85.38	88.85	92.33	93.95	95.58	97.20	98.83	100.45

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2	29	1			37.63				56.63				64.29				70.98				80.86				87.54		
2	29	2			37.54				55.50				63.20				68.22				78.96				87.19		
2	29	3			37.55				55.82				61.64				67.78				78.92				87.49		
2	29	4			38.58				55.75				61.98				69.29				81.12				90.06		
2	29	5			40.52				56.11				62.00				71.02				83.78				92.72		
2	29	6			49.14				60.30				65.16				77.71				92.18				99.04		
2	29	7			54.43				67.57				67.33				84.02				97.91				104.08		
2	29	8			61.66				69.51				71.48				98.53				94.27				91.33		
2	29	9			58.28				69.52				74.40				91.89				97.59				101.72		
2	29	10			54.60				69.30				76.24				84.88				98.57				104.82		
2	29	11			53.69				69.30				74.27				82.05				98.20				105.19		
2	29	12			52.43				68.40				72.98				81.86				96.95				105.15		
2	29	13			49.87				67.59				70.82				80.49				95.11				103.20		
2	29	14			48.27				66.84				68.84				80.49				94.30				102.75		
2	29	15			47.08				66.34				67.40				79.37				93.76				102.21		
2	29	16			45.75				66.14				66.82				80.26				95.40				104.26		
2	29	17			47.19				66.14				66.82				80.42				94.67				105.68		
2	29	18			49.70				66.64				69.28				80.49				95.79				105.16		
2	29	19			53.13				68.18				72.36				85.11				99.86				108.88		
2	29	20			56.85				67.76				73.98				128.37				145.87				155.06		
2	29	21			53.63				66.62				72.05				88.53				104.86				112.95		
2	29	22			51.00				66.14				70.82				82.11				96.34				104.70		
2	29	23			49.22				63.45				67.30				80.49				94.33				103.79		
2	29	24			42.64				60.41				64.58				76.37				90.54				99.04		
3	1	1	32.11	33.53	40.62	39.55	58.40	54.59	56.93	63.59	64.88	66.10	60.83	62.57	65.44	70.77	72.93	75.29	77.65	80.01	82.37	84.73	86.81	88.89	90.96	93.04	95.12
3	1	2	31.11	34.05	39.93	38.39	54.74	54.08	56.85	61.71	61.89	61.86	59.96	60.85	64.58	69.26	69.68	72.37	75.05	77.74	80.42	83.11	85.06	87.02	88.97	90.93	92.88
3	1	3	30.90	34.52	39.45	38.22	53.53	53.91	58.17	61.59	61.89	61.86	59.58	61.11	66.08	69.47	69.14	71.71	74.29	76.86	79.44	82.01	84.15	86.29	88.43	90.57	92.71
3	1	4	30.89	36.34	40.41	38.12	54.27	53.91	60.27	62.83	63.29	61.83	60.35	61.05	67.09	71.75	69.37	72.12	74.88	77.63	80.39	83.14	85.44	87.74	90.04	92.34	94.64
3	1	5	31.69	39.67	42.26	39.35	54.57	54.25	63.87	64.91	66.04	63.38	59.60	62.28	70.45	73.14	70.91	74.06	77.21	80.35	83.50	86.65	88.59	90.53	92.48	94.42	96.36
3	1	6	36.35	47.42	49.79	47.30	56.59	54.66	68.93	72.15	73.72	70.01	60.40	67.14	75.63	80.18	78.05	81.84	85.63	89.42	93.21	97.00	98.89	100.78	102.68	104.57	106.46
3	1	7	45.10	52.03	56.28	52.74	60.44	56.03	72.06	80.38	81.70	75.77	62.35	73.85	80.43	82.93	82.88	86.96	91.04	95.11	99.19	103.27	105.35	107.42	109.50	111.57	113.65
3	1	8	51.11	54.62	72.95	60.22	60.70	59.04	74.80	97.96	100.72	79.70	65.86	78.31	81.42	110.66	84.94	90.67	96.41	102.14	107.88	113.61	114.75	115.89	117.02	118.16	119.30
3	1	9	51.16	53.79	71.80	59.73	64.36	60.52	72.37	85.69	94.65	77.07	68.60	78.15	80.17	92.81	84.55	89.56	94.56	99.57	104.57	109.58	110.73	111.87	113.02	114.16	115.31
3	1	10	50.29	52.82	60.78	55.80	64.83	60.38	71.63	78.83	82.69	75.90	68.44	77.44	79.20	82.93	84.36	88.62	92.89	97.15	101.42	105.68	106.66	107.64	108.61	109.59	110.57
3	1	11	50.23	52.72	56.76	55.19	64.87	60.38	71.61	77.90	80.75	75.65	68.50	77.16	79.13	82.85	83.97	87.79	91.60	95.42	99.23	103.05	104.42	105.79	107.15	108.52	109.89
3	1	12	48.39	52.03	55.08	53.62	64.60	60.38	71.45	74.91	78.90	74.04	68.10	75.86	78.93	81.81	82.11	85.78	89.45	93.11	96.78	100.45	102.06	103.67	105.28	106.89	108.50
3	1	13	47.02	50.97	53.38	52.71	62.11	60.52	70.93	74.03	77.17	74.03	67.55	73.86	78.26	80.79	81.72	85.24	88.77	92.29	95.82	99.34	100.79	102.24	103.69	105.14	106.59
3	1	14	45.92	50.80	52.30	50.44	61.64	60.33	70.26	72.79	76.03	73.01	66.19	73.85	77.38	79.91	81.01	84.42	87.82	91.23	94.63	98.04	99.60	101.17	102.73	104.30	105.86
3	1	15	42.61	49.25	50.18	49.66	60.48	59.55	69.01	71.73	74.78	71.84	65.43	73.56	75.63	78.47	80.49	83.59	86.69	89.80	92.90	96.00	97.83	99.66	101.49	103.32	105.15
3	1	16	41.05	49.07	49.62	48.06	60.18	59.31	68.77	69.26	74.16	70.20	65.41	72.44	75.63	77.33	79.91	82.67	85.42	88.18	90.93	93.69	95.78	97.87	99.95	102.04	104.13
3	1	17	41.87	49.20	50.16	48.06	60.18	60.06	68.81	70.65	74.35	70.20	66.08	73.36	75.60	77.43	80.03	82.81	85.59	88.37	91.15	93.93	96.16	98.39	100.61	102.84	105.07
3	1	18	46.38	49.82	51.63	49.51	61.64	60.74	69.91	72.58	75.23	73.43	67.42	73.62	75.89	79.51	80.49	83.71	86.94	90.16	93.39	96.61	98.53	100.46	102.38	104.31	106.23
3	1	19	51.16	53.44	57.60	53.41	62.78	63.16	72.06	74.12	79.09	74.83	71.28	78.41	79.42	82.72	82.11	85.80	89.49	93.18	96.87	100.56	102.42	104.28	106.14	108.00	109.86
3	1	20	51.16	54.62	82.86	70.92	64.98	65.09	77.53	81.28	100.31	81.91	75.53	78.31	80.98	86.91	105.93	105.70	105.48	105.25	105.03	104.80	106.78	108.76	110.73	112.71	114.69
3	1	21	47.74	53.57	63.99	56.56	64.62	65.09	72.73	78.83	82.95	76.05	75.36	75.45	80.37	85.38	84.82	88.76	92.70	96.64	100.58	104.52	106.06	107.60	109.13	110.67	112.21
3	1	22	42.36	52.09	55.27	55.41	61.94	63.73	71.44	74.50	78.07	74.83	72.05	73.56	79.20	82.56	84.36	87.39	90.43	93.46	96.50	99.53	101.57	103.61	105.64	107.68	109.72
3	1	23	40.06	49.25	51.85	51.15	60.51	60.53	69.00	72.87	75.20	74.04	69.95	71.32	76.29	81.42	81.07	84.60	88.13	91.65	95.18	98.71	100.65	102.59	104.54	106.48	108.42
3	1	24	35.12	42.06	44.62	47.72	58.62	58.58	66.14	68.58	70.61	69.46	65.58	66.46	73.32	77.33	78.20	80.26	82.31	84.37	86.42	88.48	91.53	94.59	97.64	100.70	103.75
3	2	1	32.49	37.47	38.50	38.83	53.57	54.80	60.36	65.71	64.07	64.73	62.58	62.95	68.29	73.77	72.83	74.67	76.50	78.34	80.17	82.01	84.98	87.95	90.93	93.90	96.87
3	2	2	32.65	36.65	37.57	37.97	52.85	53.91	59.33	63.65	58.23	62.19	60.86	62.78	67.01	71.85	69.27	71.41	73.56	75.70	77.85	79.99	83.05	86.10	89.16	92.21	95.27
3	2	3	33.13	37.26	37.17	37.13	52.50	53.82	60.15	62.77	58.17	59.62	61.19	63.86	67.01	70.30	67.92	70.25	72.59	74.92	77.26	79.59	82.48	85.37	88.25	91.14	94.03
3	2	4	35.10	38.86	37.15	36.74	52.79	53.69	61.89	64.21	58.51	58.88	61.15	65.74	68.62	72.03	68.48	70.62	72.77	74.91	77.06	79.20	82.39	85.58	88.76	91.95	95.14
3	2	5	37.29	41.16	38.12	37.20	53.08	54.39	64.66	66.69	59.72	59.81	61.58	68.50	70.64	74.03	67.97	70.47	72.96	75.46	77.95	80.45	83.81	87.17	90.53	93.89	97.25
3	2	6	45.55	49.13	45.06	38.12	53.51	58.97	69.00	71.91	67.98	62.01	66.13	73.81	76.08	79.00	70.84	74.42	78.01	81.59	85.18	88.76	92.29	95.81	99.34	102.86	106.39
3	2	7	51.03	54.51	53.27	40.57	54.71	65.44	76.69	79.21	74.41	64.30	74.30	78.77	82.29	84.66	73.02	78.00	82.98	87.97	92.95	97.93	101.17	104.41	107.64	110.88	114.12
3	2	8	53.94	62.04	56.90	45.74	57.85	67.65	95.53	89.83	77.22	68.76	75.24	82.09	115.18	106.79	78.04	82.34	86.64	90.93	95.23	99.53	104.77	110.01	115.24	120.48	125.72
3	2	9	51.82	59.53	58.47	48.99	60.07	67.82	81.52	85.69	77.27	72.53	74.95	78.46	91.48	94.17	80.48	84.29	88.10	91.90	95.71	99.52	103.00	106.48	109.95	113.43	116.91
3	2	10	51.77	54.09	54.98	50.80	60.18	66.31	75.53	81.19	76.46	74.04	74.28	77.83	80.80	86.25	81.12	84.79	88.46	92.13	95.80	99.47	102.51	105.56	108.60	111.65	114.69
3	2	11	51.59	54.62	54.50	50.80	60.44	67.46	73.41	79.75	76.46	73.45	74.42	78.31	80.31	85.97	81.12	84.79	88.46	92.12	95.79	99.46	102.17	104.88	107.59	110.30	113.01

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	2	12	51.54	52.81	53.27	49.75	60.44	65.78	71.60	77.59	75.26	73.04	73.84	78.46	79.13	84.83	80.48	83.63	86.77	89.92	93.06	96.21	98.94	101.67	104.40	107.13	109.86
3	2	13	50.66	52.62	50.88	47.72	60.44	64.66	70.28	74.86	74.56	71.08	72.24	78.45	77.77	82.38	80.48	83.11	85.74	88.38	91.01	93.64	96.49	99.33	102.18	105.02	107.87
3	2	14	50.31	51.13	49.70	45.30	60.18	64.64	69.59	74.50	72.40	68.76	72.05	78.15	76.66	81.09	78.04	80.65	83.25	85.86	88.46	91.07	94.33	97.60	100.86	104.13	107.39
3	2	15	48.04	49.55	47.80	41.87	58.85	64.41	68.35	73.34	72.40	67.29	70.51	75.86	75.90	78.30	76.33	79.24	82.15	85.05	87.96	90.87	94.01	97.16	100.30	103.45	106.59
3	2	16	48.04	48.17	46.48	41.91	58.46	63.43	68.25	72.60	70.72	66.37	70.46	75.55	75.63	78.02	75.16	77.82	80.49	83.15	85.82	88.48	91.83	95.19	98.54	101.90	105.25
3	2	17	48.04	49.06	47.02	41.95	58.89	64.02	68.35	72.73	71.52	66.85	70.60	75.45	75.90	78.44	75.48	78.22	80.96	83.69	86.43	89.17	92.51	95.84	99.18	102.51	105.85
3	2	18	50.15	50.22	49.41	44.76	60.48	65.14	69.81	73.34	72.40	69.46	72.81	77.83	77.12	79.72	77.88	80.55	83.21	85.88	88.54	91.21	94.49	97.77	101.06	104.34	107.62
3	2	19	52.49	53.70	53.54	49.51	63.57	68.03	72.71	81.19	75.61	73.31	75.36	81.24	79.60	82.93	80.04	83.86	87.68	91.51	95.33	99.15	101.92	104.69	107.47	110.24	113.01
3	2	20	57.28	55.97	64.00	50.80	64.78	68.72	95.47	120.35	82.95	74.04	74.42	84.25	84.90	106.86	81.86	85.57	89.28	93.00	96.71	100.42	106.51	112.60	118.69	124.78	130.87
3	2	21	54.28	54.09	55.91	49.91	63.50	65.58	80.01	90.46	77.46	73.91	72.36	81.18	81.58	85.98	80.48	84.29	88.10	91.90	95.71	99.52	102.52	105.52	108.53	111.53	114.53
3	2	22	51.31	52.62	53.27	47.70	62.25	64.20	70.60	76.09	76.46	72.24	70.18	80.40	80.09	82.34	80.48	84.28	88.08	91.87	95.67	99.47	101.52	103.57	105.62	107.67	109.72
3	2	23	47.68	49.37	49.70	43.64	60.48	61.39	69.01	73.67	73.01	68.82	68.61	76.59	78.39	79.84	76.33	80.11	83.89	87.68	91.46	95.24	97.19	99.14	101.09	103.04	104.99
3	2	24	41.33	45.03	43.92	39.13	58.46	58.93	67.02	68.76	69.07	64.00	65.16	72.67	74.30	74.98	71.70	75.06	78.41	81.77	85.12	88.48	90.64	92.80	94.95	97.11	99.27
3	3	1	36.97	40.28	37.99	37.29	56.07	54.83	62.32	64.05	61.11	59.96	61.58	67.83	71.47	69.63	68.59	71.19	73.79	76.39	78.99	81.59	83.71	85.82	87.94	90.05	92.17
3	3	2	35.88	38.84	36.55	35.83	53.92	55.17	60.73	61.49	58.35	58.88	60.57	65.67	68.29	68.37	67.21	69.69	72.17	74.65	77.13	79.61	82.03	84.45	86.86	89.28	91.70
3	3	3	36.15	38.38	35.83	35.15	53.59	56.40	60.40	61.83	57.37	58.88	61.82	65.75	67.03	68.16	66.91	69.18	71.45	73.72	75.99	78.26	80.75	83.24	85.72	88.21	90.70
3	3	4	37.41	39.38	35.53	35.12	53.52	57.59	61.29	62.08	57.15	58.92	63.51	67.83	68.48	67.94	66.74	69.18	71.62	74.07	76.51	78.95	81.21	83.47	85.72	87.98	90.24
3	3	5	39.60	41.52	35.83	35.80	55.57	59.90	63.41	64.19	57.40	59.39	66.06	69.42	71.83	69.35	67.74	69.93	72.12	74.30	76.49	78.68	81.27	83.86	86.45	89.04	91.63
3	3	6	48.28	47.51	37.50	37.36	59.23	65.68	68.35	69.95	59.43	60.16	73.32	76.26	76.35	75.03	68.50	70.80	73.10	75.39	77.69	79.99	83.51	87.04	90.56	94.09	97.61
3	3	7	53.77	53.05	39.91	38.81	66.47	69.18	72.76	75.61	63.05	62.63	76.99	82.66	80.98	80.28	70.40	72.81	75.21	77.62	80.02	82.43	87.43	92.43	97.43	102.43	107.43
3	3	8	64.07	58.79	46.47	40.79	70.87	70.21	89.54	78.74	69.37	67.03	82.51	105.08	106.59	82.00	74.25	76.89	79.54	82.18	84.83	87.47	91.92	96.37	100.81	105.26	109.71
3	3	9	61.94	55.97	50.32	46.48	70.71	69.12	83.53	78.59	72.39	70.48	78.12	91.22	88.45	81.66	78.20	80.73	83.27	85.80	88.34	90.87	94.64	98.40	102.17	105.93	109.70
3	3	10	54.56	54.62	51.67	47.45	70.63	68.77	75.32	78.23	74.38	72.17	76.97	79.26	84.97	80.82	79.71	82.52	85.32	88.13	90.93	93.74	96.93	100.12	103.31	106.50	109.69
3	3	11	54.29	54.23	50.93	46.33	69.93	68.65	73.23	77.59	73.03	72.14	76.84	79.20	82.16	80.82	79.70	82.51	85.32	88.12	90.93	93.74	96.74	99.75	102.75	105.76	108.76
3	3	12	53.14	53.57	50.32	45.39	68.80	68.77	72.46	75.43	72.39	72.17	76.54	78.01	80.31	79.22	80.02	82.76	85.50	88.25	90.99	93.73	96.37	99.01	101.64	104.28	106.92
3	3	13	51.59	52.62	49.65	44.93	66.91	68.41	70.60	74.21	70.74	70.46	74.43	76.44	78.01	77.94	79.37	81.72	84.07	86.41	88.76	91.11	94.09	97.06	100.04	103.01	105.99
3	3	14	50.66	51.92	46.46	42.11	66.56	67.92	68.89	73.45	69.88	69.21	74.43	75.85	77.53	77.28	77.37	79.58	81.78	83.99	86.19	88.40	91.77	95.14	98.51	101.88	105.25
3	3	15	49.11	51.27	42.91	40.94	66.07	66.15	68.16	73.34	68.24	68.40	73.45	75.21	76.45	77.34	76.19	78.36	80.53	82.71	84.88	87.05	90.66	94.28	97.89	101.51	105.12
3	3	16	47.72	49.76	42.00	40.77	65.25	65.78	66.62	72.58	67.20	67.73	74.00	73.49	75.78	76.61	75.34	77.63	79.93	82.22	84.52	86.81	89.92	93.04	96.15	99.27	102.38
3	3	17	48.81	50.00	42.53	41.99	65.24	65.45	66.62	72.77	68.06	69.19	72.97	73.84	76.13	76.50	76.59	78.63	80.67	82.71	84.75	86.79	90.07	93.35	96.63	99.91	103.19
3	3	18	49.76	51.69	46.47	46.18	66.06	67.20	68.16	73.09	69.26	71.08	74.44	75.48	77.69	77.15	79.31	81.03	82.75	84.48	86.20	87.92	91.00	94.07	97.15	100.22	103.30
3	3	19	54.29	55.49	51.04	49.99	69.12	68.90	72.89	76.52	72.15	74.13	79.65	78.78	81.42	81.23	81.01	84.12	87.24	90.35	93.47	96.58	99.07	101.56	104.06	106.55	109.04
3	3	20	66.60	99.11	53.43	53.81	70.00	71.33	87.20	97.87	74.16	76.87	82.67	90.20	128.53	87.24	84.36	87.32	90.27	93.23	96.18	99.14	102.90	106.66	110.43	114.19	117.95
3	3	21	55.17	55.97	50.56	52.86	67.56	69.59	76.99	77.90	72.97	75.10	79.92	80.57	84.90	82.56	81.72	84.71	87.71	90.70	93.70	96.69	99.34	101.98	104.63	107.27	109.92
3	3	22	52.07	53.00	48.93	49.78	65.86	68.81	71.60	75.51	71.75	72.45	76.74	78.31	80.23	82.00	79.91	82.91	85.91	88.90	91.90	94.90	97.85	100.81	103.76	106.72	109.67
3	3	23	48.43	50.29	42.50	47.90	64.44	67.18	68.18	73.65	68.30	70.25	75.13	74.92	78.01	79.49	77.09	79.38	81.66	83.95	86.23	88.52	92.75	96.98	101.21	105.44	109.67
3	3	24	44.20	44.27	38.70	43.21	60.19	63.26	64.76	68.76	63.29	68.04	70.38	73.22	73.98	76.97	74.63	76.30	77.98	79.65	81.33	83.00	86.68	90.36	94.04	97.72	101.40
3	4	1	38.07	38.02	36.18	41.91	56.78	58.05	60.26	63.16	58.43	66.01	64.71	69.08	69.12	69.30	70.58	72.37	74.16	75.94	77.73	79.52	82.39	85.27	88.14	91.02	93.89
3	4	2	37.19	35.65	35.02	41.56	56.77	56.96	58.23	60.64	57.37	66.02	64.26	66.66	66.88	67.74	70.75	72.17	73.59	75.01	76.43	77.85	80.69	83.53	86.36	89.20	92.04
3	4	3	36.45	34.35	34.27	42.45	57.39	57.61	57.31	58.94	56.63	66.80	64.47	65.48	67.06	67.16	71.51	72.54	73.56	74.59	75.61	76.64	79.52	82.40	85.29	88.17	91.05
3	4	4	37.86	34.60	34.20	43.51	57.99	59.14	57.31	58.49	57.08	68.19	65.68	66.63	67.39	66.74	72.93	73.70	74.47	75.24	76.01	76.78	79.66	82.54	85.43	88.31	91.19
3	4	5	39.81	36.53	35.04	47.18	59.99	61.39	59.35	59.26	58.08	71.22	67.54	69.34	69.12	67.34	75.70	75.96	76.23	76.49	76.76	77.02	79.87	82.72	85.58	88.43	91.28
3	4	6	47.60	43.91	36.24	53.91	64.23	67.10	65.28	61.86	58.89	77.64	74.68	73.80	74.13	68.22	82.70	81.88	81.07	80.25	79.44	78.62	81.50	84.38	87.25	90.13	93.01
3	4	7	53.14	49.59	38.97	58.70	68.36	72.08	69.82	65.16	60.94	82.19	80.89	79.62	79.42	70.79	87.95	86.60	85.25	83.89	82.54	81.19	84.12	87.06	89.99	92.93	95.86
3	4	8	63.83	53.76	42.00	64.35	71.31	91.96	72.06	67.81	65.84	92.52	99.98	101.45	80.99	75.13	123.03	115.30	107.57	99.85	92.12	84.39	87.61	90.83	94.06	97.28	100.50
3	4	9	57.89	53.58	47.08	62.13	71.06	82.90	72.40	69.44	70.46	90.17	87.15	87.85	80.92	77.33	97.62	96.12	94.63	93.13	91.64	90.14	93.32	96.51	99.69	102.88	106.06
3	4	10	55.24	53.00	48.27	61.23	70.86	74.11	71.80	72.58	71.82	84.62	79.90	81.00	79.61	77.92	92.07	92.14	92.21	92.28	92.35	92.42	95.73	99.04	102.35	105.66	108.97
3	4	11	54.58	52.81	46.97	60.89	68.85	73.31	71.80	73.07	70.34	84.46	78.50	80.23	79.20	77.33	89.72	90.10	90.48	90.87	91.25	91.63	95.00	98.38	101.75	105.13	108.50
3	4	12	53.98	51.80	46.48	58.99	68.80	70.40	69.07	69.64	69.01	82.83	76.26	79.00	77.53	77.33	86.36	87.43	88.49	89.56	90.62	91.69	94.47	97.25	100.02	102.80	105.58
3	4	13	51.87	50.83	46.48	58.64	68.18	68.64	69.01	69.44	69.01	81.84	75.31	78.15	77.05	77.33	84.55	85.81	87.08	88.34	89.61	90.87	93.46	96.04	98.63	101.21	103.80
3	4	14	51.45	49.06	43.73	58.25	67.91	67.96	68.92	67.61	68.48	81.26	74.42	76.64	76.27	76.20	84.55	85.54	86.53	87.53	88.52	89.51	91.92	94.33	96.73	99.14	101.55
3	4	15	49.48	48.55	42.26	56.49	66.75	67.43	68.59	65.67	67.31	80.32	72.97	75.52	75.65	74.63	83.03	84.09	85.15	86.22	87.28	88.34	90.02	91.70	93.37	95.05	96.73
3	4	16	49.19	47.26	41.83	54.41	66.47	66.58	67.99	65.37	66.43	78.50	71.81	75.09	75.17	73.68	81.54	82.71	83.88	85.05	86.22	87.39	89.10	90.80	92.51	94.21	95.92
3	4	17	49.40	47.47	42.98	53.86	66.71	67.23	68.31	66.28	67.60	78.57	72.15	75.45	75.57	73.68	81.95	83.40	84.84	86.29	87.73	89.18	90.53	91.88	93.22	94.57	95.92
3	4	18	50.68	48.43	46.52	56.20	67.84	67.96	68.38	67.25	70.39	80.32	72.96	76.68	75.63	74.02	82.52	84.69	86.86	89.02	91.19	93.36	94.38	95.40	96.43	97.45	98.47
3	4	19	54.58	51.90	50.93	58.32	69.27	70.39	70.15	69.26	72.97	82.80	77.23	81.17	78.24	77.15	84.92	88.06	91.21	94.35	97.50	100.64	101.57	102.50	103.43	104.36	105.29
3	4	20	70.26	55.97	84.57	60.48	72.70	92.46	77.61	74.02	85.77	84.62	83.69	101.32	81.45	79.97	89.80	93.03	96.25	99.48	102.70	105.93	106.12	106.30	106.49	106.67	106.86
3	4	21	56.00	52.67	51.04	59.38	71.18	74.37	72.68	73.09	76.13	84.10	79.40	85.36	80.31	79.23	85.75	88.55	91.35	94.16	96.96	99.76	100.97	102.19	103.40	104.62	105.83
3	4	22	53.14	52.05	49.79	58.27	69.35	69.37	71.60	69.26	73.71	80.96	76.54	78.75	79.20	77.33	84.38	86.74	89.11	91.47	93.84	96.20	97.95	99.69	101.44	103.18	104.93

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	4	23	50.64	49.96	47.07	54.56	65.73	67.64	68.59	67.24	71.49	78.28	74.42	76.82	77.53	75.12	81.32	83.17	85.02	86.86	88.71	90.56	92.13	93.70	95.26	96.83	98.40
3	4	24	42.44	42.96	43.52	50.49	63.86	64.20	65.55	61.75	66.09	74.02	70.97	73.49	73.64	70.70	77.95	79.55	81.15	82.74	84.34	85.94	87.55	89.15	90.76	92.36	93.97
3	5	1	36.58	35.69	40.28	42.34	58.91	59.90	60.13	58.49	61.50	67.13	66.33	67.06	68.81	68.17	71.24	73.78	76.32	78.87	81.41	83.95	85.37	86.80	88.22	89.65	91.07
3	5	2	35.37	33.85	40.28	40.82	58.60	58.71	57.73	56.94	61.68	66.24	64.71	65.24	66.82	66.03	70.55	73.07	75.59	78.10	80.62	83.14	84.19	85.24	86.29	87.34	88.39
3	5	3	34.43	33.20	40.47	41.06	59.03	58.24	56.11	56.99	63.38	66.37	64.28	64.97	65.70	65.33	70.36	72.99	75.62	78.25	80.88	83.51	84.30	85.10	85.89	86.69	87.48
3	5	4	33.90	32.77	41.83	42.35	60.38	59.04	56.16	57.14	65.88	67.89	65.54	65.16	65.45	65.07	70.84	73.65	76.46	79.28	82.09	84.90	85.44	85.98	86.51	87.05	87.59
3	5	5	35.87	32.82	47.82	46.64	61.81	60.49	56.48	57.61	70.85	70.62	67.62	66.60	66.40	65.94	73.44	76.57	79.71	82.84	85.98	89.11	88.94	88.77	88.61	88.44	88.27
3	5	6	41.94	34.35	55.12	54.15	66.16	66.15	58.77	57.53	76.23	77.74	73.82	72.06	67.05	66.72	80.13	84.26	88.39	92.52	96.65	100.78	98.46	96.14	93.82	91.50	89.18
3	5	7	51.59	37.55	60.44	57.91	72.60	69.71	60.95	59.57	79.97	82.48	79.60	76.95	70.06	68.85	83.97	88.48	92.99	97.49	102.00	106.51	103.56	100.61	97.66	94.71	91.76
3	5	8	54.30	42.64	67.32	59.34	89.19	90.99	65.62	64.63	106.75	87.45	106.78	80.31	73.11	71.37	86.97	94.65	102.33	110.01	117.69	125.37	119.38	113.40	107.41	101.43	95.44
3	5	9	54.18	46.95	61.56	60.93	82.25	86.59	66.73	67.63	92.56	84.67	90.31	78.75	75.60	76.07	85.98	90.78	95.58	100.38	105.18	109.98	107.92	105.86	103.80	101.74	99.68
3	5	10	53.14	48.43	60.44	59.84	72.59	73.92	68.32	68.58	85.39	82.91	81.75	78.02	76.21	76.20	85.52	90.05	94.58	99.12	103.65	108.18	106.94	105.70	104.45	103.21	101.97
3	5	11	52.74	48.43	59.46	59.38	71.70	71.82	68.31	68.36	84.30	82.72	79.24	77.83	76.35	77.33	85.74	89.97	94.20	98.42	102.65	106.88	105.90	104.92	103.93	102.95	101.97
3	5	12	51.69	47.05	57.64	58.62	70.64	70.99	67.34	68.58	82.40	81.60	78.44	76.74	75.70	77.33	85.47	89.57	93.67	97.76	101.86	105.96	105.12	104.29	103.45	102.62	101.78
3	5	13	50.66	45.79	57.44	58.20	69.93	70.10	66.27	67.81	81.18	80.35	76.45	75.45	75.34	77.32	84.36	88.40	92.43	96.47	100.50	104.54	103.95	103.36	102.77	102.18	101.59
3	5	14	49.14	43.37	57.11	57.59	68.80	68.79	65.63	66.66	80.75	80.35	76.23	73.81	73.37	76.36	82.02	86.32	90.62	94.91	99.21	103.51	102.82	102.13	101.45	100.76	100.07
3	5	15	48.89	41.50	56.30	56.45	66.41	68.17	64.21	65.31	79.93	79.39	74.82	73.56	72.69	74.89	80.65	85.01	89.38	93.74	98.11	102.47	101.85	101.22	100.60	99.97	99.35
3	5	16	47.69	40.97	54.41	55.50	66.31	67.92	63.99	64.90	76.42	78.23	74.42	72.76	71.90	74.43	80.50	84.38	88.26	92.14	96.02	99.90	99.64	99.38	99.13	98.87	98.61
3	5	17	48.82	41.46	54.41	55.80	66.11	67.92	64.20	65.54	76.08	78.23	74.42	73.24	71.93	75.03	81.10	84.78	88.47	92.15	95.84	99.52	99.57	99.62	99.67	99.72	99.77
3	5	18	49.19	43.69	55.45	57.00	66.56	68.17	65.64	68.58	76.46	78.83	76.47	73.56	73.37	77.21	81.50	85.11	88.71	92.32	95.92	99.53	100.28	101.04	101.79	102.55	103.30
3	5	19	52.02	47.88	58.89	61.07	70.64	72.40	68.31	74.12	81.89	83.82	80.15	77.16	75.63	83.24	84.43	88.34	92.25	96.17	100.08	103.99	104.56	105.12	105.69	106.25	106.82
3	5	20	68.05	51.34	61.56	94.16	80.11	86.87	69.81	82.00	84.48	154.52	113.39	83.16	76.36	92.03	128.58	123.78	118.97	114.17	109.36	104.56	107.16	109.76	112.37	114.97	117.57
3	5	21	54.86	49.07	58.89	60.73	72.63	73.28	68.58	77.04	82.86	84.02	82.60	78.78	75.63	82.56	85.76	89.45	93.15	96.84	100.54	104.23	105.36	106.48	107.61	108.73	109.86
3	5	22	51.78	45.96	56.98	58.22	70.18	70.40	67.57	73.59	81.46	81.60	78.50	77.82	75.28	78.46	84.38	88.21	92.03	95.86	99.68	103.51	103.85	104.19	104.53	104.87	105.21
3	5	23	48.93	41.99	53.27	55.50	66.37	68.65	64.52	69.46	75.02	78.28	74.92	74.92	71.98	77.26	80.49	84.98	89.48	93.97	98.47	102.96	102.30	101.64	100.98	100.32	99.66
3	5	24	44.42	37.55	49.49	51.33	64.67	63.73	60.48	67.63	72.35	74.04	70.78	71.32	68.09	74.15	77.44	81.10	84.75	88.41	92.06	95.72	95.70	95.68	95.65	95.63	95.61
3	6	1	36.36	34.10	40.28	42.07	61.23	59.57	57.13	66.74	62.49	66.55	65.76	66.03	66.73	73.47	70.77	73.53	76.29	79.06	81.82	84.58	86.79	89.00	91.20	93.41	95.62
3	6	2	33.78	32.88	39.39	39.74	60.10	57.17	55.37	65.83	61.48	65.22	64.07	64.66	63.70	71.60	69.11	71.86	74.62	77.37	80.13	82.88	85.45	88.02	90.58	93.15	95.72
3	6	3	32.66	32.25	39.91	39.38	60.01	56.74	54.97	67.12	61.44	64.88	63.76	63.85	63.58	73.00	69.11	72.08	75.05	78.01	80.98	83.95	86.49	89.02	91.56	94.09	96.63
3	6	4	32.39	32.19	40.03	39.93	60.47	56.67	55.02	67.87	62.49	65.76	63.78	63.15	63.41	74.93	69.29	72.58	75.86	79.15	82.43	85.72	88.36	91.01	93.65	96.30	98.94
3	6	5	32.50	33.26	43.54	43.05	61.18	57.94	55.76	70.04	65.97	68.26	64.58	64.03	64.11	77.38	70.98	74.36	77.74	81.11	84.49	87.87	91.06	94.24	97.43	100.61	103.80
3	6	6	33.96	34.17	50.56	52.78	66.16	63.20	56.64	73.58	73.55	74.05	68.21	64.93	64.44	82.56	77.31	81.75	86.19	90.63	95.07	99.51	101.95	104.39	106.83	109.27	111.71
3	6	7	37.38	36.54	56.99	56.83	71.20	67.44	58.74	80.03	77.64	80.35	74.35	67.09	66.77	87.70	82.02	86.07	90.13	94.18	98.24	102.29	104.98	107.68	110.37	113.07	115.76
3	6	8	42.13	40.43	59.54	60.01	81.84	73.11	62.77	85.97	82.67	87.19	77.23	71.31	71.47	112.98	87.51	91.19	94.87	98.54	102.22	105.90	110.10	114.30	118.50	122.70	126.90
3	6	9	47.69	43.88	59.99	60.61	77.02	72.91	66.33	85.39	82.39	83.93	76.80	73.55	73.22	95.98	85.98	89.57	93.16	96.74	100.33	103.92	107.31	110.70	114.09	117.48	120.87
3	6	10	48.27	45.83	59.54	59.14	72.70	71.56	66.84	80.26	82.34	81.60	75.71	74.92	73.37	92.02	84.55	88.25	91.95	95.64	99.34	103.04	106.06	109.09	112.11	115.14	118.16
3	6	11	48.27	45.45	59.50	58.29	70.97	69.54	66.69	79.38	82.05	80.79	74.96	74.92	73.90	90.57	84.36	88.24	92.13	96.01	99.90	103.78	106.54	109.29	112.05	114.80	117.56
3	6	12	48.27	44.23	58.23	56.88	69.92	68.57	66.64	78.07	81.18	79.44	74.30	73.55	75.04	86.99	82.52	86.67	90.82	94.97	99.12	103.27	105.63	108.00	110.36	112.73	115.09
3	6	13	45.46	43.44	56.94	56.53	68.80	68.10	66.16	77.98	79.30	78.83	72.24	73.49	73.98	85.18	80.49	84.91	89.33	93.74	98.16	102.58	104.78	106.97	109.17	111.36	113.56
3	6	14	42.40	41.91	56.26	55.50	68.10	65.67	65.55	77.56	78.50	78.52	72.20	72.67	72.45	84.82	78.76	83.52	88.29	93.05	97.82	102.58	104.29	105.99	107.70	109.40	111.11
3	6	15	40.07	41.36	55.75	54.59	67.57	64.20	64.75	77.08	74.20	77.95	71.26	71.00	72.06	83.78	78.05	82.34	86.64	90.93	95.23	99.52	101.57	103.61	105.66	107.70	109.75
3	6	16	39.60	40.82	54.52	52.71	67.31	63.84	62.73	73.87	73.92	76.23	71.13	69.97	71.81	83.19	76.28	80.92	85.55	90.19	94.82	99.46	101.50	103.54	105.58	107.62	109.66
3	6	17	40.06	41.81	54.10	51.91	67.31	64.09	65.51	73.87	74.16	77.11	71.15	70.28	72.30	82.56	76.76	81.31	85.86	90.42	94.97	99.52	101.39	103.26	105.12	106.99	108.86
3	6	18	42.27	44.20	55.08	52.25	68.04	64.41	67.34	74.69	76.01	77.74	71.97	72.41	75.17	82.56	77.65	82.02	86.40	90.77	95.15	99.52	101.59	103.66	105.72	107.79	109.86
3	6	19	48.27	51.15	58.59	56.53	72.65	67.96	71.29	77.74	81.42	80.89	73.84	73.60	78.14	86.48	80.55	85.14	89.73	94.33	98.92	103.51	105.36	107.20	109.05	110.89	112.74
3	6	20	53.68	60.60	89.80	58.75	90.20	74.47	78.68	87.69	121.40	105.73	79.04	76.44	89.53	91.95	84.65	89.06	93.47	97.87	102.28	106.69	110.93	115.18	119.42	123.67	127.91
3	6	21	50.78	53.18	60.78	58.20	73.89	71.33	71.00	81.14	82.43	84.71	75.96	75.45	78.14	86.49	82.75	86.98	91.22	95.45	99.69	103.92	106.02	108.11	110.21	112.30	114.40
3	6	22	47.56	49.51	58.59	56.53	70.00	67.96	69.46	77.67	79.05	79.37	75.04	73.55	75.64	85.13	80.49	84.85	89.21	93.56	97.92	102.28	104.28	106.27	108.27	110.26	112.26
3	6	23	40.06	45.15	53.89	54.14	67.02	65.18	67.02	74.24	74.12	78.23	73.84	70.74	73.38	82.72	80.49	84.30	88.10	91.91	95.71	99.52	102.05	104.58	107.11	109.64	112.17
3	6	24	36.19	41.43	48.04	49.48	64.79	62.39	65.88	71.36	71.13	73.72	68.38	67.26	71.53	77.33	74.67	78.32	81.96	85.61	89.25	92.90	95.50	98.11	100.71	103.32	105.92
3	7	1	32.74	40.58	40.25	39.82	60.19	57.65	64.82	66.04	62.85	67.85	63.87	63.90	71.82	72.98	70.66	73.43	76.20	78.96	81.73	84.50	87.38	90.26	93.15	96.03	98.91
3	7	2	32.01	40.99	38.48	38.73	58.25	56.41	63.04	62.54	60.32	66.01	62.75	61.73	71.39	71.02	69.50	72.02	74.54	77.07	79.59	82.11	84.83	87.55	90.28	93.00	95.72
3	7	3	31.51	42.02	38.44	38.70	58.08	54.51	65.08	62.21	60.30	65.59	61.78	61.21	72.38	70.83	69.41	71.87	74.34	76.80	79.27	81.73	84.53	87.33	90.12	92.92	95.72
3	7	4	31.49	43.81	38.44	38.82	58.14	54.16	66.16	65.40	61.25	66.81	61.22	61.01	73.87	72.04	69.68	72.24	74.81	77.37	79.94	82.50	85.75	89.00	92.26	95.51	98.76
3	7	5	32.06	47.53	40.78	41.16	59.94	55.00	68.52	68.09	63.42	68.77	61.67	61.77	74.84	74.10	70.65	73.60	76.55	79.50	82.45	85.40	88.58	91.75	94.93	98.10	101.28
3	7	6	33.02	52.84	49.51	50.44	65.85	55.57	72.96	71.69	70.46	73.64	62.75	62.32	79.61	79.37	75.31	78.42	81.53	84.65	87.76	90.87	94.64	98.41	102.18	105.95	109.72
3	7	7	35.73	56.66	55.45	56.82	68.85	58.88	76.49	77.24	75.95	78.83	64.89	64.66	84.84	85.11	81.08	84.81	88.53	92.26	95.98	99.71	102.32	104.92	107.53	110.13	112.74
3	7	8	38.59	61.72	60.82	58.75	71.45	61.29	92.55	80.08	81.44	81.60	67.60	68.24	102.74	93.33	85.98	89.48	92.98	96.49	99.99	103.49	106.95	110.41	113.87	117.33	120.79
3	7	9	42.37	58.83	61.56	58.75	71.46	63.91	82.88	80.95	82.38	81.60	71.13	70.70	90.78	90.85	84.45	88.30	92.15	96.00	99.85	103.70	106.97	110.25	113.52	116.80	120.07

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	7	10	44.20	57.49	60.44	58.48	71.45	65.32	76.70	80.11	81.63	81.04	72.57	72.41	85.59	87.99	84.36	88.16	91.96	95.76	99.56	103.36	105.95	108.55	111.14	113.74	116.33
3	7	11	43.03	56.54	59.46	58.49	70.09	65.18	75.93	79.09	81.04	81.04	72.57	73.14	85.09	87.27	83.26	87.20	91.13	95.07	99.00	102.94	105.25	107.56	109.87	112.18	114.49
3	7	12	41.94	55.33	57.71	56.62	69.92	64.46	74.06	77.65	79.08	80.01	72.57	73.48	83.18	85.46	82.01	85.77	89.54	93.30	97.07	100.83	103.41	105.99	108.58	111.16	113.74
3	7	13	41.00	55.54	56.44	55.41	69.27	63.44	73.67	77.19	76.69	78.83	70.17	72.42	81.91	84.86	80.50	84.30	88.11	91.91	95.72	99.52	102.12	104.72	107.33	109.93	112.53
3	7	14	39.95	54.45	55.80	53.67	68.81	62.28	72.73	74.89	75.97	78.23	70.03	70.54	81.27	83.93	79.11	83.16	87.20	91.25	95.29	99.34	101.62	103.90	106.19	108.47	110.75
3	7	15	39.06	54.31	54.59	52.71	67.45	61.98	71.41	74.12	72.51	77.11	68.52	69.94	79.85	82.39	77.80	81.58	85.36	89.13	92.91	96.69	99.10	101.52	103.93	106.35	108.76
3	7	16	38.56	52.65	51.39	51.53	66.37	61.49	70.67	73.34	72.39	75.54	67.44	69.42	78.92	79.72	77.95	81.51	85.07	88.62	92.18	95.74	98.29	100.84	103.39	105.94	108.49
3	7	17	39.76	52.21	51.58	51.29	66.61	61.98	70.73	73.34	72.51	75.75	68.04	70.40	78.39	79.49	77.80	81.56	85.32	89.08	92.84	96.60	99.03	101.46	103.90	106.33	108.76
3	7	18	44.95	53.36	53.44	52.93	67.02	62.81	71.23	74.05	73.16	77.95	70.17	73.55	79.20	80.78	79.53	82.95	86.36	89.78	93.19	96.61	99.26	101.91	104.57	107.22	109.87
3	7	19	51.42	55.66	56.73	56.53	69.20	64.48	73.98	79.17	76.52	80.31	72.57	77.12	82.84	87.85	82.88	86.21	89.54	92.87	96.20	99.53	102.52	105.51	108.50	111.49	114.48
3	7	20	66.17	62.57	61.56	64.69	76.08	66.24	80.38	124.11	85.95	84.36	74.35	86.79	89.42	119.76	88.33	91.18	94.03	96.89	99.74	102.59	107.61	112.63	117.66	122.68	127.70
3	7	21	54.28	57.18	59.54	57.77	70.97	65.92	75.38	83.17	80.71	80.89	73.42	78.31	83.40	88.34	84.52	88.04	91.56	95.07	98.59	102.11	105.00	107.88	110.77	113.65	116.54
3	7	22	51.20	54.37	56.73	55.55	69.11	64.20	72.36	77.65	77.21	78.83	71.82	75.52	81.89	83.91	81.76	85.31	88.87	92.42	95.98	99.53	102.07	104.60	107.14	109.67	112.21
3	7	23	45.47	51.27	51.24	52.71	67.55	60.75	70.86	73.76	73.03	76.93	66.68	73.48	79.61	82.39	80.50	84.23	87.97	91.70	95.44	99.17	101.49	103.80	106.12	108.43	110.75
3	7	24	41.54	48.09	47.07	45.81	63.12	58.18	68.04	71.58	68.56	71.25	64.31	69.94	75.61	77.27	74.61	77.48	80.35	83.23	86.10	88.97	92.16	95.35	98.55	101.74	104.93
3	8	1	38.63	41.64	39.25	38.50	58.88	55.57	62.34	64.19	64.13	64.73	62.74	67.37	71.33	69.66	69.27	71.87	74.47	77.06	79.66	82.26	84.64	87.02	89.41	91.79	94.17
3	8	2	38.31	39.74	38.41	37.37	57.74	54.19	60.72	62.46	61.09	63.13	61.08	67.51	69.23	68.57	68.66	71.06	73.46	75.85	78.25	80.65	83.02	85.38	87.75	90.11	92.48
3	8	3	38.89	39.42	38.40	36.55	56.74	53.85	60.99	60.76	60.50	62.25	60.83	68.41	69.12	68.52	68.07	70.69	73.32	75.94	78.57	81.19	83.45	85.71	87.98	90.24	92.50
3	8	4	40.61	41.14	38.41	36.62	55.96	53.82	62.57	61.15	61.45	62.23	60.74	70.43	70.19	68.70	68.49	71.01	73.52	76.04	78.55	81.07	83.55	86.03	88.52	91.00	93.48
3	8	5	44.57	43.46	39.74	37.96	57.39	54.19	65.64	63.41	63.44	63.96	61.68	73.56	73.35	70.68	69.64	72.10	74.55	77.01	79.46	81.92	84.56	87.21	89.85	92.50	95.14
3	8	6	52.66	50.44	47.89	43.55	58.19	54.82	69.39	68.43	71.01	69.75	61.87	77.80	76.52	76.57	73.29	76.62	79.95	83.29	86.62	89.95	93.29	96.62	99.96	103.29	106.63
3	8	7	55.21	55.38	55.44	53.04	61.75	57.08	73.83	74.05	76.52	76.05	64.25	81.43	83.02	82.56	80.24	84.09	87.94	91.80	95.65	99.50	101.58	103.66	105.73	107.81	109.89
3	8	8	61.08	58.93	61.44	57.91	62.27	60.15	83.85	80.24	82.07	78.85	67.59	88.66	88.92	87.99	84.69	88.45	92.22	95.98	99.75	103.51	105.97	108.43	110.89	113.35	115.81
3	8	9	57.75	57.62	60.31	58.20	64.83	63.48	83.06	81.69	81.63	81.84	70.15	85.41	86.50	88.35	84.94	88.51	92.08	95.66	99.23	102.80	105.17	107.54	109.91	112.28	114.65
3	8	10	55.46	56.54	58.88	57.58	66.27	63.58	77.17	79.17	81.18	81.38	70.21	82.49	84.85	86.02	84.80	88.11	91.41	94.72	98.02	101.33	103.81	106.29	108.78	111.26	113.74
3	8	11	54.56	56.30	58.21	57.00	66.07	64.20	74.40	77.59	80.84	80.95	70.08	82.68	84.45	84.83	84.46	87.81	91.16	94.52	97.87	101.22	103.42	105.62	107.83	110.03	112.23
3	8	12	53.72	55.16	56.26	57.00	64.83	64.01	73.13	76.96	79.10	81.38	70.06	81.41	83.41	83.33	83.98	87.13	90.27	93.42	96.56	99.71	101.74	103.77	105.81	107.84	109.87
3	8	13	53.50	53.92	55.80	56.57	62.49	63.58	72.06	74.13	77.52	81.23	69.82	78.84	82.99	81.92	82.20	85.65	89.10	92.56	96.01	99.46	101.27	103.07	104.88	106.68	108.49
3	8	14	53.02	53.01	55.27	55.69	61.64	61.98	71.73	74.05	76.27	80.91	68.84	78.78	80.92	80.74	81.86	85.03	88.21	91.38	94.56	97.73	99.59	101.45	103.32	105.18	107.04
3	8	15	52.18	52.44	53.95	53.58	60.76	61.72	70.73	73.09	73.51	79.07	67.99	78.31	79.12	79.43	80.49	83.60	86.70	89.81	92.91	96.02	98.13	100.25	102.36	104.48	106.59
3	8	16	51.56	51.27	51.66	52.71	61.55	61.39	70.59	72.58	73.01	76.93	67.21	77.16	77.77	77.33	79.67	82.94	86.21	89.48	92.75	96.02	98.02	100.02	102.01	104.01	106.01
3	8	17	51.68	52.53	52.02	52.71	61.77	61.98	70.69	71.68	73.37	76.22	68.52	77.16	77.73	77.33	79.67	83.05	86.44	89.82	93.21	96.59	98.45	100.30	102.16	104.01	105.87
3	8	18	52.18	53.36	52.97	53.84	62.14	64.41	71.04	72.06	76.42	78.67	70.80	77.82	78.16	78.68	80.49	84.19	87.88	91.58	95.27	98.97	100.51	102.04	103.58	105.11	106.65
3	8	19	54.54	57.49	56.73	56.85	63.85	67.53	75.26	74.05	79.24	80.89	78.44	79.54	85.36	81.67	81.76	85.87	89.97	94.08	98.18	102.29	103.81	105.33	106.85	108.37	109.89
3	8	20	56.46	90.81	60.84	65.93	68.35	76.73	136.11	82.61	83.09	83.32	85.76	87.26	145.47	88.35	86.38	90.33	94.28	98.24	102.19	106.14	107.84	109.55	111.25	112.96	114.66
3	8	21	54.76	57.62	58.47	57.00	67.84	71.82	78.73	78.21	80.94	79.42	78.20	79.39	87.03	85.05	82.88	87.17	91.46	95.74	100.03	104.32	106.24	108.15	110.07	111.98	113.90
3	8	22	53.73	54.85	56.64	53.41	64.50	68.57	72.40	74.13	78.74	77.11	74.52	78.53	83.55	82.00	80.49	84.30	88.10	91.91	95.71	99.52	101.59	103.66	105.73	107.80	109.87
3	8	23	51.59	51.92	53.79	52.21	61.91	63.80	70.39	74.05	73.66	75.83	72.05	76.09	77.95	77.48	78.04	82.32	86.60	90.89	95.17	99.45	101.25	103.04	104.84	106.63	108.43
3	8	24	47.39	46.33	44.66	43.34	58.74	63.58	66.84	68.58	70.75	69.80	68.06	73.22	75.64	77.32	71.97	75.14	78.31	81.47	84.64	87.81	90.47	93.13	95.79	98.45	101.11
3	9	1	38.79	39.14	38.65	38.47	56.74	63.58	60.95	64.86	62.94	65.60	68.83	68.65	68.42	72.22	69.55	71.87	74.19	76.52	78.84	81.16	83.67	86.18	88.69	91.20	93.71
3	9	2	37.42	37.21	37.34	37.56	53.46	61.91	60.20	60.44	60.33	64.44	67.25	65.87	67.66	68.22	69.21	71.23	73.25	75.26	77.28	79.30	81.87	84.44	87.00	89.57	92.14
3	9	3	37.23	36.92	36.71	37.26	53.15	63.09	59.99	60.11	59.47	64.44	67.44	66.24	67.66	68.85	68.65	70.63	72.61	74.58	76.56	78.54	81.62	84.70	87.78	90.86	93.94
3	9	4	39.33	37.45	36.97	37.62	53.05	64.15	60.20	60.29	59.47	64.20	70.10	68.24	67.69	68.77	68.65	70.70	72.74	74.79	76.83	78.88	81.92	84.97	88.01	91.06	94.10
3	9	5	41.53	39.47	38.10	38.09	53.22	67.10	62.33	62.01	61.98	65.75	73.82	71.30	69.25	69.14	68.78	71.14	73.50	75.86	78.22	80.58	82.97	85.37	87.76	90.16	92.55
3	9	6	50.93	47.40	42.08	39.63	53.91	68.69	66.72	69.05	69.89	67.46	78.15	73.60	74.49	76.33	69.76	73.10	76.44	79.79	83.13	86.47	89.84	93.20	96.57	99.93	103.30
3	9	7	53.96	52.62	53.91	44.78	55.04	76.39	71.80	74.12	75.61	73.13	82.51	80.07	80.95	82.00	71.54	76.79	82.04	87.28	92.53	97.78	100.17	102.56	104.94	107.33	109.72
3	9	8	57.63	57.46	57.22	49.24	59.10	85.76	76.05	82.39	80.69	74.04	91.56	85.24	88.99	87.29	74.57	80.08	85.59	91.09	96.60	102.11	104.19	106.28	108.36	110.45	112.53
3	9	9	56.91	56.72	57.53	52.35	61.76	80.68	77.46	79.46	79.93	76.78	89.55	85.02	86.88	85.46	78.72	83.58	88.43	93.29	98.14	103.00	104.91	106.81	108.72	110.62	112.53
3	9	10	55.18	55.82	57.37	52.71	62.15	76.31	75.42	78.74	79.67	77.95	84.38	81.23	83.55	84.30	80.98	85.49	89.99	94.50	99.00	103.51	105.15	106.80	108.44	110.09	111.73
3	9	11	54.54	54.48	56.98	52.71	62.43	73.71	72.46	78.47	79.93	77.95	83.63	80.05	83.15	83.89	80.83	85.09	89.34	93.60	97.85	102.11	103.77	105.43	107.09	108.75	110.41
3	9	12	53.86	52.64	56.89	52.35	62.31	72.92	71.73	75.36	79.49	76.93	82.43	78.78	80.92	82.62	78.17	82.79	87.42	92.04	96.67	101.29	103.01	104.72	106.44	108.15	109.87
3	9	13	52.34	52.44	56.73	49.99	62.31	72.39	70.39	73.35	79.30	75.10	81.54	78.58	79.20	81.89	76.36	81.09	85.83	90.56	95.30	100.03	101.72	103.41	105.11	106.80	108.49
3	9	14	52.06	51.92	55.80	48.70	61.77	71.83	70.00	73.34	79.25	74.04	80.15	78.09	77.95	80.86	74.55	79.62	84.69	89.77	94.84	99.91	101.10	102.29	103.49	104.68	105.87
3	9	15	51.59	51.70	54.88	45.53	60.68	71.31	69.68	71.53	77.28	74.02	79.22	75.36	77.40	79.01	72.31	77.77	83.23	88.68	94.14	99.60	100.71	101.82	102.93	104.04	105.15
3	9	16	51.42	51.27	53.57	43.40	60.39	69.54	68.99	70.72	76.42	72.53	77.11	75.36	75.79	77.34	71.50	77.10	82.70	88.30	93.90	99.50	100.63	101.76	102.89	104.02	105.15
3	9	17	51.56	51.27	54.04	43.55	61.64	69.38	69.06	71.36	76.20	72.53	76.54	76.33	75.63	77.34	71.51	76.93	82.36	87.78	93.21	98.63	100.02	101.41	102.80	104.19	105.58
3	9	18	51.78	51.30	55.11	46.71	63.67	70.97	69.77	72.66	76.74	74.02	77.79	77.06	76.07	80.41	72.87	78.18	83.50	88.81	94.13	99.44	100.88	102.32	103.77	105.21	106.65
3	9	19	54.54	53.77	56.99	51.27	68.39	74.27	70.99	74.85	79.30	75.10	82.28	80.49	78.48	82.56	76.75	81.86	86.96	92.07	97.17	102.28	103.81	105.34	106.86	108.39	109.92
3	9	20	91.53	62.90	64.18	54.61	71.55	92.46	75.56	82.44	81.80	80.62	88.39	134.37	87.90	86.02	79.53	84.93	90.32	95.72	101.11	106.51	108.36	110.20	112.05	113.89	115.74

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	9	21	55.55	56.28	57.86	54.04	70.92	75.58	71.88	77.65	79.47	80.32	82.54	82.96	81.22	83.90	78.05	82.59	87.13	91.67	96.21	100.75	103.04	105.33	107.61	109.90	112.19
3	9	22	53.16	52.64	55.27	51.10	68.31	72.88	70.26	74.12	76.46	77.65	79.68	78.84	78.53	82.34	77.03	81.51	85.99	90.48	94.96	99.44	101.53	103.61	105.70	107.78	109.87
3	9	23	51.11	50.18	51.26	48.35	65.45	68.92	68.93	72.58	74.72	74.02	77.12	75.20	76.85	78.42	72.26	76.73	81.20	85.67	90.14	94.61	97.48	100.35	103.21	106.08	108.95
3	9	24	45.95	46.40	44.67	40.96	62.62	65.74	66.14	67.71	66.74	68.27	74.03	72.64	73.65	76.45	70.21	73.25	76.29	79.32	82.36	85.40	88.35	91.29	94.24	97.18	100.13
3	10	1	37.82	39.44	38.41	37.69	60.19	61.31	62.08	62.53	61.37	64.02	70.09	66.22	69.19	69.89	68.39	70.83	73.27	75.71	78.15	80.59	83.33	86.07	88.80	91.54	94.28
3	10	2	35.92	37.48	37.92	36.53	60.49	58.97	58.93	59.29	60.23	61.63	65.36	65.26	67.57	67.07	65.98	68.60	71.22	73.85	76.47	79.09	81.59	84.10	86.60	89.11	91.61
3	10	3	34.91	37.17	37.55	35.95	61.00	58.92	58.93	58.60	59.88	61.28	65.03	64.96	67.25	66.62	65.19	67.86	70.53	73.20	75.87	78.54	80.72	82.89	85.07	87.24	89.42
3	10	4	35.71	37.32	37.55	35.72	62.86	59.85	59.42	58.99	59.87	60.98	68.06	65.25	67.30	66.74	65.11	67.84	70.57	73.30	76.03	78.76	80.96	83.16	85.36	87.56	89.76
3	10	5	36.72	39.40	37.58	35.96	65.43	62.35	60.93	60.02	60.29	61.43	70.60	65.98	68.29	68.35	65.68	68.61	71.53	74.46	77.38	80.31	82.75	85.19	87.64	90.08	92.52
3	10	6	46.00	46.13	39.11	37.29	68.61	65.92	66.55	67.67	61.96	61.45	74.42	72.31	74.70	75.64	66.87	69.73	72.60	75.46	78.33	81.19	84.71	88.24	91.76	95.29	98.81
3	10	7	53.41	52.62	44.37	38.16	74.42	72.48	70.60	72.53	66.75	63.15	81.63	77.21	78.32	79.50	68.18	71.53	74.88	78.23	81.58	84.93	89.75	94.57	99.40	104.22	109.04
3	10	8	57.63	56.72	48.44	40.71	85.73	78.05	74.46	78.07	71.01	67.08	85.93	81.16	85.13	82.62	70.91	75.01	79.11	83.21	87.31	91.41	95.57	99.73	103.89	108.05	112.21
3	10	9	55.58	55.33	52.80	46.33	84.23	76.95	73.22	77.60	73.97	70.40	86.32	81.33	83.63	85.46	72.16	77.63	83.10	88.56	94.03	99.50	101.83	104.15	106.48	108.80	111.13
3	10	10	54.01	54.56	54.43	47.90	73.23	74.44	72.46	77.46	76.43	73.13	84.19	79.35	83.02	84.06	72.93	78.33	83.72	89.12	94.51	99.91	102.01	104.11	106.21	108.31	110.41
3	10	11	52.39	54.93	53.43	47.04	72.41	73.83	72.06	77.19	76.43	73.76	82.54	78.84	82.04	84.05	72.31	77.83	83.35	88.87	94.39	99.91	102.01	104.11	106.21	108.31	110.41
3	10	12	51.98	54.37	52.45	44.46	71.59	72.48	71.63	76.90	72.39	72.57	81.74	78.01	78.42	83.71	71.81	76.77	81.72	86.68	91.63	96.59	99.25	101.90	104.56	107.21	109.87
3	10	13	51.56	53.00	49.70	42.98	71.23	71.56	70.93	76.09	72.39	71.45	78.95	76.37	77.53	83.76	71.70	76.55	81.40	86.25	91.10	95.95	98.73	101.52	104.30	107.09	109.87
3	10	14	51.27	52.64	48.67	41.62	70.89	70.56	69.91	75.36	71.58	69.48	77.63	74.92	76.93	83.71	70.92	75.17	79.42	83.67	87.92	92.17	95.68	99.19	102.70	106.21	109.72
3	10	15	50.66	52.21	45.47	39.25	70.10	68.27	68.88	72.86	67.10	67.53	75.96	73.56	75.63	82.56	70.63	74.23	77.83	81.43	85.03	88.63	92.48	96.33	100.17	104.02	107.87
3	10	16	49.62	52.21	42.52	38.77	69.28	67.53	68.65	72.52	66.09	66.67	75.90	73.56	75.63	79.97	70.58	73.70	76.83	79.95	83.08	86.20	90.06	93.92	97.77	101.63	105.49
3	10	17	49.76	51.31	43.34	40.08	69.27	67.53	68.69	72.58	66.53	68.05	76.24	73.56	75.63	79.97	70.36	73.54	76.71	79.89	83.06	86.24	90.32	94.40	98.49	102.57	106.65
3	10	18	50.90	52.44	47.50	42.80	70.10	69.37	69.55	73.07	68.31	70.38	76.87	74.27	76.35	82.00	71.18	74.79	78.41	82.02	85.64	89.25	92.82	96.39	99.97	103.54	107.11
3	10	19	52.33	53.60	50.90	51.00	73.23	73.50	70.48	73.76	72.39	74.48	81.91	75.53	80.31	82.56	74.94	79.19	83.44	87.69	91.94	96.19	98.93	101.67	104.41	107.15	109.89
3	10	20	57.54	57.49	55.45	61.82	86.36	101.63	73.41	76.09	75.22	80.45	114.63	80.07	84.27	86.27	80.32	84.16	88.00	91.83	95.67	99.51	102.07	104.63	107.20	109.76	112.32
3	10	21	53.88	54.93	54.08	57.59	73.05	78.05	71.59	74.12	73.92	80.34	83.87	79.35	82.16	82.62	80.26	84.11	87.96	91.80	95.65	99.50	101.58	103.66	105.74	107.82	109.90
3	10	22	51.98	52.64	51.09	52.21	71.59	71.97	70.24	73.09	72.39	76.41	78.95	75.53	80.23	80.41	77.40	81.06	84.72	88.39	92.05	95.71	98.27	100.83	103.38	105.94	108.50
3	10	23	48.83	50.45	46.22	44.18	67.98	66.62	68.65	69.46	67.90	71.83	76.18	74.36	75.95	77.60	73.65	76.69	79.73	82.78	85.82	88.86	91.75	94.64	97.52	100.41	103.30
3	10	24	44.42	44.24	39.76	39.74	65.70	65.19	64.74	66.02	63.67	67.91	73.84	71.32	73.79	73.18	71.06	73.53	76.00	78.47	80.94	83.41	85.96	88.51	91.05	93.60	96.15
3	11	1	36.33	37.14	37.55	37.98	61.33	59.22	59.31	60.81	59.47	65.01	66.06	66.99	67.67	68.57	71.05	72.66	74.27	75.89	77.50	79.11	81.65	84.20	86.74	89.29	91.83
3	11	2	34.97	34.94	36.72	37.15	59.81	57.28	56.61	59.00	57.31	64.32	63.79	65.19	64.92	67.15	70.70	72.03	73.35	74.68	76.00	77.33	79.99	82.65	85.31	87.97	90.63
3	11	3	34.87	33.94	36.21	36.86	59.37	56.70	55.24	58.29	57.24	64.38	63.17	64.46	64.29	66.75	70.84	71.96	73.09	74.21	75.34	76.46	79.22	81.97	84.73	87.48	90.24
3	11	4	35.22	33.96	35.81	37.57	60.02	57.06	55.44	58.53	57.20	65.12	64.22	64.38	64.69	67.22	71.09	72.15	73.21	74.28	75.34	76.40	79.34	82.28	85.22	88.16	91.10
3	11	5	37.29	36.25	36.29	38.98	62.31	59.23	57.30	59.36	57.89	68.01	66.34	65.59	66.02	68.29	73.35	74.06	74.76	75.47	76.17	76.88	80.00	83.12	86.25	89.37	92.49
3	11	6	45.78	43.62	37.09	48.89	67.75	63.83	64.20	61.75	57.89	75.10	73.24	72.29	72.53	70.23	80.49	80.08	79.67	79.26	78.85	78.44	81.57	84.70	87.84	90.97	94.10
3	11	7	53.15	52.34	38.55	56.58	74.19	70.48	69.71	63.77	58.68	79.70	77.36	77.44	76.60	75.05	84.04	83.24	82.44	81.63	80.83	80.03	83.46	86.89	90.32	93.75	97.18
3	11	8	57.26	54.56	40.85	59.26	83.31	72.43	71.60	68.16	63.69	83.27	81.31	82.98	81.42	76.57	86.38	85.62	84.86	84.09	83.33	82.57	86.39	90.21	94.04	97.86	101.68
3	11	9	54.56	54.70	46.28	59.11	82.37	73.76	71.81	70.23	65.97	82.77	81.44	79.35	81.46	79.25	86.54	86.29	86.04	85.78	85.53	85.28	89.92	94.56	99.21	103.85	108.49
3	11	10	54.33	54.47	46.48	59.08	78.86	72.96	71.80	73.09	68.20	82.31	79.68	78.50	80.98	82.56	86.54	86.73	86.92	87.12	87.31	87.50	91.97	96.44	100.92	105.39	109.86
3	11	11	54.32	54.32	45.94	59.02	75.08	71.85	71.60	73.09	67.90	81.94	78.70	78.77	80.23	82.56	87.09	87.29	87.49	87.69	87.89	88.09	92.12	96.15	100.17	104.20	108.23
3	11	12	52.34	54.31	43.91	58.86	72.41	71.30	71.41	69.71	67.60	81.91	76.96	78.15	78.36	82.00	86.38	86.61	86.84	87.07	87.30	87.53	91.06	94.59	98.13	101.66	105.19
3	11	13	51.98	54.25	42.23	57.16	71.71	69.21	70.93	68.58	65.97	79.70	75.96	76.59	77.94	77.33	85.09	85.32	85.54	85.77	85.99	86.22	89.97	93.72	97.46	101.21	104.96
3	11	14	51.56	52.71	40.32	56.53	71.45	68.52	70.26	66.96	64.36	79.52	74.69	74.92	77.53	77.26	84.73	84.68	84.64	84.59	84.55	84.50	88.26	92.02	95.78	99.54	103.30
3	11	15	50.66	52.03	38.98	53.77	70.87	66.54	69.91	64.75	61.50	78.67	74.40	73.56	76.07	75.33	83.26	83.29	83.32	83.34	83.37	83.40	86.68	89.96	93.23	96.51	99.79
3	11	16	49.09	50.86	38.58	53.50	70.63	65.95	68.97	63.83	60.32	77.97	73.89	73.56	75.63	74.35	82.48	82.47	82.46	82.45	82.44	82.43	85.60	88.78	91.95	95.13	98.30
3	11	17	50.66	51.27	39.58	53.65	70.63	65.95	69.07	64.23	61.45	78.67	74.23	73.56	75.79	74.35	83.90	83.79	83.68	83.57	83.46	83.35	86.23	89.11	91.99	94.87	97.75
3	11	18	51.45	52.03	42.83	54.44	71.43	66.48	69.99	65.48	64.85	79.44	74.41	74.92	76.79	76.48	84.55	84.56	84.56	84.57	84.57	84.58	87.96	91.34	94.71	98.09	101.47
3	11	19	52.34	52.73	50.90	57.81	79.41	70.27	70.98	68.81	71.48	81.03	76.49	77.83	77.86	78.03	87.13	88.26	89.39	90.52	91.65	92.78	95.25	97.72	100.20	102.67	105.14
3	11	20	68.98	54.93	57.66	60.66	113.00	84.17	76.44	72.58	76.17	86.62	81.36	78.78	80.54	79.84	96.61	97.19	97.77	98.36	98.94	99.52	100.93	102.35	103.76	105.18	106.59
3	11	21	53.50	53.92	57.59	58.20	77.74	73.80	71.60	71.36	75.97	81.96	78.68	78.31	80.23	79.47	85.09	87.97	90.86	93.74	96.63	99.51	100.65	101.79	102.93	104.07	105.21
3	11	22	52.18	52.62	52.63	57.35	72.81	69.36	69.91	68.81	72.51	79.70	76.24	77.33	77.53	77.33	84.36	86.60	88.84	91.09	93.33	95.57	97.45	99.33	101.20	103.08	104.96
3	11	23	49.62	49.97	46.72	53.22	68.85	66.72	68.36	64.92	68.99	78.67	74.41	73.56	75.63	77.26	82.06	83.23	84.39	85.56	86.72	87.89	90.23	92.57	94.91	97.25	99.59
3	11	24	41.94	43.23	40.28	44.67	65.57	63.96	64.21	60.84	64.55	73.74	71.44	71.48	70.59	71.02	76.31	77.95	79.59	81.22	82.86	84.50	86.47	88.44	90.41	92.38	94.35
3	12	1	35.23	37.71	41.07	38.98	59.85	60.56	59.81	58.24	62.84	66.98	66.41	65.98	66.63	68.10	70.22	73.60	76.99	80.37	83.76	87.14	87.95	88.76	89.57	90.38	91.19
3	12	2	33.40	36.10	39.88	37.88	58.49	57.65	58.05	57.99	61.43	64.25	63.67	63.75	65.93	66.62	69.23	72.31	75.39	78.47	81.55	84.63	85.53	86.44	87.34	88.25	89.15
3	12	3	31.96	35.58	39.71	37.53	57.83	57.20	56.93	56.84	61.33	63.92	62.93	62.31	65.52	65.38	69.07	72.30	75.53	78.76	81.99	85.22	85.90	86.57	87.25	87.92	88.60
3	12	4	32.11	36.07	40.59	37.69	57.91	57.32	57.83	56.94	61.88	64.46	63.02	62.57	65.84	65.21	69.76	73.03	76.30	79.58	82.85	86.12	86.45	86.78	87.10	87.43	87.76
3	12	5	34.15	37.54	42.54	38.94	60.08	59.12	58.88	57.22	63.63	66.46	64.82	64.66	65.52	65.36	70.90	74.68	78.45	82.23	86.00	89.78	89.57	89.37	89.16	88.96	88.75
3	12	6	40.21	40.03	53.43	47.07	64.74	65.12	60.60	58.58	71.98	73.72	72.20	69.97	68.42	66.71	76.68	81.29	85.89	90.50	95.10	99.71	97.74	95.78	93.81	91.85	89.88
3	12	7	51.27	42.69	59.31	57.12	70.08	71.37	63.41	59.81	76.42	79.70	77.09	74.47	72.22	67.87	82.89	87.48	92.06	96.65	101.23	105.82	102.99	100.17	97.34	94.52	91.69

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	12	8	53.11	46.93	61.28	59.72	75.60	75.58	65.49	62.51	81.46	83.41	79.68	78.45	74.21	70.45	86.38	90.54	94.70	98.85	103.01	107.17	104.62	102.08	99.53	96.99	94.44
3	12	9	53.11	49.97	61.08	59.11	75.65	74.34	68.04	64.76	81.19	82.96	79.68	78.91	75.63	72.32	86.31	90.37	94.44	98.50	102.57	106.63	104.74	102.84	100.95	99.05	97.16
3	12	10	53.11	52.39	59.65	59.11	72.54	73.49	69.97	66.34	80.84	82.44	79.68	79.20	77.25	74.10	86.16	90.18	94.20	98.21	102.23	106.25	104.99	103.74	102.48	101.23	99.97
3	12	11	52.59	52.39	59.65	59.11	72.33	73.13	69.96	66.26	81.04	81.96	79.68	78.89	76.86	74.23	85.55	89.71	93.87	98.02	102.18	106.34	105.12	103.90	102.69	101.47	100.25
3	12	12	52.18	52.21	59.52	58.86	70.89	72.07	68.38	64.35	80.84	81.92	76.87	76.00	75.63	73.81	85.52	89.66	93.80	97.94	102.08	106.22	104.72	103.23	101.73	100.24	98.74
3	12	13	51.98	50.86	57.58	57.48	70.87	71.11	66.64	63.07	76.69	80.30	75.71	76.00	74.85	73.24	84.70	88.92	93.15	97.37	101.60	105.82	103.86	101.91	99.95	98.00	96.04
3	12	14	51.59	47.06	56.97	57.25	70.64	70.05	65.28	62.42	76.09	79.70	74.42	75.99	74.06	71.48	84.36	88.40	92.44	96.48	100.52	104.56	102.83	101.10	99.38	97.65	95.92
3	12	15	48.42	44.87	55.99	56.53	67.93	67.17	63.99	60.92	74.39	79.42	74.42	74.67	73.37	70.11	82.84	87.03	91.22	95.40	99.59	103.78	102.02	100.25	98.49	96.72	94.96
3	12	16	48.26	43.87	55.27	54.68	67.57	66.91	63.25	60.26	74.10	78.83	74.42	73.56	72.79	69.71	82.29	86.57	90.86	95.14	99.43	103.71	101.81	99.91	98.00	96.10	94.20
3	12	17	48.43	43.95	55.99	54.74	67.90	67.13	63.41	61.16	74.97	79.48	74.42	73.57	73.11	70.03	82.39	86.67	90.95	95.22	99.50	103.78	102.03	100.29	98.54	96.80	95.05
3	12	18	50.66	45.99	56.41	56.82	68.80	69.50	64.36	63.13	75.95	79.48	74.42	74.88	73.37	72.32	82.48	86.85	91.22	95.58	99.95	104.32	102.60	100.88	99.17	97.45	95.73
3	12	19	52.34	50.87	58.84	57.69	75.17	71.91	66.96	67.40	77.28	83.27	78.50	76.00	75.63	76.61	84.70	89.05	93.40	97.76	102.11	106.46	106.20	105.93	105.67	105.40	105.14
3	12	20	56.64	53.92	68.32	71.21	96.05	84.50	69.55	70.91	84.62	87.11	80.93	78.88	76.35	79.49	89.65	94.37	99.09	103.81	108.53	113.25	112.35	111.45	110.56	109.66	108.76
3	12	21	53.18	52.44	59.63	59.08	79.41	73.39	68.56	73.07	77.25	82.77	79.68	78.15	75.63	79.21	85.99	90.06	94.14	98.21	102.29	106.36	106.84	107.32	107.80	108.28	108.76
3	12	22	51.81	49.97	56.97	57.48	72.17	71.55	66.29	69.26	76.24	79.76	76.59	75.15	75.63	77.32	84.80	88.75	92.70	96.66	100.61	104.56	104.64	104.73	104.81	104.90	104.98
3	12	23	48.28	47.05	53.80	54.66	66.78	67.07	64.20	66.28	74.35	78.23	74.42	73.57	73.37	76.25	82.40	86.49	90.58	94.68	98.77	102.86	102.26	101.66	101.05	100.45	99.85
3	12	24	40.39	40.76	47.57	44.21	65.45	63.86	60.89	62.92	68.75	72.53	70.88	69.06	68.96	72.32	76.28	80.00	83.72	87.43	91.15	94.87	94.82	94.76	94.71	94.65	94.60
3	13	1	35.14	36.84	40.23	38.20	59.64	59.49	57.54	62.49	63.06	65.92	64.28	65.57	65.77	70.29	69.05	72.49	75.93	79.37	82.81	86.25	88.62	91.00	93.37	95.75	98.12
3	13	2	34.10	34.88	38.53	37.40	57.53	57.65	56.44	60.95	60.22	64.25	62.28	64.42	64.16	69.84	68.61	71.79	74.97	78.14	81.32	84.50	87.00	89.51	92.01	94.52	97.02
3	13	3	33.40	34.02	38.34	37.11	57.59	57.15	55.10	60.88	59.74	62.63	60.77	63.58	62.55	69.84	68.41	71.55	74.70	77.84	80.99	84.13	86.76	89.39	92.02	94.65	97.28
3	13	4	33.69	33.89	38.44	37.24	58.06	57.15	55.44	62.27	60.60	63.51	61.31	64.03	63.47	70.31	68.48	71.47	74.46	77.44	80.43	83.42	86.32	89.22	92.13	95.03	97.93
3	13	5	34.44	34.03	40.03	38.63	60.18	58.97	55.35	64.90	62.95	65.58	62.84	64.82	63.46	72.32	69.23	72.62	76.00	79.39	82.77	86.16	89.26	92.36	95.45	98.55	101.65
3	13	6	36.86	35.59	48.98	46.48	65.57	63.97	57.04	69.80	68.99	72.53	69.60	66.47	65.29	77.59	73.37	78.08	82.79	87.51	92.22	96.93	99.56	102.18	104.81	107.43	110.06
3	13	7	40.18	37.86	56.26	56.32	71.61	71.61	58.77	74.44	75.61	77.57	76.68	69.20	66.54	82.39	80.50	85.41	90.32	95.22	100.13	105.04	106.62	108.20	109.79	111.37	112.95
3	13	8	46.16	41.80	60.44	58.20	78.86	72.77	61.40	79.21	80.69	79.52	79.93	72.13	68.42	85.77	84.36	89.00	93.65	98.29	102.94	107.58	109.33	111.08	112.83	114.58	116.33
3	13	9	49.63	44.82	60.00	58.20	72.44	72.77	64.12	78.74	77.89	80.89	80.20	73.57	71.39	84.94	84.55	89.14	93.72	98.31	102.89	107.48	109.24	111.00	112.75	114.51	116.27
3	13	10	51.42	45.96	59.78	57.48	72.21	72.62	64.90	78.45	77.70	80.89	81.10	75.15	73.32	84.30	84.55	88.99	93.42	97.86	102.29	106.73	108.46	110.18	111.91	113.63	115.36
3	13	11	51.27	47.06	59.65	57.35	71.78	72.52	64.30	77.92	77.42	81.03	79.68	74.93	73.37	84.51	85.52	89.68	93.85	98.01	102.18	106.34	107.97	109.61	111.24	112.88	114.51
3	13	12	50.63	46.26	58.13	57.35	71.32	71.05	64.20	76.69	76.69	80.89	76.18	73.58	73.18	84.51	84.36	88.74	93.12	97.50	101.88	106.26	107.19	108.13	109.06	110.00	110.93
3	13	13	48.04	44.99	57.69	56.82	69.27	70.50	64.20	75.70	76.20	79.70	76.09	73.35	72.19	84.62	82.84	87.38	91.92	96.45	100.99	105.53	106.40	107.27	108.13	109.00	109.87
3	13	14	45.47	42.69	57.29	56.53	67.56	70.25	62.46	74.38	76.42	79.63	75.91	72.10	70.82	83.93	81.86	86.42	90.99	95.55	100.12	104.68	105.72	106.75	107.79	108.82	109.86
3	13	15	41.69	40.81	55.88	54.44	66.66	68.77	61.67	73.09	75.76	78.67	74.78	71.33	69.05	82.00	81.44	86.01	90.59	95.16	99.74	104.31	105.42	106.53	107.64	108.75	109.86
3	13	16	40.67	40.04	55.27	53.75	66.37	66.62	60.77	72.06	75.23	77.74	74.27	70.87	68.11	82.19	81.84	86.26	90.67	95.09	99.50	103.92	105.11	106.30	107.48	108.67	109.86
3	13	17	41.18	40.97	55.27	54.07	66.66	67.13	61.76	73.34	75.61	77.95	74.28	71.33	69.12	82.72	81.84	86.33	90.83	95.32	99.82	104.31	105.40	106.49	107.57	108.66	109.75
3	13	18	44.67	43.59	55.88	54.68	67.57	68.55	63.75	74.05	75.61	78.52	74.83	72.13	71.67	83.72	81.84	86.38	90.93	95.47	100.02	104.56	105.62	106.68	107.75	108.81	109.87
3	13	19	50.63	50.79	57.29	57.27	70.64	70.57	65.70	76.94	77.08	81.18	76.11	73.56	74.50	84.24	86.38	90.43	94.48	98.52	102.57	106.62	108.53	110.44	112.34	114.25	116.16
3	13	20	53.74	55.70	66.20	68.74	74.65	84.42	70.24	90.29	88.25	105.35	81.44	76.59	76.60	92.37	113.08	112.18	111.29	110.39	109.50	108.60	111.92	115.25	118.57	121.90	125.22
3	13	21	51.11	55.27	59.92	57.18	71.71	72.72	70.26	78.81	79.47	80.89	79.93	74.15	76.60	83.23	86.17	90.27	94.38	98.48	102.59	106.69	108.16	109.63	111.09	112.56	114.03
3	13	22	47.89	51.71	57.22	56.51	69.27	71.06	68.65	74.05	76.42	77.95	75.90	73.51	75.63	82.00	84.36	88.65	92.94	97.24	101.53	105.82	107.10	108.38	109.66	110.94	112.22
3	13	23	42.13	47.05	53.44	52.59	66.37	66.54	66.14	74.13	74.72	76.23	74.00	71.33	72.75	81.93	80.50	85.14	89.79	94.43	99.08	103.72	104.95	106.18	107.40	108.63	109.86
3	13	24	37.99	42.02	46.55	43.19	62.74	62.96	62.32	68.53	67.99	71.26	69.57	66.62	68.50	77.27	74.19	78.01	81.83	85.65	89.47	93.29	94.78	96.28	97.77	99.27	100.76
3	14	1	33.90	40.61	39.02	38.05	58.62	58.66	62.00	64.06	61.38	64.43	64.44	64.21	67.28	72.32	69.62	72.61	75.60	78.59	81.58	84.57	86.67	88.77	90.86	92.96	95.06
3	14	2	32.69	38.46	38.19	37.13	57.01	57.65	61.22	59.57	59.48	63.20	62.75	63.19	66.52	66.71	67.56	70.63	73.70	76.77	79.84	82.91	84.67	86.43	88.18	89.94	91.70
3	14	3	32.04	38.02	37.91	37.06	56.43	56.70	61.20	59.36	58.51	63.20	62.16	62.09	66.70	66.77	67.75	70.50	73.26	76.01	78.77	81.52	83.40	85.28	87.16	89.04	90.92
3	14	4	31.54	39.10	38.06	37.31	56.60	56.60	61.82	60.16	59.22	63.37	62.36	62.03	67.45	67.76	68.17	70.94	73.71	76.47	79.24	82.01	83.78	85.55	87.32	89.09	90.86
3	14	5	32.15	42.02	38.80	38.55	57.87	56.70	64.14	62.38	60.90	64.93	62.52	62.20	69.98	69.39	69.76	72.68	75.60	78.53	81.45	84.37	86.31	88.26	90.20	92.15	94.09
3	14	6	33.46	49.96	46.43	47.49	63.00	58.92	68.62	68.19	66.82	72.97	64.95	63.86	75.61	76.15	75.87	79.36	82.85	86.33	89.82	93.31	95.09	96.86	98.64	100.41	102.19
3	14	7	35.00	53.78	55.64	56.32	67.47	61.58	73.41	74.05	75.23	77.95	69.06	64.80	79.85	82.35	80.43	85.21	89.99	94.76	99.54	104.32	105.44	106.55	107.67	108.78	109.90
3	14	8	37.62	56.39	59.41	58.20	71.33	64.47	77.99	79.70	76.69	82.43	71.23	66.87	82.92	85.14	84.55	89.00	93.45	97.91	102.36	106.81	107.63	108.46	109.28	110.11	110.93
3	14	9	41.66	56.39	58.26	58.91	71.38	66.15	77.21	78.70	77.28	81.94	74.44	69.90	82.36	84.60	84.55	88.91	93.27	97.64	102.00	106.36	107.27	108.19	109.10	110.02	110.93
3	14	10	42.13	55.89	57.26	57.21	71.09	68.87	76.30	78.21	77.28	80.89	77.51	71.51	82.04	83.87	84.88	89.15	93.41	97.68	101.94	106.21	107.05	107.89	108.73	109.57	110.41
3	14	11	41.94	55.71	57.29	57.12	71.06	68.87	76.68	78.27	77.47	80.50	75.90	71.51	81.36	83.87	84.54	88.92	93.31	97.69	102.08	106.46	107.14	107.82	108.50	109.18	109.86
3	14	12	40.67	55.30	56.97	56.51	70.64	67.48	73.93	76.69	77.17	78.67	74.41	71.32	80.92	83.89	84.36	88.73	93.10	97.48	101.85	106.22	106.95	107.68	108.40	109.13	109.86
3	14	13	39.61	54.70	56.50	55.74	70.10	66.15	72.89	75.48	76.69	78.23	72.23	69.97	80.18	82.35	82.84	87.45	92.06	96.68	101.29	105.90	106.50	107.10	107.70	108.30	108.90
3	14	14	38.23	54.41	56.26	55.74	69.27	64.32	72.36	74.05	76.46	77.95	70.94	68.42	79.68	82.40	82.46	87.12	91.78	96.44	101.10	105.76	106.33	106.89	107.46	108.02	108.59
3	14	15	36.49	52.92	55.19	52.86	66.78	63.52	70.94	73.34	76.19	77.11	69.56	66.87	76.07	82.34	82.21	86.63	91.05	95.47	99.89	104.31	105.11	105.90	106.70	107.49	108.29
3	14	16	36.15	52.72	53.57	51.55	66.37	62.57	68.89	72.37	75.23	76.93	67.51	66.59	75.64	81.75	81.84	86.23	90.62	95.00	99.39	103.78	104.72	105.65	106.59	107.52	108.46
3	14	17	37.05	52.91	53.96	51.55	66.41	62.57	69.91	73.09	75.61	76.23	67.61	67.84	76.79	81.89	82.06	86.43	90.80	95.18	99.55	103.92	104.85	105.79	106.72	107.66	108.59
3	14	18	39.20	53.30	54.90	52.86	66.91	63.60	70.92	73.35	76.42	77.11	70.13	70.81	77.61	81.96	82.46	86.87	91.28	95.70	100.11	104.52	105.39	106.26	107.12	107.99	108.86

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	14	19	49.19	55.15	56.97	56.51	70.03	66.53	72.80	83.44	77.28	79.48	72.74	73.56	81.42	87.33	85.13	89.51	93.89	98.26	102.64	107.02	108.24	109.46	110.67	111.89	113.11
3	14	20	57.15	58.21	65.58	71.62	72.99	68.22	91.17	103.56	111.50	147.73	74.41	78.06	89.91	114.59	117.72	119.87	122.03	124.18	126.34	128.49	128.97	129.44	129.92	130.39	130.87
3	14	21	54.76	55.30	57.85	57.99	71.59	68.00	74.90	76.69	77.88	82.39	74.41	78.15	80.99	85.32	84.71	89.26	93.81	98.36	102.91	107.46	108.08	108.71	109.33	109.96	110.58
3	14	22	49.89	54.65	55.25	56.41	70.31	65.95	73.41	75.39	75.23	78.67	72.59	75.73	79.98	82.77	81.84	86.41	90.98	95.54	100.11	104.68	105.61	106.53	107.46	108.38	109.31
3	14	23	44.42	52.66	52.49	52.87	66.37	63.70	70.98	73.34	72.40	76.93	69.56	72.07	76.85	79.58	80.22	84.35	88.48	92.62	96.75	100.88	102.27	103.65	105.04	106.42	107.81
3	14	24	38.74	46.06	44.22	42.65	62.74	60.03	66.14	67.63	67.94	71.07	64.32	67.63	74.31	75.54	73.00	76.50	79.99	83.49	86.98	90.48	92.41	94.34	96.28	98.21	100.14
3	15	1	37.19	39.27	38.42	37.71	58.95	57.19	61.99	61.83	61.97	64.73	61.08	68.21	69.03	70.25	68.81	71.73	74.65	77.56	80.48	83.40	85.40	87.41	89.41	91.42	93.42
3	15	2	35.82	36.44	37.36	36.07	57.65	56.61	56.92	58.45	59.07	62.78	59.68	67.32	65.28	67.19	68.23	70.78	73.33	75.88	78.43	80.98	83.10	85.23	87.35	89.48	91.60
3	15	3	35.87	35.64	37.33	35.03	55.60	54.98	56.86	58.12	58.89	60.99	59.01	67.14	65.08	66.69	66.20	69.21	72.23	75.24	78.26	81.27	83.33	85.39	87.46	89.52	91.58
3	15	4	36.31	36.09	37.60	35.07	55.51	54.59	57.00	58.45	59.07	61.10	58.70	67.65	65.84	66.66	66.35	69.50	72.65	75.79	78.94	82.09	84.05	86.01	87.98	89.94	91.90
3	15	5	39.38	38.54	38.58	37.07	56.47	55.33	59.28	60.76	60.08	62.66	59.53	70.53	67.62	69.14	68.96	72.03	75.10	78.16	81.23	84.30	86.34	88.39	90.43	92.48	94.52
3	15	6	47.39	46.17	46.75	42.42	58.79	56.94	66.14	67.24	69.80	69.05	60.89	73.85	74.28	74.96	73.27	77.72	82.17	86.61	91.06	95.51	96.81	98.11	99.42	100.72	102.02
3	15	7	52.92	53.30	55.01	50.00	60.58	57.51	70.93	73.00	73.28	74.35	62.89	78.31	78.24	81.40	79.45	84.41	89.37	94.33	99.29	104.25	105.48	106.71	107.93	109.16	110.39
3	15	8	56.03	55.81	56.79	56.24	64.25	59.96	75.70	75.29	76.42	78.23	64.58	83.16	83.40	85.14	82.89	87.80	92.71	97.63	102.54	107.45	108.12	108.79	109.46	110.13	110.80
3	15	9	55.82	55.54	57.30	59.02	65.59	61.93	75.43	75.41	76.46	81.13	66.82	82.48	83.14	84.86	84.37	88.47	92.57	96.68	100.78	104.88	106.04	107.19	108.35	109.50	110.66
3	15	10	55.13	55.33	57.29	56.57	68.66	62.55	75.10	74.89	76.42	79.76	67.60	82.28	82.15	84.10	82.89	87.22	91.56	95.89	100.23	104.56	105.72	106.88	108.05	109.21	110.37
3	15	11	54.93	55.16	56.91	56.53	68.66	62.57	74.89	75.48	76.42	79.76	67.54	81.71	80.23	84.60	84.12	88.16	92.20	96.23	100.27	104.31	105.53	106.75	107.97	109.19	110.41
3	15	12	53.95	55.15	56.06	56.03	67.78	62.57	74.68	75.10	75.61	80.81	67.29	81.67	80.23	84.06	82.60	86.94	91.28	95.63	99.97	104.31	105.42	106.53	107.64	108.75	109.86
3	15	13	52.71	54.65	55.98	54.59	66.41	62.52	73.41	74.12	75.23	78.98	66.39	78.86	78.30	82.62	82.17	86.49	90.81	95.14	99.46	103.78	104.95	106.12	107.28	108.45	109.62
3	15	14	52.18	54.56	55.27	54.45	64.60	61.23	72.89	74.00	74.72	78.83	65.19	76.44	78.05	82.62	82.09	86.37	90.66	94.94	99.23	103.51	104.77	106.03	107.30	108.56	109.82
3	15	15	51.17	52.91	54.90	52.71	62.53	59.59	70.98	73.34	73.86	78.23	64.04	76.33	78.05	82.00	80.73	84.76	88.80	92.83	96.87	100.90	102.49	104.09	105.68	107.28	108.87
3	15	16	50.66	52.62	52.21	51.29	61.66	59.05	70.24	72.58	73.76	77.74	63.47	76.33	76.86	79.72	80.73	84.73	88.74	92.74	96.75	100.75	102.48	104.21	105.94	107.67	109.40
3	15	17	50.83	52.23	52.19	51.55	61.83	60.36	70.98	72.86	73.94	77.95	64.30	76.18	77.66	79.49	81.54	85.48	89.43	93.37	97.32	101.26	102.81	104.35	105.90	107.44	108.99
3	15	18	51.16	52.62	52.72	52.08	64.48	62.57	70.99	73.35	74.35	77.95	66.82	76.68	78.24	79.72	81.84	86.14	90.45	94.75	99.06	103.36	104.65	105.94	107.24	108.53	109.82
3	15	19	53.37	54.09	55.25	53.75	67.83	65.67	78.94	75.82	76.42	78.23	71.10	78.53	84.48	86.29	82.48	86.89	91.30	95.70	100.11	104.52	106.66	108.79	110.93	113.06	115.20
3	15	20	64.69	63.79	73.60	65.09	70.72	69.26	101.07	92.96	106.44	86.15	74.44	90.57	110.88	124.07	86.17	90.53	94.90	99.26	103.63	107.99	115.06	122.13	129.21	136.28	143.35
3	15	21	54.09	55.32	57.30	57.16	70.00	69.49	74.15	76.04	78.51	80.30	74.42	81.49	82.05	85.77	84.30	88.41	92.52	96.64	100.75	104.86	106.51	108.16	109.81	111.46	113.11
3	15	22	52.59	54.36	55.55	53.50	65.48	66.54	72.89	73.34	76.51	77.95	72.59	78.01	80.57	82.40	80.75	85.27	89.79	94.32	98.84	103.36	104.61	105.86	107.11	108.36	109.61
3	15	23	50.80	53.06	53.13	52.37	64.12	63.58	71.18	70.23	72.40	75.84	70.44	75.59	77.26	77.69	79.89	84.43	88.97	93.50	98.04	102.58	103.39	104.20	105.01	105.82	106.63
3	15	24	43.12	44.98	44.20	43.36	60.20	60.63	65.70	67.24	67.94	69.61	65.87	73.51	73.64	74.98	73.09	76.67	80.25	83.84	87.42	91.00	92.95	94.90	96.86	98.81	100.76
3	16	1	36.98	37.72	38.47	38.54	57.83	60.48	60.04	59.35	60.29	63.45	65.19	68.36	68.24	68.61	69.37	72.07	74.77	77.48	80.18	82.88	84.99	87.10	89.22	91.33	93.44
3	16	2	34.70	35.40	37.00	37.66	55.23	59.84	57.60	57.82	58.26	62.53	64.26	64.61	65.71	66.59	69.29	71.61	73.92	76.24	78.55	80.87	83.01	85.15	87.30	89.44	91.58
3	16	3	34.47	35.07	35.86	37.31	53.41	59.65	56.52	56.97	57.81	62.37	64.58	64.74	65.08	66.53	68.80	70.80	72.80	74.80	76.80	78.80	81.22	83.65	86.07	88.50	90.92
3	16	4	34.91	35.60	36.16	37.45	53.47	60.28	56.62	57.54	57.79	62.66	65.13	65.12	65.84	66.59	68.68	70.77	72.86	74.94	77.03	79.12	81.66	84.20	86.75	89.29	91.83
3	16	5	37.29	38.27	37.62	37.96	53.82	62.58	59.29	59.57	58.61	63.69	66.68	66.07	67.67	68.69	69.37	71.71	74.05	76.39	78.73	81.07	83.69	86.31	88.93	91.55	94.17
3	16	6	44.62	43.93	41.77	39.58	54.74	68.22	65.62	67.92	65.74	66.39	74.42	72.76	74.02	76.07	70.10	73.57	77.04	80.52	83.99	87.46	90.53	93.61	96.68	99.76	102.83
3	16	7	52.06	52.09	50.56	42.68	56.15	73.85	69.52	70.34	72.64	68.83	79.21	77.72	77.80	79.49	71.84	77.36	82.88	88.41	93.93	99.45	101.63	103.81	106.00	108.18	110.36
3	16	8	55.19	54.65	56.05	48.84	60.15	75.13	72.57	74.05	76.32	73.72	83.42	81.82	81.71	85.32	78.05	83.22	88.40	93.57	98.75	103.92	105.27	106.62	107.96	109.31	110.66
3	16	9	54.47	54.65	56.04	52.37	61.02	74.33	73.41	74.13	77.18	75.83	83.69	81.49	82.16	84.06	81.08	85.72	90.36	95.01	99.65	104.29	105.47	106.65	107.82	109.00	110.18
3	16	10	54.42	54.65	57.64	56.56	62.31	73.84	72.89	74.13	76.46	79.81	82.66	81.37	80.62	82.62	84.12	88.16	92.20	96.23	100.27	104.31	105.42	106.53	107.64	108.75	109.86
3	16	11	53.95	54.65	57.64	57.08	62.52	73.84	72.89	74.12	76.46	80.44	82.65	81.42	80.47	82.43	84.37	88.36	92.35	96.33	100.32	104.31	105.37	106.43	107.50	108.56	109.62
3	16	12	52.35	54.32	57.30	55.88	62.31	73.50	72.06	73.35	76.69	78.71	81.58	81.59	79.74	81.93	81.72	86.23	90.75	95.26	99.78	104.29	105.27	106.25	107.24	108.22	109.20
3	16	13	52.35	53.30	56.79	53.59	61.90	73.11	71.83	73.09	75.79	77.42	79.87	79.47	79.05	81.40	80.24	84.94	89.64	94.34	99.04	103.74	104.80	105.87	106.93	108.00	109.06
3	16	14	52.18	53.30	56.83	50.22	61.66	71.82	72.13	72.58	75.07	75.04	79.38	79.00	78.98	80.82	77.26	82.55	87.84	93.14	98.43	103.72	104.79	105.86	106.92	107.99	109.06
3	16	15	51.45	52.72	56.01	48.19	60.56	70.41	70.98	71.91	74.72	73.89	76.42	76.82	78.18	78.03	75.73	81.10	86.47	91.85	97.22	102.59	103.68	104.77	105.86	106.95	108.04
3	16	16	50.78	52.03	53.48	46.18	60.19	69.38	70.93	70.70	73.94	73.89	75.71	76.59	78.24	78.03	75.16	80.26	85.36	90.47	95.57	100.67	101.99	103.30	104.62	105.93	107.25
3	16	17	51.17	52.03	53.87	48.06	60.31	69.34	70.93	70.55	74.39	74.05	76.86	76.78	78.24	78.35	75.75	81.17	86.58	92.00	97.41	102.83	103.83	104.83	105.83	106.83	107.83
3	16	18	51.45	52.43	53.88	50.15	61.66	69.75	71.09	70.60	74.65	74.05	77.79	76.78	78.53	78.42	79.71	84.44	89.17	93.90	98.63	103.36	104.47	105.58	106.68	107.79	108.90
3	16	19	55.74	53.30	55.60	52.89	66.37	72.48	73.41	74.12	75.61	80.11	80.22	84.94	83.06	80.86	84.90	88.79	92.68	96.57	100.46	104.35	105.67	106.98	108.30	109.61	110.93
3	16	20	72.25	60.36	59.68	63.77	71.27	99.10	112.01	95.10	80.62	87.28	84.63	108.82	135.87	105.31	92.29	95.13	97.96	100.80	103.63	106.47	114.44	122.40	130.37	138.33	146.30
3	16	21	55.82	54.65	57.30	57.21	70.85	74.17	74.25	76.09	76.69	81.23	80.09	82.00	81.71	84.05	87.38	90.78	94.19	97.59	101.00	104.40	105.59	106.78	107.98	109.17	110.36
3	16	22	52.32	52.47	55.82	52.37	67.76	71.85	70.99	74.05	75.61	75.12	78.75	78.84	78.53	82.23	81.70	85.93	90.15	94.38	98.60	102.83	103.92	105.01	106.11	107.20	108.29
3	16	23	51.28	51.59	51.71	49.24	64.83	68.98	70.24	70.43	72.40	73.66	75.90	78.02	77.25	78.17	79.09	83.18	87.26	91.35	95.43	99.52	100.91	102.29	103.68	105.06	106.45
3	16	24	42.25	44.74	42.79	42.56	60.78	63.73	65.49	67.24	67.18	69.12	70.67	73.49	73.85	73.33	74.94	77.65	80.37	83.08	85.80	88.51	90.46	92.41	94.37	96.32	98.27
3	17	1	36.15	37.70	38.57	38.12	58.63	59.75	59.24	58.41	61.50	64.68	64.96	66.58	67.58	67.60	70.92	73.08	75.24	77.39	79.55	81.71	83.75	85.79	87.82	89.86	91.90
3	17	2	35.42	35.23	37.76	37.06	57.77	57.90	57.20	56.67	60.43	63.34	62.53	64.95	64.92	65.68	69.20	71.55	73.89	76.24	78.58	80.93	82.69	84.44	86.20	87.95	89.71
3	17	3	35.00	35.07	37.58	36.13	57.60	57.56	56.92	56.22	59.83	61.19	62.46	64.61	64.15	65.07	67.83	70.38	72.94	75.49	78.05	80.60	82.11	83.62	85.13	86.64	88.15
3	17	4	35.35	35.72	37.76	35.59	57.98	57.56	57.42	56.01	60.02	60.50	62.85	64.66	64.89	65.55	66.90	69.68	72.46	75.24	78.02	80.80	82.28	83.77	85.25	86.74	88.22
3	17	5	36.48	38.02	38.52	36.53	59.84	58.89	58.67	57.37	60.02	61.14	64.28	66.42	66.94	66.59	67.14	69.99	72.84	75.69	78.54	81.39	83.34	85.29	87.25	89.20	91.15

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	17	6	43.92	46.13	39.91	37.69	64.78	64.27	65.73	64.17	63.44	63.53	71.69	72.23	73.87	73.68	69.29	72.35	75.40	78.46	81.51	84.57	87.25	89.93	92.60	95.28	97.96
3	17	7	51.17	52.23	43.26	39.10	70.02	69.93	70.26	69.95	66.82	65.19	77.41	76.89	78.24	77.34	70.36	73.91	77.45	81.00	84.54	88.09	91.63	95.17	98.72	102.26	105.80
3	17	8	54.25	54.92	50.72	41.47	72.22	72.91	72.47	73.66	70.65	66.85	81.36	79.90	80.57	81.81	72.31	77.17	82.03	86.88	91.74	96.60	99.16	101.73	104.29	106.86	109.42
3	17	9	53.95	55.89	54.85	46.71	72.17	72.39	72.75	74.05	72.82	72.88	81.36	80.23	81.18	82.44	76.28	81.81	87.34	92.86	98.39	103.92	105.06	106.20	107.34	108.48	109.62
3	17	10	53.54	54.81	57.56	49.95	71.59	71.69	72.46	74.05	76.72	74.04	81.31	79.26	80.57	82.34	78.05	83.38	88.71	94.03	99.36	104.69	105.60	106.52	107.43	108.35	109.26
3	17	11	54.23	54.56	57.30	50.44	71.38	70.82	71.81	74.12	76.72	73.75	79.99	81.12	80.17	82.21	78.17	83.52	88.87	94.23	99.58	104.93	105.78	106.64	107.49	108.35	109.20
3	17	12	53.37	54.11	55.70	50.22	70.86	70.82	71.75	74.20	76.42	73.67	80.09	80.23	78.53	82.23	78.17	83.29	88.41	93.54	98.66	103.78	104.95	106.12	107.28	108.45	109.62
3	17	13	52.35	53.58	54.43	49.50	70.08	70.41	71.45	73.35	73.37	73.67	79.21	79.47	77.81	79.97	77.06	81.63	86.20	90.78	95.35	99.92	101.59	103.27	104.94	106.62	108.29
3	17	14	52.18	54.08	51.69	47.51	69.94	70.41	70.93	73.34	72.00	73.01	79.21	78.15	77.72	79.49	75.70	80.32	84.94	89.57	94.19	98.81	100.71	102.60	104.50	106.39	108.29
3	17	15	51.45	52.90	50.12	44.93	67.02	69.59	69.99	73.09	71.48	71.84	75.96	78.02	77.31	78.35	74.85	79.22	83.59	87.95	92.32	96.69	99.01	101.33	103.66	105.98	108.30
3	17	16	50.46	51.33	48.60	44.86	66.41	68.57	69.53	70.84	70.40	71.84	75.71	77.83	77.09	78.03	74.94	79.22	83.51	87.79	92.08	96.36	98.77	101.19	103.60	106.02	108.43
3	17	17	50.00	51.70	49.40	47.76	66.42	67.96	69.99	71.27	70.40	72.53	75.71	77.71	77.31	78.85	75.98	80.23	84.49	88.74	93.00	97.25	99.49	101.72	103.96	106.19	108.43
3	17	18	50.98	52.46	51.78	49.70	66.78	68.17	70.24	71.65	72.00	74.05	75.71	78.15	78.15	78.35	78.05	82.33	86.61	90.88	95.16	99.44	101.24	103.05	104.85	106.66	108.46
3	17	19	53.95	54.81	55.19	55.31	69.93	72.48	72.89	73.35	74.88	77.11	83.70	81.62	81.40	79.00	80.83	85.29	89.75	94.20	98.66	103.12	104.35	105.58	106.80	108.03	109.26
3	17	20	65.36	89.56	61.18	65.82	73.72	94.52	89.99	85.29	81.53	88.93	100.77	115.53	114.22	83.72	97.38	98.77	100.16	101.54	102.93	104.32	105.67	107.02	108.38	109.73	111.08
3	17	21	53.37	55.00	58.23	63.83	71.18	71.85	73.41	74.05	76.77	88.79	80.09	81.67	80.92	82.43	92.29	94.53	96.77	99.02	101.26	103.50	104.72	105.94	107.17	108.39	109.61
3	17	22	51.29	53.58	54.12	56.32	70.06	70.10	71.20	71.68	72.46	78.67	79.63	78.14	77.72	79.97	84.55	87.73	90.91	94.09	97.27	100.45	101.85	103.24	104.64	106.03	107.43
3	17	23	49.85	51.74	49.57	50.06	67.68	69.46	70.12	69.93	70.40	75.10	78.23	75.55	76.78	77.33	79.14	82.55	85.97	89.38	92.80	96.21	98.26	100.30	102.35	104.39	106.44
3	17	24	40.91	45.46	42.97	42.68	62.76	63.91	65.27	66.04	63.99	69.94	70.64	70.62	72.75	74.10	73.87	76.71	79.54	82.38	85.21	88.05	90.04	92.02	94.01	95.99	97.98
3	18	1	36.27	37.88	38.92	37.94	58.63	59.34	58.57	60.29	60.34	64.15	64.51	65.29	66.44	68.84	70.84	73.52	76.20	78.88	81.56	84.24	85.80	87.36	88.92	90.48	92.04
3	18	2	34.76	34.96	37.59	37.41	57.70	57.58	55.59	58.72	58.68	63.67	62.59	63.88	62.89	66.71	69.83	72.28	74.73	77.19	79.64	82.09	83.95	85.80	87.66	89.51	91.37
3	18	3	34.75	33.86	36.90	37.50	57.70	57.10	55.04	58.49	58.13	63.81	62.89	63.71	62.61	66.71	70.21	72.18	74.16	76.13	78.11	80.08	82.28	84.48	86.67	88.87	91.07
3	18	4	35.08	33.88	36.35	37.89	58.07	57.55	54.94	58.82	58.12	64.15	62.96	64.17	63.52	66.66	70.36	72.23	74.10	75.96	77.83	79.70	82.10	84.49	86.89	89.28	91.68
3	18	5	36.32	35.42	36.56	38.77	58.28	59.29	55.83	59.39	58.37	66.08	64.26	65.48	64.14	66.85	72.04	73.64	75.24	76.83	78.43	80.03	82.50	84.98	87.45	89.93	92.40
3	18	6	44.44	41.25	37.72	45.79	64.25	65.06	63.22	61.59	59.71	71.35	71.70	72.63	71.66	70.00	78.05	78.85	79.66	80.46	81.27	82.07	84.49	86.91	89.32	91.74	94.16
3	18	7	51.11	50.01	39.41	52.71	69.27	70.31	66.92	64.05	61.92	77.51	77.17	78.01	75.62	73.68	81.54	82.02	82.50	82.97	83.45	83.93	86.50	89.08	91.65	94.23	96.80
3	18	8	53.37	53.72	42.43	55.65	70.97	72.49	70.59	68.16	64.62	78.71	80.09	81.82	78.78	76.15	85.41	85.65	85.90	86.14	86.39	86.63	89.94	93.25	96.56	99.87	103.18
3	18	9	53.37	55.15	49.13	55.91	70.87	72.18	71.80	70.71	69.48	78.52	80.22	80.59	80.57	78.43	84.79	86.81	88.83	90.85	92.87	94.89	97.36	99.83	102.30	104.77	107.24
3	18	10	52.18	55.15	51.66	55.15	70.69	71.69	71.41	74.05	71.98	78.23	80.22	77.46	79.98	81.89	84.36	86.81	89.26	91.70	94.15	96.60	99.16	101.73	104.29	106.86	109.42
3	18	11	52.02	55.30	51.67	55.15	70.69	72.16	71.41	74.05	72.00	78.23	81.61	77.82	79.98	82.35	84.30	86.71	89.13	91.54	93.96	96.37	99.03	101.69	104.34	107.00	109.66
3	18	12	51.81	55.15	51.48	53.36	69.94	71.61	71.44	70.93	72.00	77.51	80.61	76.37	80.17	81.01	82.84	85.47	88.11	90.74	93.38	96.01	98.42	100.82	103.23	105.63	108.04
3	18	13	50.90	54.08	50.70	52.93	69.04	70.75	70.24	69.26	71.98	76.93	80.22	76.59	76.85	79.00	81.84	84.67	87.51	90.34	93.18	96.01	98.13	100.24	102.36	104.47	106.59
3	18	14	50.68	53.30	47.67	52.71	68.81	70.50	70.24	68.58	69.71	76.22	80.15	75.83	76.78	77.33	81.84	84.60	87.36	90.11	92.87	95.63	97.82	100.01	102.21	104.40	106.59
3	18	15	50.54	52.23	45.33	50.44	67.02	68.73	69.81	67.24	68.01	74.67	79.35	75.63	76.60	77.09	81.42	84.04	86.66	89.28	91.90	94.52	96.54	98.57	100.59	102.62	104.64
3	18	16	49.58	51.49	45.09	50.19	66.56	68.31	68.82	67.24	68.01	74.05	78.50	75.70	76.21	76.87	80.73	83.51	86.28	89.06	91.83	94.61	96.33	98.04	99.76	101.47	103.19
3	18	17	49.40	52.03	47.67	50.23	66.56	68.31	68.87	67.24	68.64	74.05	78.50	75.63	76.60	77.09	80.50	83.60	86.70	89.80	92.90	96.00	97.71	99.43	101.14	102.86	104.57
3	18	18	50.42	52.03	51.69	50.66	67.02	68.57	69.55	68.58	72.00	74.27	79.22	75.83	77.09	77.33	80.50	83.85	87.20	90.55	93.90	97.25	99.12	100.99	102.85	104.72	106.59
3	18	19	52.18	52.76	55.55	52.76	72.99	70.97	70.26	72.67	73.37	77.34	84.23	78.24	78.59	80.73	82.53	86.54	90.55	94.57	98.58	102.59	103.93	105.28	106.62	107.97	109.31
3	18	20	74.39	58.21	65.01	55.96	91.46	97.51	75.07	81.13	85.22	81.91	103.83	97.28	84.90	83.89	89.68	93.47	97.27	101.06	104.86	108.65	108.99	109.34	109.68	110.03	110.37
3	18	21	53.37	55.00	60.73	54.68	72.32	72.48	71.80	73.24	81.78	78.08	83.69	78.66	80.54	83.89	83.67	88.67	93.66	98.66	103.65	108.65	108.94	109.23	109.52	109.81	110.10
3	18	22	51.45	52.47	55.74	53.25	70.09	68.99	69.91	69.94	76.42	77.36	78.95	77.21	76.85	79.02	81.08	85.78	90.47	95.17	99.86	104.56	104.94	105.32	105.69	106.07	106.45
3	18	23	50.00	51.27	51.44	51.74	69.06	68.39	68.66	67.24	72.22	74.05	77.86	74.77	75.63	77.26	80.70	84.46	88.23	91.99	95.76	99.52	100.18	100.84	101.51	102.17	102.83
3	18	24	40.47	44.87	43.21	41.73	64.18	63.73	64.67	63.10	67.21	69.43	70.95	69.37	73.37	74.41	75.97	78.95	81.93	84.91	87.89	90.87	92.52	94.17	95.82	97.47	99.12
3	19	1	34.82	37.72	39.14	37.80	58.69	59.03	60.26	59.72	58.90	63.85	63.88	64.56	67.35	70.44	70.36	73.46	76.56	79.66	82.76	85.86	87.65	89.44	91.23	93.02	94.81
3	19	2	33.40	36.15	38.65	37.03	55.97	57.65	57.75	58.71	58.68	63.22	62.93	62.23	65.52	68.16	68.66	71.76	74.86	77.96	81.06	84.16	85.73	87.31	88.88	90.46	92.03
3	19	3	32.66	35.38	38.69	36.89	55.64	57.55	57.11	57.91	58.68	63.30	61.84	61.07	64.62	67.19	68.66	71.90	75.15	78.39	81.64	84.88	86.05	87.21	88.38	89.54	90.71
3	19	4	32.43	35.65	38.86	37.24	55.93	57.78	57.03	57.50	58.84	63.61	62.90	61.07	65.15	66.37	69.17	72.55	75.92	79.30	82.67	86.05	86.69	87.33	87.96	88.60	89.24
3	19	5	33.58	36.94	40.44	38.25	57.85	58.66	57.54	57.40	59.94	65.07	64.59	62.31	65.97	66.53	70.89	74.30	77.70	81.11	84.51	87.92	88.31	88.70	89.10	89.49	89.88
3	19	6	38.79	39.98	48.23	45.81	62.93	65.29	60.11	59.07	65.67	72.53	73.11	68.61	68.42	68.47	77.74	82.09	86.43	90.78	95.12	99.47	98.08	96.68	95.29	93.89	92.50
3	19	7	46.31	42.09	56.66	52.62	67.57	70.04	63.51	61.51	72.24	76.22	76.31	73.56	71.93	70.05	81.22	85.68	90.15	94.61	99.08	103.54	101.73	99.92	98.11	96.30	94.49
3	19	8	51.27	46.44	59.08	58.11	72.22	71.85	66.13	63.68	72.51	78.67	82.01	77.55	74.21	72.04	84.92	89.30	93.68	98.05	102.43	106.81	104.64	102.46	100.29	98.11	95.94
3	19	9	52.35	51.08	58.45	57.23	71.60	72.49	70.76	67.12	72.51	78.67	80.22	78.20	76.86	74.98	84.73	89.01	93.29	97.58	101.86	106.14	105.50	104.87	104.23	103.60	102.96
3	19	10	51.66	54.41	57.61	55.79	71.46	71.61	71.80	68.58	72.40	77.57	79.93	78.02	77.72	76.57	83.97	88.35	92.73	97.12	101.50	105.88	105.69	105.51	105.32	105.14	104.95
3	19	11	52.23	55.27	57.65	54.33	71.59	70.42	71.80	68.76	72.40	77.42	79.61	78.06	77.72	76.91	82.88	87.22	91.55	95.89	100.22	104.56	104.64	104.72	104.79	104.87	104.95
3	19	12	51.81	54.15	56.57	53.59	70.10	70.51	70.98	68.58	72.15	77.23	79.30	77.71	77.25	76.64	82.09	86.57	91.05	95.53	100.01	104.49	104.58	104.67	104.77	104.86	104.95
3	19	13	51.17	52.23	56.57	52.89	68.80	70.10	69.99	68.58	71.48	76.30	78.50	77.44	75.63	75.59	81.72	86.08	90.44	94.79	99.15	103.51	103.80	104.09	104.38	104.67	104.96
3	19	14	50.75	50.66	56.04	52.26	68.71	70.04	68.75	67.24	71.52	76.22	78.50	76.78	75.63	75.32	80.74	85.21	89.68	94.15	98.62	103.09	103.17	103.26	103.34	103.43	103.51
3	19	15	50.46	46.71	55.74	50.49	68.71	69.17	66.94	66.28	70.64	74.05	78.27	76.18	75.63	74.98	80.50	84.72	88.94	93.15	97.37	101.59	101.70	101.80	101.91	102.01	102.12
3	19	16	49.89	46.47	55.25	50.44	66.56	68.57	66.41	65.67	69.62	74.03	78.20	75.83	74.31	74.98	80.50	84.58	88.66	92.74	96.82	100.90	101.13	101.36	101.58	101.81	102.04

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	19	17	50.18	47.18	55.18	50.81	66.91	68.57	66.85	67.24	69.48	74.49	78.01	76.18	75.60	75.36	80.74	84.85	88.96	93.07	97.18	101.29	101.73	102.18	102.62	103.07	103.51
3	19	18	50.39	49.64	55.55	51.36	67.11	68.64	68.65	68.58	69.70	75.25	78.27	75.99	75.63	76.87	81.72	85.76	89.79	93.83	97.86	101.90	102.55	103.19	103.84	104.48	105.13
3	19	19	52.32	52.20	57.23	55.32	69.27	71.91	70.93	71.17	70.67	80.93	81.15	77.83	77.09	80.13	90.12	92.85	95.58	98.32	101.05	103.78	104.50	105.22	105.95	106.67	107.39
3	19	20	57.97	56.57	58.80	68.36	103.50	101.20	74.41	85.48	77.51	109.43	117.64	78.77	79.05	86.26	119.53	118.24	116.94	115.65	114.35	113.06	112.76	112.46	112.17	111.87	111.57
3	19	21	52.20	55.15	57.59	56.32	70.89	72.49	71.85	78.07	72.39	78.52	81.56	78.14	77.81	85.44	84.82	89.01	93.21	97.40	101.60	105.79	106.85	107.91	108.97	110.03	111.09
3	19	22	51.08	52.23	56.57	53.56	67.57	69.84	69.91	73.02	70.29	77.35	79.35	76.18	75.63	81.13	82.01	86.09	90.17	94.24	98.32	102.40	103.76	105.12	106.48	107.84	109.20
3	19	23	49.16	45.99	54.39	52.21	67.60	68.39	66.44	69.26	68.87	74.65	76.93	73.56	74.57	77.26	81.54	85.48	89.42	93.35	97.29	101.23	101.94	102.66	103.37	104.09	104.80
3	19	24	39.63	41.70	46.16	44.01	61.64	63.58	62.32	67.24	63.42	70.19	70.95	70.53	71.93	73.68	76.62	80.09	83.56	87.03	90.50	93.97	94.90	95.84	96.77	97.71	98.64
3	20	1	35.06	37.77	38.91	37.97	56.08	58.73	59.31	60.53	59.43	64.86	63.07	65.91	67.34	69.34	70.77	73.55	76.34	79.12	81.91	84.69	86.87	89.05	91.23	93.41	95.59
3	20	2	34.49	35.80	38.63	36.98	54.96	56.18	57.24	59.63	58.35	62.79	60.30	64.96	65.68	68.85	69.29	71.91	74.53	77.15	79.77	82.39	84.60	86.80	89.01	91.21	93.42
3	20	3	34.18	35.00	38.64	36.37	54.96	55.13	56.55	59.57	58.68	62.65	59.65	63.46	64.43	68.92	69.44	72.02	74.61	77.19	79.78	82.36	84.65	86.94	89.24	91.53	93.82
3	20	4	34.88	34.56	39.02	36.62	55.68	55.08	56.56	60.36	59.23	63.10	59.83	63.81	64.00	69.15	70.14	72.84	75.53	78.23	80.92	83.62	85.78	87.93	90.09	92.24	94.40
3	20	5	34.94	34.84	41.07	37.96	57.41	56.02	55.62	62.38	61.42	63.74	61.02	65.11	63.73	71.02	71.02	74.26	77.50	80.74	83.98	87.22	89.50	91.79	94.07	96.36	98.64
3	20	6	36.97	36.32	49.92	44.55	63.02	63.24	58.01	67.52	67.62	70.24	68.24	68.10	66.07	75.38	78.21	82.46	86.71	90.97	95.22	99.47	100.44	101.41	102.37	103.34	104.31
3	20	7	39.44	38.22	56.73	50.82	66.91	68.27	59.42	72.06	71.48	74.27	74.79	69.97	67.35	80.73	81.84	85.73	89.62	93.52	97.41	101.30	103.63	105.96	108.29	110.62	112.95
3	20	8	44.62	41.37	60.66	55.58	71.91	72.23	63.35	78.46	74.72	78.71	79.35	72.74	70.45	84.10	84.33	88.72	93.12	97.51	101.91	106.30	108.01	109.72	111.43	113.14	114.85
3	20	9	48.68	46.10	58.92	56.39	70.86	71.11	65.64	78.13	72.68	81.18	81.44	75.55	74.21	83.44	85.51	89.31	93.11	96.92	100.72	104.52	106.20	107.87	109.55	111.22	112.90
3	20	10	52.49	48.43	57.91	57.69	70.66	71.11	66.27	77.97	72.39	80.84	79.93	76.78	75.60	81.45	85.42	88.95	92.49	96.02	99.56	103.09	104.60	106.12	107.63	109.15	110.66
3	20	11	52.92	48.77	57.59	57.69	70.66	70.97	66.81	77.18	72.39	78.93	79.87	77.06	75.63	81.40	82.84	86.75	90.66	94.58	98.49	102.40	104.04	105.67	107.31	108.94	110.58
3	20	12	51.42	49.28	56.57	55.15	70.08	70.75	67.77	74.12	72.15	78.52	80.61	76.37	75.62	80.73	82.41	86.31	90.20	94.10	97.99	101.89	103.53	105.17	106.82	108.46	110.10
3	20	13	49.62	48.39	56.57	53.04	67.75	69.59	66.27	73.34	69.84	77.11	79.27	75.42	75.60	79.50	82.46	86.15	89.84	93.52	97.21	100.90	102.56	104.22	105.89	107.55	109.21
3	20	14	48.74	46.26	55.88	52.89	67.02	69.54	66.13	72.97	70.01	77.32	79.15	73.56	75.39	78.79	82.70	86.25	89.79	93.34	96.88	100.43	102.03	103.63	105.24	106.84	108.44
3	20	15	44.44	46.10	54.91	52.74	66.73	68.64	65.37	71.36	69.70	74.49	78.01	73.56	74.50	78.37	82.46	85.96	89.46	92.95	96.45	99.95	101.53	103.11	104.68	106.26	107.84
3	20	16	42.86	44.71	54.43	51.41	66.37	67.92	65.06	69.89	68.68	74.04	77.47	72.64	74.27	78.02	82.30	85.82	89.35	92.87	96.40	99.92	101.50	103.09	104.67	106.26	107.84
3	20	17	45.05	46.08	54.78	51.50	66.37	68.17	66.13	69.72	69.70	74.04	77.50	73.14	74.30	78.03	82.39	86.01	89.63	93.25	96.87	100.49	101.96	103.43	104.90	106.37	107.84
3	20	18	46.57	49.76	55.54	51.53	66.37	68.17	68.34	69.99	70.15	74.04	78.39	73.60	75.01	78.96	82.46	86.07	89.68	93.28	96.89	100.50	102.32	104.13	105.95	107.76	109.58
3	20	19	50.43	51.72	57.73	54.86	70.41	68.57	70.37	72.70	77.24	78.23	78.50	76.86	76.85	80.82	84.99	88.93	92.87	96.80	100.74	104.68	106.58	108.48	110.37	112.27	114.17
3	20	20	53.39	59.68	88.06	97.28	107.26	73.67	75.34	74.12	101.80	104.42	84.03	79.01	88.44	87.27	106.67	112.45	118.23	124.02	129.80	135.58	132.29	129.00	125.72	122.43	119.14
3	20	21	51.45	56.68	57.91	56.54	70.86	70.51	72.99	73.86	72.51	77.95	79.74	78.02	82.35	81.08	84.55	88.48	92.40	96.33	100.25	104.18	105.92	107.66	109.41	111.15	112.89
3	20	22	49.40	51.55	56.57	52.93	68.48	68.64	70.26	71.66	71.34	75.98	78.27	75.33	78.46	80.74	81.62	85.54	89.45	93.37	97.28	101.20	102.93	104.67	106.40	108.14	109.87
3	20	23	43.77	49.03	55.29	52.02	67.80	68.51	68.36	69.35	70.08	74.04	75.36	72.67	75.61	78.02	80.73	84.67	88.62	92.56	96.51	100.45	102.29	104.13	105.98	107.82	109.66
3	20	24	37.96	44.01	46.03	43.37	61.64	63.91	64.31	65.63	63.69	69.61	70.78	69.52	73.27	74.05	76.28	79.99	83.70	87.42	91.13	94.84	96.46	98.08	99.71	101.33	102.95
3	21	1	34.94	36.98	39.02	37.69	55.07	60.69	60.35	59.81	58.84	63.45	64.60	66.03	66.88	68.87	70.10	73.02	75.94	78.87	81.79	84.71	86.93	89.15	91.37	93.59	95.81
3	21	2	34.01	35.07	38.38	36.66	54.00	57.53	59.61	59.37	57.79	62.19	61.58	64.21	66.70	68.15	68.66	71.31	73.95	76.60	79.24	81.89	84.07	86.24	88.42	90.59	92.77
3	21	3	32.77	35.19	37.84	36.10	53.45	57.05	58.67	59.25	57.60	61.19	62.13	62.97	66.63	67.57	68.08	70.76	73.44	76.11	78.79	81.47	83.66	85.86	88.05	90.25	92.44
3	21	4	32.43	35.77	38.10	36.08	53.49	57.65	60.05	59.68	57.62	61.30	62.63	62.18	66.75	67.66	68.02	70.85	73.68	76.52	79.35	82.18	84.56	86.95	89.33	91.72	94.10
3	21	5	32.85	38.65	39.70	37.21	54.27	58.31	61.07	61.93	58.84	63.38	63.26	62.02	67.78	70.38	69.72	72.80	75.88	78.95	82.03	85.11	87.67	90.23	92.80	95.36	97.92
3	21	6	34.15	45.59	47.23	41.90	60.61	61.59	65.73	68.12	64.17	67.73	65.42	64.20	72.11	74.98	76.76	81.01	85.27	89.52	93.78	98.03	100.36	102.68	105.01	107.33	109.66
3	21	7	35.41	52.53	55.33	50.65	64.99	63.58	69.55	71.38	71.48	74.14	67.29	66.19	76.35	78.96	80.83	84.91	88.99	93.07	97.15	101.23	103.52	105.81	108.11	110.40	112.69
3	21	8	37.84	55.38	59.13	56.57	67.11	66.35	72.47	73.35	72.51	78.48	73.40	69.34	79.85	82.78	84.94	88.82	92.71	96.59	100.48	104.36	107.29	110.22	113.15	116.08	119.01
3	21	9	43.48	53.98	59.78	56.53	68.38	69.15	72.57	74.05	76.12	78.58	78.01	71.76	79.85	81.04	85.37	89.54	93.71	97.87	102.04	106.21	107.80	109.39	110.97	112.56	114.15
3	21	10	45.10	52.64	59.51	56.43	67.11	70.34	72.45	73.76	75.53	78.55	79.38	73.49	79.85	80.41	84.94	88.82	92.71	96.59	100.48	104.36	106.11	107.87	109.62	111.38	113.13
3	21	11	45.82	52.64	59.48	56.48	68.48	70.41	72.45	73.34	73.06	78.67	79.38	73.56	78.19	79.97	85.52	89.11	92.70	96.29	99.88	103.47	105.00	106.52	108.05	109.57	111.10
3	21	12	47.30	52.21	59.08	56.47	67.02	69.60	70.76	73.07	72.39	77.84	78.28	73.56	76.86	79.43	84.82	88.41	92.00	95.59	99.18	102.77	104.30	105.83	107.35	108.88	110.41
3	21	13	46.19	52.21	56.28	53.77	66.56	68.46	70.32	69.86	71.75	76.63	76.67	73.49	75.95	78.80	84.73	88.07	91.40	94.74	98.07	101.41	103.10	104.79	106.49	108.18	109.87
3	21	14	43.21	52.23	55.27	53.04	66.56	67.30	70.25	69.26	71.60	75.84	74.79	73.08	75.63	78.53	84.55	87.90	91.25	94.61	97.96	101.31	102.92	104.53	106.14	107.75	109.36
3	21	15	41.36	51.44	53.70	52.63	66.37	66.86	69.68	68.81	70.03	74.04	72.24	72.34	75.62	78.02	84.36	87.62	90.89	94.15	97.42	100.68	102.20	103.73	105.25	106.78	108.30
3	21	16	40.23	50.83	53.54	50.84	66.31	66.85	68.65	68.58	70.05	74.04	71.15	72.14	75.25	77.33	82.71	86.30	89.89	93.48	97.07	100.66	102.19	103.72	105.24	106.77	108.30
3	21	17	42.64	51.12	53.56	50.82	66.07	66.92	68.65	68.66	70.05	74.04	72.05	73.09	75.60	77.34	83.26	86.74	90.22	93.70	97.18	100.66	102.22	103.78	105.34	106.90	108.46
3	21	18	45.83	51.55	52.79	51.16	66.07	67.68	69.55	69.26	70.28	74.04	74.43	73.56	75.61	77.98	83.97	87.31	90.65	94.00	97.34	100.68	102.41	104.14	105.87	107.60	109.33
3	21	19	51.17	52.64	56.28	52.93	67.02	70.10	70.26	71.43	72.39	74.04	77.23	75.42	76.78	80.81	84.69	88.45	92.20	95.96	99.71	103.47	105.35	107.24	109.12	111.01	112.89
3	21	20	55.95	65.97	102.69	62.39	70.85	75.71	74.68	76.82	82.02	92.04	83.82	85.05	80.43	85.11	104.23	110.64	117.06	123.47	129.89	136.30	133.08	129.86	126.65	123.43	120.21
3	21	21	53.15	52.71	56.57	54.51	69.28	71.85	72.29	74.12	72.39	78.23	80.89	80.97	77.73	80.84	85.85	89.23	92.62	96.00	99.39	102.77	104.98	107.19	109.41	111.62	113.83
3	21	22	50.47	52.23	56.06	52.61	66.78	69.19	70.28	70.86	70.28	74.27	76.09	76.78	75.95	79.50	84.38	87.74	91.11	94.47	97.84	101.20	102.94	104.69	106.43	108.18	109.92
3	21	23	46.93	50.73	54.37	51.79	66.67	65.80	69.25	68.79	68.31	74.04	72.24	73.56	75.62	77.63	81.98	85.49	89.01	92.52	96.04	99.55	101.58	103.61	105.64	107.67	109.70
3	21	24	40.12	43.05	45.54	42.47	60.51	63.58	64.72	64.23	62.23	68.68	66.87	71.03	71.39	73.34	75.21	78.52	81.83	85.14	88.45	91.76	94.11	96.45	98.80	101.14	103.49
3	22	1	33.76	36.51	38.57	37.21	58.49	59.34	59.67	59.38	58.13	63.01	64.04	66.87	66.70	68.17	69.18	71.66	74.14	76.63	79.11	81.59	84.22	86.85	89.48	92.11	94.74
3	22	2	33.01	35.02	37.92	35.45	55.05	56.94	57.93	58.24	57.20	60.60	61.87	66.03	65.90	66.62	67.75	70.54	73.33	76.11	78.90	81.69	83.98	86.27	88.55	90.84	93.13
3	22	3	33.09	34.69	37.22	34.54	54.61	56.01	57.44	57.62	56.18	59.28	61.12	65.85	65.52	66.59	65.97	68.81	71.66	74.50	77.35	80.19	82.55	84.91	87.27	89.63	91.99

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	22	4	33.40	35.65	37.34	34.19	55.29	55.05	58.13	57.75	56.18	59.24	60.35	66.87	65.16	66.86	65.53	68.51	71.50	74.48	77.47	80.45	83.04	85.64	88.23	90.83	93.42
3	22	5	35.10	37.48	38.47	35.11	55.99	55.13	60.21	59.15	57.60	61.12	60.65	69.10	67.45	67.95	67.33	70.29	73.26	76.22	79.19	82.15	84.80	87.45	90.11	92.76	95.41
3	22	6	39.81	44.81	44.66	38.39	58.46	57.40	66.13	64.62	62.34	65.97	62.60	73.49	72.83	73.79	72.93	76.63	80.32	84.02	87.71	91.41	94.29	97.17	100.06	102.94	105.82
3	22	7	49.77	52.11	52.91	47.10	61.85	58.83	69.96	70.19	70.28	71.85	64.43	78.14	77.52	79.50	78.48	82.77	87.06	91.34	95.63	99.92	101.91	103.90	105.88	107.87	109.86
3	22	8	51.42	54.79	56.40	52.66	64.25	61.91	74.55	74.05	74.77	74.65	67.30	81.41	80.75	83.02	84.36	88.24	92.11	95.99	99.86	103.74	105.92	108.09	110.27	112.44	114.62
3	22	9	51.42	52.71	57.64	54.29	66.37	65.03	72.57	75.97	72.86	77.41	71.90	79.19	77.95	81.94	84.80	88.52	92.24	95.97	99.69	103.41	105.90	108.39	110.89	113.38	115.87
3	22	10	51.27	52.23	57.64	54.15	70.09	66.27	72.21	76.52	72.85	76.39	74.59	78.83	77.79	81.62	84.55	88.09	91.64	95.18	98.73	102.27	104.58	106.89	109.21	111.52	113.83
3	22	11	51.23	52.05	57.64	54.15	70.06	66.90	71.62	75.25	72.86	78.71	74.53	78.78	77.73	81.33	84.63	87.94	91.26	94.57	97.89	101.20	103.68	106.17	108.65	111.14	113.62
3	22	12	50.68	51.21	57.44	52.93	68.59	66.35	70.93	71.72	72.51	76.16	74.46	78.37	76.03	80.74	84.36	87.63	90.89	94.16	97.42	100.69	103.24	105.79	108.35	110.90	113.45
3	22	13	50.66	50.77	56.28	51.27	67.67	66.20	70.59	71.17	71.74	74.65	74.43	78.01	75.63	79.84	82.02	85.64	89.25	92.87	96.48	100.10	102.21	104.32	106.44	108.55	110.66
3	22	14	50.65	50.59	55.27	50.45	66.82	66.13	70.26	70.93	71.48	74.05	73.33	77.45	75.63	79.84	80.83	84.57	88.32	92.06	95.81	99.55	101.71	103.88	106.04	108.21	110.37
3	22	15	49.19	50.33	53.45	50.21	64.49	65.82	69.58	70.54	70.46	74.05	72.05	76.95	75.63	78.96	80.72	84.48	88.24	92.01	95.77	99.53	101.60	103.67	105.73	107.80	109.87
3	22	16	46.28	49.94	53.18	49.65	63.08	65.80	68.74	69.71	70.28	74.05	71.28	75.55	75.60	78.48	80.43	84.25	88.07	91.88	95.70	99.52	101.40	103.27	105.15	107.02	108.90
3	22	17	46.33	50.18	53.15	49.99	64.52	66.20	68.65	69.61	70.28	74.05	72.25	75.23	74.45	78.67	80.43	84.25	88.07	91.88	95.70	99.52	101.40	103.27	105.15	107.02	108.90
3	22	18	46.80	50.33	53.45	50.21	66.67	66.91	69.55	69.80	71.59	74.05	74.43	75.55	75.27	78.81	80.42	84.24	88.06	91.89	95.71	99.53	101.59	103.65	105.72	107.78	109.84
3	22	19	50.22	52.09	55.02	51.61	68.39	69.49	70.26	71.80	73.11	74.05	74.69	78.41	76.78	81.44	82.67	86.27	89.87	93.47	97.07	100.67	103.46	106.25	109.03	111.82	114.61
3	22	20	62.08	85.47	65.24	55.47	70.76	79.73	87.79	121.42	88.97	76.04	86.70	83.28	82.40	129.76	84.36	89.55	94.73	99.92	105.10	110.29	122.96	135.63	148.29	160.96	173.63
3	22	21	50.05	52.20	59.09	52.89	69.88	74.65	72.45	74.12	74.48	74.54	83.45	78.37	77.95	80.73	84.02	87.46	90.89	94.33	97.76	101.20	103.53	105.86	108.20	110.53	112.86
3	22	22	49.45	51.66	56.46	49.99	68.30	68.57	70.24	70.43	72.82	74.05	78.21	78.02	75.63	78.86	81.81	85.43	89.05	92.68	96.30	99.92	101.91	103.90	105.88	107.87	109.86
3	22	23	47.06	48.83	54.43	49.45	62.14	67.16	68.65	68.79	68.51	72.53	74.43	74.92	75.09	77.42	80.49	84.11	87.73	91.34	94.96	98.58	100.64	102.71	104.77	106.84	108.90
3	22	24	38.54	42.37	43.97	39.99	60.76	63.73	64.90	63.51	62.67	67.00	70.39	72.13	71.39	73.32	74.92	77.64	80.36	83.09	85.81	88.53	91.29	94.06	96.82	99.59	102.35
3	23	1	33.82	36.56	38.04	36.66	58.03	60.14	58.69	58.45	58.26	62.17	64.31	66.69	65.37	67.76	70.36	72.57	74.77	76.98	79.18	81.39	83.73	86.06	88.40	90.73	93.07
3	23	2	33.03	34.52	36.19	35.48	55.58	59.25	57.27	56.97	56.86	61.29	64.07	65.96	64.34	66.45	68.92	70.95	72.98	75.02	77.05	79.08	81.65	84.22	86.78	89.35	91.92
3	23	3	32.85	33.96	35.28	35.15	53.89	59.20	56.05	56.78	56.58	60.79	64.04	65.99	64.14	66.18	67.40	69.37	71.34	73.32	75.29	77.26	80.13	83.01	85.88	88.76	91.63
3	23	4	33.40	34.03	35.13	35.59	53.55	59.55	56.48	56.90	56.63	60.79	64.26	66.13	64.60	66.10	68.21	69.81	71.40	73.00	74.59	76.19	79.28	82.37	85.45	88.54	91.63
3	23	5	35.36	36.26	36.44	35.97	53.71	62.02	58.00	58.18	57.19	61.40	65.79	68.12	66.14	66.77	68.93	70.68	72.44	74.19	75.95	77.70	80.83	83.96	87.08	90.21	93.34
3	23	6	41.21	42.71	39.95	37.29	55.24	65.38	63.03	62.60	60.37	63.22	72.05	73.56	70.80	71.65	70.52	73.33	76.14	78.95	81.76	84.57	88.08	91.58	95.09	98.59	102.10
3	23	7	46.88	50.82	48.58	38.94	57.56	69.94	67.27	70.92	66.48	64.82	76.61	78.20	75.92	77.66	72.31	77.45	82.59	87.72	92.86	98.00	100.37	102.74	105.12	107.49	109.86
3	23	8	51.68	52.11	55.90	45.07	60.49	71.79	71.08	73.84	71.59	69.51	83.50	83.28	78.56	81.22	76.40	81.08	85.76	90.43	95.11	99.79	102.02	104.25	106.47	108.70	110.93
3	23	9	51.54	52.27	56.82	49.95	62.15	72.00	73.24	73.70	74.85	73.74	81.92	81.42	80.05	81.93	80.49	84.53	88.56	92.60	96.63	100.67	102.72	104.77	106.83	108.88	110.93
3	23	10	51.03	52.27	56.81	52.81	64.28	71.69	72.82	73.45	74.04	76.16	79.99	79.00	78.36	81.93	83.67	86.89	90.12	93.34	96.57	99.79	101.96	104.14	106.31	108.49	110.66
3	23	11	50.96	52.23	56.81	53.77	65.66	71.69	71.82	73.66	74.85	77.09	79.12	78.45	78.02	81.75	84.12	87.28	90.44	93.60	96.76	99.92	102.12	104.32	106.53	108.73	110.93
3	23	12	49.77	51.67	56.89	51.36	65.69	69.87	71.08	73.45	74.05	74.34	77.51	77.77	77.56	80.41	82.01	85.67	89.33	92.98	96.64	100.30	102.31	104.33	106.34	108.36	110.37
3	23	13	49.40	51.27	55.96	50.12	64.70	69.49	70.26	72.40	70.74	73.89	76.44	77.01	76.44	79.25	80.49	84.30	88.11	91.91	95.72	99.53	101.55	103.57	105.58	107.60	109.62
3	23	14	49.19	50.49	54.30	46.77	63.30	69.79	70.24	71.53	70.28	72.53	76.49	76.92	76.36	78.96	80.03	83.93	87.83	91.73	95.63	99.53	101.55	103.57	105.58	107.60	109.62
3	23	15	46.28	50.33	52.45	43.56	62.77	69.61	69.68	70.42	68.87	70.24	76.25	76.22	75.89	78.53	78.55	82.74	86.92	91.11	95.29	99.48	101.42	103.37	105.31	107.26	109.20
3	23	16	45.30	50.33	51.59	40.86	62.69	68.73	68.65	69.71	68.55	69.56	74.97	76.02	75.63	78.02	77.17	81.45	85.73	90.00	94.28	98.56	100.50	102.44	104.38	106.32	108.26
3	23	17	46.25	50.33	51.59	42.96	62.31	68.31	68.65	69.61	68.35	70.21	75.08	76.28	75.63	77.81	78.68	82.55	86.42	90.30	94.17	98.04	100.08	102.13	104.17	106.22	108.26
3	23	18	46.57	50.53	51.58	46.33	66.82	69.17	68.65	69.71	68.68	70.38	75.40	77.02	75.63	77.81	78.78	82.74	86.70	90.65	94.61	98.57	100.70	102.82	104.95	107.07	109.20
3	23	19	50.05	51.85	53.27	51.41	69.06	70.11	70.24	71.17	71.38	73.25	77.51	80.02	76.86	79.39	80.49	84.46	88.44	92.41	96.39	100.36	102.47	104.59	106.70	108.82	110.93
3	23	20	84.97	85.27	57.20	61.50	73.93	73.58	116.31	77.44	72.54	76.17	86.39	88.32	127.18	88.35	84.94	88.20	91.46	94.71	97.97	101.23	106.40	111.58	116.75	121.93	127.10
3	23	21	51.42	52.04	56.82	54.80	71.50	71.48	71.19	71.39	72.06	76.16	79.90	78.45	76.85	80.74	82.67	86.20	89.72	93.25	96.77	100.30	102.46	104.62	106.79	108.95	111.11
3	23	22	49.77	51.12	52.49	49.99	68.43	69.86	69.99	71.37	70.88	74.04	76.49	78.15	75.63	78.81	80.43	84.06	87.69	91.32	94.95	98.58	100.83	103.09	105.34	107.60	109.85
3	23	23	47.06	48.17	50.16	44.55	64.42	68.51	67.80	69.25	66.48	69.89	74.92	74.99	74.58	77.33	76.47	80.48	84.49	88.49	92.50	96.51	98.77	101.03	103.29	105.55	107.81
3	23	24	38.15	41.37	43.73	38.58	61.79	64.05	64.20	62.51	62.33	65.58	69.75	72.13	71.26	72.91	72.33	75.32	78.31	81.31	84.30	87.29	90.12	92.95	95.78	98.61	101.44
3	24	1	33.97	35.08	37.64	36.18	59.03	59.87	57.58	58.38	58.51	62.23	64.04	66.12	65.48	67.58	69.14	71.55	73.96	76.37	78.78	81.19	83.51	85.82	88.14	90.45	92.77
3	24	2	32.80	33.90	36.72	34.82	58.09	57.88	55.39	56.78	57.85	60.54	61.79	65.48	64.11	66.14	66.32	69.14	71.95	74.77	77.58	80.40	82.30	84.21	86.11	88.02	89.92
3	24	3	32.49	33.35	36.35	34.15	58.10	57.33	55.09	56.38	57.78	59.58	61.61	65.44	63.90	64.80	65.53	68.41	71.29	74.17	77.05	79.93	81.69	83.46	85.22	86.99	88.75
3	24	4	32.67	33.34	36.53	34.05	58.38	57.78	55.24	56.12	57.86	59.37	62.56	65.25	63.71	64.60	65.18	68.28	71.39	74.49	77.60	80.70	82.14	83.59	85.03	86.48	87.92
3	24	5	34.08	34.69	37.06	34.26	59.73	59.64	55.91	56.71	58.44	59.29	64.71	65.91	64.53	66.36	64.93	68.31	71.69	75.08	78.46	81.84	83.23	84.62	86.00	87.39	88.78
3	24	6	38.04	41.17	38.46	35.20	64.16	64.40	61.32	61.33	59.31	61.05	69.67	71.83	68.96	70.37	66.74	70.11	73.49	76.86	80.24	83.61	86.18	88.75	91.32	93.89	96.46
3	24	7	45.10	46.93	40.52	36.30	69.50	69.48	67.58	65.67	61.14	62.39	75.08	76.07	75.63	73.59	68.10	71.73	75.35	78.98	82.60	86.23	90.15	94.07	97.98	101.90	105.82
3	24	8	49.84	53.44	46.88	38.17	72.17	72.36	70.49	69.95	64.64	65.29	79.86	79.47	76.07	78.14	71.02	76.03	81.03	86.04	91.04	96.05	98.76	101.48	104.19	106.91	109.62
3	24	9	50.27	54.10	53.02	42.01	71.66	71.86	71.63	72.83	67.73	69.37	79.19	81.05	76.86	79.72	74.79	79.74	84.68	89.63	94.57	99.52	101.59	103.66	105.72	107.79	109.86
3	24	10	50.18	52.40	56.69	46.61	71.45	71.05	71.63	70.43	70.88	72.14	78.01	81.05	76.85	79.84	77.21	81.78	86.36	90.93	95.51	100.08	101.97	103.86	105.76	107.65	109.54
3	24	11	49.37	52.36	56.73	46.33	71.09	70.70	72.34	70.55	70.74	72.29	77.51	78.73	76.79	79.97	76.69	81.33	85.98	90.62	95.27	99.91	101.90	103.89	105.87	107.86	109.85
3	24	12	49.19	52.67	56.29	45.74	70.68	70.41	70.94	69.89	69.32	72.34	76.09	78.68	76.07	79.65	76.35	80.98	85.62	90.25	94.89	99.52	101.52	103.53	105.53	107.54	109.54
3	24	13	49.04	50.36	53.96	44.78	69.47	70.02	69.99	69.25	68.11	71.79	74.45	78.02	75.63	78.66	77.30	81.45	85.61	89.76	93.92	98.07	100.08	102.08	104.09	106.09	108.10
3	24	14	48.79	50.01	50.91	41.17	68.88	69.77	68.88	68.58	66.68	70.20	74.43	78.01	75.63	78.18	76.25	80.61	84.96	89.32	93.67	98.03	99.82	101.60	103.39	105.17	106.96

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	24	15	46.25	49.76	48.51	39.87	67.56	68.73	68.37	67.56	65.64	68.92	72.25	76.37	75.63	77.33	75.01	79.51	84.01	88.51	93.01	97.51	99.33	101.15	102.98	104.80	106.62
3	24	16	45.69	49.57	47.15	39.42	67.45	68.23	67.57	67.32	65.03	68.63	72.25	75.23	75.61	75.32	74.94	79.07	83.20	87.34	91.47	95.60	97.80	100.00	102.19	104.39	106.59
3	24	17	45.70	49.55	48.17	43.08	67.62	68.24	67.36	67.32	65.41	69.51	72.24	75.05	74.66	76.10	75.18	79.46	83.75	88.03	92.32	96.60	98.60	100.60	102.59	104.59	106.59
3	24	18	46.13	49.64	49.79	46.77	67.57	68.66	67.92	67.55	66.53	71.84	72.49	75.23	74.66	76.91	76.88	81.04	85.20	89.35	93.51	97.67	99.51	101.35	103.20	105.04	106.88
3	24	19	47.03	51.27	52.98	51.01	70.97	70.34	69.99	68.74	69.23	74.04	76.09	76.81	75.95	78.53	81.81	85.35	88.89	92.44	95.98	99.52	101.30	103.08	104.86	106.64	108.42
3	24	20	82.04	61.35	60.74	66.40	85.58	92.57	75.50	74.25	74.05	87.07	80.39	137.60	82.95	87.47	98.04	98.67	99.30	99.94	100.57	101.20	103.15	105.09	107.04	108.98	110.93
3	24	21	49.81	51.86	56.72	61.21	71.33	71.57	71.77	69.71	71.48	82.71	79.46	79.01	77.31	79.41	90.72	92.54	94.36	96.18	98.00	99.82	101.54	103.26	104.98	106.70	108.42
3	24	22	47.02	50.22	54.01	51.79	68.32	70.04	68.74	68.19	68.29	77.11	76.26	78.01	75.63	77.57	84.36	87.39	90.42	93.46	96.49	99.52	100.94	102.37	103.79	105.22	106.64
3	24	23	44.27	47.96	48.00	47.59	66.65	67.97	66.35	65.26	65.11	73.72	74.43	74.01	73.98	77.33	80.49	83.50	86.51	89.51	92.52	95.53	97.59	99.65	101.70	103.76	105.82
3	24	24	36.40	40.18	40.82	41.34	61.49	64.23	62.32	61.75	61.94	69.40	68.06	71.33	68.65	72.64	76.93	78.74	80.54	82.35	84.15	85.96	88.25	90.54	92.82	95.11	97.40
3	25	1	32.88	34.11	37.59	37.53	57.83	59.03	57.06	58.74	58.79	64.02	63.36	65.69	65.02	68.92	72.40	74.05	75.71	77.36	79.02	80.67	82.97	85.27	87.56	89.86	92.16
3	25	2	31.56	32.53	35.81	36.93	57.24	57.81	55.28	57.62	57.56	63.42	61.56	64.74	62.92	66.59	70.75	72.33	73.91	75.50	77.08	78.66	80.98	83.30	85.62	87.94	90.26
3	25	3	31.20	32.04	34.93	36.74	56.94	56.08	54.94	57.33	57.09	63.35	59.92	63.98	63.03	66.13	70.84	71.86	72.88	73.90	74.92	75.94	78.64	81.33	84.03	86.72	89.42
3	25	4	31.55	31.88	34.81	37.01	57.30	56.50	54.43	57.44	56.94	63.77	61.26	63.71	62.67	66.37	70.84	71.79	72.74	73.70	74.65	75.60	78.75	81.91	85.06	88.22	91.37
3	25	5	32.69	32.85	35.08	37.82	58.16	58.05	55.44	58.45	56.98	64.79	62.19	64.93	64.22	66.82	71.95	72.80	73.65	74.51	75.36	76.21	79.47	82.72	85.98	89.23	92.49
3	25	6	36.93	36.32	36.19	44.46	62.31	63.26	60.60	59.87	57.85	71.39	69.39	69.09	67.57	68.87	78.17	78.28	78.39	78.50	78.61	78.72	81.77	84.83	87.88	90.94	93.99
3	25	7	44.40	43.95	37.92	51.79	68.40	68.16	64.20	61.92	58.78	75.98	75.20	74.24	72.14	70.93	83.83	83.06	82.28	81.51	80.73	79.96	83.43	86.90	90.38	93.85	97.32
3	25	8	50.21	50.35	40.61	65.01	71.92	70.86	67.36	64.25	60.94	78.71	79.93	77.72	75.61	73.31	88.38	87.62	86.86	86.10	85.34	84.58	88.42	92.25	96.09	99.92	103.76
3	25	9	50.61	50.83	45.87	65.01	71.45	71.05	68.65	68.28	63.97	80.33	79.93	78.20	75.82	77.32	88.07	88.79	89.50	90.22	90.93	91.65	94.77	97.89	101.00	104.12	107.24
3	25	10	50.61	50.83	49.51	58.20	70.00	71.05	68.38	69.25	66.04	78.71	79.46	78.20	75.63	79.84	85.79	87.95	90.11	92.28	94.44	96.60	99.12	101.64	104.17	106.69	109.21
3	25	11	50.61	50.83	49.63	56.69	69.62	70.33	68.65	69.25	66.03	78.12	79.46	78.31	75.95	80.41	84.94	87.27	89.60	91.94	94.27	96.60	99.06	101.52	103.98	106.44	108.90
3	25	12	50.27	50.22	49.61	55.54	68.43	69.38	68.37	68.79	65.72	77.74	77.51	78.01	75.83	78.96	84.73	86.99	89.24	91.50	93.75	96.01	98.37	100.73	103.10	105.46	107.82
3	25	13	47.03	49.76	49.47	54.64	67.99	68.57	67.26	67.61	65.41	77.11	76.47	76.95	75.63	77.69	83.67	86.14	88.61	91.07	93.54	96.01	98.21	100.41	102.61	104.81	107.01
3	25	14	47.22	49.60	46.91	52.71	67.15	68.17	66.55	66.91	64.70	75.40	76.45	76.33	75.61	77.05	82.20	84.45	86.71	88.96	91.22	93.47	96.07	98.67	101.26	103.86	106.46
3	25	15	46.46	47.47	45.25	51.27	66.82	67.68	65.80	65.53	63.97	75.04	76.12	74.92	73.69	75.39	81.24	83.27	85.29	87.32	89.34	91.37	94.02	96.68	99.33	101.99	104.64
3	25	16	45.86	46.19	43.98	50.49	66.37	66.15	65.64	65.20	63.76	74.55	74.56	73.88	73.38	75.18	80.49	82.57	84.64	86.72	88.79	90.87	93.25	95.64	98.02	100.41	102.79
3	25	17	45.94	45.99	48.13	51.26	66.56	66.15	64.97	65.58	64.97	74.56	74.44	73.88	73.38	75.39	80.49	83.63	86.77	89.92	93.06	96.20	97.72	99.24	100.76	102.28	103.80
3	25	18	46.27	46.70	50.18	51.30	67.02	66.39	65.62	66.86	67.43	75.30	74.57	74.82	73.38	75.43	80.49	83.93	87.36	90.80	94.23	97.67	99.42	101.18	102.93	104.69	106.44
3	25	19	47.03	47.96	53.54	55.13	70.00	68.77	67.02	68.04	70.95	78.01	77.50	76.37	73.88	77.32	82.82	86.16	89.50	92.85	96.19	99.53	101.19	102.84	104.50	106.15	107.81
3	25	20	80.80	52.34	63.77	79.01	82.98	116.33	72.39	70.42	82.94	83.32	118.66	82.92	80.00	82.84	85.95	90.17	94.38	98.60	102.81	107.03	107.59	108.16	108.72	109.29	109.85
3	25	21	51.21	50.21	60.47	56.78	70.86	70.34	68.37	69.25	77.04	78.35	77.00	78.20	75.61	80.41	84.69	88.95	93.21	97.48	101.74	106.00	106.65	107.30	107.95	108.60	109.25
3	25	22	46.02	46.15	54.17	51.36	67.95	68.31	66.55	67.62	71.48	77.11	74.92	75.44	73.83	77.42	82.01	85.74	89.47	93.20	96.93	100.66	102.03	103.41	104.78	106.16	107.53
3	25	23	44.20	45.11	50.10	50.60	65.73	65.91	66.08	64.55	66.69	73.52	73.98	73.56	71.73	73.32	80.73	84.35	87.97	91.58	95.20	98.82	99.75	100.68	101.62	102.55	103.48
3	25	24	36.36	39.74	44.97	40.67	61.02	63.58	61.33	61.47	62.90	68.56	67.51	69.39	67.98	70.64	75.63	79.17	82.70	86.24	89.77	93.31	94.18	95.05	95.92	96.79	97.66
3	26	1	32.43	34.35	38.80	36.87	57.26	58.04	57.31	58.42	58.42	62.66	62.96	64.97	64.16	67.77	71.41	74.42	77.43	80.44	83.45	86.46	87.42	88.39	89.35	90.32	91.28
3	26	2	29.83	33.36	38.22	35.91	55.54	55.35	55.41	57.08	58.15	62.04	60.06	63.88	62.76	66.15	70.06	72.94	75.82	78.70	81.58	84.46	85.50	86.55	87.59	88.64	89.68
3	26	3	29.35	32.90	38.11	35.71	54.78	54.83	55.38	56.59	58.15	61.32	59.92	62.77	62.34	63.73	69.76	72.74	75.72	78.71	81.69	84.67	85.25	85.84	86.42	87.01	87.59
3	26	4	29.23	33.28	38.41	36.28	54.64	54.85	55.39	56.61	58.68	61.98	59.87	61.85	63.62	63.37	70.34	73.21	76.08	78.96	81.83	84.70	85.08	85.46	85.85	86.23	86.61
3	26	5	30.52	34.39	39.16	37.31	56.76	55.75	56.17	56.78	59.67	64.02	60.72	64.23	64.18	63.84	72.07	75.00	77.94	80.87	83.81	86.74	86.99	87.24	87.48	87.73	87.98
3	26	6	34.51	35.22	46.30	43.37	60.19	61.00	58.20	57.88	65.56	69.61	66.21	67.58	65.24	66.33	78.54	81.16	83.78	86.39	89.01	91.63	91.28	90.93	90.58	90.23	89.88
3	26	7	39.69	37.73	49.67	51.94	66.51	67.44	59.73	58.74	66.96	76.98	73.56	71.73	67.16	67.37	83.67	85.89	88.12	90.34	92.57	94.79	94.17	93.56	92.94	92.33	91.71
3	26	8	45.25	41.98	50.45	54.64	68.43	70.53	62.32	61.64	68.50	78.48	78.32	75.10	70.65	69.36	87.34	89.66	91.98	94.31	96.63	98.95	98.02	97.08	96.15	95.21	94.28
3	26	9	46.62	45.96	50.80	56.31	70.63	70.68	66.18	64.75	69.25	79.63	79.65	75.33	73.71	73.18	88.00	90.21	92.43	94.64	96.86	99.07	99.59	100.11	100.64	101.16	101.68
3	26	10	46.89	51.33	50.20	54.66	70.00	70.68	68.65	65.64	68.30	77.75	79.46	75.55	75.63	75.40	86.12	88.50	90.89	93.27	95.66	98.04	99.13	100.22	101.30	102.39	103.48
3	26	11	48.43	51.06	49.96	53.06	70.08	70.82	69.55	65.83	68.30	77.55	79.46	76.33	75.55	75.40	85.37	87.89	90.41	92.92	95.44	97.96	99.13	100.30	101.46	102.63	103.80
3	26	12	45.64	49.91	49.89	52.54	69.28	70.83	68.65	66.06	67.68	77.56	76.49	75.59	74.06	75.40	83.97	86.51	89.05	91.59	94.13	96.67	98.10	99.52	100.95	102.37	103.80
3	26	13	45.50	46.26	49.83	51.27	68.10	70.24	67.02	65.53	67.58	77.11	75.69	75.05	72.64	75.39	82.48	85.11	87.74	90.36	92.99	95.62	97.25	98.88	100.50	102.13	103.76
3	26	14	45.25	45.05	49.24	51.27	66.91	68.33	65.64	64.54	67.33	75.84	75.20	73.85	71.39	74.51	82.88	85.29	87.71	90.12	92.54	94.95	96.30	97.64	98.99	100.33	101.68
3	26	15	44.65	42.21	48.45	50.47	66.56	67.30	64.19	63.68	66.56	75.52	74.80	73.57	70.03	73.26	82.01	84.52	87.03	89.55	92.06	94.57	95.61	96.65	97.69	98.73	99.77
3	26	16	43.68	41.58	48.98	50.47	66.37	66.16	63.99	63.64	65.81	74.72	74.44	73.56	69.95	73.18	81.54	84.07	86.59	89.12	91.64	94.17	95.21	96.24	97.28	98.31	99.35
3	26	17	42.19	41.78	48.89	50.49	66.16	65.97	64.14	64.73	65.81	75.52	74.44	73.56	70.28	72.64	82.01	84.45	86.88	89.32	91.75	94.19	95.92	97.66	99.39	101.13	102.86
3	26	18	43.09	43.27	48.29	50.64	66.56	66.16	64.34	66.89	66.06	75.72	74.44	73.56	70.76	74.23	82.48	84.93	87.38	89.83	92.28	94.73	96.95	99.17	101.38	103.60	105.82
3	26	19	46.33	47.25	49.24	53.06	68.33	69.35	66.08	68.55	67.33	77.95	76.53	74.24	73.22	77.97	88.52	90.41	92.30	94.18	96.07	97.96	100.05	102.14	104.23	106.32	108.41
3	26	20	46.80	60.77	54.65	88.05	110.72	75.57	69.55	81.13	69.63	80.98	85.00	77.81	75.64	91.13	97.06	97.89	98.72	99.55	100.38	101.21	107.25	113.29	119.32	125.36	131.40
3	26	21	46.26	51.85	49.24	53.33	71.46	71.37	68.74	74.88	68.30	78.35	79.86	74.92	75.41	91.13	87.69	89.75	91.81	93.88	95.94	98.00	103.16	108.32	113.47	118.63	123.79
3	26	22	44.28	46.26	48.76	50.50	67.56	67.06	66.92	69.89	67.33	76.93	75.38	73.63	73.60	81.59	84.53	86.63	88.72	90.82	92.91	95.01	97.98	100.95	103.91	106.88	109.85
3	26	23	40.17	42.31	47.92	50.44	65.84	66.39	62.62	66.19	67.33	73.72	74.13	72.78	70.09	77.58	82.39	84.70	87.01	89.32	91.63	93.94	96.54	99.14	101.75	104.35	106.95
3	26	24	35.45	38.46	42.51	40.81	60.76	62.13	59.46	62.50	63.16	67.69	67.18	68.61	66.41	74.35	76.43	78.82	81.21	83.61	86.00	88.39	91.33	94.27	97.21	100.15	103.09
3	27	1	32.85	33.64	38.67	36.84	55.92	57.19	56.93	58.43	58.72	62.66	62.84	65.38	64.11	69.24	71.21	73.39	75.57	77.75	79.93	82.11	85.16	88.20	91.25	94.29	97.34

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	27	2	31.95	32.53	37.70	35.59	54.73	55.22	55.39	58.12	58.55	61.86	60.57	63.29	62.58	68.22	69.84	72.03	74.21	76.40	78.58	80.77	83.69	86.61	89.52	92.44	95.36
3	27	3	31.01	31.93	37.22	35.30	54.27	54.85	54.87	58.03	58.59	60.58	60.20	62.78	61.72	68.59	68.62	70.98	73.35	75.71	78.08	80.44	83.43	86.43	89.42	92.42	95.41
3	27	4	31.52	31.88	37.99	35.51	54.21	54.02	54.87	58.43	58.81	60.50	59.54	63.01	61.54	68.58	68.98	71.44	73.89	76.35	78.80	81.26	84.15	87.04	89.92	92.81	95.70
3	27	5	32.43	32.18	38.88	37.28	55.45	55.50	55.24	59.37	60.56	62.66	61.01	63.81	61.81	68.99	70.58	73.26	75.95	78.63	81.32	84.00	86.67	89.34	92.01	94.68	97.35
3	27	6	34.00	33.01	45.22	42.93	58.37	60.75	56.62	62.42	64.23	68.20	65.13	65.91	63.10	72.85	78.04	80.52	83.00	85.47	87.95	90.43	92.42	94.41	96.40	98.39	100.38
3	27	7	35.56	34.43	49.61	51.76	66.07	63.64	57.77	64.76	69.13	74.49	68.61	68.12	64.13	75.34	83.87	86.19	88.51	90.82	93.14	95.46	97.31	99.16	101.00	102.85	104.70
3	27	8	38.27	37.09	50.38	56.56	69.27	68.07	60.23	66.97	70.27	78.01	74.44	70.90	66.88	81.17	85.74	88.18	90.63	93.07	95.52	97.96	100.03	102.11	104.18	106.26	108.33
3	27	9	44.67	40.99	50.28	55.49	70.27	69.32	62.87	68.84	71.04	78.86	75.38	73.56	69.04	83.66	89.50	90.97	92.45	93.92	95.40	96.87	99.25	101.62	104.00	106.37	108.75
3	27	10	46.48	43.14	50.20	55.49	70.10	69.87	63.05	66.73	69.19	78.55	75.27	74.37	70.67	77.69	86.88	88.74	90.60	92.46	94.32	96.18	97.81	99.44	101.08	102.71	104.34
3	27	11	46.88	43.14	49.93	53.19	69.42	69.93	62.91	67.93	68.92	78.23	75.49	74.67	70.60	76.62	85.48	87.51	89.54	91.56	93.59	95.62	97.36	99.10	100.85	102.59	104.33
3	27	12	46.13	42.70	49.18	52.63	67.93	69.30	62.91	66.93	67.93	78.97	75.27	73.56	70.54	76.04	84.73	86.78	88.83	90.88	92.93	94.98	96.79	98.59	100.40	102.20	104.01
3	27	13	45.29	42.23	49.18	50.61	66.83	68.30	62.91	65.27	67.61	77.74	73.67	73.56	70.53	75.03	82.84	85.21	87.59	89.96	92.34	94.71	96.31	97.91	99.50	101.10	102.70
3	27	14	41.17	41.71	49.18	50.49	66.82	68.04	62.68	64.42	67.59	75.83	72.79	73.56	70.03	74.22	82.30	84.68	87.06	89.43	91.81	94.19	96.12	98.05	99.97	101.90	103.83
3	27	15	38.66	39.92	48.28	50.40	66.37	65.90	62.14	64.42	67.33	75.46	72.25	72.43	69.34	73.45	81.54	83.99	86.45	88.90	91.36	93.81	95.70	97.59	99.48	101.37	103.26
3	27	16	37.62	39.64	48.27	50.40	66.07	63.97	61.93	64.04	66.35	74.13	71.13	71.33	69.05	72.54	80.75	83.32	85.88	88.45	91.01	93.58	95.44	97.30	99.16	101.02	102.88
3	27	17	38.86	41.78	48.48	50.40	66.07	63.73	63.10	63.91	66.68	74.04	70.78	71.71	70.79	72.54	80.75	83.38	86.01	88.63	91.26	93.89	95.67	97.45	99.24	101.02	102.80
3	27	18	40.66	44.21	48.28	50.94	66.07	64.20	64.36	64.34	66.96	74.72	71.26	72.04	71.52	72.88	81.84	84.41	86.99	89.56	92.14	94.71	96.43	98.15	99.86	101.58	103.30
3	27	19	46.33	47.40	50.25	51.94	67.02	65.97	66.72	65.14	67.61	77.74	74.43	73.56	75.34	75.52	84.55	87.19	89.83	92.46	95.10	97.74	99.30	100.86	102.43	103.99	105.55
3	27	20	56.17	58.68	55.93	84.58	73.82	71.11	77.85	72.77	85.67	140.91	81.50	75.16	86.19	80.57	170.64	156.51	142.38	128.25	114.12	99.99	101.84	103.69	105.55	107.40	109.25
3	27	21	47.99	55.27	50.03	56.53	70.87	68.12	74.38	65.27	71.09	82.89	75.40	74.67	83.88	76.03	90.17	91.73	93.29	94.85	96.41	97.97	99.49	101.00	102.52	104.03	105.55
3	27	22	45.44	49.84	48.35	52.63	66.56	65.62	68.87	64.60	67.82	77.11	74.39	73.56	75.63	74.76	84.55	86.62	88.69	90.76	92.83	94.90	96.69	98.47	100.26	102.04	103.83
3	27	23	38.90	43.89	48.29	49.47	65.99	66.35	65.70	62.69	67.61	75.12	71.30	71.32	73.86	72.57	82.84	85.11	87.38	89.66	91.93	94.20	95.70	97.19	98.69	100.18	101.68
3	27	24	35.94	40.34	42.62	40.53	60.25	61.91	62.21	60.83	63.84	67.08	65.87	68.41	70.68	70.27	78.21	80.63	83.05	85.48	87.90	90.32	92.25	94.18	96.10	98.03	99.96
3	28	1	32.52	34.31	38.40	35.97	56.13	58.66	58.45	57.72	58.83	63.28	61.74	65.32	66.14	68.35	70.95	73.44	75.93	78.41	80.90	83.39	85.33	87.26	89.20	91.13	93.07
3	28	2	30.80	33.98	37.09	34.97	52.77	56.12	57.58	56.79	57.88	60.35	60.57	63.24	65.42	67.52	68.93	71.56	74.19	76.83	79.46	82.09	84.14	86.18	88.23	90.27	92.32
3	28	3	30.22	33.92	36.40	34.54	52.45	55.92	57.42	56.70	57.88	59.74	60.45	61.32	65.64	67.34	68.22	70.70	73.19	75.67	78.16	80.64	82.96	85.28	87.60	89.92	92.24
3	28	4	29.98	34.72	36.57	34.59	52.23	56.17	57.66	57.35	58.62	59.92	60.52	60.60	66.02	67.97	68.10	70.70	73.31	75.91	78.52	81.12	83.63	86.13	88.64	91.14	93.65
3	28	5	30.41	35.91	37.87	35.59	52.78	56.56	58.91	58.12	60.15	61.41	61.06	61.72	66.96	68.66	69.50	72.32	75.14	77.97	80.79	83.61	85.90	88.20	90.49	92.79	95.08
3	28	6	31.77	40.95	43.31	39.88	58.62	58.50	61.77	61.62	64.82	66.33	62.28	63.58	69.27	71.07	74.15	77.44	80.73	84.03	87.32	90.61	92.56	94.52	96.47	98.43	100.38
3	28	7	32.97	45.09	48.19	48.98	62.92	60.89	64.12	64.42	67.62	74.03	64.61	64.83	71.37	74.48	80.43	83.42	86.40	89.39	92.37	95.36	97.04	98.72	100.40	102.08	103.76
3	28	8	35.93	47.79	49.76	50.71	66.37	63.73	67.64	65.27	69.99	77.74	68.06	67.46	75.13	75.53	84.94	87.65	90.36	93.06	95.77	98.48	100.22	101.96	103.70	105.44	107.18
3	28	9	38.06	47.81	49.05	51.67	66.56	67.74	67.60	66.00	69.73	77.95	72.24	70.53	76.89	75.64	85.50	87.99	90.49	92.98	95.48	97.97	99.68	101.38	103.09	104.79	106.50
3	28	10	39.93	47.45	49.05	50.94	66.56	69.85	67.55	65.02	69.20	77.28	74.92	72.70	75.76	74.60	84.82	87.29	89.75	92.22	94.68	97.15	98.81	100.47	102.12	103.78	105.44
3	28	11	39.29	47.45	48.92	50.94	66.56	69.17	67.36	64.83	68.98	76.22	75.10	73.56	74.95	74.31	83.67	86.32	88.97	91.63	94.28	96.93	98.58	100.23	101.89	103.54	105.19
3	28	12	38.71	47.28	49.05	51.27	66.31	68.39	66.87	64.65	68.56	75.84	74.43	73.54	73.79	73.74	82.39	85.23	88.07	90.91	93.75	96.59	98.15	99.70	101.26	102.81	104.37
3	28	13	38.22	47.09	48.33	50.40	66.07	67.50	66.56	64.42	67.61	75.83	72.24	73.14	71.59	73.24	81.89	84.58	87.28	89.97	92.67	95.36	97.04	98.73	100.41	102.10	103.78
3	28	14	37.29	46.79	48.29	50.12	65.73	66.91	65.71	64.36	67.33	74.03	70.64	72.71	71.30	73.19	80.50	83.35	86.19	89.04	91.88	94.73	96.32	97.92	99.51	101.11	102.70
3	28	15	36.64	44.02	47.56	48.95	64.83	65.33	64.72	63.82	66.69	73.06	68.40	71.41	70.79	73.03	80.43	83.17	85.92	88.66	91.41	94.15	95.78	97.40	99.03	100.65	102.28
3	28	16	36.48	43.31	46.86	48.27	62.92	63.79	62.64	63.63	66.06	71.87	68.19	71.11	70.20	72.91	78.72	81.73	84.74	87.74	90.75	93.76	95.41	97.06	98.72	100.37	102.02
3	28	17	37.81	43.31	46.82	48.98	62.52	64.26	62.64	63.76	65.81	72.36	68.58	71.32	70.20	73.03	80.49	83.11	85.73	88.34	90.96	93.58	95.20	96.82	98.44	100.06	101.68
3	28	18	40.26	43.65	47.52	49.87	62.31	65.26	63.56	64.36	65.81	73.23	70.19	72.76	70.42	74.01	80.50	83.24	85.98	88.71	91.45	94.19	95.77	97.35	98.94	100.52	102.10
3	28	19	46.33	46.79	48.29	52.98	65.67	67.52	65.49	65.27	67.33	77.11	72.15	74.59	71.70	75.97	84.70	87.13	89.56	91.99	94.42	96.85	98.76	100.66	102.57	104.47	106.38
3	28	20	56.70	51.46	92.62	69.09	68.35	70.49	73.91	101.70	112.15	104.28	76.49	85.75	78.42	101.83	92.90	105.45	118.00	130.56	143.11	155.66	148.88	142.10	135.32	128.54	121.76
3	28	21	53.39	47.46	49.92	52.63	66.31	69.15	66.48	65.62	72.12	78.01	74.78	83.78	73.75	76.03	84.94	87.86	90.79	93.71	96.64	99.56	101.08	102.61	104.13	105.66	107.18
3	28	22	46.91	46.79	48.29	50.94	64.42	67.79	65.49	64.65	67.61	75.83	73.67	75.63	71.30	73.56	81.90	84.52	87.13	89.75	92.36	94.98	96.82	98.66	100.50	102.34	104.18
3	28	23	43.10	44.80	48.34	47.65	61.67	65.18	64.12	63.46	66.90	74.03	68.03	73.88	70.93	73.03	80.49	83.65	86.80	89.96	93.11	96.27	97.26	98.26	99.25	100.25	101.24
3	28	24	37.13	40.61	42.52	39.24	58.95	61.06	61.51	60.83	62.69	67.40	64.89	71.32	68.60	70.66	74.94	78.01	81.08	84.16	87.23	90.30	92.23	94.17	96.10	98.04	99.97
3	29	1	34.59	33.83	38.43	35.92	55.97	58.29	58.33	57.54	57.92	62.17	61.32	65.32	66.36	67.42	69.50	72.29	75.08	77.87	80.66	83.45	85.43	87.41	89.38	91.36	93.34
3	29	2	33.31	33.28	37.08	34.64	54.00	56.17	57.43	57.24	56.68	60.44	59.67	64.96	65.80	65.86	68.31	71.05	73.79	76.53	79.27	82.01	84.11	86.22	88.32	90.43	92.53
3	29	3	33.28	33.18	36.35	34.42	53.44	54.73	57.31	56.25	56.52	60.05	58.78	64.96	65.28	65.31	67.62	70.33	73.04	75.74	78.45	81.16	83.26	85.37	87.47	89.58	91.68
3	29	4	33.75	33.50	36.59	34.47	53.43	54.57	57.80	56.30	56.52	60.05	58.60	65.25	65.95	65.56	67.97	70.62	73.27	75.93	78.58	81.23	83.41	85.59	87.76	89.94	92.12
3	29	5	35.36	34.58	38.08	35.48	54.05	54.80	59.38	58.13	57.11	61.72	58.94	65.91	66.99	66.74	69.51	72.24	74.96	77.69	80.41	83.14	85.34	87.55	89.75	91.96	94.16
3	29	6	39.90	42.26	41.53	39.14	55.26	56.68	61.52	62.12	61.26	66.84	60.30	68.76	69.95	70.83	74.55	77.38	80.21	83.03	85.86	88.69	90.93	93.17	95.40	97.64	99.88
3	29	7	46.16	47.23	47.40	46.37	57.82	57.94	65.49	66.25	65.11	71.83	61.04	71.47	72.53	74.69	80.02	82.78	85.53	88.29	91.04	93.80	95.75	97.71	99.66	101.62	103.57
3	29	8	48.18	47.75	48.29	50.33	60.48	60.34	67.68	66.08	67.61	79.63	64.25	79.22	74.79	77.63	82.88	85.54	88.21	90.87	93.54	96.20	98.19	100.19	102.18	104.18	106.17
3	29	9	48.67	47.45	48.45	51.53	64.41	62.13	66.86	66.25	68.78	80.40	67.62	77.59	74.36	77.63	83.97	86.41	88.85	91.30	93.74	96.18	98.38	100.58	102.78	104.98	107.18
3	29	10	48.30	47.35	48.44	52.26	66.56	64.76	66.72	65.97	68.30	81.53	69.62	74.59	73.35	77.54	84.55	86.75	88.94	91.14	93.33	95.53	97.66	99.78	101.91	104.03	106.16
3	29	11	48.30	47.14	48.80	52.82	66.91	65.33	66.32	65.78	67.61	81.78	69.75	74.01	72.84	76.03	84.69	86.78	88.87	90.96	93.05	95.14	97.22	99.30	101.38	103.46	105.54
3	29	12	46.45	46.95	48.48	51.26	66.37	65.22	66.14	65.65	69.04	77.82	69.57	72.12	71.59	75.71	82.88	85.26	87.64	90.03	92.41	94.79	96.82	98.85	100.89	102.92	104.95

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	29	13	46.31	45.98	48.08	51.27	66.06	64.81	65.42	64.76	68.05	75.75	68.91	71.31	71.30	74.69	81.90	84.35	86.80	89.25	91.70	94.15	95.88	97.62	99.35	101.09	102.82
3	29	14	46.21	45.98	48.08	51.33	64.57	63.58	65.42	64.42	68.00	75.08	69.08	71.29	71.30	73.95	81.90	84.36	86.82	89.27	91.73	94.19	95.75	97.30	98.86	100.41	101.97
3	29	15	45.74	45.23	48.08	51.30	61.90	62.13	64.69	64.04	66.96	74.04	68.01	69.66	71.29	73.19	80.42	83.03	85.64	88.25	90.86	93.47	94.99	96.51	98.02	99.54	101.06
3	29	16	43.36	44.76	47.97	50.40	61.27	61.95	64.42	63.45	65.93	71.84	67.61	69.38	70.79	72.97	78.20	81.02	83.83	86.65	89.46	92.28	93.95	95.62	97.30	98.97	100.64
3	29	17	43.65	44.76	48.00	48.94	62.00	62.93	64.89	63.32	65.81	71.83	69.19	69.38	70.85	72.89	78.59	81.52	84.45	87.39	90.32	93.25	94.75	96.24	97.74	99.23	100.73
3	29	18	44.26	45.98	47.12	48.05	62.53	64.90	65.24	64.34	65.37	71.81	70.45	69.66	71.59	73.74	79.53	82.33	85.12	87.92	90.71	93.51	95.06	96.60	98.15	99.69	101.24
3	29	19	46.45	48.02	47.66	48.98	66.07	67.59	68.88	64.98	67.48	71.96	74.43	72.58	74.32	74.92	79.95	83.08	86.22	89.35	92.49	95.62	97.04	98.47	99.89	101.32	102.74
3	29	20	48.37	69.60	53.72	52.63	68.00	78.02	102.22	85.17	80.84	74.54	87.85	76.52	105.91	101.51	83.97	88.31	92.65	96.99	101.33	105.67	110.28	114.88	119.49	124.09	128.70
3	29	21	46.44	47.81	48.77	51.83	66.91	73.95	68.94	67.71	68.30	74.04	83.92	73.43	74.36	78.38	81.54	84.40	87.27	90.13	93.00	95.86	98.45	101.04	103.64	106.23	108.82
3	29	22	46.01	47.14	47.83	50.93	65.73	69.49	66.28	65.27	66.69	72.53	77.07	71.29	71.43	75.32	80.49	83.23	85.96	88.70	91.43	94.17	96.28	98.38	100.49	102.59	104.70
3	29	23	43.55	45.86	46.85	46.73	61.49	67.13	64.89	64.42	64.34	72.79	72.05	70.54	71.37	75.18	80.02	82.71	85.41	88.10	90.80	93.49	95.40	97.30	99.21	101.11	103.02
3	29	24	37.51	39.88	40.51	39.14	58.28	63.58	61.75	60.20	62.54	65.42	67.62	67.51	68.60	70.66	73.31	76.16	79.00	81.85	84.69	87.54	89.90	92.26	94.63	96.99	99.35
3	30	1	33.03	35.26	37.05	36.03	54.77	59.30	57.66	56.78	58.13	62.17	64.45	64.97	64.85	67.62	69.89	72.31	74.74	77.16	79.59	82.01	84.40	86.79	89.19	91.58	93.97
3	30	2	32.21	34.07	35.99	35.04	53.78	58.79	56.57	55.86	57.14	61.16	62.78	64.64	63.64	66.07	69.10	71.39	73.68	75.98	78.27	80.56	82.97	85.38	87.80	90.21	92.62
3	30	3	31.86	33.81	35.43	34.64	53.26	58.03	56.09	55.19	57.09	60.29	62.60	64.35	63.03	65.28	67.90	70.15	72.41	74.66	76.92	79.17	81.57	83.97	86.37	88.77	91.17
3	30	4	32.48	33.98	35.81	34.62	53.11	58.61	56.34	55.37	57.14	60.29	62.89	64.86	63.15	65.40	67.85	70.27	72.69	75.11	77.53	79.95	82.32	84.69	87.06	89.43	91.80
3	30	5	33.76	35.98	37.16	34.96	53.49	59.46	57.48	56.69	57.71	60.44	65.13	65.85	64.51	66.63	68.09	70.84	73.59	76.34	79.09	81.84	84.05	86.25	88.46	90.66	92.87
3	30	6	39.28	40.99	40.36	35.99	54.36	62.14	60.97	59.66	62.27	62.13	68.40	69.52	68.59	69.96	70.19	73.67	77.15	80.62	84.10	87.58	89.39	91.20	93.01	94.82	96.63
3	30	7	46.61	48.39	46.87	37.51	55.30	64.88	63.53	63.07	64.94	63.22	71.28	71.69	72.84	73.04	71.70	75.94	80.18	84.41	88.65	92.89	94.43	95.97	97.51	99.05	100.59
3	30	8	46.81	48.94	49.07	40.02	58.33	65.82	67.55	64.83	66.96	65.02	73.42	73.76	72.84	75.52	74.94	78.90	82.86	86.81	90.77	94.73	96.61	98.49	100.38	102.26	104.14
3	30	9	46.81	49.25	48.35	48.75	61.32	65.33	67.31	65.58	67.58	70.24	74.17	72.58	75.70	75.34	80.42	83.33	86.24	89.16	92.07	94.98	96.81	98.64	100.48	102.31	104.14
3	30	10	46.69	49.41	48.35	50.15	61.96	65.11	66.86	65.27	67.61	74.04	72.74	71.91	74.36	74.70	82.88	85.33	87.78	90.24	92.69	95.14	96.72	98.30	99.87	101.45	103.03
3	30	11	46.73	49.98	48.91	50.64	60.75	65.05	66.86	64.65	67.58	74.04	72.74	71.61	74.13	74.20	83.29	85.95	88.62	91.28	93.95	96.61	97.85	99.09	100.34	101.58	102.82
3	30	12	46.35	48.83	48.48	50.64	60.64	65.05	66.86	64.34	67.33	73.43	71.43	71.34	73.68	73.19	82.84	85.30	87.76	90.22	92.68	95.14	96.65	98.16	99.68	101.19	102.70
3	30	13	46.34	47.25	49.06	48.28	60.64	64.52	66.69	63.64	66.96	71.84	70.91	70.87	71.93	72.91	80.48	83.29	86.10	88.91	91.72	94.53	96.28	98.02	99.77	101.51	103.26
3	30	14	46.34	47.08	48.28	45.35	60.29	64.44	66.13	63.63	66.56	69.77	70.33	70.64	71.30	72.64	78.17	81.29	84.40	87.52	90.63	93.75	95.65	97.55	99.45	101.35	103.25
3	30	15	45.99	45.86	48.64	43.55	59.70	63.98	65.39	63.14	65.81	68.61	70.16	69.52	70.82	72.41	78.04	81.13	84.23	87.32	90.42	93.51	95.23	96.95	98.66	100.38	102.10
3	30	16	44.44	44.35	48.17	42.80	60.28	63.76	63.82	62.85	64.73	68.13	69.75	69.23	70.62	72.23	78.04	81.09	84.15	87.20	90.26	93.31	94.98	96.66	98.33	100.01	101.68
3	30	17	44.44	44.21	48.12	45.65	60.64	63.93	62.89	63.14	64.39	69.80	69.82	69.39	70.55	72.56	79.89	82.59	85.29	88.00	90.70	93.40	95.04	96.68	98.31	99.95	101.59
3	30	18	45.74	44.90	47.99	46.65	60.84	64.49	63.39	63.45	64.38	70.05	69.92	71.01	70.93	72.95	80.48	83.05	85.61	88.18	90.74	93.31	94.90	96.48	98.07	99.65	101.24
3	30	19	46.34	46.41	48.21	51.27	64.83	65.96	64.72	64.65	64.76	73.68	70.99	71.98	72.08	75.62	82.89	84.97	87.06	89.14	91.23	93.31	95.11	96.91	98.72	100.52	102.32
3	30	20	63.67	56.04	49.61	68.53	70.97	72.49	85.81	76.44	67.61	78.06	77.52	95.20	91.83	92.71	86.88	88.45	90.02	91.59	93.16	94.73	97.80	100.87	103.93	107.00	110.07
3	30	21	47.11	50.01	49.24	52.71	70.97	65.96	68.05	64.83	66.66	77.08	70.99	72.58	76.06	75.53	86.12	87.66	89.19	90.73	92.26	93.80	95.88	97.95	100.03	102.10	104.18
3	30	22	46.20	47.08	48.91	49.99	66.56	64.31	65.80	64.05	65.81	72.82	70.25	71.32	71.50	73.87	82.88	85.00	87.12	89.25	91.37	93.49	95.54	97.60	99.65	101.71	103.76
3	30	23	45.32	44.43	46.85	44.48	62.42	62.57	64.22	62.35	66.30	67.27	70.06	70.87	70.79	72.98	78.76	81.39	84.02	86.65	89.28	91.91	93.78	95.64	97.51	99.37	101.24
3	30	24	37.68	39.36	40.78	38.77	59.70	61.09	61.33	58.88	60.90	63.25	66.11	67.63	66.95	70.06	73.32	76.05	78.78	81.52	84.25	86.98	89.26	91.55	93.83	96.12	98.40
3	31	1	34.06	33.90	38.16	36.54	56.04	58.49	56.39	56.70	58.31	60.98	62.74	64.74	64.89	66.31	69.72	71.95	74.18	76.41	78.64	80.87	83.24	85.61	87.99	90.36	92.73
3	31	2	33.04	32.69	36.97	35.35	54.70	57.75	55.61	55.24	57.33	59.81	61.81	62.63	63.10	65.07	68.10	70.49	72.87	75.26	77.64	80.03	82.02	84.01	86.00	87.99	89.98
3	31	3	32.74	32.21	36.35	35.05	54.24	57.51	55.12	54.89	57.14	59.54	61.66	61.76	62.27	64.60	67.83	70.08	72.32	74.57	76.81	79.06	80.82	82.58	84.34	86.10	87.86
3	31	4	33.15	32.24	36.39	34.99	54.75	58.27	55.34	54.99	57.66	59.35	62.11	61.78	62.48	65.49	67.51	69.77	72.02	74.28	76.53	78.79	80.84	82.88	84.93	86.97	89.02
3	31	5	34.74	33.02	36.91	34.98	56.78	59.13	56.11	56.99	57.94	59.34	64.19	62.99	64.22	66.39	67.47	69.90	72.34	74.77	77.21	79.64	82.16	84.69	87.21	89.74	92.26
3	31	6	39.54	38.06	38.04	35.35	58.46	61.40	60.27	59.45	58.90	60.05	68.20	67.35	66.93	70.16	68.48	71.06	73.64	76.23	78.81	81.39	84.78	88.17	91.55	94.94	98.33
3	31	7	45.87	43.65	38.94	36.72	60.78	64.66	62.92	62.07	60.08	61.85	71.91	71.03	69.74	72.59	70.12	72.92	75.72	78.51	81.31	84.11	87.70	91.29	94.87	98.46	102.05
3	31	8	47.33	47.89	42.02	38.84	64.55	66.29	67.13	64.60	62.67	63.02	72.80	71.91	71.77	74.50	72.36	75.41	78.45	81.50	84.54	87.59	90.88	94.17	97.47	100.76	104.05
3	31	9	47.08	48.63	47.34	41.07	64.06	65.82	67.51	64.83	65.81	65.00	73.18	72.30	73.58	74.92	75.76	78.92	82.08	85.24	88.40	91.56	94.18	96.80	99.41	102.03	104.65
3	31	10	46.88	47.45	48.70	45.14	64.02	65.45	67.03	64.83	66.96	67.52	72.43	72.06	71.66	75.32	77.79	80.93	84.07	87.21	90.35	93.49	95.83	98.17	100.51	102.85	105.19
3	31	11	46.45	46.15	48.85	45.81	63.97	64.78	66.48	64.71	67.33	67.98	72.03	71.60	70.93	75.28	78.72	81.67	84.63	87.58	90.54	93.49	95.83	98.17	100.51	102.85	105.19
3	31	12	46.34	46.95	48.46	43.73	63.97	64.46	65.62	64.42	66.96	67.88	71.65	71.47	70.79	74.92	77.79	80.93	84.07	87.20	90.34	93.48	95.55	97.62	99.69	101.76	103.83
3	31	13	45.99	47.08	47.73	43.47	62.83	63.93	65.19	64.29	66.06	67.59	71.31	71.09	70.42	74.29	77.79	80.69	83.59	86.48	89.38	92.28	94.54	96.79	99.05	101.30	103.56
3	31	14	45.23	46.65	46.44	41.73	61.94	64.06	64.32	64.04	64.39	66.25	70.82	70.64	70.19	74.01	76.53	79.35	82.16	84.98	87.79	90.61	93.24	95.87	98.50	101.13	103.76
3	31	15	44.26	45.23	46.06	39.98	60.15	63.73	63.59	63.07	63.84	65.02	70.37	69.52	69.93	73.19	75.18	78.25	81.32	84.40	87.47	90.54	93.08	95.63	98.17	100.72	103.26
3	31	16	43.27	43.76	45.58	38.82	59.71	63.64	62.58	62.84	63.04	64.39	70.37	69.38	69.12	72.64	75.76	78.67	81.58	84.50	87.41	90.32	92.89	95.46	98.03	100.60	103.17
3	31	17	43.09	44.12	46.06	38.82	59.72	63.69	62.58	62.68	63.44	64.97	70.37	69.23	69.12	72.54	76.28	79.15	82.01	84.88	87.74	90.61	93.07	95.53	97.98	100.44	102.90
3	31	18	44.13	44.48	46.46	40.04	60.00	64.13	62.58	62.46	64.84	65.57	70.37	69.66	69.74	72.51	76.53	79.37	82.21	85.06	87.90	90.74	93.13	95.52	97.91	100.30	102.69
3	31	19	44.90	45.86	48.20	46.14	62.77	65.33	64.12	62.84	66.58	69.19	72.11	71.62	70.92	72.72	79.56	82.35	85.13	87.92	90.70	93.49	95.37	97.25	99.14	101.02	102.90
3	31	20	51.41	51.46	49.21	51.50	64.30	99.01	79.37	63.88	69.98	73.13	94.35	96.44	84.20	72.88	82.39	84.87	87.35	89.83	92.31	94.79	96.49	98.19	99.90	101.60	103.30
3	31	21	47.32	47.08	49.86	63.25	62.99	65.82	66.24	63.64	67.93	78.05	72.06	77.47	71.77	74.01	89.65	90.72	91.78	92.85	93.91	94.98	96.75	98.52	100.29	102.06	103.83
3	31	22	46.87	45.98	48.29	53.06	61.05	64.37	64.12	62.99	66.69	76.22	72.06	71.25	70.62	72.90	86.12	87.60	89.08	90.55	92.03	93.51	95.52	97.53	99.54	101.55	103.56
3	31	23	43.97	43.93	44.66	47.08	60.75	63.06	64.03	62.42	64.23	72.30	70.64	70.87	70.19	72.59	81.19	83.02	84.84	86.67	88.49	90.32	92.74	95.17	97.59	100.02	102.44

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
3	31	24	38.15	39.18	39.92	40.19	58.17	61.39	61.33	59.76	61.19	66.37	67.09	67.03	66.94	70.00	77.10	78.77	80.44	82.10	83.77	85.44	88.17	90.91	93.64	96.38	99.11
4	1	1	33.64	33.00	37.63	36.56	54.41	57.58	56.27	57.08	57.60	62.22	62.70	63.76	63.68	66.19	73.86	75.12	76.38	77.63	78.89	80.15	82.85	85.56	88.26	90.97	93.67
4	1	2	32.16	32.16	36.66	36.06	53.95	55.66	55.44	56.61	57.00	61.66	61.31	62.69	62.57	64.18	72.93	74.20	75.47	76.74	78.01	79.28	81.63	83.98	86.32	88.67	91.02
4	1	3	31.40	31.47	35.95	35.85	53.92	55.14	55.08	56.07	56.16	61.15	60.62	62.24	61.81	64.14	72.31	73.72	75.13	76.54	77.95	79.36	81.80	84.25	86.69	89.14	91.58
4	1	4	31.42	31.69	35.67	35.94	53.95	55.45	55.44	55.96	56.07	61.31	60.57	62.35	62.52	64.55	73.15	74.28	75.41	76.53	77.66	78.79	81.46	84.13	86.81	89.48	92.15
4	1	5	32.69	32.97	35.81	37.46	55.42	56.43	56.80	56.56	56.34	63.20	61.62	62.78	63.89	64.64	74.33	75.22	76.10	76.99	77.87	78.76	81.48	84.19	86.91	89.62	92.34
4	1	6	36.45	38.77	36.85	41.70	58.58	60.05	61.33	57.02	57.14	67.01	67.56	65.87	66.98	66.53	76.70	77.35	78.00	78.65	79.30	79.95	82.75	85.56	88.36	91.17	93.97
4	1	7	42.20	43.46	38.06	45.95	61.93	62.93	63.75	58.57	58.35	69.14	71.43	68.66	69.49	68.35	80.49	80.73	80.96	81.20	81.43	81.67	84.92	88.17	91.42	94.67	97.92
4	1	8	46.18	47.23	38.76	49.29	64.49	66.36	65.86	59.83	59.53	74.57	72.74	71.50	70.93	69.72	86.04	85.75	85.46	85.16	84.87	84.58	87.70	90.83	93.95	97.08	100.20
4	1	9	46.34	47.34	41.25	49.95	63.83	66.15	66.64	62.69	61.57	74.27	73.12	73.83	71.37	71.79	96.82	94.85	92.88	90.92	88.95	86.98	90.13	93.28	96.42	99.57	102.72
4	1	10	46.34	47.33	43.49	52.04	62.99	66.05	66.18	63.26	63.17	74.05	72.74	71.47	71.37	73.23	90.51	90.03	89.55	89.08	88.60	88.12	91.21	94.30	97.40	100.49	103.58
4	1	11	46.04	46.65	43.32	52.33	62.87	66.05	65.19	63.26	62.67	73.83	72.76	70.87	71.37	73.19	90.51	89.98	89.45	88.93	88.40	87.87	91.05	94.23	97.40	100.58	103.76
4	1	12	45.49	45.98	44.22	52.33	62.03	65.70	64.90	63.07	62.85	72.41	72.11	70.19	70.85	72.88	83.87	84.61	85.36	86.10	86.85	87.59	90.78	93.98	97.17	100.37	103.56
4	1	13	42.49	45.68	42.93	49.38	61.73	64.26	64.42	62.75	62.95	70.54	71.32	69.52	70.51	71.77	82.05	83.23	84.42	85.60	86.79	87.97	90.96	93.94	96.93	99.91	102.90
4	1	14	42.49	45.79	42.17	48.95	61.20	63.92	64.14	61.85	62.23	70.11	70.42	69.45	70.42	70.66	81.60	82.87	84.15	85.42	86.70	87.97	90.77	93.58	96.38	99.19	101.99
4	1	15	42.49	45.79	41.81	47.86	61.01	63.69	63.82	61.24	61.96	69.87	70.25	68.93	70.14	70.66	81.24	82.57	83.89	85.22	86.54	87.87	90.46	93.06	95.65	98.25	100.84
4	1	16	42.42	44.90	40.94	47.21	60.63	63.34	63.50	60.93	61.96	69.51	69.91	68.59	69.23	70.71	81.24	82.45	83.66	84.87	86.08	87.29	89.91	92.52	95.14	97.75	100.37
4	1	17	42.49	44.45	41.03	47.18	60.99	63.22	62.77	60.93	62.02	69.33	69.75	68.87	68.82	71.32	81.33	82.49	83.65	84.82	85.98	87.14	89.86	92.58	95.29	98.01	100.73
4	1	18	42.72	43.46	41.87	46.89	61.56	63.92	62.64	61.54	62.30	69.36	70.33	69.39	68.60	71.52	80.96	82.36	83.76	85.17	86.57	87.97	90.52	93.08	95.63	98.19	100.74
4	1	19	43.97	43.31	44.67	46.89	62.99	64.26	63.75	62.68	62.37	69.87	72.16	72.06	68.60	73.20	81.86	83.19	84.51	85.84	87.16	88.49	91.21	93.93	96.66	99.38	102.10
4	1	20	58.01	44.76	46.72	47.86	88.27	80.21	63.90	64.05	65.81	72.17	111.80	95.67	69.12	73.95	84.80	85.95	87.10	88.25	89.40	90.55	93.17	95.79	98.41	101.03	103.65
4	1	21	46.45	45.68	47.41	49.38	63.25	67.24	64.42	64.05	67.33	70.38	75.60	73.71	70.20	73.95	82.33	84.19	86.05	87.91	89.77	91.63	94.06	96.49	98.92	101.35	103.78
4	1	22	43.20	44.90	46.85	47.86	61.88	64.78	64.31	63.14	67.29	69.89	70.84	70.49	69.82	72.88	80.48	82.73	84.98	87.23	89.48	91.73	93.70	95.68	97.65	99.63	101.60
4	1	23	41.40	43.63	45.62	46.04	60.61	63.81	63.50	61.59	66.06	69.13	69.82	70.00	70.19	71.05	78.93	81.25	83.57	85.90	88.22	90.54	92.51	94.47	96.44	98.40	100.37
4	1	24	36.48	38.67	42.57	40.42	57.85	60.94	61.06	59.31	62.72	65.64	66.17	66.85	66.95	68.61	75.31	77.68	80.06	82.43	84.81	87.18	89.50	91.82	94.14	96.46	98.78
4	2	1	32.52	32.92	38.70	36.45	53.77	56.03	56.22	57.30	59.00	62.31	61.88	63.20	65.01	66.12	71.79	74.59	77.39	80.20	83.00	85.80	87.46	89.12	90.78	92.44	94.10
4	2	2	31.46	31.93	37.81	35.36	53.59	55.35	55.78	55.94	58.13	61.29	60.80	62.21	64.34	65.47	71.55	73.87	76.20	78.52	80.85	83.17	85.02	86.87	88.71	90.56	92.41
4	2	3	30.70	31.57	37.23	35.08	53.35	55.06	55.83	55.64	57.49	60.72	60.44	62.08	63.46	65.19	71.61	73.75	75.88	78.02	80.15	82.29	84.09	85.89	87.69	89.49	91.29
4	2	4	30.79	31.79	37.59	35.10	53.35	55.14	55.72	55.18	57.67	60.58	60.50	62.21	63.36	64.75	71.38	73.78	76.19	78.59	81.00	83.40	84.90	86.39	87.89	89.38	90.88
4	2	5	32.79	31.90	38.85	36.43	53.95	55.83	56.47	55.23	59.67	61.96	61.37	63.29	64.06	64.57	71.89	74.95	78.01	81.06	84.12	87.18	87.81	88.44	89.08	89.71	90.34
4	2	6	36.45	33.82	42.79	38.95	57.83	59.83	57.37	56.19	63.57	65.33	66.17	66.39	65.18	65.49	75.64	78.64	81.63	84.63	87.62	90.62	91.02	91.42	91.82	92.22	92.62
4	2	7	40.47	35.09	47.69	44.78	60.87	63.39	59.37	57.79	67.61	69.73	69.69	68.87	66.79	66.87	78.16	81.88	85.60	89.33	93.05	96.77	96.50	96.22	95.95	95.67	95.40
4	2	8	45.74	39.42	49.95	49.01	62.69	64.44	61.23	59.15	79.79	71.30	71.12	71.34	67.19	68.62	80.98	84.78	88.58	92.39	96.19	99.99	99.54	99.09	98.65	98.20	97.75
4	2	9	46.81	43.04	51.76	49.99	63.10	65.08	63.19	60.81	79.82	73.88	72.11	71.60	69.23	69.48	81.60	87.27	92.95	98.62	104.30	109.97	107.97	105.97	103.97	101.97	99.97
4	2	10	47.01	44.50	51.66	52.08	62.92	65.08	64.37	62.01	74.88	72.44	70.98	71.63	71.24	71.04	81.95	87.64	93.33	99.03	104.72	110.41	108.40	106.39	104.39	102.38	100.37
4	2	11	46.42	44.78	51.44	52.12	62.92	65.45	64.42	61.92	73.87	73.23	71.12	71.62	70.82	71.06	81.34	86.46	91.58	96.70	101.82	106.94	105.63	104.31	103.00	101.68	100.37
4	2	12	46.04	44.53	50.63	49.79	62.91	64.62	64.37	61.83	73.95	72.68	70.82	71.47	70.68	70.88	81.08	85.19	89.31	93.42	97.54	101.65	101.39	101.14	100.88	100.63	100.37
4	2	13	45.74	43.66	49.76	49.76	61.98	63.77	63.91	61.87	73.11	72.41	70.35	71.01	69.93	70.15	81.60	85.05	88.50	91.95	95.40	98.85	99.15	99.46	99.76	100.07	100.37
4	2	14	45.74	42.46	49.24	49.38	61.69	63.69	63.10	61.54	72.32	70.94	70.00	70.64	68.42	69.85	80.96	84.23	87.50	90.76	94.03	97.30	97.91	98.53	99.14	99.76	100.37
4	2	15	44.26	41.72	48.57	48.79	60.88	63.07	62.09	60.82	70.22	70.28	69.89	69.45	67.91	68.99	79.83	83.36	86.88	90.41	93.93	97.46	98.04	98.62	99.20	99.78	100.36
4	2	16	42.76	41.61	48.36	47.90	60.15	63.03	62.08	60.39	67.82	70.09	69.89	68.93	67.79	68.63	79.67	83.23	86.79	90.34	93.90	97.46	97.98	98.50	99.01	99.53	100.05
4	2	17	42.76	41.73	48.85	47.81	59.58	62.92	62.08	60.69	67.61	69.95	69.69	68.56	68.60	68.63	80.02	83.46	86.90	90.35	93.79	97.23	97.82	98.42	99.01	99.61	100.20
4	2	18	42.76	42.32	48.75	48.43	59.40	63.31	62.24	61.24	67.61	70.40	69.69	68.30	69.12	68.99	80.20	83.46	86.72	89.99	93.25	96.51	97.28	98.05	98.82	99.59	100.36
4	2	19	42.72	43.57	48.75	47.81	61.17	66.30	63.82	61.77	67.61	70.55	71.12	69.00	70.80	70.76	81.14	84.40	87.67	90.93	94.20	97.46	98.04	98.62	99.21	99.79	100.37
4	2	20	42.80	46.16	49.05	55.88	74.35	74.07	67.38	63.26	70.57	80.94	82.06	69.52	72.64	72.88	93.16	94.07	94.98	95.90	96.81	97.72	98.42	99.13	99.83	100.54	101.24
4	2	21	45.30	46.16	49.65	49.83	64.01	66.02	66.48	64.04	69.11	72.39	72.11	71.50	72.27	73.41	84.55	87.17	89.79	92.40	95.02	97.64	99.15	100.66	102.17	103.68	105.19
4	2	22	43.72	44.50	48.37	47.81	62.63	64.78	64.89	64.11	68.30	70.18	70.25	69.66	70.96	74.29	80.70	84.18	87.65	91.13	94.60	98.08	99.33	100.58	101.84	103.09	104.34
4	2	23	41.94	41.38	47.34	46.46	59.31	62.43	63.08	62.99	66.30	69.13	69.69	70.26	68.60	72.50	78.79	81.63	84.46	87.30	90.13	92.97	94.62	96.28	97.93	99.59	101.24
4	2	24	36.43	37.53	43.83	40.08	57.01	60.33	60.69	61.23	62.27	65.62	65.48	67.63	66.79	70.15	75.11	77.80	80.48	83.17	85.85	88.54	90.91	93.27	95.64	98.00	100.37
4	3	1	33.59	32.95	38.44	36.68	53.41	55.83	57.17	57.85	58.52	62.02	61.06	63.98	64.85	67.76	71.79	74.41	77.03	79.64	82.26	84.88	87.89	90.89	93.90	96.90	99.91
4	3	2	32.43	32.20	37.14	35.26	52.91	55.30	56.27	57.21	57.30	60.50	60.01	63.20	63.51	67.25	71.03	73.23	75.43	77.62	79.82	82.02	85.55	89.07	92.60	96.12	99.65
4	3	3	32.26	32.03	36.51	34.58	53.11	55.28	55.58	57.07	57.09	60.04	59.54	62.67	63.15	66.64	70.10	72.23	74.36	76.48	78.61	80.74	84.41	88.08	91.74	95.41	99.08
4	3	4	32.34	31.50	36.46	34.21	53.11	55.50	55.35	57.29	57.21	59.99	60.20	62.66	62.48	67.04	69.95	72.19	74.43	76.66	78.90	81.14	84.78	88.42	92.06	95.70	99.34
4	3	5	32.59	31.34	38.23	36.01	53.33	57.20	55.39	59.01	58.52	60.91	61.25	62.73	62.33	68.62	71.11	73.71	76.31	78.91	81.51	84.11	87.35	90.59	93.82	97.06	100.30
4	3	6	33.87	32.33	41.83	38.60	56.13	60.22	56.21	62.27	62.21	64.62	65.35	64.61	63.41	72.11	74.19	77.23	80.26	83.30	86.33	89.37	92.22	95.06	97.91	100.75	103.60
4	3	7	35.71	34.02	46.76	44.24	60.09	63.08	57.34	65.56	66.27	69.50	69.18	65.53	64.92	74.92	78.75	81.76	84.77	87.78	90.79	93.80	96.36	98.91	101.47	104.02	106.58
4	3	8	38.17	36.17	49.05	48.43	61.88	65.08	58.82	71.01	71.78	70.60	70.84	68.02	66.07	79.59	80.95	84.36	87.77	91.18	94.59	98.00	101.33	104.66	107.98	111.31	114.64
4	3	9	41.25	39.24	50.63	49.70	61.88	65.82	60.97	71.00	73.34	72.41	72.06	69.45	66.94	84.14	82.66	85.89	89.11	92.34	95.56	98.79	102.99	107.20	111.40	115.61	119.81
4	3	10	43.47	40.04	51.17	52.04	62.52	65.97	62.05	70.76	73.16	72.55	72.11	71.58	67.54	79.59	83.20	86.32	89.44	92.55	95.67	98.79	102.44	106.09	109.74	113.39	117.04

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	3	11	43.65	40.80	51.17	52.09	62.52	65.96	62.99	72.44	73.10	72.18	72.31	71.58	67.69	84.03	84.55	87.40	90.25	93.09	95.94	98.79	102.66	106.53	110.40	114.27	118.14
4	3	12	44.12	41.06	50.63	51.86	61.92	65.08	62.85	72.99	72.94	72.04	71.30	71.58	67.46	79.59	84.50	87.13	89.76	92.38	95.01	97.64	100.92	104.20	107.49	110.77	114.05
4	3	13	42.36	40.99	49.76	49.38	61.62	64.77	62.61	69.88	73.11	72.03	71.09	70.64	67.50	77.80	82.75	85.57	88.40	91.22	94.05	96.87	99.57	102.27	104.96	107.66	110.36
4	3	14	42.45	40.28	49.24	48.99	61.26	64.31	62.13	69.27	71.63	72.41	71.10	69.38	66.99	77.23	82.42	85.19	87.97	90.74	93.52	96.29	98.76	101.23	103.71	106.18	108.65
4	3	15	41.11	39.74	48.37	48.43	60.15	63.92	62.08	68.22	68.45	72.23	70.57	68.71	67.13	76.14	82.01	84.99	87.98	90.96	93.95	96.93	99.52	102.10	104.69	107.27	109.86
4	3	16	40.70	38.71	48.27	47.86	59.76	63.67	61.27	65.56	68.33	71.90	70.50	68.30	67.35	75.55	81.66	84.72	87.78	90.85	93.91	96.97	99.37	101.76	104.16	106.55	108.95
4	3	17	41.74	39.06	48.27	47.86	59.59	63.83	61.44	65.23	68.21	71.16	70.64	68.68	67.67	75.34	81.86	84.84	87.81	90.79	93.76	96.74	99.21	101.68	104.15	106.62	109.09
4	3	18	41.99	39.82	48.29	47.81	59.49	63.72	62.08	64.65	67.82	70.35	70.77	68.93	67.76	75.34	82.39	85.31	88.22	91.14	94.05	96.97	99.37	101.76	104.16	106.55	108.95
4	3	19	43.72	41.73	48.26	48.24	60.98	63.60	63.17	64.64	67.82	70.31	70.78	70.87	67.90	75.03	82.67	85.63	88.59	91.54	94.50	97.46	99.68	101.90	104.13	106.35	108.57
4	3	20	48.37	44.50	57.77	48.43	73.06	64.59	64.37	65.27	81.17	72.41	71.29	73.80	70.70	75.26	86.01	89.91	93.82	97.72	101.63	105.53	106.40	107.26	108.13	108.99	109.86
4	3	21	45.87	49.23	49.27	52.32	62.20	65.08	66.66	69.88	72.72	73.43	71.30	73.80	71.29	76.46	84.55	87.40	90.25	93.09	95.94	98.79	101.04	103.30	105.55	107.81	110.06
4	3	22	43.47	47.23	48.91	49.38	60.61	63.93	66.28	65.78	68.30	71.99	71.25	70.62	71.29	75.34	80.96	84.20	87.43	90.67	93.90	97.14	99.25	101.35	103.46	105.56	107.67
4	3	23	39.69	43.95	47.73	45.26	59.85	62.32	64.02	63.07	67.29	68.54	69.75	68.66	70.19	73.82	77.99	81.06	84.12	87.19	90.25	93.32	95.52	97.73	99.93	102.14	104.34
4	3	24	36.27	39.82	43.96	40.63	56.87	60.35	62.08	60.82	62.49	66.08	65.49	66.48	68.32	71.04	74.89	77.57	80.25	82.93	85.61	88.29	90.73	93.16	95.60	98.03	100.47
4	4	1	33.68	33.89	38.09	36.72	53.43	56.40	59.48	57.47	57.88	62.23	62.56	63.84	66.62	67.98	71.79	74.02	76.25	78.48	80.71	82.94	86.17	89.40	92.62	95.85	99.08
4	4	2	32.39	32.81	36.30	35.14	53.23	55.41	58.68	57.05	56.97	61.02	60.84	62.44	66.04	66.56	70.52	72.63	74.74	76.85	78.96	81.07	84.33	87.59	90.84	94.10	97.36
4	4	3	32.18	32.37	35.56	34.12	52.91	54.97	58.48	56.55	56.71	60.16	60.59	62.23	65.95	66.37	69.33	71.55	73.77	76.00	78.22	80.44	83.64	86.85	90.05	93.26	96.46
4	4	4	31.80	32.65	35.44	34.01	53.03	55.00	59.06	56.68	57.05	60.15	60.56	62.04	66.09	66.58	69.61	71.72	73.83	75.93	78.04	80.15	83.37	86.59	89.81	93.03	96.25
4	4	5	31.68	35.01	37.15	35.59	53.52	55.13	60.13	57.77	57.76	61.47	60.72	61.84	66.95	67.76	71.23	73.21	75.20	77.18	79.17	81.15	84.67	88.19	91.71	95.23	98.75
4	4	6	32.87	40.50	41.27	38.03	57.01	55.77	63.12	61.35	61.77	64.25	62.07	62.61	69.93	70.15	74.39	77.10	79.81	82.52	85.23	87.94	90.59	93.24	95.90	98.55	101.20
4	4	7	34.25	44.55	46.77	42.80	58.86	57.97	65.93	64.34	65.37	68.71	63.52	64.17	72.83	72.56	77.89	81.06	84.23	87.41	90.58	93.75	96.04	98.33	100.61	102.90	105.19
4	4	8	36.06	56.68	48.65	47.76	62.72	60.63	74.08	68.51	67.93	71.06	66.48	65.25	79.49	76.53	79.84	83.40	86.96	90.52	94.08	97.64	100.03	102.42	104.80	107.19	109.58
4	4	9	38.16	57.53	49.05	48.70	63.92	62.26	75.71	70.62	71.25	72.41	69.92	66.47	81.40	77.18	80.70	84.35	88.00	91.66	95.31	98.96	101.59	104.22	106.84	109.47	112.10
4	4	10	39.40	53.26	50.46	49.38	63.28	63.07	70.18	70.76	71.08	74.57	70.64	68.28	76.89	77.31	82.96	86.22	89.47	92.73	95.98	99.24	101.62	104.00	106.37	108.75	111.13
4	4	11	39.98	53.23	51.17	49.38	63.13	63.11	72.79	72.11	73.16	74.55	70.81	68.46	82.81	78.69	83.18	86.35	89.52	92.70	95.87	99.04	102.06	105.08	108.11	111.13	114.15
4	4	12	40.06	56.35	50.94	49.38	62.80	63.22	71.75	70.59	73.14	74.51	70.81	68.66	84.01	77.31	83.07	86.26	89.46	92.65	95.85	99.04	101.47	103.90	106.33	108.76	111.19
4	4	13	40.06	51.80	48.91	49.45	61.92	62.60	72.48	70.91	69.43	73.48	70.33	68.66	75.11	77.54	82.39	85.57	88.75	91.92	95.10	98.28	100.86	103.44	106.03	108.61	111.19
4	4	14	39.66	47.88	48.77	49.38	61.05	62.03	73.25	71.77	69.04	73.13	69.50	68.30	75.01	76.45	84.12	86.95	89.78	92.62	95.45	98.28	100.59	102.91	105.22	107.54	109.85
4	4	15	38.68	47.46	48.37	48.43	60.91	61.46	75.37	72.25	68.68	71.51	69.27	67.86	73.88	75.34	82.66	85.73	88.80	91.86	94.93	98.00	100.23	102.46	104.68	106.91	109.14
4	4	16	37.91	47.46	48.26	47.86	60.08	61.00	70.60	68.91	67.67	70.39	69.13	67.21	73.80	75.34	82.01	85.17	88.32	91.48	94.63	97.79	100.02	102.25	104.49	106.72	108.95
4	4	17	38.01	46.86	48.03	47.50	58.85	59.94	70.17	67.92	67.82	70.90	69.50	67.27	73.58	75.32	81.32	84.30	87.28	90.27	93.25	96.23	98.77	101.32	103.86	106.41	108.95
4	4	18	38.39	46.79	48.26	47.18	58.61	60.33	69.27	65.37	69.00	70.38	69.50	67.88	71.67	74.92	80.80	84.24	87.68	91.12	94.56	98.00	99.99	101.98	103.97	105.96	107.95
4	4	19	41.86	45.98	48.26	47.21	59.21	61.88	69.28	65.78	68.94	70.39	70.81	68.88	71.66	75.01	81.14	84.51	87.88	91.26	94.63	98.00	100.00	101.99	103.99	105.98	107.98
4	4	20	45.11	46.86	48.93	48.43	60.12	64.01	73.75	68.51	73.84	71.14	73.01	71.34	73.68	75.51	83.47	86.72	89.98	93.23	96.49	99.74	101.61	103.48	105.35	107.22	109.09
4	4	21	48.51	47.18	49.14	48.43	61.61	64.13	72.73	81.65	73.92	73.73	72.98	73.81	75.32	79.07	82.81	86.20	89.58	92.97	96.35	99.74	102.18	104.61	107.05	109.48	111.92
4	4	22	48.10	47.18	48.65	47.86	60.76	62.29	68.24	66.56	68.98	69.94	70.81	72.78	73.69	75.32	80.86	84.34	87.83	91.31	94.80	98.28	100.13	101.97	103.82	105.66	107.51
4	4	23	43.77	44.50	46.55	45.69	58.94	61.71	64.89	64.36	66.38	69.11	69.00	70.14	71.29	73.95	78.85	81.89	84.94	87.98	91.03	94.07	96.24	98.41	100.59	102.76	104.93
4	4	24	39.79	39.60	42.68	38.85	57.39	58.97	62.02	61.54	62.72	64.65	65.39	68.42	68.60	70.66	74.06	76.95	79.84	82.73	85.62	88.51	90.93	93.36	95.78	98.21	100.63
4	5	1	35.17	33.41	38.02	35.36	53.76	55.78	59.06	58.20	57.81	60.44	61.98	64.97	66.20	68.26	70.31	72.84	75.36	77.89	80.41	82.94	86.10	89.26	92.43	95.59	98.75
4	5	2	34.20	32.51	36.28	33.90	53.37	55.03	57.66	57.29	56.97	59.24	60.68	64.95	64.95	66.71	68.31	70.74	73.17	75.60	78.03	80.46	83.83	87.20	90.58	93.95	97.32
4	5	3	33.89	32.30	35.09	33.14	53.20	54.73	57.37	56.53	56.43	58.67	60.38	64.86	64.63	66.59	67.55	69.96	72.36	74.77	77.17	79.58	82.64	85.69	88.75	91.80	94.86
4	5	4	33.99	32.29	34.91	33.11	53.03	54.51	57.66	56.47	56.36	58.27	59.77	64.95	64.81	66.55	67.19	69.64	72.09	74.53	76.98	79.43	82.47	85.50	88.54	91.57	94.61
4	5	5	36.11	33.19	37.04	34.81	53.21	54.59	59.37	57.62	57.21	59.86	59.59	65.96	65.75	67.45	68.96	71.40	73.84	76.28	78.72	81.16	84.18	87.20	90.23	93.25	96.27
4	5	6	42.05	39.41	40.80	37.69	53.65	55.21	61.77	61.03	61.19	63.22	60.57	69.38	67.69	70.14	73.24	76.33	79.42	82.52	85.61	88.70	91.04	93.38	95.71	98.05	100.39
4	5	7	45.22	43.57	46.72	42.38	55.32	56.05	65.33	63.82	64.39	65.75	61.60	72.58	70.52	72.28	77.12	80.40	83.68	86.95	90.23	93.51	95.61	97.71	99.81	101.91	104.01
4	5	8	49.26	49.41	48.35	45.53	57.77	56.94	69.28	69.88	67.61	68.01	65.13	80.38	73.69	75.14	78.77	82.41	86.05	89.69	93.33	96.97	99.15	101.33	103.52	105.70	107.88
4	5	9	52.48	50.93	48.77	47.81	59.61	59.63	73.20	70.80	68.92	69.87	67.46	85.41	75.70	76.98	79.85	83.48	87.11	90.74	94.37	98.00	100.21	102.42	104.62	106.83	109.04
4	5	10	49.30	50.86	48.92	47.18	60.55	61.43	72.29	72.11	69.67	69.36	68.58	86.58	74.99	77.45	79.63	83.50	87.37	91.25	95.12	98.99	100.98	102.97	104.97	106.96	108.95
4	5	11	50.26	50.92	50.25	47.86	60.64	61.59	75.36	74.87	71.02	69.87	68.34	87.57	76.01	79.88	80.93	84.61	88.28	91.96	95.63	99.31	101.83	104.35	106.88	109.40	111.92
4	5	12	50.26	49.56	48.91	47.18	60.36	61.59	73.76	74.20	70.29	70.08	67.98	87.59	74.43	79.88	81.95	85.38	88.81	92.23	95.66	99.09	101.87	104.65	107.43	110.21	112.99
4	5	13	48.96	49.56	48.55	47.18	59.31	61.58	73.35	69.88	68.98	69.14	68.20	76.13	74.36	77.54	79.85	83.49	87.13	90.76	94.40	98.04	100.25	102.46	104.67	106.88	109.09
4	5	14	47.06	47.27	48.36	46.89	58.63	61.40	72.77	69.88	68.97	70.37	68.00	75.85	74.13	77.46	79.84	83.49	87.14	90.78	94.43	98.08	100.33	102.57	104.82	107.06	109.31
4	5	15	46.42	47.18	48.33	45.95	58.31	60.87	71.55	69.88	68.85	70.37	67.46	75.23	73.46	75.36	79.45	82.81	86.16	89.52	92.87	96.23	98.56	100.90	103.23	105.57	107.90
4	5	16	46.42	46.95	48.85	45.32	58.28	60.15	66.68	66.05	68.87	70.19	67.45	74.14	73.23	74.37	79.36	82.73	86.09	89.46	92.82	96.19	98.49	100.78	103.08	105.37	107.67
4	5	17	46.48	46.86	49.34	44.71	58.03	60.15	69.06	66.14	68.91	69.62	67.59	73.81	73.34	75.45	77.67	81.32	84.98	88.63	92.29	95.94	98.25	100.57	102.88	105.20	107.51
4	5	18	46.21	46.86	47.97	44.51	58.12	60.74	66.27	67.86	67.45	69.35	68.21	73.60	71.43	77.42	78.63	82.01	85.39	88.78	92.16	95.54	97.97	100.39	102.82	105.24	107.67
4	5	19	45.84	46.86	47.97	44.38	58.80	61.60	66.68	67.78	67.62	68.89	69.12	72.56	71.54	77.42	77.67	81.37	85.08	88.78	92.49	96.19	98.49	100.78	103.08	105.37	107.67
4	5	20	46.42	47.05	48.57	45.56	62.24	63.57	66.72	72.96	67.61	70.32	70.35	73.68	73.56	77.80	78.63	82.50	86.38	90.25	94.13	98.00	100.19	102.38	104.58	106.77	108.96
4	5	21	46.42	47.70	48.57	47.86	63.13	66.32	76.21	83.34	67.82	70.44	72.64	78.20	75.05	78.33	80.26	83.82	87.39	90.95	94.52	98.08	100.83	103.57	106.32	109.06	111.81

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	5	22	46.12	47.18	48.35	45.53	60.36	64.88	66.31	69.24	67.61	69.79	71.35	73.81	73.24	75.87	78.69	82.14	85.59	89.04	92.49	95.94	98.33	100.72	103.11	105.50	107.89
4	5	23	44.26	44.55	46.98	45.23	58.85	62.30	64.72	64.06	65.81	67.30	69.69	71.47	71.39	74.02	77.67	80.89	84.10	87.32	90.53	93.75	96.08	98.40	100.73	103.05	105.38
4	5	24	39.30	39.60	41.67	38.44	57.91	60.72	62.01	60.76	60.77	65.10	66.30	68.51	68.58	70.98	74.20	77.06	79.92	82.79	85.65	88.51	90.93	93.35	95.76	98.18	100.60
4	6	1	34.77	34.00	36.65	35.88	53.89	59.28	58.95	57.47	57.14	62.19	64.16	65.34	66.38	67.73	71.79	73.59	75.38	77.18	78.97	80.77	84.37	87.97	91.58	95.18	98.78
4	6	2	32.96	32.95	34.51	34.66	53.49	58.80	57.87	56.74	55.91	60.40	63.01	64.46	65.39	66.59	69.82	71.70	73.58	75.46	77.34	79.22	82.76	86.30	89.84	93.38	96.92
4	6	3	32.50	31.75	33.95	34.30	53.43	58.58	56.85	55.66	55.66	59.25	62.70	63.95	64.75	66.03	68.63	70.54	72.45	74.37	76.28	78.19	81.41	84.63	87.86	91.08	94.30
4	6	4	32.65	31.73	33.93	34.05	53.20	58.80	56.97	55.33	55.65	59.07	62.85	63.80	65.16	65.92	68.45	70.36	72.27	74.19	76.10	78.01	81.17	84.33	87.48	90.64	93.80
4	6	5	34.15	33.19	35.55	34.62	53.32	59.94	58.91	57.11	57.00	59.32	64.96	64.96	66.38	67.28	68.57	70.95	73.34	75.72	78.11	80.49	83.86	87.24	90.61	93.99	97.36
4	6	6	38.74	37.68	38.86	35.06	53.52	62.80	61.51	59.52	60.52	61.67	69.43	68.42	67.81	69.67	70.61	74.00	77.38	80.77	84.15	87.54	90.11	92.69	95.26	97.84	100.41
4	6	7	45.01	43.21	42.76	36.79	54.00	66.37	64.42	62.71	63.85	63.83	72.55	70.83	70.42	71.77	73.30	76.92	80.55	84.17	87.80	91.42	93.89	96.36	98.82	101.29	103.76
4	6	8	47.92	47.46	46.85	38.40	55.09	74.66	67.56	65.71	65.81	65.48	82.53	75.53	72.58	73.42	73.98	77.97	81.96	85.94	89.93	93.92	96.60	99.28	101.96	104.64	107.32
4	6	9	49.85	51.82	48.33	42.42	57.64	72.46	70.23	68.51	67.58	67.50	80.78	78.76	73.98	74.60	75.88	79.70	83.52	87.34	91.16	94.98	97.51	100.03	102.56	105.08	107.61
4	6	10	50.00	51.34	48.35	45.36	59.56	71.67	70.00	70.03	66.96	69.14	77.64	78.41	76.17	75.34	78.30	81.59	84.87	88.16	91.44	94.73	97.40	100.06	102.73	105.39	108.06
4	6	11	50.00	50.92	48.57	45.92	60.03	72.06	70.28	70.13	67.48	69.36	80.87	81.76	78.06	75.41	78.51	81.75	85.00	88.24	91.49	94.73	97.45	100.17	102.89	105.61	108.33
4	6	12	47.11	50.86	48.46	45.36	59.88	71.03	69.44	69.77	67.59	69.87	79.72	76.74	79.49	77.42	78.51	81.80	85.10	88.39	91.69	94.98	97.73	100.47	103.22	105.96	108.71
4	6	13	47.36	50.86	48.35	44.37	59.87	71.05	69.36	68.51	66.96	69.44	76.19	81.44	75.83	76.53	78.30	81.55	84.80	88.06	91.31	94.56	97.31	100.07	102.82	105.58	108.33
4	6	14	46.49	50.86	48.33	44.24	59.81	70.96	68.04	68.39	67.47	68.87	76.11	76.27	73.75	76.53	76.78	80.34	83.90	87.45	91.01	94.57	97.32	100.07	102.83	105.58	108.33
4	6	15	46.49	49.39	47.52	42.69	59.48	70.15	68.02	68.51	66.91	68.17	74.02	75.05	72.58	75.33	76.08	79.64	83.20	86.77	90.33	93.89	96.57	99.25	101.93	104.61	107.29
4	6	16	46.42	47.39	46.76	42.12	58.85	69.12	67.24	66.15	66.59	67.01	72.85	74.18	71.87	73.62	76.08	79.63	83.18	86.73	90.28	93.83	96.43	99.03	101.63	104.23	106.83
4	6	17	46.42	46.86	46.72	42.29	58.73	68.46	67.44	65.81	66.06	67.07	72.85	75.23	72.34	73.49	76.30	79.76	83.21	86.67	90.12	93.58	96.10	98.62	101.13	103.65	106.17
4	6	18	46.21	46.86	46.54	42.73	58.46	66.36	65.80	65.28	65.98	68.24	72.85	72.91	73.68	73.58	76.78	80.13	83.48	86.83	90.18	93.53	96.02	98.51	101.01	103.50	105.99
4	6	19	46.42	46.86	46.26	43.61	59.18	66.31	65.73	65.27	65.78	68.27	72.38	72.99	73.69	73.61	77.67	80.84	84.01	87.19	90.36	93.53	96.02	98.51	101.01	103.50	105.99
4	6	20	46.48	47.18	46.80	45.56	61.73	68.23	67.64	70.03	66.87	70.36	73.13	73.62	79.49	75.44	77.67	80.97	84.27	87.57	90.87	94.17	96.78	99.38	101.99	104.59	107.20
4	6	21	46.80	50.92	48.34	47.52	67.92	70.79	69.96	69.88	67.65	73.13	74.87	76.08	80.77	75.44	82.86	85.48	88.09	90.71	93.32	95.94	98.42	100.90	103.37	105.85	108.33
4	6	22	46.42	47.34	46.77	45.28	63.38	68.32	67.36	65.78	66.39	70.40	72.78	72.78	73.46	74.99	78.30	81.41	84.51	87.62	90.72	93.83	96.52	99.22	101.91	104.61	107.30
4	6	23	44.59	44.28	45.28	41.16	60.60	63.81	63.66	62.35	64.36	69.53	70.64	71.58	71.59	72.48	75.64	78.64	81.63	84.63	87.62	90.62	93.36	96.11	98.85	101.60	104.34
4	6	24	39.30	39.41	39.98	37.87	58.52	61.20	61.24	59.37	60.43	65.59	67.09	68.44	69.10	69.40	73.34	76.29	79.24	82.19	85.14	88.09	90.54	93.00	95.45	97.91	100.36
4	7	1	34.58	34.11	36.69	35.20	56.69	58.76	58.20	56.89	58.01	61.93	63.68	65.02	66.50	66.69	70.54	73.00	75.45	77.91	80.36	82.82	85.55	88.28	91.00	93.73	96.46
4	7	2	32.69	32.25	35.43	34.05	55.42	57.55	56.76	55.15	57.14	59.99	62.22	63.80	64.92	64.56	68.52	70.93	73.35	75.76	78.18	80.59	82.90	85.20	87.51	89.81	92.12
4	7	3	32.07	31.47	34.81	33.54	54.64	57.42	55.06	54.37	56.26	59.39	61.47	63.35	63.79	63.63	67.22	69.63	72.04	74.44	76.85	79.26	81.58	83.91	86.23	88.56	90.88
4	7	4	32.10	31.43	34.37	32.87	54.92	57.42	55.06	54.30	56.16	59.27	61.30	63.35	63.55	63.50	67.12	69.51	71.89	74.28	76.66	79.05	81.39	83.73	86.08	88.42	90.76
4	7	5	33.27	32.78	34.56	32.75	55.68	58.99	57.42	55.70	56.65	59.42	62.74	64.39	65.05	65.21	68.10	70.51	72.92	75.33	77.74	80.15	82.81	85.48	88.14	90.81	93.47
4	7	6	38.31	36.95	35.61	33.66	58.31	61.29	60.52	58.45	57.77	60.28	66.56	66.89	67.57	68.86	69.30	71.90	74.49	77.09	79.68	82.28	85.82	89.36	92.90	96.44	99.98
4	7	7	44.58	41.98	37.60	34.68	61.92	65.10	62.26	61.51	60.11	61.72	70.35	69.78	70.19	72.06	71.20	74.18	77.15	80.13	83.10	86.08	89.52	92.96	96.40	99.84	103.28
4	7	8	47.32	47.13	39.56	36.26	64.39	69.22	65.24	63.45	62.30	64.33	73.96	72.56	71.82	73.58	73.53	76.56	79.60	82.63	85.67	88.70	92.04	95.38	98.71	102.05	105.39
4	7	9	51.30	49.41	44.03	37.92	70.37	71.70	66.62	64.42	64.20	65.88	75.39	73.83	72.94	74.29	74.77	78.06	81.35	84.64	87.93	91.22	94.21	97.20	100.19	103.18	106.17
4	7	10	50.26	50.86	45.98	39.53	70.59	71.15	67.35	64.40	66.06	68.41	75.45	74.14	75.50	74.16	75.02	78.78	82.53	86.29	90.04	93.80	96.24	98.67	101.11	103.54	105.98
4	7	11	50.72	50.86	46.76	40.07	70.59	70.98	67.35	64.42	66.91	69.04	75.53	75.03	76.65	74.29	75.49	79.31	83.12	86.94	90.75	94.57	96.85	99.13	101.42	103.70	105.98
4	7	12	51.11	50.92	46.66	40.15	68.87	71.08	67.50	64.42	67.29	68.51	75.75	75.03	80.73	74.60	75.46	79.13	82.81	86.48	90.16	93.83	96.26	98.69	101.13	103.56	105.99
4	7	13	49.92	50.86	45.25	40.04	64.59	71.15	67.50	64.42	66.87	68.49	76.08	73.62	78.03	74.16	75.19	78.80	82.41	86.03	89.64	93.25	95.80	98.34	100.89	103.43	105.98
4	7	14	47.41	47.90	44.42	39.47	65.51	71.11	67.68	64.42	66.32	68.06	75.38	73.62	75.08	74.46	75.04	78.65	82.26	85.87	89.48	93.09	95.65	98.20	100.76	103.31	105.87
4	7	15	47.17	47.39	43.44	38.97	64.94	71.36	67.45	64.42	65.36	67.99	74.01	72.78	72.58	74.24	74.77	78.06	81.35	84.64	87.93	91.22	94.07	96.91	99.76	102.60	105.45
4	7	16	47.06	46.86	43.44	39.53	64.94	69.10	65.62	64.42	64.85	67.66	74.04	72.78	71.70	73.88	75.64	78.64	81.63	84.63	87.62	90.62	93.53	96.45	99.36	102.28	105.19
4	7	17	46.49	45.98	43.68	40.08	64.83	71.09	64.53	63.94	64.87	68.22	73.12	72.95	71.55	73.42	76.27	79.14	82.01	84.88	87.75	90.62	93.41	96.20	99.00	101.79	104.58
4	7	18	46.49	44.69	43.76	41.14	62.94	67.08	63.59	63.92	65.38	68.55	72.64	72.72	71.30	73.36	77.13	79.83	82.53	85.22	87.92	90.62	93.41	96.20	99.00	101.79	104.58
4	7	19	46.42	44.11	43.86	42.29	62.83	68.23	63.91	63.71	65.70	69.47	72.64	72.67	71.37	73.12	77.15	79.84	82.54	85.23	87.93	90.62	93.36	96.11	98.85	101.60	104.34
4	7	20	46.49	44.55	45.72	45.17	64.19	68.97	65.62	64.65	66.87	71.44	72.85	74.18	73.10	73.53	80.76	83.32	85.89	88.45	91.02	93.58	95.94	98.30	100.66	103.02	105.38
4	7	21	48.25	46.03	46.76	51.83	64.19	71.67	69.04	66.50	69.67	80.08	77.20	74.59	74.87	73.42	91.22	92.22	93.22	94.23	95.23	96.23	98.18	100.13	102.08	104.03	105.98
4	7	22	46.55	44.48	45.28	47.76	62.83	67.52	65.86	64.27	66.95	74.71	72.82	72.65	71.59	72.95	82.66	85.07	87.49	89.90	92.32	94.73	96.72	98.72	100.71	102.71	104.70
4	7	23	44.26	42.32	42.05	42.07	60.33	64.04	63.05	61.58	64.20	69.13	70.81	71.01	70.85	71.79	76.36	79.33	82.30	85.28	88.25	91.22	93.69	96.16	98.64	101.11	103.58
4	7	24	38.98	37.47	39.46	37.92	57.99	61.21	60.41	59.37	61.19	66.25	66.96	68.50	67.67	68.63	74.33	77.04	79.75	82.46	85.17	87.88	90.30	92.72	95.15	97.57	99.99
4	8	1	34.47	33.14	36.61	34.62	55.77	59.02	56.16	57.09	58.40	62.21	63.79	64.96	64.51	67.09	71.77	73.79	75.81	77.83	79.85	81.87	84.75	87.63	90.51	93.39	96.27
4	8	2	32.96	31.16	34.97	34.05	54.42	58.03	54.54	55.86	56.78	61.24	62.11	63.99	62.89	66.19	71.61	73.23	74.84	76.46	78.07	79.69	82.33	84.97	87.62	90.26	92.90
4	8	3	31.85	30.85	34.31	33.45	53.52	56.39	53.80	55.37	56.07	60.64	61.27	63.27	62.35	65.56	70.96	72.59	74.22	75.85	77.48	79.11	81.79	84.48	87.16	89.85	92.53
4	8	4	31.70	30.79	34.08	34.01	53.66	57.17	53.63	55.25	56.05	61.24	61.25	62.95	62.38	65.09	71.40	72.93	74.45	75.98	77.50	79.03	81.68	84.33	86.97	89.62	92.27
4	8	5	33.14	31.41	34.28	34.96	55.63	58.87	54.74	55.37	56.16	62.15	62.83	64.19	63.92	65.44	72.05	73.48	74.90	76.33	77.75	79.18	81.81	84.44	87.08	89.71	92.34
4	8	6	37.51	35.18	34.89	38.33	57.83	61.43	58.33	56.61	56.79	66.18	67.03	66.76	66.93	67.32	75.49	76.38	77.27	78.17	79.06	79.95	82.96	85.97	88.98	91.99	95.00
4	8	7	41.95	40.12	36.32	42.41	60.76	63.97	61.28	57.54	57.94	69.39	70.37	69.16	68.79	68.63	77.67	78.80	79.93	81.06	82.19	83.32	86.37	89.41	92.46	95.50	98.55
4	8	8	46.49	42.60	37.97	46.46	63.31	67.32	62.59	58.94	59.68	70.38	72.76	71.90	70.79	69.10	80.96	82.13	83.30	84.47	85.64	86.81	89.51	92.21	94.91	97.61	100.31

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	8	9	47.91	44.69	40.11	49.62	69.62	69.67	64.69	60.82	62.37	72.54	75.53	72.67	72.58	71.77	82.62	84.17	85.72	87.28	88.83	90.38	92.88	95.39	97.89	100.40	102.90
4	8	10	48.96	44.69	42.88	49.88	70.37	69.22	64.55	61.93	63.61	73.07	75.76	73.63	71.43	72.80	84.07	85.38	86.69	88.00	89.31	90.62	93.41	96.20	99.00	101.79	104.58
4	8	11	49.36	45.23	43.09	51.45	69.05	70.43	64.68	62.46	63.87	81.75	78.01	73.83	71.66	72.98	89.19	89.48	89.76	90.05	90.33	90.62	93.58	96.54	99.51	102.47	105.43
4	8	12	50.00	45.23	42.95	52.04	65.41	70.30	64.12	62.80	63.84	82.84	78.07	74.21	72.58	72.97	90.03	90.15	90.27	90.38	90.50	90.62	93.69	96.76	99.84	102.91	105.98
4	8	13	49.92	44.69	42.85	50.44	66.96	69.12	63.75	62.84	63.84	80.69	76.46	74.20	71.37	72.68	89.19	89.48	89.76	90.05	90.33	90.62	93.67	96.72	99.77	102.82	105.87
4	8	14	47.06	44.48	42.82	50.44	65.51	68.70	63.17	62.55	63.84	80.33	75.99	74.20	71.39	72.41	89.19	89.48	89.76	90.05	90.33	90.62	93.33	96.04	98.76	101.47	104.18
4	8	15	46.49	43.52	42.12	49.47	65.51	67.49	62.83	61.95	63.16	76.40	72.82	72.58	70.93	71.77	88.59	88.99	89.40	89.80	90.21	90.61	93.15	95.69	98.22	100.76	103.30
4	8	16	45.99	43.12	42.40	49.48	63.31	67.44	62.66	61.59	63.36	76.01	72.72	71.60	70.46	71.01	84.89	86.03	87.18	88.32	89.47	90.61	93.04	95.48	97.91	100.35	102.78
4	8	17	45.54	42.94	42.91	49.68	64.39	68.35	62.45	61.58	63.84	74.31	73.91	71.60	70.19	71.20	82.96	84.49	86.02	87.55	89.08	90.61	93.04	95.46	97.89	100.31	102.74
4	8	18	45.22	42.94	43.17	49.53	63.27	67.10	62.13	61.70	63.85	74.64	73.12	71.34	70.03	71.79	81.25	83.12	84.99	86.87	88.74	90.61	93.06	95.51	97.96	100.41	102.86
4	8	19	45.22	42.87	43.53	48.99	63.54	67.06	62.08	61.95	64.39	72.42	72.82	71.29	69.93	72.03	80.11	82.21	84.31	86.42	88.52	90.62	93.09	95.56	98.03	100.50	102.97
4	8	20	45.29	43.02	45.42	49.48	64.27	68.32	62.60	63.14	68.07	72.59	75.80	71.90	70.85	72.64	81.56	83.96	86.37	88.77	91.18	93.58	95.78	97.98	100.19	102.39	104.59
4	8	21	46.55	44.89	49.99	49.70	66.91	69.64	63.58	64.83	71.81	75.34	76.57	74.31	71.43	74.92	83.24	87.94	92.65	97.35	102.06	106.76	106.87	106.98	107.08	107.19	107.30
4	8	22	45.57	42.87	48.05	47.39	63.16	66.79	62.60	62.84	69.67	69.89	72.99	71.60	70.51	73.03	79.62	83.28	86.95	90.61	94.28	97.94	99.48	101.02	102.56	104.10	105.64
4	8	23	43.96	41.16	43.99	42.81	60.70	63.92	62.22	60.66	65.35	69.14	70.91	70.26	70.19	71.41	78.05	81.10	84.15	87.21	90.26	93.31	94.82	96.33	97.85	99.36	100.87
4	8	24	37.49	36.51	40.70	37.89	57.91	61.66	59.98	58.28	62.29	64.79	67.80	67.86	66.95	68.63	74.35	77.22	80.09	82.95	85.82	88.69	90.85	93.01	95.18	97.34	99.50
4	9	1	33.03	33.27	36.95	34.62	55.63	59.15	56.88	56.08	58.51	61.54	63.53	64.02	64.31	66.86	71.25	74.02	76.79	79.55	82.32	85.09	87.10	89.11	91.11	93.12	95.13
4	9	2	31.51	32.13	35.82	34.01	54.13	57.32	55.18	54.82	58.26	60.34	62.01	62.62	63.43	65.07	70.39	72.82	75.25	77.68	80.11	82.54	84.45	86.36	88.28	90.19	92.10
4	9	3	30.74	31.24	35.35	33.60	53.49	55.83	54.56	54.24	58.16	60.03	61.06	62.01	63.04	63.31	70.50	72.86	75.21	77.57	79.92	82.28	83.93	85.59	87.24	88.90	90.55
4	9	4	30.71	31.06	35.60	33.97	53.52	55.83	54.32	53.92	58.82	60.22	61.05	61.66	62.52	63.29	70.91	73.39	75.87	78.34	80.82	83.30	84.74	86.17	87.61	89.04	90.48
4	9	5	31.92	31.24	37.09	35.03	55.15	58.56	54.82	54.12	59.99	61.54	62.59	62.77	62.90	63.64	71.71	74.55	77.38	80.22	83.05	85.89	86.88	87.87	88.86	89.85	90.84
4	9	6	35.81	32.84	40.51	38.09	57.94	60.42	55.95	54.52	63.82	65.48	66.47	65.77	63.70	65.33	74.64	77.83	81.02	84.21	87.40	90.59	90.91	91.24	91.56	91.89	92.21
4	9	7	40.43	34.34	44.99	42.02	60.63	63.49	57.66	55.86	66.06	68.24	69.93	68.36	64.92	66.69	77.75	81.11	84.48	87.84	91.21	94.57	94.32	94.08	93.83	93.59	93.34
4	9	8	44.81	36.78	47.73	48.50	66.36	66.36	59.90	57.09	68.78	71.59	72.38	69.82	66.93	68.60	80.37	84.15	87.93	91.70	95.48	99.26	99.08	98.89	98.71	98.52	98.34
4	9	9	45.57	40.99	48.35	50.17	69.98	67.10	61.68	58.72	73.16	74.63	72.85	71.40	67.90	69.44	82.48	85.89	89.31	92.72	96.14	99.55	99.64	99.73	99.82	99.91	100.00
4	9	10	46.12	42.58	51.43	52.73	69.98	67.49	62.59	59.58	74.44	75.44	75.53	71.39	70.60	69.79	83.07	86.39	89.71	93.02	96.34	99.66	99.84	100.01	100.19	100.36	100.54
4	9	11	46.48	42.64	56.21	54.93	70.17	68.29	62.92	60.26	80.12	79.68	75.70	71.60	70.93	70.15	85.72	88.97	92.21	95.46	98.70	101.95	101.71	101.46	101.22	100.97	100.73
4	9	12	46.42	42.82	57.41	52.53	69.12	68.64	62.77	60.23	81.39	75.44	76.18	71.60	70.93	70.14	82.11	86.29	90.47	94.65	98.83	103.01	102.53	102.06	101.58	101.11	100.63
4	9	13	45.29	42.60	50.51	52.60	66.99	68.39	62.08	60.20	80.66	76.55	75.76	71.39	69.05	69.75	82.96	86.51	90.05	93.60	97.14	100.69	100.66	100.63	100.60	100.57	100.54
4	9	14	45.22	41.98	50.18	50.86	66.88	68.33	61.52	60.26	81.24	75.44	75.70	71.31	68.42	69.80	82.64	86.38	90.12	93.85	97.59	101.33	101.17	101.01	100.85	100.69	100.53
4	9	15	45.05	41.15	48.68	50.13	65.41	67.24	61.19	60.26	79.15	73.13	74.04	70.36	67.90	69.26	82.35	85.29	88.23	91.16	94.10	97.04	97.71	98.38	99.05	99.72	100.39
4	9	16	43.65	40.68	48.55	49.64	64.82	66.86	60.62	60.27	77.92	73.13	74.86	69.52	67.67	69.66	82.32	85.26	88.21	91.15	94.10	97.04	97.71	98.38	99.05	99.72	100.39
4	9	17	43.02	41.41	48.55	49.64	65.54	66.51	60.31	60.77	70.29	73.14	74.16	69.38	67.79	70.36	82.31	85.19	88.07	90.94	93.82	96.70	97.44	98.18	98.91	99.65	100.39
4	9	18	42.65	41.78	48.35	47.67	64.71	66.44	60.06	61.03	69.83	69.98	73.02	69.00	68.09	70.73	81.80	84.70	87.61	90.51	93.42	96.32	97.16	98.01	98.85	99.70	100.54
4	9	19	42.49	42.14	47.73	47.58	64.54	66.51	60.32	61.39	69.83	69.98	73.02	69.00	68.52	70.65	81.09	83.91	86.73	89.54	92.36	95.18	96.30	97.41	98.53	99.64	100.76
4	9	20	44.26	43.12	48.44	47.39	65.31	66.79	61.51	63.14	70.69	72.59	73.64	69.66	69.19	73.28	82.37	85.28	88.20	91.11	94.03	96.94	98.60	100.26	101.93	103.59	105.25
4	9	21	47.11	44.45	49.14	49.07	64.74	68.90	62.82	74.18	73.55	73.59	75.85	71.39	71.39	76.46	82.50	86.14	89.78	93.41	97.05	100.69	102.29	103.88	105.48	107.07	108.67
4	9	22	44.26	42.94	47.73	49.21	63.90	66.36	62.08	65.27	67.82	73.13	72.72	69.45	70.74	76.03	81.95	84.81	87.66	90.52	93.37	96.23	98.42	100.61	102.80	104.99	107.18
4	9	23	43.76	40.76	45.28	43.43	60.84	63.27	60.97	61.52	66.30	69.48	69.93	69.81	68.29	71.65	79.06	81.57	84.07	86.58	89.08	91.59	93.54	95.48	97.43	99.37	101.32
4	9	24	36.96	36.32	40.03	38.06	57.94	61.43	57.66	58.63	61.92	65.47	66.16	66.90	66.07	68.63	74.62	77.23	79.85	82.46	85.08	87.69	90.07	92.45	94.83	97.21	99.59
4	10	1	33.68	33.28	36.98	35.47	55.22	56.27	55.35	56.42	58.90	61.93	62.50	64.66	63.98	67.72	71.73	73.92	76.12	78.31	80.51	82.70	85.45	88.20	90.96	93.71	96.46
4	10	2	31.86	32.28	35.63	34.62	53.75	55.06	53.97	55.37	58.42	60.59	60.73	63.35	62.73	66.69	70.71	72.75	74.79	76.82	78.86	80.90	83.71	86.52	89.32	92.13	94.94
4	10	3	31.34	31.34	35.18	34.00	53.52	54.57	53.34	55.04	58.11	59.93	59.63	62.99	61.55	66.52	70.36	72.37	74.37	76.38	78.38	80.39	83.19	85.99	88.79	91.59	94.39
4	10	4	31.11	30.47	35.39	34.05	53.45	54.48	53.33	55.25	58.43	59.91	59.57	62.77	61.55	66.86	70.65	72.71	74.77	76.82	78.88	80.94	83.76	86.58	89.40	92.22	95.04
4	10	5	31.18	30.52	36.95	34.97	54.41	55.42	53.34	56.20	59.04	61.11	60.79	62.78	62.52	68.16	71.78	74.06	76.34	78.61	80.89	83.17	85.79	88.40	91.02	93.63	96.25
4	10	6	32.80	31.21	39.72	38.39	57.11	59.23	54.45	59.54	62.29	65.49	65.23	63.73	62.83	70.64	76.15	78.60	81.06	83.51	85.97	88.42	90.84	93.26	95.67	98.09	100.51
4	10	7	34.68	32.80	44.65	43.55	60.28	62.55	55.44	61.89	63.90	69.36	68.10	65.28	63.15	73.07	77.45	80.11	82.77	85.42	88.08	90.74	93.38	96.02	98.66	101.30	103.94
4	10	8	36.35	34.69	48.21	49.64	62.83	65.19	56.86	64.78	67.82	73.14	70.91	67.11	64.51	75.56	82.79	86.09	89.40	92.70	96.01	99.31	100.93	102.56	104.18	105.81	107.43
4	10	9	40.23	36.36	51.55	52.60	64.84	65.82	58.17	68.29	69.79	74.84	72.72	69.36	66.86	76.53	86.95	89.75	92.56	95.36	98.17	100.97	103.36	105.76	108.15	110.55	112.94
4	10	10	44.55	37.57	52.05	52.54	65.49	65.96	59.66	68.70	72.02	74.64	72.38	71.34	67.35	78.02	87.52	90.39	93.27	96.14	99.02	101.89	103.85	105.81	107.78	109.74	111.70
4	10	11	45.30	37.91	55.29	52.60	65.49	66.52	59.90	70.59	74.01	75.03	72.72	71.91	67.67	80.37	87.83	91.89	95.96	100.02	104.09	108.15	109.62	111.09	112.57	114.04	115.51
4	10	12	44.89	37.92	51.69	52.53	67.01	66.71	60.35	72.48	72.11	74.84	72.72	72.20	67.67	83.43	85.99	90.31	94.64	98.96	103.29	107.61	109.41	111.21	113.01	114.81	116.61
4	10	13	42.49	38.22	51.69	50.61	66.02	66.36	60.32	72.26	72.11	73.59	72.11	70.68	67.67	80.00	82.29	86.56	90.82	95.09	99.35	103.62	106.12	108.63	111.13	113.64	116.14
4	10	14	42.03	38.03	50.37	49.14	65.41	66.36	59.90	72.96	69.03	71.35	71.89	70.25	67.34	78.49	81.38	84.84	88.30	91.75	95.21	98.67	102.26	105.85	109.43	113.02	116.61
4	10	15	41.58	37.61	49.42	46.70	62.83	65.92	59.15	71.21	68.37	71.18	71.39	69.06	67.05	78.24	81.53	84.96	88.39	91.81	95.24	98.67	102.26	105.85	109.43	113.02	116.61
4	10	16	40.77	37.70	48.53	46.34	62.98	65.86	58.87	78.83	67.93	72.38	70.64	68.66	67.03	77.32	82.38	85.54	88.71	91.87	95.04	98.20	101.26	104.32	107.38	110.44	113.50
4	10	17	40.85	38.34	48.53	46.44	64.74	65.82	59.14	78.83	67.82	72.46	70.42	68.51	67.05	76.92	83.10	86.15	89.21	92.26	95.32	98.37	101.01	103.65	106.30	108.94	111.58
4	10	18	41.09	39.07	47.56	46.46	64.91	65.58	59.73	73.40	67.51	71.90	69.92	68.66	67.33	76.26	83.24	86.17	89.10	92.04	94.97	97.90	100.46	103.02	105.59	108.15	110.71
4	10	19	42.28	39.74	47.52	46.94	64.74	65.44	60.01	68.72	67.61	71.87	71.04	68.93	67.64	76.35	82.24	85.36	88.48	91.59	94.71	97.83	100.41	102.98	105.56	108.13	110.71

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	10	20	42.72	42.69	47.66	46.94	62.17	66.33	61.68	73.60	67.82	72.41	70.91	70.20	68.68	77.43	89.08	90.82	92.56	94.31	96.05	97.79	100.04	102.29	104.54	106.79	109.04
4	10	21	44.68	46.52	49.34	48.78	65.41	66.52	66.37	89.19	68.53	72.59	72.64	72.99	73.77	78.38	91.70	93.77	95.84	97.92	99.99	102.06	103.95	105.84	107.74	109.63	111.52
4	10	22	43.47	43.27	48.33	46.37	62.83	65.17	63.48	64.56	67.61	70.84	71.28	71.58	73.49	75.42	81.15	84.17	87.18	90.20	93.21	96.23	98.18	100.13	102.09	104.04	105.99
4	10	23	39.29	40.36	46.04	42.77	60.60	63.18	61.51	62.14	65.46	68.91	70.00	68.87	68.48	72.54	78.38	81.09	83.80	86.51	89.22	91.93	94.31	96.69	99.07	101.45	103.83
4	10	24	35.83	35.64	40.51	37.57	57.43	60.93	59.90	58.60	61.27	64.56	65.92	66.74	66.86	70.09	75.11	77.82	80.53	83.25	85.96	88.67	91.00	93.33	95.65	97.98	100.31
4	11	1	32.34	31.56	37.46	34.41	53.69	57.51	55.98	56.53	57.64	61.46	62.79	64.09	64.27	67.63	71.74	74.39	77.05	79.70	82.36	85.01	86.98	88.95	90.93	92.90	94.87
4	11	2	31.16	31.26	36.14	33.23	52.91	55.13	55.69	55.95	56.38	59.98	61.70	62.19	63.59	66.60	70.82	73.05	75.27	77.50	79.72	81.95	84.16	86.37	88.59	90.80	93.01
4	11	3	30.68	30.90	35.35	32.99	52.52	54.82	55.66	55.62	56.66	59.36	61.20	62.06	63.23	66.20	69.88	72.00	74.11	76.23	78.34	80.46	82.63	84.80	86.98	89.15	91.32
4	11	4	30.40	31.15	35.33	32.98	52.52	54.66	55.98	55.74	56.85	59.36	60.98	62.06	63.70	66.62	70.19	72.26	74.32	76.39	78.45	80.52	83.00	85.48	87.96	90.44	92.92
4	11	5	30.68	32.73	36.61	33.57	53.45	54.93	57.11	56.90	57.44	60.07	61.17	61.89	64.25	68.05	71.44	73.62	75.80	77.98	80.16	82.34	84.90	87.47	90.03	92.60	95.16
4	11	6	31.07	36.21	39.74	36.89	55.92	57.19	59.73	60.54	61.50	63.20	62.10	62.77	66.95	70.35	74.57	77.27	79.98	82.68	85.39	88.09	90.52	92.95	95.39	97.82	100.25
4	11	7	31.78	41.82	44.98	41.22	58.12	59.78	60.37	62.35	65.81	67.50	63.61	63.90	69.47	72.50	77.67	80.89	84.10	87.32	90.53	93.75	95.65	97.55	99.45	101.35	103.25
4	11	8	33.77	43.44	51.13	44.28	59.57	60.96	63.28	65.78	68.94	69.73	66.16	65.70	71.74	75.66	80.29	84.04	87.79	91.53	95.28	99.03	100.42	101.81	103.21	104.60	105.99
4	11	9	36.19	47.39	57.54	48.29	62.92	62.43	66.05	71.76	72.13	70.23	69.18	68.15	74.73	77.43	81.39	85.83	90.28	94.72	99.17	103.61	104.26	104.91	105.56	106.21	106.86
4	11	10	38.15	48.16	54.59	49.21	63.08	63.52	66.50	75.68	73.87	72.59	70.57	68.46	75.69	78.69	83.90	87.50	91.10	94.69	98.29	101.89	103.00	104.11	105.21	106.32	107.43
4	11	11	38.29	47.79	53.04	50.12	63.09	64.19	67.91	76.38	73.74	74.55	71.09	68.93	78.03	85.02	87.52	90.60	93.68	96.76	99.84	102.92	104.28	105.64	107.01	108.37	109.73
4	11	12	38.27	46.52	51.83	50.36	63.01	64.43	68.05	74.20	73.14	75.03	71.00	68.80	77.64	80.61	84.89	88.72	92.56	96.39	100.23	104.06	104.83	105.60	106.38	107.15	107.92
4	11	13	38.01	47.13	49.37	49.90	62.92	64.07	67.18	71.28	69.81	73.07	70.64	68.51	77.42	79.33	82.78	86.42	90.06	93.69	97.33	100.97	102.21	103.45	104.70	105.94	107.18
4	11	14	37.28	47.15	48.28	47.96	61.96	63.79	67.20	72.92	68.47	71.40	69.74	68.30	75.70	79.31	84.89	88.16	91.42	94.69	97.95	101.22	102.29	103.36	104.44	105.51	106.58
4	11	15	36.89	47.13	48.21	47.76	60.36	62.49	65.89	72.82	68.15	70.23	69.03	68.02	75.74	77.43	81.32	84.61	87.91	91.20	94.50	97.79	99.47	101.14	102.82	104.49	106.17
4	11	16	36.96	47.33	47.83	47.57	59.37	61.91	63.61	70.50	67.61	69.86	69.94	68.25	75.70	76.17	81.32	84.83	88.34	91.84	95.35	98.86	100.36	101.86	103.37	104.87	106.37
4	11	17	37.44	47.15	47.73	46.16	59.18	61.82	63.33	70.50	68.89	69.37	70.08	68.30	75.69	75.60	80.03	83.76	87.49	91.21	94.94	98.67	100.14	101.61	103.08	104.55	106.02
4	11	18	38.17	45.36	47.26	45.95	59.07	61.91	63.30	66.15	68.93	69.51	68.35	68.46	75.69	75.20	79.97	83.58	87.18	90.79	94.39	98.00	99.57	101.14	102.71	104.28	105.85
4	11	19	38.61	43.76	47.36	46.34	59.11	62.05	62.86	65.96	68.93	69.86	69.00	68.56	74.79	75.13	79.97	83.36	86.75	90.15	93.54	96.93	98.74	100.55	102.36	104.17	105.98
4	11	20	42.39	47.09	48.29	45.95	59.70	63.08	63.97	67.39	68.55	69.89	70.67	71.23	75.50	75.54	80.69	84.26	87.82	91.39	94.95	98.52	100.08	101.64	103.19	104.75	106.31
4	11	21	49.77	47.71	49.24	46.41	61.96	65.39	66.26	69.05	67.82	72.66	71.69	76.05	77.42	78.73	82.80	86.74	90.69	94.63	98.58	102.52	103.93	105.33	106.74	108.14	109.55
4	11	22	44.48	43.22	48.29	46.28	60.36	63.93	62.82	65.87	66.91	70.19	71.26	73.17	71.57	75.25	80.95	84.37	87.78	91.20	94.61	98.03	99.51	101.00	102.48	103.97	105.45
4	11	23	39.98	41.56	45.28	43.57	59.16	62.04	62.08	63.16	65.81	68.87	70.12	69.52	69.32	73.42	79.02	81.57	84.12	86.67	89.22	91.77	94.13	96.48	98.84	101.19	103.55
4	11	24	36.27	35.60	39.71	37.80	57.01	60.28	59.42	59.19	61.19	65.42	66.02	67.63	66.07	70.52	75.52	77.87	80.21	82.56	84.90	87.25	89.87	92.49	95.11	97.73	100.35
4	12	1	30.76	31.47	36.85	34.62	53.31	55.45	56.64	56.75	57.67	61.68	62.96	64.14	64.37	68.26	71.78	73.90	76.02	78.13	80.25	82.37	85.35	88.33	91.30	94.28	97.26
4	12	2	30.09	30.96	35.27	33.17	52.46	54.31	55.72	55.62	57.05	59.32	60.42	62.80	63.89	67.26	70.10	72.11	74.12	76.13	78.14	80.15	83.06	85.96	88.87	91.77	94.68
4	12	3	30.09	30.88	34.58	32.84	52.26	54.05	55.44	55.08	56.01	58.86	59.59	62.83	63.30	66.51	68.48	70.39	72.30	74.20	76.11	78.02	81.08	84.15	87.21	90.28	93.34
4	12	4	30.44	30.92	34.62	32.57	52.19	54.05	55.85	55.17	55.98	58.70	59.38	63.30	63.64	66.62	67.99	70.03	72.06	74.10	76.13	78.17	81.24	84.31	87.38	90.45	93.52
4	12	5	31.49	31.50	35.40	33.04	52.72	54.09	57.39	56.26	57.09	59.64	59.62	64.07	64.51	67.76	69.68	71.91	74.14	76.36	78.59	80.82	83.74	86.65	89.57	92.48	95.40
4	12	6	35.36	35.82	38.58	34.93	54.26	54.63	59.17	60.51	59.46	62.24	60.80	66.89	66.95	70.64	72.73	75.30	77.87	80.45	83.02	85.59	88.54	91.49	94.45	97.40	100.35
4	12	7	39.65	40.01	42.01	37.64	55.42	55.31	61.76	63.29	62.88	63.24	62.52	68.87	67.90	73.40	75.96	78.88	81.80	84.71	87.63	90.55	93.48	96.41	99.35	102.28	105.21
4	12	8	45.78	43.52	45.99	40.71	57.70	58.81	64.92	65.96	65.81	65.64	64.59	72.45	71.58	77.60	77.73	80.85	83.96	87.08	90.19	93.31	96.52	99.72	102.93	106.13	109.34
4	12	9	46.78	47.35	48.23	43.30	59.87	60.44	67.36	70.47	67.61	67.30	67.35	74.20	73.34	83.43	79.10	82.31	85.52	88.72	91.93	95.14	100.15	105.15	110.16	115.16	120.17
4	12	10	48.14	47.96	49.14	43.62	60.86	61.40	69.04	71.76	69.34	67.57	68.35	74.40	76.37	82.19	78.36	82.07	85.79	89.50	93.22	96.93	100.87	104.80	108.74	112.67	116.61
4	12	11	50.87	48.35	49.56	43.70	61.07	61.61	69.96	70.53	71.25	67.79	67.83	82.17	83.51	83.43	78.11	81.90	85.68	89.47	93.25	97.04	101.29	105.55	109.80	114.06	118.31
4	12	12	50.87	48.43	49.90	43.83	61.06	61.61	68.78	68.67	73.31	67.65	67.83	82.38	83.51	78.64	78.11	82.26	86.41	90.55	94.70	98.85	101.66	104.48	107.29	110.11	112.92
4	12	13	49.59	48.64	49.34	44.01	60.52	61.61	69.04	67.92	70.88	67.50	67.83	82.38	75.17	76.37	78.53	82.69	86.86	91.02	95.19	99.35	101.81	104.27	106.72	109.18	111.64
4	12	14	47.29	47.33	48.28	44.05	59.91	60.15	69.07	66.14	70.12	67.30	66.82	82.38	73.15	75.95	78.48	82.89	87.30	91.72	96.13	100.54	102.11	103.68	105.26	106.83	108.40
4	12	15	46.70	47.33	47.66	43.19	59.74	59.99	64.81	64.91	68.45	66.33	66.16	78.76	72.70	76.08	78.48	81.99	85.50	89.00	92.51	96.02	98.54	101.05	103.57	106.08	108.60
4	12	16	46.58	45.80	47.26	42.43	59.21	59.21	65.52	64.83	68.30	65.67	66.45	74.64	71.77	76.07	78.43	81.90	85.38	88.85	92.33	95.80	98.66	101.51	104.37	107.22	110.08
4	12	17	46.00	45.80	46.26	42.33	58.67	59.21	64.12	66.81	67.71	65.64	66.72	74.64	72.93	75.42	78.31	81.67	85.03	88.38	91.74	95.10	98.16	101.23	104.29	107.36	110.42
4	12	18	44.44	44.95	46.26	42.33	58.85	59.28	63.92	66.81	67.70	65.56	67.15	74.80	72.61	75.25	77.88	81.69	85.50	89.31	93.12	96.93	99.36	101.80	104.23	106.67	109.10
4	12	19	43.26	45.80	45.97	42.33	57.99	59.87	63.92	66.77	67.82	65.67	67.18	74.80	72.57	75.13	78.32	81.60	84.88	88.17	91.45	94.73	97.47	100.21	102.96	105.70	108.44
4	12	20	46.00	44.69	46.47	42.66	59.40	61.20	64.12	66.31	67.82	65.98	70.37	74.88	71.29	75.42	78.62	82.28	85.95	89.61	93.28	96.94	99.66	102.38	105.11	107.83	110.55
4	12	21	46.76	47.31	48.08	44.33	59.95	64.79	68.27	67.06	68.78	66.85	77.52	75.53	72.53	77.75	79.70	83.97	88.24	92.50	96.77	101.04	103.43	105.82	108.20	110.59	112.98
4	12	22	43.28	47.14	47.66	42.40	58.65	63.28	64.12	64.83	67.93	66.25	72.80	71.35	71.29	75.19	78.43	82.13	85.83	89.54	93.24	96.94	98.90	100.87	102.83	104.80	106.76
4	12	23	40.84	42.64	45.34	38.88	57.63	60.85	62.52	62.71	65.62	65.56	69.18	70.56	68.92	72.50	77.67	80.66	83.64	86.63	89.61	92.60	94.91	97.22	99.53	101.84	104.15
4	12	24	34.84	36.86	39.91	35.39	56.40	59.70	59.42	58.90	61.62	63.53	66.21	66.41	66.30	69.72	75.02	77.62	80.23	82.83	85.44	88.04	90.42	92.81	95.19	97.58	99.96
4	13	1	30.73	33.27	36.84	33.29	53.08	56.13	57.37	56.41	57.67	60.74	62.55	63.35	64.50	66.91	72.18	74.42	76.66	78.89	81.13	83.37	85.67	87.97	90.27	92.57	94.87
4	13	2	30.27	31.35	34.87	32.25	51.84	54.85	55.85	55.25	56.11	59.35	61.49	62.33	63.15	65.74	71.05	72.83	74.61	76.39	78.17	79.95	82.15	84.34	86.54	88.73	90.93
4	13	3	29.99	31.16	33.72	31.45	51.34	54.84	55.27	54.95	55.32	59.28	61.39	61.89	62.81	64.78	70.14	71.97	73.80	75.62	77.45	79.28	81.51	83.74	85.98	88.21	90.44
4	13	4	30.40	31.18	33.50	31.54	51.29	55.44	55.59	54.95	55.18	59.27	61.90	62.43	63.11	64.90	69.84	71.64	73.44	75.24	77.04	78.84	81.16	83.49	85.81	88.14	90.46
4	13	5	30.79	31.59	34.50	31.97	51.67	57.28	56.64	55.92	55.81	59.38	62.52	64.29	64.10	66.59	70.14	72.01	73.88	75.74	77.61	79.48	82.29	85.10	87.90	90.71	93.52
4	13	6	34.06	36.90	36.98	33.08	52.52	60.09	58.87	58.79	58.28	60.04	66.17	66.55	66.95	68.86	71.97	74.27	76.57	78.86	81.16	83.46	86.70	89.94	93.17	96.41	99.65

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	13	7	38.31	41.86	38.52	34.30	53.19	62.29	61.75	61.95	61.74	61.15	68.10	69.16	70.19	70.96	72.90	75.68	78.46	81.25	84.03	86.81	89.93	93.05	96.17	99.29	102.41
4	13	8	44.15	47.84	41.81	36.07	54.85	65.05	66.86	63.89	63.84	63.20	70.91	72.39	73.89	72.91	74.82	77.97	81.13	84.28	87.44	90.59	93.35	96.10	98.86	101.61	104.37
4	13	9	46.01	53.24	43.98	38.39	56.48	65.86	70.45	64.60	65.46	65.64	75.19	74.08	82.03	74.85	77.90	80.47	83.03	85.60	88.16	90.73	93.82	96.91	99.99	103.08	106.17
4	13	10	46.69	49.80	44.77	42.29	57.32	66.60	68.61	66.67	65.81	67.50	75.48	74.92	82.28	78.24	79.56	81.86	84.16	86.45	88.75	91.05	94.37	97.69	101.00	104.32	107.64
4	13	11	49.05	56.35	45.06	43.38	57.83	71.37	69.04	66.67	65.93	67.73	75.70	78.76	82.76	78.69	80.27	82.48	84.69	86.90	89.11	91.32	94.69	98.07	101.44	104.82	108.19
4	13	12	46.69	51.79	44.89	43.57	57.83	71.67	66.65	65.95	65.81	67.56	75.76	75.00	73.89	77.69	79.92	82.21	84.49	86.78	89.06	91.35	94.54	97.73	100.93	104.12	107.31
4	13	13	46.60	49.06	45.28	43.43	57.49	69.66	66.62	66.70	65.62	66.86	75.75	75.00	73.60	78.01	79.48	81.85	84.22	86.58	88.95	91.32	94.49	97.66	100.84	104.01	107.18
4	13	14	45.94	47.89	44.77	42.54	57.10	66.52	66.62	66.20	65.37	66.26	74.40	75.00	72.94	79.44	78.52	81.03	83.53	86.04	88.54	91.05	94.31	97.56	100.82	104.07	107.33
4	13	15	43.72	45.23	44.16	42.17	57.02	66.79	64.92	64.05	64.52	65.64	73.30	72.78	71.87	76.22	78.25	80.87	83.49	86.11	88.73	91.35	94.34	97.34	100.33	103.33	106.32
4	13	16	43.85	45.23	43.49	41.03	57.08	64.95	64.12	64.80	64.39	65.73	73.30	72.82	71.39	75.32	78.32	80.93	83.53	86.14	88.74	91.35	94.29	97.23	100.18	103.12	106.06
4	13	17	43.85	46.33	43.68	42.37	57.33	64.95	64.72	64.83	64.39	65.73	73.57	73.19	71.61	75.95	78.39	80.98	83.57	86.17	88.76	91.35	94.28	97.20	100.13	103.05	105.98
4	13	18	43.63	45.80	43.68	43.33	57.91	64.79	64.19	64.66	64.39	66.38	73.16	72.20	71.39	76.12	78.34	80.79	83.24	85.69	88.14	90.59	93.66	96.72	99.79	102.85	105.92
4	13	19	43.90	47.15	43.68	42.54	57.95	64.79	64.57	64.83	64.39	66.23	73.16	73.06	70.79	76.46	78.32	80.77	83.23	85.68	88.14	90.59	93.64	96.69	99.75	102.80	105.85
4	13	20	43.97	47.33	43.76	44.30	58.57	65.32	65.12	64.66	64.59	66.46	72.85	72.27	72.06	76.37	79.16	81.47	83.79	86.10	88.42	90.73	93.82	96.91	99.99	103.08	106.17
4	13	21	46.69	47.67	45.05	44.79	61.98	66.71	71.76	65.07	65.38	68.25	75.50	75.00	72.35	83.67	80.98	83.05	85.13	87.20	89.28	91.35	94.89	98.43	101.96	105.50	109.04
4	13	22	43.90	47.60	43.30	44.05	60.15	65.21	66.55	64.60	64.39	67.42	70.35	71.47	71.29	75.34	80.04	82.17	84.31	86.44	88.58	90.71	94.00	97.30	100.59	103.89	107.18
4	13	23	40.37	42.21	40.80	38.77	58.31	63.12	62.59	62.50	62.80	64.53	69.43	70.87	68.29	74.54	77.71	79.91	82.11	84.32	86.52	88.72	92.17	95.62	99.08	102.53	105.98
4	13	24	34.56	36.34	38.70	35.35	56.97	59.79	58.87	58.88	59.57	62.25	65.38	65.91	66.09	70.49	74.46	76.34	78.21	80.09	81.96	83.84	87.15	90.45	93.76	97.06	100.37
4	14	1	31.32	32.30	36.24	33.09	53.59	57.35	57.17	56.21	57.05	59.91	61.63	63.47	64.10	67.98	71.78	73.66	75.53	77.41	79.28	81.16	83.96	86.77	89.57	92.38	95.18
4	14	2	30.66	30.88	34.96	31.97	53.01	55.57	55.35	55.04	55.78	58.45	60.57	62.53	62.43	66.53	68.21	70.41	72.61	74.82	77.02	79.22	82.20	85.18	88.17	91.15	94.13
4	14	3	30.22	30.24	33.72	31.25	52.76	54.85	54.73	53.90	55.21	56.94	60.19	62.00	61.81	65.27	66.56	69.04	71.51	73.99	76.46	78.94	81.50	84.07	86.63	89.20	91.76
4	14	4	30.28	30.29	33.53	31.12	53.11	55.05	54.68	53.90	55.07	56.75	60.60	62.23	61.76	64.64	66.13	68.69	71.25	73.82	76.38	78.94	81.36	83.79	86.21	88.64	91.06
4	14	5	30.73	31.14	33.82	31.13	54.48	57.53	55.44	54.87	55.18	57.69	61.66	63.30	62.81	66.15	66.28	68.87	71.46	74.04	76.63	79.22	81.82	84.42	87.01	89.61	92.21
4	14	6	34.25	35.07	35.30	31.26	57.87	60.10	58.13	56.82	55.97	57.98	66.05	67.54	65.39	68.57	68.52	70.95	73.37	75.80	78.22	80.65	83.94	87.23	90.53	93.82	97.11
4	14	7	39.52	40.12	37.05	32.07	60.11	62.26	59.97	59.05	56.98	59.06	68.77	69.78	66.98	70.49	68.98	71.65	74.32	77.00	79.67	82.34	85.95	89.55	93.16	96.76	100.37
4	14	8	45.78	43.27	38.28	33.56	64.49	65.86	62.08	60.83	58.73	60.10	71.30	74.13	69.92	72.50	71.77	74.43	77.10	79.76	82.43	85.09	88.73	92.37	96.00	99.64	103.28
4	14	9	46.90	47.45	40.46	35.38	71.06	66.45	64.50	62.00	61.30	62.25	75.53	82.82	71.29	72.50	73.86	76.63	79.40	82.17	84.94	87.71	91.11	94.51	97.90	101.30	104.70
4	14	10	46.55	49.80	43.09	37.20	74.33	67.10	66.69	62.46	63.48	63.30	75.76	82.82	75.37	72.88	76.14	78.97	81.80	84.64	87.47	90.30	93.23	96.15	99.08	102.00	104.93
4	14	11	47.33	49.34	45.08	37.64	78.64	69.17	67.36	62.84	64.36	63.79	79.51	83.10	78.88	72.88	76.45	79.28	82.11	84.93	87.76	90.59	93.50	96.41	99.33	102.24	105.15
4	14	12	46.61	49.34	45.08	37.89	76.66	68.75	66.62	62.81	64.38	64.28	76.19	74.95	75.17	72.90	76.70	79.48	82.26	85.03	87.81	90.59	93.46	96.33	99.19	102.06	104.93
4	14	13	46.61	48.22	43.91	37.69	73.83	69.27	65.46	62.81	64.31	64.28	75.35	74.14	73.27	72.91	75.91	78.85	81.78	84.72	87.65	90.59	93.41	96.23	99.06	101.88	104.70
4	14	14	46.61	47.56	43.72	37.59	70.86	70.34	65.58	62.46	64.12	64.10	75.68	72.73	73.23	72.68	75.91	78.85	81.78	84.72	87.65	90.59	93.41	96.23	99.06	101.88	104.70
4	14	15	44.44	46.85	43.29	37.64	66.99	71.05	64.66	61.92	63.84	63.70	74.29	72.38	72.64	72.50	75.91	78.85	81.78	84.72	87.65	90.59	93.36	96.13	98.91	101.68	104.45
4	14	16	42.73	47.32	43.03	37.88	70.86	69.18	62.86	61.58	63.57	63.70	73.19	72.20	71.96	72.50	76.12	79.01	81.91	84.80	87.70	90.59	93.36	96.13	98.91	101.68	104.45
4	14	17	42.65	44.99	43.49	38.51	69.53	67.04	63.17	61.70	63.85	63.84	73.29	72.47	71.29	72.64	76.89	79.65	82.41	85.17	87.93	90.69	93.49	96.29	99.10	101.90	104.70
4	14	18	42.51	44.41	44.14	39.53	66.66	66.53	62.54	61.58	64.39	64.39	73.00	73.38	71.51	72.50	77.03	79.91	82.79	85.68	88.56	91.44	94.09	96.74	99.40	102.05	104.70
4	14	19	42.66	47.14	43.49	40.71	61.22	66.31	62.60	61.57	64.31	65.08	73.00	72.46	71.51	72.68	77.76	80.42	83.07	85.73	88.38	91.04	93.77	96.50	99.24	101.97	104.70
4	14	20	42.66	45.14	44.89	43.56	65.89	66.52	62.67	62.09	64.85	65.73	72.29	73.60	71.77	72.88	78.62	81.18	83.75	86.31	88.88	91.44	94.09	96.74	99.40	102.05	104.70
4	14	21	44.64	45.10	48.43	49.90	73.67	70.64	65.01	62.81	66.87	67.57	76.42	73.59	73.63	72.88	82.32	84.45	86.59	88.72	90.86	92.99	95.48	97.97	100.47	102.96	105.45
4	14	22	44.26	46.84	45.28	44.42	61.29	66.52	64.12	61.92	65.50	67.46	71.71	72.45	72.99	72.50	80.27	82.36	84.45	86.53	88.62	90.71	93.40	96.10	98.79	101.49	104.18
4	14	23	39.79	42.76	40.97	39.60	59.22	63.67	60.35	60.23	62.72	64.93	70.25	68.93	70.97	70.59	78.10	79.77	81.44	83.10	84.77	86.44	89.64	92.85	96.05	99.26	102.46
4	14	24	34.40	36.54	38.59	36.89	56.91	60.15	58.39	57.30	59.53	63.74	66.16	65.14	66.95	68.26	75.64	77.01	78.38	79.75	81.12	82.49	85.85	89.21	92.56	95.92	99.28
4	15	1	30.48	31.77	36.09	35.10	54.04	58.29	56.08	56.37	56.66	59.97	62.79	62.77	64.34	66.70	70.24	72.22	74.20	76.19	78.17	80.15	83.05	85.96	88.86	91.77	94.67
4	15	2	29.73	30.91	34.96	34.75	52.92	55.51	54.74	55.06	55.43	59.49	61.37	61.43	63.09	65.55	69.40	71.19	72.97	74.76	76.54	78.33	81.29	84.25	87.20	90.16	93.12
4	15	3	29.42	30.27	33.06	34.58	52.72	54.96	53.37	54.37	54.52	59.46	60.60	60.65	62.27	64.07	69.13	70.67	72.21	73.76	75.30	76.84	79.87	82.89	85.92	88.94	91.97
4	15	4	29.33	29.93	32.66	35.08	53.11	55.30	52.84	54.30	54.11	59.96	60.67	60.99	61.82	63.84	69.27	70.61	71.95	73.29	74.63	75.97	79.09	82.21	85.34	88.46	91.58
4	15	5	29.47	30.61	32.73	36.30	54.17	57.63	54.03	54.38	54.82	60.91	61.59	62.27	62.47	64.14	70.89	71.84	72.79	73.74	74.69	75.64	78.85	82.06	85.28	88.49	91.70
4	15	6	32.36	32.53	33.10	38.77	57.01	60.37	55.44	55.47	54.95	64.11	66.24	64.95	64.51	66.26	73.88	74.39	74.90	75.42	75.93	76.44	79.84	83.23	86.63	90.02	93.42
4	15	7	36.96	35.84	33.72	43.68	59.14	64.32	56.95	56.21	56.18	67.36	69.69	68.41	66.93	67.62	77.33	77.53	77.73	77.92	78.12	78.32	81.92	85.53	89.13	92.74	96.34
4	15	8	40.93	39.15	35.11	46.82	61.27	66.15	59.14	57.73	57.36	69.89	75.53	69.84	68.98	68.63	80.02	80.02	80.02	80.02	80.02	80.02	83.95	87.87	91.80	95.72	99.65
4	15	9	42.79	41.99	37.55	47.71	62.87	70.05	59.91	59.83	58.70	74.18	83.19	71.90	70.40	69.87	80.60	80.92	81.23	81.55	81.86	82.18	85.84	89.51	93.17	96.84	100.50
4	15	10	44.81	42.40	39.20	48.14	64.27	68.63	60.25	61.92	60.16	73.66	75.99	74.13	70.67	71.79	80.49	81.27	82.05	82.84	83.62	84.40	88.18	91.96	95.74	99.52	103.30
4	15	11	44.91	42.72	40.11	48.79	66.00	69.66	61.33	62.85	60.79	75.24	76.18	74.20	70.46	72.40	80.85	81.68	82.51	83.33	84.16	84.99	88.74	92.50	96.25	100.01	103.76
4	15	12	44.91	42.72	40.53	49.07	67.41	68.15	60.87	62.84	61.24	74.16	75.66	73.94	69.83	72.28	80.89	81.73	82.57	83.41	84.25	85.09	88.76	92.43	96.10	99.77	103.44
4	15	13	45.32	42.63	40.53	47.89	66.78	68.07	60.25	62.94	60.90	72.59	74.40	73.91	70.37	72.23	80.89	81.69	82.48	83.28	84.07	84.87	88.56	92.24	95.93	99.61	103.30
4	15	14	45.32	42.21	39.97	47.85	65.83	68.95	60.10	62.46	60.70	71.44	72.85	72.81	70.19	71.77	80.91	81.69	82.47	83.25	84.03	84.81	88.50	92.20	95.89	99.59	103.28
4	15	15	44.44	40.90	39.76	47.44	65.31	65.87	59.73	62.46	60.56	70.23	71.12	72.45	68.97	71.38	80.76	81.61	82.46	83.32	84.17	85.02	88.67	92.32	95.98	99.63	103.28
4	15	16	43.26	40.63	40.36	46.90	63.01	66.73	59.62	62.42	60.79	71.00	71.71	71.90	68.96	71.25	80.04	81.13	82.22	83.30	84.39	85.48	89.02	92.55	96.09	99.62	103.16
4	15	17	42.14	40.12	40.91	47.26	63.01	66.46	59.62	62.94	62.23	71.24	72.44	71.70	68.96	72.29	78.69	80.18	81.68	83.17	84.67	86.16	89.56	92.96	96.37	99.77	103.17

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	15	18	42.14	40.12	41.20	46.91	62.40	66.79	59.42	63.07	62.99	70.97	72.43	71.34	68.18	72.68	78.62	80.39	82.16	83.94	85.71	87.48	90.81	94.14	97.47	100.80	104.13
4	15	19	40.19	40.12	41.56	46.37	62.66	67.42	59.46	62.54	63.19	69.43	72.21	71.29	68.21	72.29	77.88	80.12	82.35	84.59	86.82	89.06	91.88	94.70	97.52	100.34	103.16
4	15	20	41.63	40.35	43.91	46.79	61.98	71.05	59.73	63.36	64.20	69.11	72.96	72.14	68.86	72.88	77.79	80.41	83.03	85.65	88.27	90.89	93.65	96.41	99.18	101.94	104.70
4	15	21	42.11	42.15	46.85	46.90	66.78	71.47	60.20	66.56	66.32	69.69	73.75	73.18	69.56	74.20	78.25	81.18	84.11	87.05	89.98	92.91	95.64	98.38	101.11	103.85	106.58
4	15	22	42.29	40.23	46.04	44.71	61.96	65.87	59.62	64.21	65.33	66.63	72.06	72.31	68.97	73.13	76.66	79.79	82.91	86.04	89.16	92.29	95.03	97.77	100.50	103.24	105.98
4	15	23	38.71	38.38	42.16	43.31	58.90	63.03	58.31	60.77	62.61	67.30	69.69	69.64	67.55	69.85	77.24	79.39	81.53	83.68	85.82	87.97	90.47	92.98	95.48	97.99	100.49
4	15	24	34.06	33.26	39.13	37.88	56.91	59.70	56.47	57.73	60.00	63.72	65.49	66.55	64.92	68.00	73.19	75.32	77.44	79.57	81.69	83.82	86.71	89.60	92.48	95.37	98.26
4	16	1	30.30	31.90	37.92	34.93	53.72	57.25	55.21	56.26	57.42	60.34	61.81	63.81	62.66	65.84	70.67	72.30	73.92	75.55	77.17	78.80	81.83	84.86	87.90	90.93	93.96
4	16	2	29.16	30.88	37.17	34.08	52.76	54.96	53.87	54.29	56.73	59.63	60.55	62.71	61.78	63.20	70.05	71.73	73.41	75.08	76.76	78.44	80.72	83.00	85.29	87.57	89.85
4	16	3	28.73	30.23	36.92	34.34	52.52	54.31	52.76	53.47	56.34	59.36	59.98	61.63	61.39	62.50	70.10	71.71	73.32	74.92	76.53	78.14	80.11	82.08	84.04	86.01	87.98
4	16	4	28.44	29.67	37.18	34.64	52.58	54.31	52.73	53.09	56.91	59.36	60.02	61.28	61.56	61.26	70.30	71.97	73.65	75.32	77.00	78.67	80.05	81.43	82.81	84.19	85.57
4	16	5	28.87	29.97	38.21	35.75	53.45	55.95	53.69	53.07	58.13	60.40	60.90	62.55	61.72	60.92	71.16	72.87	74.57	76.28	77.98	79.69	80.85	82.01	83.17	84.33	85.49
4	16	6	29.74	31.08	41.27	37.89	57.26	59.45	55.24	53.42	62.23	64.19	64.25	64.42	62.83	61.05	73.87	75.39	76.91	78.43	79.95	81.47	82.32	83.17	84.03	84.88	85.73
4	16	7	32.51	32.29	45.38	43.35	58.65	61.25	55.44	54.73	66.30	67.56	67.87	66.10	63.76	62.91	77.33	79.13	80.93	82.73	84.53	86.33	87.08	87.84	88.59	89.35	90.10
4	16	8	36.47	34.56	46.90	48.02	62.88	64.23	56.38	55.75	67.29	69.73	70.35	69.24	64.51	65.19	79.68	81.85	84.03	86.20	88.38	90.55	91.11	91.67	92.22	92.78	93.34
4	16	9	37.46	37.57	47.12	48.64	64.78	65.32	58.77	57.34	68.87	70.32	71.12	70.11	66.75	67.87	80.49	82.52	84.55	86.59	88.62	90.65	92.34	94.03	95.73	97.42	99.11
4	16	10	38.09	40.95	48.60	49.48	64.80	67.12	59.70	58.72	69.82	72.87	75.72	70.52	67.79	69.14	80.91	82.85	84.79	86.74	88.68	90.62	92.48	94.34	96.21	98.07	99.93
4	16	11	38.64	41.74	49.41	52.26	64.08	67.45	59.99	59.11	72.11	74.40	75.75	69.64	68.59	69.30	81.41	83.28	85.15	87.01	88.88	90.75	92.67	94.59	96.50	98.42	100.34
4	16	12	38.83	41.74	49.44	52.90	63.66	67.24	59.85	59.58	71.47	74.78	75.66	69.64	69.05	69.80	81.26	83.44	85.62	87.79	89.97	92.15	93.79	95.43	97.07	98.71	100.35
4	16	13	38.44	41.99	47.96	52.66	64.19	67.71	59.70	59.85	69.82	73.90	73.60	70.87	69.30	69.95	81.39	83.24	85.08	86.93	88.77	90.62	92.57	94.51	96.46	98.40	100.35
4	16	14	38.74	41.41	47.33	53.20	64.96	66.79	59.38	60.00	68.19	72.44	73.89	70.11	68.47	69.64	81.41	83.25	85.09	86.93	88.77	90.61	92.54	94.47	96.39	98.32	100.25
4	16	15	38.43	40.76	47.26	50.03	64.31	65.87	59.18	60.14	67.62	71.60	71.21	69.24	68.13	69.31	81.54	83.30	85.05	86.81	88.56	90.32	92.35	94.38	96.41	98.44	100.47
4	16	16	38.43	40.26	46.61	49.69	62.52	66.07	58.93	60.27	67.91	70.55	71.12	69.24	68.11	69.32	80.93	82.65	84.38	86.10	87.83	89.55	91.71	93.87	96.03	98.19	100.35
4	16	17	38.36	40.95	47.15	49.69	61.96	66.43	59.39	60.77	68.89	70.54	70.71	69.24	68.13	70.28	80.92	82.63	84.33	86.04	87.74	89.45	91.63	93.81	95.99	98.17	100.35
4	16	18	38.31	41.62	46.86	48.82	60.64	65.83	59.91	61.11	69.24	69.87	70.42	69.24	68.18	70.63	80.76	82.46	84.16	85.86	87.56	89.26	91.56	93.85	96.15	98.44	100.74
4	16	19	38.40	40.99	46.54	49.01	60.94	65.68	59.79	61.24	67.91	71.22	70.33	69.39	68.11	70.67	81.71	83.06	84.40	85.75	87.09	88.44	91.15	93.87	96.58	99.30	102.01
4	16	20	38.88	42.60	46.77	49.89	61.37	66.79	60.30	62.68	68.66	71.07	70.42	69.64	68.98	72.00	82.96	83.99	85.03	86.06	87.10	88.13	91.14	94.15	97.15	100.16	103.17
4	16	21	39.25	43.81	47.26	52.15	68.39	67.07	61.37	64.60	68.90	74.58	72.03	69.64	70.40	74.60	86.29	86.72	87.15	87.58	88.01	88.44	91.67	94.90	98.14	101.37	104.60
4	16	22	38.11	42.88	45.48	48.84	62.39	65.87	60.44	64.04	65.81	69.45	71.49	69.39	69.66	74.28	80.35	81.82	83.29	84.77	86.24	87.71	91.11	94.51	97.90	101.30	104.70
4	16	23	36.01	38.07	44.76	46.26	59.46	63.92	58.78	61.47	64.30	68.00	69.69	66.98	67.35	70.83	78.43	79.80	81.17	82.54	83.91	85.28	88.56	91.84	95.11	98.39	101.67
4	16	24	31.67	34.27	40.57	40.08	57.24	59.79	56.47	58.09	60.63	64.81	65.93	64.96	65.62	68.90	75.00	76.25	77.49	78.74	79.98	81.23	84.69	88.14	91.60	95.05	98.51
4	17	1	29.33	31.22	37.61	36.43	53.52	56.68	54.74	55.83	57.14	61.41	62.42	63.25	63.09	65.00	71.79	73.01	74.24	75.46	76.69	77.91	80.20	82.50	84.79	87.09	89.38
4	17	2	28.90	28.77	36.95	34.81	52.67	53.98	52.99	54.95	56.38	59.86	60.83	62.45	60.97	63.93	70.91	72.19	73.48	74.76	76.05	77.33	79.24	81.15	83.05	84.96	86.87
4	17	3	28.64	28.46	36.40	34.22	51.67	53.29	52.33	54.82	56.89	59.42	59.26	61.47	60.10	63.73	70.35	71.67	72.99	74.32	75.64	76.96	78.89	80.83	82.76	84.70	86.63
4	17	4	28.44	28.10	37.09	34.43	51.67	53.40	52.05	55.32	57.57	59.63	58.83	61.25	59.13	64.61	70.63	72.02	73.42	74.81	76.21	77.60	79.67	81.74	83.80	85.87	87.94
4	17	5	28.69	28.05	38.29	35.99	52.72	53.77	52.38	56.04	58.30	60.36	60.30	61.82	58.83	66.22	71.78	73.30	74.81	76.33	77.84	79.36	81.63	83.90	86.18	88.45	90.72
4	17	6	28.93	28.45	40.87	38.08	54.92	56.96	52.21	60.69	61.19	63.69	62.97	62.83	59.18	69.64	74.33	76.09	77.86	79.62	81.39	83.15	85.92	88.69	91.46	94.23	97.00
4	17	7	29.09	30.34	46.12	42.15	57.83	58.37	53.69	63.97	64.11	66.96	64.74	63.55	61.05	73.05	77.40	79.22	81.04	82.87	84.69	86.51	89.28	92.06	94.83	97.61	100.38
4	17	8	30.41	31.52	49.12	47.26	59.90	60.33	55.44	65.27	66.28	69.14	67.15	64.95	62.55	75.13	80.36	82.39	84.43	86.46	88.50	90.53	92.92	95.30	97.69	100.07	102.46
4	17	9	34.72	33.67	49.55	49.22	60.88	61.25	56.11	65.95	68.19	73.23	68.09	66.92	64.10	76.22	80.91	82.85	84.79	86.73	88.67	90.61	93.14	95.68	98.21	100.75	103.28
4	17	10	37.01	35.09	49.97	51.19	63.21	62.13	57.67	66.44	71.01	74.57	68.47	68.51	66.06	76.87	81.60	83.61	85.63	87.64	89.66	91.67	93.99	96.31	98.64	100.96	103.28
4	17	11	37.71	36.22	51.34	52.24	63.16	62.29	58.13	66.44	73.29	75.38	68.52	69.00	66.46	76.98	82.06	84.32	86.57	88.83	91.08	93.34	95.33	97.32	99.30	101.29	103.28
4	17	12	37.59	37.19	51.55	51.34	62.88	62.29	58.29	66.87	73.29	75.81	68.17	69.16	66.75	77.17	85.08	87.35	89.62	91.89	94.16	96.43	97.79	99.14	100.50	101.85	103.21
4	17	13	37.11	37.07	51.66	55.41	63.08	61.42	58.29	66.96	71.17	86.83	68.89	69.00	66.71	76.54	94.27	94.33	94.39	94.45	94.51	94.57	96.23	97.88	99.54	101.19	102.85
4	17	14	36.78	36.97	50.27	54.05	63.09	61.94	58.28	66.65	68.94	86.54	69.03	68.51	66.17	75.83	90.93	91.46	91.99	92.52	93.05	93.58	95.40	97.22	99.05	100.87	102.69
4	17	15	36.47	36.59	50.16	51.19	60.78	61.07	58.13	65.71	68.37	74.90	67.90	68.30	65.92	75.20	87.93	89.06	90.19	91.32	92.45	93.58	95.23	96.88	98.53	100.18	101.83
4	17	16	36.45	37.47	49.70	51.19	60.36	60.53	58.13	65.27	67.82	74.16	67.90	68.28	66.06	74.71	86.15	87.25	88.35	89.45	90.55	91.65	93.64	95.63	97.61	99.60	101.59
4	17	17	36.87	38.58	49.25	51.19	59.63	60.37	58.28	65.27	67.58	88.92	67.68	69.23	66.75	74.61	88.18	88.83	89.48	90.12	90.77	91.42	93.54	95.66	97.77	99.89	102.01
4	17	18	36.96	39.27	49.05	48.70	59.59	60.33	58.44	64.97	67.73	71.47	67.58	69.24	67.04	74.60	81.99	84.18	86.37	88.55	90.74	92.93	94.81	96.68	98.56	100.43	102.31
4	17	19	36.72	39.78	49.21	48.69	59.95	60.20	58.97	64.19	70.99	71.06	67.90	69.23	67.96	74.20	82.15	84.52	86.90	89.27	91.65	94.02	95.65	97.29	98.92	100.56	102.19
4	17	20	37.42	41.39	49.70	51.19	60.13	60.37	59.73	64.39	73.25	73.50	67.90	69.39	69.05	74.43	96.37	96.01	95.65	95.29	94.93	94.57	96.31	98.05	99.80	101.54	103.28
4	17	21	40.76	51.70	52.18	54.21	63.09	63.09	61.79	64.60	73.74	77.39	68.35	72.73	71.29	74.61	99.86	99.12	98.39	97.65	96.92	96.18	97.73	99.29	100.84	102.40	103.95
4	17	22	37.60	43.31	49.47	49.28	60.36	61.11	61.06	62.46	68.66	73.66	67.90	71.10	70.79	72.88	82.07	84.32	86.57	88.81	91.06	93.31	94.72	96.14	97.55	98.97	100.38
4	17	23	34.51	38.90	47.76	45.35	58.46	60.33	59.62	61.39	66.90	68.27	66.16	67.51	67.90	71.51	79.81	81.90	84.00	86.09	88.19	90.28	91.96	93.65	95.33	97.02	98.70
4	17	24	30.75	35.09	42.74	40.39	55.10	58.56	57.81	57.80	63.84	64.81	64.29	64.95	66.83	69.15	75.98	77.80	79.62	81.45	83.27	85.09	86.91	88.72	90.54	92.35	94.17
4	18	1	29.09	31.76	38.91	36.29	53.01	55.76	54.45	55.62	58.51	61.67	61.49	62.78	63.27	66.29	72.06	73.83	75.60	77.36	79.13	80.90	82.69	84.48	86.27	88.06	89.85
4	18	2	26.86	31.18	37.13	35.10	51.50	53.88	53.95	54.31	57.54	60.31	60.61	61.12	62.18	65.07	71.11	72.60	74.09	75.59	77.08	78.57	80.31	82.05	83.78	85.52	87.26
4	18	3	26.64	31.08	35.66	34.50	49.95	53.77	53.83	54.11	57.00	59.71	59.54	60.70	62.13	65.29	69.96	71.46	72.96	74.45	75.95	77.45	79.53	81.61	83.69	85.77	87.85
4	18	4	26.05	31.41	35.73	34.43	49.78	53.58	54.23	54.76	56.92	59.68	59.38	60.29	63.03	65.55	69.91	71.42	72.93	74.43	75.94	77.45	79.33	81.21	83.09	84.97	86.85

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	18	5	25.74	32.88	38.05	35.08	51.13	53.93	54.94	56.53	57.77	60.26	59.16	60.17	64.44	68.07	71.29	72.92	74.54	76.17	77.79	79.42	81.34	83.27	85.19	87.12	89.04
4	18	6	26.28	37.75	40.52	37.77	53.22	56.13	57.67	60.24	62.06	63.55	60.62	60.58	67.33	70.01	73.98	75.81	77.64	79.48	81.31	83.14	85.74	88.35	90.95	93.56	96.16
4	18	7	28.17	41.93	45.28	42.07	54.53	57.81	60.20	62.60	64.39	65.53	61.88	61.41	69.57	73.12	77.17	79.12	81.06	83.01	84.95	86.90	89.51	92.13	94.74	97.36	99.97
4	18	8	29.09	44.19	49.21	46.06	56.48	59.28	61.94	64.42	68.37	69.36	64.20	62.83	71.30	74.69	80.40	82.45	84.50	86.56	88.61	90.66	93.10	95.54	97.98	100.42	102.86
4	18	9	30.77	45.98	49.78	48.21	57.99	60.38	63.82	65.27	70.35	71.11	66.16	64.42	72.64	74.89	81.04	83.29	85.54	87.78	90.03	92.28	94.42	96.57	98.71	100.86	103.00
4	18	10	32.18	46.28	50.63	49.28	58.12	62.32	64.69	66.44	73.53	73.59	67.87	65.38	73.33	77.12	81.41	84.19	86.97	89.74	92.52	95.30	97.20	99.09	100.99	102.88	104.78
4	18	11	32.69	46.92	53.38	50.40	58.46	63.11	65.51	67.95	73.95	73.99	67.87	65.75	73.47	77.42	82.07	84.78	87.49	90.20	92.91	95.62	97.76	99.90	102.03	104.17	106.31
4	18	12	33.41	46.92	52.34	49.59	58.31	62.85	65.64	68.00	74.30	74.98	67.18	66.03	73.47	77.40	83.08	85.78	88.48	91.18	93.88	96.58	98.53	100.47	102.42	104.36	106.31
4	18	13	33.93	46.52	58.12	49.60	58.12	62.19	65.45	68.30	81.45	74.86	66.72	66.43	73.08	77.42	89.46	92.68	95.91	99.13	102.36	105.58	105.70	105.82	105.93	106.05	106.17
4	18	14	33.33	46.30	54.90	48.22	58.46	61.38	66.97	65.81	76.89	71.44	66.43	66.43	73.09	75.51	99.29	99.79	100.28	100.78	101.27	101.77	102.68	103.59	104.49	105.40	106.31
4	18	15	33.31	45.42	52.08	48.06	57.99	60.45	64.71	65.76	73.22	71.99	66.72	65.96	73.09	75.42	82.78	84.72	86.66	88.60	90.54	92.48	95.19	97.90	100.62	103.33	106.04
4	18	16	33.89	44.55	50.63	48.89	57.99	60.37	63.82	65.58	70.38	72.02	66.33	65.96	72.95	75.10	83.15	84.85	86.56	88.26	89.97	91.67	94.40	97.13	99.85	102.58	105.31
4	18	17	34.65	44.32	50.32	49.01	57.70	60.37	63.56	65.36	74.56	73.07	66.82	66.03	72.77	74.74	86.93	87.95	88.97	90.00	91.02	92.04	94.57	97.10	99.64	102.17	104.70
4	18	18	35.67	43.90	49.96	49.01	57.62	60.37	62.77	65.78	68.96	71.99	67.56	66.48	72.70	75.25	81.83	83.63	85.43	87.22	89.02	90.82	93.82	96.82	99.82	102.82	105.82
4	18	19	36.08	43.46	49.70	47.21	57.62	60.37	62.07	66.01	70.00	71.24	67.34	66.74	71.29	77.77	80.90	82.97	85.04	87.10	89.17	91.24	94.26	97.28	100.31	103.33	106.35
4	18	20	37.90	44.60	50.85	47.43	57.77	61.20	62.92	66.50	73.64	71.25	67.88	68.28	71.29	78.49	81.82	84.78	87.74	90.69	93.65	96.61	98.68	100.74	102.81	104.87	106.94
4	18	21	43.63	45.10	52.58	48.06	58.31	64.26	63.82	69.64	80.19	71.44	71.10	71.47	71.29	78.80	84.31	87.31	90.31	93.32	96.32	99.32	100.85	102.39	103.92	105.46	106.99
4	18	22	38.65	43.44	50.63	47.21	57.91	62.85	61.44	65.58	70.22	69.69	69.23	69.82	68.93	75.13	80.92	83.09	85.26	87.44	89.61	91.78	94.36	96.95	99.53	102.12	104.70
4	18	23	34.86	41.17	46.63	44.02	56.42	59.94	59.99	63.78	67.29	67.74	66.02	67.76	68.89	73.96	78.62	80.86	83.11	85.35	87.60	89.84	92.29	94.75	97.20	99.66	102.11
4	18	24	31.92	35.35	42.64	37.89	53.67	58.20	57.67	59.24	61.89	63.71	63.02	65.66	66.62	70.66	73.17	75.41	77.66	79.90	82.15	84.39	86.87	89.36	91.84	94.33	96.81
4	19	1	30.28	31.57	38.85	35.41	52.77	54.29	55.08	56.42	57.94	60.13	60.45	62.59	63.50	68.57	70.63	72.66	74.68	76.71	78.73	80.76	83.21	85.66	88.11	90.56	93.01
4	19	2	29.45	31.16	37.27	33.90	51.67	54.01	54.45	55.37	57.21	59.48	58.03	62.05	62.44	66.25	68.77	70.82	72.86	74.91	76.95	79.00	80.99	82.98	84.97	86.96	88.95
4	19	3	29.42	31.25	35.93	33.16	50.88	53.54	54.51	54.01	55.75	58.56	57.21	61.74	62.28	65.55	67.28	69.37	71.45	73.54	75.62	77.71	79.81	81.91	84.00	86.10	88.20
4	19	4	29.45	31.57	35.79	32.99	50.63	53.54	55.39	55.24	55.76	58.35	56.68	62.06	63.15	65.58	66.91	69.06	71.20	73.35	75.49	77.64	80.01	82.38	84.76	87.13	89.50
4	19	5	30.74	32.82	37.29	34.24	50.88	54.02	55.99	56.27	57.37	59.45	56.54	62.63	64.51	67.75	69.37	71.28	73.20	75.11	77.03	78.94	81.52	84.10	86.69	89.27	91.85
4	19	6	33.10	37.38	40.17	37.39	52.35	53.91	59.42	59.24	61.19	62.50	57.06	65.87	66.97	70.62	72.06	74.03	75.99	77.96	79.92	81.89	84.72	87.55	90.38	93.21	96.04
4	19	7	38.41	42.29	44.90	40.20	53.19	54.05	63.22	62.60	63.84	65.24	58.51	68.94	68.79	72.93	76.32	78.45	80.58	82.72	84.85	86.98	89.44	91.91	94.37	96.84	99.30
4	19	8	42.65	46.95	48.93	43.44	54.69	54.87	65.71	65.34	67.93	67.54	60.29	71.60	70.79	75.20	78.62	81.14	83.66	86.18	88.70	91.22	93.83	96.44	99.04	101.65	104.26
4	19	9	44.11	47.23	48.88	44.02	56.08	57.31	65.86	66.01	70.22	68.06	62.61	72.45	70.93	77.42	79.19	81.79	84.38	86.98	89.57	92.17	95.01	97.84	100.68	103.51	106.35
4	19	10	44.81	47.63	49.57	45.37	56.74	59.25	67.18	68.06	71.04	68.71	64.30	72.59	72.57	78.24	79.36	82.05	84.73	87.42	90.10	92.79	95.76	98.73	101.70	104.67	107.64
4	19	11	45.32	49.99	50.63	47.76	57.53	59.45	67.17	68.81	73.95	69.14	64.61	73.38	73.76	78.30	79.85	82.69	85.53	88.37	91.21	94.05	96.70	99.35	102.01	104.66	107.31
4	19	12	45.51	51.03	50.69	47.07	57.62	59.97	68.02	70.44	72.91	68.87	65.30	73.58	73.47	78.73	79.85	82.54	85.23	87.92	90.61	93.30	96.27	99.23	102.20	105.16	108.13
4	19	13	45.96	49.79	50.91	46.71	57.62	59.79	67.61	76.68	74.14	69.13	65.56	72.02	72.95	80.37	79.56	82.27	84.98	87.68	90.39	93.10	96.49	99.89	103.28	106.68	110.07
4	19	14	46.46	48.58	50.24	45.77	57.62	59.69	67.24	75.41	74.14	69.14	65.13	71.70	72.93	81.26	79.30	82.01	84.71	87.42	90.12	92.83	96.30	99.77	103.23	106.70	110.17
4	19	15	43.11	48.05	49.14	45.89	57.62	59.66	67.03	70.90	71.28	68.46	64.83	71.49	72.53	80.16	78.51	81.09	83.68	86.26	88.85	91.43	94.87	98.30	101.74	105.17	108.61
4	19	16	42.66	47.37	49.80	45.68	57.65	59.90	66.65	72.18	76.21	67.79	64.83	70.87	71.94	78.49	78.60	81.52	84.44	87.37	90.29	93.21	96.28	99.34	102.41	105.47	108.54
4	19	17	42.00	46.86	50.23	45.63	57.65	59.90	66.65	78.00	79.29	67.59	65.03	70.31	71.71	86.50	78.39	81.64	84.89	88.15	91.40	94.65	97.58	100.51	103.43	106.36	109.29
4	19	18	41.64	46.79	49.25	45.37	57.83	59.79	65.73	68.51	75.61	67.57	65.65	69.66	72.16	76.73	78.19	81.48	84.78	88.07	91.37	94.66	97.02	99.37	101.73	104.08	106.44
4	19	19	40.01	46.86	48.91	45.47	57.63	59.94	65.90	68.52	71.54	67.79	66.17	69.00	73.15	77.01	78.48	81.28	84.08	86.88	89.68	92.48	95.37	98.26	101.16	104.05	106.94
4	19	20	41.64	47.71	48.17	46.67	57.99	61.77	67.16	71.15	72.73	68.61	66.74	69.20	74.02	81.72	79.55	82.20	84.85	87.49	90.14	92.79	96.21	99.63	103.05	106.47	109.89
4	19	21	43.84	49.03	49.25	48.78	58.62	71.01	71.12	79.08	73.64	70.91	71.81	70.37	74.39	83.43	80.91	83.46	86.00	88.55	91.09	93.64	97.07	100.50	103.92	107.35	110.78
4	19	22	39.20	47.37	48.35	45.06	57.99	63.57	66.28	66.97	68.29	68.62	69.23	68.28	71.89	76.99	78.65	81.42	84.18	86.95	89.71	92.48	95.38	98.28	101.19	104.09	106.99
4	19	23	37.46	44.82	46.83	43.44	55.64	60.86	63.06	64.80	67.09	67.61	66.16	66.90	70.12	73.98	76.01	78.80	81.60	84.39	87.19	89.98	92.39	94.80	97.20	99.61	102.02
4	19	24	33.06	39.01	42.50	37.69	53.49	59.45	60.74	60.74	61.69	63.59	64.00	64.96	66.97	70.66	72.35	74.56	76.76	78.97	81.17	83.38	86.41	89.44	92.47	95.50	98.53
4	20	1	30.71	33.82	37.55	34.62	52.04	54.83	56.76	56.57	58.15	60.42	60.34	62.40	65.08	67.59	69.27	71.42	73.58	75.73	77.89	80.04	82.79	85.54	88.30	91.05	93.80
4	20	2	30.24	31.51	35.59	33.35	50.88	54.21	55.44	55.07	56.19	59.41	59.38	61.57	64.10	65.90	68.04	69.90	71.76	73.61	75.47	77.33	80.08	82.83	85.57	88.32	91.07
4	20	3	30.33	31.21	35.00	32.92	49.92	54.20	55.05	54.40	55.16	58.44	59.26	61.57	62.80	65.01	66.80	68.72	70.65	72.57	74.50	76.42	78.74	81.05	83.37	85.68	88.00
4	20	4	30.74	31.26	34.82	32.49	49.47	54.42	55.06	54.37	54.91	58.17	59.71	62.37	63.57	64.68	66.07	68.14	70.20	72.27	74.33	76.40	78.68	80.95	83.23	85.50	87.78
4	20	5	31.57	32.29	36.35	32.54	49.46	55.44	55.98	55.70	56.08	58.29	60.21	63.01	64.41	66.05	66.14	68.66	71.18	73.70	76.22	78.74	81.18	83.62	86.05	88.49	90.93
4	20	6	34.70	36.85	39.04	33.39	49.84	57.69	58.87	59.28	60.77	59.38	64.58	66.03	66.98	70.64	67.81	70.62	73.42	76.23	79.03	81.84	84.67	87.50	90.34	93.17	96.00
4	20	7	39.76	41.04	42.89	34.88	50.88	61.40	62.08	63.36	63.83	60.03	68.06	69.45	68.42	72.81	69.21	72.87	76.54	80.20	83.87	87.53	90.10	92.67	95.25	97.82	100.39
4	20	8	45.29	46.92	46.56	36.45	52.39	63.85	66.26	65.81	67.33	62.23	70.44	71.91	71.69	75.13	71.77	75.52	79.27	83.03	86.78	90.53	93.26	95.99	98.72	101.45	104.18
4	20	9	45.29	47.37	47.02	38.95	54.63	65.37	67.36	68.25	67.60	64.60	71.12	72.58	73.05	77.13	74.56	77.77	80.98	84.19	87.40	90.61	93.54	96.47	99.39	102.32	105.25
4	20	10	48.24	48.75	48.16	41.19	55.22	66.30	69.04	68.36	68.37	65.47	71.37	73.40	75.26	77.77	75.31	78.40	81.49	84.57	87.66	90.75	93.86	96.98	100.09	103.21	106.32
4	20	11	49.62	51.19	48.88	43.38	55.42	66.36	69.74	69.56	69.01	66.21	72.72	73.66	74.43	78.73	76.07	79.14	82.21	85.27	88.34	91.41	94.77	98.12	101.48	104.83	108.19
4	20	12	49.68	50.20	49.03	43.96	55.60	67.21	69.47	72.00	68.96	66.33	72.72	73.66	75.06	79.65	76.01	79.01	82.01	85.02	88.02	91.02	94.09	97.17	100.24	103.32	106.39
4	20	13	50.21	51.55	47.43	44.12	56.31	66.36	75.19	78.83	68.45	65.98	72.38	74.03	83.51	86.50	75.64	78.68	81.71	84.75	87.78	90.82	93.92	97.02	100.12	103.22	106.32
4	20	14	47.81	51.26	47.02	44.35	56.48	66.80	73.95	81.93	68.68	66.85	71.98	73.58	79.61	94.99	76.88	79.65	82.43	85.20	87.98	90.75	94.00	97.25	100.49	103.74	106.99
4	20	15	48.47	48.58	46.83	44.35	56.15	64.79	70.28	74.20	68.37	66.43	71.63	72.69	79.05	86.33	76.88	79.63	82.37	85.12	87.86	90.61	93.89	97.16	100.44	103.71	106.99

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	20	16	45.29	47.37	47.14	44.13	56.48	65.06	77.01	74.20	68.89	65.95	71.97	71.91	78.13	89.40	76.97	79.54	82.11	84.68	87.25	89.82	93.14	96.47	99.79	103.12	106.44
4	20	17	45.64	47.14	47.44	44.40	56.70	64.95	82.64	76.34	68.90	65.56	72.20	71.70	92.06	90.80	76.88	79.42	81.96	84.50	87.04	89.58	92.93	96.29	99.64	103.00	106.35
4	20	18	45.29	46.86	46.59	44.72	57.02	63.88	70.57	72.18	68.70	65.75	72.20	71.34	73.84	85.17	77.47	79.89	82.31	84.74	87.16	89.58	92.93	96.29	99.64	103.00	106.35
4	20	19	45.29	46.86	46.40	44.12	57.49	62.58	74.50	66.34	68.66	65.56	69.38	72.64	74.37	77.77	76.78	79.48	82.19	84.89	87.60	90.30	93.41	96.53	99.64	102.76	105.87
4	20	20	46.64	48.58	46.92	44.37	58.12	62.93	83.59	69.64	69.58	66.50	69.38	72.88	82.44	80.46	76.88	79.71	82.54	85.36	88.19	91.02	94.11	97.19	100.28	103.36	106.45
4	20	21	49.75	50.20	48.45	44.79	61.59	64.26	88.61	71.43	73.32	67.36	69.69	74.91	92.66	93.57	78.51	81.24	83.97	86.71	89.44	92.17	95.40	98.63	101.86	105.09	108.32
4	20	22	44.91	47.76	46.32	43.89	59.11	62.02	68.24	67.48	68.29	66.42	67.16	71.60	73.96	75.56	76.01	78.97	81.93	84.90	87.86	90.82	93.64	96.46	99.29	102.11	104.93
4	20	23	40.53	45.06	46.12	39.07	56.53	61.26	63.48	64.76	67.29	64.11	68.20	70.12	70.99	74.21	73.73	77.05	80.37	83.70	87.02	90.34	92.42	94.50	96.57	98.65	100.73
4	20	24	35.02	38.53	40.74	36.72	54.85	58.97	59.42	60.01	61.43	61.38	65.22	66.85	67.45	70.79	71.50	74.14	76.77	79.41	82.04	84.68	87.33	89.98	92.62	95.27	97.92
4	21	1	31.99	33.24	37.09	34.27	52.81	54.08	55.99	56.04	57.52	59.40	60.89	63.47	64.84	67.23	68.94	71.04	73.13	75.23	77.32	79.42	81.96	84.50	87.04	89.58	92.12
4	21	2	30.78	31.74	35.30	31.25	52.18	53.98	54.89	54.36	56.06	57.06	60.02	62.33	63.31	64.68	66.76	68.81	70.86	72.92	74.97	77.02	79.08	81.13	83.19	85.24	87.30
4	21	3	30.28	31.06	34.62	30.37	52.10	54.02	54.06	53.90	55.51	56.71	59.91	62.17	62.35	64.07	65.74	67.65	69.55	71.46	73.36	75.27	77.36	79.45	81.54	83.63	85.72
4	21	4	30.35	30.95	34.10	30.27	52.34	54.05	53.95	53.76	55.07	56.66	59.72	62.60	62.32	63.69	65.31	67.29	69.26	71.24	73.21	75.19	77.28	79.37	81.46	83.55	85.64
4	21	5	31.52	31.83	34.24	30.31	53.23	54.78	55.05	54.50	55.42	56.48	60.97	63.42	63.64	65.25	64.97	67.02	69.07	71.12	73.17	75.22	77.83	80.44	83.04	85.65	88.26
4	21	6	34.05	36.04	35.17	30.82	56.02	58.97	57.67	57.39	56.04	56.44	65.22	66.17	66.97	69.35	64.93	67.15	69.38	71.60	73.83	76.05	80.01	83.97	87.94	91.90	95.86
4	21	7	38.76	41.02	37.09	33.53	58.85	61.79	60.32	61.17	57.14	58.03	69.42	68.02	69.47	72.33	66.80	69.25	71.70	74.15	76.60	79.05	83.32	87.58	91.85	96.11	100.38
4	21	8	45.04	46.79	38.71	35.10	61.14	66.05	63.22	64.42	59.00	59.70	71.09	71.04	72.57	74.71	69.85	72.25	74.65	77.04	79.44	81.84	85.95	90.07	94.18	98.30	102.41
4	21	9	47.97	47.39	42.44	36.72	61.95	66.05	65.00	64.76	62.29	61.90	72.03	72.91	73.74	74.86	71.77	74.63	77.48	80.34	83.19	86.05	89.38	92.71	96.03	99.36	102.69
4	21	10	49.19	48.58	44.63	38.02	62.07	66.05	66.22	65.16	64.06	63.17	74.00	74.13	76.03	75.25	71.81	74.85	77.88	80.92	83.95	86.99	90.17	93.35	96.54	99.72	102.90
4	21	11	49.77	48.58	46.26	39.16	62.01	66.36	67.38	65.95	66.55	63.51	74.79	74.29	77.17	77.24	72.54	75.82	79.09	82.37	85.64	88.92	91.80	94.67	97.55	100.42	103.30
4	21	12	49.77	48.58	46.12	39.64	62.07	67.22	70.93	65.66	66.06	63.84	75.01	75.53	78.03	76.53	73.14	76.30	79.45	82.61	85.76	88.92	91.79	94.66	97.54	100.41	103.28
4	21	13	50.62	48.58	45.99	39.92	61.07	68.07	72.17	65.58	64.40	64.06	75.19	81.57	85.06	76.08	73.28	76.26	79.24	82.23	85.21	88.19	91.09	93.98	96.88	99.77	102.67
4	21	14	50.62	46.86	46.13	39.72	60.88	68.95	72.36	65.16	64.63	63.85	73.47	81.57	88.27	75.31	73.53	76.74	79.94	83.15	86.35	89.56	92.09	94.61	97.14	99.66	102.19
4	21	15	51.50	48.07	45.38	39.42	60.15	66.36	73.75	64.83	65.04	63.39	72.99	79.02	73.64	75.13	73.83	76.98	80.12	83.27	86.41	89.56	92.19	94.81	97.44	100.06	102.69
4	21	16	50.14	50.06	45.28	39.61	59.90	65.85	73.74	64.83	65.81	63.39	72.03	77.89	74.36	74.86	73.97	76.96	79.96	82.95	85.95	88.94	91.81	94.68	97.54	100.41	103.28
4	21	17	51.84	50.06	44.90	40.66	59.39	65.99	74.99	64.92	65.90	64.33	71.51	83.28	76.16	74.86	74.55	77.27	79.98	82.70	85.41	88.13	91.38	94.63	97.87	101.12	104.37
4	21	18	48.29	48.57	45.16	41.02	59.54	65.32	69.09	64.60	65.98	64.83	71.00	73.17	75.34	74.75	74.70	77.67	80.64	83.62	86.59	89.56	92.54	95.52	98.50	101.48	104.46
4	21	19	48.72	48.06	44.77	43.12	59.47	65.32	65.90	64.60	65.36	65.15	72.11	74.92	72.77	74.71	74.69	77.46	80.24	83.01	85.79	88.56	91.32	94.08	96.83	99.59	102.35
4	21	20	49.30	47.08	45.35	44.69	61.01	66.36	66.52	65.27	65.10	65.74	74.25	80.37	73.87	75.25	75.96	78.68	81.40	84.12	86.84	89.56	92.61	95.66	98.70	101.75	104.80
4	21	21	52.83	47.27	46.55	51.10	65.38	69.54	67.10	68.92	67.37	69.35	75.38	82.38	74.39	79.65	79.36	81.61	83.85	86.10	88.34	90.59	93.54	96.49	99.45	102.40	105.35
4	21	22	47.83	45.45	45.75	45.35	60.01	64.79	63.82	64.83	64.36	68.41	70.91	73.37	72.06	75.13	78.27	80.33	82.39	84.44	86.50	88.56	91.35	94.15	96.94	99.74	102.53
4	21	23	43.08	43.16	42.22	41.59	58.51	62.17	61.52	63.07	61.96	65.74	69.42	69.90	71.29	74.43	75.31	77.31	79.30	81.30	83.29	85.29	88.36	91.42	94.49	97.55	100.62
4	21	24	35.76	38.02	39.20	37.27	56.15	59.56	57.73	59.00	59.60	63.53	65.38	66.91	66.97	70.69	71.89	73.98	76.07	78.16	80.25	82.34	85.16	87.99	90.81	93.64	96.46
4	22	1	32.18	32.10	36.57	36.31	52.44	54.87	54.97	55.69	56.60	60.01	61.72	62.85	64.25	66.58	69.91	71.88	73.85	75.82	77.79	79.76	82.14	84.52	86.90	89.28	91.66
4	22	2	30.93	30.70	33.90	35.05	52.23	53.98	53.83	54.28	55.35	59.37	59.89	62.53	61.99	63.64	68.59	70.15	71.71	73.28	74.84	76.40	78.61	80.82	83.02	85.23	87.44
4	22	3	30.14	30.23	33.38	34.58	52.31	53.54	52.84	53.53	54.49	59.14	59.28	62.09	61.33	62.41	68.34	69.68	71.02	72.35	73.69	75.03	76.82	78.62	80.41	82.21	84.00
4	22	4	29.47	30.23	33.03	35.36	52.81	53.53	52.73	53.14	54.25	59.24	60.10	61.27	61.32	61.42	68.56	69.70	70.85	71.99	73.14	74.28	76.00	77.72	79.45	81.17	82.89
4	22	5	30.54	30.77	32.97	36.72	53.43	54.21	53.95	53.16	54.14	60.07	60.80	62.05	62.44	61.42	70.17	70.89	71.62	72.34	73.07	73.79	75.64	77.49	79.33	81.18	83.03
4	22	6	33.14	34.20	33.12	39.28	57.26	58.97	57.42	54.11	54.34	65.47	64.83	64.96	66.41	63.58	73.05	73.23	73.42	73.60	73.79	73.97	76.51	79.05	81.58	84.12	86.66
4	22	7	38.22	39.76	35.06	43.22	60.15	60.98	59.73	55.25	55.71	67.30	68.10	67.17	69.10	66.23	77.47	77.28	77.09	76.90	76.71	76.52	79.42	82.32	85.22	88.12	91.02
4	22	8	43.76	42.65	37.09	49.01	62.26	64.89	61.86	57.94	57.37	71.46	70.91	70.87	71.36	69.20	80.41	80.21	80.01	79.81	79.61	79.41	82.61	85.81	89.01	92.21	95.41
4	22	9	45.29	44.02	38.76	51.95	64.01	65.82	63.58	60.74	58.98	76.06	73.16	72.20	71.29	71.22	82.96	82.58	82.20	81.83	81.45	81.07	84.52	87.98	91.43	94.89	98.34
4	22	10	48.47	45.89	39.91	53.78	64.32	66.12	63.82	61.54	60.90	75.81	75.19	72.27	71.29	71.84	81.82	82.06	82.30	82.54	82.78	83.02	86.41	89.79	93.18	96.56	99.95
4	22	11	49.68	46.13	41.67	52.06	64.76	67.33	64.71	63.30	61.57	73.07	75.19	72.91	71.77	73.22	80.91	81.50	82.09	82.69	83.28	83.87	87.17	90.48	93.78	97.09	100.39
4	22	12	50.81	46.13	42.44	50.70	64.33	68.28	64.69	63.45	62.04	73.13	75.53	72.27	71.41	73.29	80.91	81.75	82.58	83.42	84.25	85.09	88.17	91.24	94.32	97.39	100.47
4	22	13	52.23	45.98	43.06	50.05	64.01	69.43	63.82	63.45	62.14	74.68	76.18	71.74	71.36	72.88	82.09	82.77	83.45	84.13	84.81	85.49	88.51	91.54	94.56	97.59	100.61
4	22	14	51.63	45.30	42.82	49.38	64.29	69.83	63.82	63.46	61.83	74.02	75.99	74.77	72.35	73.23	84.23	84.36	84.50	84.63	84.77	84.90	88.08	91.26	94.45	97.63	100.81
4	22	15	51.66	45.74	42.12	47.56	64.99	69.92	63.82	63.07	61.35	68.99	75.31	70.87	72.34	72.88	80.32	81.23	82.14	83.05	83.96	84.87	88.07	91.27	94.47	97.67	100.87
4	22	16	52.93	45.30	42.45	46.44	61.96	69.66	63.82	63.07	61.69	68.55	73.69	72.46	71.90	72.57	79.18	80.35	81.52	82.69	83.86	85.03	88.17	91.31	94.46	97.60	100.74
4	22	17	52.90	44.93	43.45	46.05	61.89	71.37	63.09	63.14	63.31	68.67	76.50	77.16	71.77	72.57	79.18	80.53	81.87	83.22	84.56	85.91	88.81	91.70	94.60	97.49	100.39
4	22	18	48.96	44.19	43.75	46.00	61.66	68.42	62.59	63.45	63.84	69.62	73.62	73.23	72.28	72.88	78.31	79.88	81.45	83.02	84.59	86.16	89.01	91.85	94.70	97.54	100.39
4	22	19	46.30	44.02	43.76	45.75	61.62	65.32	62.07	63.07	64.38	69.69	73.08	70.87	72.33	72.47	77.88	79.82	81.77	83.71	85.66	87.60	90.16	92.72	95.27	97.83	100.39
4	22	20	46.23	45.10	45.35	46.17	64.04	71.37	63.95	63.45	65.81	71.07	77.34	71.95	72.91	72.95	82.41	83.84	85.27	86.71	88.14	89.57	91.73	93.90	96.06	98.23	100.39
4	22	21	49.30	48.10	50.68	50.84	68.83	76.60	67.11	64.65	71.95	86.65	78.16	71.44	73.73	73.89	93.62	93.61	93.60	93.60	93.59	93.58	95.20	96.82	98.44	100.06	101.68
4	22	22	45.64	43.88	48.08	46.46	61.98	65.81	63.82	63.44	68.37	72.59	74.94	70.21	71.90	72.88	79.36	82.05	84.73	87.42	90.10	92.79	94.31	95.83	97.35	98.87	100.39
4	22	23	41.54	42.65	43.95	45.35	58.52	62.08	60.67	60.66	64.38	68.01	69.14	68.18	69.23	70.23	76.07	78.60	81.13	83.67	86.20	88.73	90.69	92.64	94.60	96.55	98.51
4	22	24	35.16	37.00	40.36	39.15	56.79	59.45	57.67	57.31	61.19	64.84	65.93	64.96	66.89	68.64	73.19	75.61	78.04	80.46	82.89	85.31	87.26	89.20	91.15	93.09	95.04
4	23	1	30.75	31.57	37.90	36.02	53.43	55.03	55.44	55.59	58.40	60.52	62.10	62.07	63.69	66.40	69.81	72.04	74.27	76.51	78.74	80.97	82.85	84.73	86.62	88.50	90.38
4	23	2	29.45	30.58	36.50	34.71	52.81	54.11	53.69	54.10	57.14	58.88	60.77	60.97	61.45	63.44	68.13	70.48	72.82	75.17	77.51	79.86	81.02	82.17	83.33	84.48	85.64

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	23	3	28.93	30.10	36.15	34.21	52.52	53.50	52.73	53.48	57.14	58.44	60.35	60.60	59.19	62.64	67.34	69.71	72.08	74.46	76.83	79.20	80.26	81.32	82.38	83.44	84.50
4	23	4	28.93	29.66	36.28	34.17	52.75	53.50	52.34	53.27	57.05	58.75	60.35	60.60	58.83	61.93	67.67	70.04	72.41	74.78	77.15	79.52	80.28	81.04	81.81	82.57	83.33
4	23	5	30.41	29.79	37.92	35.13	53.42	54.09	52.33	53.14	57.77	60.33	61.00	61.37	58.83	61.85	69.24	71.53	73.82	76.11	78.40	80.69	81.16	81.64	82.11	82.59	83.06
4	23	6	32.43	30.62	41.94	38.04	56.69	57.10	52.99	53.64	63.42	64.39	64.13	63.94	61.32	62.21	71.91	74.92	77.94	80.95	83.97	86.98	86.51	86.04	85.56	85.09	84.62
4	23	7	36.45	31.62	47.40	42.38	58.46	60.33	55.05	54.15	67.48	66.89	66.81	66.95	63.30	63.59	76.78	79.49	82.20	84.90	87.61	90.32	89.45	88.58	87.72	86.85	85.98
4	23	8	40.53	34.84	50.63	46.75	60.64	63.68	56.38	55.77	73.43	70.13	70.77	68.80	66.09	65.65	79.36	83.04	86.73	90.41	94.10	97.78	96.06	94.35	92.63	90.92	89.20
4	23	9	42.50	38.90	52.18	49.66	61.14	64.79	58.28	57.31	81.45	72.42	72.85	70.11	67.67	68.60	80.17	83.98	87.78	91.59	95.39	99.20	98.04	96.88	95.73	94.57	93.41
4	23	10	43.84	41.42	53.22	51.10	62.06	65.32	59.62	58.88	82.15	74.86	75.01	70.21	67.73	69.35	80.72	84.49	88.25	92.02	95.78	99.55	98.74	97.94	97.13	96.33	95.52
4	23	11	44.63	42.49	52.17	50.64	65.98	67.14	60.61	59.84	75.99	75.17	75.76	70.36	68.85	70.41	80.88	84.26	87.64	91.02	94.40	97.78	97.90	98.02	98.13	98.25	98.37
4	23	12	44.91	43.02	50.68	49.90	65.98	69.83	60.87	60.48	73.96	71.00	77.54	70.21	68.99	70.68	79.75	82.85	85.96	89.06	92.17	95.27	96.05	96.82	97.60	98.37	99.15
4	23	13	45.36	43.12	49.55	49.07	64.57	74.15	60.63	60.74	77.01	70.13	81.09	70.21	69.03	70.69	78.09	81.47	84.85	88.22	91.60	94.98	95.70	96.42	97.14	97.86	98.58
4	23	14	43.96	43.27	49.68	48.78	65.46	73.63	61.19	60.65	73.36	69.27	83.68	70.21	69.70	70.23	78.41	81.16	83.91	86.67	89.42	92.17	93.32	94.47	95.63	96.78	97.93
4	23	15	42.85	43.27	49.51	48.82	65.72	74.54	60.97	60.36	68.91	68.00	73.33	69.23	69.05	69.54	77.67	80.30	82.93	85.55	88.18	90.81	92.21	93.61	95.02	96.42	97.82
4	23	16	42.29	42.63	49.51	46.46	63.86	76.75	60.90	60.74	68.42	67.80	73.27	68.95	68.48	69.57	77.67	80.26	82.84	85.43	88.01	90.60	92.11	93.62	95.13	96.64	98.15
4	23	17	41.78	42.18	49.29	46.05	66.13	77.41	60.89	61.24	67.90	67.94	75.37	68.91	68.61	70.68	76.37	79.22	82.06	84.91	87.75	90.60	92.20	93.79	95.39	96.98	98.58
4	23	18	41.64	43.44	47.94	45.99	62.14	73.54	60.97	61.70	67.82	67.74	74.35	68.86	68.76	70.73	76.78	79.54	82.31	85.07	87.84	90.60	92.34	94.07	95.81	97.54	99.28
4	23	19	41.76	42.60	47.90	46.08	61.82	69.66	60.35	61.95	68.37	67.94	72.04	68.92	68.13	71.68	76.60	79.40	82.20	85.00	87.80	90.60	92.56	94.52	96.47	98.43	100.39
4	23	20	42.11	43.31	49.34	46.28	61.96	71.67	61.13	63.46	70.37	69.52	72.10	69.59	69.10	72.88	77.46	80.17	82.88	85.60	88.31	91.02	93.01	95.00	96.98	98.97	100.96
4	23	21	45.99	44.02	50.06	48.94	72.25	73.95	62.07	66.34	81.07	70.03	76.56	70.87	70.78	74.75	77.47	82.40	87.34	92.27	97.21	102.14	102.80	103.45	104.11	104.76	105.42
4	23	22	42.54	42.76	49.92	45.68	60.64	64.95	60.98	64.60	68.90	67.73	71.51	69.58	69.41	73.98	76.59	80.24	83.88	87.53	91.17	94.82	96.51	98.20	99.90	101.59	103.28
4	23	23	39.79	38.87	46.13	43.55	58.42	61.29	58.44	61.58	67.90	67.15	69.00	67.67	67.05	72.32	75.31	78.71	82.10	85.50	88.89	92.29	93.79	95.29	96.79	98.29	99.79
4	23	24	34.27	34.02	42.72	38.87	56.48	58.37	56.08	59.03	62.80	64.39	65.26	65.15	65.77	70.05	71.76	74.89	78.01	81.14	84.26	87.39	89.10	90.81	92.51	94.22	95.93
4	24	1	30.72	31.30	37.61	35.08	53.19	54.20	54.43	57.23	57.05	60.44	61.79	62.60	63.15	69.15	68.82	71.13	73.44	75.74	78.05	80.36	83.23	86.10	88.96	91.83	94.70
4	24	2	29.33	30.28	35.71	34.44	52.76	53.16	53.26	56.26	56.07	58.94	59.52	61.08	60.84	68.17	68.45	70.47	72.49	74.50	76.52	78.54	81.21	83.88	86.54	89.21	91.88
4	24	3	29.02	29.58	34.90	34.16	52.44	52.38	52.56	56.01	55.66	57.77	58.50	60.13	59.30	67.78	65.89	68.05	70.21	72.36	74.52	76.68	79.65	82.63	85.60	88.58	91.55
4	24	4	28.83	28.87	35.50	34.18	52.46	52.30	52.20	56.26	55.72	58.83	58.19	59.63	58.95	67.76	67.36	69.29	71.22	73.14	75.07	77.00	79.90	82.81	85.71	88.62	91.52
4	24	5	28.93	29.38	37.09	35.09	53.19	53.29	52.17	57.26	57.10	59.89	59.62	59.85	58.87	68.97	68.91	71.04	73.18	75.31	77.45	79.58	82.50	85.42	88.33	91.25	94.17
4	24	6	29.09	29.69	40.36	37.98	55.15	56.15	52.34	60.48	61.83	63.84	64.04	60.60	59.89	71.32	71.78	74.01	76.24	78.48	80.71	82.94	86.22	89.49	92.77	96.04	99.32
4	24	7	29.50	30.63	45.07	41.76	57.99	59.79	53.17	64.20	65.68	65.48	66.34	62.60	60.96	74.42	73.93	77.27	80.60	83.94	87.27	90.61	93.10	95.58	98.07	100.55	103.04
4	24	8	32.51	31.93	48.45	46.46	60.15	61.58	55.24	66.30	66.35	67.95	69.69	64.38	62.90	78.38	77.10	80.34	83.58	86.83	90.07	93.31	95.87	98.44	101.00	103.57	106.13
4	24	9	36.01	34.11	49.34	49.05	61.01	62.51	56.16	74.04	68.27	69.13	69.97	65.45	65.33	89.72	77.58	80.81	84.05	87.28	90.52	93.75	96.91	100.06	103.22	106.37	109.53
4	24	10	38.06	36.43	50.02	49.83	61.51	63.50	57.39	71.67	71.02	71.51	70.91	66.27	66.64	84.50	78.45	81.76	85.06	88.37	91.67	94.98	97.84	100.71	103.57	106.44	109.30
4	24	11	39.56	38.78	50.13	51.53	62.25	63.71	57.78	70.28	70.92	71.99	72.64	67.08	67.04	79.31	78.48	81.78	85.08	88.38	91.68	94.98	97.35	99.72	102.08	104.45	106.82
4	24	12	39.89	39.42	50.33	49.96	63.09	63.28	57.88	69.50	70.64	71.00	71.97	67.17	67.22	80.12	77.95	81.11	84.27	87.43	90.59	93.75	95.89	98.03	100.18	102.32	104.46
4	24	13	39.28	39.96	49.95	49.83	65.70	63.68	58.44	70.53	68.55	70.91	71.34	66.72	67.09	80.00	77.99	81.09	84.18	87.28	90.37	93.47	95.50	97.53	99.55	101.58	103.61
4	24	14	39.50	39.42	49.20	49.83	70.98	63.58	58.44	66.32	68.47	71.14	70.77	66.90	66.98	80.17	78.11	81.14	84.17	87.19	90.22	93.25	95.52	97.79	100.06	102.33	104.60
4	24	15	38.84	38.90	48.29	49.19	75.62	63.80	58.27	67.22	68.19	71.60	70.77	66.74	66.86	75.28	78.39	81.06	83.73	86.39	89.06	91.73	94.21	96.69	99.17	101.65	104.13
4	24	16	38.96	39.27	47.26	47.89	78.05	63.42	58.31	67.22	67.60	70.13	70.43	66.74	66.86	75.27	78.32	80.92	83.52	86.11	88.71	91.31	93.99	96.67	99.34	102.02	104.70
4	24	17	39.04	40.39	46.83	47.70	104.73	63.05	59.10	66.10	66.53	68.90	69.28	66.92	67.37	74.70	77.92	80.46	83.00	85.55	88.09	90.63	93.47	96.31	99.15	101.99	104.83
4	24	18	39.04	40.95	46.61	47.57	78.05	62.49	59.46	65.28	66.43	67.96	69.28	66.84	67.94	74.51	77.76	80.35	82.94	85.54	88.13	90.72	93.52	96.31	99.11	101.90	104.70
4	24	19	38.66	41.33	46.56	47.25	67.66	62.49	59.91	65.27	66.53	69.69	70.77	66.74	67.88	74.68	77.33	79.99	82.65	85.31	87.97	90.63	93.44	96.26	99.07	101.89	104.70
4	24	20	38.84	43.68	47.26	48.72	70.34	63.89	60.92	66.34	66.90	71.21	71.75	67.08	69.20	76.51	78.07	80.70	83.33	85.97	88.60	91.23	94.10	96.96	99.83	102.69	105.56
4	24	21	41.99	47.73	48.48	49.99	69.76	69.83	68.56	66.55	68.37	71.28	74.30	68.21	71.66	90.41	79.98	82.52	85.05	87.59	90.12	92.66	95.24	97.82	100.40	102.98	105.56
4	24	22	39.50	45.91	47.12	48.28	61.96	63.05	62.01	65.95	65.38	68.96	71.28	66.90	71.44	77.04	77.80	80.36	82.93	85.49	88.06	90.62	93.27	95.93	98.58	101.24	103.89
4	24	23	35.91	40.97	45.68	45.62	59.59	60.98	59.60	64.22	63.93	68.08	69.54	65.85	69.01	75.10	75.31	78.17	81.03	83.90	86.76	89.62	91.97	94.32	96.67	99.02	101.37
4	24	24	32.39	35.93	41.02	39.40	56.50	58.03	57.31	60.74	60.79	65.41	64.95	64.74	66.96	71.84	71.78	73.97	76.16	78.35	80.54	82.73	85.78	88.82	91.87	94.91	97.96
4	25	1	29.59	33.14	37.55	35.52	52.77	54.05	56.16	56.22	56.73	60.47	61.02	62.51	65.23	67.87	69.95	71.65	73.35	75.06	76.76	78.46	81.28	84.09	86.91	89.72	92.54
4	25	2	28.72	32.08	35.84	34.53	51.94	52.87	55.43	54.76	55.78	58.72	58.70	60.97	64.08	65.70	66.45	68.38	70.32	72.25	74.19	76.12	78.80	81.47	84.15	86.82	89.50
4	25	3	28.13	31.73	35.15	34.21	51.37	52.21	55.42	54.31	55.04	58.07	57.13	60.18	63.64	64.64	65.87	67.79	69.70	71.62	73.53	75.45	77.90	80.35	82.79	85.24	87.69
4	25	4	27.61	31.92	35.28	34.24	51.19	51.51	55.43	54.32	55.04	58.18	56.54	60.17	63.88	65.09	66.03	67.99	69.95	71.92	73.88	75.84	78.36	80.89	83.41	85.94	88.46
4	25	5	27.77	33.18	36.58	35.45	52.52	51.56	56.76	55.53	56.05	59.79	56.65	59.91	65.07	67.07	68.19	70.16	72.13	74.09	76.06	78.03	80.72	83.41	86.09	88.78	91.47
4	25	6	27.73	39.25	39.24	38.74	54.47	53.01	59.39	58.22	59.99	64.37	58.49	60.64	67.58	69.40	71.78	73.72	75.66	77.61	79.55	81.49	84.73	87.97	91.20	94.44	97.68
4	25	7	28.72	43.08	43.03	42.39	57.70	54.05	61.35	63.29	63.09	66.36	60.69	61.31	71.56	73.30	76.77	78.96	81.14	83.33	85.51	87.70	90.28	92.87	95.45	98.04	100.62
4	25	8	29.77	46.37	47.40	49.35	59.49	56.04	66.74	66.37	67.04	70.39	63.38	63.42	74.79	75.20	79.98	82.11	84.25	86.38	88.52	90.65	93.57	96.49	99.41	102.33	105.25
4	25	9	32.34	51.82	48.46	51.10	60.36	58.97	69.50	67.54	68.26	71.38	65.38	64.93	84.80	76.71	80.40	82.57	84.74	86.91	89.08	91.25	94.19	97.13	100.06	103.00	105.94
4	25	10	34.04	54.47	49.41	52.59	60.64	60.34	72.03	67.95	68.86	73.90	66.32	64.96	81.31	76.72	80.47	82.99	85.50	88.02	90.53	93.05	96.10	99.15	102.20	105.25	108.30
4	25	11	35.13	56.98	51.55	52.73	61.48	62.02	72.67	67.54	70.64	76.06	68.10	65.48	78.32	77.42	81.41	83.79	86.17	88.55	90.93	93.31	95.91	98.50	101.10	103.69	106.29
4	25	12	35.88	60.85	49.95	53.36	62.89	62.02	71.40	66.96	68.63	75.67	68.10	65.87	76.19	77.47	81.26	83.71	86.16	88.61	91.06	93.51	95.64	97.78	99.91	102.05	104.18
4	25	13	35.91	49.97	48.93	53.39	61.81	60.38	68.48	66.67	68.37	74.25	67.44	65.91	80.74	74.83	80.40	83.01	85.63	88.24	90.86	93.47	95.61	97.75	99.90	102.04	104.18

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	25	14	35.92	48.61	47.94	48.93	62.26	60.53	68.48	66.67	68.37	75.34	67.87	65.87	75.50	73.89	80.47	83.31	86.14	88.98	91.81	94.65	96.56	98.46	100.37	102.27	104.18
4	25	15	35.82	46.49	47.12	48.93	61.73	60.62	64.72	65.27	67.60	72.27	67.45	65.85	72.65	72.95	80.48	83.00	85.52	88.05	90.57	93.09	95.12	97.15	99.19	101.22	103.25
4	25	16	35.92	45.67	48.35	48.15	62.98	60.55	64.49	64.83	67.48	71.51	67.68	65.85	72.42	72.95	79.63	82.31	85.00	87.68	90.37	93.05	95.22	97.39	99.55	101.72	103.89
4	25	17	36.37	44.99	48.33	46.46	62.26	60.79	64.08	64.60	67.90	71.00	67.90	65.85	72.41	72.88	79.63	82.23	84.83	87.42	90.02	92.62	95.04	97.45	99.87	102.28	104.70
4	25	18	36.87	44.30	47.26	45.68	61.11	60.55	63.83	64.42	67.18	69.52	67.90	65.91	71.94	72.88	80.04	82.48	84.91	87.35	89.78	92.22	94.62	97.03	99.43	101.84	104.24
4	25	19	37.02	45.04	46.53	45.78	60.50	60.33	64.42	64.42	66.86	69.27	67.16	66.03	71.94	71.87	78.62	81.11	83.60	86.08	88.57	91.06	93.46	95.85	98.25	100.64	103.04
4	25	20	39.28	45.67	47.42	46.21	61.30	60.68	64.42	65.27	68.32	69.96	67.45	66.90	72.42	72.88	79.36	82.15	84.94	87.73	90.52	93.31	95.32	97.34	99.35	101.37	103.38
4	25	21	46.46	46.60	49.27	48.50	61.17	61.40	69.00	65.58	68.94	73.73	68.73	70.68	73.91	73.99	81.56	84.01	86.47	88.92	91.38	93.83	96.05	98.28	100.50	102.73	104.95
4	25	22	41.95	46.33	47.97	48.88	59.53	60.31	64.71	64.60	67.18	72.53	66.72	69.06	72.42	72.88	80.02	82.32	84.61	86.91	89.20	91.50	93.81	96.12	98.42	100.73	103.04
4	25	23	36.37	44.32	45.38	45.82	58.14	58.23	61.97	61.93	64.38	68.31	65.13	66.22	70.48	71.33	78.19	80.61	83.03	85.44	87.86	90.28	92.29	94.30	96.30	98.31	100.32
4	25	24	33.29	37.47	41.16	38.70	56.02	56.04	58.16	58.66	60.70	64.92	62.89	64.96	67.04	68.64	73.66	75.58	77.49	79.41	81.32	83.24	85.78	88.32	90.85	93.39	95.93
4	26	1	32.39	32.22	37.61	36.08	52.52	53.54	55.45	56.01	56.60	60.27	60.14	64.28	63.58	65.68	70.33	72.12	73.92	75.71	77.51	79.30	81.47	83.65	85.82	88.00	90.17
4	26	2	31.54	31.34	35.67	34.59	51.50	52.58	54.27	54.27	55.66	58.19	57.76	62.77	62.27	63.44	68.13	69.83	71.53	73.22	74.92	76.62	78.52	80.42	82.31	84.21	86.11
4	26	3	31.20	31.05	34.96	33.34	50.70	51.53	53.83	53.85	55.13	57.72	56.89	62.62	61.59	62.98	67.47	69.01	70.55	72.09	73.63	75.17	77.17	79.17	81.18	83.18	85.18
4	26	4	31.49	31.12	35.00	32.82	50.17	51.03	53.95	53.92	55.17	57.53	56.49	62.95	61.71	63.19	66.81	68.60	70.39	72.17	73.96	75.75	77.77	79.80	81.82	83.85	85.87
4	26	5	32.39	31.87	37.11	34.75	50.40	51.08	55.45	54.99	55.99	58.81	56.07	64.68	63.35	64.58	68.50	70.56	72.61	74.67	76.72	78.78	80.68	82.57	84.47	86.36	88.26
4	26	6	36.10	35.72	40.20	38.22	51.67	52.01	57.30	58.43	60.29	63.37	56.57	66.80	67.02	68.64	71.87	74.06	76.24	78.43	80.61	82.80	85.21	87.63	90.04	92.46	94.87
4	26	7	40.74	41.22	45.34	41.40	52.72	52.63	60.30	62.07	64.20	66.17	58.31	69.34	69.79	69.99	77.04	79.74	82.44	85.13	87.83	90.53	92.41	94.30	96.18	98.07	99.95
4	26	8	45.24	45.43	48.99	45.46	54.92	53.98	63.83	64.76	66.91	69.13	60.32	74.98	72.60	72.88	79.81	82.56	85.32	88.07	90.83	93.58	95.47	97.36	99.26	101.15	103.04
4	26	9	50.17	47.04	50.03	48.50	57.02	56.14	64.89	65.58	68.89	71.25	62.66	80.22	73.63	73.55	80.49	83.39	86.29	89.18	92.08	94.98	96.82	98.66	100.50	102.34	104.18
4	26	10	52.58	48.37	50.51	49.48	58.14	57.79	66.91	65.97	69.14	72.42	64.17	77.17	75.51	73.77	81.04	83.83	86.62	89.40	92.19	94.98	96.91	98.85	100.78	102.72	104.65
4	26	11	52.58	48.15	52.05	52.66	58.48	59.28	67.69	67.92	72.80	75.70	64.63	80.18	74.22	74.48	82.07	84.96	87.85	90.75	93.64	96.53	98.34	100.14	101.95	103.75	105.56
4	26	12	50.24	47.49	52.05	49.83	58.42	59.70	68.44	67.22	70.47	73.90	64.95	78.17	73.16	74.04	81.26	84.28	87.29	90.31	93.32	96.34	98.12	99.90	101.67	103.45	105.23
4	26	13	49.67	46.69	50.64	49.35	58.28	59.70	67.18	67.48	70.35	71.99	65.09	76.16	72.26	73.14	81.82	84.41	87.00	89.60	92.19	94.78	96.76	98.75	100.73	102.72	104.70
4	26	14	49.53	46.76	49.22	49.35	58.14	59.45	66.86	68.22	70.64	71.90	64.69	75.48	72.12	72.88	80.04	83.03	86.02	89.00	91.99	94.98	96.92	98.87	100.81	102.76	104.70
4	26	15	49.52	46.48	48.08	48.76	58.12	59.28	66.24	66.01	68.51	71.07	64.69	73.09	71.15	72.88	80.01	83.36	86.71	90.05	93.40	96.75	98.34	99.93	101.52	103.11	104.70
4	26	16	45.52	45.67	47.40	46.46	58.28	59.38	65.06	66.89	67.93	69.13	65.01	72.08	71.50	72.88	79.96	82.73	85.50	88.26	91.03	93.80	95.98	98.16	100.34	102.52	104.70
4	26	17	45.41	44.16	47.13	46.32	59.40	59.59	64.13	66.37	67.33	68.97	65.66	71.39	70.77	72.88	79.68	82.29	84.89	87.50	90.10	92.71	95.05	97.39	99.72	102.06	104.40
4	26	18	44.13	44.15	46.93	45.68	59.25	59.73	63.05	67.16	66.91	69.56	65.90	70.93	70.48	72.67	78.62	81.33	84.04	86.75	89.46	92.17	94.57	96.97	99.38	101.78	104.18
4	26	19	44.46	44.16	46.94	44.91	58.34	59.94	62.59	66.37	66.84	69.27	66.16	71.26	70.03	72.61	78.19	80.79	83.40	86.00	88.61	91.21	93.57	95.94	98.30	100.67	103.03
4	26	20	45.41	44.48	48.46	45.68	58.42	61.29	64.15	67.20	67.90	68.00	66.72	73.09	71.37	73.03	78.33	81.11	83.89	86.66	89.44	92.22	94.72	97.21	99.71	102.20	104.70
4	26	21	49.02	45.67	49.26	45.91	58.42	65.54	66.91	66.76	70.60	68.99	71.54	83.99	72.41	74.81	79.67	82.71	85.76	88.80	91.85	94.89	97.08	99.26	101.45	103.63	105.82
4	26	22	45.63	44.09	49.33	44.79	58.14	61.92	63.58	66.54	69.23	67.63	70.52	74.47	71.04	72.88	78.09	81.47	84.85	88.22	91.60	94.98	96.72	98.45	100.19	101.92	103.66
4	26	23	42.40	42.31	45.73	42.42	56.15	59.94	61.86	63.71	65.48	66.22	66.99	69.86	68.42	71.76	75.31	78.37	81.44	84.50	87.57	90.63	92.63	94.62	96.62	98.61	100.61
4	26	24	35.22	36.43	41.02	38.24	54.08	57.79	58.17	59.52	61.19	64.10	64.61	66.42	66.75	68.82	71.77	74.68	77.60	80.51	83.43	86.34	88.28	90.22	92.16	94.10	96.04
4	27	1	31.49	31.87	37.93	35.37	51.45	55.78	55.35	55.86	57.05	59.93	62.58	61.84	62.58	66.31	69.86	71.89	73.91	75.94	77.96	79.99	82.21	84.43	86.65	88.87	91.09
4	27	2	30.32	31.22	35.59	34.21	50.37	54.70	54.21	54.37	55.94	57.94	61.51	60.93	60.76	63.73	67.04	69.01	70.98	72.94	74.91	76.88	79.16	81.43	83.71	85.98	88.26
4	27	3	29.92	31.14	34.86	33.54	49.39	54.36	52.99	54.06	55.50	56.62	61.41	60.15	59.92	63.55	65.18	67.29	69.40	71.52	73.63	75.74	78.22	80.70	83.17	85.65	88.13
4	27	4	30.02	31.14	34.74	32.97	49.27	54.47	53.34	54.09	55.28	56.39	61.41	60.19	60.09	63.69	64.77	66.89	69.01	71.14	73.26	75.38	77.99	80.59	83.20	85.80	88.41
4	27	5	30.86	31.79	35.59	33.50	49.27	55.65	55.05	56.01	55.91	56.80	62.57	61.84	61.59	65.64	65.23	67.65	70.07	72.50	74.92	77.34	79.95	82.55	85.16	87.76	90.37
4	27	6	33.79	35.64	39.17	34.62	49.84	57.47	57.68	58.45	59.53	58.36	65.80	65.00	65.84	68.64	67.28	70.44	73.59	76.75	79.90	83.06	85.70	88.34	90.97	93.61	96.25
4	27	7	39.06	40.89	43.63	36.75	51.15	60.41	61.04	63.03	63.57	60.15	68.47	68.07	68.15	71.83	71.14	74.88	78.61	82.35	86.08	89.82	92.46	95.10	97.75	100.39	103.03
4	27	8	43.37	44.37	46.93	38.08	52.63	63.33	63.60	65.89	66.42	63.04	74.59	70.97	70.67	75.20	72.31	76.51	80.71	84.92	89.12	93.32	95.85	98.38	100.92	103.45	105.98
4	27	9	45.65	46.44	48.86	40.20	54.85	71.60	66.04	66.01	68.46	64.93	77.01	70.97	71.94	76.23	75.16	78.91	82.65	86.40	90.14	93.89	96.31	98.73	101.14	103.56	105.98
4	27	10	48.28	47.55	50.03	42.80	56.21	77.04	66.91	66.29	70.14	66.26	77.57	72.35	72.36	76.02	76.84	80.66	84.48	88.29	92.11	95.93	97.94	99.95	101.96	103.97	105.98
4	27	11	50.38	50.01	52.07	43.61	56.48	66.48	68.36	67.62	70.65	66.77	82.91	73.73	72.65	76.95	77.62	81.88	86.14	90.40	94.66	98.92	100.68	102.44	104.20	105.96	107.72
4	27	12	48.28	50.68	51.56	44.30	56.69	67.15	68.36	66.05	70.35	66.43	81.07	72.55	72.65	77.42	76.78	80.50	84.23	87.95	91.68	95.40	97.60	99.80	102.00	104.20	106.40
4	27	13	46.26	48.31	50.53	44.34	56.97	65.71	67.96	65.67	70.14	65.49	74.93	71.55	72.65	75.97	76.08	79.57	83.06	86.55	90.04	93.53	95.66	97.79	99.92	102.05	104.18
4	27	14	45.63	47.40	50.53	44.24	57.01	65.04	67.05	67.02	69.24	65.49	72.52	71.46	72.65	75.10	75.31	78.94	82.57	86.21	89.84	93.47	95.61	97.75	99.90	102.04	104.18
4	27	15	44.69	46.64	48.61	44.24	57.40	63.68	65.05	67.11	67.90	65.49	70.18	71.40	72.41	75.32	75.67	78.99	82.31	85.64	88.96	92.28	94.66	97.04	99.42	101.80	104.18
4	27	16	44.67	46.44	47.88	44.00	57.55	62.08	64.45	66.05	65.98	65.49	69.32	71.27	72.41	74.92	74.62	77.95	81.27	84.60	87.92	91.25	93.84	96.42	99.01	101.59	104.18
4	27	17	43.90	46.24	47.02	44.00	57.62	61.89	64.13	65.17	65.98	65.53	69.10	70.45	72.36	74.92	74.40	77.65	80.89	84.14	87.38	90.63	93.70	96.77	99.84	102.91	105.98
4	27	18	43.63	45.81	46.93	44.00	57.70	61.87	63.83	66.10	66.06	65.53	68.84	70.11	72.36	74.75	74.62	77.80	80.98	84.17	87.35	90.53	93.62	96.71	99.80	102.89	105.98
4	27	19	43.15	44.76	46.37	42.98	57.87	61.89	63.74	65.27	66.04	65.49	70.25	69.33	71.17	74.21	73.92	77.24	80.56	83.89	87.21	90.53	93.42	96.30	99.19	102.07	104.96
4	27	20	43.66	45.78	46.83	42.98	58.52	62.13	65.10	64.60	66.36	65.50	70.63	70.93	72.18	74.61	75.28	78.35	81.42	84.49	87.56	90.63	93.61	96.59	99.57	102.55	105.53
4	27	21	44.61	46.44	48.16	43.89	61.17	63.82	67.23	66.87	66.89	66.39	74.92	71.39	72.66	76.03	75.64	78.64	81.64	84.63	87.63	90.63	93.85	97.07	100.30	103.52	106.74
4	27	22	42.83	45.14	46.61	43.33	59.40	63.33	64.13	66.88	65.90	65.60	70.68	69.60	71.69	75.11	75.31	78.37	81.44	84.50	87.57	90.63	93.71	96.79	99.86	102.94	106.02
4	27	23	39.50	43.12	44.98	38.69	57.63	60.98	62.89	64.02	63.69	63.72	69.51	67.72	69.44	73.25	72.46	75.93	79.40	82.88	86.35	89.82	92.43	95.03	97.64	100.24	102.85
4	27	24	34.14	37.34	40.36	37.55	55.31	57.31	57.69	60.65	60.78	61.30	65.67	65.05	66.83	69.79	71.14	73.59	76.04	78.50	80.95	83.40	86.36	89.32	92.27	95.23	98.19

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	28	1	31.17	32.05	36.98	34.22	53.42	53.90	55.45	56.27	56.47	58.44	61.23	62.56	62.93	66.51	68.45	70.56	72.66	74.77	76.87	78.98	81.53	84.07	86.62	89.16	91.71
4	28	2	29.74	31.43	35.57	33.43	52.99	53.38	54.21	54.85	55.84	56.28	59.61	61.28	61.10	64.84	65.25	67.40	69.55	71.70	73.85	76.00	78.48	80.96	83.45	85.93	88.41
4	28	3	29.09	31.16	34.64	32.40	52.87	53.01	53.96	54.32	55.03	55.41	58.94	60.58	60.92	64.18	64.12	66.07	68.02	69.96	71.91	73.86	76.64	79.43	82.21	85.00	87.78
4	28	4	29.52	31.20	33.82	31.86	53.13	53.13	54.21	54.23	54.62	54.94	59.03	60.81	61.09	63.84	63.52	65.41	67.29	69.18	71.06	72.95	75.94	78.92	81.91	84.89	87.88
4	28	5	30.51	32.03	34.40	31.94	54.35	53.66	55.45	55.27	54.77	54.99	60.73	62.19	63.03	65.57	63.92	65.89	67.86	69.83	71.80	73.77	76.89	80.01	83.14	86.26	89.38
4	28	6	33.89	36.15	36.03	32.78	57.11	56.58	56.86	58.39	55.75	55.97	64.58	64.29	67.03	69.13	64.86	67.17	69.48	71.78	74.09	76.40	80.54	84.68	88.83	92.97	97.11
4	28	7	37.87	41.61	38.16	33.96	59.00	59.79	60.46	62.18	57.06	57.28	67.93	66.85	69.70	71.98	66.43	69.13	71.84	74.54	77.25	79.95	84.08	88.22	92.35	96.49	100.62
4	28	8	42.62	46.24	40.50	35.40	60.82	62.21	62.86	64.42	59.67	59.41	70.68	69.25	72.70	74.60	69.31	71.93	74.54	77.16	79.77	82.39	87.10	91.80	96.51	101.21	105.92
4	28	9	44.61	47.29	43.54	37.70	64.81	63.52	65.33	65.63	62.23	61.39	72.25	70.45	73.10	75.60	70.87	74.23	77.60	80.96	84.33	87.69	91.50	95.31	99.12	102.93	106.74
4	28	10	47.07	48.26	47.66	38.56	74.33	63.82	68.44	67.65	64.16	63.18	75.28	71.36	75.10	76.71	71.77	75.48	79.19	82.90	86.61	90.32	94.18	98.03	101.89	105.74	109.60
4	28	11	50.10	48.87	48.05	39.17	76.29	64.92	70.58	67.81	64.39	63.37	74.09	72.29	77.34	76.71	71.88	75.57	79.26	82.95	86.64	90.33	94.18	98.04	101.89	105.75	109.60
4	28	12	50.24	47.68	48.02	39.58	75.05	63.88	70.58	68.25	64.36	63.73	71.08	71.39	76.65	76.98	72.31	75.91	79.51	83.12	86.72	90.32	94.12	97.92	101.72	105.52	109.32
4	28	13	45.62	47.40	47.66	39.78	71.47	65.04	71.19	66.67	64.07	63.73	70.43	71.40	74.92	76.51	72.43	75.86	79.29	82.73	86.16	89.59	93.21	96.83	100.44	104.06	107.68
4	28	14	46.26	47.10	46.76	39.89	65.30	65.07	72.45	66.90	64.39	63.46	70.25	71.41	75.83	75.55	72.51	75.63	78.76	81.88	85.01	88.13	91.78	95.44	99.09	102.75	106.40
4	28	15	45.63	46.64	46.72	40.00	64.24	63.82	64.93	65.28	64.65	63.34	70.01	71.40	73.70	75.03	72.57	75.81	79.04	82.28	85.51	88.75	92.20	95.64	99.09	102.53	105.98
4	28	16	45.34	46.44	45.28	40.24	64.22	62.13	64.06	65.59	64.38	63.53	69.86	71.31	73.36	74.42	72.93	75.92	78.91	81.90	84.89	87.88	91.50	95.12	98.74	102.36	105.98
4	28	17	44.90	45.68	45.28	40.84	63.30	62.02	64.13	65.27	64.38	64.07	68.47	70.92	73.36	74.29	73.31	76.15	78.99	81.84	84.68	87.52	91.13	94.75	98.36	101.98	105.59
4	28	18	44.83	45.68	46.44	42.82	63.14	61.99	63.82	65.00	64.30	64.52	68.59	69.62	72.60	74.18	72.93	75.85	78.76	81.68	84.59	87.51	90.95	94.39	97.82	101.26	104.70
4	28	19	45.34	44.99	44.98	43.53	64.31	62.08	64.13	64.60	63.73	64.95	68.59	69.14	72.15	73.44	74.61	76.87	79.13	81.40	83.66	85.92	89.41	92.90	96.39	99.88	103.37
4	28	20	44.69	45.72	46.66	44.35	68.02	63.11	64.81	65.16	63.66	65.48	70.25	70.95	72.42	72.88	74.84	77.15	79.45	81.76	84.06	86.37	90.20	94.04	97.87	101.71	105.54
4	28	21	46.03	47.10	47.54	47.03	70.86	63.52	67.09	65.59	63.83	66.34	70.25	71.54	73.10	72.95	76.07	78.43	80.79	83.16	85.52	87.88	91.47	95.06	98.64	102.23	105.82
4	28	22	44.68	46.60	47.52	44.37	65.55	62.08	65.62	64.42	63.31	65.49	68.33	70.31	72.69	72.88	75.67	78.08	80.49	82.89	85.30	87.71	90.98	94.25	97.51	100.78	104.05
4	28	23	42.59	43.12	43.12	40.84	58.75	60.32	60.64	62.17	60.87	64.66	66.44	68.34	71.05	71.05	74.06	75.93	77.79	79.66	81.52	83.39	86.84	90.28	93.73	97.17	100.62
4	28	24	34.62	38.13	39.71	37.89	56.19	57.19	57.69	59.45	57.75	62.68	64.36	65.30	67.44	68.64	71.73	73.46	75.18	76.91	78.63	80.36	83.76	87.16	90.56	93.96	97.36
4	29	1	31.21	33.01	36.16	36.45	52.91	53.77	55.14	56.22	55.46	59.86	60.44	62.60	64.19	66.34	67.75	69.50	71.26	73.01	74.77	76.52	79.59	82.66	85.74	88.81	91.88
4	29	2	30.47	30.86	34.84	35.08	52.05	53.29	54.18	54.37	54.34	58.88	58.47	61.08	62.20	63.53	66.44	67.96	69.47	70.99	72.50	74.02	76.71	79.40	82.10	84.79	87.48
4	29	3	29.71	30.23	33.36	34.53	51.32	52.96	53.42	53.84	54.05	58.69	57.74	60.53	61.68	61.98	65.80	66.98	68.15	69.33	70.50	71.68	74.72	77.76	80.79	83.83	86.87
4	29	4	29.78	29.83	32.89	34.50	51.67	53.00	53.27	53.53	53.67	58.81	58.12	60.64	61.56	61.30	65.98	66.88	67.78	68.69	69.59	70.49	73.54	76.59	79.63	82.68	85.73
4	29	5	30.89	31.76	32.83	36.01	52.70	53.66	54.22	53.81	53.67	59.48	59.03	62.60	62.69	62.25	67.24	67.94	68.64	69.33	70.03	70.73	74.00	77.26	80.53	83.79	87.06
4	29	6	33.89	35.62	34.09	38.08	56.09	56.41	56.22	54.32	53.81	63.20	63.41	65.01	67.02	63.63	68.86	69.79	70.71	71.64	72.56	73.49	76.43	79.37	82.30	85.24	88.18
4	29	7	39.65	41.22	34.83	40.01	58.04	60.01	58.99	57.02	54.49	63.74	65.60	68.56	69.94	67.65	70.58	71.39	72.20	73.00	73.81	74.62	78.30	81.99	85.67	89.36	93.04
4	29	8	44.99	44.24	37.42	45.70	59.93	63.82	61.72	58.95	55.98	66.96	68.95	72.02	72.50	69.21	73.50	74.26	75.02	75.78	76.54	77.30	81.31	85.32	89.34	93.35	97.36
4	29	9	47.44	46.44	39.68	46.79	60.20	64.58	63.08	61.25	57.77	69.15	70.01	72.84	72.71	71.06	74.90	76.00	77.10	78.19	79.29	80.39	84.31	88.22	92.14	96.05	99.97
4	29	10	48.15	49.22	41.74	48.16	61.40	65.10	66.43	62.60	59.43	69.37	70.29	72.84	74.91	72.88	75.92	77.40	78.88	80.36	81.84	83.32	86.98	90.63	94.29	97.94	101.60
4	29	11	48.02	50.68	43.36	49.84	64.55	69.80	70.28	62.85	60.29	71.18	70.81	75.23	76.14	72.88	77.57	78.73	79.89	81.06	82.22	83.38	87.14	90.91	94.67	98.44	102.20
4	29	12	48.29	59.89	43.47	51.82	63.05	71.37	70.28	63.07	60.90	71.35	70.81	75.98	77.34	72.88	77.11	78.37	79.62	80.88	82.13	83.39	87.14	90.88	94.63	98.37	102.12
4	29	13	46.04	52.02	43.77	50.39	62.52	67.89	67.05	63.32	61.19	71.34	70.90	74.59	74.39	71.65	76.88	78.32	79.76	81.21	82.65	84.09	87.59	91.09	94.59	98.09	101.59
4	29	14	46.84	52.02	42.79	49.48	61.35	65.04	66.35	62.85	61.26	70.66	70.25	81.26	74.92	70.51	77.08	78.58	80.08	81.58	83.08	84.58	87.77	90.96	94.15	97.34	100.53
4	29	15	46.04	47.29	42.86	48.89	60.79	64.91	64.69	62.94	61.59	70.00	71.73	72.78	73.59	71.02	76.23	77.99	79.75	81.50	83.26	85.02	88.17	91.31	94.46	97.60	100.75
4	29	16	45.63	46.60	43.04	48.24	60.79	64.49	64.06	62.48	62.34	69.15	71.21	72.26	72.69	70.27	75.86	77.78	79.71	81.63	83.56	85.48	88.55	91.62	94.70	97.77	100.84
4	29	17	45.06	45.78	43.76	47.73	60.23	64.31	63.47	62.46	63.65	68.17	70.93	71.49	72.42	70.27	75.59	77.70	79.82	81.93	84.05	86.16	89.16	92.17	95.17	98.18	101.18
4	29	18	44.90	45.78	44.32	47.52	61.73	64.32	62.91	62.46	64.05	68.48	70.92	71.04	72.15	70.27	74.92	77.36	79.80	82.23	84.67	87.11	89.92	92.74	95.55	98.37	101.18
4	29	19	44.90	44.75	44.96	46.53	62.22	64.19	62.58	61.81	64.39	67.21	70.25	70.92	72.05	69.39	74.84	77.62	80.40	83.18	85.96	88.74	91.15	93.57	95.98	98.40	100.81
4	29	20	45.37	46.15	46.72	46.32	62.38	65.02	63.47	61.78	64.63	67.31	71.44	71.40	72.41	69.06	74.89	77.73	80.57	83.40	86.24	89.08	91.39	93.69	96.00	98.30	100.61
4	29	21	47.68	46.76	49.41	47.52	61.83	65.10	64.71	62.30	65.98	68.16	72.17	73.92	72.42	69.66	75.37	78.42	81.47	84.51	87.56	90.61	92.65	94.69	96.74	98.78	100.82
4	29	22	48.27	44.36	48.28	46.46	60.36	64.17	61.92	62.28	64.39	68.02	70.25	72.39	71.51	69.44	75.11	78.05	80.99	83.94	86.88	89.82	91.93	94.05	96.16	98.28	100.39
4	29	23	43.62	43.44	45.45	42.69	57.97	61.68	60.29	59.89	62.37	66.23	67.26	68.68	69.74	68.63	72.68	75.53	78.38	81.24	84.09	86.94	89.22	91.50	93.77	96.05	98.33
4	29	24	35.88	37.90	41.47	37.92	55.61	57.79	56.91	57.25	60.49	63.34	64.70	65.92	66.97	67.62	69.51	72.12	74.72	77.33	79.93	82.54	84.81	87.08	89.35	91.62	93.89
4	30	1	31.00	32.95	38.14	34.62	53.19	53.90	55.25	54.45	57.09	59.30	60.92	62.44	63.40	62.34	66.15	68.62	71.09	73.57	76.04	78.51	80.23	81.95	83.66	85.38	87.10
4	30	2	28.72	30.50	36.96	33.81	52.18	53.38	54.07	53.69	56.06	57.72	58.92	61.55	61.52	61.00	64.41	66.81	69.21	71.60	74.00	76.40	78.08	79.76	81.43	83.11	84.79
4	30	3	28.35	29.72	35.75	33.17	51.55	53.38	53.42	53.20	55.75	56.66	58.50	61.25	60.28	59.97	64.07	66.33	68.59	70.86	73.12	75.38	76.60	77.82	79.04	80.26	81.48
4	30	4	27.92	29.43	36.02	33.31	51.82	53.38	53.33	52.58	55.76	56.93	58.76	60.96	59.53	59.48	64.50	66.77	69.04	71.30	73.57	75.84	77.16	78.48	79.81	81.13	82.45
4	30	5	30.54	30.03	37.18	34.59	52.98	53.66	53.42	52.58	56.76	59.19	60.64	61.58	61.02	59.70	65.80	68.20	70.60	72.99	75.39	77.79	78.81	79.83	80.85	81.87	82.89
4	30	6	32.89	31.08	39.37	37.44	55.43	56.61	54.21	52.99	60.37	62.26	64.68	64.41	61.96	60.39	67.90	70.37	72.84	75.30	77.77	80.24	80.99	81.74	82.50	83.25	84.00
4	30	7	37.74	33.92	43.48	39.69	58.22	60.53	56.11	53.90	62.04	64.09	68.13	67.74	64.92	61.51	71.00	73.16	75.32	77.49	79.65	81.81	82.86	83.91	84.96	86.01	87.06
4	30	8	43.52	37.16	47.76	42.93	60.14	63.73	58.27	55.35	64.36	65.64	70.68	71.33	67.02	65.05	71.83	75.08	78.33	81.58	84.83	88.08	88.55	89.02	89.49	89.96	90.43
4	30	9	45.06	40.90	49.37	45.86	61.41	65.07	60.30	57.12	67.88	67.31	70.81	72.55	68.60	68.35	71.95	75.60	79.24	82.89	86.53	90.18	90.94	91.70	92.45	93.21	93.97
4	30	10	46.57	43.16	49.50	46.86	63.43	70.71	62.61	58.43	68.47	68.89	70.81	73.67	70.36	68.80	74.00	77.36	80.71	84.07	87.42	90.78	92.00	93.22	94.43	95.65	96.87
4	30	11	47.23	44.38	50.02	48.95	66.00	86.72	63.60	59.29	71.26	69.16	75.50	74.92	71.03	68.69	74.89	78.66	82.43	86.20	89.97	93.74	94.66	95.58	96.49	97.41	98.33

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
4	30	12	49.57	44.09	50.61	48.95	68.20	85.38	63.47	59.83	71.54	69.38	78.65	79.71	70.77	68.63	74.84	78.62	82.40	86.18	89.96	93.74	94.74	95.75	96.75	97.76	98.76
4	30	13	50.28	43.92	49.91	48.73	67.22	69.99	62.12	59.78	71.11	69.48	73.98	75.77	70.36	68.63	75.58	78.87	82.16	85.44	88.73	92.02	93.59	95.16	96.72	98.29	99.86
4	30	14	48.94	43.66	49.53	48.24	66.27	71.34	61.45	60.14	70.50	70.31	79.50	74.83	70.12	68.63	75.59	78.68	81.77	84.87	87.96	91.05	92.88	94.70	96.53	98.35	100.18
4	30	15	48.39	43.92	49.53	47.73	64.59	65.10	60.98	60.27	68.81	69.16	72.25	72.29	69.95	68.63	75.61	78.62	81.64	84.65	87.67	90.68	92.28	93.89	95.49	97.10	98.70
4	30	16	45.63	44.10	49.37	47.69	63.48	65.02	60.50	60.74	68.81	69.16	72.17	71.56	69.90	68.63	75.59	78.61	81.63	84.64	87.66	90.68	92.24	93.80	95.36	96.92	98.48
4	30	17	45.37	44.16	48.88	47.55	63.02	63.82	60.50	61.24	68.36	68.89	72.15	71.39	69.63	69.05	75.29	78.37	81.45	84.52	87.60	90.68	92.34	93.99	95.65	97.30	98.96
4	30	18	44.90	44.11	47.96	46.66	62.93	64.50	60.36	61.95	67.88	68.02	72.09	69.33	69.70	69.65	75.06	78.18	81.31	84.43	87.56	90.68	92.61	94.53	96.46	98.38	100.31
4	30	19	43.35	43.71	47.76	46.53	63.48	64.91	60.07	62.46	66.43	68.48	72.09	68.94	68.47	71.05	74.84	77.84	80.83	83.83	86.82	89.82	92.20	94.59	96.97	99.36	101.74
4	30	20	46.35	43.74	47.76	46.53	64.92	65.04	61.45	62.84	66.15	68.48	73.30	69.79	68.41	71.22	74.84	77.79	80.73	83.68	86.62	89.57	92.06	94.55	97.04	99.53	102.02
4	30	21	52.75	44.16	48.20	47.45	65.19	69.48	63.13	64.42	68.45	69.16	81.65	70.93	68.61	72.54	75.42	78.47	81.52	84.58	87.63	90.68	93.66	96.63	99.61	102.58	105.56
4	30	22	45.06	43.54	48.01	46.89	62.91	66.86	61.84	63.64	68.15	68.48	72.25	69.05	69.20	71.40	74.79	77.97	81.15	84.32	87.50	90.68	92.95	95.22	97.48	99.75	102.02
4	30	23	41.88	39.20	46.02	43.78	58.85	62.02	58.65	61.60	64.06	66.33	70.02	67.97	67.01	70.11	72.62	75.43	78.24	81.06	83.87	86.68	89.37	92.07	94.76	97.46	100.15
4	30	24	35.92	34.69	40.23	38.04	56.09	57.82	57.42	58.89	60.75	63.74	65.60	65.01	65.01	68.64	69.40	71.75	74.11	76.46	78.82	81.17	84.21	87.24	90.28	93.31	96.35
5	1	1	31.49	30.79	35.89	35.17	53.99	55.27	54.22	56.04	56.76	59.40	61.53	62.60	61.05	66.59	66.18	68.14	70.11	72.07	74.04	76.00	78.80	81.60	84.41	87.21	90.01
5	1	2	28.98	29.43	34.82	34.05	52.13	53.40	53.54	54.80	55.86	58.13	59.64	60.70	59.94	64.39	64.50	66.44	68.38	70.31	72.25	74.19	76.85	79.52	82.18	84.85	87.51
5	1	3	28.39	28.59	33.90	33.31	51.91	53.00	52.89	54.18	55.63	57.64	59.02	59.99	58.83	63.61	63.43	65.55	67.67	69.78	71.90	74.02	76.52	79.01	81.51	84.00	86.50
5	1	4	27.78	28.52	34.24	33.19	52.05	52.84	52.69	54.60	55.67	57.78	58.82	59.61	58.39	64.13	63.43	65.59	67.75	69.90	72.06	74.22	76.69	79.17	81.64	84.12	86.59
5	1	5	28.27	28.61	35.30	34.47	53.30	54.20	52.88	55.97	56.36	59.21	60.55	60.13	58.83	65.86	64.55	66.74	68.94	71.13	73.33	75.52	78.14	80.75	83.37	85.98	88.60
5	1	6	29.13	29.17	38.44	37.41	56.70	57.47	53.42	57.58	58.90	61.76	64.28	61.22	59.18	68.81	67.84	70.06	72.28	74.50	76.72	78.94	81.74	84.55	87.35	90.16	92.96
5	1	7	32.39	31.82	40.52	39.14	58.07	59.85	55.45	59.43	62.15	64.58	68.04	64.09	61.55	70.38	69.51	71.76	74.01	76.27	78.52	80.77	83.69	86.61	89.54	92.46	95.38
5	1	8	35.92	33.24	45.18	43.07	60.44	61.99	56.45	62.60	63.90	66.22	69.83	65.06	63.29	73.82	72.62	75.11	77.61	80.10	82.60	85.09	87.98	90.87	93.76	96.65	99.54
5	1	9	38.92	35.24	45.79	46.66	61.16	63.33	57.88	64.92	64.38	67.93	70.68	67.11	65.20	74.57	75.00	76.86	78.71	80.57	82.42	84.28	87.44	90.60	93.75	96.91	100.07
5	1	10	41.98	38.29	47.45	48.24	61.50	63.82	59.14	65.57	67.02	69.15	70.81	68.53	66.93	74.99	75.71	77.87	80.03	82.19	84.35	86.51	89.30	92.09	94.89	97.68	100.47
5	1	11	43.55	39.81	48.13	48.95	62.52	64.58	59.73	67.18	67.85	69.79	70.86	68.34	67.01	76.23	75.92	78.41	80.89	83.38	85.86	88.35	90.87	93.39	95.91	98.43	100.95
5	1	12	43.16	40.85	48.29	49.89	62.29	63.82	59.93	68.06	67.85	68.89	71.87	68.34	67.03	77.01	75.91	78.35	80.78	83.22	85.65	88.09	90.72	93.35	95.98	98.61	101.24
5	1	13	41.78	41.56	49.47	48.24	61.50	63.82	59.93	68.04	68.81	67.58	71.48	68.20	67.03	77.01	74.94	78.09	81.24	84.38	87.53	90.68	92.85	95.03	97.20	99.38	101.55
5	1	14	40.00	41.00	49.47	47.82	61.61	63.82	59.93	68.06	69.53	67.58	70.81	67.64	67.02	77.01	74.84	78.01	81.18	84.34	87.51	90.68	92.88	95.07	97.27	99.46	101.66
5	1	15	40.14	40.64	48.88	47.73	61.40	63.33	59.73	66.16	68.15	67.86	70.52	67.58	67.01	76.03	74.89	77.99	81.09	84.19	87.29	90.39	92.71	95.04	97.36	99.69	102.01
5	1	16	39.72	40.67	48.81	48.04	61.47	63.14	59.42	65.61	68.45	68.48	71.20	66.92	67.01	74.99	75.15	78.16	81.17	84.17	87.18	90.19	92.49	94.79	97.08	99.38	101.68
5	1	17	39.65	41.37	48.13	49.10	62.18	62.53	59.73	65.34	67.90	69.74	70.46	66.83	67.04	74.69	75.29	78.25	81.21	84.17	87.13	90.09	92.46	94.84	97.21	99.59	101.96
5	1	18	39.37	41.88	48.02	47.73	61.98	62.13	59.73	64.80	67.68	68.59	69.79	66.90	67.67	74.26	74.84	77.89	80.94	83.99	87.04	90.09	92.32	94.55	96.78	99.01	101.24
5	1	19	39.66	41.87	47.80	46.40	62.38	62.72	60.07	64.46	67.68	68.01	69.59	66.53	68.42	74.03	74.40	77.57	80.74	83.91	87.08	90.25	92.29	94.34	96.38	98.43	100.47
5	1	20	40.45	41.87	47.80	46.05	62.93	63.33	61.45	64.17	67.39	67.93	70.25	67.18	68.42	74.22	74.66	77.76	80.86	83.97	87.07	90.17	92.23	94.29	96.35	98.41	100.47
5	1	21	40.86	42.32	49.37	46.71	61.73	63.52	62.63	64.80	68.47	67.93	70.78	68.61	70.27	74.93	75.11	78.22	81.34	84.45	87.57	90.68	92.94	95.20	97.47	99.73	101.99
5	1	22	40.52	42.40	48.01	45.98	61.34	61.89	62.22	64.56	67.02	67.48	69.53	67.68	69.78	74.35	74.20	77.05	79.91	82.76	85.62	88.47	90.97	93.47	95.97	98.47	100.97
5	1	23	36.37	42.31	45.40	43.07	59.93	61.36	61.33	62.32	63.89	66.52	67.20	65.70	68.35	73.12	72.87	75.20	77.53	79.85	82.18	84.51	87.34	90.18	93.01	95.85	98.68
5	1	24	32.83	37.90	39.71	38.15	57.24	57.41	59.12	58.07	60.37	63.47	64.93	65.00	67.01	69.06	70.64	72.55	74.45	76.36	78.26	80.17	82.86	85.54	88.23	90.91	93.60
5	2	1	28.77	33.64	36.21	35.61	53.57	55.04	56.78	55.53	56.47	59.69	61.29	60.76	65.08	64.64	67.96	69.56	71.15	72.75	74.34	75.94	78.38	80.81	83.25	85.68	88.12
5	2	2	27.59	32.25	34.50	34.94	52.19	53.27	55.23	53.95	55.39	58.88	58.97	59.74	63.40	62.80	67.17	68.52	69.87	71.23	72.58	73.93	76.07	78.21	80.34	82.48	84.62
5	2	3	26.68	32.05	33.64	34.28	51.71	52.47	54.94	53.64	54.67	58.44	57.44	58.89	62.47	62.40	66.66	67.90	69.14	70.37	71.61	72.85	75.04	77.24	79.43	81.63	83.82
5	2	4	26.35	32.10	33.81	34.35	51.65	53.01	55.05	53.69	54.82	58.44	57.29	58.78	62.93	62.91	66.80	68.02	69.23	70.45	71.66	72.88	75.12	77.36	79.60	81.84	84.08
5	2	5	26.40	32.67	34.96	35.19	52.70	53.38	56.03	54.22	55.96	58.88	58.15	58.80	64.44	63.63	67.34	68.73	70.11	71.50	72.88	74.27	76.56	78.85	81.14	83.43	85.72
5	2	6	27.35	36.13	38.27	37.25	56.09	53.91	57.83	57.48	58.67	62.95	59.45	59.21	67.03	68.68	69.67	71.45	73.23	75.00	76.78	78.56	81.13	83.70	86.27	88.84	91.41
5	2	7	29.32	39.09	40.28	39.92	57.58	57.44	59.81	59.63	60.77	64.09	62.58	61.35	68.75	69.50	71.56	73.40	75.24	77.09	78.93	80.77	83.65	86.53	89.42	92.30	95.18
5	2	8	30.62	43.43	46.08	45.86	58.83	59.74	62.18	62.55	63.89	68.89	65.60	62.96	71.23	71.18	74.84	76.80	78.76	80.73	82.69	84.65	87.43	90.21	93.00	95.78	98.56
5	2	9	33.04	45.72	47.76	48.08	59.73	61.29	64.13	62.86	65.40	70.66	67.27	64.94	72.05	71.58	75.97	78.40	80.83	83.26	85.69	88.12	90.02	91.92	93.83	95.73	97.63
5	2	10	35.88	46.60	48.88	49.27	60.98	63.82	65.11	64.31	66.78	71.76	68.47	65.41	73.00	72.20	76.70	79.40	82.10	84.80	87.50	90.20	92.09	93.98	95.87	97.76	99.65
5	2	11	36.04	47.40	49.50	50.61	63.32	64.69	66.10	65.24	68.68	73.31	69.11	65.63	74.61	72.78	78.38	80.84	83.30	85.76	88.22	90.68	92.64	94.60	96.55	98.51	100.47
5	2	12	36.33	48.33	49.66	52.53	62.33	64.43	67.24	65.24	68.54	74.78	69.18	65.80	76.14	72.71	80.30	82.38	84.45	86.53	88.60	90.68	92.64	94.59	96.55	98.50	100.46
5	2	13	37.01	47.49	49.47	52.89	61.40	63.84	67.14	65.64	67.83	74.87	68.99	65.82	75.40	73.92	81.54	83.23	84.91	86.60	88.28	89.97	92.52	95.06	97.61	100.15	102.70
5	2	14	37.25	47.49	49.09	55.09	61.94	63.52	67.24	65.94	67.85	76.67	68.23	65.77	75.32	74.31	87.63	88.13	88.63	89.12	89.62	90.12	92.80	95.48	98.17	100.85	103.53
5	2	15	37.11	46.89	49.09	55.58	60.78	62.45	67.01	65.57	67.65	83.93	68.04	65.63	74.47	74.12	97.35	95.84	94.33	92.83	91.32	89.81	92.43	95.04	97.66	100.27	102.89
5	2	16	37.35	46.64	49.37	79.13	60.94	62.08	66.58	65.42	67.90	96.50	67.60	65.66	73.36	74.12	100.17	98.21	96.24	94.28	92.31	90.35	92.86	95.37	97.87	100.38	102.89
5	2	17	38.11	46.67	48.93	79.13	60.93	62.08	65.85	65.24	68.47	93.86	67.66	65.91	72.66	73.75	98.72	97.11	95.50	93.90	92.29	90.68	93.12	95.56	98.00	100.44	102.88
5	2	18	38.73	46.37	48.04	50.73	61.18	62.08	64.13	65.22	67.68	75.03	67.65	66.43	72.42	73.94	82.49	84.11	85.73	87.34	88.96	90.58	93.04	95.50	97.95	100.41	102.87
5	2	19	39.65	44.75	47.81	48.64	60.61	61.87	62.26	64.65	67.02	70.21	66.62	66.70	72.33	74.26	76.01	78.88	81.75	84.61	87.48	90.35	92.85	95.36	97.86	100.37	102.87
5	2	20	39.86	44.72	48.01	47.73	61.17	63.25	62.32	64.91	66.72	69.87	66.62	67.96	72.36	74.26	75.71	78.68	81.65	84.62	87.59	90.56	92.85	95.13	97.42	99.70	101.99
5	2	21	40.45	46.60	49.17	48.02	62.52	63.82	64.13	65.93	67.70	69.84	67.45	68.90	72.65	75.00	75.87	78.77	81.67	84.58	87.48	90.38	92.91	95.44	97.96	100.49	103.02
5	2	22	41.17	45.67	48.23	46.79	60.34	63.17	62.44	64.56	66.35	69.15	66.18	68.55	72.05	73.74	75.59	78.35	81.11	83.87	86.63	89.39	91.92	94.45	96.99	99.52	102.05

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	2	23	38.13	42.36	47.30	45.71	59.02	59.79	62.01	62.60	64.36	68.06	64.93	67.71	70.77	71.49	74.61	77.06	79.51	81.95	84.40	86.85	89.23	91.60	93.98	96.35	98.73
5	2	24	34.18	38.13	40.54	38.09	56.54	58.21	59.08	58.07	61.43	64.12	62.84	65.00	67.02	68.93	70.94	73.05	75.16	77.26	79.37	81.48	83.87	86.26	88.64	91.03	93.42
5	3	1	29.32	32.65	37.90	35.04	53.11	53.68	55.81	55.80	57.10	58.44	58.31	64.06	62.83	64.84	66.97	69.16	71.34	73.53	75.71	77.90	79.94	81.99	84.03	86.08	88.12
5	3	2	28.49	30.77	36.03	32.14	51.61	53.20	53.06	54.36	56.08	57.62	57.32	62.83	61.10	62.97	65.33	67.57	69.80	72.04	74.27	76.51	78.14	79.77	81.39	83.02	84.65
5	3	3	27.73	30.18	35.41	31.80	51.02	52.71	52.89	53.76	55.82	57.03	56.36	62.25	60.83	62.11	64.77	66.98	69.20	71.41	73.63	75.84	77.38	78.91	80.45	81.98	83.52
5	3	4	28.44	30.28	35.45	31.78	51.02	52.36	53.10	53.69	56.03	57.10	56.02	62.56	61.28	62.22	65.14	67.38	69.61	71.85	74.08	76.32	77.76	79.20	80.64	82.08	83.52
5	3	5	28.84	31.04	36.12	34.18	51.02	52.62	54.12	54.30	56.36	58.18	56.09	63.27	61.87	63.12	66.79	68.74	70.69	72.65	74.60	76.55	78.29	80.02	81.76	83.49	85.23
5	3	6	30.47	35.12	38.88	36.39	51.52	52.94	58.06	57.44	59.00	60.72	56.85	65.00	65.84	68.67	69.16	71.40	73.64	75.88	78.12	80.36	82.41	84.47	86.52	88.58	90.63
5	3	7	34.07	39.15	41.49	38.52	53.74	53.91	60.07	59.55	62.15	63.34	59.44	66.38	68.02	69.36	70.68	73.00	75.32	77.64	79.96	82.28	84.83	87.38	89.94	92.49	95.04
5	3	8	38.11	42.64	47.76	41.65	55.93	56.90	61.95	63.11	65.29	65.88	60.98	69.47	69.77	72.94	73.19	76.17	79.15	82.14	85.12	88.10	90.47	92.84	95.20	97.57	99.94
5	3	9	41.28	45.67	49.47	43.62	57.58	58.72	63.48	65.24	67.14	67.58	63.10	71.40	69.51	75.22	74.89	78.02	81.15	84.27	87.40	90.53	92.52	94.51	96.49	98.48	100.47
5	3	10	42.32	46.89	49.90	46.25	58.54	59.57	64.26	67.01	67.90	69.16	64.36	72.10	71.04	77.09	75.71	78.62	81.54	84.45	87.37	90.28	92.54	94.80	97.07	99.33	101.59
5	3	11	43.66	47.35	50.33	47.82	59.41	59.37	65.27	68.06	70.67	70.31	64.61	72.84	71.60	77.34	75.94	79.41	82.89	86.36	89.84	93.31	95.06	96.82	98.57	100.33	102.08
5	3	12	45.02	47.35	51.85	48.88	59.00	59.74	65.36	67.20	72.79	70.99	64.83	74.28	71.48	77.25	77.23	80.85	84.46	88.08	91.69	95.31	97.02	98.73	100.45	102.16	103.87
5	3	13	45.06	47.83	52.33	48.94	58.32	59.35	66.54	66.15	72.85	72.03	65.34	74.47	72.87	74.40	78.82	81.62	84.42	87.21	90.01	92.81	94.58	96.36	98.13	99.91	101.68
5	3	14	45.06	47.29	56.01	50.41	58.23	59.22	66.75	65.89	80.15	72.71	65.41	75.07	73.38	74.53	80.23	83.59	86.95	90.31	93.67	97.03	97.87	98.71	99.56	100.40	101.24
5	3	15	43.89	46.94	63.94	50.20	58.32	59.21	66.51	66.09	90.52	72.42	65.57	73.73	72.50	73.76	80.26	83.78	87.31	90.83	94.36	97.88	98.64	99.40	100.16	100.92	101.68
5	3	16	42.73	46.89	88.34	51.10	58.33	59.36	65.85	67.69	110.88	73.13	65.66	72.44	72.57	74.13	84.36	87.02	89.68	92.35	95.01	97.67	98.78	99.89	101.00	102.11	103.22
5	3	17	42.83	46.85	88.34	52.28	58.83	59.60	64.90	67.77	108.98	72.99	65.81	71.62	72.53	74.32	84.36	86.98	89.59	92.21	94.82	97.44	98.64	99.84	101.05	102.25	103.45
5	3	18	42.77	46.60	50.31	49.40	58.59	59.90	63.72	66.77	80.39	71.60	66.45	71.27	72.66	74.23	84.36	85.63	86.90	88.16	89.43	90.70	93.14	95.58	98.02	100.46	102.90
5	3	19	42.31	46.01	49.66	48.29	58.33	60.90	62.40	65.89	71.70	70.53	67.53	69.93	72.66	73.75	76.82	79.62	82.42	85.23	88.03	90.83	93.21	95.58	97.96	100.33	102.71
5	3	20	42.31	46.44	49.37	48.67	58.71	61.49	63.05	65.89	69.18	70.15	67.67	69.93	72.71	73.75	76.09	79.01	81.93	84.85	87.77	90.69	93.13	95.57	98.00	100.44	102.88
5	3	21	42.58	46.89	49.87	49.18	59.52	63.60	64.78	65.83	69.04	73.04	69.18	71.40	73.33	73.73	80.41	82.47	84.52	86.58	88.63	90.69	93.13	95.57	98.01	100.45	102.89
5	3	22	42.06	46.60	48.72	47.45	58.66	64.22	63.17	65.57	67.89	70.83	68.47	70.84	72.60	73.56	76.87	79.46	82.05	84.64	87.23	89.82	92.26	94.70	97.14	99.58	102.02
5	3	23	37.19	44.62	47.87	44.36	57.10	60.72	62.12	63.11	66.12	69.64	67.26	69.00	70.63	72.78	74.84	77.49	80.14	82.79	85.44	88.09	90.41	92.72	95.04	97.35	99.67
5	3	24	32.43	37.79	41.38	39.37	54.63	59.12	58.56	59.53	60.93	65.52	65.26	65.12	67.01	69.84	71.80	73.80	75.80	77.81	79.81	81.81	84.59	87.37	90.15	92.93	95.71
5	4	1	28.93	32.98	36.37	35.75	51.96	55.90	55.82	56.29	55.90	61.34	60.95	62.63	63.03	66.17	69.37	70.81	72.25	73.69	75.13	76.57	79.37	82.17	84.98	87.78	90.58
5	4	2	27.20	30.76	34.07	32.96	51.01	53.66	52.73	55.86	54.24	58.44	59.64	60.23	61.37	64.65	67.45	68.77	70.08	71.40	72.71	74.03	77.02	80.02	83.01	86.01	89.00
5	4	3	26.79	29.94	33.03	32.37	50.23	53.46	52.11	54.45	53.89	58.05	59.02	59.75	60.83	63.91	66.20	67.61	69.02	70.42	71.83	73.24	75.77	78.31	80.84	83.38	85.91
5	4	4	26.89	29.72	32.94	31.59	49.62	53.53	52.19	54.45	54.15	58.08	59.50	59.93	60.98	64.46	66.09	67.61	69.12	70.64	72.15	73.67	76.14	78.61	81.07	83.54	86.01
5	4	5	27.72	30.88	34.78	31.76	49.75	55.01	53.42	55.49	55.46	57.92	60.92	61.24	61.59	65.42	65.71	67.74	69.76	71.79	73.81	75.84	78.43	81.03	83.62	86.22	88.81
5	4	6	30.30	34.99	37.74	32.77	50.52	57.90	57.68	58.01	57.33	58.07	63.68	64.09	65.76	68.69	66.11	68.75	71.39	74.02	76.66	79.30	82.07	84.84	87.61	90.38	93.15
5	4	7	34.80	38.89	39.89	35.51	52.31	59.22	59.42	60.46	60.65	59.23	65.60	66.25	67.90	70.54	67.96	70.66	73.36	76.07	78.77	81.47	84.44	87.41	90.37	93.34	96.31
5	4	8	38.54	42.66	45.25	36.74	53.57	60.38	61.69	64.80	63.89	62.26	67.93	68.35	71.70	74.40	69.41	72.49	75.57	78.65	81.73	84.81	87.94	91.07	94.21	97.34	100.47
5	4	9	40.69	46.60	47.77	39.57	56.62	62.02	63.72	67.03	66.45	64.74	69.52	68.69	73.18	75.95	71.18	74.49	77.79	81.10	84.40	87.71	90.56	93.41	96.26	99.11	101.96
5	4	10	42.46	47.02	49.37	42.07	57.70	62.92	64.93	68.04	67.65	66.52	70.02	69.84	73.83	76.12	72.53	76.13	79.73	83.33	86.93	90.53	93.09	95.66	98.22	100.79	103.35
5	4	11	43.56	47.42	49.70	44.21	57.77	63.82	65.85	70.47	68.45	68.60	70.44	71.39	75.40	77.33	74.43	77.68	80.93	84.18	87.43	90.68	93.73	96.78	99.83	102.88	105.93
5	4	12	44.69	47.42	49.91	45.05	57.84	64.88	66.02	71.82	68.91	69.64	71.80	71.36	73.95	78.32	75.11	78.22	81.34	84.45	87.57	90.68	94.46	98.24	102.03	105.81	109.59
5	4	13	45.28	47.40	50.38	45.86	57.91	63.82	66.02	72.88	71.23	69.84	71.80	72.44	72.65	78.54	75.11	78.40	81.68	84.97	88.25	91.54	95.20	98.86	102.52	106.18	109.84
5	4	14	45.48	47.17	51.34	47.36	57.70	65.10	65.85	83.42	73.24	69.74	72.17	72.10	72.61	86.81	74.93	78.95	82.97	87.00	91.02	95.04	99.22	103.41	107.59	111.78	115.96
5	4	15	44.72	46.94	51.98	47.81	57.77	65.02	64.92	94.86	76.89	71.25	70.81	71.40	72.27	108.27	77.39	80.45	83.51	86.56	89.62	92.68	97.83	102.97	108.12	113.26	118.41
5	4	16	44.61	46.89	55.40	48.22	58.33	64.47	65.85	99.35	78.00	71.52	70.18	71.27	72.88	116.25	77.55	80.86	84.18	87.49	90.81	94.12	99.39	104.66	109.93	115.20	120.47
5	4	17	43.66	46.94	54.60	48.60	58.83	64.17	65.85	90.91	74.75	71.69	69.84	70.45	73.18	114.44	78.02	81.27	84.52	87.78	91.03	94.28	99.28	104.28	109.29	114.29	119.29
5	4	18	42.96	46.67	49.50	48.64	58.93	63.17	64.13	74.16	71.18	71.73	69.29	70.92	72.80	79.58	77.53	80.77	84.01	87.24	90.48	93.72	96.66	99.60	102.53	105.47	108.41
5	4	19	42.83	45.70	48.19	47.38	58.95	62.66	62.85	67.80	68.51	71.26	69.10	70.93	72.16	76.23	76.74	79.98	83.22	86.46	89.70	92.94	95.43	97.93	100.42	102.92	105.41
5	4	20	42.77	46.44	48.07	46.87	59.88	62.47	63.83	66.29	68.47	69.48	69.60	70.92	72.16	74.87	75.29	78.78	82.27	85.75	89.24	92.73	95.05	97.37	99.68	102.00	104.32
5	4	21	43.29	46.69	49.33	47.15	62.74	63.58	65.85	66.63	70.67	70.56	70.02	71.39	72.42	74.44	75.05	79.14	83.23	87.31	91.40	95.49	97.41	99.34	101.26	103.19	105.11
5	4	22	42.41	46.17	48.04	45.07	58.82	62.43	63.17	65.57	68.01	68.57	70.01	70.15	72.06	74.01	74.89	78.07	81.25	84.44	87.62	90.80	93.22	95.64	98.07	100.49	102.91
5	4	23	37.51	45.67	48.10	40.74	57.46	60.41	62.59	65.25	66.43	65.58	68.14	68.42	69.90	73.32	71.83	75.49	79.14	82.80	86.45	90.11	92.17	94.23	96.28	98.34	100.40
5	4	24	32.66	39.09	42.87	37.79	55.45	58.08	59.79	59.36	62.29	63.11	64.36	65.07	67.32	69.15	69.77	72.52	75.27	78.02	80.77	83.52	85.90	88.28	90.65	93.03	95.41
5	5	1	29.11	33.87	37.92	33.75	54.08	53.91	55.97	55.78	58.43	58.83	60.57	62.72	63.99	65.26	66.58	69.31	72.04	74.78	77.51	80.24	82.05	83.87	85.68	87.50	89.31
5	5	2	27.38	32.64	34.46	32.06	52.05	52.85	54.53	54.25	55.56	57.11	58.36	60.06	62.27	63.11	64.81	67.15	69.49	71.84	74.18	76.52	78.54	80.56	82.58	84.60	86.62
5	5	3	26.87	31.05	33.68	31.23	52.18	51.65	53.83	53.61	54.89	56.28	57.48	59.59	61.72	62.80	63.20	65.71	68.22	70.72	73.23	75.74	77.71	79.68	81.65	83.62	85.59
5	5	4	26.80	31.08	33.44	30.76	52.23	51.82	53.95	53.44	54.87	55.75	57.56	59.62	61.81	62.85	62.69	65.29	67.88	70.48	73.07	75.67	77.68	79.69	81.71	83.72	85.73
5	5	5	28.30	32.89	33.43	30.27	54.30	53.11	55.97	53.94	54.57	55.10	58.97	61.00	63.15	63.73	61.89	64.65	67.41	70.17	72.93	75.69	77.96	80.23	82.51	84.78	87.05
5	5	6	30.08	36.67	34.12	30.53	57.24	57.24	58.61	56.43	54.91	55.60	62.42	64.13	67.01	67.63	62.49	65.26	68.02	70.79	73.55	76.32	79.52	82.72	85.92	89.12	92.32
5	5	7	34.34	40.10	36.19	33.00	57.38	58.87	60.56	58.55	56.13	56.52	64.58	66.29	68.82	69.76	64.50	67.27	70.03	72.80	75.56	78.33	81.77	85.21	88.64	92.08	95.52
5	5	8	38.84	46.64	38.67	34.52	59.40	60.77	63.17	62.32	58.39	58.22	67.29	69.30	72.41	71.75	66.97	69.74	72.51	75.27	78.04	80.81	84.49	88.18	91.86	95.55	99.23
5	5	9	40.86	47.52	40.41	36.51	61.05	61.36	66.02	64.01	61.27	60.59	67.53	71.39	73.29	73.14	68.48	71.25	74.02	76.80	79.57	82.34	85.96	89.59	93.21	96.84	100.46

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	5	10	43.22	47.85	44.35	38.00	62.47	62.54	66.41	65.21	63.52	63.35	68.84	72.53	73.43	74.13	69.83	73.05	76.28	79.50	82.73	85.95	88.95	91.95	94.94	97.94	100.94
5	5	11	43.60	48.54	46.65	39.42	62.83	63.46	68.28	65.82	64.47	64.47	69.32	72.84	74.39	74.54	70.69	74.16	77.64	81.11	84.59	88.06	91.12	94.18	97.23	100.29	103.35
5	5	12	45.25	50.37	47.26	40.48	63.91	63.82	69.34	66.82	65.54	65.49	69.32	72.97	77.59	75.95	71.40	75.04	78.67	82.31	85.94	89.58	92.62	95.65	98.69	101.72	104.76
5	5	13	45.09	50.57	47.51	41.73	64.55	64.50	69.96	68.13	66.46	65.58	70.11	72.49	78.20	76.56	71.70	75.49	79.28	83.08	86.87	90.66	93.63	96.60	99.57	102.54	105.51
5	5	14	45.05	53.77	47.51	43.97	66.22	64.91	72.03	69.17	67.00	66.29	70.11	72.29	88.44	78.02	72.06	75.78	79.50	83.23	86.95	90.67	94.32	97.98	101.63	105.29	108.94
5	5	15	45.09	63.92	47.76	44.39	66.32	64.33	91.15	73.07	68.52	67.52	69.96	71.41	101.74	79.09	73.06	76.60	80.15	83.69	87.24	90.78	93.67	96.57	99.46	102.36	105.25
5	5	16	44.61	81.78	48.02	46.05	62.57	63.82	98.47	73.88	68.57	69.36	69.96	72.39	108.92	79.75	75.09	78.50	81.91	85.31	88.72	92.13	94.87	97.61	100.35	103.09	105.83
5	5	17	44.78	83.75	48.12	47.16	63.30	63.82	111.64	78.19	69.06	71.26	69.67	72.27	101.92	85.95	76.51	79.78	83.05	86.31	89.58	92.85	95.46	98.07	100.68	103.29	105.90
5	5	18	43.70	51.99	47.80	46.76	62.39	63.19	68.59	73.45	68.91	70.98	69.67	71.36	76.57	78.71	75.98	79.21	82.44	85.68	88.91	92.14	94.88	97.61	100.35	103.08	105.82
5	5	19	42.83	48.36	47.40	46.86	59.95	62.29	65.76	67.71	68.26	69.43	70.02	70.28	73.36	75.30	76.36	79.32	82.29	85.25	88.22	91.18	93.87	96.57	99.26	101.96	104.65
5	5	20	42.84	47.72	46.72	48.19	59.95	63.09	65.62	66.77	66.99	69.64	70.02	70.15	72.83	74.69	76.51	79.34	82.17	85.00	87.83	90.66	93.48	96.31	99.13	101.96	104.78
5	5	21	43.66	48.19	47.45	51.49	60.64	63.82	65.85	67.70	66.66	71.91	70.44	71.27	72.92	77.22	79.87	82.13	84.39	86.65	88.91	91.17	94.12	97.06	100.01	102.95	105.90
5	5	22	42.34	46.89	47.02	48.24	59.73	62.47	63.72	65.91	64.57	70.98	69.42	69.93	72.26	74.40	76.26	78.92	81.58	84.25	86.91	89.57	92.43	95.29	98.14	101.00	103.86
5	5	23	39.26	46.89	42.77	44.32	58.84	61.23	62.32	65.25	62.82	67.39	67.44	69.62	71.23	72.98	73.20	75.58	77.96	80.33	82.71	85.09	88.42	91.75	95.07	98.40	101.73
5	5	24	34.49	39.32	38.84	39.53	57.42	58.40	59.14	60.43	59.26	65.08	64.95	66.02	67.19	69.99	71.54	73.53	75.51	77.50	79.48	81.47	85.00	88.53	92.07	95.60	99.13
5	6	1	29.82	33.27	34.97	37.23	52.18	54.35	55.91	57.09	55.89	60.82	60.57	64.25	62.81	68.50	68.48	70.18	71.88	73.58	75.28	76.98	79.84	82.69	85.55	88.40	91.26
5	6	2	29.03	31.04	33.56	36.08	51.19	52.83	52.93	55.37	54.34	59.17	58.22	62.31	61.55	66.31	67.41	68.96	70.51	72.07	73.62	75.17	77.94	80.70	83.47	86.23	89.00
5	6	3	27.73	30.32	32.98	35.92	50.65	51.89	52.29	54.67	53.69	59.00	57.18	61.07	60.98	65.13	66.49	67.90	69.31	70.71	72.12	73.53	76.32	79.11	81.90	84.69	87.48
5	6	4	27.73	30.25	32.38	35.39	50.73	51.90	52.34	54.85	53.67	58.59	57.21	61.28	60.77	64.63	66.52	67.74	68.96	70.19	71.41	72.63	75.52	78.40	81.29	84.17	87.06
5	6	5	29.31	31.04	31.86	36.53	51.65	53.38	53.01	54.47	52.97	59.37	58.75	63.30	61.72	64.35	67.45	68.18	68.91	69.63	70.36	71.09	74.28	77.48	80.67	83.87	87.06
5	6	6	31.97	33.98	32.13	38.70	55.98	57.44	57.10	54.79	53.49	63.10	62.50	65.00	65.20	65.41	69.70	70.18	70.66	71.13	71.61	72.09	75.17	78.25	81.32	84.40	87.48
5	6	7	36.06	38.47	33.38	41.91	57.11	58.87	58.20	55.50	54.33	65.23	64.27	66.50	67.58	67.24	71.57	72.09	72.62	73.14	73.67	74.19	77.19	80.19	83.20	86.20	89.20
5	6	8	40.95	43.48	35.44	45.73	59.31	60.67	61.20	57.59	55.96	68.17	68.41	70.84	69.67	68.67	74.79	75.36	75.93	76.50	77.07	77.64	80.65	83.67	86.68	89.70	92.71
5	6	9	43.37	46.67	38.29	47.59	60.12	61.68	62.35	60.06	58.26	69.88	70.02	72.57	71.23	68.97	75.68	76.59	77.50	78.42	79.33	80.24	83.23	86.22	89.20	92.19	95.18
5	6	10	43.72	47.32	39.43	48.08	62.65	63.33	63.72	62.63	60.83	70.56	71.80	72.58	72.16	70.45	76.97	78.00	79.02	80.05	81.07	82.10	85.60	89.10	92.59	96.09	99.59
5	6	11	44.28	47.72	41.34	48.49	62.89	64.49	64.71	64.31	62.52	71.91	72.15	74.34	72.61	72.64	77.77	78.94	80.11	81.28	82.45	83.62	86.99	90.35	93.72	97.08	100.45
5	6	12	48.64	48.53	43.13	49.03	63.91	64.71	65.85	65.34	63.21	72.70	70.56	75.23	73.06	74.20	78.19	79.52	80.85	82.19	83.52	84.85	87.97	91.09	94.21	97.33	100.45
5	6	13	48.89	48.85	44.13	50.21	64.24	64.91	67.85	65.82	63.90	73.63	69.94	76.24	74.68	73.47	79.15	80.59	82.04	83.48	84.93	86.37	89.19	92.00	94.82	97.63	100.45
5	6	14	51.45	50.38	45.00	51.29	65.14	64.91	69.96	65.82	65.18	74.49	69.90	82.62	77.19	74.93	79.72	81.35	82.98	84.62	86.25	87.88	90.66	93.44	96.22	99.00	101.78
5	6	15	75.10	52.90	45.33	52.71	65.74	64.31	72.66	66.77	66.22	75.79	69.82	99.19	80.92	75.05	80.38	82.15	83.92	85.69	87.46	89.23	91.74	94.25	96.77	99.28	101.79
5	6	16	82.81	58.20	46.23	55.00	62.52	64.32	75.36	66.79	67.23	77.74	70.02	108.00	83.22	75.10	81.54	83.36	85.18	87.01	88.83	90.65	92.99	95.33	97.68	100.02	102.36
5	6	17	85.81	52.76	46.96	55.00	61.65	64.06	80.10	68.11	69.62	76.31	70.04	97.20	95.31	77.70	81.54	83.66	85.77	87.89	90.00	92.12	94.56	97.00	99.44	101.88	104.32
5	6	18	47.94	49.58	46.72	50.61	61.35	63.56	67.59	67.22	69.36	71.92	69.67	76.90	78.03	75.53	77.22	80.20	83.17	86.15	89.12	92.10	94.44	96.78	99.11	101.45	103.79
5	6	19	45.36	47.86	47.30	48.80	60.66	62.24	65.05	66.53	68.42	70.25	69.11	71.68	72.66	74.72	75.89	78.77	81.64	84.52	87.39	90.27	92.57	94.87	97.18	99.48	101.78
5	6	20	44.61	47.85	47.76	48.09	60.29	62.13	64.93	65.57	67.23	68.69	69.30	71.30	72.81	74.26	75.29	78.34	81.39	84.43	87.48	90.53	92.75	94.97	97.18	99.40	101.62
5	6	21	44.57	48.53	50.18	48.47	61.49	63.33	66.02	65.89	70.80	69.11	69.83	71.41	74.68	73.17	75.65	78.65	81.65	84.66	87.66	90.66	92.89	95.12	97.34	99.57	101.80
5	6	22	43.54	47.17	48.93	46.94	60.64	61.68	64.23	65.57	67.25	67.30	69.03	70.11	73.10	73.76	74.93	77.86	80.79	83.72	86.65	89.58	91.75	93.93	96.10	98.28	100.45
5	6	23	41.38	46.96	46.00	44.85	59.93	60.60	63.83	61.59	64.23	66.42	68.94	69.81	71.50	70.05	73.12	75.76	78.39	81.03	83.66	86.30	88.66	91.03	93.39	95.76	98.12
5	6	24	34.46	39.92	40.32	38.38	56.59	58.18	60.07	58.86	61.74	63.14	65.60	65.27	68.15	68.67	70.36	72.90	75.44	77.98	80.52	83.06	85.05	87.04	89.03	91.02	93.01
5	7	1	29.48	34.34	38.03	35.36	52.27	54.51	55.97	56.87	57.66	58.76	60.74	62.81	66.02	66.44	67.25	69.45	71.66	73.86	76.07	78.27	80.42	82.56	84.71	86.85	89.00
5	7	2	27.49	32.53	36.42	32.98	51.01	53.00	54.85	55.27	56.52	57.22	59.72	59.89	64.09	63.81	64.45	66.92	69.39	71.87	74.34	76.81	78.73	80.64	82.56	84.47	86.39
5	7	3	26.80	32.18	35.85	32.28	50.71	52.50	54.01	54.27	55.91	56.60	58.78	59.64	62.56	62.72	63.22	65.86	68.49	71.13	73.76	76.40	78.13	79.86	81.58	83.31	85.04
5	7	4	26.65	31.76	35.70	32.26	50.54	52.69	53.69	53.61	56.00	56.47	58.92	59.65	62.27	62.05	63.15	65.83	68.51	71.19	73.87	76.55	78.17	79.79	81.40	83.02	84.64
5	7	5	27.41	31.71	37.04	33.02	51.34	53.89	53.69	53.10	56.77	57.01	60.47	60.42	62.23	61.22	64.50	67.23	69.95	72.68	75.40	78.13	78.99	79.85	80.71	81.57	82.43
5	7	6	30.42	31.79	39.71	36.45	56.09	57.79	54.59	53.48	60.28	58.88	64.06	64.25	63.26	61.70	67.77	70.26	72.76	75.25	77.75	80.24	81.07	81.89	82.72	83.54	84.37
5	7	7	34.32	32.98	41.80	38.54	56.78	59.22	55.45	53.84	62.52	63.22	65.60	65.01	64.25	63.00	70.32	72.62	74.92	77.21	79.51	81.81	82.46	83.10	83.75	84.39	85.04
5	7	8	38.52	36.15	47.30	43.19	59.02	61.43	56.86	55.63	67.02	65.58	69.84	68.11	66.94	65.86	72.05	74.73	77.42	80.10	82.79	85.47	86.09	86.72	87.34	87.97	88.59
5	7	9	41.36	40.58	48.14	47.18	59.93	63.77	58.62	57.30	68.47	68.43	70.86	69.25	68.27	67.84	75.00	77.48	79.97	82.45	84.94	87.42	88.25	89.08	89.92	90.75	91.58
5	7	10	43.28	44.67	49.37	48.67	60.67	64.91	61.21	59.31	69.05	70.83	71.67	70.75	69.87	68.99	76.22	78.73	81.25	83.76	86.28	88.79	89.89	90.99	92.10	93.20	94.30
5	7	11	43.57	46.90	50.20	50.60	61.65	65.02	61.69	60.59	70.30	73.22	73.43	71.36	71.00	69.38	78.54	80.97	83.39	85.82	88.24	90.67	91.68	92.68	93.69	94.69	95.70
5	7	12	45.85	47.40	50.76	51.53	63.89	66.51	62.12	60.97	70.22	74.22	75.28	72.31	72.04	69.76	80.14	82.25	84.35	86.46	88.56	90.67	92.00	93.33	94.67	96.00	97.33
5	7	13	45.85	46.94	51.62	54.03	64.43	66.63	63.37	62.05	72.11	75.54	76.29	72.84	72.41	70.83	80.99	83.12	85.26	87.39	89.53	91.66	93.17	94.68	96.19	97.70	99.21
5	7	14	48.27	46.94	52.92	58.57	66.22	71.19	64.23	63.64	75.65	77.12	85.30	74.34	72.41	72.05	81.86	84.15	86.44	88.73	91.02	93.31	94.74	96.17	97.59	99.02	100.45
5	7	15	47.78	47.29	55.95	63.49	63.05	82.72	65.84	64.50	75.98	78.56	118.43	78.94	72.79	73.26	82.77	85.22	87.67	90.11	92.56	95.01	96.17	97.32	98.48	99.63	100.79
5	7	16	48.27	47.29	57.73	73.91	63.83	98.66	64.76	65.69	81.48	84.34	117.90	78.38	73.29	74.53	90.10	91.11	92.11	93.12	94.12	95.13	96.46	97.79	99.12	100.45	101.78
5	7	17	72.71	47.40	57.22	86.02	66.08	85.00	66.79	67.01	77.18	87.60	123.20	88.80	74.54	74.99	99.03	98.25	97.48	96.70	95.93	95.15	96.48	97.81	99.14	100.47	101.80
5	7	18	46.18	47.14	50.76	56.69	63.45	67.30	64.76	66.58	70.34	76.53	80.84	76.38	73.10	74.99	85.23	86.75	88.27	89.78	91.30	92.82	94.62	96.41	98.21	100.00	101.80
5	7	19	44.39	46.67	49.37	52.71	62.76	65.39	64.30	66.27	67.81	74.20	71.66	73.10	72.60	74.85	80.85	82.81	84.78	86.74	88.71	90.67	92.89	95.12	97.34	99.57	101.79
5	7	20	44.34	46.60	48.66	51.50	61.09	64.52	62.86	66.16	67.00	73.60	70.63	71.57	71.76	75.00	79.70	81.74	83.78	85.83	87.87	89.91	92.29	94.67	97.04	99.42	101.80

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	7	21	45.36	46.94	49.47	51.49	63.28	64.46	63.37	68.16	67.00	73.62	70.68	73.73	72.15	105.24	79.76	81.83	83.90	85.98	88.05	90.12	93.30	96.49	99.67	102.86	106.04
5	7	22	44.13	46.60	48.02	49.48	60.77	63.20	61.53	66.13	64.62	71.67	69.83	71.35	71.80	76.33	77.57	79.44	81.31	83.18	85.05	86.92	89.99	93.05	96.12	99.18	102.25
5	7	23	41.98	41.42	46.27	47.33	59.93	61.74	58.59	62.73	63.42	68.89	69.42	69.96	69.10	74.03	75.00	76.84	78.68	80.52	82.36	84.20	87.45	90.70	93.94	97.19	100.44
5	7	24	36.06	36.60	39.52	39.96	57.49	57.80	56.66	59.71	59.16	65.16	65.16	66.57	67.01	70.62	71.09	72.92	74.75	76.58	78.41	80.24	83.75	87.26	90.77	94.28	97.79
5	8	1	30.68	32.77	35.23	35.51	53.91	54.58	55.45	56.66	55.86	60.06	60.74	64.09	64.26	68.28	67.10	69.04	70.99	72.93	74.88	76.82	79.49	82.15	84.82	87.48	90.15
5	8	2	29.17	31.64	33.32	33.44	52.24	52.47	54.21	55.37	53.74	58.00	58.47	62.31	62.32	66.58	65.27	66.97	68.67	70.37	72.07	73.77	76.75	79.73	82.70	85.68	88.66
5	8	3	28.53	30.35	32.92	32.30	51.50	51.64	52.67	54.98	53.19	56.92	57.95	61.32	61.04	66.29	64.19	65.97	67.76	69.54	71.33	73.11	76.11	79.11	82.10	85.10	88.10
5	8	4	28.09	29.36	32.76	31.42	51.69	51.51	51.83	55.08	52.87	56.28	57.84	60.93	59.87	66.65	63.15	65.09	67.04	68.98	70.93	72.87	75.95	79.03	82.11	85.19	88.27
5	8	5	27.84	28.98	33.32	32.88	52.70	52.64	52.72	55.77	53.67	57.25	58.56	60.78	59.38	68.13	64.24	66.17	68.11	70.04	71.98	73.91	77.08	80.26	83.43	86.61	89.78
5	8	6	28.53	29.20	36.44	36.29	56.31	56.81	52.53	57.61	56.92	58.13	62.42	61.32	60.28	69.91	67.17	69.29	71.41	73.52	75.64	77.76	80.98	84.20	87.43	90.65	93.87
5	8	7	29.53	30.07	39.91	38.08	57.76	57.80	54.37	60.51	58.36	62.19	64.52	62.62	61.25	72.27	69.56	71.84	74.12	76.39	78.67	80.95	84.25	87.56	90.86	94.17	97.47
5	8	8	32.36	32.27	44.73	42.66	59.59	60.14	55.05	64.31	62.17	64.44	67.44	64.94	63.39	74.47	71.84	74.31	76.78	79.26	81.73	84.20	87.50	90.79	94.09	97.38	100.68
5	8	9	36.06	35.01	47.92	44.97	61.71	61.29	57.09	65.69	64.57	66.62	68.65	66.20	65.52	74.53	73.66	76.90	80.14	83.37	86.61	89.85	92.20	94.55	96.89	99.24	101.59
5	8	10	39.34	38.72	50.17	47.18	62.83	62.73	58.63	66.37	66.50	67.90	69.82	67.79	67.02	75.14	74.94	78.10	81.26	84.42	87.58	90.74	92.68	94.63	96.57	98.52	100.46
5	8	11	42.41	40.42	51.63	49.77	63.91	63.68	59.34	67.20	68.22	69.38	70.07	69.25	67.61	76.10	76.33	79.43	82.53	85.63	88.73	91.83	93.86	95.90	97.93	99.97	102.00
5	8	12	43.04	41.46	52.38	50.73	64.55	64.86	60.16	67.98	72.81	70.99	71.12	70.11	67.90	77.43	75.92	79.67	83.41	87.16	90.90	94.65	96.74	98.83	100.92	103.01	105.10
5	8	13	43.76	43.12	52.91	51.91	67.52	65.39	61.53	68.24	74.20	72.81	72.63	70.48	68.90	78.19	77.60	81.32	85.04	88.76	92.48	96.20	98.69	101.18	103.68	106.17	108.66
5	8	14	44.78	43.95	54.97	52.71	72.31	66.97	61.53	68.75	77.15	72.70	74.28	70.78	69.68	79.19	79.25	83.04	86.83	90.63	94.42	98.21	99.93	101.65	103.38	105.10	106.82
5	8	15	50.17	44.94	60.35	52.71	79.78	71.05	62.78	69.67	79.78	73.42	74.93	70.82	70.51	80.41	79.70	83.14	86.58	90.03	93.47	96.91	98.92	100.93	102.94	104.95	106.96
5	8	16	49.50	45.67	63.60	52.02	94.04	72.72	63.87	70.20	89.91	74.92	76.70	71.45	71.45	86.23	80.45	84.28	88.12	91.95	95.79	99.62	101.06	102.50	103.94	105.38	106.82
5	8	17	50.15	46.67	70.72	52.87	89.29	73.86	66.09	70.65	107.78	76.43	77.67	71.93	72.42	86.21	80.30	84.39	88.49	92.58	96.68	100.77	101.91	103.04	104.18	105.31	106.45
5	8	18	49.50	46.67	59.78	52.86	73.42	70.59	64.76	68.18	77.50	74.92	72.58	71.45	72.41	78.30	78.00	81.52	85.03	88.55	92.06	95.58	97.42	99.25	101.09	102.92	104.76
5	8	19	45.94	46.01	54.45	50.86	65.43	64.99	63.87	66.29	72.39	71.76	70.12	70.54	71.69	76.19	77.28	80.85	84.42	87.99	91.56	95.13	96.79	98.46	100.12	101.79	103.45
5	8	20	43.79	46.89	52.39	50.52	62.76	63.60	64.93	64.97	71.16	71.26	70.11	70.45	72.41	74.93	76.61	80.27	83.93	87.60	91.26	94.92	96.33	97.74	99.14	100.55	101.96
5	8	21	43.84	62.24	52.06	50.73	64.50	63.82	70.28	65.25	71.16	71.76	71.23	70.43	73.70	74.91	77.19	80.68	84.17	87.67	91.16	94.65	96.13	97.62	99.10	100.59	102.07
5	8	22	42.83	50.33	50.45	48.03	61.65	63.33	64.13	63.94	68.36	70.22	69.82	69.98	72.66	73.39	75.83	78.80	81.77	84.74	87.71	90.68	92.63	94.59	96.54	98.50	100.45
5	8	23	37.20	45.48	48.04	46.79	60.21	63.07	61.45	61.58	63.91	66.30	69.18	67.61	70.37	71.58	72.46	75.93	79.40	82.88	86.35	89.82	91.95	94.07	96.20	98.32	100.45
5	8	24	33.47	39.35	41.40	39.20	56.69	58.65	58.62	57.67	60.49	63.40	65.90	64.93	68.42	68.90	69.70	72.36	75.02	77.67	80.33	82.99	85.11	87.23	89.36	91.48	93.60
5	9	1	29.73	34.99	36.13	36.00	52.58	56.06	56.18	54.83	56.08	58.15	62.41	62.23	65.20	65.66	66.09	68.50	70.91	73.32	75.73	78.14	80.18	82.21	84.25	86.28	88.32
5	9	2	28.72	33.80	33.72	34.02	51.26	54.09	55.81	53.53	54.49	56.53	60.82	60.49	63.92	63.95	64.30	66.44	68.57	70.71	72.84	74.98	77.08	79.18	81.27	83.37	85.47
5	9	3	27.72	32.82	33.10	32.05	50.73	53.38	55.33	52.98	53.78	55.34	59.39	59.46	63.25	63.16	61.67	64.12	66.57	69.01	71.46	73.91	76.09	78.26	80.44	82.61	84.79
5	9	4	26.79	32.70	32.76	31.24	50.58	53.18	55.75	52.82	53.49	54.71	59.50	58.96	63.29	63.55	58.33	61.30	64.27	67.23	70.20	73.17	75.49	77.80	80.12	82.43	84.75
5	9	5	26.39	33.80	33.43	33.54	51.39	53.20	56.08	53.35	53.82	57.00	58.90	58.78	64.64	64.18	62.38	64.73	67.07	69.42	71.76	74.11	76.33	78.56	80.78	83.01	85.23
5	9	6	26.79	37.53	36.56	36.19	55.25	54.02	58.44	55.37	56.24	58.18	60.64	59.03	67.03	67.09	66.15	68.28	70.42	72.55	74.69	76.82	79.32	81.82	84.31	86.81	89.31
5	9	7	27.37	42.31	39.82	38.04	56.54	55.27	60.07	57.31	58.03	60.93	61.74	59.61	69.49	68.67	68.25	70.44	72.64	74.83	77.03	79.22	81.93	84.64	87.35	90.06	92.77
5	9	8	29.66	46.80	44.75	42.18	58.67	57.18	62.38	60.81	62.16	63.81	63.27	61.60	71.48	72.33	71.01	73.49	75.96	78.44	80.91	83.39	86.50	89.61	92.72	95.83	98.94
5	9	9	31.69	47.85	47.51	46.02	60.44	58.72	64.71	63.68	63.66	65.50	65.59	64.26	72.62	73.94	71.84	74.61	77.39	80.16	82.94	85.71	88.66	91.61	94.57	97.52	100.47
5	9	10	35.12	48.85	48.20	47.82	61.00	60.21	64.90	65.61	64.57	66.63	67.61	65.19	73.32	75.24	73.95	76.82	79.68	82.55	85.41	88.28	91.24	94.20	97.15	100.11	103.07
5	9	11	36.32	49.23	50.67	48.67	62.15	61.79	65.24	68.11	66.82	68.89	69.42	66.55	73.95	78.10	74.93	78.08	81.23	84.37	87.52	90.67	93.54	96.41	99.27	102.14	105.01
5	9	12	37.36	49.62	51.63	51.31	64.51	63.09	66.05	69.12	67.80	69.87	70.18	67.61	74.47	80.35	75.80	78.77	81.75	84.72	87.70	90.67	94.12	97.57	101.03	104.48	107.93
5	9	13	39.64	49.78	51.95	52.59	66.84	63.82	67.26	69.60	68.81	71.05	70.63	68.42	74.89	82.46	76.09	79.23	82.38	85.52	88.67	91.81	95.22	98.63	102.03	105.44	108.85
5	9	14	41.20	50.39	52.84	55.90	72.42	65.14	70.18	73.60	71.04	73.31	70.44	68.61	75.76	84.84	78.32	81.27	84.22	87.17	90.12	93.07	96.29	99.51	102.72	105.94	109.16
5	9	15	42.99	50.64	54.20	54.60	73.02	65.72	72.26	76.84	74.20	76.05	71.21	69.30	77.42	90.47	78.36	81.66	84.95	88.25	91.54	94.84	97.78	100.72	103.67	106.61	109.55
5	9	16	43.84	58.95	54.71	52.87	75.48	66.90	78.63	88.10	77.18	83.08	71.54	70.18	80.32	102.84	79.98	82.99	85.99	89.00	92.00	95.01	98.11	101.22	104.32	107.43	110.53
5	9	17	44.68	54.83	53.93	53.39	78.03	68.64	79.03	105.62	77.05	78.92	71.98	71.10	86.88	115.28	79.65	82.80	85.95	89.09	92.24	95.39	99.16	102.94	106.71	110.49	114.26
5	9	18	44.39	49.42	52.84	52.64	70.46	66.90	66.41	74.42	72.84	75.45	71.54	70.65	76.65	89.86	78.31	81.69	85.07	88.45	91.83	95.21	98.14	101.06	103.99	106.91	109.84
5	9	19	43.72	48.48	50.17	51.05	65.08	65.62	65.05	69.13	70.33	73.31	71.21	70.43	75.33	82.56	76.00	79.36	82.72	86.09	89.45	92.81	96.06	99.30	102.55	105.79	109.04
5	9	20	43.84	48.19	49.50	49.93	64.77	63.44	63.55	68.36	68.81	73.04	69.83	70.94	72.62	81.86	75.59	78.80	82.00	85.21	88.41	91.62	94.86	98.10	101.33	104.57	107.81
5	9	21	59.37	48.62	50.91	51.27	65.19	63.82	64.88	68.63	67.96	72.80	70.44	72.25	72.92	80.85	75.87	79.03	82.19	85.34	88.50	91.66	94.61	97.56	100.50	103.45	106.40
5	9	22	46.55	47.72	49.37	49.55	61.76	61.51	62.74	65.89	66.82	69.83	70.02	72.29	72.37	76.44	75.16	78.26	81.36	84.46	87.56	90.66	93.46	96.26	99.05	101.85	104.65
5	9	23	40.74	45.67	46.85	46.02	60.21	59.12	61.78	64.01	63.44	65.83	66.82	69.57	69.41	73.85	71.92	74.66	77.40	80.15	82.89	85.63	88.60	91.56	94.53	97.49	100.46
5	9	24	35.98	38.54	40.59	38.87	57.12	56.84	58.91	59.03	59.53	63.10	63.98	66.54	67.19	69.67	69.70	71.71	73.72	75.74	77.75	79.76	82.95	86.14	89.32	92.51	95.70
5	10	1	31.52	32.93	35.49	35.60	54.08	54.51	55.97	55.37	55.78	58.17	60.94	63.76	64.32	66.45	65.85	67.91	69.98	72.04	74.11	76.17	78.88	81.60	84.31	87.03	89.74
5	10	2	29.99	31.78	34.09	33.49	51.98	53.58	54.95	54.23	54.39	56.73	59.64	62.31	62.53	65.26	64.19	65.97	67.75	69.54	71.32	73.10	75.97	78.84	81.72	84.59	87.46
5	10	3	29.50	30.72	32.49	32.09	51.59	53.31	54.14	53.61	52.95	56.28	58.41	62.16	61.65	64.13	63.40	64.94	66.47	68.01	69.54	71.08	73.94	76.79	79.65	82.50	85.36
5	10	4	29.51	30.53	31.99	32.02	51.00	52.34	54.22	53.28	52.66	56.05	57.39	62.26	61.79	63.20	63.15	64.51	65.86	67.22	68.57	69.93	72.90	75.87	78.85	81.82	84.79
5	10	5	30.47	31.15	33.47	32.96	50.96	52.15	55.01	53.76	54.21	56.96	57.02	63.28	62.61	64.02	64.10	65.64	67.17	68.71	70.24	71.78	74.61	77.43	80.26	83.08	85.91
5	10	6	33.82	33.95	35.91	36.80	51.73	52.17	56.78	55.39	55.86	58.88	57.14	65.01	65.18	65.65	67.22	68.97	70.73	72.48	74.24	75.99	78.60	81.21	83.82	86.43	89.04
5	10	7	37.59	37.97	38.47	38.54	52.35	53.54	57.88	57.28	57.71	63.14	58.69	66.50	67.03	68.16	69.24	71.00	72.76	74.53	76.29	78.05	80.80	83.55	86.29	89.04	91.79

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	10	8	42.11	43.42	42.77	43.77	54.78	54.07	60.94	60.31	60.90	65.50	60.52	69.26	69.67	70.42	71.84	73.73	75.62	77.50	79.39	81.28	84.54	87.80	91.06	94.32	97.58
5	10	9	43.54	47.12	45.79	46.79	56.69	56.16	62.42	62.49	62.54	67.31	62.78	71.36	72.06	72.64	73.19	75.29	77.39	79.49	81.59	83.69	86.91	90.13	93.35	96.57	99.79
5	10	10	45.83	48.92	47.51	48.09	58.28	57.24	64.94	64.56	63.84	68.47	64.36	72.43	73.48	73.92	74.66	76.99	79.32	81.66	83.99	86.32	89.15	91.98	94.81	97.64	100.47
5	10	11	46.08	49.87	49.14	49.02	59.79	58.08	67.83	66.09	65.85	69.60	65.32	72.89	75.00	75.32	75.80	78.69	81.59	84.48	87.38	90.27	92.55	94.83	97.12	99.40	101.68
5	10	12	47.78	51.45	50.33	49.80	60.98	58.97	70.62	67.01	67.96	70.53	65.90	73.10	76.10	76.18	77.11	79.82	82.53	85.25	87.96	90.67	93.32	95.97	98.63	101.28	103.93
5	10	13	48.29	52.47	52.11	53.57	62.60	59.60	74.10	68.37	71.04	72.70	66.43	76.11	78.70	78.89	78.16	80.94	83.72	86.49	89.27	92.05	94.66	97.27	99.88	102.49	105.10
5	10	14	50.72	56.00	57.22	55.90	64.91	60.63	77.44	71.59	76.08	74.38	67.37	75.86	81.87	83.63	81.91	84.30	86.69	89.09	91.48	93.87	96.17	98.48	100.78	103.09	105.39
5	10	15	52.34	63.28	58.12	55.00	64.76	61.58	83.12	82.12	77.18	80.33	68.57	78.31	88.33	89.61	82.04	84.55	87.05	89.56	92.06	94.57	96.73	98.90	101.06	103.23	105.39
5	10	16	54.15	67.72	58.12	53.61	65.79	61.97	86.65	93.35	76.90	78.42	70.46	80.34	101.61	86.21	82.59	85.04	87.49	89.94	92.39	94.84	96.89	98.94	101.00	103.05	105.10
5	10	17	54.15	63.17	57.20	52.92	68.38	63.33	100.23	91.70	73.50	77.14	72.25	80.69	105.14	87.46	81.32	84.33	87.34	90.35	93.36	96.37	98.20	100.04	101.87	103.71	105.54
5	10	18	48.44	55.07	51.19	49.77	66.69	63.19	79.23	76.14	71.49	74.92	71.82	73.16	88.86	85.68	78.94	82.12	85.30	88.48	91.66	94.84	96.95	99.06	101.17	103.28	105.39
5	10	19	46.41	51.96	50.12	49.55	63.82	62.47	74.30	69.47	69.13	73.02	71.20	71.58	78.26	78.93	77.41	80.41	83.40	86.40	89.39	92.39	94.84	97.29	99.75	102.20	104.65
5	10	20	45.83	50.02	49.12	48.47	62.96	63.50	72.26	67.58	69.01	72.42	71.44	70.48	76.55	76.70	75.71	79.08	82.46	85.83	89.21	92.58	94.82	97.07	99.31	101.56	103.80
5	10	21	46.02	50.15	49.47	49.55	64.60	65.07	71.93	67.56	69.59	73.02	78.67	71.36	76.55	75.98	76.84	80.21	83.59	86.96	90.34	93.71	95.73	97.75	99.76	101.78	103.80
5	10	22	44.69	49.03	48.04	48.47	60.18	63.60	66.02	65.58	67.63	69.94	73.43	68.88	73.44	74.53	75.86	78.79	81.73	84.66	87.60	90.53	93.00	95.47	97.95	100.42	102.89
5	10	23	39.60	46.81	46.66	47.73	57.46	60.14	63.28	62.32	63.34	67.59	69.29	69.00	70.81	71.10	74.79	76.95	79.12	81.28	83.45	85.61	88.41	91.21	94.01	96.81	99.61
5	10	24	33.78	39.76	39.71	41.73	54.95	58.20	59.42	58.45	58.76	64.09	65.67	65.01	67.05	68.81	71.33	73.05	74.77	76.50	78.22	79.94	82.76	85.58	88.39	91.21	94.03
5	11	1	30.14	33.18	35.49	37.33	53.01	56.39	55.97	55.93	55.66	59.32	62.24	62.04	64.32	64.82	67.82	69.44	71.06	72.67	74.29	75.91	78.38	80.85	83.33	85.80	88.27
5	11	2	29.04	31.79	33.51	36.08	51.71	54.35	54.71	54.49	53.79	58.72	60.33	60.26	62.83	63.16	67.01	68.38	69.75	71.12	72.49	73.86	76.20	78.54	80.89	83.23	85.57
5	11	3	28.47	30.78	32.94	34.49	51.00	54.07	53.34	53.76	53.45	58.02	60.48	59.72	61.59	61.94	65.68	67.14	68.60	70.06	71.52	72.98	75.06	77.14	79.22	81.30	83.38
5	11	4	28.47	30.42	32.49	33.83	50.12	54.20	53.20	53.26	53.46	57.28	60.59	59.89	61.05	61.25	64.50	66.20	67.89	69.59	71.28	72.98	74.55	76.12	77.70	79.27	80.84
5	11	5	28.84	31.02	33.14	33.67	49.71	56.04	54.03	53.69	53.94	57.14	62.13	60.36	61.81	62.89	64.38	66.31	68.24	70.17	72.10	74.03	76.03	78.02	80.02	82.01	84.01
5	11	6	30.65	33.89	36.93	34.40	50.49	58.64	56.36	55.47	56.06	57.94	64.58	63.13	64.29	64.90	65.29	67.86	70.43	73.00	75.57	78.14	80.11	82.08	84.04	86.01	87.98
5	11	7	34.12	36.68	39.58	35.53	51.00	59.56	57.58	57.44	58.65	58.57	66.82	65.01	66.17	67.64	66.20	68.96	71.72	74.48	77.24	80.00	82.13	84.25	86.38	88.50	90.63
5	11	8	38.89	42.12	44.63	37.49	53.19	62.02	60.75	59.69	61.90	60.15	69.33	67.93	68.77	68.99	67.83	70.94	74.05	77.16	80.27	83.38	85.55	87.72	89.88	92.05	94.22
5	11	9	44.02	46.21	46.55	38.90	55.01	63.84	61.69	61.92	63.56	62.69	70.06	69.93	70.12	70.21	70.10	73.22	76.34	79.47	82.59	85.71	88.09	90.47	92.85	95.23	97.61
5	11	10	45.86	46.94	48.02	42.14	55.99	65.10	62.86	62.91	64.03	63.75	71.71	71.39	71.30	71.58	71.82	75.25	78.67	82.10	85.52	88.95	90.97	92.99	95.02	97.04	99.06
5	11	11	46.50	49.18	49.38	45.36	57.01	66.44	65.27	64.84	66.11	65.49	72.19	73.34	73.22	72.83	71.84	75.56	79.28	83.00	86.72	90.44	92.39	94.34	96.29	98.24	100.19
5	11	12	49.25	49.87	50.67	46.93	58.28	66.23	66.09	67.41	68.63	65.82	73.03	75.44	74.24	75.24	71.88	75.83	79.78	83.72	87.67	91.62	93.67	95.72	97.76	99.81	101.86
5	11	13	50.72	51.19	52.60	46.52	59.83	67.91	66.57	69.42	70.67	66.62	73.95	77.66	76.31	78.12	71.84	76.06	80.27	84.49	88.70	92.92	94.96	97.01	99.05	101.10	103.14
5	11	14	52.48	52.50	57.41	45.81	61.45	71.66	69.76	73.60	77.98	66.67	74.72	79.74	78.47	85.38	72.29	76.59	80.89	85.20	89.50	93.80	96.05	98.30	100.56	102.81	105.06
5	11	15	53.20	54.88	58.13	45.36	62.26	77.04	71.98	72.83	77.45	66.29	75.23	86.38	79.90	85.68	72.06	76.68	81.30	85.92	90.54	95.16	97.18	99.21	101.23	103.26	105.28
5	11	16	55.28	55.28	57.86	45.36	62.85	81.34	73.17	74.86	76.12	66.23	79.05	103.23	85.93	91.83	72.48	77.02	81.56	86.11	90.65	95.19	97.59	99.98	102.38	104.77	107.17
5	11	17	54.24	53.76	55.95	45.53	63.82	79.68	71.32	71.87	73.99	66.09	76.02	114.38	82.69	91.71	72.55	77.07	81.59	86.12	90.64	95.16	97.89	100.61	103.34	106.06	108.79
5	11	18	52.44	50.58	51.65	45.65	64.66	66.43	69.96	70.32	70.84	66.09	72.35	83.65	77.79	82.69	72.35	76.66	80.97	85.29	89.60	93.91	96.46	99.01	101.57	104.12	106.67
5	11	19	50.35	49.61	49.76	44.40	63.82	64.32	67.23	68.95	69.88	65.51	70.68	78.31	75.65	78.15	71.69	75.81	79.93	84.05	88.17	92.29	94.63	96.97	99.30	101.64	103.98
5	11	20	48.27	48.62	49.37	43.13	64.57	65.01	65.83	68.75	68.45	65.15	69.82	76.22	73.60	77.21	71.84	75.68	79.51	83.35	87.18	91.02	93.51	96.00	98.48	100.97	103.46
5	11	21	48.22	50.05	49.50	44.15	68.99	65.80	65.34	69.85	70.22	65.51	69.83	76.13	75.43	77.76	71.84	75.83	79.82	83.80	87.79	91.78	94.25	96.72	99.20	101.67	104.14
5	11	22	45.94	47.76	48.96	43.97	62.76	63.51	63.58	67.56	67.78	64.46	68.84	72.66	72.65	74.31	71.84	75.60	79.37	83.13	86.90	90.66	92.71	94.76	96.82	98.87	100.92
5	11	23	43.92	46.60	47.76	39.93	59.37	61.72	61.53	62.28	64.56	62.75	67.44	70.65	70.13	70.37	69.73	73.79	77.85	81.92	85.98	90.04	91.89	93.74	95.58	97.43	99.28
5	11	24	34.93	39.64	42.62	37.68	57.12	58.72	58.07	58.84	61.27	60.15	64.04	66.38	67.18	68.17	67.78	70.80	73.83	76.85	79.88	82.90	84.91	86.91	88.92	90.92	92.93
5	12	1	30.28	33.24	38.06	35.05	55.48	55.08	55.45	55.70	56.89	57.96	60.56	62.35	63.26	63.95	65.11	67.83	70.55	73.28	76.00	78.72	80.58	82.45	84.31	86.18	88.04
5	12	2	29.04	32.09	35.64	34.00	52.88	53.67	53.45	54.79	55.63	56.58	58.62	61.29	61.46	62.81	63.83	66.41	68.99	71.56	74.14	76.72	78.54	80.35	82.17	83.98	85.80
5	12	3	28.49	31.05	34.59	32.98	52.64	53.38	53.01	53.94	54.84	55.87	57.85	59.91	59.70	62.10	62.43	65.11	67.79	70.48	73.16	75.84	77.71	79.58	81.44	83.31	85.18
5	12	4	27.73	30.42	33.80	32.58	53.03	53.38	53.05	53.84	54.08	54.99	57.92	59.76	59.19	62.00	60.64	63.49	66.35	69.20	72.06	74.91	76.89	78.86	80.84	82.81	84.79
5	12	5	28.70	31.43	33.65	32.53	54.67	53.98	53.42	54.01	54.24	54.67	58.78	59.91	60.76	63.41	59.64	62.69	65.75	68.80	71.86	74.91	77.17	79.44	81.70	83.97	86.23
5	12	6	30.47	33.69	34.33	32.62	57.58	56.36	55.97	56.01	54.61	54.81	61.41	63.13	63.41	66.31	60.72	63.73	66.74	69.76	72.77	75.78	78.66	81.54	84.43	87.31	90.19
5	12	7	32.98	36.40	35.35	32.94	58.28	56.45	57.36	57.93	55.39	55.58	63.75	64.35	65.48	68.68	62.44	65.30	68.16	71.03	73.89	76.75	80.15	83.56	86.96	90.37	93.77
5	12	8	37.87	41.52	38.07	34.76	60.67	59.98	59.73	60.45	56.87	57.03	67.26	67.44	67.04	71.00	64.72	67.63	70.54	73.46	76.37	79.28	83.00	86.71	90.43	94.14	97.86
5	12	9	41.07	45.72	40.09	36.34	62.52	62.08	61.45	62.60	58.93	59.00	69.83	69.14	67.79	72.56	66.97	69.85	72.73	75.61	78.49	81.37	84.98	88.58	92.19	95.79	99.40
5	12	10	44.61	46.94	43.13	37.83	63.91	63.81	62.10	64.10	62.14	61.45	72.02	70.41	69.34	72.56	68.76	71.74	74.72	77.71	80.69	83.67	86.99	90.32	93.64	96.97	100.29
5	12	11	45.95	48.19	44.91	38.26	65.95	67.20	64.11	65.34	63.41	62.38	73.81	71.39	70.73	74.00	69.87	73.16	76.44	79.73	83.01	86.30	89.13	91.97	94.80	97.64	100.47
5	12	12	47.59	49.24	45.30	39.14	66.85	71.57	65.22	67.88	64.23	62.86	76.54	72.58	73.44	75.73	70.29	73.84	77.40	80.95	84.51	88.06	90.86	93.67	96.47	99.28	102.08
5	12	13	49.60	50.53	45.48	40.08	67.44	74.17	69.04	69.02	63.69	63.33	78.42	75.35	76.03	77.16	70.58	74.01	77.44	80.86	84.29	87.72	90.95	94.18	97.40	100.63	103.86
5	12	14	52.48	57.16	45.53	40.48	67.44	77.12	73.25	72.95	63.69	63.40	82.96	77.03	80.32	84.14	70.47	74.10	77.73	81.37	85.00	88.63	91.71	94.79	97.88	100.96	104.04
5	12	15	52.48	61.03	45.67	40.71	67.54	79.07	72.25	72.32	63.67	63.37	90.46	77.67	81.31	86.20	70.07	73.84	77.62	81.39	85.17	88.94	92.06	95.19	98.31	101.44	104.56
5	12	16	52.24	56.54	46.23	41.76	70.00	83.74	73.25	72.61	63.69	63.77	120.26	77.60	82.34	86.74	70.30	74.20	78.11	82.01	85.92	89.82	93.09	96.36	99.62	102.89	106.16
5	12	17	51.71	54.50	45.97	42.45	69.03	98.57	73.21	70.43	63.91	64.15	118.71	75.98	81.56	86.67	70.58	74.47	78.36	82.24	86.13	90.02	92.96	95.90	98.84	101.78	104.72
5	12	18	49.87	52.06	45.48	42.64	67.23	78.36	70.50	69.50	63.87	64.39	82.86	75.12	77.19	82.82	70.84	74.44	78.04	81.64	85.24	88.84	91.78	94.72	97.65	100.59	103.53

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	12	19	47.74	50.47	45.03	42.40	64.91	75.95	69.11	67.63	63.08	64.86	79.09	73.53	75.74	78.12	71.40	74.55	77.70	80.84	83.99	87.14	90.04	92.94	95.84	98.74	101.64
5	12	20	46.15	49.24	44.55	43.99	63.48	72.36	68.03	67.46	62.42	65.42	75.64	71.93	75.67	77.95	71.84	74.78	77.73	80.67	83.62	86.56	89.34	92.12	94.90	97.68	100.46
5	12	21	46.94	49.72	44.54	45.59	64.78	71.46	68.47	68.57	62.33	65.64	75.64	71.84	76.20	78.77	71.84	74.77	77.70	80.64	83.57	86.50	89.29	92.08	94.88	97.67	100.46
5	12	22	45.63	47.50	43.98	45.36	61.78	65.80	64.73	67.03	61.81	65.49	72.30	71.11	73.05	74.83	71.99	74.62	77.24	79.87	82.49	85.12	88.19	91.26	94.32	97.39	100.46
5	12	23	41.88	46.60	39.96	40.48	58.87	62.47	62.02	64.62	59.26	63.56	70.34	68.00	69.25	72.83	71.54	73.62	75.69	77.77	79.84	81.92	85.63	89.34	93.04	96.75	100.46
5	12	24	34.59	39.09	38.07	38.24	56.44	59.04	58.87	59.93	56.26	61.46	65.66	65.01	67.02	69.35	69.17	71.27	73.37	75.48	77.58	79.68	82.75	85.82	88.90	91.97	95.04
5	13	1	29.71	33.25	34.60	35.27	52.91	55.22	55.42	56.44	54.26	58.08	60.48	62.30	62.10	66.60	66.05	68.13	70.21	72.30	74.38	76.46	79.17	81.88	84.59	87.30	90.01
5	13	2	28.81	32.09	33.43	33.98	51.14	53.67	53.95	55.37	53.69	56.93	59.26	60.53	61.03	64.74	64.50	66.48	68.47	70.45	72.44	74.42	77.00	79.57	82.15	84.72	87.30
5	13	3	27.85	31.05	32.79	33.38	50.27	52.81	52.85	54.49	52.81	56.31	58.11	59.55	60.21	64.01	64.24	66.06	67.89	69.71	71.54	73.36	75.83	78.31	80.78	83.26	85.73
5	13	4	27.72	30.68	32.03	33.33	50.14	52.38	52.19	53.84	52.30	56.21	57.04	58.83	59.48	63.29	64.10	65.75	67.40	69.06	70.71	72.36	74.90	77.45	79.99	82.54	85.08
5	13	5	28.02	31.53	31.69	34.53	51.52	53.38	53.60	53.76	52.01	56.41	57.75	59.84	61.49	63.29	65.19	66.52	67.86	69.19	70.53	71.86	74.49	77.12	79.76	82.39	85.02
5	13	6	29.85	34.09	31.75	37.06	53.30	55.68	56.57	54.04	52.24	58.17	60.15	62.65	64.42	63.64	67.41	68.30	69.19	70.07	70.96	71.85	74.55	77.25	79.96	82.66	85.36
5	13	7	32.61	37.78	32.43	38.86	55.11	56.45	57.83	54.98	53.00	60.51	62.74	64.48	67.02	64.64	68.97	69.78	70.59	71.40	72.21	73.02	75.79	78.56	81.33	84.10	86.87
5	13	8	38.02	41.96	34.14	41.73	57.70	58.30	60.98	56.73	54.60	63.18	66.31	65.57	69.24	67.34	71.02	71.89	72.76	73.64	74.51	75.38	78.32	81.27	84.21	87.16	90.10
5	13	9	41.64	46.44	36.49	44.23	59.93	60.53	61.94	58.45	55.78	64.09	68.03	66.78	70.93	68.68	71.61	72.95	74.29	75.64	76.98	78.32	81.16	84.00	86.85	89.69	92.53
5	13	10	43.69	47.17	38.86	44.96	61.65	62.69	62.40	60.44	57.28	65.49	69.11	68.10	71.04	69.63	72.05	73.77	75.49	77.22	78.94	80.66	83.67	86.68	89.69	92.70	95.71
5	13	11	45.21	48.80	39.48	45.79	64.78	63.82	65.00	61.91	58.15	66.25	69.83	69.00	72.59	70.77	72.87	74.63	76.39	78.15	79.91	81.67	84.85	88.03	91.22	94.40	97.58
5	13	12	47.20	49.87	40.15	46.02	68.80	66.04	66.02	63.11	58.90	66.85	70.96	71.35	74.00	71.12	73.20	75.06	76.92	78.78	80.64	82.50	85.69	88.89	92.08	95.28	98.47
5	13	13	49.25	51.19	40.98	46.58	71.42	71.53	72.40	64.07	59.78	67.01	73.03	72.10	77.08	71.62	73.22	75.20	77.19	79.17	81.16	83.14	85.76	88.38	91.00	93.62	96.24
5	13	14	52.47	56.37	41.30	46.93	72.51	76.79	74.90	64.46	60.30	67.80	73.89	74.73	80.32	71.85	74.66	76.40	78.15	79.89	81.64	83.38	85.85	88.31	90.78	93.24	95.71
5	13	15	52.49	59.73	41.08	47.24	77.40	74.85	74.40	64.47	60.27	67.55	76.54	80.24	83.67	71.77	74.12	75.97	77.81	79.66	81.50	83.35	85.92	88.50	91.07	93.65	96.22
5	13	16	55.35	58.66	42.10	47.47	82.23	78.00	72.98	64.49	60.92	67.89	80.94	82.08	82.39	72.00	74.13	76.08	78.02	79.97	81.91	83.86	86.53	89.20	91.87	94.54	97.21
5	13	17	54.24	57.99	43.10	47.62	87.11	71.47	72.23	64.47	62.00	68.38	79.72	80.70	82.23	72.08	74.40	76.46	78.53	80.59	82.66	84.72	87.24	89.76	92.29	94.81	97.33
5	13	18	50.78	51.86	43.43	47.26	79.32	70.22	69.96	64.40	62.37	68.35	76.54	75.51	78.37	71.88	74.34	76.60	78.86	81.13	83.39	85.65	87.78	89.90	92.03	94.15	96.28
5	13	19	50.04	49.87	43.52	46.33	73.01	67.81	68.15	63.11	62.15	67.50	75.05	73.71	77.08	70.83	73.22	75.79	78.37	80.94	83.52	86.09	87.88	89.68	91.47	93.27	95.06
5	13	20	49.23	48.56	44.24	45.71	70.44	65.76	66.90	62.29	62.67	66.71	71.96	73.06	75.66	70.23	73.19	75.81	78.42	81.04	83.65	86.27	87.97	89.67	91.38	93.08	94.78
5	13	21	49.16	49.72	45.07	46.52	70.64	66.23	67.86	62.60	63.46	67.44	71.71	72.92	76.37	70.23	74.10	76.92	79.73	82.55	85.36	88.18	89.52	90.86	92.19	93.53	94.87
5	13	22	45.83	48.62	44.63	45.30	63.89	63.87	65.18	61.58	63.38	66.21	69.86	70.96	74.04	69.60	73.19	76.10	79.00	81.91	84.81	87.72	89.01	90.30	91.58	92.87	94.16
5	13	23	42.45	48.61	40.95	43.07	59.93	61.74	62.22	59.82	60.88	65.01	67.13	67.45	72.06	68.33	71.83	74.13	76.44	78.74	81.05	83.35	85.19	87.02	88.86	90.69	92.53
5	13	24	35.69	41.98	38.60	38.81	56.59	58.69	59.66	57.34	57.28	61.93	63.53	65.02	67.83	66.22	70.29	72.28	74.27	76.26	78.25	80.24	82.19	84.14	86.09	88.04	89.99
5	14	1	29.51	35.64	33.82	35.51	52.91	54.02	56.27	55.58	55.06	58.72	59.00	61.60	63.60	63.67	66.15	68.31	70.47	72.64	74.80	76.96	78.75	80.54	82.33	84.12	85.91
5	14	2	28.66	33.30	33.20	33.43	51.49	53.01	54.93	53.42	54.04	57.90	57.47	60.05	61.76	62.06	64.50	66.70	68.91	71.11	73.32	75.52	77.01	78.50	79.99	81.48	82.97
5	14	3	27.94	32.42	32.60	32.96	50.83	52.53	53.37	52.66	53.69	57.10	57.36	59.24	61.44	61.00	63.62	65.78	67.93	70.09	72.24	74.40	75.41	76.42	77.44	78.45	79.46
5	14	4	27.73	31.82	32.60	32.67	50.18	51.31	52.58	52.00	53.74	55.58	56.94	59.13	61.25	59.83	62.54	64.86	67.19	69.51	71.84	74.16	73.83	73.51	73.18	72.86	72.53
5	14	5	28.76	31.70	33.42	33.41	50.93	52.56	52.19	51.88	54.80	56.56	57.73	59.80	61.16	59.17	64.28	66.42	68.56	70.70	72.84	74.98	74.20	73.42	72.65	71.87	71.09
5	14	6	30.59	32.16	35.37	36.32	52.98	55.41	53.33	52.00	56.48	58.57	59.96	63.23	61.37	58.99	66.44	68.70	70.95	73.21	75.46	77.72	75.33	72.94	70.54	68.15	65.76
5	14	7	33.53	33.12	37.75	38.92	54.87	56.21	54.80	53.71	58.01	61.27	62.04	65.02	62.42	60.96	69.05	71.32	73.59	75.85	78.12	80.39	80.27	80.14	80.02	79.89	79.77
5	14	8	38.82	36.03	39.39	42.07	56.58	57.89	56.18	55.16	61.27	64.33	64.83	67.22	65.08	62.81	71.70	73.75	75.80	77.86	79.91	81.96	82.60	83.23	83.87	84.50	85.14
5	14	9	41.86	40.80	41.48	44.37	58.46	60.14	57.68	57.02	61.62	67.44	66.39	69.04	67.23	65.07	72.67	75.32	77.98	80.63	83.29	85.94	86.58	87.21	87.85	88.48	89.12
5	14	10	43.37	44.65	43.30	45.79	60.70	62.10	59.84	58.39	62.97	67.84	67.53	69.61	68.68	66.88	73.02	75.90	78.79	81.67	84.56	87.44	88.36	89.28	90.19	91.11	92.03
5	14	11	44.62	46.60	44.45	46.79	63.79	63.35	60.57	59.11	63.56	68.43	69.33	71.17	70.61	67.75	74.23	77.09	79.95	82.82	85.68	88.54	89.42	90.30	91.17	92.05	92.93
5	14	12	46.62	46.67	44.69	47.47	66.22	66.44	60.98	59.63	63.90	68.87	71.39	72.10	71.04	68.35	74.89	77.81	80.73	83.64	86.56	89.48	90.26	91.04	91.83	92.61	93.39
5	14	13	48.75	46.60	44.98	47.67	69.86	72.08	61.44	60.31	64.26	69.15	74.25	73.36	70.81	68.67	75.31	78.16	81.02	83.87	86.73	89.58	90.48	91.38	92.29	93.19	94.09
5	14	14	49.87	45.98	45.30	47.73	75.03	82.26	61.67	60.51	65.15	69.69	77.94	80.34	70.88	68.68	75.84	78.80	81.76	84.72	87.68	90.64	91.37	92.10	92.84	93.57	94.30
5	14	15	49.87	45.83	45.33	47.82	78.50	84.11	61.84	60.43	65.37	70.36	82.57	80.34	70.48	68.68	76.82	79.50	82.18	84.85	87.53	90.21	90.99	91.78	92.56	93.35	94.13
5	14	16	50.06	45.72	45.33	47.82	78.50	96.28	61.83	60.80	65.68	70.72	94.69	78.12	70.48	68.95	76.82	79.47	82.11	84.76	87.40	90.05	90.90	91.75	92.60	93.45	94.30
5	14	17	49.87	45.72	45.30	47.73	83.92	83.39	61.84	61.58	65.83	70.83	83.24	76.90	70.48	69.46	77.39	80.02	82.65	85.27	87.90	90.53	91.45	92.37	93.28	94.20	95.12
5	14	18	48.23	45.72	45.30	47.52	75.94	72.36	61.68	62.11	65.68	70.77	75.92	74.39	69.98	69.64	77.39	80.05	82.70	85.36	88.01	90.67	91.66	92.66	93.65	94.65	95.64
5	14	19	46.28	45.12	45.07	47.35	68.97	70.22	60.92	62.28	64.36	70.51	75.16	72.27	69.14	69.96	76.94	79.56	82.17	84.79	87.40	90.02	91.16	92.30	93.43	94.57	95.71
5	14	20	45.84	44.03	44.78	46.77	67.31	68.78	60.21	62.95	63.95	69.40	74.32	71.46	69.06	70.49	76.05	78.84	81.64	84.43	87.23	90.02	91.28	92.54	93.80	95.06	96.32
5	14	21	46.28	44.94	45.14	47.09	66.43	69.19	60.08	64.10	64.85	69.49	75.26	73.52	69.20	71.20	76.19	79.09	81.98	84.88	87.77	90.67	92.28	93.88	95.49	97.09	98.70
5	14	22	45.33	43.38	44.40	45.36	63.13	63.68	58.84	62.86	63.38	68.89	70.44	71.23	67.97	71.45	75.45	78.28	81.10	83.93	86.75	89.58	91.55	93.52	95.50	97.47	99.44
5	14	23	43.76	39.89	40.80	43.55	59.55	60.85	57.69	60.58	62.17	66.25	67.37	69.72	67.01	69.38	72.61	75.44	78.28	81.11	83.95	86.78	88.50	90.22	91.94	93.66	95.38
5	14	24	38.10	36.01	38.27	38.45	56.58	57.80	56.14	58.39	58.06	63.74	63.33	66.29	64.41	67.97	70.58	72.87	75.17	77.46	79.76	82.05	83.98	85.91	87.83	89.76	91.69
5	15	1	31.79	32.47	34.21	35.91	52.79	53.67	54.30	55.93	55.34	59.99	58.79	62.31	61.72	64.52	67.70	69.69	71.68	73.66	75.65	77.64	79.64	81.64	83.65	85.65	87.65
5	15	2	29.45	29.81	33.36	34.35	51.47	52.49	52.38	54.97	54.34	58.55	57.63	60.78	59.94	62.97	65.94	67.86	69.78	71.70	73.62	75.54	77.58	79.61	81.65	83.68	85.72
5	15	3	29.03	28.91	32.83	33.86	50.79	51.30	51.31	54.46	53.82	58.10	57.06	60.15	58.81	62.00	65.11	66.92	68.73	70.53	72.34	74.15	76.25	78.35	80.44	82.54	84.64
5	15	4	28.12	28.03	32.53	33.17	50.47	51.07	49.95	54.36	53.78	57.75	57.18	59.66	57.61	61.53	64.55	66.35	68.15	69.94	71.74	73.54	75.63	77.73	79.82	81.92	84.01
5	15	5	27.84	28.04	33.43	33.54	50.93	51.79	49.48	54.72	54.45	56.82	58.44	59.67	57.19	63.40	64.86	66.77	68.68	70.58	72.49	74.40	76.57	78.73	80.90	83.06	85.23

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	15	6	28.48	28.33	35.48	36.50	53.36	55.68	49.50	57.30	56.28	58.26	60.43	60.11	57.02	66.44	67.35	69.48	71.61	73.73	75.86	77.99	80.20	82.42	84.63	86.85	89.06
5	15	7	29.42	30.20	38.47	38.69	55.15	56.34	52.54	58.39	58.36	62.26	63.66	61.04	58.97	68.26	70.14	72.43	74.72	77.00	79.29	81.58	83.69	85.81	87.92	90.04	92.15
5	15	8	32.33	32.13	40.40	42.51	57.71	58.23	54.25	61.83	61.37	66.18	67.20	62.78	61.04	68.70	72.59	75.40	78.21	81.03	83.84	86.65	88.18	89.70	91.23	92.75	94.28
5	15	9	36.01	34.35	43.41	46.07	59.40	60.21	55.45	63.11	63.55	67.98	68.84	65.02	62.97	69.64	74.43	77.51	80.59	83.68	86.76	89.84	91.23	92.62	94.00	95.39	96.78
5	15	10	38.71	37.81	45.22	47.59	61.10	62.10	57.43	64.01	63.91	69.33	69.11	67.11	65.07	70.23	76.22	78.88	81.53	84.19	86.84	89.50	91.18	92.87	94.55	96.24	97.92
5	15	11	42.41	39.11	45.80	48.08	62.84	63.55	57.61	64.80	63.91	71.25	70.11	68.10	66.04	71.10	77.55	80.00	82.46	84.91	87.37	89.82	91.70	93.58	95.46	97.34	99.22
5	15	12	42.96	40.39	46.51	48.47	66.09	67.03	57.74	64.56	64.97	71.58	72.21	68.59	67.01	71.60	77.85	80.42	82.98	85.55	88.11	90.68	92.60	94.51	96.43	98.34	100.26
5	15	13	43.62	41.00	46.55	48.72	68.67	72.08	58.59	64.56	65.50	72.37	73.82	67.96	67.09	71.58	78.02	80.55	83.08	85.62	88.15	90.68	92.62	94.56	96.51	98.45	100.39
5	15	14	43.59	41.88	47.02	49.80	70.83	78.79	58.89	65.24	67.01	74.46	79.07	67.90	67.09	72.07	78.12	80.71	83.29	85.88	88.46	91.05	92.94	94.84	96.73	98.63	100.52
5	15	15	43.09	42.05	47.24	49.96	69.04	79.10	58.95	64.66	67.37	74.05	82.86	67.70	67.05	72.19	77.71	80.49	83.28	86.06	88.85	91.63	93.40	95.17	96.93	98.70	100.47
5	15	16	43.31	42.52	47.13	49.81	68.61	78.22	59.14	64.61	67.63	74.46	83.28	67.85	67.09	72.64	77.55	80.50	83.45	86.39	89.34	92.29	93.93	95.56	97.20	98.83	100.47
5	15	17	43.36	43.33	47.13	49.88	67.76	75.48	59.97	64.65	67.62	78.50	81.84	67.96	67.56	72.92	77.89	80.90	83.91	86.92	89.93	92.94	94.45	95.95	97.46	98.96	100.47
5	15	18	41.39	43.41	46.92	49.65	68.27	69.77	60.06	64.77	66.75	73.89	76.89	67.61	68.11	72.81	77.39	80.37	83.35	86.33	89.31	92.29	93.93	95.57	97.21	98.85	100.49
5	15	19	40.18	43.14	46.51	48.22	66.89	68.07	60.02	64.13	66.18	71.58	73.89	66.57	68.54	72.39	75.77	79.07	82.38	85.68	88.99	92.29	93.93	95.56	97.20	98.83	100.47
5	15	20	39.65	43.33	46.34	47.49	66.72	66.98	60.20	63.11	64.48	69.94	72.36	65.72	68.82	72.04	74.83	78.00	81.17	84.34	87.51	90.68	92.64	94.60	96.55	98.51	100.47
5	15	21	40.50	45.67	46.47	47.52	67.87	68.29	60.88	64.14	66.02	70.62	73.03	65.87	69.97	72.68	76.95	79.73	82.51	85.30	88.08	90.86	92.78	94.70	96.63	98.55	100.47
5	15	22	39.65	46.44	45.48	46.08	62.71	65.43	60.75	62.48	63.91	69.03	71.46	65.30	69.78	71.67	75.01	78.00	80.99	83.97	86.96	89.95	91.89	93.83	95.77	97.71	99.65
5	15	23	36.04	41.04	42.20	44.02	59.64	62.08	58.46	60.85	62.29	67.32	69.83	64.51	67.44	69.64	73.19	75.95	78.71	81.46	84.22	86.98	89.10	91.22	93.34	95.46	97.58
5	15	24	32.20	37.51	38.29	37.94	56.55	59.12	56.21	57.97	59.08	62.75	65.58	62.62	65.23	68.37	69.83	72.16	74.49	76.81	79.14	81.47	83.98	86.49	89.01	91.52	94.03
5	16	1	28.84	32.25	34.96	35.05	52.06	54.87	54.13	55.37	55.89	58.76	61.16	59.73	62.06	63.79	66.15	68.54	70.93	73.33	75.72	78.11	80.23	82.35	84.48	86.60	88.72
5	16	2	26.97	31.56	33.82	33.93	50.70	53.77	52.64	53.61	55.07	57.26	59.85	57.45	61.05	61.94	64.88	67.18	69.49	71.79	74.10	76.40	78.16	79.91	81.67	83.42	85.18
5	16	3	26.15	31.14	33.47	33.81	50.08	52.96	51.66	53.18	54.59	56.95	59.02	55.89	59.89	61.00	64.74	66.93	69.12	71.32	73.51	75.70	77.25	78.80	80.36	81.91	83.46
5	16	4	25.78	31.05	33.41	33.43	49.80	52.48	51.95	52.95	54.47	56.78	58.46	54.81	59.83	60.35	64.24	66.30	68.36	70.41	72.47	74.53	76.05	77.58	79.10	80.63	82.15
5	16	5	25.66	31.84	33.67	34.14	50.39	52.39	52.98	53.94	54.55	56.90	58.50	53.87	61.37	61.92	64.85	66.90	68.95	71.01	73.06	75.11	76.89	78.67	80.45	82.23	84.01
5	16	6	25.78	33.98	35.92	36.63	54.14	53.01	55.97	56.43	56.13	59.03	58.87	53.82	64.33	66.50	67.61	69.72	71.82	73.93	76.03	78.14	80.23	82.32	84.42	86.51	88.60
5	16	7	26.90	37.67	38.42	38.22	55.87	53.54	57.50	57.87	59.40	62.77	59.70	57.31	66.87	68.25	70.17	72.43	74.69	76.95	79.21	81.47	83.84	86.21	88.59	90.96	93.33
5	16	8	29.06	41.82	42.05	42.93	57.83	55.20	59.71	61.24	62.14	66.50	61.41	59.41	67.83	69.35	72.94	75.50	78.06	80.61	83.17	85.73	87.93	90.13	92.32	94.52	96.72
5	16	9	30.73	44.66	45.04	45.86	59.93	57.22	60.54	62.86	63.45	69.08	64.22	61.47	67.88	72.64	75.84	78.21	80.58	82.95	85.32	87.69	90.00	92.31	94.62	96.93	99.24
5	16	10	33.63	46.64	46.30	48.01	61.87	59.12	61.47	63.32	64.25	70.37	65.92	63.15	69.03	72.03	76.87	79.39	81.92	84.44	86.97	89.49	91.56	93.64	95.71	97.79	99.86
5	16	11	35.48	47.20	47.24	48.58	63.42	59.74	62.10	64.56	65.93	71.86	67.20	63.98	70.34	72.07	77.71	80.27	82.84	85.40	87.97	90.53	92.52	94.51	96.49	98.48	100.47
5	16	12	36.12	47.35	47.45	49.20	66.31	60.53	62.10	65.22	67.30	73.22	67.58	64.35	71.04	72.64	77.71	80.30	82.90	85.49	88.09	90.68	92.73	94.79	96.84	98.90	100.95
5	16	13	37.35	47.52	47.54	50.65	67.95	60.90	62.10	65.13	67.91	74.22	67.87	64.61	71.04	72.83	78.17	80.75	83.33	85.92	88.50	91.08	93.20	95.32	97.44	99.56	101.68
5	16	14	38.70	48.19	48.01	51.94	77.48	61.41	62.20	65.24	69.39	75.10	67.87	64.73	72.10	74.01	80.14	82.57	85.00	87.43	89.86	92.29	94.28	96.28	98.27	100.27	102.26
5	16	15	38.97	47.69	48.18	58.09	79.10	61.43	61.69	66.36	70.84	83.36	67.94	64.96	72.00	74.81	91.02	91.41	91.79	92.18	92.56	92.95	94.83	96.71	98.59	100.47	102.35
5	16	16	39.26	46.89	49.59	85.13	76.65	61.38	61.69	66.90	70.88	108.65	68.17	65.01	71.77	75.05	120.76	115.20	109.63	104.07	98.50	92.94	95.16	97.38	99.61	101.83	104.05
5	16	17	39.65	46.73	49.47	86.22	70.24	61.40	61.54	67.43	74.48	114.41	68.25	65.12	71.16	75.15	110.85	107.37	103.89	100.42	96.94	93.46	95.67	97.88	100.10	102.31	104.52
5	16	18	40.14	46.67	48.68	52.09	66.73	61.01	61.54	67.07	70.33	75.53	67.87	65.22	71.16	74.96	78.18	81.13	84.09	87.04	90.00	92.95	94.89	96.83	98.78	100.72	102.66
5	16	19	40.14	45.84	47.36	50.61	66.67	60.50	61.52	66.65	67.81	73.52	66.70	65.10	71.05	74.49	77.45	80.39	83.33	86.27	89.21	92.15	94.27	96.40	98.52	100.65	102.77
5	16	20	40.66	45.67	46.99	49.92	65.87	59.90	61.17	65.24	66.50	72.21	66.23	66.17	71.04	74.03	76.82	79.59	82.36	85.14	87.91	90.68	92.85	95.01	97.18	99.34	101.51
5	16	21	42.96	46.44	46.92	49.97	66.43	59.84	61.53	65.24	66.15	72.25	66.44	67.72	71.50	74.30	77.21	80.03	82.84	85.66	88.47	91.29	93.23	95.17	97.12	99.06	101.00
5	16	22	42.89	45.27	45.41	48.08	65.12	58.82	60.63	64.06	64.04	69.55	65.61	68.15	71.05	73.17	75.45	78.38	81.31	84.24	87.17	90.10	92.16	94.22	96.28	98.34	100.40
5	16	23	37.20	43.10	43.80	45.36	62.27	56.72	60.11	62.60	62.73	66.60	64.14	65.69	68.83	71.52	73.63	76.14	78.65	81.17	83.68	86.19	88.76	91.33	93.90	96.47	99.04
5	16	24	32.85	38.07	38.56	39.63	57.58	55.14	56.77	58.62	58.71	62.44	61.19	63.21	66.41	68.81	69.87	71.89	73.90	75.92	77.93	79.95	82.99	86.03	89.07	92.11	95.15
5	17	1	29.49	32.72	34.96	35.87	53.27	53.58	54.46	56.00	55.58	58.22	58.31	60.64	61.96	64.84	65.63	67.66	69.69	71.72	73.75	75.78	78.66	81.53	84.41	87.28	90.16
5	17	2	29.05	31.39	33.97	34.18	51.66	51.93	52.61	54.39	54.51	56.46	57.00	59.62	59.94	63.20	64.19	66.25	68.31	70.37	72.43	74.49	76.82	79.15	81.49	83.82	86.15
5	17	3	28.83	31.00	33.78	32.72	51.01	50.70	51.99	53.82	54.15	55.17	55.93	58.75	58.94	62.88	62.01	64.43	66.84	69.26	71.67	74.09	76.34	78.60	80.85	83.11	85.36
5	17	4	28.87	30.82	33.62	32.06	50.45	49.95	51.98	53.62	53.89	54.17	54.61	58.89	58.22	62.40	59.55	62.44	65.33	68.22	71.11	74.00	76.18	78.37	80.55	82.74	84.92
5	17	5	29.47	31.82	34.08	32.96	50.06	49.56	53.41	53.94	55.02	55.68	54.11	60.15	59.37	62.17	62.71	65.15	67.59	70.03	72.47	74.91	76.96	79.02	81.07	83.13	85.18
5	17	6	31.55	33.98	36.46	35.08	50.90	49.65	56.75	56.97	56.76	57.64	53.85	62.62	64.42	66.07	66.14	68.43	70.73	73.02	75.32	77.61	80.07	82.53	84.99	87.45	89.91
5	17	7	33.72	38.68	38.72	37.40	51.59	52.08	59.15	58.31	58.95	60.04	56.07	64.35	66.49	68.67	68.52	71.09	73.66	76.23	78.80	81.37	83.98	86.59	89.20	91.81	94.42
5	17	8	36.39	42.75	42.55	41.65	55.07	53.79	60.35	62.12	62.46	63.59	57.70	65.39	67.94	71.13	71.47	74.53	77.59	80.66	83.72	86.78	89.06	91.34	93.61	95.89	98.17
5	17	9	39.07	46.04	46.23	44.21	56.72	54.77	62.11	64.01	64.17	65.73	60.70	66.38	70.99	73.76	72.98	76.28	79.58	82.89	86.19	89.49	91.56	93.63	95.71	97.78	99.85
5	17	10	42.10	46.89	47.26	46.02	58.12	56.44	62.10	64.87	67.01	67.36	62.03	67.22	71.04	74.41	74.84	77.99	81.15	84.30	87.46	90.61	92.59	94.56	96.54	98.51	100.49
5	17	11	43.33	48.53	48.02	47.29	59.73	56.90	62.64	66.58	68.29	68.71	63.65	67.93	71.23	74.77	75.89	79.15	82.42	85.68	88.95	92.21	93.96	95.71	97.46	99.21	100.96
5	17	12	44.20	48.92	48.44	48.08	59.73	57.54	63.19	68.16	69.68	69.73	64.42	68.34	71.53	75.67	77.09	80.39	83.69	86.98	90.28	93.58	95.34	97.10	98.86	100.62	102.38
5	17	13	44.75	49.02	50.05	49.78	59.59	58.23	63.72	70.14	72.79	71.81	64.82	68.34	72.77	76.30	77.44	80.88	84.32	87.76	91.20	94.64	96.38	98.13	99.87	101.62	103.36
5	17	14	45.80	49.24	50.97	54.11	59.73	58.83	63.83	76.50	74.55	74.24	65.31	69.53	73.18	79.02	79.58	82.81	86.04	89.27	92.50	95.73	97.75	99.78	101.80	103.83	105.85
5	17	15	46.05	48.53	62.18	50.73	59.22	59.10	64.63	72.62	84.37	75.36	65.58	69.57	73.18	77.11	89.17	91.01	92.84	94.68	96.51	98.35	99.80	101.26	102.71	104.17	105.62
5	17	16	44.75	49.25	81.18	53.94	59.22	59.41	65.18	71.76	104.25	75.10	65.65	69.96	73.60	76.17	99.91	103.60	107.29	110.98	114.67	118.36	115.62	112.88	110.13	107.39	104.65

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	17	17	43.41	48.53	79.72	50.29	59.22	60.27	66.04	71.76	86.24	74.27	65.81	70.11	73.70	77.42	100.24	103.96	107.68	111.39	115.11	118.83	115.99	113.15	110.31	107.47	104.63
5	17	18	43.23	47.32	50.38	49.78	59.17	60.14	64.63	71.59	73.72	73.88	65.85	70.13	72.92	76.09	78.60	81.95	85.30	88.66	92.01	95.36	96.87	98.38	99.89	101.40	102.91
5	17	19	42.83	46.65	49.61	49.50	58.83	59.46	64.28	68.43	70.75	72.95	65.71	69.93	72.71	74.49	77.67	80.95	84.24	87.52	90.81	94.09	95.85	97.61	99.36	101.12	102.88
5	17	20	42.68	46.64	48.88	49.16	58.21	59.57	62.51	66.87	69.00	72.39	65.71	69.52	72.59	73.98	77.12	80.16	83.20	86.23	89.27	92.31	94.12	95.94	97.75	99.57	101.38
5	17	21	43.09	46.94	47.95	49.88	58.52	60.41	62.59	67.00	68.75	72.81	67.26	69.93	72.89	74.53	76.76	80.00	83.24	86.48	89.72	92.96	94.71	96.47	98.22	99.98	101.73
5	17	22	42.00	46.64	47.18	47.47	57.46	59.74	61.87	64.88	66.66	70.39	67.37	69.25	71.89	73.26	76.51	79.62	82.73	85.85	88.96	92.07	93.75	95.43	97.10	98.78	100.46
5	17	23	37.87	46.29	44.78	46.32	56.19	57.80	62.40	62.12	63.41	68.02	65.24	67.84	69.47	71.60	74.11	76.54	78.98	81.41	83.85	86.28	88.60	90.91	93.23	95.54	97.86
5	17	24	33.17	38.87	38.91	40.10	53.57	56.34	57.68	58.78	58.42	64.14	62.74	65.01	67.37	68.66	70.89	72.67	74.45	76.22	78.00	79.78	82.43	85.08	87.72	90.37	93.02
5	18	1	29.96	33.41	34.82	36.51	51.67	53.67	54.54	56.19	55.39	60.04	59.61	60.32	63.06	64.02	67.42	68.91	70.40	71.88	73.37	74.86	77.39	79.92	82.45	84.98	87.51
5	18	2	28.76	31.93	33.50	35.08	49.50	53.09	53.53	54.63	53.39	58.91	58.60	58.50	61.49	62.73	65.79	66.89	67.99	69.10	70.20	71.30	74.11	76.92	79.74	82.55	85.36
5	18	3	28.30	31.44	32.98	34.02	48.67	52.10	52.66	54.05	52.95	58.46	57.88	57.76	61.05	62.95	65.55	66.77	67.99	69.21	70.43	71.65	74.28	76.91	79.53	82.16	84.79
5	18	4	28.03	31.24	31.96	33.01	48.63	52.37	52.40	54.05	51.83	58.05	57.64	57.54	60.88	62.71	65.18	66.30	67.42	68.55	69.67	70.79	73.59	76.39	79.19	81.99	84.79
5	18	5	28.82	31.96	33.01	32.75	48.07	53.57	52.88	54.83	53.14	57.85	57.95	58.75	60.60	63.43	64.89	66.47	68.05	69.63	71.21	72.79	75.44	78.09	80.75	83.40	86.05
5	18	6	31.52	34.68	34.80	33.38	48.21	56.32	56.11	57.09	55.84	58.17	61.22	62.18	65.07	66.85	65.37	67.07	68.77	70.48	72.18	73.88	77.01	80.15	83.28	86.42	89.55
5	18	7	33.74	38.73	36.81	34.62	49.54	58.04	57.30	59.02	57.05	59.46	62.33	63.98	67.22	68.69	67.06	69.18	71.29	73.41	75.52	77.64	80.94	84.25	87.55	90.86	94.16
5	18	8	37.44	42.61	40.76	37.27	52.27	59.74	60.07	62.49	60.89	61.40	64.60	66.43	69.47	71.40	69.37	71.95	74.53	77.12	79.70	82.28	85.51	88.73	91.96	95.18	98.41
5	18	9	42.33	45.67	43.36	38.44	54.93	60.32	62.40	64.61	62.73	63.49	65.63	69.25	71.39	72.96	71.21	74.11	77.02	79.92	82.83	85.73	88.62	91.52	94.41	97.31	100.20
5	18	10	43.61	46.80	44.99	41.73	56.92	61.24	63.83	66.09	63.92	65.31	67.20	69.30	72.59	74.54	71.84	75.06	78.27	81.49	84.70	87.92	90.67	93.42	96.16	98.91	101.66
5	18	11	44.74	47.64	46.51	44.44	57.77	62.43	65.00	67.98	66.35	67.31	67.82	69.53	73.28	76.41	73.73	76.92	80.11	83.31	86.50	89.69	92.16	94.62	97.09	99.55	102.02
5	18	12	45.55	48.57	47.30	45.55	57.77	62.69	65.74	71.41	67.81	68.02	68.51	69.91	74.01	78.27	74.55	77.78	81.00	84.23	87.45	90.68	93.56	96.45	99.33	102.22	105.10
5	18	13	46.12	50.02	47.76	46.57	57.41	63.33	66.56	72.50	69.06	68.47	68.47	70.11	74.39	78.30	75.12	78.57	82.02	85.47	88.92	92.37	95.05	97.72	100.40	103.07	105.75
5	18	14	47.03	51.11	50.84	47.27	58.19	63.50	72.16	74.45	72.57	68.62	69.11	70.76	77.73	82.09	75.83	79.53	83.23	86.93	90.63	94.33	97.03	99.72	102.42	105.11	107.81
5	18	15	46.68	51.02	54.79	48.36	58.27	62.47	70.43	89.13	75.80	69.35	69.11	70.84	75.51	88.29	74.66	78.86	83.05	87.25	91.44	95.64	98.41	101.17	103.94	106.70	109.47
5	18	16	47.07	50.02	57.19	48.38	58.33	61.85	69.49	108.67	84.56	69.41	68.84	71.30	74.79	127.47	75.83	80.12	84.41	88.69	92.98	97.27	103.35	109.44	115.52	121.61	127.69
5	18	17	46.13	50.02	50.43	50.38	58.85	61.89	69.96	113.51	75.86	70.04	68.57	71.15	74.99	119.16	76.94	81.10	85.26	89.42	93.58	97.74	103.42	109.09	114.77	120.44	126.12
5	18	18	45.40	49.41	48.96	47.86	58.90	61.85	69.40	74.42	70.97	69.11	68.58	70.65	74.12	79.56	76.74	80.35	83.96	87.58	91.19	94.80	96.97	99.14	101.30	103.47	105.64
5	18	19	44.61	48.06	48.18	46.71	58.79	60.93	66.42	71.32	69.01	67.31	68.25	70.42	72.80	77.38	73.95	77.59	81.24	84.88	88.53	92.17	94.55	96.93	99.32	101.70	104.08
5	18	20	44.02	47.10	47.72	46.04	58.79	60.63	64.25	69.60	68.32	66.64	67.82	70.38	71.87	75.25	73.50	77.00	80.50	84.00	87.50	91.00	93.38	95.76	98.13	100.51	102.89
5	18	21	44.47	46.89	47.72	46.02	59.14	61.55	64.44	69.93	68.92	67.19	68.58	70.43	72.50	75.63	74.84	78.20	81.56	84.91	88.27	91.63	93.88	96.14	98.39	100.65	102.90
5	18	22	42.13	46.46	46.99	45.22	58.07	60.14	62.72	66.33	67.81	66.62	67.53	69.93	70.77	74.22	73.95	77.18	80.40	83.63	86.85	90.08	92.40	94.72	97.03	99.35	101.67
5	18	23	39.44	45.80	45.33	40.45	56.69	60.12	60.78	62.68	65.15	64.09	67.20	68.82	68.89	71.07	71.84	75.39	78.94	82.48	86.03	89.58	91.39	93.19	95.00	96.80	98.61
5	18	24	33.58	38.84	39.86	38.32	55.16	57.68	57.68	59.16	60.83	61.37	63.94	65.61	66.41	68.11	69.70	72.19	74.68	77.18	79.67	82.16	84.14	86.12	88.11	90.09	92.07
5	19	1	29.91	33.41	35.83	36.03	51.83	53.77	54.94	55.69	56.23	58.88	59.61	61.40	61.72	63.19	66.92	69.21	71.50	73.80	76.09	78.38	80.03	81.68	83.33	84.98	86.63
5	19	2	29.06	32.25	34.59	33.43	50.21	53.01	53.56	53.50	55.46	56.73	57.94	59.42	60.29	61.14	64.70	67.05	69.40	71.76	74.11	76.46	77.62	78.79	79.95	81.12	82.28
5	19	3	28.79	31.62	33.89	32.35	49.34	52.25	53.24	52.62	55.03	55.87	57.00	58.78	59.94	59.48	63.36	65.83	68.30	70.77	73.24	75.71	75.72	75.73	75.75	75.76	75.77
5	19	4	28.08	31.82	33.62	31.39	49.46	52.22	52.74	52.58	54.47	54.97	56.34	58.63	59.85	58.87	61.56	64.26	66.96	69.66	72.36	75.06	74.30	73.53	72.77	72.00	71.24
5	19	5	28.84	32.50	33.45	30.70	51.22	53.76	54.11	53.50	54.26	54.67	57.65	58.83	61.35	59.98	59.78	62.77	65.76	68.75	71.74	74.73	75.44	76.14	76.85	77.55	78.26
5	19	6	30.75	35.07	33.85	31.02	54.85	56.68	56.03	56.00	54.79	54.95	61.17	61.40	65.13	64.52	60.88	63.82	66.76	69.69	72.63	75.57	77.43	79.28	81.14	82.99	84.85
5	19	7	33.99	39.20	34.85	32.17	56.78	58.37	57.68	57.67	55.59	56.91	63.68	64.14	67.00	67.32	64.00	66.71	69.42	72.14	74.85	77.56	80.23	82.90	85.58	88.25	90.92
5	19	8	38.17	43.74	37.08	34.19	58.45	59.99	60.27	60.23	57.10	58.64	65.66	67.85	70.17	68.94	65.17	68.13	71.09	74.05	77.01	79.97	83.18	86.38	89.59	92.79	96.00
5	19	9	41.20	46.64	38.84	36.45	58.97	62.02	61.90	62.38	59.40	60.59	68.43	69.96	72.37	70.69	67.92	70.52	73.12	75.73	78.33	80.93	84.53	88.13	91.73	95.33	98.93
5	19	10	44.53	47.02	41.80	38.39	59.93	63.06	63.83	63.11	62.23	63.27	69.10	70.65	72.80	72.24	70.58	73.34	76.10	78.86	81.62	84.38	87.60	90.81	94.03	97.24	100.46
5	19	11	45.55	48.62	44.35	39.96	60.78	63.46	65.75	65.24	63.44	64.05	69.29	71.30	73.43	73.75	71.35	74.67	77.99	81.32	84.64	87.96	90.60	93.24	95.89	98.53	101.17
5	19	12	47.03	50.02	45.22	42.08	61.49	64.29	66.44	67.56	64.26	65.47	69.61	71.37	75.02	74.88	72.06	75.19	78.32	81.46	84.59	87.72	90.71	93.70	96.69	99.68	102.67
5	19	13	47.70	50.85	45.48	43.73	61.93	65.29	69.45	68.57	65.56	65.68	69.89	72.14	75.51	77.08	72.91	75.92	78.93	81.94	84.95	87.96	91.09	94.23	97.36	100.50	103.63
5	19	14	48.29	54.45	45.67	44.78	62.70	66.22	71.97	69.99	66.12	66.23	70.04	72.60	77.46	79.02	73.75	76.61	79.46	82.32	85.17	88.03	91.44	94.86	98.27	101.69	105.10
5	19	15	47.96	71.40	45.57	45.43	62.52	65.10	80.51	69.38	66.15	66.64	70.02	72.88	84.59	85.31	73.76	76.60	79.44	82.28	85.12	87.96	91.57	95.18	98.78	102.39	106.00
5	19	16	47.53	79.37	45.65	45.71	61.49	65.29	101.85	69.57	66.50	67.62	71.54	72.42	117.52	87.01	73.76	76.55	79.34	82.14	84.93	87.72	91.81	95.89	99.98	104.06	108.15
5	19	17	47.40	78.47	45.97	46.57	60.85	67.45	99.63	68.95	67.72	68.78	71.71	72.99	111.64	86.97	74.45	77.17	79.89	82.61	85.33	88.05	92.01	95.97	99.93	103.89	107.85
5	19	18	46.75	51.76	45.67	47.30	60.15	67.02	70.56	67.96	66.02	69.43	71.83	71.55	77.16	78.91	75.68	78.11	80.54	82.96	85.39	87.82	91.13	94.43	97.74	101.04	104.35
5	19	19	45.41	50.20	44.98	45.75	60.09	65.29	68.76	68.19	64.69	67.62	71.44	70.52	74.37	77.43	75.09	77.48	79.87	82.25	84.64	87.03	89.83	92.63	95.43	98.23	101.03
5	19	20	43.85	48.49	44.45	45.36	59.93	63.50	67.75	68.32	63.91	66.50	70.02	69.74	73.74	77.22	75.16	77.40	79.64	81.88	84.12	86.36	89.20	92.04	94.88	97.72	100.56
5	19	21	45.02	48.66	44.54	46.02	60.98	63.82	67.17	68.36	63.95	67.52	70.15	70.40	73.82	77.43	75.73	78.04	80.35	82.65	84.96	87.27	90.06	92.86	95.65	98.45	101.24
5	19	22	43.00	47.10	43.98	45.36	59.93	62.47	64.25	67.56	63.45	67.08	69.38	69.14	71.77	75.93	74.95	77.10	79.25	81.40	83.55	85.70	88.79	91.89	94.98	98.08	101.17
5	19	23	40.45	44.24	39.61	40.91	58.39	62.10	61.28	64.10	61.57	65.50	69.31	68.26	68.52	73.10	72.06	74.10	76.14	78.17	80.21	82.25	85.99	89.73	93.47	97.21	100.95
5	19	24	33.82	38.87	37.72	38.13	56.63	57.80	57.69	59.98	57.63	63.02	65.60	64.24	66.64	69.47	69.79	71.88	73.97	76.06	78.15	80.24	83.15	86.07	88.98	91.90	94.81
5	20	1	29.17	32.73	34.50	34.24	51.37	54.38	54.93	56.84	55.74	58.87	60.68	59.99	61.32	66.29	66.47	68.57	70.67	72.76	74.86	76.96	79.45	81.93	84.42	86.90	89.39
5	20	2	28.54	31.16	32.75	33.15	50.34	53.11	52.89	55.66	53.81	57.71	59.11	58.62	59.19	64.38	64.85	66.68	68.52	70.35	72.19	74.02	76.58	79.13	81.69	84.24	86.80
5	20	3	27.75	29.55	31.66	32.62	50.65	52.48	51.61	54.68	53.04	56.67	58.44	58.52	57.45	64.18	64.17	65.93	67.68	69.44	71.19	72.95	75.69	78.43	81.17	83.91	86.65

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	20	4	28.23	29.37	30.58	32.62	50.32	52.41	51.10	54.03	52.22	56.93	57.97	58.50	56.31	63.62	64.44	65.71	66.99	68.26	69.54	70.81	73.83	76.85	79.87	82.89	85.91
5	20	5	29.17	30.88	30.44	33.35	51.38	53.34	52.06	53.89	51.34	58.18	57.97	59.37	57.69	63.24	65.45	66.14	66.83	67.53	68.22	68.91	72.21	75.50	78.80	82.09	85.39
5	20	6	31.44	33.07	30.47	35.89	55.67	56.71	55.92	54.22	51.88	60.12	61.87	62.63	63.26	64.24	67.86	68.41	68.96	69.50	70.05	70.60	73.78	76.96	80.15	83.33	86.51
5	20	7	34.52	35.19	32.07	37.62	57.58	57.20	57.68	55.24	53.47	62.65	64.36	64.90	65.84	66.50	69.96	70.50	71.04	71.58	72.12	72.66	75.82	78.98	82.13	85.29	88.45
5	20	8	39.31	41.22	33.59	40.59	59.39	59.79	60.21	57.31	55.39	64.90	67.15	68.55	67.04	68.70	71.84	72.56	73.27	73.99	74.70	75.42	78.66	81.90	85.13	88.37	91.61
5	20	9	42.68	43.33	35.91	42.93	60.53	61.68	61.53	58.45	56.66	66.11	69.89	70.43	68.20	70.23	72.91	74.17	75.42	76.68	77.93	79.19	82.31	85.43	88.55	91.67	94.79
5	20	10	45.21	44.59	37.92	44.32	61.35	62.45	62.40	60.80	58.77	67.44	70.79	71.30	70.12	71.75	74.82	76.14	77.46	78.79	80.11	81.43	84.66	87.89	91.12	94.35	97.58
5	20	11	45.83	46.60	39.20	45.65	62.47	63.86	64.34	62.12	60.54	67.93	71.57	72.42	71.16	73.75	74.89	76.59	78.29	79.98	81.68	83.38	86.63	89.89	93.14	96.40	99.65
5	20	12	46.81	46.94	40.85	46.83	63.51	67.13	65.62	63.50	62.58	68.48	72.17	72.83	72.90	74.40	75.30	76.96	78.62	80.28	81.94	83.60	86.94	90.28	93.61	96.95	100.29
5	20	13	47.50	48.75	42.49	48.03	64.39	68.54	66.44	65.24	63.25	68.48	72.25	73.32	73.98	74.93	75.15	77.15	79.15	81.15	83.15	85.15	88.23	91.31	94.38	97.46	100.54
5	20	14	48.81	51.06	43.57	48.03	63.43	72.34	71.60	65.85	63.87	69.49	76.20	78.31	76.64	75.05	76.29	78.23	80.17	82.10	84.04	85.98	89.03	92.08	95.13	98.18	101.23
5	20	15	56.85	52.89	43.99	48.19	64.73	69.90	73.17	65.97	63.95	71.23	74.97	87.41	82.76	75.00	76.98	78.88	80.77	82.67	84.56	86.46	89.50	92.54	95.58	98.62	101.66
5	20	16	71.46	52.36	44.56	48.44	64.89	69.56	78.20	67.13	64.57	72.42	73.89	123.69	80.35	74.93	78.03	79.97	81.90	83.84	85.77	87.71	90.47	93.23	96.00	98.76	101.52
5	20	17	80.07	51.06	45.03	48.92	63.48	69.90	71.76	67.27	65.41	72.46	74.66	101.55	78.29	75.12	78.25	80.33	82.41	84.50	86.58	88.66	91.34	94.02	96.69	99.37	102.05
5	20	18	48.81	50.02	45.21	48.05	62.13	69.45	68.38	66.19	66.15	70.98	72.60	74.33	76.57	74.81	77.44	79.87	82.30	84.72	87.15	89.58	91.96	94.34	96.72	99.10	101.48
5	20	19	47.26	49.66	44.78	47.90	60.64	66.13	67.82	64.46	64.56	71.25	71.21	72.27	74.61	74.03	77.54	79.57	81.60	83.62	85.65	87.68	90.26	92.85	95.43	98.02	100.60
5	20	20	46.18	49.31	44.66	47.14	60.18	65.16	66.99	63.64	64.17	69.59	70.59	71.45	74.88	73.37	76.14	78.15	80.17	82.18	84.20	86.21	89.06	91.91	94.77	97.62	100.47
5	20	21	46.27	49.25	45.30	46.76	60.67	65.31	67.29	63.88	64.97	69.49	71.00	71.59	75.50	74.03	76.76	79.03	81.29	83.56	85.82	88.09	90.56	93.04	95.51	97.99	100.46
5	20	22	45.47	46.89	44.40	45.14	59.99	62.13	64.13	62.02	63.99	67.93	69.60	70.19	72.73	73.02	75.76	78.23	80.69	83.16	85.62	88.09	90.29	92.48	94.68	96.87	99.07
5	20	23	42.02	46.19	40.44	43.35	59.08	60.02	62.12	60.06	62.29	65.83	67.99	67.79	71.28	70.54	72.87	75.12	77.37	79.62	81.87	84.12	86.65	89.18	91.72	94.25	96.78
5	20	24	34.48	40.67	37.61	37.76	56.62	57.31	58.87	57.72	58.37	62.65	63.07	64.35	67.35	68.45	69.96	72.03	74.10	76.17	78.24	80.31	82.57	84.83	87.09	89.35	91.61
5	21	1	29.17	34.56	34.33	34.35	52.06	53.77	55.45	55.97	55.75	58.30	59.56	60.05	63.65	65.61	65.52	67.94	70.36	72.78	75.20	77.62	79.77	81.91	84.06	86.20	88.35
5	21	2	28.23	32.79	33.47	33.08	50.83	53.11	54.03	54.51	54.96	56.03	57.61	57.96	61.81	63.22	64.06	66.29	68.52	70.76	72.99	75.22	77.24	79.26	81.28	83.30	85.32
5	21	3	27.38	31.82	33.23	32.50	50.13	52.49	53.02	53.82	53.81	55.68	57.58	55.77	61.49	62.91	62.88	65.13	67.37	69.62	71.86	74.11	75.93	77.75	79.58	81.40	83.22
5	21	4	27.25	31.39	33.34	32.19	49.87	52.62	52.76	52.73	53.97	55.82	57.97	56.14	61.16	60.78	62.64	64.97	67.29	69.62	71.94	74.27	74.86	75.45	76.05	76.64	77.23
5	21	5	28.16	31.19	33.65	33.09	50.90	53.16	52.73	52.28	55.39	56.66	58.60	57.62	61.16	60.20	63.93	66.32	68.71	71.09	73.48	75.87	74.97	74.07	73.17	72.27	71.37
5	21	6	30.25	31.79	35.75	35.89	54.27	57.13	52.73	52.83	57.20	60.30	62.42	61.51	61.59	60.61	67.40	69.76	72.12	74.48	76.84	79.20	79.19	79.19	79.18	79.18	79.17
5	21	7	31.52	32.50	37.59	38.92	56.51	57.24	54.86	54.54	58.51	61.39	63.82	63.41	63.15	62.86	70.48	72.70	74.92	77.14	79.36	81.58	81.63	81.68	81.74	81.79	81.84
5	21	8	36.35	36.09	40.20	41.91	57.71	60.43	56.55	55.76	61.17	65.51	67.61	65.58	66.01	64.13	72.31	75.19	78.07	80.96	83.84	86.72	86.44	86.16	85.88	85.60	85.32
5	21	9	39.59	39.20	42.44	44.37	58.83	62.45	59.14	57.28	62.49	67.58	69.67	67.47	67.22	67.38	74.55	77.26	79.96	82.67	85.37	88.08	88.44	88.80	89.15	89.51	89.87
5	21	10	42.30	42.31	45.80	46.68	60.65	64.91	60.94	58.39	63.61	68.54	70.36	69.14	68.77	68.70	75.15	78.16	81.17	84.17	87.18	90.19	90.75	91.32	91.88	92.45	93.01
5	21	11	43.39	46.44	46.51	48.03	61.49	66.51	62.10	59.53	64.46	69.16	72.07	70.42	69.87	69.38	75.94	78.80	81.66	84.51	87.37	90.23	91.24	92.25	93.25	94.26	95.27
5	21	12	45.21	46.67	46.86	48.22	63.82	69.57	62.25	60.58	65.85	69.84	74.39	70.84	71.19	70.23	76.74	79.43	82.12	84.82	87.51	90.20	91.64	93.08	94.51	95.95	97.39
5	21	13	45.80	46.87	47.62	50.08	64.57	70.22	62.40	61.74	66.43	72.48	75.44	71.56	72.67	70.96	78.53	80.86	83.19	85.53	87.86	90.19	91.91	93.63	95.36	97.08	98.80
5	21	14	48.78	46.67	48.56	50.73	66.14	82.05	62.73	62.83	67.01	72.76	77.47	73.52	73.43	71.31	78.54	80.87	83.20	85.54	87.87	90.20	92.09	93.98	95.88	97.77	99.66
5	21	15	51.42	46.60	47.40	50.85	66.14	95.48	63.07	63.51	67.02	77.99	92.34	78.31	72.66	71.67	93.12	92.63	92.14	91.66	91.17	90.68	92.63	94.59	96.54	98.50	100.45
5	21	16	59.80	46.60	46.55	84.43	65.95	107.02	63.07	63.97	68.05	115.55	115.52	77.61	72.42	72.64	135.86	127.05	118.24	109.43	100.62	91.81	93.26	94.71	96.17	97.62	99.07
5	21	17	51.97	47.20	47.39	57.38	66.15	121.64	63.34	64.66	68.08	98.06	119.52	75.12	72.66	73.76	133.77	125.23	116.68	108.14	99.59	91.05	92.93	94.81	96.69	98.57	100.45
5	21	18	48.48	46.60	46.47	49.03	65.17	73.70	62.53	65.33	67.60	72.74	76.20	73.40	72.42	74.54	80.50	82.54	84.57	86.61	88.64	90.68	92.63	94.59	96.54	98.50	100.45
5	21	19	46.40	45.77	46.35	47.90	63.36	69.59	61.56	64.40	67.81	70.39	74.41	73.32	72.42	73.27	76.59	79.41	82.23	85.04	87.86	90.68	92.63	94.59	96.54	98.50	100.45
5	21	20	45.87	45.67	45.93	47.59	62.59	68.48	61.20	63.88	67.15	70.56	72.25	72.54	71.70	72.92	76.66	79.37	82.08	84.79	87.50	90.21	92.26	94.31	96.35	98.40	100.45
5	21	21	45.95	46.60	45.97	47.80	62.80	68.60	61.53	63.89	67.15	70.77	72.39	73.06	71.30	73.74	77.78	80.36	82.94	85.51	88.09	90.67	92.65	94.62	96.60	98.57	100.55
5	21	22	44.78	45.83	44.56	46.83	60.41	64.81	61.53	62.70	64.17	69.79	70.83	70.65	70.55	73.60	75.92	78.48	81.04	83.60	86.16	88.72	90.91	93.09	95.28	97.46	99.65
5	21	23	42.45	41.40	41.08	44.72	58.40	61.43	59.14	60.81	62.70	66.95	67.61	69.53	68.42	70.53	73.92	76.28	78.63	80.99	83.34	85.70	87.77	89.84	91.90	93.97	96.04
5	21	24	36.01	37.53	37.52	38.22	56.22	57.68	56.11	58.04	58.13	62.65	63.24	65.45	66.71	68.70	70.70	72.66	74.61	76.57	78.52	80.48	82.73	84.97	87.22	89.46	91.71
5	22	1	30.44	33.59	33.87	34.69	52.06	53.76	54.22	55.64	55.39	58.48	58.62	62.31	63.58	65.19	66.35	68.19	70.03	71.86	73.70	75.54	77.84	80.15	82.45	84.76	87.06
5	22	2	29.30	32.18	33.09	32.81	50.96	52.57	53.00	54.65	54.24	55.89	56.80	60.80	61.59	64.07	63.95	65.94	67.93	69.93	71.92	73.91	76.19	78.47	80.76	83.04	85.32
5	22	3	28.51	31.60	32.47	31.97	50.42	51.57	52.54	54.14	54.00	55.48	55.09	60.29	60.76	63.52	63.22	65.23	67.24	69.26	71.27	73.28	75.55	77.82	80.10	82.37	84.64
5	22	4	27.77	29.37	32.54	31.82	50.70	51.26	50.93	53.98	54.06	55.33	54.35	59.98	58.20	63.44	62.54	64.62	66.70	68.78	70.86	72.94	75.34	77.73	80.13	82.52	84.92
5	22	5	27.91	29.18	33.14	32.78	51.15	52.37	50.45	54.72	54.97	56.28	55.69	59.68	57.50	64.44	63.46	65.48	67.51	69.53	71.56	73.58	76.05	78.51	80.98	83.44	85.91
5	22	6	28.44	30.29	35.30	35.06	55.45	54.72	50.56	56.33	56.43	59.98	60.56	60.18	57.98	67.32	66.35	68.72	71.09	73.45	75.82	78.19	80.45	82.71	84.97	87.23	89.49
5	22	7	29.42	30.75	37.53	37.99	56.36	56.75	52.34	57.67	58.80	61.44	61.78	62.13	59.94	68.70	68.76	71.31	73.87	76.42	78.98	81.53	83.86	86.19	88.53	90.86	93.19
5	22	8	31.49	32.13	41.03	40.34	58.51	59.22	54.14	60.69	62.16	64.20	65.07	64.09	62.14	71.00	71.70	74.50	77.30	80.11	82.91	85.71	88.09	90.48	92.86	95.25	97.63
5	22	9	34.48	34.78	43.69	43.03	60.70	60.53	55.79	62.38	63.91	65.58	66.70	65.30	65.33	70.62	73.02	76.10	79.18	82.27	85.35	88.43	90.59	92.75	94.90	97.06	99.22
5	22	10	37.19	38.42	46.20	46.44	62.06	62.13	57.17	64.01	64.57	67.83	68.51	67.27	66.71	73.09	74.93	77.98	81.04	84.09	87.15	90.20	92.27	94.34	96.40	98.47	100.54
5	22	11	41.08	40.36	47.94	47.47	64.77	63.68	57.68	64.31	65.78	68.54	69.30	69.30	67.32	74.20	75.59	78.61	81.63	84.64	87.66	90.68	92.69	94.70	96.71	98.72	100.73
5	22	12	42.45	41.75	48.88	48.18	66.73	66.17	59.13	65.87	67.21	69.19	70.15	69.92	67.79	74.23	75.86	78.89	81.92	84.94	87.97	91.00	92.99	94.98	96.96	98.95	100.94
5	22	13	42.96	43.14	49.14	49.40	67.76	68.86	59.92	67.95	68.51	70.39	72.32	70.15	68.42	74.38	75.84	79.20	82.56	85.91	89.27	92.63	94.20	95.76	97.33	98.89	100.46
5	22	14	43.13	43.71	49.90	50.86	70.03	75.23	60.01	69.21	68.70	70.86	75.36	70.43	68.71	74.71	79.42	82.18	84.93	87.69	90.44	93.20	94.65	96.10	97.56	99.01	100.46

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	22	15	43.35	44.17	55.99	49.79	76.01	74.05	60.78	67.95	73.53	71.21	80.27	70.18	69.06	74.77	77.53	80.89	84.25	87.61	90.97	94.33	95.68	97.03	98.38	99.73	101.08
5	22	16	44.21	45.01	90.65	49.20	80.63	72.03	61.41	67.56	108.43	71.97	81.75	69.74	69.06	75.60	78.25	86.00	93.74	101.49	109.23	116.98	114.27	111.57	108.86	106.16	103.45
5	22	17	45.14	46.01	70.21	49.03	131.88	69.46	61.91	67.56	82.67	72.99	79.85	70.07	71.04	76.64	79.55	84.41	89.27	94.12	98.98	103.84	103.79	103.75	103.70	103.66	103.61
5	22	18	43.41	46.53	49.14	48.32	75.36	68.60	62.52	67.21	67.65	71.26	75.86	69.57	72.29	74.71	77.55	80.18	82.81	85.45	88.08	90.71	93.03	95.34	97.66	99.97	102.29
5	22	19	42.73	45.77	46.51	48.09	67.67	67.93	61.56	67.21	67.81	70.80	74.25	69.49	71.56	74.53	76.14	79.05	81.96	84.87	87.78	90.69	92.77	94.84	96.92	98.99	101.07
5	22	20	41.72	45.72	46.47	47.67	65.44	67.01	61.03	66.20	67.81	69.66	73.76	69.14	71.04	73.34	75.83	78.80	81.77	84.75	87.72	90.69	92.66	94.64	96.61	98.59	100.56
5	22	21	42.21	47.95	46.70	47.67	65.29	68.43	61.72	67.03	67.65	69.69	74.27	69.36	71.04	74.03	75.84	78.81	81.78	84.75	87.72	90.69	93.02	95.35	97.67	100.00	102.33
5	22	22	41.20	47.21	45.65	46.70	63.82	66.17	61.72	64.14	64.71	68.15	70.44	68.82	70.02	72.24	75.59	78.55	81.50	84.46	87.41	90.37	92.40	94.44	96.47	98.51	100.54
5	22	23	36.19	42.18	44.38	43.98	59.31	62.47	59.92	62.30	62.70	66.42	69.24	66.27	68.20	70.63	72.87	75.89	78.91	81.94	84.96	87.98	90.05	92.12	94.19	96.26	98.33
5	22	24	32.19	37.89	38.47	38.82	57.49	58.72	57.20	58.45	58.89	62.53	65.32	63.09	66.95	68.68	70.48	72.79	75.11	77.42	79.74	82.05	84.11	86.17	88.22	90.28	92.34
5	23	1	29.61	32.90	34.47	35.08	51.85	54.83	55.01	56.26	55.46	58.14	61.22	61.29	62.83	64.12	65.79	68.01	70.23	72.44	74.66	76.88	78.92	80.95	82.99	85.02	87.06
5	23	2	28.26	31.79	33.01	33.77	50.32	53.00	53.62	54.87	53.82	56.06	59.56	59.65	61.76	63.21	63.46	65.58	67.70	69.83	71.95	74.07	76.24	78.41	80.58	82.75	84.92
5	23	3	27.73	31.05	32.39	32.69	49.39	52.41	53.34	54.74	53.74	55.25	59.05	59.00	61.28	62.93	62.55	64.70	66.86	69.01	71.17	73.32	75.35	77.38	79.40	81.43	83.46
5	23	4	25.90	31.05	32.28	32.61	48.92	51.81	53.38	54.67	53.69	55.08	58.83	56.52	61.25	62.85	62.54	64.51	66.48	68.46	70.43	72.40	74.66	76.93	79.19	81.46	83.72
5	23	5	25.48	31.93	33.10	33.28	50.26	51.74	54.39	55.77	53.82	56.96	58.75	55.76	62.06	63.62	64.64	66.41	68.18	69.95	71.72	73.49	75.75	78.01	80.27	82.53	84.79
5	23	6	27.49	34.24	35.24	36.30	53.48	51.63	56.32	56.78	56.42	59.58	58.94	57.31	65.39	66.91	67.39	69.48	71.58	73.67	75.77	77.86	80.14	82.42	84.70	86.98	89.26
5	23	7	27.73	38.51	37.47	38.22	56.26	53.77	57.30	57.81	57.69	60.80	60.78	58.84	66.65	68.93	69.11	71.34	73.56	75.79	78.01	80.24	82.87	85.50	88.12	90.75	93.38
5	23	8	28.54	41.83	40.25	41.47	57.58	55.52	60.75	62.18	61.27	64.26	63.47	60.17	67.79	71.75	71.84	74.45	77.05	79.66	82.26	84.87	87.63	90.39	93.16	95.92	98.68
5	23	9	30.88	44.94	43.01	43.81	58.08	57.89	61.53	64.31	63.14	65.52	65.44	62.36	69.17	73.22	72.72	75.57	78.42	81.27	84.12	86.97	89.55	92.13	94.72	97.30	99.88
5	23	10	32.70	46.44	46.25	45.76	59.70	60.48	62.10	65.24	64.06	67.46	67.26	63.86	69.97	74.35	74.61	77.37	80.14	82.90	85.67	88.43	90.84	93.25	95.66	98.07	100.48
5	23	11	35.11	46.89	46.87	47.08	61.49	62.47	62.59	67.41	65.04	68.48	69.83	65.01	70.82	74.54	75.15	78.25	81.35	84.46	87.56	90.66	92.72	94.78	96.84	98.90	100.96
5	23	12	36.19	47.32	48.88	47.82	63.93	62.47	63.55	67.41	66.10	69.15	69.84	66.01	71.84	74.88	75.65	78.66	81.66	84.67	87.67	90.68	92.88	95.08	97.28	99.48	101.68
5	23	13	37.49	48.66	49.83	48.32	66.24	63.00	64.13	70.37	67.20	70.84	70.02	67.25	73.87	76.14	76.00	78.94	81.87	84.81	87.74	90.68	93.06	95.45	97.83	100.22	102.60
5	23	14	38.97	49.24	50.85	50.25	68.29	64.22	66.25	72.03	68.87	74.01	70.21	67.57	73.64	75.24	77.88	80.44	83.00	85.56	88.12	90.68	93.09	95.50	97.90	100.31	102.72
5	23	15	39.94	48.21	51.77	51.25	72.53	64.97	66.03	84.43	68.88	73.04	70.88	67.61	74.00	87.30	79.01	81.34	83.68	86.01	88.35	90.68	93.77	96.86	99.94	103.03	106.12
5	23	16	40.49	49.00	53.22	50.73	69.56	65.32	66.03	120.64	69.52	72.46	70.55	67.84	75.17	140.22	77.89	80.45	83.01	85.56	88.12	90.68	98.54	106.41	114.27	122.14	130.00
5	23	17	42.96	51.03	52.38	51.40	72.53	65.65	66.08	100.35	69.74	73.17	72.17	68.29	76.03	106.70	79.66	81.86	84.07	86.27	88.48	90.68	98.86	107.04	115.22	123.40	131.58
5	23	18	43.19	48.03	47.95	49.48	66.86	64.97	64.69	72.76	68.51	72.00	71.21	68.82	73.18	77.54	77.89	80.39	82.89	85.39	87.89	90.39	93.42	96.45	99.49	102.52	105.55
5	23	19	42.83	47.00	46.70	48.90	65.30	62.07	64.09	67.58	67.96	71.26	69.83	68.55	73.18	74.54	76.94	79.59	82.24	84.89	87.54	90.19	92.71	95.22	97.74	100.25	102.77
5	23	20	41.12	46.62	46.47	48.24	64.18	61.43	63.83	67.41	67.01	70.56	68.50	68.40	72.67	74.53	75.83	78.65	81.47	84.30	87.12	89.94	92.62	95.30	97.99	100.67	103.35
5	23	21	42.96	46.44	46.55	48.10	65.36	61.68	64.01	67.43	67.15	70.39	69.84	69.03	73.79	74.86	75.84	78.71	81.58	84.44	87.31	90.18	92.66	95.15	97.63	100.12	102.60
5	23	22	42.21	44.75	45.65	46.66	63.83	60.85	61.11	65.03	64.56	68.48	68.58	68.56	71.55	74.49	74.97	77.75	80.54	83.32	86.11	88.89	91.31	93.72	96.14	98.55	100.97
5	23	23	36.32	42.83	43.31	44.36	60.09	58.87	61.20	63.74	62.70	65.50	65.59	65.78	69.79	71.69	71.85	74.60	77.35	80.10	82.85	85.60	88.19	90.78	93.36	95.95	98.54
5	23	24	32.48	37.31	38.46	38.13	56.63	55.84	57.42	58.87	58.73	62.19	64.26	63.98	67.03	68.70	70.36	72.40	74.44	76.47	78.51	80.55	83.29	86.03	88.76	91.50	94.24
5	24	1	29.17	32.10	34.32	35.05	52.96	54.14	54.67	55.19	55.53	57.99	60.82	61.26	62.34	65.07	65.18	67.29	69.39	71.50	73.60	75.71	78.19	80.67	83.14	85.62	88.10
5	24	2	28.44	31.56	32.48	33.72	51.67	52.16	53.48	54.01	53.67	55.84	59.06	59.92	61.09	63.18	62.58	64.65	66.72	68.80	70.87	72.94	75.34	77.73	80.13	82.52	84.92
5	24	3	27.81	31.08	31.77	32.58	50.18	52.12	53.17	53.64	53.13	55.25	58.77	59.37	60.18	62.88	62.43	64.16	65.89	67.63	69.36	71.09	73.59	76.09	78.60	81.10	83.60
5	24	4	27.73	30.99	31.95	33.27	49.58	50.03	53.42	53.53	53.20	55.34	56.63	59.41	60.51	62.72	62.84	64.63	66.42	68.20	69.99	71.78	73.83	75.87	77.92	79.96	82.01
5	24	5	28.76	31.70	33.42	33.95	49.47	49.74	54.09	53.94	53.90	55.68	56.85	60.28	61.37	63.22	63.38	65.36	67.34	69.31	71.29	73.27	75.43	77.58	79.74	81.89	84.05
5	24	6	30.28	33.85	35.30	35.94	49.89	49.74	56.47	56.01	56.63	59.39	56.54	62.97	65.29	66.28	67.07	69.08	71.09	73.11	75.12	77.13	79.43	81.73	84.04	86.34	88.64
5	24	7	32.66	37.25	37.18	37.54	51.14	52.10	57.69	57.48	57.68	60.46	58.42	64.84	66.94	68.11	67.55	70.09	72.63	75.16	77.70	80.24	82.69	85.14	87.60	90.05	92.50
5	24	8	36.45	41.66	40.23	41.16	53.28	53.77	60.75	60.80	61.27	63.83	60.34	66.01	69.04	69.01	71.47	74.09	76.71	79.33	81.95	84.57	86.69	88.81	90.94	93.06	95.18
5	24	9	38.32	46.10	43.13	44.37	56.09	55.39	61.82	62.91	63.10	66.33	62.89	66.82	70.56	70.62	73.02	75.81	78.60	81.39	84.18	86.97	89.17	91.36	93.56	95.75	97.95
5	24	10	40.24	46.89	45.95	45.86	57.46	57.28	62.40	64.31	64.14	67.31	64.58	67.63	71.23	72.21	74.33	77.38	80.43	83.49	86.54	89.59	91.77	93.95	96.12	98.30	100.48
5	24	11	42.42	47.20	46.86	47.74	58.37	57.80	63.72	65.03	65.11	67.09	65.59	68.11	72.92	72.64	74.32	77.59	80.86	84.14	87.41	90.68	92.74	94.79	96.85	98.90	100.96
5	24	12	43.05	48.04	47.94	47.08	59.23	58.72	64.72	65.39	67.01	67.65	65.59	68.35	74.11	72.98	73.77	77.15	80.53	83.92	87.30	90.68	92.79	94.90	97.02	99.13	101.24
5	24	13	44.31	49.24	48.88	48.09	60.75	59.22	66.26	67.03	68.75	69.82	67.02	68.40	76.05	73.93	74.89	78.05	81.21	84.36	87.52	90.68	92.84	95.00	97.15	99.31	101.47
5	24	14	45.12	52.03	51.17	49.03	60.66	60.93	67.50	67.92	76.43	72.74	67.65	69.15	76.24	75.21	75.84	78.81	81.78	84.74	87.71	90.68	93.09	95.50	97.90	100.31	102.72
5	24	15	44.55	56.98	56.78	50.93	60.58	61.49	78.39	68.13	74.06	77.71	68.57	69.69	90.54	75.36	78.48	81.06	83.64	86.21	88.79	91.37	94.10	96.82	99.55	102.27	105.00
5	24	16	45.60	92.59	50.54	49.50	61.41	61.89	108.27	68.15	69.06	72.30	69.24	70.11	133.04	76.13	77.92	80.51	83.11	85.70	88.30	90.89	93.64	96.39	99.14	101.89	104.64
5	24	17	45.60	53.30	51.65	48.51	61.72	63.44	91.91	70.17	69.03	72.29	69.70	70.23	128.43	78.84	77.17	80.10	83.03	85.95	88.88	91.81	94.48	97.15	99.82	102.49	105.16
5	24	18	42.58	48.00	46.99	48.04	60.92	65.06	67.60	67.56	68.11	70.56	71.20	69.49	81.31	75.36	76.59	79.41	82.23	85.05	87.87	90.69	93.27	95.86	98.44	101.03	103.61
5	24	19	41.38	46.88	46.99	46.74	60.10	61.98	66.08	67.12	68.03	68.53	69.57	69.52	75.18	74.85	75.25	78.24	81.23	84.23	87.22	90.21	92.65	95.08	97.52	99.95	102.39
5	24	20	40.98	46.78	46.23	46.52	59.17	61.64	65.17	65.49	67.01	68.87	68.54	68.85	74.91	73.40	74.42	77.45	80.49	83.52	86.56	89.59	92.05	94.50	96.96	99.41	101.87
5	24	21	42.42	46.89	46.31	47.30	59.17	62.13	65.21	65.53	67.37	69.88	68.93	69.14	75.57	73.34	75.84	78.71	81.58	84.45	87.32	90.19	92.57	94.95	97.32	99.70	102.08
5	24	22	40.49	46.44	45.20	45.55	58.12	61.73	62.35	64.19	65.33	68.47	68.51	68.38	72.99	72.64	73.69	76.64	79.59	82.53	85.48	88.43	90.85	93.27	95.70	98.12	100.54
5	24	23	37.01	43.61	41.34	44.02	56.62	59.01	62.10	62.48	62.78	65.52	65.87	66.43	70.17	69.79	73.08	75.48	77.88	80.29	82.69	85.09	87.62	90.16	92.69	95.23	97.76
5	24	24	32.03	37.51	38.03	39.21	54.49	56.88	58.53	58.39	58.15	62.63	65.16	64.20	67.44	68.70	71.28	73.02	74.76	76.49	78.23	79.97	82.60	85.23	87.87	90.50	93.13
5	25	1	28.84	32.35	34.10	36.30	52.06	53.77	55.01	55.37	55.51	59.01	60.94	60.61	62.92	64.18	67.22	68.75	70.28	71.80	73.33	74.86	77.35	79.84	82.32	84.81	87.30

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	25	2	28.15	31.22	32.98	34.48	49.89	53.38	53.37	54.49	53.78	56.96	60.12	59.69	61.52	63.10	64.69	66.37	68.06	69.74	71.43	73.11	75.49	77.87	80.26	82.64	85.02
5	25	3	27.77	30.54	31.51	33.63	50.04	53.38	52.79	53.94	53.40	56.05	59.54	59.28	61.17	62.80	62.88	64.54	66.19	67.85	69.50	71.16	73.61	76.05	78.50	80.94	83.39
5	25	4	27.91	30.27	32.08	32.92	48.07	53.38	52.79	53.94	53.40	55.64	59.59	59.30	60.67	62.88	62.53	64.43	66.33	68.24	70.14	72.04	74.28	76.51	78.75	80.98	83.22
5	25	5	28.82	31.15	33.39	32.70	47.93	53.54	54.04	54.30	53.78	55.52	60.57	60.11	61.43	63.37	62.45	64.72	66.98	69.25	71.51	73.78	75.83	77.87	79.92	81.96	84.01
5	25	6	30.43	33.48	34.96	33.05	47.92	54.77	56.14	55.82	56.14	55.65	62.52	62.78	64.29	66.33	62.64	65.34	68.04	70.74	73.44	76.14	78.53	80.92	83.32	85.71	88.10
5	25	7	32.51	36.44	36.40	33.81	49.19	56.43	57.30	57.30	57.63	56.78	64.22	64.61	66.09	68.12	64.12	67.18	70.24	73.29	76.35	79.41	81.95	84.48	87.02	89.55	92.09
5	25	8	36.37	40.88	40.29	35.42	51.01	59.22	60.35	60.41	60.89	58.77	65.85	66.53	67.79	68.99	66.15	69.76	73.37	76.98	80.59	84.20	86.51	88.81	91.12	93.42	95.73
5	25	9	39.55	43.16	43.13	37.94	53.09	60.36	61.53	62.42	62.85	60.33	67.18	68.11	70.23	70.00	68.79	72.65	76.51	80.37	84.23	88.09	90.04	92.00	93.95	95.91	97.86
5	25	10	42.13	46.44	44.63	39.98	54.96	61.68	62.20	64.01	63.88	63.09	67.58	69.14	71.12	71.83	70.94	74.79	78.64	82.48	86.33	90.18	92.12	94.06	96.00	97.94	99.88
5	25	11	43.66	46.89	46.55	42.38	56.02	63.34	63.55	64.80	64.17	63.99	68.43	69.92	71.75	72.64	71.70	75.17	78.64	82.10	85.57	89.04	91.39	93.74	96.10	98.45	100.80
5	25	12	43.90	46.89	46.51	44.33	56.89	64.08	64.03	67.34	65.78	65.07	69.10	70.57	72.60	73.17	72.61	75.96	79.31	82.67	86.02	89.37	91.74	94.12	96.49	98.87	101.24
5	25	13	44.76	47.32	46.51	45.27	57.70	65.22	65.08	69.44	66.82	66.49	69.86	71.40	73.39	75.04	73.68	77.08	80.48	83.88	87.28	90.68	92.98	95.28	97.57	99.87	102.17
5	25	14	47.20	48.19	49.22	45.27	58.81	66.01	67.80	74.43	66.99	67.09	71.49	71.51	73.93	86.02	73.14	76.65	80.16	83.66	87.17	90.68	93.38	96.09	98.79	101.50	104.20
5	25	15	54.00	49.24	50.36	45.14	59.00	66.87	67.60	74.28	68.94	67.23	71.63	83.57	73.65	81.72	73.32	76.83	80.34	83.86	87.37	90.88	93.66	96.43	99.21	101.98	104.76
5	25	16	81.45	51.64	49.22	45.36	59.17	68.06	68.17	68.57	68.99	67.35	74.00	129.94	73.86	77.25	72.99	76.69	80.39	84.10	87.80	91.50	94.15	96.80	99.46	102.11	104.76
5	25	17	79.30	52.45	47.74	45.71	59.27	68.06	70.13	74.19	68.09	67.44	75.15	96.32	75.48	81.36	73.09	76.63	80.16	83.70	87.23	90.77	93.55	96.33	99.12	101.90	104.68
5	25	18	44.24	48.59	46.70	45.36	59.68	65.97	66.44	69.38	67.73	67.35	71.83	71.15	75.17	78.67	72.70	76.25	79.80	83.34	86.89	90.44	93.19	95.94	98.70	101.45	104.20
5	25	19	43.78	46.84	46.34	44.39	59.25	65.42	65.54	67.56	65.50	66.23	71.98	70.39	74.74	75.41	72.36	75.62	78.88	82.14	85.40	88.66	91.26	93.87	96.47	99.08	101.68
5	25	20	43.45	46.61	45.67	43.62	59.23	64.50	64.03	66.91	65.35	65.53	70.83	70.43	73.28	74.51	71.69	75.14	78.59	82.04	85.49	88.94	91.40	93.86	96.33	98.79	101.25
5	25	21	43.78	46.62	46.29	43.62	60.15	65.25	63.07	66.81	65.98	65.50	70.91	70.94	72.84	74.35	71.68	75.46	79.25	83.03	86.82	90.60	92.82	95.03	97.25	99.46	101.68
5	25	22	42.83	45.72	44.79	42.71	58.61	61.64	61.67	64.47	65.23	64.47	68.58	70.29	71.65	72.64	71.62	74.68	77.75	80.81	83.88	86.94	89.65	92.36	95.08	97.79	100.50
5	25	23	38.91	43.14	43.69	39.14	56.69	59.37	61.48	62.30	63.15	63.07	66.62	67.93	69.85	70.24	70.17	73.30	76.43	79.55	82.68	85.81	88.05	90.29	92.52	94.76	97.00
5	25	24	33.05	37.30	38.57	36.38	54.66	56.71	57.69	58.39	60.76	59.71	64.28	65.00	67.04	68.70	67.04	70.08	73.12	76.17	79.21	82.25	84.15	86.04	87.94	89.83	91.73
5	26	1	29.38	32.23	35.75	34.05	52.41	53.85	54.76	55.64	56.84	57.49	60.44	61.25	62.73	64.25	64.56	67.44	70.31	73.19	76.06	78.94	80.48	82.01	83.55	85.08	86.62
5	26	2	28.54	31.40	33.93	33.02	51.64	53.38	53.56	54.63	54.96	55.98	59.11	59.80	61.20	63.20	62.49	65.10	67.70	70.31	72.91	75.52	77.14	78.75	80.37	81.98	83.60
5	26	3	28.24	30.80	33.43	32.08	50.68	53.08	52.79	54.45	54.24	55.08	58.55	59.37	60.43	62.94	61.94	64.46	66.98	69.49	72.01	74.53	76.08	77.63	79.18	80.73	82.28
5	26	4	28.08	30.73	33.10	29.62	50.13	53.01	52.79	54.41	53.85	53.20	58.70	59.14	60.36	62.93	55.77	59.44	63.11	66.77	70.44	74.11	75.73	77.36	78.98	80.61	82.23
5	26	5	28.77	31.27	33.06	29.62	51.43	53.56	53.95	54.50	53.81	52.88	59.40	59.93	61.48	63.19	54.51	58.41	62.31	66.22	70.12	74.02	75.92	77.82	79.72	81.62	83.52
5	26	6	30.72	33.25	33.32	31.12	52.78	55.27	56.14	55.64	53.89	53.32	61.78	62.52	65.00	66.40	57.13	60.53	63.94	67.34	70.75	74.15	76.60	79.04	81.49	83.93	86.38
5	26	7	32.39	35.63	33.65	31.50	55.07	56.34	56.76	57.28	54.67	54.61	64.36	64.48	66.58	67.81	58.49	61.93	65.36	68.80	72.23	75.67	78.59	81.51	84.42	87.34	90.26
5	26	8	36.35	40.81	34.83	33.52	57.49	59.57	60.07	60.50	55.99	56.44	66.41	66.06	67.72	69.09	64.35	67.22	70.09	72.97	75.84	78.71	81.98	85.25	88.53	91.80	95.07
5	26	9	39.59	42.77	37.41	34.87	58.28	61.37	61.45	62.86	58.41	58.73	67.82	67.68	69.82	71.69	66.05	69.08	72.11	75.13	78.16	81.19	84.63	88.08	91.52	94.97	98.41
5	26	10	42.53	45.72	39.09	36.60	58.96	63.33	61.81	63.80	60.89	60.08	69.10	69.14	70.72	72.56	68.28	71.31	74.33	77.36	80.38	83.41	86.69	89.97	93.26	96.54	99.82
5	26	11	44.66	46.67	40.95	37.89	60.02	64.71	62.35	64.26	62.15	62.12	69.83	69.52	71.41	72.47	69.29	72.41	75.52	78.64	81.75	84.87	87.95	91.04	94.12	97.21	100.29
5	26	12	46.01	46.89	42.77	38.67	60.62	65.36	63.98	64.74	63.34	63.09	69.89	69.52	72.40	72.31	70.17	73.55	76.93	80.30	83.68	87.06	89.75	92.44	95.12	97.81	100.50
5	26	13	46.84	47.32	44.69	40.15	62.56	66.86	66.44	67.56	64.46	63.53	71.71	69.62	73.76	74.53	70.47	74.37	78.28	82.18	86.09	89.99	92.24	94.49	96.75	99.00	101.25
5	26	14	47.85	49.22	44.78	40.81	64.23	68.19	70.10	69.40	64.57	63.80	72.40	71.30	79.05	77.53	70.46	74.34	78.22	82.11	85.99	89.87	92.62	95.37	98.11	100.86	103.61
5	26	15	47.95	50.53	44.09	40.99	63.63	73.70	71.22	70.65	64.56	63.77	87.18	70.80	79.69	81.05	70.47	74.16	77.85	81.55	85.24	88.93	91.83	94.74	97.64	100.55	103.45
5	26	16	51.26	48.49	44.09	41.45	63.18	108.79	67.28	68.57	64.70	63.98	132.12	72.27	76.35	78.02	71.21	74.76	78.31	81.85	85.40	88.95	91.53	94.12	96.70	99.29	101.87
5	26	17	54.01	50.09	44.45	41.67	63.18	73.70	67.40	68.29	65.21	64.11	91.20	71.79	79.62	77.55	71.55	75.03	78.51	81.99	85.47	88.95	91.41	93.87	96.33	98.79	101.25
5	26	18	44.31	48.75	44.45	41.55	62.65	65.95	66.61	66.77	64.69	64.15	72.00	70.43	75.67	74.81	71.38	74.83	78.29	81.74	85.20	88.65	91.03	93.40	95.78	98.15	100.53
5	26	19	43.41	46.96	43.50	40.81	62.06	65.75	64.76	65.96	63.91	63.48	70.93	70.28	73.60	73.76	70.38	73.86	77.33	80.81	84.28	87.76	90.31	92.86	95.40	97.95	100.50
5	26	20	43.35	46.56	42.04	40.24	61.55	65.25	64.01	65.96	63.34	63.37	70.93	69.38	72.92	73.32	70.17	73.38	76.59	79.81	83.02	86.23	89.08	91.94	94.79	97.65	100.50
5	26	21	43.28	46.60	42.48	40.57	62.34	65.48	64.01	66.66	63.34	64.18	71.21	69.52	73.28	74.26	71.28	74.17	77.06	79.94	82.83	85.72	88.68	91.64	94.61	97.57	100.53
5	26	22	42.43	45.38	41.07	40.00	60.01	63.43	61.55	64.66	63.19	64.07	69.59	69.14	72.00	72.95	71.62	74.43	77.23	80.04	82.84	85.65	88.77	91.88	95.00	98.11	101.23
5	26	23	39.26	43.04	38.69	37.89	57.17	60.53	61.45	61.98	61.53	62.13	68.58	66.78	69.03	71.55	69.04	71.85	74.67	77.48	80.30	83.11	86.38	89.65	92.92	96.19	99.46
5	26	24	32.94	36.81	35.81	35.00	54.84	56.88	57.31	59.53	57.55	59.11	64.28	65.00	67.04	69.07	65.96	68.71	71.45	74.20	76.94	79.69	82.55	85.41	88.28	91.14	94.00
5	27	1	29.45	31.79	34.03	32.55	52.37	53.90	54.78	56.27	55.30	57.09	60.35	61.07	62.20	66.13	63.54	66.07	68.60	71.13	73.66	76.19	78.70	81.21	83.73	86.24	88.75
5	27	2	28.54	31.20	33.03	31.18	51.15	53.12	53.37	55.15	54.20	55.89	58.61	59.69	61.05	63.57	62.02	64.42	66.82	69.21	71.61	74.01	76.37	78.73	81.08	83.44	85.80
5	27	3	28.15	31.00	31.95	30.19	49.95	52.63	52.73	54.36	53.67	55.39	58.45	59.28	60.77	62.99	59.64	62.47	65.29	68.12	70.94	73.77	75.72	77.67	79.62	81.57	83.52
5	27	4	28.26	30.85	30.19	29.75	49.78	52.66	52.67	53.76	52.62	54.68	58.42	59.24	61.17	62.37	57.55	60.19	62.83	65.48	68.12	70.76	72.85	74.94	77.03	79.12	81.21
5	27	5	28.82	31.22	30.04	30.10	50.86	53.44	53.67	53.63	51.92	54.99	59.26	59.93	61.35	62.09	58.59	61.01	63.43	65.84	68.26	70.68	72.63	74.57	76.52	78.46	80.41
5	27	6	30.62	33.12	31.05	30.82	53.09	54.39	56.08	53.86	53.25	55.84	61.41	62.63	64.47	62.85	61.33	63.29	65.25	67.20	69.16	71.12	73.18	75.24	77.31	79.37	81.43
5	27	7	32.37	35.07	31.42	30.21	55.14	55.99	57.69	54.41	54.00	55.46	63.04	64.10	66.65	63.15	61.17	63.38	65.59	67.80	70.01	72.22	74.42	76.62	78.82	81.02	83.22
5	27	8	36.30	40.64	33.43	31.81	57.49	58.71	60.36	55.68	54.51	56.93	65.29	66.01	67.79	65.19	64.29	66.47	68.64	70.82	72.99	75.17	77.55	79.93	82.30	84.68	87.06
5	27	9	38.44	42.42	34.75	33.61	58.55	59.74	61.45	57.67	55.94	58.07	66.48	67.37	70.53	68.15	66.09	68.45	70.81	73.16	75.52	77.88	80.45	83.01	85.58	88.14	90.71
5	27	10	42.21	44.94	36.10	35.01	60.01	61.27	61.72	59.59	57.94	59.29	68.43	68.34	71.04	69.26	67.40	69.95	72.49	75.04	77.58	80.13	82.87	85.60	88.34	91.07	93.81
5	27	11	43.88	45.83	37.54	35.67	61.48	62.71	62.10	60.81	59.30	60.04	68.72	69.46	71.13	70.46	68.88	71.37	73.86	76.36	78.85	81.34	84.13	86.92	89.71	92.50	95.29
5	27	12	44.76	46.44	38.72	36.60	63.11	64.49	62.10	62.07	60.09	60.69	69.30	69.52	71.27	70.54	69.51	72.08	74.64	77.21	79.77	82.34	85.33	88.32	91.30	94.29	97.28

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	27	13	45.60	46.84	39.71	37.18	64.47	65.93	63.11	63.88	61.47	61.11	69.89	71.21	72.48	72.13	69.90	72.69	75.48	78.28	81.07	83.86	87.03	90.20	93.36	96.53	99.70
5	27	14	47.77	47.35	40.49	37.50	67.67	67.34	65.54	64.17	61.69	61.32	71.58	81.97	74.59	72.24	69.82	72.73	75.63	78.54	81.44	84.35	87.20	90.04	92.89	95.73	98.58
5	27	15	48.96	46.88	40.76	37.56	69.83	68.25	67.02	64.18	61.51	61.44	71.96	76.41	79.70	72.03	69.90	72.85	75.81	78.76	81.72	84.67	87.20	89.73	92.26	94.79	97.32
5	27	16	47.59	48.55	41.02	38.14	91.06	68.76	65.50	64.23	61.58	62.13	72.40	71.59	81.31	72.07	70.53	73.37	76.22	79.06	81.91	84.75	87.37	89.98	92.60	95.21	97.83
5	27	17	51.26	47.86	41.31	38.70	86.06	68.85	65.09	64.46	62.27	62.77	73.84	74.88	76.35	72.13	71.23	74.13	77.02	79.92	82.81	85.71	88.13	90.56	92.98	95.41	97.83
5	27	18	44.71	46.59	41.31	38.77	63.69	66.97	64.06	63.88	62.35	63.40	71.49	71.70	74.00	71.96	71.69	74.48	77.28	80.07	82.87	85.66	88.09	90.53	92.96	95.40	97.83
5	27	19	43.78	44.65	40.70	38.41	63.61	65.76	63.57	63.76	61.50	63.40	71.20	70.43	72.67	71.31	71.54	74.07	76.60	79.12	81.65	84.18	86.58	88.99	91.39	93.80	96.20
5	27	20	43.45	44.30	39.83	38.97	63.18	65.25	62.84	62.42	61.02	64.10	70.14	69.53	72.46	70.53	72.18	74.52	76.86	79.20	81.54	83.88	86.25	88.61	90.98	93.34	95.71
5	27	21	43.57	46.52	40.84	39.55	63.83	65.19	63.31	62.45	62.85	65.03	70.00	69.23	73.28	70.53	73.32	75.59	77.85	80.12	82.38	84.65	86.87	89.09	91.30	93.52	95.74
5	27	22	42.73	44.21	40.31	39.25	61.42	61.89	61.45	61.55	62.07	65.00	68.33	69.04	72.47	70.22	73.12	75.41	77.69	79.98	82.26	84.55	86.70	88.85	91.00	93.15	95.30
5	27	23	38.71	43.14	37.85	38.12	58.79	59.77	60.98	59.94	59.26	63.40	66.20	66.79	69.89	68.69	72.19	73.93	75.67	77.41	79.15	80.89	83.31	85.72	88.14	90.55	92.97
5	27	24	32.36	38.97	34.97	35.54	56.35	57.05	57.30	57.60	55.96	60.26	64.04	65.01	67.44	66.58	69.20	71.00	72.80	74.61	76.41	78.21	80.38	82.55	84.72	86.89	89.06
5	28	1	28.93	33.67	33.39	34.13	52.30	53.91	54.94	55.07	54.34	58.82	60.15	61.27	64.17	63.68	66.21	68.06	69.91	71.76	73.61	75.46	77.43	79.40	81.38	83.35	85.32
5	28	2	28.08	31.35	31.99	33.48	51.03	53.28	53.42	53.09	54.20	58.14	58.74	59.95	62.14	61.70	65.51	67.12	68.73	70.33	71.94	73.55	75.05	76.55	78.04	79.54	81.04
5	28	3	27.38	31.05	31.31	33.12	49.36	52.63	52.89	52.00	53.67	57.68	58.42	59.62	61.35	60.85	64.90	66.57	68.25	69.92	71.60	73.27	73.80	74.33	74.85	75.38	75.91
5	28	4	26.96	30.60	30.77	33.45	49.47	52.65	52.38	51.07	53.55	57.94	58.42	59.69	60.48	59.90	65.07	66.51	67.95	69.38	70.82	72.26	71.37	70.48	69.58	68.69	67.80
5	28	5	28.11	30.13	30.86	34.13	50.66	53.82	52.38	50.96	53.93	58.37	59.15	59.89	60.21	59.51	65.80	67.07	68.34	69.61	70.88	72.15	69.55	66.94	64.34	61.73	59.13
5	28	6	30.29	30.77	31.51	36.16	53.01	54.51	52.89	50.83	54.34	60.66	61.41	62.62	60.90	59.17	68.69	69.62	70.55	71.47	72.40	73.33	67.56	61.80	56.03	50.27	44.50
5	28	7	31.79	31.05	30.96	38.29	55.14	56.37	53.92	52.64	53.52	64.09	62.33	64.27	61.49	61.00	72.32	72.46	72.60	72.74	72.88	73.02	73.36	73.71	74.05	74.40	74.74
5	28	8	36.25	33.34	33.36	41.81	57.70	58.69	55.42	54.20	54.34	67.23	65.28	66.01	63.46	63.00	74.18	74.44	74.69	74.95	75.20	75.46	77.09	78.71	80.34	81.96	83.59
5	28	9	39.45	36.04	34.46	44.23	58.55	59.65	57.44	56.29	55.66	68.76	65.99	68.27	66.32	64.91	75.64	75.90	76.16	76.41	76.67	76.93	78.93	80.94	82.94	84.95	86.95
5	28	10	41.32	39.96	35.67	45.78	60.15	60.85	59.14	58.03	57.13	69.51	67.37	69.14	67.67	67.37	76.39	76.89	77.39	77.88	78.38	78.88	81.12	83.37	85.61	87.86	90.10
5	28	11	42.41	41.89	36.66	46.64	61.41	62.66	60.07	59.05	58.06	70.77	68.58	69.15	67.79	68.68	76.79	77.38	77.98	78.57	79.17	79.76	82.21	84.67	87.12	89.58	92.03
5	28	12	42.15	43.58	37.92	48.12	62.88	65.93	60.56	59.26	58.96	71.46	69.89	68.56	69.27	68.72	78.63	79.14	79.65	80.17	80.68	81.19	83.56	85.92	88.29	90.65	93.02
5	28	13	43.28	44.46	38.43	47.78	65.14	66.94	61.30	60.15	59.43	71.58	71.71	69.52	70.48	68.99	79.68	80.11	80.53	80.96	81.38	81.81	84.27	86.73	89.18	91.64	94.10
5	28	14	45.06	44.71	38.64	50.10	66.72	68.48	62.56	60.69	59.76	88.73	77.91	74.16	70.45	69.26	97.76	94.58	91.40	88.22	85.04	81.86	84.29	86.73	89.16	91.60	94.03
5	28	15	45.10	44.71	38.81	51.07	67.82	68.84	62.86	60.84	59.97	91.26	74.85	79.38	69.69	69.43	90.56	88.95	87.34	85.72	84.11	82.50	84.81	87.12	89.42	91.73	94.04
5	28	16	47.52	45.21	39.19	53.99	70.73	68.03	63.31	61.40	60.15	115.29	73.00	71.15	69.74	69.64	94.28	92.01	89.74	87.48	85.21	82.94	85.22	87.51	89.79	92.08	94.36
5	28	17	44.18	45.86	39.51	52.74	73.13	69.03	63.32	61.77	60.60	108.31	74.92	71.15	69.69	70.38	93.63	91.79	89.95	88.11	86.27	84.43	86.54	88.65	90.76	92.87	94.98
5	28	18	42.17	44.73	39.45	48.20	65.38	68.05	62.98	61.58	60.76	73.04	72.60	70.60	69.41	70.23	78.86	80.11	81.35	82.60	83.84	85.09	87.07	89.05	91.02	93.00	94.98
5	28	19	41.39	43.99	39.22	45.85	63.37	65.76	61.74	61.09	60.86	70.10	71.21	69.62	68.86	69.18	77.94	79.31	80.68	82.05	83.42	84.79	86.64	88.49	90.33	92.18	94.03
5	28	20	41.12	42.95	39.59	45.95	63.30	65.37	60.20	61.09	61.00	69.82	70.59	69.53	68.47	68.72	77.29	78.91	80.52	82.14	83.75	85.37	86.97	88.56	90.16	91.75	93.35
5	28	21	42.58	43.09	40.46	45.97	63.18	65.51	60.30	61.47	63.12	70.64	70.51	70.11	68.42	69.35	77.75	79.49	81.23	82.96	84.70	86.44	88.14	89.85	91.55	93.26	94.96
5	28	22	41.62	42.50	39.92	45.78	60.50	61.90	59.42	60.81	63.01	69.54	68.69	69.15	67.79	69.64	76.75	78.77	80.79	82.81	84.83	86.85	88.48	90.11	91.75	93.38	95.01
5	28	23	39.65	39.71	39.73	42.41	58.46	59.74	57.69	59.04	61.22	66.76	65.59	68.08	67.04	68.68	74.40	76.42	78.45	80.47	82.50	84.52	85.97	87.41	88.86	90.30	91.75
5	28	24	33.88	35.01	36.99	37.53	57.25	56.98	55.90	56.41	57.30	62.35	63.04	65.18	64.52	65.66	70.70	72.71	74.72	76.72	78.73	80.74	82.09	83.44	84.78	86.13	87.48
5	29	1	29.38	32.13	34.53	34.53	52.37	53.83	53.83	54.15	55.67	58.88	59.62	62.35	61.49	62.73	66.81	69.19	71.58	73.96	76.35	78.73	79.95	81.16	82.38	83.59	84.81
5	29	2	28.02	29.19	33.53	33.00	51.10	53.11	50.99	52.68	55.36	58.06	57.75	60.66	59.15	61.00	65.05	67.47	69.88	72.30	74.71	77.13	77.99	78.85	79.71	80.57	81.43
5	29	3	26.92	28.47	33.38	32.00	50.23	52.50	49.87	51.01	55.13	57.56	57.46	59.62	57.24	59.91	64.64	67.00	69.36	71.71	74.07	76.43	75.46	74.49	73.51	72.54	71.57
5	29	4	26.45	27.93	33.51	31.88	51.22	52.48	49.12	50.34	55.32	57.44	57.47	58.90	55.80	59.04	64.09	66.66	69.22	71.79	74.35	76.92	71.27	65.61	59.96	54.30	48.65
5	29	5	26.15	27.30	34.70	32.83	51.55	53.26	49.12	50.14	55.78	57.93	58.10	58.83	55.06	59.04	65.07	67.68	70.29	72.90	75.51	78.12	66.24	54.36	42.48	30.60	18.72
5	29	6	26.65	27.35	37.02	35.46	53.45	54.18	48.96	51.27	57.99	59.54	60.74	59.09	54.57	59.98	67.04	70.07	73.09	76.12	79.14	82.17	80.09	78.00	75.92	73.83	71.75
5	29	7	27.72	29.07	39.72	36.30	55.29	56.17	51.88	52.85	61.15	60.50	61.84	59.80	57.71	61.17	69.00	72.75	76.50	80.24	83.99	87.74	86.29	84.84	83.40	81.95	80.50
5	29	8	29.26	31.12	44.16	39.14	57.49	58.28	53.09	54.34	64.25	64.30	65.11	61.55	60.55	63.07	72.32	76.03	79.74	83.46	87.17	90.88	89.65	88.42	87.20	85.97	84.74
5	29	9	31.55	33.01	46.77	42.19	58.34	59.22	55.12	55.52	65.76	66.23	66.70	64.17	62.93	64.76	74.42	77.79	81.16	84.54	87.91	91.28	90.50	89.72	88.93	88.15	87.37
5	29	10	34.42	35.03	47.56	44.56	59.97	60.12	56.14	56.71	65.97	67.44	67.57	65.01	65.17	66.41	75.94	79.01	82.08	85.14	88.21	91.28	90.89	90.50	90.12	89.73	89.34
5	29	11	36.42	37.18	48.14	45.26	61.50	61.85	57.27	57.46	66.01	68.92	67.87	65.25	66.71	67.65	76.28	79.28	82.28	85.28	88.28	91.28	91.17	91.06	90.95	90.84	90.73
5	29	12	38.19	38.60	48.42	46.33	62.60	63.33	58.04	58.13	66.82	68.45	68.58	66.32	67.04	68.28	76.21	79.28	82.35	85.42	88.49	91.56	91.71	91.86	92.00	92.15	92.30
5	29	13	39.55	39.77	48.44	47.78	63.79	65.36	58.73	58.62	68.47	68.23	69.89	68.04	67.05	68.39	76.09	79.87	83.64	87.42	91.19	94.97	94.57	94.16	93.76	93.35	92.95
5	29	14	38.83	40.28	50.15	47.70	64.55	65.40	58.96	58.90	79.60	68.33	71.28	68.29	67.16	68.23	76.08	82.95	89.82	96.69	103.56	110.43	106.98	103.53	100.08	96.63	93.18
5	29	15	38.83	40.38	50.03	47.14	64.92	65.50	58.99	58.99	81.72	68.90	73.12	68.22	67.21	68.39	76.08	81.89	87.70	93.51	99.32	105.13	102.74	100.35	97.96	95.57	93.18
5	29	16	38.83	40.64	50.69	47.60	64.45	65.43	59.73	59.33	89.90	69.19	73.79	68.40	67.42	68.93	76.08	82.88	89.68	96.47	103.27	110.07	106.77	103.47	100.18	96.88	93.58
5	29	17	39.41	40.74	52.34	47.35	63.07	65.18	60.07	60.03	84.85	69.20	72.60	68.39	67.85	69.06	76.39	83.51	90.62	97.74	104.85	111.97	108.49	105.01	101.53	98.05	94.57
5	29	18	39.22	40.74	48.55	46.63	63.16	63.99	60.07	60.17	69.03	68.90	69.76	68.04	67.83	69.13	76.35	80.32	84.30	88.27	92.25	96.22	96.06	95.90	95.74	95.58	95.42
5	29	19	38.51	40.28	47.00	45.47	62.64	62.70	58.99	60.14	66.50	66.89	68.44	67.65	67.16	69.12	75.20	78.47	81.74	85.02	88.29	91.56	92.30	93.03	93.77	94.50	95.24
5	29	20	36.34	39.77	46.88	45.17	62.62	61.99	58.71	60.20	66.10	66.90	68.35	66.15	67.09	69.53	75.20	78.42	81.63	84.85	88.06	91.28	92.28	93.28	94.27	95.27	96.27
5	29	21	37.36	40.06	46.85	45.05	62.64	64.64	58.87	61.24	66.50	66.79	69.59	65.90	67.58	71.25	75.10	78.34	81.58	84.81	88.05	91.29	92.77	94.24	95.72	97.19	98.67
5	29	22	36.77	39.89	46.38	44.29	60.50	61.89	58.27	61.25	65.55	66.24	67.87	66.13	67.58	71.25	73.04	76.69	80.34	83.98	87.63	91.28	92.99	94.71	96.42	98.14	99.85
5	29	23	34.40	36.12	42.13	40.32	58.82	59.22	57.08	60.31	63.37	64.62	65.87	65.01	66.70	69.47	72.32	75.36	78.40	81.45	84.49	87.53	89.23	90.93	92.64	94.34	96.04

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
5	29	24	30.53	32.98	38.53	37.39	56.43	56.66	55.39	57.35	58.69	61.65	63.99	62.74	63.64	68.17	69.73	71.93	74.13	76.34	78.54	80.74	82.92	85.11	87.29	89.48	91.66
5	30	1	28.15	30.57	34.71	34.94	52.21	54.42	53.33	55.11	55.81	59.04	60.20	60.15	60.36	64.22	67.19	69.09	70.99	72.89	74.79	76.69	78.75	80.81	82.87	84.93	86.99
5	30	2	26.06	29.03	33.43	33.23	50.66	53.57	52.07	54.05	55.12	57.64	58.44	57.55	58.22	63.55	65.59	67.42	69.25	71.07	72.90	74.73	76.85	78.98	81.10	83.23	85.35
5	30	3	25.50	26.91	32.60	32.69	50.03	52.75	49.28	53.66	54.96	57.54	57.46	56.31	56.25	63.20	64.58	66.49	68.39	70.30	72.20	74.11	76.19	78.27	80.36	82.44	84.52
5	30	4	25.10	26.64	32.11	32.62	49.69	52.41	49.19	53.98	54.92	57.37	57.07	55.18	55.00	63.41	64.56	66.36	68.16	69.96	71.76	73.56	75.82	78.08	80.33	82.59	84.85
5	30	5	24.98	26.50	33.07	33.19	50.55	52.35	49.21	55.16	55.50	58.18	56.98	54.85	53.77	64.84	65.52	67.40	69.28	71.15	73.03	74.91	77.31	79.71	82.11	84.51	86.91
5	30	6	25.07	27.31	35.26	35.40	52.92	52.72	50.70	57.37	56.46	59.83	57.28	54.25	56.61	68.29	67.71	69.74	71.78	73.81	75.85	77.88	80.69	83.50	86.30	89.11	91.92
5	30	7	25.78	28.31	37.06	37.77	54.75	53.38	51.88	59.62	57.29	60.54	57.78	57.13	58.81	69.64	69.51	71.83	74.15	76.46	78.78	81.10	84.03	86.95	89.88	92.80	95.73
5	30	8	27.73	30.37	40.08	39.26	57.49	54.40	52.88	62.14	60.79	63.63	60.15	59.46	60.66	72.51	72.32	74.87	77.43	79.98	82.54	85.09	87.90	90.71	93.51	96.32	99.13
5	30	9	29.48	32.51	43.28	43.64	58.37	56.44	54.55	63.98	62.56	66.07	61.64	61.64	62.35	73.52	75.38	77.74	80.09	82.45	84.80	87.16	89.95	92.75	95.54	98.34	101.13
5	30	10	31.31	33.80	46.03	46.85	59.71	57.73	56.00	64.99	64.25	68.41	64.03	63.39	63.65	75.00	76.60	78.91	81.22	83.53	85.84	88.15	90.77	93.39	96.00	98.62	101.24
5	30	11	32.99	34.81	47.57	48.92	60.67	59.54	56.92	65.17	65.10	69.55	64.91	65.00	64.48	75.34	78.68	81.20	83.72	86.24	88.76	91.28	93.35	95.42	97.49	99.56	101.63
5	30	12	34.41	36.44	47.79	49.68	62.22	60.77	57.69	65.89	65.41	70.09	65.98	65.00	65.24	76.82	79.08	81.48	83.88	86.28	88.68	91.08	93.66	96.25	98.83	101.42	104.00
5	30	13	35.88	37.28	47.95	50.12	63.71	61.85	57.70	66.90	65.89	72.42	67.37	65.01	65.37	79.61	78.63	81.07	83.51	85.96	88.40	90.84	94.31	97.78	101.24	104.71	108.18
5	30	14	35.68	37.75	48.22	54.59	65.82	61.89	57.69	89.96	66.38	76.34	67.47	65.34	65.47	105.54	83.72	85.14	86.56	87.99	89.41	90.83	96.38	101.93	107.48	113.03	118.58
5	30	15	35.68	37.93	48.02	52.09	63.91	61.96	57.61	87.29	66.46	73.71	66.93	65.62	65.68	96.23	82.75	84.40	86.04	87.69	89.33	90.98	96.81	102.64	108.48	114.31	120.14
5	30	16	35.98	38.31	47.68	51.83	63.35	61.99	57.93	89.82	66.92	73.04	67.02	65.62	66.26	95.79	84.50	85.83	87.16	88.49	89.82	91.15	96.54	101.94	107.33	112.73	118.12
5	30	17	36.20	38.57	47.68	52.32	63.30	62.13	58.32	96.32	67.04	70.14	67.33	66.17	66.99	94.98	81.54	83.38	85.22	87.05	88.89	90.73	96.07	101.40	106.74	112.07	117.41
5	30	18	36.20	39.13	46.77	51.31	62.68	61.96	58.85	78.37	65.41	69.61	66.77	66.02	67.37	84.71	80.67	82.68	84.69	86.71	88.72	90.73	93.42	96.12	98.81	101.51	104.20
5	30	19	35.68	38.90	46.35	47.94	62.06	61.53	58.65	66.41	64.27	68.67	65.95	65.22	67.32	75.77	76.09	78.49	80.89	83.29	85.69	88.09	91.14	94.19	97.23	100.28	103.33
5	30	20	35.54	39.02	45.23	46.43	61.60	60.92	58.85	66.12	64.10	67.75	65.66	65.01	67.37	75.27	75.63	78.00	80.37	82.73	85.10	87.47	90.64	93.81	96.99	100.16	103.33
5	30	21	36.32	40.76	45.63	46.36	62.48	60.78	58.99	66.12	64.10	67.63	65.66	65.22	67.60	75.83	76.08	78.37	80.66	82.95	85.24	87.53	90.75	93.96	97.18	100.39	103.61
5	30	22	36.30	40.73	43.63	45.25	60.01	60.04	58.75	65.22	63.62	66.39	65.47	65.22	67.90	73.42	74.55	77.15	79.74	82.34	84.93	87.53	90.45	93.37	96.30	99.22	102.14
5	30	23	32.42	38.51	41.53	42.72	58.00	57.76	57.98	62.98	62.27	64.57	64.01	64.88	67.43	72.89	72.91	75.47	78.04	80.60	83.17	85.73	88.55	91.37	94.18	97.00	99.82
5	30	24	29.57	34.74	37.59	37.96	55.80	55.52	56.31	59.57	57.62	62.16	60.78	62.09	65.76	68.44	71.14	73.01	74.89	76.76	78.64	80.51	83.01	85.51	88.00	90.50	93.00
5	31	1	27.27	32.39	34.67	35.10	53.23	53.40	53.98	55.77	55.59	58.88	58.34	59.16	61.49	64.41	67.46	69.33	71.19	73.06	74.92	76.79	78.73	80.68	82.62	84.57	86.51
5	31	2	26.05	31.17	33.26	33.90	50.90	51.45	52.66	54.09	54.73	57.95	56.54	58.10	60.60	62.93	65.25	67.15	69.04	70.94	72.83	74.73	76.50	78.27	80.05	81.82	83.59
5	31	3	24.93	28.64	32.69	33.30	50.58	50.49	52.38	53.34	53.87	57.01	55.50	55.42	59.93	62.17	65.37	66.70	68.04	69.37	70.71	72.04	73.87	75.71	77.54	79.38	81.21
5	31	4	24.72	31.15	32.60	33.01	49.96	49.95	52.61	52.82	53.82	56.50	54.13	54.40	60.34	61.46	64.86	66.29	67.72	69.14	70.57	72.00	73.23	74.45	75.68	76.90	78.13
5	31	5	24.64	31.76	33.37	33.69	49.92	49.61	54.29	53.65	54.80	57.64	53.35	54.22	61.65	63.12	65.52	67.32	69.12	70.93	72.73	74.53	75.99	77.45	78.92	80.38	81.84
5	31	6	25.23	34.93	35.48	35.56	50.53	49.79	56.43	56.26	56.08	58.88	53.02	55.79	65.23	65.50	67.51	69.38	71.25	73.12	74.99	76.86	79.14	81.42	83.71	85.99	88.27
5	31	7	25.82	38.84	37.50	37.37	51.61	51.09	57.82	57.92	57.66	60.36	54.95	57.05	67.39	67.34	69.29	71.67	74.05	76.42	78.80	81.18	83.31	85.44	87.58	89.71	91.84
5	31	8	27.49	42.31	40.95	40.47	53.63	53.91	60.94	59.81	61.48	63.98	57.75	59.10	69.70	70.16	72.52	75.03	77.55	80.06	82.58	85.09	87.32	89.55	91.78	94.01	96.24
5	31	9	28.91	44.66	43.79	44.06	56.24	54.58	61.83	61.92	63.01	66.82	59.82	60.43	71.23	72.29	75.03	77.45	79.86	82.28	84.69	87.11	89.55	91.99	94.44	96.88	99.32
5	31	10	30.14	46.16	47.19	47.15	58.00	56.20	62.74	62.65	64.95	69.02	61.31	61.62	71.94	72.89	76.45	79.32	82.18	85.05	87.91	90.78	92.73	94.68	96.63	98.58	100.53
5	31	11	31.56	47.65	48.36	49.77	59.11	57.18	63.55	64.27	66.13	69.94	62.70	62.63	73.34	73.53	78.08	80.72	83.36	86.00	88.64	91.28	93.25	95.22	97.18	99.15	101.12
5	31	12	32.36	50.85	48.43	52.42	59.57	58.42	64.84	64.51	66.82	71.70	63.16	62.78	74.48	74.35	80.55	82.70	84.85	86.99	89.14	91.29	93.38	95.46	97.55	99.63	101.72
5	31	13	32.75	53.48	50.52	56.77	59.93	59.41	67.79	64.99	68.06	76.15	63.93	63.11	78.39	74.28	83.13	84.87	86.61	88.35	90.09	91.83	93.93	96.03	98.13	100.23	102.33
5	31	14	32.97	82.05	60.79	61.06	59.95	59.52	88.54	65.16	79.07	80.07	64.06	63.18	107.55	74.36	88.07	89.37	90.68	91.98	93.29	94.59	96.16	97.73	99.29	100.86	102.43
5	31	15	33.04	54.84	55.06	57.83	60.13	59.55	75.38	65.16	74.67	80.29	64.05	63.44	86.65	74.12	83.16	85.12	87.08	89.03	90.99	92.95	94.96	96.97	98.98	100.99	103.00
5	31	16	33.09	55.05	49.99	56.26	60.29	59.90	75.06	65.17	74.70	78.20	64.24	64.18	86.59	73.53	85.08	86.86	88.63	90.41	92.18	93.96	95.85	97.73	99.62	101.50	103.39
5	31	17	33.31	55.05	50.06	56.26	60.48	60.51	75.66	65.49	74.43	76.78	64.38	64.61	83.90	73.07	83.44	85.68	87.92	90.16	92.40	94.64	96.36	98.08	99.80	101.52	103.24
5	31	18	33.06	51.57	48.81	52.46	60.53	60.36	72.47	64.76	74.20	71.08	64.38	64.93	81.65	72.80	82.11	83.97	85.82	87.68	89.53	91.39	93.69	95.99	98.28	100.58	102.88
5	31	19	33.65	47.32	47.57	48.52	59.73	59.53	67.08	63.55	67.52	69.26	64.04	64.94	73.38	71.96	77.95	80.52	83.09	85.66	88.23	90.80	92.87	94.93	97.00	99.06	101.13
5	31	20	34.05	46.77	46.77	47.09	58.81	59.31	66.56	62.93	66.76	69.72	63.78	65.31	73.06	71.96	77.07	79.70	82.32	84.95	87.57	90.20	92.39	94.57	96.76	98.94	101.13
5	31	21	34.53	46.77	46.82	46.38	59.08	59.43	65.52	62.65	66.76	69.20	64.43	65.39	74.20	71.65	77.10	79.83	82.56	85.28	88.01	90.74	92.82	94.90	96.97	99.05	101.13
5	31	22	34.92	44.83	46.77	45.78	58.83	58.23	62.63	62.04	65.10	68.54	64.36	66.49	72.77	71.28	76.76	79.20	81.64	84.09	86.53	88.97	91.20	93.43	95.65	97.88	100.11
5	31	23	34.71	42.44	43.51	44.29	57.90	56.34	60.94	61.10	63.52	67.59	62.23	66.01	70.63	70.36	74.42	76.93	79.44	81.95	84.46	86.97	89.37	91.76	94.16	96.55	98.95
5	31	24	31.38	37.62	38.84	38.64	54.61	54.79	57.97	57.81	59.56	63.74	59.47	63.39	67.26	67.55	71.69	73.78	75.86	77.95	80.03	82.12	84.07	86.01	87.96	89.90	91.85
6	1	1	28.99	32.76	35.12	35.35	53.23	53.72	55.05	55.51	55.89	59.39	57.38	60.66	61.92	64.64	67.34	69.10	70.86	72.61	74.37	76.13	77.97	79.81	81.64	83.48	85.32
6	1	2	27.99	29.03	33.79	34.05	49.82	51.92	52.70	53.53	54.59	58.31	55.47	59.86	60.10	62.34	65.64	67.33	69.01	70.70	72.38	74.07	75.53	76.99	78.45	79.91	81.37
6	1	3	26.48	28.34	33.32	32.85	49.19	49.08	52.13	52.77	54.70	57.54	53.52	58.09	58.82	61.15	64.77	66.65	68.52	70.40	72.27	74.15	74.69	75.23	75.77	76.31	76.85
6	1	4	27.99	28.07	33.07	32.28	48.44	48.72	51.58	52.95	54.34	56.96	52.78	59.16	58.04	61.11	63.70	65.76	67.82	69.89	71.95	74.01	74.56	75.12	75.67	76.23	76.78
6	1	5	29.45	28.67	33.63	31.88	48.07	48.50	52.17	53.25	54.70	56.80	52.30	60.27	59.15	62.00	63.55	65.68	67.81	69.93	72.06	74.19	75.54	76.90	78.25	79.61	80.96
6	1	6	31.89	32.27	35.66	32.28	48.26	49.80	55.81	55.95	55.97	57.21	54.35	62.69	63.09	66.44	64.24	66.84	69.44	72.03	74.63	77.23	79.11	80.99	82.87	84.75	86.63
6	1	7	34.76	34.18	37.04	33.15	49.58	51.05	57.50	57.41	57.94	58.18	55.82	65.31	65.53	67.81	65.25	68.18	71.12	74.05	76.99	79.92	82.30	84.69	87.07	89.46	91.84
6	1	8	38.31	38.76	41.08	35.58	52.20	53.54	59.14	59.36	61.57	60.06	57.49	68.57	67.90	69.64	67.47	70.84	74.20	77.57	80.93	84.30	86.48	88.67	90.85	93.04	95.22
6	1	9	40.93	41.74	44.66	38.42	55.38	54.96	61.29	60.68	63.36	63.67	59.16	70.55	69.42	71.46	70.91	74.23	77.56	80.88	84.21	87.53	89.89	92.24	94.60	96.95	99.31
6	1	10	42.56	43.41	47.12	40.47	57.62	55.57	62.00	62.47	64.25	65.88	60.63	71.43	70.24	73.42	71.88	75.67	79.46	83.26	87.05	90.84	92.58	94.32	96.06	97.80	99.54

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	1	11	45.24	43.88	48.83	44.27	58.27	56.56	62.50	63.98	65.60	67.16	61.72	71.53	71.15	73.75	72.32	76.11	79.91	83.70	87.50	91.29	93.26	95.22	97.19	99.15	101.12
6	1	12	44.67	44.66	48.81	45.66	58.99	56.94	63.17	63.98	66.57	69.67	62.89	72.14	71.30	73.47	73.48	77.04	80.60	84.17	87.73	91.29	93.40	95.51	97.61	99.72	101.83
6	1	13	44.51	45.31	49.24	47.88	59.06	57.32	63.17	64.76	67.47	69.72	62.89	72.18	71.30	73.75	75.90	78.98	82.06	85.13	88.21	91.29	93.48	95.66	97.85	100.03	102.22
6	1	14	49.84	45.47	49.90	46.68	58.91	57.46	63.17	65.16	68.11	70.02	62.84	80.83	71.59	73.87	76.08	79.33	82.57	85.82	89.06	92.31	94.38	96.46	98.53	100.61	102.68
6	1	15	51.41	44.66	49.80	46.14	58.35	57.38	62.40	65.14	68.15	69.33	62.64	78.95	71.89	74.29	76.00	79.24	82.48	85.72	88.96	92.20	94.31	96.42	98.52	100.63	102.74
6	1	16	57.30	44.51	49.33	46.39	58.25	57.73	62.23	65.16	69.27	70.06	63.14	82.60	71.45	73.53	76.42	79.58	82.73	85.89	89.04	92.20	94.31	96.42	98.52	100.63	102.74
6	1	17	60.67	44.51	48.40	46.68	58.34	58.22	62.28	65.27	68.02	71.19	64.25	88.06	71.33	73.33	76.82	79.75	82.68	85.61	88.54	91.47	93.71	95.95	98.20	100.44	102.68
6	1	18	43.91	44.41	48.83	46.71	58.15	58.83	62.34	65.17	67.04	71.60	64.83	73.62	71.30	73.19	76.77	79.69	82.61	85.54	88.46	91.38	93.61	95.84	98.07	100.30	102.53
6	1	19	41.36	44.05	48.06	46.91	58.26	58.83	61.80	64.71	66.64	71.00	64.76	70.99	69.85	73.06	76.00	78.95	81.91	84.86	87.82	90.77	92.91	95.05	97.19	99.33	101.47
6	1	20	41.31	43.52	46.77	45.27	58.36	58.83	61.18	64.19	66.53	69.20	65.22	70.83	69.89	72.56	74.61	77.82	81.03	84.24	87.45	90.66	92.71	94.76	96.80	98.85	100.90
6	1	21	41.71	43.70	47.65	45.07	57.94	59.38	60.77	64.14	65.76	68.69	65.93	70.96	70.25	72.23	74.38	77.61	80.83	84.06	87.28	90.51	92.63	94.75	96.88	99.00	101.12
6	1	22	42.34	43.36	46.65	45.12	57.99	58.59	60.29	62.58	64.45	66.88	65.51	70.09	69.53	70.52	74.34	77.38	80.42	83.46	86.50	89.54	91.69	93.85	96.00	98.16	100.31
6	1	23	39.09	40.67	43.36	40.47	56.59	58.10	60.63	61.26	63.51	65.69	64.45	68.62	68.27	69.64	72.18	75.24	78.30	81.37	84.43	87.49	89.04	90.59	92.15	93.70	95.25
6	1	24	33.00	35.09	38.77	37.84	54.87	55.97	57.98	59.06	58.84	62.10	61.59	64.37	65.53	68.04	69.24	71.88	74.53	77.17	79.82	82.46	84.36	86.26	88.16	90.06	91.96
6	2	1	30.05	32.00	35.66	35.08	51.49	54.42	55.61	56.00	56.08	59.39	59.19	60.69	61.65	65.19	66.74	68.94	71.14	73.35	75.55	77.75	79.52	81.30	83.07	84.85	86.62
6	2	2	26.81	29.18	33.79	32.53	49.43	53.78	52.91	54.43	55.41	57.33	57.76	58.48	59.59	63.57	64.64	66.79	68.94	71.08	73.23	75.38	77.18	78.98	80.77	82.57	84.37
6	2	3	25.73	28.51	32.69	31.37	48.32	52.30	52.30	53.71	54.70	56.53	56.85	57.28	58.39	63.24	63.46	65.35	67.24	69.12	71.01	72.90	75.19	77.48	79.77	82.06	84.35
6	2	4	25.48	28.51	32.05	30.31	47.57	53.73	52.07	52.73	54.46	55.69	57.49	56.83	58.20	62.12	62.50	64.45	66.41	68.36	70.32	72.27	74.15	76.03	77.90	79.78	81.66
6	2	5	26.40	29.37	31.79	29.68	47.76	53.73	53.19	54.05	54.31	54.99	59.04	58.44	58.94	63.78	60.49	62.80	65.10	67.41	69.71	72.02	74.52	77.02	79.52	82.02	84.52
6	2	6	29.98	32.50	32.26	29.43	48.74	56.84	56.11	55.82	54.24	54.99	61.33	61.35	63.03	66.39	60.88	63.24	65.60	67.97	70.33	72.69	75.65	78.61	81.56	84.52	87.48
6	2	7	31.31	34.63	33.62	31.42	49.91	57.27	57.42	57.65	55.18	56.88	64.90	63.84	66.05	68.23	62.79	65.04	67.29	69.54	71.79	74.04	77.55	81.06	84.56	88.07	91.58
6	2	8	35.08	39.17	34.92	33.88	52.37	59.67	60.56	59.65	56.56	58.19	68.03	66.70	67.61	69.76	64.95	67.42	69.88	72.35	74.81	77.28	80.97	84.66	88.34	92.03	95.72
6	2	9	37.93	42.26	38.01	36.18	53.74	60.98	62.00	61.77	58.90	60.43	69.31	67.83	69.07	72.51	67.92	70.51	73.10	75.69	78.28	80.87	84.56	88.25	91.93	95.62	99.31
6	2	10	40.34	44.25	40.52	38.83	54.47	62.28	62.97	62.68	61.48	63.48	70.30	68.71	71.64	73.53	70.48	73.34	76.20	79.05	81.91	84.77	87.86	90.95	94.05	97.14	100.23
6	2	11	42.63	46.30	44.16	40.24	55.13	63.32	66.24	64.16	63.42	65.29	71.28	69.47	72.41	76.06	71.89	74.93	77.98	81.02	84.07	87.11	89.83	92.55	95.26	97.98	100.70
6	2	12	43.04	47.42	47.27	43.47	56.19	63.85	66.61	65.16	65.10	66.65	71.64	69.62	72.05	77.20	72.81	75.87	78.92	81.98	85.03	88.09	90.81	93.53	96.24	98.96	101.68
6	2	13	44.40	47.45	47.12	44.15	56.69	63.85	67.21	66.41	66.82	68.28	72.24	69.82	73.30	81.64	74.06	77.10	80.15	83.19	86.24	89.28	91.84	94.40	96.96	99.52	102.08
6	2	14	45.85	47.74	47.68	45.32	56.96	74.27	67.75	66.50	68.79	68.59	83.58	69.84	73.59	82.33	75.25	78.41	81.57	84.73	87.89	91.05	93.34	95.63	97.91	100.20	102.49
6	2	15	44.40	47.42	47.02	46.07	56.49	73.57	66.92	66.70	68.17	69.31	83.58	69.42	73.53	86.36	75.94	78.96	81.98	85.00	88.02	91.04	93.31	95.57	97.84	100.10	102.37
6	2	16	43.18	46.61	49.03	45.88	57.14	75.11	66.63	66.89	68.55	69.20	84.99	69.42	72.83	82.80	75.94	79.06	82.19	85.31	88.44	91.56	93.72	95.88	98.03	100.19	102.35
6	2	17	43.18	45.92	49.30	46.68	57.64	76.69	64.14	67.94	69.34	69.30	85.82	69.42	72.82	77.74	75.94	79.29	82.64	85.98	89.33	92.68	94.64	96.60	98.57	100.53	102.49
6	2	18	42.99	45.12	49.33	46.68	57.66	66.14	62.73	66.66	72.82	69.48	72.18	69.00	72.56	77.38	76.35	79.71	83.07	86.42	89.78	93.14	94.99	96.83	98.68	100.52	102.37
6	2	19	41.56	44.75	47.79	49.48	57.64	63.89	62.34	64.90	68.41	69.84	70.91	68.24	71.43	73.42	76.41	79.27	82.14	85.00	87.87	90.73	92.83	94.93	97.04	99.14	101.24
6	2	20	39.70	44.66	46.24	52.46	57.66	62.54	62.27	64.16	66.82	70.22	69.70	68.61	70.92	73.99	76.87	79.20	81.53	83.87	86.20	88.53	91.20	93.87	96.53	99.20	101.87
6	2	21	40.37	44.88	46.25	51.04	58.21	63.36	62.27	63.33	66.11	72.18	70.34	68.26	71.17	72.89	78.08	80.16	82.24	84.32	86.40	88.48	91.13	93.78	96.42	99.07	101.72
6	2	22	38.96	43.83	45.87	47.95	58.07	61.88	61.83	62.63	64.84	71.74	69.42	67.79	70.51	72.52	77.23	79.56	81.89	84.22	86.55	88.88	91.23	93.58	95.92	98.27	100.62
6	2	23	36.46	42.06	42.07	45.26	57.94	60.34	61.50	61.47	63.36	68.59	67.26	66.92	68.22	71.21	75.20	77.21	79.23	81.24	83.26	85.27	88.08	90.90	93.71	96.53	99.34
6	2	24	32.44	36.51	38.04	42.03	55.15	59.56	58.87	58.92	59.40	66.08	63.30	64.76	66.87	68.85	72.87	74.40	75.92	77.45	78.97	80.50	83.18	85.86	88.53	91.21	93.89
6	3	1	29.98	32.47	35.24	37.89	52.40	54.58	55.81	56.41	56.31	62.83	59.56	60.66	62.61	66.53	69.41	70.91	72.41	73.92	75.42	76.92	79.28	81.64	83.99	86.35	88.71
6	3	2	27.73	31.49	33.33	36.38	52.01	52.58	54.13	55.04	54.50	60.18	56.85	58.27	60.96	64.13	68.17	69.34	70.50	71.67	72.83	74.00	76.32	78.65	80.97	83.30	85.62
6	3	3	26.14	30.81	32.17	34.49	50.68	51.57	52.59	52.63	53.90	58.48	55.19	57.48	60.34	61.47	66.22	67.60	68.98	70.35	71.73	73.11	74.27	75.44	76.60	77.77	78.93
6	3	4	26.08	28.51	30.85	34.31	51.65	50.97	51.94	52.19	53.60	58.22	54.53	57.92	59.73	61.54	65.55	66.66	67.77	68.87	69.98	71.09	71.15	71.20	71.26	71.31	71.37
6	3	5	27.58	31.05	30.04	34.75	52.48	52.56	53.41	52.01	53.10	58.55	55.67	58.84	60.77	61.06	65.86	66.62	67.37	68.13	68.88	69.64	69.75	69.86	69.97	70.08	70.19
6	3	6	30.49	32.77	29.42	36.60	56.22	54.56	56.08	52.44	53.00	60.04	60.27	62.16	63.21	61.22	68.34	68.68	69.02	69.37	69.71	70.05	71.13	72.21	73.30	74.38	75.46
6	3	7	31.63	34.78	32.07	39.69	57.69	55.85	57.02	54.57	54.20	65.15	61.87	64.72	65.97	64.18	72.32	72.23	72.14	72.05	71.96	71.87	74.36	76.85	79.34	81.83	84.32
6	3	8	35.08	39.89	33.74	43.91	60.22	59.01	59.37	56.29	55.84	65.95	65.90	66.01	68.61	67.81	73.18	73.47	73.76	74.06	74.35	74.64	77.41	80.17	82.94	85.70	88.47
6	3	9	37.99	42.67	36.35	45.57	61.48	59.97	61.50	58.46	57.95	67.75	66.76	68.01	70.82	69.12	75.20	75.96	76.72	77.47	78.23	78.99	81.78	84.57	87.37	90.16	92.95
6	3	10	42.27	44.66	39.05	46.74	62.52	61.48	62.63	60.68	60.42	68.80	67.44	69.55	72.44	69.26	76.20	77.38	78.56	79.74	80.92	82.10	84.83	87.55	90.28	93.00	95.73
6	3	11	45.51	48.49	41.25	47.76	63.94	62.66	64.09	62.00	62.22	69.26	67.92	70.20	73.22	70.33	76.17	77.80	79.43	81.05	82.68	84.31	87.41	90.51	93.62	96.72	99.82
6	3	12	46.13	48.49	43.72	48.62	65.66	64.22	64.67	64.46	64.06	70.22	68.04	70.18	73.73	72.08	76.76	78.67	80.59	82.50	84.42	86.33	89.29	92.24	95.20	98.15	101.11
6	3	13	46.40	52.47	45.29	50.21	65.50	65.07	68.38	65.48	64.66	71.08	67.64	71.32	75.13	74.24	78.86	80.42	81.98	83.53	85.09	86.65	89.61	92.58	95.54	98.51	101.47
6	3	14	48.86	53.10	45.99	51.97	64.45	65.04	70.44	66.23	65.56	73.10	67.64	72.79	78.57	75.33	78.94	80.56	82.18	83.81	85.43	87.05	90.04	93.03	96.01	99.00	101.99
6	3	15	48.78	53.10	47.59	51.11	65.26	64.90	70.44	66.18	67.90	73.04	67.61	73.09	78.59	78.08	79.70	81.27	82.83	84.40	85.96	87.53	90.69	93.85	97.01	100.17	103.33
6	3	16	48.88	53.10	48.14	50.24	68.28	62.00	71.74	66.23	68.10	73.34	67.95	71.32	74.92	79.21	80.63	82.28	83.94	85.59	87.25	88.90	91.84	94.78	97.71	100.65	103.59
6	3	17	48.88	50.82	49.14	49.89	89.49	62.12	67.59	67.01	69.55	73.34	68.30	70.59	74.16	79.51	80.15	81.91	83.68	85.44	87.21	88.97	91.97	94.96	97.96	100.95	103.95
6	3	18	43.70	49.08	49.29	49.59	68.33	61.77	64.42	68.12	67.81	73.02	68.05	69.62	73.23	87.31	78.22	80.63	83.03	85.44	87.84	90.25	92.92	95.59	98.25	100.92	103.59
6	3	19	42.16	47.40	49.34	48.63	61.28	61.13	62.50	65.91	68.17	70.64	66.93	69.52	72.28	75.82	76.52	79.12	81.72	84.31	86.91	89.51	91.87	94.23	96.58	98.94	101.30
6	3	20	41.61	47.26	49.54	47.65	62.78	60.14	62.63	64.76	68.07	69.57	66.90	69.03	72.56	73.52	74.94	77.84	80.74	83.64	86.54	89.44	91.73	94.02	96.30	98.59	100.88
6	3	21	42.11	45.31	54.46	46.93	61.75	60.30	62.50	64.03	74.67	68.91	66.33	69.42	71.83	72.98	74.83	77.69	80.55	83.40	86.26	89.12	91.47	93.83	96.18	98.54	100.89

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	3	22	39.21	43.70	48.42	45.43	60.87	60.36	62.21	62.84	66.82	66.39	65.99	68.77	71.37	72.18	74.16	77.46	80.76	84.06	87.36	90.66	92.71	94.75	96.80	98.84	100.89
6	3	23	37.09	42.67	44.87	42.46	60.01	59.90	62.40	61.25	64.92	64.94	65.57	66.90	70.46	70.36	72.31	75.65	78.98	82.32	85.65	88.99	90.55	92.11	93.67	95.23	96.79
6	3	24	32.46	37.05	41.01	37.07	57.23	57.37	59.79	58.45	62.68	62.53	62.84	65.39	67.26	68.99	68.76	71.99	75.23	78.46	81.70	84.93	86.31	87.69	89.08	90.46	91.84
6	4	1	29.58	33.24	37.82	34.36	52.80	54.74	56.72	56.56	58.02	58.07	59.51	61.62	63.44	66.50	65.41	68.44	71.47	74.50	77.53	80.56	82.05	83.54	85.04	86.53	88.02
6	4	2	28.44	31.54	35.85	33.84	50.92	52.48	55.42	53.68	56.52	56.18	56.57	59.95	61.59	63.67	64.24	67.15	70.06	72.97	75.88	78.79	79.98	81.17	82.36	83.55	84.74
6	4	3	27.44	28.62	34.24	31.26	49.44	51.56	52.72	53.25	55.38	54.99	55.47	59.62	59.03	63.12	62.60	65.32	68.04	70.75	73.47	76.19	77.67	79.15	80.62	82.10	83.58
6	4	4	25.72	28.41	33.78	32.86	49.31	51.56	52.71	52.41	55.06	55.61	55.44	58.60	57.99	62.19	63.25	65.76	68.27	70.79	73.30	75.81	76.89	77.97	79.05	80.13	81.21
6	4	5	28.40	28.12	34.20	33.44	49.95	52.60	52.57	52.13	55.65	56.94	56.97	59.80	57.58	61.14	64.81	67.07	69.33	71.59	73.85	76.11	76.33	76.56	76.78	77.01	77.23
6	4	6	29.78	28.41	35.83	34.87	53.60	54.74	52.70	52.04	57.05	58.88	60.57	62.25	58.47	61.20	66.58	69.09	71.60	74.12	76.63	79.14	78.75	78.36	77.97	77.58	77.19
6	4	7	30.38	31.13	39.00	35.27	56.31	56.25	54.94	52.56	59.40	59.23	62.33	64.47	61.32	61.46	68.64	71.63	74.63	77.62	80.62	83.61	82.83	82.06	81.28	80.51	79.73
6	4	8	35.01	33.06	42.57	39.25	57.99	59.26	56.33	54.96	62.93	62.79	65.07	67.01	64.08	63.73	71.18	74.56	77.94	81.33	84.71	88.09	87.52	86.95	86.37	85.80	85.23
6	4	9	37.19	36.58	44.96	44.06	59.18	60.03	58.30	57.60	65.21	66.15	66.82	68.57	66.19	67.36	74.82	77.37	79.92	82.47	85.02	87.57	88.14	88.72	89.29	89.87	90.44
6	4	10	40.07	40.05	46.49	46.37	60.91	61.79	61.28	59.08	66.02	68.57	68.59	69.77	67.56	69.00	76.08	78.49	80.91	83.32	85.74	88.15	89.46	90.77	92.09	93.40	94.71
6	4	11	43.45	43.18	46.65	47.55	63.42	65.08	62.00	61.24	67.51	69.61	69.50	71.39	68.89	69.77	76.08	78.83	81.58	84.32	87.07	89.82	91.19	92.56	93.94	95.31	96.68
6	4	12	43.34	44.10	47.35	49.09	64.78	65.46	62.50	62.45	68.29	70.61	69.38	74.35	70.61	71.29	76.77	79.40	82.03	84.66	87.29	89.92	91.82	93.72	95.63	97.53	99.43
6	4	13	43.92	45.23	48.14	50.11	67.40	65.92	64.15	64.00	69.11	72.42	69.70	80.46	72.09	72.48	78.78	81.28	83.78	86.29	88.79	91.29	92.92	94.55	96.18	97.81	99.44
6	4	14	46.48	47.29	50.02	50.60	70.86	67.09	67.58	64.88	70.00	74.26	70.97	89.41	72.56	73.56	81.00	83.16	85.32	87.49	89.65	91.81	93.53	95.25	96.98	98.70	100.42
6	4	15	45.60	51.11	53.05	51.11	65.98	67.09	66.93	65.04	69.79	75.30	70.97	85.75	72.09	74.41	82.67	84.68	86.68	88.69	90.69	92.70	94.35	95.99	97.64	99.28	100.93
6	4	16	45.32	52.12	52.51	52.97	63.95	64.22	69.52	65.22	69.35	76.84	69.29	80.89	72.61	75.16	88.03	88.99	89.95	90.90	91.86	92.82	94.65	96.49	98.32	100.16	101.99
6	4	17	46.48	54.46	51.48	55.96	62.52	64.54	71.27	65.33	69.34	80.70	69.31	78.46	72.91	77.29	93.47	93.34	93.21	93.08	92.95	92.82	94.75	96.68	98.60	100.53	102.46
6	4	18	45.60	52.28	49.15	51.18	61.75	64.00	70.66	66.12	69.33	75.36	69.22	73.86	73.47	78.02	85.86	87.22	88.58	89.94	91.30	92.66	94.63	96.61	98.58	100.56	102.53
6	4	19	43.35	47.28	47.43	49.87	60.43	62.11	67.10	68.30	68.18	72.23	68.79	71.04	72.09	76.03	79.04	81.30	83.57	85.83	88.10	90.36	92.55	94.74	96.92	99.11	101.30
6	4	20	41.76	44.50	46.38	49.21	60.01	61.72	63.78	68.55	66.66	70.81	67.95	70.89	70.82	75.82	78.33	80.50	82.67	84.83	87.00	89.17	91.82	94.47	97.13	99.78	102.43
6	4	21	40.80	44.21	45.63	49.03	60.17	61.64	62.58	70.79	65.68	70.24	67.50	70.29	70.42	80.06	77.95	80.13	82.31	84.48	86.66	88.84	91.79	94.74	97.68	100.63	103.58
6	4	22	39.50	43.78	44.88	47.08	59.40	60.63	62.02	65.17	64.25	68.54	66.17	70.18	69.63	74.35	76.80	78.97	81.14	83.30	85.47	87.64	90.60	93.56	96.51	99.47	102.43
6	4	23	36.81	41.01	40.91	44.65	58.99	60.32	60.75	64.16	61.83	65.95	65.99	68.54	67.43	72.89	74.50	76.28	78.06	79.83	81.61	83.39	86.89	90.39	93.89	97.39	100.89
6	4	24	32.43	35.65	37.44	38.22	57.37	57.59	57.57	61.62	57.66	62.19	63.98	65.40	66.09	70.81	70.70	72.50	74.29	76.09	77.88	79.68	83.10	86.52	89.95	93.37	96.79
6	5	1	29.32	33.03	34.52	35.09	53.45	54.51	55.81	57.71	55.46	58.85	59.62	62.18	63.16	68.11	66.58	68.09	69.59	71.10	72.60	74.11	77.20	80.29	83.37	86.46	89.55
6	5	2	27.77	29.72	33.39	31.95	51.30	53.73	53.54	56.66	53.69	56.34	58.11	60.37	60.83	66.74	64.56	66.06	67.55	69.05	70.54	72.04	75.08	78.12	81.17	84.21	87.25
6	5	3	25.51	28.42	31.47	31.67	50.58	53.23	52.48	55.81	52.76	55.84	57.65	57.34	60.09	66.07	63.86	64.61	65.36	66.12	66.87	67.62	71.27	74.91	78.56	82.20	85.85
6	5	4	25.33	27.78	32.40	31.28	50.01	51.42	52.01	55.34	53.14	55.42	56.10	56.69	58.62	65.19	63.27	64.81	66.35	67.88	69.42	70.96	73.84	76.72	79.59	82.47	85.35
6	5	5	25.21	27.15	33.14	31.74	51.43	53.73	51.08	55.71	53.78	55.68	58.24	56.04	57.81	65.69	63.92	65.66	67.40	69.15	70.89	72.63	75.29	77.94	80.60	83.25	85.91
6	5	6	25.48	26.97	34.80	34.58	54.36	54.64	50.88	57.47	55.63	58.59	60.74	57.13	57.60	69.00	67.20	68.67	70.13	71.60	73.06	74.53	77.72	80.91	84.09	87.28	90.47
6	5	7	27.77	27.50	36.11	35.27	56.33	55.57	51.43	59.59	56.24	59.23	62.68	59.79	58.57	70.37	68.77	70.54	72.31	74.08	75.85	77.62	80.82	84.01	87.21	90.40	93.60
6	5	8	29.53	31.01	38.86	39.20	58.04	58.97	54.45	61.89	59.48	62.66	65.99	62.71	61.53	72.56	71.54	73.42	75.30	77.18	79.06	80.94	84.59	88.24	91.90	95.55	99.20
6	5	9	32.37	34.08	42.57	43.30	59.59	60.05	56.57	63.98	63.37	64.46	67.92	65.40	64.34	72.97	72.31	74.95	77.58	80.22	82.85	85.49	88.51	91.52	94.54	97.55	100.57
6	5	10	35.91	36.83	46.40	46.17	60.63	62.28	58.23	65.16	64.72	67.46	69.25	66.83	67.00	74.40	75.17	77.77	80.36	82.96	85.55	88.15	90.83	93.51	96.19	98.87	101.55
6	5	11	38.52	39.59	47.42	48.64	62.92	65.04	59.93	65.79	67.34	69.84	70.69	68.06	67.43	74.46	76.71	79.50	82.29	85.08	87.87	90.66	92.75	94.85	96.94	99.04	101.13
6	5	12	39.81	41.99	48.03	49.03	65.27	66.15	61.54	67.67	68.99	71.07	71.62	68.46	69.44	77.03	79.00	81.37	83.74	86.11	88.48	90.85	92.91	94.96	97.02	99.07	101.13
6	5	13	42.11	43.30	48.08	50.13	65.32	67.69	63.70	70.75	70.50	73.36	73.69	69.23	70.84	77.03	79.67	82.00	84.33	86.65	88.98	91.31	93.27	95.24	97.20	99.17	101.13
6	5	14	43.70	43.85	49.51	52.71	66.27	73.25	64.24	75.20	71.21	75.57	76.45	70.35	70.92	77.98	84.36	86.26	88.15	90.05	91.94	93.84	95.58	97.31	99.05	100.78	102.52
6	5	15	45.11	44.03	51.05	55.06	65.32	72.71	65.88	76.19	72.40	78.52	76.45	71.32	71.30	80.25	88.13	89.60	91.06	92.53	93.99	95.46	97.09	98.72	100.36	101.99	103.62
6	5	16	51.77	49.08	55.05	86.75	65.72	67.87	66.47	69.45	73.72	112.59	72.64	72.31	71.77	78.02	125.55	119.68	113.81	107.94	102.07	96.20	97.66	99.13	100.59	102.06	103.52
6	5	17	54.22	51.36	55.65	53.48	64.87	67.23	66.46	68.37	79.26	78.52	72.28	72.50	72.19	78.02	82.26	85.05	87.84	90.62	93.41	96.20	97.62	99.05	100.47	101.90	103.32
6	5	18	53.41	49.13	51.90	50.40	62.52	65.29	67.91	68.45	73.72	74.12	71.62	77.46	72.66	76.82	80.63	83.57	86.51	89.44	92.38	95.32	96.67	98.02	99.38	100.73	102.08
6	5	19	43.84	47.29	48.28	49.66	61.75	62.79	69.10	67.04	69.01	72.94	69.42	70.35	73.60	75.00	78.84	81.44	84.03	86.63	89.22	91.82	93.66	95.50	97.35	99.19	101.03
6	5	20	40.05	46.74	47.71	49.04	60.75	61.66	65.98	65.48	68.77	70.34	69.29	69.19	74.16	73.30	76.82	79.70	82.58	85.46	88.34	91.22	93.16	95.09	97.03	98.96	100.90
6	5	21	39.93	46.30	47.36	49.23	60.78	61.66	69.52	65.06	68.11	69.78	67.91	69.18	74.45	72.97	76.35	79.34	82.33	85.33	88.32	91.31	93.18	95.05	96.92	98.79	100.66
6	5	22	39.20	45.12	46.40	47.73	60.22	60.05	67.79	63.17	65.75	69.20	67.91	69.42	73.71	71.96	75.20	78.20	81.21	84.21	87.22	90.22	92.17	94.11	96.06	98.00	99.95
6	5	23	36.08	43.63	42.19	44.97	58.96	60.03	62.00	61.49	63.58	67.65	66.78	67.25	71.87	69.64	72.97	75.56	78.16	80.75	83.35	85.94	87.98	90.02	92.05	94.09	96.13
6	5	24	31.85	40.10	38.49	38.56	56.46	57.97	61.28	58.57	58.84	63.98	64.93	64.70	69.53	68.35	70.79	72.78	74.77	76.76	78.75	80.74	82.85	84.96	87.08	89.19	91.30
6	6	1	29.31	32.91	35.02	34.91	52.57	54.83	56.86	55.64	55.67	59.35	60.90	61.88	65.15	63.20	65.67	67.74	69.80	71.87	73.93	76.00	77.87	79.74	81.61	83.48	85.35
6	6	2	26.81	31.34	32.56	31.74	50.97	53.77	55.76	53.42	53.67	56.20	59.17	58.95	63.58	60.97	63.21	65.15	67.08	69.02	70.95	72.89	74.61	76.33	78.04	79.76	81.48
6	6	3	26.13	30.33	31.44	30.25	50.38	51.86	55.24	52.76	53.21	55.02	55.54	58.40	62.93	60.19	60.83	63.10	65.37	67.65	69.92	72.19	73.60	75.00	76.41	77.81	79.22
6	6	4	25.34	29.76	31.13	29.78	49.31	51.02	54.64	52.82	52.76	53.76	55.01	56.75	62.18	59.99	56.80	59.71	62.63	65.54	68.46	71.37	73.16	74.95	76.73	78.52	80.31
6	6	5	24.84	30.64	31.52	30.23	50.65	50.62	55.17	53.60	53.24	54.49	54.72	55.63	62.93	61.13	59.92	62.40	64.88	67.35	69.83	72.31	74.46	76.60	78.75	80.89	83.04
6	6	6	24.77	33.19	34.31	33.49	53.51	51.07	57.10	55.78	55.42	57.64	55.53	55.86	66.23	64.32	65.00	67.21	69.42	71.63	73.84	76.05	78.14	80.23	82.32	84.41	86.50
6	6	7	25.15	34.76	35.55	34.11	55.91	54.02	58.17	57.47	56.38	58.82	59.19	56.94	69.09	66.25	65.77	68.44	71.11	73.79	76.46	79.13	81.29	83.45	85.61	87.77	89.93
6	6	8	27.73	40.58	38.69	36.83	57.74	55.21	61.72	59.62	58.98	61.14	61.69	60.17	71.54	68.99	69.11	71.50	73.89	76.29	78.68	81.07	83.70	86.33	88.96	91.59	94.22

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	6	9	30.32	43.06	41.87	39.72	59.01	58.37	62.40	61.93	62.56	63.02	64.81	62.94	72.61	70.62	71.02	73.96	76.90	79.85	82.79	85.73	88.45	91.17	93.88	96.60	99.32
6	6	10	33.35	43.83	46.85	43.21	60.78	59.01	62.74	64.27	64.60	65.78	65.99	65.39	73.06	72.29	72.31	75.49	78.67	81.84	85.02	88.20	90.67	93.15	95.62	98.10	100.57
6	6	11	36.00	44.66	48.43	45.80	63.60	59.99	64.34	65.53	67.62	66.73	67.15	66.55	72.83	72.53	73.34	76.93	80.52	84.12	87.71	91.30	93.29	95.28	97.26	99.25	101.24
6	6	12	37.99	46.34	49.78	48.28	64.64	61.64	66.58	67.70	68.90	68.92	67.91	68.83	74.73	73.30	74.82	78.12	81.42	84.71	88.01	91.31	93.72	96.12	98.53	100.93	103.34
6	6	13	39.45	46.76	50.90	48.46	68.33	62.79	67.85	69.69	70.90	69.61	68.30	68.79	76.28	75.09	75.38	79.36	83.33	87.31	91.28	95.26	96.66	98.05	99.45	100.84	102.24
6	6	14	40.17	48.83	52.84	48.46	69.10	64.27	69.96	71.02	76.38	70.21	69.69	69.42	76.60	76.14	76.29	80.33	84.37	88.40	92.44	96.48	98.10	99.71	101.33	102.94	104.56
6	6	15	40.92	50.29	56.53	49.17	71.06	65.16	69.79	71.68	84.47	70.22	70.91	69.80	84.00	77.56	77.86	81.65	85.45	89.24	93.04	96.83	98.59	100.35	102.12	103.88	105.64
6	6	16	43.09	47.53	87.56	49.21	71.47	66.06	68.26	73.42	112.48	71.21	71.23	70.82	77.54	79.42	77.90	85.64	93.38	101.13	108.87	116.61	114.60	112.59	110.59	108.58	106.57
6	6	17	49.49	47.37	55.91	49.16	70.78	70.16	67.81	78.54	75.91	70.64	71.83	71.46	77.85	86.09	77.90	81.56	85.22	88.88	92.54	96.20	98.37	100.53	102.70	104.86	107.03
6	6	18	51.77	47.32	50.69	49.04	62.70	66.97	67.81	72.55	71.36	70.64	73.91	72.27	76.28	79.57	77.68	81.11	84.54	87.97	91.40	94.83	97.15	99.48	101.80	104.13	106.45
6	6	19	45.11	44.93	49.63	48.27	61.75	64.26	65.01	69.45	70.80	70.49	69.98	70.83	73.06	75.79	77.32	80.65	83.99	87.32	90.66	93.99	95.91	97.84	99.76	101.69	103.61
6	6	20	43.63	43.34	48.31	47.57	60.48	61.78	63.64	67.68	68.47	69.61	68.21	71.43	71.38	74.69	75.64	78.77	81.91	85.04	88.18	91.31	93.71	96.12	98.52	100.93	103.33
6	6	21	43.91	42.96	48.03	46.95	60.48	61.75	62.58	66.73	68.02	68.92	68.38	74.47	70.87	73.86	75.00	78.22	81.44	84.66	87.88	91.10	93.22	95.33	97.45	99.56	101.68
6	6	22	43.18	42.34	47.42	45.78	59.90	60.05	61.77	65.16	66.64	67.32	67.12	72.31	69.56	72.97	74.28	77.60	80.91	84.23	87.54	90.86	92.91	94.97	97.02	99.08	101.13
6	6	23	39.65	40.42	46.34	43.47	59.01	59.29	59.29	62.00	64.07	65.63	65.94	70.83	68.27	70.38	72.91	75.95	78.98	82.02	85.05	88.09	90.24	92.39	94.53	96.68	98.83
6	6	24	36.43	33.96	39.09	37.89	56.59	56.68	57.94	59.21	58.73	61.88	63.79	68.76	65.29	68.62	70.91	72.81	74.72	76.62	78.53	80.43	82.90	85.37	87.84	90.31	92.78
6	7	1	30.99	31.15	34.63	34.12	53.25	54.69	55.20	55.31	55.73	57.87	60.56	63.18	62.00	64.58	65.74	67.80	69.86	71.92	73.98	76.04	78.16	80.28	82.39	84.51	86.63
6	7	2	29.59	28.42	32.34	32.96	52.24	52.62	52.82	54.38	53.69	56.43	57.38	62.05	60.30	63.00	64.44	65.99	67.54	69.09	70.64	72.19	74.70	77.22	79.73	82.25	84.76
6	7	3	28.93	28.01	30.64	32.63	50.16	51.02	52.07	53.53	52.37	55.52	56.86	61.28	59.38	62.40	63.26	64.29	65.32	66.34	67.37	68.40	71.32	74.25	77.17	80.10	83.02
6	7	4	28.66	28.00	30.41	29.91	49.88	50.49	52.07	53.37	51.91	54.43	55.26	60.61	59.31	61.82	61.44	52.78	44.13	35.47	26.82	18.16	31.04	43.93	56.81	69.70	82.58
6	7	5	29.09	28.45	30.74	32.40	49.44	49.48	52.72	53.74	53.00	55.17	53.49	60.97	60.36	63.00	62.84	62.72	62.61	62.49	62.38	62.26	66.61	70.96	75.30	79.65	84.00
6	7	6	31.92	30.95	33.52	34.07	49.31	49.50	55.26	55.64	55.50	57.64	54.09	63.53	63.22	65.61	65.25	66.99	68.74	70.48	72.23	73.97	76.62	79.27	81.91	84.56	87.21
6	7	7	34.63	32.47	34.73	34.54	52.18	50.49	56.18	57.28	55.58	58.97	55.01	66.80	64.94	67.27	67.61	69.19	70.77	72.36	73.94	75.52	78.40	81.28	84.17	87.05	89.93
6	7	8	38.52	37.25	37.68	38.77	54.41	53.54	57.93	59.23	57.30	62.09	58.87	69.52	67.67	69.13	70.58	72.02	73.45	74.89	76.32	77.76	81.15	84.54	87.94	91.33	94.72
6	7	9	40.17	41.86	39.13	42.15	57.05	55.31	60.56	60.86	60.13	65.07	61.83	69.77	70.81	70.02	72.31	74.03	75.76	77.48	79.21	80.93	84.33	87.72	91.12	94.51	97.91
6	7	10	42.36	43.78	41.87	45.46	58.46	56.80	62.35	63.34	62.14	67.06	64.93	70.89	72.00	72.29	74.12	76.15	78.18	80.22	82.25	84.28	87.47	90.66	93.86	97.05	100.24
6	7	11	43.63	46.70	46.40	47.65	60.22	58.69	64.49	66.41	63.82	69.19	65.91	69.77	73.12	74.72	76.08	78.39	80.70	83.01	85.32	87.63	90.33	93.03	95.73	98.43	101.13
6	7	12	44.79	46.93	46.94	49.03	61.19	61.28	67.85	68.22	67.71	69.95	66.91	71.49	74.20	76.83	76.76	79.14	81.53	83.91	86.30	88.68	91.72	94.76	97.80	100.84	103.88
6	7	13	46.29	47.43	47.71	49.04	64.57	61.77	67.92	69.56	66.92	72.23	67.94	73.57	75.48	77.28	79.15	81.58	84.01	86.44	88.87	91.30	94.09	96.88	99.67	102.46	105.25
6	7	14	48.86	47.53	48.03	51.08	68.26	63.55	69.96	77.94	67.90	74.26	68.88	75.23	76.63	87.13	82.57	84.32	86.07	87.81	89.56	91.31	94.86	98.40	101.95	105.49	109.04
6	7	15	51.81	48.53	48.03	56.01	62.58	65.12	71.60	90.10	67.73	75.57	69.51	80.44	77.47	107.71	85.58	86.73	87.87	89.02	90.16	91.31	94.86	98.40	101.95	105.49	109.04
6	7	16	50.31	49.30	48.03	59.60	79.72	66.97	76.29	125.73	68.66	78.47	70.72	76.37	80.24	146.18	88.50	89.06	89.62	90.19	90.75	91.31	98.13	104.95	111.77	118.59	125.41
6	7	17	50.33	51.09	48.08	59.70	81.43	68.11	82.44	78.37	68.47	83.99	70.26	75.78	88.13	89.38	92.55	92.30	92.05	91.81	91.56	91.31	94.38	97.45	100.52	103.59	106.66
6	7	18	47.48	49.00	47.71	51.11	81.69	70.41	71.60	71.68	68.51	75.67	71.06	73.38	80.32	81.79	82.93	84.61	86.28	87.96	89.63	91.31	94.16	97.01	99.85	102.70	105.55
6	7	19	45.52	47.22	47.30	49.35	74.03	66.17	68.00	69.99	68.47	73.01	70.27	70.83	75.95	76.83	79.23	81.60	83.98	86.35	88.73	91.10	93.87	96.64	99.41	102.18	104.95
6	7	20	42.16	47.05	47.00	48.63	62.44	65.16	66.74	67.50	68.11	71.02	69.77	69.57	74.20	75.86	78.15	80.23	82.32	84.40	86.49	88.57	91.32	94.07	96.83	99.58	102.33
6	7	21	41.54	46.70	46.65	48.24	61.33	65.70	66.04	66.29	67.19	70.60	70.59	69.24	73.59	75.00	77.78	79.91	82.03	84.16	86.28	88.41	90.98	93.55	96.11	98.68	101.25
6	7	22	40.05	44.66	45.26	46.82	60.50	62.28	62.63	66.12	65.22	68.60	70.59	68.62	72.56	72.84	76.08	78.19	80.31	82.42	84.54	86.65	89.54	92.44	95.33	98.23	101.12
6	7	23	37.33	42.67	42.93	44.56	58.63	62.00	61.08	62.44	63.44	65.97	68.88	66.42	70.42	71.32	74.51	76.38	78.24	80.11	81.97	83.84	87.03	90.23	93.42	96.62	99.81
6	7	24	32.39	36.55	38.51	38.01	57.27	59.65	57.97	59.05	58.31	61.76	66.57	64.57	67.07	68.85	70.59	72.42	74.26	76.09	77.93	79.76	82.51	85.26	88.01	90.76	93.51
6	8	1	29.96	29.93	34.64	34.72	53.45	54.95	54.80	55.86	55.54	58.44	60.90	60.80	62.65	66.12	66.44	68.20	69.95	71.71	73.46	75.22	77.75	80.28	82.80	85.33	87.86
6	8	2	27.44	28.28	33.03	33.70	51.14	54.06	53.63	53.59	54.24	57.45	59.66	58.35	61.37	62.94	65.18	66.73	68.29	69.84	71.40	72.95	75.08	77.21	79.33	81.46	83.59
6	8	3	26.11	27.80	32.10	30.27	49.63	53.73	52.66	52.01	53.78	55.29	59.05	57.18	60.44	60.90	63.06	64.65	66.24	67.83	69.42	71.01	71.62	72.23	72.83	73.44	74.05
6	8	4	26.11	27.72	29.43	29.74	48.95	53.73	52.24	50.89	53.01	54.47	58.65	57.13	59.93	60.18	62.13	63.31	64.50	65.68	66.87	68.05	58.17	48.29	38.40	28.52	18.64
6	8	5	27.54	28.12	32.31	29.47	48.44	53.73	52.72	51.78	53.75	54.29	58.78	59.07	61.33	60.84	61.63	63.47	65.31	67.15	68.99	70.83	70.98	71.13	71.27	71.42	71.57
6	8	6	30.38	31.22	33.88	29.67	48.00	56.54	54.74	54.57	55.30	54.99	61.87	61.16	63.90	64.37	62.53	64.82	67.11	69.39	71.68	73.97	76.01	78.04	80.08	82.11	84.15
6	8	7	30.46	31.73	35.63	33.05	48.75	58.29	55.71	55.15	56.75	57.64	64.59	62.56	65.93	65.49	65.25	67.66	70.07	72.47	74.88	77.29	79.21	81.12	83.04	84.95	86.87
6	8	8	35.49	35.09	38.58	34.86	52.01	60.05	57.32	57.64	60.15	58.97	66.71	65.67	68.20	67.12	68.10	70.47	72.85	75.22	77.60	79.97	81.99	84.02	86.04	88.07	90.09
6	8	9	38.43	40.61	41.60	38.00	54.00	61.72	60.37	59.57	62.83	62.57	68.27	68.05	69.69	68.81	71.06	73.51	75.96	78.42	80.87	83.32	85.20	87.07	88.95	90.82	92.70
6	8	10	42.85	43.71	44.98	40.85	56.46	62.51	62.18	61.25	64.27	65.95	69.28	69.74	71.26	70.02	72.32	75.01	77.71	80.40	83.10	85.79	87.56	89.32	91.09	92.85	94.62
6	8	11	44.79	47.43	47.51	45.12	58.50	63.30	64.75	62.81	67.71	67.65	69.50	70.82	74.31	71.97	74.84	77.51	80.18	82.84	85.51	88.18	90.10	92.01	93.93	95.84	97.76
6	8	12	45.74	48.83	48.18	47.23	59.53	65.25	67.32	65.69	69.34	70.29	70.31	71.69	75.96	72.84	76.43	78.90	81.36	83.83	86.29	88.76	91.19	93.62	96.05	98.48	100.91
6	8	13	46.00	50.20	48.52	48.63	60.63	66.30	72.27	65.79	70.58	71.08	72.31	72.16	80.06	73.30	77.95	80.41	82.87	85.34	87.80	90.26	92.41	94.56	96.72	98.87	101.02
6	8	14	46.92	51.24	50.75	49.03	61.75	67.59	77.57	65.89	76.04	72.16	73.97	74.96	98.83	75.15	79.32	81.93	84.54	87.15	89.76	92.37	94.12	95.87	97.62	99.37	101.12
6	8	15	49.56	55.16	55.52	49.80	62.32	68.38	84.01	66.41	80.31	72.48	74.65	75.18	117.95	75.00	80.25	83.13	86.01	88.88	91.76	94.64	95.94	97.23	98.53	99.82	101.12
6	8	16	50.98	86.33	55.65	50.94	62.52	66.30	104.60	67.24	81.28	74.50	73.69	78.31	141.82	76.23	85.35	87.24	89.14	91.03	92.93	94.82	96.43	98.04	99.65	101.26	102.87
6	8	17	52.35	57.83	56.61	52.46	63.21	65.95	80.23	67.04	85.15	75.29	73.16	82.89	85.93	76.01	84.78	87.12	89.46	91.80	94.14	96.48	97.76	99.04	100.31	101.59	102.87
6	8	18	49.77	50.33	53.14	50.71	64.80	65.54	72.08	66.37	76.82	75.36	71.82	76.14	80.32	75.68	81.56	83.94	86.32	88.71	91.09	93.47	95.13	96.80	98.46	100.13	101.79
6	8	19	46.37	48.83	48.93	49.42	65.39	64.16	68.02	65.75	70.32	72.48	69.98	73.38	76.70	73.57	79.00	81.46	83.92	86.39	88.85	91.31	93.38	95.46	97.53	99.61	101.68

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	8	20	45.21	48.79	48.23	48.31	62.66	61.98	65.68	65.38	69.16	70.86	69.05	72.33	76.62	72.94	77.48	80.25	83.01	85.78	88.54	91.31	93.25	95.20	97.14	99.09	101.03
6	8	21	43.96	47.43	48.03	46.80	63.92	61.53	64.84	65.15	68.43	69.82	68.38	72.03	74.26	72.08	76.08	79.13	82.17	85.22	88.26	91.31	93.19	95.08	96.96	98.85	100.73
6	8	22	42.95	46.86	46.61	45.70	63.92	60.29	63.55	63.26	65.10	68.61	66.24	70.82	73.33	71.36	75.52	78.46	81.40	84.34	87.28	90.22	92.19	94.16	96.13	98.10	100.07
6	8	23	37.82	45.75	43.57	40.47	60.78	59.34	62.00	61.37	63.92	65.95	65.28	67.47	71.15	70.16	72.32	75.08	77.84	80.60	83.36	86.12	88.28	90.43	92.59	94.74	96.90
6	8	24	32.67	36.44	38.68	36.92	58.65	57.76	58.06	57.86	58.97	61.35	63.61	64.97	67.41	68.86	69.80	71.83	73.87	75.90	77.94	79.97	82.61	85.24	87.88	90.51	93.15
6	9	1	28.12	31.79	35.55	34.22	53.92	54.82	55.32	54.57	55.56	58.19	60.21	60.99	63.70	63.91	67.16	68.90	70.63	72.37	74.10	75.84	78.00	80.15	82.31	84.46	86.62
6	9	2	26.40	28.85	33.59	30.83	52.99	52.69	53.40	53.44	54.34	56.93	57.24	59.43	61.37	62.25	64.32	66.23	68.14	70.04	71.95	73.86	75.89	77.92	79.96	81.99	84.02
6	9	3	26.08	27.80	30.38	29.64	52.37	51.58	52.17	52.68	53.10	56.02	56.06	58.73	59.03	60.94	62.97	64.42	65.88	67.33	68.79	70.24	72.65	75.06	77.46	79.87	82.28
6	9	4	25.78	27.30	29.63	28.83	52.37	51.30	50.99	52.20	52.14	55.04	55.85	58.40	57.45	60.35	61.14	62.52	63.89	65.27	66.64	68.02	70.54	73.06	75.59	78.11	80.63
6	9	5	26.11	28.00	29.31	28.15	52.37	52.51	51.82	52.28	52.07	53.91	57.48	59.16	58.70	60.84	59.45	61.16	62.87	64.58	66.29	68.00	70.45	72.89	75.34	77.78	80.23
6	9	6	29.53	30.84	29.76	27.83	56.17	54.32	54.20	54.57	52.87	53.07	60.52	61.46	62.31	63.73	58.39	60.68	62.97	65.25	67.54	69.83	72.93	76.04	79.14	82.25	85.35
6	9	7	29.96	31.34	33.10	28.51	57.86	55.49	55.58	56.25	54.15	53.91	61.15	63.17	63.33	65.98	59.92	62.69	65.46	68.24	71.01	73.78	76.76	79.75	82.73	85.72	88.70
6	9	8	33.01	34.07	35.35	32.87	59.86	58.18	56.90	58.84	56.08	57.99	64.06	65.57	65.74	68.99	65.11	67.69	70.27	72.85	75.43	78.01	80.88	83.76	86.63	89.51	92.38
6	9	9	36.96	39.11	38.31	34.84	61.31	60.19	58.46	60.77	59.02	59.32	66.64	67.09	67.03	69.72	68.31	70.80	73.28	75.77	78.25	80.74	83.93	87.12	90.30	93.49	96.68
6	9	10	41.37	41.85	41.15	38.08	61.48	63.30	61.08	62.87	62.88	62.79	68.81	69.12	67.43	71.72	70.89	73.63	76.36	79.10	81.83	84.57	87.70	90.83	93.97	97.10	100.23
6	9	11	46.01	44.41	44.83	40.47	62.39	66.44	61.86	65.89	64.70	64.90	69.49	72.14	68.78	72.92	72.32	75.37	78.41	81.46	84.50	87.55	90.26	92.98	95.69	98.41	101.12
6	9	12	47.03	46.55	47.12	45.03	64.97	64.81	63.05	67.33	67.04	66.79	70.22	73.19	71.43	74.40	73.89	77.06	80.23	83.40	86.57	89.74	92.37	94.99	97.62	100.24	102.87
6	9	13	48.85	46.93	48.03	46.35	65.85	68.20	64.46	68.31	68.99	68.92	72.26	74.12	72.49	76.00	76.20	79.10	82.00	84.91	87.81	90.71	93.29	95.87	98.45	101.03	103.61
6	9	14	50.05	47.20	49.21	48.07	67.89	69.21	65.62	71.57	71.25	70.48	73.22	80.23	73.03	78.17	76.87	79.84	82.82	85.79	88.77	91.74	94.39	97.04	99.69	102.34	104.99
6	9	15	55.48	47.20	49.76	49.16	70.86	71.17	66.49	77.94	76.00	70.97	74.79	85.84	72.73	79.19	78.48	81.30	84.11	86.93	89.74	92.56	95.31	98.05	100.80	103.54	106.29
6	9	16	57.24	47.27	50.90	50.01	70.24	74.57	67.62	78.93	76.43	72.48	76.54	124.00	74.11	79.28	81.32	83.74	86.16	88.57	90.99	93.41	96.04	98.67	101.31	103.94	106.57
6	9	17	57.02	47.15	52.54	53.49	68.15	82.55	67.27	100.24	76.26	75.36	77.39	81.02	73.59	90.89	84.36	86.16	87.96	89.76	91.56	93.36	96.04	98.72	101.41	104.09	106.77
6	9	18	49.43	46.86	54.22	54.20	65.37	72.71	65.57	74.18	76.04	75.36	75.52	76.59	73.43	79.21	84.36	86.17	87.98	89.79	91.60	93.41	95.70	97.98	100.27	102.55	104.84
6	9	19	46.27	46.62	49.76	49.79	63.38	66.98	64.66	69.16	69.05	71.96	71.98	73.19	72.61	76.00	79.63	82.16	84.69	87.22	89.75	92.28	94.54	96.81	99.07	101.34	103.60
6	9	20	45.77	45.70	47.57	48.31	61.16	66.18	64.14	67.33	67.04	70.86	70.89	72.15	71.59	75.06	78.86	81.08	83.30	85.53	87.75	89.97	92.69	95.41	98.14	100.86	103.58
6	9	21	45.55	45.31	46.88	48.13	60.49	64.82	63.76	66.73	65.61	71.21	70.56	71.31	71.37	74.54	79.37	81.23	83.09	84.96	86.82	88.68	91.57	94.46	97.36	100.25	103.14
6	9	22	43.54	44.41	46.19	47.58	59.70	62.13	61.89	65.15	64.26	70.22	69.42	69.44	71.20	73.21	76.92	79.09	81.27	83.44	85.62	87.79	90.46	93.12	95.79	98.45	101.12
6	9	23	39.66	41.22	41.34	44.68	58.93	62.00	60.94	62.01	62.14	68.03	66.00	68.29	69.57	70.62	75.19	77.04	78.89	80.73	82.58	84.43	87.26	90.08	92.91	95.73	98.56
6	9	24	33.04	34.69	38.41	39.86	57.60	58.10	57.49	58.85	57.77	65.84	64.04	65.40	66.96	68.97	73.37	74.75	76.13	77.50	78.88	80.26	82.55	84.84	87.13	89.42	91.71
6	10	1	29.53	31.73	35.09	35.08	53.51	54.22	54.43	55.73	55.57	60.00	59.51	62.01	62.39	65.17	68.78	70.55	72.32	74.10	75.87	77.64	79.48	81.32	83.16	85.00	86.84
6	10	2	26.32	28.36	31.78	35.08	51.14	52.48	53.08	54.06	53.40	60.33	57.97	58.79	61.09	62.97	68.54	69.55	70.56	71.56	72.57	73.58	75.78	77.97	80.17	82.36	84.56
6	10	3	25.66	27.42	30.04	34.30	50.00	51.30	52.07	52.79	52.48	59.33	57.06	56.59	60.21	61.05	68.07	68.67	69.28	69.88	70.49	71.09	73.15	75.20	77.26	79.31	81.37
6	10	4	25.33	26.99	29.23	34.27	49.82	50.42	51.50	52.20	51.60	59.35	56.68	54.55	59.52	59.70	67.84	67.83	67.82	67.82	67.81	67.80	69.42	71.04	72.67	74.29	75.91
6	10	5	25.61	27.59	28.52	33.64	50.83	51.35	51.87	52.21	51.19	58.23	57.76	56.37	59.52	59.65	66.20	65.74	65.29	64.83	64.38	63.92	66.32	68.72	71.11	73.51	75.91
6	10	6	28.93	30.88	28.28	36.39	53.42	54.14	53.83	52.66	50.67	60.70	60.44	60.26	62.92	60.85	69.11	67.32	65.53	63.75	61.96	60.17	63.90	67.64	71.37	75.11	78.84
6	10	7	28.83	32.27	28.96	37.77	54.92	54.62	55.43	54.08	51.31	62.79	61.27	61.98	64.68	63.55	71.21	70.16	69.11	68.07	67.02	65.97	69.73	73.50	77.26	81.03	84.79
6	10	8	30.80	36.43	33.47	42.93	56.74	57.35	57.38	55.86	54.31	66.84	64.28	64.30	67.66	66.65	73.73	73.84	73.95	74.05	74.16	74.27	77.01	79.75	82.50	85.24	87.98
6	10	9	35.32	40.99	36.33	48.28	58.28	60.05	60.12	58.84	56.72	70.76	65.86	65.40	69.41	69.01	77.88	78.08	78.28	78.47	78.67	78.87	81.50	84.13	86.77	89.40	92.03
6	10	10	37.61	43.49	38.91	50.09	60.44	63.05	61.83	61.06	59.53	73.80	67.58	67.16	71.51	69.82	79.77	80.04	80.32	80.59	80.87	81.14	83.80	86.45	89.11	91.76	94.42
6	10	11	41.02	45.97	41.41	51.40	64.57	66.95	64.01	63.39	62.56	77.54	70.23	68.46	73.33	71.11	82.22	82.68	83.13	83.59	84.04	84.50	87.18	89.86	92.55	95.23	97.91
6	10	12	43.69	46.86	44.50	59.87	65.74	71.05	67.23	65.68	64.28	86.11	73.45	68.74	74.22	73.30	95.70	93.92	92.14	90.37	88.59	86.81	89.40	91.99	94.59	97.18	99.77
6	10	13	43.69	47.15	46.43	53.85	65.43	75.24	68.02	66.99	66.85	80.91	74.02	69.74	76.43	75.72	93.29	92.26	91.23	90.21	89.18	88.15	90.63	93.11	95.59	98.07	100.55
6	10	14	45.40	50.01	47.53	58.83	67.67	82.43	71.77	68.31	68.33	84.86	77.31	72.64	80.32	77.09	99.51	97.71	95.92	94.12	92.33	90.53	92.63	94.73	96.82	98.92	101.02
6	10	15	45.00	51.26	48.31	66.76	80.63	96.84	75.60	69.86	69.34	93.87	84.25	73.07	83.73	78.02	109.95	106.22	102.49	98.75	95.02	91.29	93.28	95.28	97.27	99.27	101.26
6	10	16	45.55	51.76	49.93	70.26	98.70	118.47	76.73	74.04	73.49	110.66	129.12	73.93	86.79	80.78	134.05	125.50	116.95	108.40	99.85	91.30	93.61	95.92	98.23	100.54	102.85
6	10	17	44.94	52.77	54.00	70.35	92.21	80.49	82.44	73.86	81.51	110.88	78.87	73.90	92.70	81.08	142.35	132.16	121.98	111.79	101.61	91.42	93.64	95.86	98.07	100.29	102.51
6	10	18	44.87	51.09	54.00	63.33	68.49	76.23	71.79	71.62	85.10	90.11	74.66	72.29	78.04	80.35	104.88	102.28	99.69	97.09	94.50	91.90	94.78	97.65	100.53	103.40	106.28
6	10	19	42.11	48.46	49.76	58.92	63.63	74.44	67.85	68.22	71.71	84.35	72.61	71.03	75.75	76.83	96.70	95.62	94.54	93.46	92.38	91.30	93.70	96.10	98.50	100.90	103.30
6	10	20	41.46	47.22	48.03	59.64	63.29	68.19	66.42	66.09	68.65	83.56	70.22	70.35	73.33	75.00	90.07	90.32	90.56	90.81	91.05	91.30	93.05	94.81	96.56	98.32	100.07
6	10	21	40.81	46.11	48.03	52.63	62.63	65.12	65.10	65.23	68.80	74.48	69.91	69.74	72.92	73.86	82.21	84.03	85.85	87.66	89.48	91.30	93.02	94.75	96.47	98.20	99.92
6	10	22	39.81	44.96	47.78	49.80	60.56	64.14	63.50	64.02	67.04	71.96	68.79	68.73	71.65	72.91	78.49	81.05	83.61	86.18	88.74	91.30	92.96	94.62	96.28	97.94	99.60
6	10	23	37.30	43.06	47.02	48.28	58.77	63.05	61.32	61.09	64.26	69.63	66.51	68.41	70.24	69.64	75.96	78.45	80.94	83.42	85.91	88.40	89.87	91.34	92.80	94.27	95.74
6	10	24	32.14	36.02	41.58	43.69	57.23	59.34	57.97	58.12	61.86	66.15	64.25	65.58	66.61	68.48	72.31	74.61	76.91	79.22	81.52	83.82	85.43	87.03	88.64	90.24	91.85
6	11	1	28.29	32.44	37.05	37.86	52.91	54.83	55.48	55.71	57.64	62.08	60.58	60.35	63.56	66.15	68.76	70.81	72.85	74.90	76.94	78.99	80.82	82.64	84.47	86.29	88.12
6	11	2	26.45	28.70	36.27	34.05	52.09	52.39	53.95	53.69	57.10	58.79	57.92	58.73	61.55	63.11	66.06	68.23	70.40	72.58	74.75	76.92	78.53	80.15	81.76	83.38	84.99
6	11	3	25.80	28.00	36.21	33.33	50.77	50.67	52.36	52.41	57.05	58.08	55.91	57.62	60.09	61.05	65.14	67.47	69.80	72.13	74.46	76.79	77.80	78.81	79.82	80.83	81.84
6	11	4	25.60	27.16	36.24	32.90	50.20	50.36	51.53	51.14	56.75	57.99	54.53	56.59	59.19	59.91	64.86	67.19	69.52	71.86	74.19	76.52	76.66	76.80	76.95	77.09	77.23
6	11	5	25.72	27.04	34.57	32.10	51.65	51.04	51.31	50.42	55.91	56.31	55.81	56.98	59.01	58.69	63.34	65.71	68.08	70.45	72.82	75.19	74.92	74.66	74.39	74.13	73.86
6	11	6	28.22	27.24	37.65	34.53	52.70	53.84	51.67	49.78	57.27	58.95	59.53	60.22	59.90	58.07	65.67	68.20	70.73	73.27	75.80	78.33	76.94	75.55	74.15	72.76	71.37

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	11	7	29.32	30.31	38.78	36.16	53.40	54.08	53.08	50.65	60.04	59.97	60.21	62.05	62.15	59.11	68.26	70.77	73.28	75.78	78.29	80.80	79.52	78.25	76.97	75.70	74.42
6	11	8	34.04	31.76	42.69	39.85	56.47	56.39	55.38	54.37	63.51	63.58	62.75	65.39	64.53	64.41	70.78	73.92	77.05	80.19	83.32	86.46	86.24	86.02	85.79	85.57	85.35
6	11	9	36.96	35.56	48.14	44.97	58.46	57.97	57.10	56.71	67.04	67.23	64.28	67.87	67.38	67.27	73.89	77.21	80.53	83.84	87.16	90.48	90.29	90.11	89.92	89.74	89.55
6	11	10	41.27	40.44	49.74	48.33	61.06	60.57	59.67	59.12	69.35	70.29	65.60	69.58	69.28	69.14	76.81	80.12	83.43	86.74	90.05	93.36	93.24	93.12	93.00	92.88	92.76
6	11	11	43.44	43.70	51.60	51.08	65.36	62.08	62.02	61.17	74.23	74.77	66.52	71.36	71.19	69.35	82.72	85.70	88.69	91.67	94.66	97.64	97.10	96.57	96.03	95.50	94.96
6	11	12	45.30	45.97	55.69	58.92	67.24	64.26	64.10	62.54	86.63	90.34	68.79	72.33	72.82	71.00	107.09	106.19	105.30	104.40	103.51	102.61	101.83	101.06	100.28	99.51	98.73
6	11	13	45.93	47.04	55.90	61.33	71.37	65.01	65.67	65.16	82.00	86.84	69.65	74.45	73.57	72.84	114.45	112.63	110.82	109.00	107.19	105.37	104.31	103.25	102.19	101.13	100.07
6	11	14	48.93	48.10	56.33	73.40	80.19	66.00	68.25	66.41	83.62	102.75	70.20	75.42	75.17	75.00	132.38	126.34	120.30	114.27	108.23	102.19	101.98	101.76	101.55	101.33	101.12
6	11	15	50.99	49.22	63.26	83.80	95.66	66.06	70.57	67.70	93.27	117.12	70.72	78.31	76.11	76.01	144.36	137.90	131.44	124.97	118.51	112.05	109.86	107.68	105.49	103.31	101.12
6	11	16	52.97	52.70	87.57	117.86	98.93	68.14	71.60	70.16	99.95	142.05	71.78	78.31	84.41	78.17	221.66	203.14	184.61	166.09	147.56	129.04	123.50	117.95	112.41	106.86	101.32
6	11	17	53.25	54.43	85.83	100.25	97.37	66.21	73.50	81.84	99.52	131.01	71.55	80.65	85.28	81.87	189.56	177.50	165.44	153.38	141.32	129.26	123.81	118.37	112.92	107.48	102.03
6	11	18	50.83	54.27	56.58	73.74	87.49	65.90	70.70	82.94	90.45	106.85	71.35	76.18	86.34	82.58	139.65	133.31	126.97	120.63	114.29	107.95	106.76	105.57	104.39	103.20	102.01
6	11	19	45.61	47.20	54.59	66.66	70.03	64.99	66.42	70.38	77.92	92.03	69.98	74.41	75.57	78.03	107.09	106.25	105.41	104.56	103.72	102.88	102.53	102.18	101.82	101.47	101.12
6	11	20	43.99	46.10	53.13	59.67	67.07	63.81	65.34	67.43	83.35	84.35	69.51	72.33	72.89	75.00	98.23	98.88	99.53	100.18	100.83	101.48	101.41	101.34	101.26	101.19	101.12
6	11	21	43.54	45.07	50.18	56.94	65.89	62.59	64.11	67.70	75.16	86.84	68.78	72.11	71.86	75.06	102.28	101.26	100.23	99.21	98.18	97.16	97.95	98.74	99.54	100.33	101.12
6	11	22	42.61	43.77	49.22	52.08	63.47	61.39	63.62	67.43	70.44	75.36	66.59	70.18	71.20	74.35	85.75	87.11	88.48	89.84	91.21	92.57	94.28	95.99	97.70	99.41	101.12
6	11	23	38.98	40.65	47.81	49.83	60.20	61.09	59.85	64.97	66.82	71.18	65.34	68.22	68.01	72.29	77.88	80.52	83.16	85.81	88.45	91.09	92.91	94.73	96.56	98.38	100.20
6	11	24	33.27	35.07	40.51	44.61	57.55	57.32	57.44	61.62	63.62	68.20	63.01	65.25	66.00	69.64	74.35	76.28	78.21	80.14	82.07	84.00	86.56	89.12	91.67	94.23	96.79
6	12	1	29.05	31.76	37.83	36.83	52.94	53.76	55.24	57.99	58.21	61.62	58.47	61.88	63.54	67.34	69.45	71.12	72.79	74.45	76.12	77.79	80.55	83.32	86.08	88.85	91.61
6	12	2	26.87	30.84	34.94	34.10	51.45	51.94	53.54	57.18	56.52	59.02	57.00	59.06	61.10	65.63	67.51	68.81	70.11	71.42	72.72	74.02	77.18	80.34	83.49	86.65	89.81
6	12	3	26.05	27.50	34.40	32.83	50.05	50.39	52.38	56.69	55.65	57.99	55.66	57.63	60.09	65.51	66.20	67.77	69.35	70.92	72.50	74.07	77.22	80.37	83.51	86.66	89.81
6	12	4	25.44	26.75	33.92	32.34	49.07	49.96	51.48	56.31	55.31	57.49	54.59	56.69	58.97	65.55	65.53	67.19	68.86	70.52	72.19	73.85	76.96	80.06	83.17	86.27	89.38
6	12	5	25.34	26.48	33.41	31.45	50.01	50.39	50.85	56.31	54.24	56.28	55.01	56.42	58.66	65.13	64.24	65.90	67.56	69.23	70.89	72.55	75.79	79.03	82.27	85.51	88.75
6	12	6	25.55	26.17	35.28	34.40	52.37	53.73	50.16	57.37	55.84	58.14	58.40	56.98	58.22	67.27	66.04	68.00	69.96	71.92	73.88	75.84	78.92	82.01	85.09	88.18	91.26
6	12	7	27.41	26.65	36.99	35.43	52.82	54.41	51.01	59.55	57.54	60.11	60.55	59.67	58.80	69.14	68.32	70.36	72.39	74.43	76.46	78.50	81.44	84.38	87.31	90.25	93.19
6	12	8	29.09	30.24	40.02	40.01	56.34	56.04	53.53	63.74	61.69	63.28	63.78	62.17	62.00	71.11	71.50	73.94	76.38	78.81	81.25	83.69	86.78	89.86	92.95	96.03	99.12
6	12	9	32.42	32.88	46.82	45.25	57.70	58.22	55.91	68.16	65.10	66.64	65.35	65.39	64.62	75.36	74.35	77.10	79.85	82.59	85.34	88.09	90.80	93.51	96.22	98.93	101.64
6	12	10	36.32	35.74	49.37	48.47	58.79	60.25	57.73	71.91	69.34	69.83	67.14	67.35	67.00	78.51	76.99	79.85	82.72	85.58	88.45	91.31	93.93	96.55	99.18	101.80	104.42
6	12	11	40.02	40.25	52.73	52.79	60.65	62.84	59.29	75.67	74.61	76.32	69.65	69.58	68.34	84.61	90.69	91.89	93.10	94.30	95.51	96.71	98.45	100.18	101.92	103.65	105.39
6	12	12	42.95	43.18	55.56	54.72	60.76	65.74	61.54	92.90	95.77	88.99	71.12	71.17	70.44	96.98	100.83	101.76	102.69	103.62	104.55	105.48	107.34	109.19	111.05	112.90	114.76
6	12	13	43.69	44.41	59.21	56.49	61.75	67.33	62.81	94.55	100.87	91.13	72.94	72.72	71.74	90.80	113.31	113.11	112.92	112.72	112.53	112.33	113.95	115.57	117.19	118.81	120.43
6	12	14	44.88	46.25	66.05	70.89	65.02	71.09	65.49	98.48	104.54	105.40	75.86	74.35	73.06	101.81	135.12	133.60	132.07	130.55	129.02	127.50	125.47	123.45	121.42	119.40	117.37
6	12	15	45.61	47.22	81.86	92.13	66.76	77.04	67.70	101.03	124.36	123.34	76.52	75.23	74.20	110.71	141.56	144.44	147.32	150.19	153.07	155.95	150.68	145.40	140.13	134.85	129.58
6	12	16	46.44	49.78	132.55	108.16	67.07	82.74	70.22	104.48	179.28	175.30	77.94	78.31	77.95	124.38	196.01	202.09	208.17	214.25	220.33	226.41	209.73	193.05	176.37	159.69	143.01
6	12	17	51.59	57.72	95.89	93.54	64.92	96.06	71.60	109.33	157.56	125.43	83.92	78.31	83.73	111.68	162.54	165.74	168.94	172.14	175.34	178.54	172.32	166.10	159.87	153.65	147.43
6	12	18	49.91	57.73	72.51	72.48	63.60	72.56	76.17	99.40	112.34	106.00	76.27	76.00	87.87	103.41	136.18	136.56	136.94	137.32	137.70	138.08	133.94	129.80	125.65	121.51	117.37
6	12	19	44.26	48.84	56.54	66.66	62.01	65.69	68.34	87.95	92.24	93.87	72.94	74.04	75.73	92.30	114.28	112.03	109.77	107.52	105.26	103.01	105.76	108.51	111.27	114.02	116.77
6	12	20	42.80	46.70	54.00	55.44	60.65	65.22	65.84	87.62	83.96	84.35	71.83	72.11	73.93	94.51	96.18	99.41	102.64	105.87	109.10	112.33	112.17	112.02	111.86	111.71	111.55
6	12	21	42.28	46.61	54.35	54.31	60.64	64.78	66.43	80.15	88.50	84.35	70.91	70.93	74.38	82.05	101.53	101.80	102.07	102.34	102.61	102.88	103.72	104.56	105.39	106.23	107.07
6	12	22	41.56	46.70	50.87	52.74	60.01	61.86	64.84	71.41	75.65	74.83	69.33	70.13	73.79	76.64	84.48	87.11	89.74	92.38	95.01	97.64	98.53	99.42	100.30	101.19	102.08
6	12	23	36.34	43.01	50.69	49.48	58.28	61.16	62.32	66.73	68.32	69.64	67.36	67.85	71.67	75.18	75.96	79.03	82.10	85.17	88.24	91.31	93.27	95.23	97.18	99.14	101.10
6	12	24	32.14	39.20	44.98	44.68	57.13	58.28	59.98	62.68	65.10	65.97	63.65	65.14	69.01	70.81	72.31	75.29	78.27	81.25	84.23	87.21	89.03	90.84	92.66	94.47	96.29
6	13	1	28.72	34.02	37.69	37.53	52.37	54.98	57.10	58.84	59.05	62.17	60.57	62.06	66.41	67.74	68.67	70.78	72.88	74.99	77.09	79.20	81.24	83.27	85.31	87.34	89.38
6	13	2	26.95	31.79	35.13	33.85	50.35	52.65	55.59	55.79	57.10	58.71	57.91	59.64	64.45	64.63	66.74	68.60	70.46	72.31	74.17	76.03	77.98	79.94	81.89	83.85	85.80
6	13	3	25.63	31.73	34.26	32.75	49.25	50.94	55.40	55.15	55.55	57.64	56.50	58.40	64.25	63.98	65.49	67.25	69.01	70.78	72.54	74.30	76.61	78.92	81.24	83.55	85.86
6	13	4	24.98	31.73	33.53	31.94	48.60	50.05	55.24	54.90	54.89	57.01	55.22	56.79	64.58	63.73	64.57	66.48	68.39	70.29	72.20	74.11	76.37	78.62	80.88	83.13	85.39
6	13	5	24.67	31.73	32.08	31.05	49.01	49.83	55.43	54.06	54.15	55.60	54.98	55.79	64.60	62.79	62.54	64.62	66.70	68.79	70.87	72.95	75.23	77.52	79.80	82.09	84.37
6	13	6	24.33	33.53	35.09	34.00	51.92	50.36	57.10	55.90	55.66	57.40	55.66	55.18	66.38	64.68	64.68	66.97	69.26	71.56	73.85	76.14	78.41	80.68	82.94	85.21	87.48
6	13	7	24.82	35.09	36.01	35.08	53.01	52.54	57.62	57.30	57.95	58.44	58.87	55.82	67.64	66.15	66.74	69.22	71.71	74.19	76.68	79.16	81.33	83.50	85.67	87.84	90.01
6	13	8	27.05	41.15	39.73	38.13	54.51	54.31	61.76	60.17	62.45	61.48	61.08	60.22	71.63	69.14	69.18	72.03	74.87	77.72	80.56	83.41	85.69	87.97	90.25	92.53	94.81
6	13	9	29.68	46.52	44.66	43.99	56.60	56.60	65.72	64.57	65.10	64.25	64.36	62.90	75.17	72.42	71.70	74.77	77.84	80.91	83.98	87.05	89.51	91.98	94.44	96.91	99.37
6	13	10	33.00	48.01	48.08	46.61	58.46	58.64	67.81	67.73	69.08	66.98	66.01	65.47	78.10	75.56	74.27	77.63	80.98	84.34	87.69	91.05	93.07	95.09	97.10	99.12	101.14
6	13	11	36.35	49.32	52.41	49.74	61.58	60.23	75.20	76.63	79.78	70.64	69.33	67.37	85.58	81.33	77.90	81.22	84.53	87.85	91.16	94.48	96.80	99.12	101.43	103.75	106.07
6	13	12	39.18	51.92	55.71	51.49	64.69	62.37	88.49	89.95	91.48	73.78	70.91	68.62	102.74	98.69	81.73	87.46	93.18	98.91	104.63	110.36	110.50	110.64	110.79	110.93	111.07
6	13	13	42.11	57.62	55.58	54.18	66.26	64.78	80.90	94.82	94.21	75.98	72.19	70.50	95.42	102.00	86.79	91.25	95.71	100.18	104.64	109.10	110.59	112.08	113.57	115.06	116.55
6	13	14	43.61	56.66	62.79	54.28	68.77	66.66	89.28	106.79	103.76	76.14	74.02	72.17	105.58	118.45	86.21	94.54	102.86	111.19	119.51	127.84	129.11	130.39	131.66	132.94	134.21
6	13	15	44.79	58.26	84.77	54.28	88.94	71.51	93.84	121.10	120.85	84.05	75.02	74.16	112.56	141.16	93.34	105.47	117.61	129.74	141.88	154.01	156.24	158.47	160.69	162.92	165.15
6	13	16	46.55	62.54	115.60	55.48	92.65	73.97	100.09	186.93	178.43	104.19	76.54	75.77	125.52	181.12	97.12	121.94	146.75	171.57	196.38	221.20	222.98	224.76	226.55	228.33	230.11
6	13	17	53.85	62.54	79.38	55.20	94.80	74.92	100.94	140.01	122.78	83.12	77.61	80.70	121.13	161.22	97.12	109.29	121.47	133.64	145.82	157.99	165.17	172.35	179.53	186.71	193.89

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	13	18	54.94	54.35	65.32	53.63	79.35	73.97	92.20	110.00	103.25	78.06	76.54	81.54	108.76	124.17	91.02	99.36	107.69	116.03	124.36	132.70	136.32	139.94	143.55	147.17	150.79
6	13	19	44.87	55.27	57.38	52.97	66.14	65.56	82.76	99.26	95.96	77.06	74.00	75.40	95.09	106.74	86.80	91.44	96.07	100.71	105.34	109.98	111.26	112.54	113.83	115.11	116.39
6	13	20	43.61	51.37	56.73	52.47	65.70	64.15	81.71	92.25	83.35	76.20	71.62	73.58	95.97	93.89	87.74	92.19	96.64	101.10	105.55	110.00	113.08	116.16	119.25	122.33	125.41
6	13	21	43.55	48.83	56.44	52.19	63.56	62.37	76.96	88.71	83.59	75.36	70.20	73.10	83.30	98.44	86.89	89.94	92.99	96.05	99.10	102.15	103.97	105.79	107.62	109.44	111.26
6	13	22	42.95	47.20	50.70	51.55	61.79	60.70	69.60	77.26	74.35	71.96	69.57	73.10	76.11	83.35	80.26	83.18	86.10	89.01	91.93	94.85	97.06	99.28	101.49	103.71	105.92
6	13	23	41.56	45.97	49.56	46.93	58.35	59.77	64.76	68.22	67.52	66.76	66.36	70.80	72.82	76.83	73.97	77.01	80.05	83.10	86.14	89.18	91.57	93.96	96.36	98.75	101.14
6	13	24	36.35	38.84	42.87	39.96	56.35	56.95	61.32	64.87	63.27	63.22	63.65	67.60	68.71	71.67	70.65	73.17	75.69	78.21	80.73	83.25	86.37	89.49	92.62	95.74	98.86
6	14	1	32.54	32.77	37.09	34.77	53.01	54.65	57.07	59.62	57.83	58.24	60.58	65.32	65.50	68.86	66.35	68.70	71.06	73.41	75.77	78.12	80.78	83.44	86.11	88.77	91.43
6	14	2	30.35	29.44	34.85	33.47	51.61	52.10	55.43	57.56	56.06	57.73	58.12	63.80	62.39	66.50	64.46	66.55	68.64	70.73	72.82	74.91	77.42	79.94	82.45	84.97	87.48
6	14	3	29.51	29.19	33.94	32.45	50.12	50.63	54.74	55.29	54.47	56.33	57.00	63.43	61.75	63.78	63.31	65.43	67.55	69.68	71.80	73.92	76.28	78.64	81.01	83.37	85.73
6	14	4	29.42	29.30	33.30	31.30	49.47	49.95	54.38	54.76	54.08	55.11	55.67	63.28	61.42	63.18	62.10	64.16	66.22	68.28	70.34	72.40	74.99	77.58	80.18	82.77	85.36
6	14	5	30.41	28.51	32.37	30.61	49.11	49.10	53.54	53.87	52.65	53.49	54.59	62.58	60.86	62.35	60.82	62.56	64.31	66.05	67.80	69.54	72.45	75.37	78.28	81.20	84.11
6	14	6	31.85	31.21	34.20	32.67	49.31	48.51	55.08	56.04	54.73	56.78	52.80	64.93	63.35	64.52	64.01	66.04	68.07	70.09	72.12	74.15	76.73	79.30	81.88	84.45	87.03
6	14	7	33.54	33.05	35.30	34.22	51.25	49.31	55.98	57.67	56.08	58.18	54.68	65.91	64.11	66.77	66.59	68.55	70.51	72.48	74.44	76.40	79.24	82.08	84.93	87.77	90.61
6	14	8	38.08	36.66	38.60	37.70	52.51	53.73	58.61	60.68	59.24	60.26	59.29	70.31	67.63	69.14	68.68	70.92	73.15	75.39	77.62	79.86	82.72	85.58	88.44	91.30	94.16
6	14	9	45.16	42.95	43.31	39.89	55.22	54.98	62.32	64.76	62.54	62.80	61.26	74.40	71.30	72.12	71.13	73.59	76.04	78.50	80.95	83.41	86.55	89.69	92.84	95.98	99.12
6	14	10	46.83	46.86	46.65	43.97	57.37	58.32	65.84	68.31	65.10	64.98	64.33	76.12	74.38	75.73	72.65	75.59	78.54	81.48	84.43	87.37	90.12	92.87	95.63	98.38	101.13
6	14	11	47.74	49.11	48.93	47.57	58.34	60.37	73.12	80.15	69.79	67.37	66.15	85.84	81.96	84.19	75.06	78.09	81.12	84.16	87.19	90.22	92.94	95.65	98.37	101.08	103.80
6	14	12	50.88	54.46	51.64	48.38	60.22	61.49	84.57	88.71	73.24	68.92	67.95	101.97	100.41	96.65	76.14	79.69	83.25	86.80	90.36	93.91	98.63	103.34	108.06	112.77	117.49
6	14	13	53.05	53.10	55.51	49.76	62.21	63.65	87.66	92.76	77.06	70.12	69.70	94.90	109.23	103.75	76.67	80.94	85.21	89.47	93.74	98.01	101.75	105.50	109.24	112.99	116.73
6	14	14	52.22	57.07	56.25	50.66	64.56	65.05	99.77	104.52	77.06	71.85	70.77	106.98	128.78	117.83	79.32	83.52	87.72	91.93	96.13	100.33	106.91	113.49	120.06	126.64	133.22
6	14	15	57.71	76.10	56.70	53.02	68.09	66.43	119.38	118.80	85.55	73.19	72.94	116.44	139.71	138.37	87.74	92.08	96.42	100.77	105.11	109.45	119.02	128.59	138.15	147.72	157.29
6	14	16	72.11	88.55	56.70	55.24	68.24	71.82	165.99	173.03	109.61	74.27	74.45	139.30	193.07	188.09	98.97	100.80	102.62	104.45	106.27	108.10	127.92	147.73	167.55	187.36	207.18
6	14	17	75.34	84.71	56.28	53.12	68.63	80.15	137.05	123.36	92.47	73.34	77.14	142.76	159.83	139.54	83.41	88.37	93.32	98.28	103.23	108.19	118.75	129.30	139.86	150.41	160.97
6	14	18	53.87	61.87	56.70	52.59	68.28	85.85	100.99	99.65	80.17	74.14	78.87	109.89	134.89	124.25	87.32	92.25	97.18	102.12	107.05	111.98	117.43	122.87	128.32	133.76	139.21
6	14	19	49.67	51.54	53.88	50.13	62.00	71.33	91.70	95.50	77.07	72.48	73.29	95.73	109.04	106.29	81.58	85.70	89.82	93.95	98.07	102.19	105.03	107.87	110.70	113.54	116.38
6	14	20	49.40	52.54	52.42	49.69	60.09	68.49	81.97	81.67	76.39	71.73	71.85	98.72	95.09	96.92	78.84	82.77	86.70	90.62	94.55	98.48	102.36	106.23	110.11	113.98	117.86
6	14	21	47.85	51.22	52.07	49.16	58.79	68.97	81.65	80.22	75.10	71.01	73.29	83.84	97.67	97.62	78.76	82.29	85.82	89.36	92.89	96.42	98.84	101.26	103.67	106.09	108.51
6	14	22	45.67	47.43	49.48	47.93	58.68	65.96	74.24	72.66	72.17	68.27	72.21	75.37	82.37	80.21	76.49	79.65	82.81	85.97	89.13	92.29	94.92	97.56	100.19	102.83	105.46
6	14	23	43.96	46.70	47.39	45.43	57.70	63.77	66.23	66.60	65.12	66.76	70.02	72.41	74.82	73.21	74.67	77.29	79.91	82.52	85.14	87.76	90.34	92.92	95.50	98.08	100.66
6	14	24	36.04	39.88	39.32	39.10	54.87	60.61	62.64	62.12	60.60	63.22	66.51	69.42	71.49	70.22	70.04	72.42	74.80	77.17	79.55	81.93	84.37	86.81	89.26	91.70	94.14
6	15	1	31.28	33.19	34.48	35.10	52.37	58.32	57.82	58.22	55.92	60.01	64.22	65.39	66.75	67.84	68.24	69.91	71.58	73.26	74.93	76.60	79.04	81.48	83.93	86.37	88.81
6	15	2	28.98	31.12	33.27	33.60	49.97	55.44	56.23	55.55	53.97	58.04	61.87	62.33	64.08	64.46	66.13	67.76	69.39	71.01	72.64	74.27	76.60	78.93	81.27	83.60	85.93
6	15	3	28.51	28.36	32.50	31.96	48.66	55.44	55.24	54.56	53.17	57.10	61.60	61.21	62.00	63.34	64.94	66.16	67.39	68.61	69.84	71.06	73.95	76.85	79.74	82.64	85.53
6	15	4	28.42	28.64	31.55	31.25	47.89	55.44	54.74	53.76	52.45	56.58	61.51	61.12	61.71	62.31	64.73	65.84	66.95	68.05	69.16	70.27	72.87	75.47	78.06	80.66	83.26
6	15	5	26.72	27.79	30.79	31.08	46.95	55.46	53.54	52.79	50.85	56.52	60.95	60.14	60.80	60.35	64.65	64.48	64.32	64.15	63.99	63.82	67.07	70.32	73.58	76.83	80.08
6	15	6	29.52	30.76	33.59	31.09	47.01	57.46	55.35	55.31	53.55	56.70	63.19	62.09	63.37	63.12	64.73	66.42	68.11	69.80	71.49	73.18	75.70	78.23	80.75	83.28	85.80
6	15	7	30.44	32.42	34.16	32.55	47.76	58.20	56.55	56.69	55.38	58.96	65.78	62.63	65.17	64.64	65.19	67.39	69.59	71.79	73.99	76.19	78.76	81.33	83.90	86.47	89.04
6	15	8	34.87	35.09	36.86	34.54	51.44	60.40	58.76	59.13	57.48	60.11	69.38	66.64	67.58	67.34	67.43	69.71	71.99	74.27	76.55	78.83	81.49	84.15	86.80	89.46	92.12
6	15	9	40.96	42.23	39.48	36.45	53.32	63.66	62.00	61.89	60.13	60.26	73.45	70.34	71.30	69.15	68.63	71.29	73.95	76.61	79.27	81.93	84.49	87.05	89.61	92.17	94.73
6	15	10	46.01	45.61	43.08	39.07	55.53	67.60	66.42	65.49	63.20	62.79	75.50	73.63	73.59	71.30	70.04	72.85	75.66	78.48	81.29	84.10	87.08	90.07	93.05	96.04	99.02
6	15	11	47.74	47.53	45.72	40.85	58.05	74.27	76.96	69.49	65.68	64.03	81.63	86.92	86.77	74.13	71.72	74.64	77.55	80.47	83.38	86.30	89.26	92.23	95.19	98.16	101.12
6	15	12	52.94	53.09	47.51	42.67	59.40	82.51	81.39	72.62	67.67	64.43	97.12	107.12	98.63	80.24	72.31	75.36	78.41	81.45	84.50	87.55	90.55	93.56	96.56	99.57	102.57
6	15	13	50.86	51.34	49.42	45.01	60.47	82.51	85.76	76.11	68.47	65.89	93.44	109.57	105.11	89.49	73.95	77.31	80.67	84.02	87.38	90.74	94.04	97.35	100.65	103.96	107.26
6	15	14	56.32	55.38	50.69	46.08	62.43	82.07	93.45	75.19	70.09	66.09	97.94	130.26	114.62	87.20	75.17	78.67	82.17	85.68	89.18	92.68	95.62	98.56	101.49	104.43	107.37
6	15	15	76.67	75.80	51.19	46.09	64.29	87.32	109.92	80.15	74.29	66.41	104.51	136.12	128.81	89.57	75.31	79.22	83.12	87.03	90.93	94.84	98.58	102.32	106.07	109.81	113.55
6	15	16	89.66	90.52	54.74	46.01	68.18	91.95	145.02	87.29	78.35	66.50	116.21	184.98	159.48	91.74	75.19	79.36	83.53	87.71	91.88	96.05	102.05	108.05	114.06	120.06	126.06
6	15	17	85.29	84.44	52.13	46.23	98.28	90.92	110.73	86.87	72.70	66.64	115.90	168.21	117.75	91.49	75.19	79.12	83.05	86.97	90.90	94.83	105.71	116.59	127.46	138.34	149.22
6	15	18	64.48	59.89	51.21	46.70	98.41	82.74	93.89	79.75	78.35	66.66	100.03	131.83	111.65	89.57	75.92	79.93	83.94	87.95	91.96	95.97	101.11	106.25	111.38	116.52	121.66
6	15	19	50.68	53.33	49.85	45.32	68.70	80.29	88.55	76.59	71.36	65.58	90.10	109.57	104.66	86.61	74.21	78.27	82.34	86.40	90.47	94.53	97.43	100.33	103.23	106.13	109.03
6	15	20	49.90	53.87	48.33	42.16	63.66	78.64	80.54	76.59	70.17	64.35	94.10	96.25	94.58	86.27	72.50	76.45	80.40	84.35	88.30	92.25	95.25	98.25	101.26	104.26	107.26
6	15	21	49.73	52.06	47.72	41.38	64.99	72.14	79.97	72.86	68.97	63.98	83.24	104.16	90.00	82.85	72.06	75.89	79.72	83.55	87.38	91.21	93.95	96.69	99.42	102.16	104.90
6	15	22	46.43	47.41	46.65	39.92	63.05	67.10	73.52	71.68	67.52	63.18	74.82	87.79	80.32	77.40	71.32	74.72	78.12	81.52	84.92	88.32	90.90	93.49	96.07	98.66	101.24
6	15	23	46.01	46.70	44.32	37.86	60.15	63.13	64.75	65.70	64.10	61.12	71.61	75.37	72.05	71.65	69.42	73.22	77.02	80.81	84.61	88.41	90.74	93.07	95.41	97.74	100.07
6	15	24	37.39	37.97	38.71	35.09	57.83	60.03	61.47	60.76	59.67	59.22	68.21	72.14	67.58	68.82	67.58	70.48	73.38	76.27	79.17	82.07	84.48	86.90	89.31	91.73	94.14
6	16	1	31.61	32.39	35.81	33.90	55.90	57.62	57.21	56.78	56.60	58.19	63.24	66.33	64.27	64.34	66.02	68.63	71.25	73.86	76.48	79.09	81.09	83.08	85.08	87.07	89.07
6	16	2	29.91	29.54	33.87	32.02	53.45	54.62	55.68	55.04	55.30	55.56	60.43	63.85	62.46	63.43	63.67	66.33	68.99	71.64	74.30	76.96	78.68	80.40	82.12	83.84	85.56
6	16	3	28.16	29.02	33.09	29.40	53.11	53.94	54.67	54.25	54.24	54.83	59.56	61.05	61.58	62.18	62.59	65.02	67.45	69.88	72.31	74.74	76.44	78.15	79.85	81.56	83.26
6	16	4	26.89	28.59	32.24	28.86	52.86	53.67	53.98	52.77	53.69	53.71	59.38	60.21	60.82	61.16	61.60	64.08	66.56	69.05	71.53	74.01	75.25	76.50	77.74	78.99	80.23

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	16	5	25.52	27.31	31.82	28.77	52.77	53.04	52.48	51.23	53.67	52.99	58.72	60.14	59.26	58.04	59.67	62.40	65.13	67.86	70.59	73.32	74.05	74.78	75.50	76.23	76.96
6	16	6	28.47	30.23	32.08	28.77	55.16	54.82	54.43	54.57	53.61	52.89	60.72	61.55	61.65	62.97	59.51	62.35	65.19	68.02	70.86	73.70	75.76	77.82	79.89	81.95	84.01
6	16	7	29.32	31.59	33.41	28.86	56.35	55.46	55.68	55.71	55.49	53.70	61.91	63.68	63.08	63.68	60.95	63.91	66.87	69.82	72.78	75.74	78.25	80.76	83.28	85.79	88.30
6	16	8	34.18	34.24	35.19	31.49	58.46	58.10	57.46	58.01	56.68	57.37	65.11	67.27	65.60	66.44	64.84	67.73	70.62	73.50	76.39	79.28	81.46	83.63	85.81	87.98	90.16
6	16	9	39.63	39.20	36.24	34.26	61.94	60.38	59.45	60.41	57.60	58.88	68.81	70.34	67.43	68.34	66.72	69.45	72.18	74.92	77.65	80.38	82.81	85.24	87.67	90.10	92.53
6	16	10	44.77	42.86	38.84	35.46	66.24	65.01	62.27	62.56	60.15	59.54	73.69	73.53	70.38	69.35	68.18	70.99	73.81	76.62	79.44	82.25	84.91	87.57	90.22	92.88	95.54
6	16	11	46.60	46.62	41.30	36.64	73.26	72.44	66.73	65.49	62.22	60.26	80.78	92.21	73.59	71.75	68.97	72.09	75.21	78.33	81.45	84.57	87.18	89.78	92.39	94.99	97.60
6	16	12	49.96	48.26	42.87	38.54	80.13	82.51	69.99	66.73	63.25	61.43	104.03	100.67	77.75	72.87	70.51	73.47	76.44	79.40	82.37	85.33	88.03	90.73	93.43	96.13	98.83
6	16	13	49.15	51.11	44.53	40.23	79.94	87.55	76.03	67.50	64.39	62.75	102.38	112.01	82.37	74.10	71.67	74.60	77.54	80.47	83.41	86.34	89.30	92.25	95.21	98.16	101.12
6	16	14	52.30	51.57	45.54	41.67	82.47	94.51	76.90	69.41	65.97	63.61	116.57	124.61	83.38	77.11	72.31	75.39	78.47	81.55	84.63	87.71	90.61	93.51	96.42	99.32	102.22
6	16	15	66.66	56.07	45.89	43.48	86.89	110.41	80.84	71.02	66.13	64.86	133.55	134.92	88.11	84.53	72.78	75.75	78.72	81.69	84.66	87.63	90.87	94.12	97.36	100.61	103.85
6	16	16	83.85	54.80	46.37	44.65	96.04	118.77	84.74	75.84	64.92	66.30	189.30	145.84	112.08	88.52	73.95	76.53	79.11	81.69	84.27	86.85	90.53	94.21	97.89	101.57	105.25
6	16	17	75.63	54.80	46.93	47.19	106.59	116.27	84.74	71.91	65.00	68.52	188.51	135.36	112.08	81.46	75.80	78.05	80.30	82.55	84.80	87.05	90.54	94.04	97.53	101.03	104.52
6	16	18	54.63	52.06	46.65	47.19	81.74	98.80	76.96	71.50	66.47	68.51	127.52	123.49	95.81	79.41	75.86	78.27	80.68	83.09	85.50	87.91	91.49	95.08	98.66	102.25	105.83
6	16	19	51.11	51.05	45.51	46.00	76.68	83.00	72.95	69.51	64.41	67.43	107.44	112.17	83.30	77.88	75.31	77.28	79.25	81.21	83.18	85.15	88.88	92.61	96.34	100.07	103.80
6	16	20	50.77	49.24	42.80	44.65	79.22	81.85	72.96	68.11	63.11	66.31	92.91	94.96	83.38	77.03	74.38	76.23	78.08	79.94	81.79	83.64	87.25	90.86	94.46	98.07	101.68
6	16	21	49.73	49.05	41.56	45.14	75.10	82.51	72.40	67.96	62.03	66.03	98.43	99.25	81.53	75.99	74.50	76.18	77.86	79.55	81.23	82.91	86.55	90.19	93.84	97.48	101.12
6	16	22	47.60	47.22	40.05	44.65	69.68	73.06	68.79	66.41	61.01	65.97	83.92	82.86	77.53	73.18	73.94	75.59	77.24	78.88	80.53	82.18	85.97	89.76	93.54	97.33	101.12
6	16	23	46.01	44.10	38.03	41.07	62.63	68.15	62.27	63.06	59.23	64.43	73.91	72.04	70.98	71.89	72.31	73.95	75.58	77.22	78.85	80.49	84.30	88.11	91.92	95.73	99.54
6	16	24	36.04	35.91	35.43	37.99	58.29	59.90	58.25	59.15	57.58	61.47	70.29	68.30	67.05	68.86	70.22	71.95	73.68	75.42	77.15	78.88	81.94	84.99	88.05	91.10	94.16
6	17	1	30.74	31.78	34.10	34.53	56.35	57.37	55.91	57.28	55.93	58.92	64.61	65.12	63.58	66.60	66.46	68.54	70.63	72.71	74.80	76.88	79.49	82.11	84.72	87.34	89.95
6	17	2	28.66	30.77	32.07	33.16	53.51	55.01	54.74	56.18	54.20	57.84	61.87	61.86	61.72	65.73	64.92	66.74	68.56	70.37	72.19	74.01	77.12	80.23	83.34	86.45	89.56
6	17	3	27.48	28.38	30.46	32.55	52.92	54.26	53.88	54.26	53.07	57.11	59.71	60.31	60.98	63.87	64.81	66.12	67.42	68.73	70.03	71.34	74.40	77.46	80.51	83.57	86.63
6	17	4	26.35	27.75	29.17	32.50	52.62	53.78	52.99	53.47	52.42	56.53	59.19	59.89	59.86	63.26	64.56	65.40	66.24	67.09	67.93	68.77	72.14	75.51	78.87	82.24	85.61
6	17	5	25.48	27.72	29.13	32.06	51.74	52.47	51.48	53.10	51.75	56.59	57.99	58.09	57.93	62.89	64.24	64.12	64.00	63.88	63.76	63.64	67.90	72.15	76.41	80.66	84.92
6	17	6	28.80	29.63	28.69	34.20	53.17	53.93	54.00	53.46	51.48	58.01	59.58	60.26	61.51	63.10	65.48	64.86	64.24	63.61	62.99	62.37	66.98	71.59	76.21	80.82	85.43
6	17	7	29.05	30.86	29.16	35.47	54.47	55.04	55.39	55.15	52.35	58.93	61.95	62.06	62.97	64.71	67.40	67.36	67.32	67.29	67.25	67.21	71.32	75.44	79.55	83.67	87.78
6	17	8	32.03	33.25	32.04	39.26	57.30	57.65	56.57	56.77	54.34	62.79	65.37	64.03	65.50	67.14	71.06	71.61	72.16	72.71	73.26	73.81	76.91	80.01	83.11	86.21	89.31
6	17	9	37.19	35.09	34.80	43.47	60.17	60.28	58.13	57.08	56.75	65.00	68.33	66.04	67.38	66.48	72.71	73.71	74.72	75.72	76.73	77.73	80.60	83.47	86.35	89.22	92.09
6	17	10	42.14	40.27	35.83	45.78	64.06	65.23	59.87	59.05	57.77	66.51	73.22	68.90	68.27	68.55	74.77	75.56	76.35	77.13	77.92	78.71	81.77	84.84	87.90	90.97	94.03
6	17	11	45.64	43.15	37.12	47.57	73.77	73.75	62.86	60.78	58.49	67.56	86.84	72.14	70.29	69.47	75.80	76.61	77.42	78.24	79.05	79.86	82.88	85.90	88.92	91.94	94.96
6	17	12	47.08	44.66	38.63	48.55	80.70	81.60	64.57	61.25	59.98	70.47	97.97	78.54	72.60	69.91	77.88	78.73	79.58	80.42	81.27	82.12	84.73	87.34	89.96	92.57	95.18
6	17	13	49.74	46.45	40.23	49.87	82.95	81.60	66.94	62.74	61.00	72.91	103.28	86.32	73.54	71.21	80.03	80.68	81.34	81.99	82.65	83.30	85.89	88.48	91.06	93.65	96.24
6	17	14	52.12	47.27	41.67	52.23	84.77	87.55	69.30	63.72	62.54	75.10	111.88	89.64	75.49	72.62	82.22	82.61	83.00	83.40	83.79	84.18	87.12	90.05	92.99	95.92	98.86
6	17	15	53.24	49.94	43.07	52.97	92.18	97.03	70.56	63.72	63.48	76.45	123.61	93.56	80.32	72.89	83.53	83.83	84.13	84.42	84.72	85.02	87.89	90.75	93.62	96.48	99.35
6	17	16	59.56	51.34	44.66	53.10	159.46	114.16	75.22	63.72	64.47	81.77	164.96	104.53	82.33	72.53	83.02	83.65	84.28	84.92	85.55	86.18	88.64	91.09	93.55	96.00	98.46
6	17	17	59.56	50.83	47.00	53.84	122.78	107.14	72.50	63.81	68.18	82.10	126.05	104.19	77.36	72.52	92.61	92.05	91.49	90.93	90.37	89.81	91.45	93.09	94.72	96.36	98.00
6	17	18	52.15	48.92	47.02	51.08	92.12	90.39	71.44	64.43	67.90	75.10	113.03	93.60	80.30	73.08	81.86	83.38	84.89	86.41	87.92	89.44	91.38	93.33	95.27	97.22	99.16
6	17	19	49.69	47.26	45.72	49.80	82.41	84.99	69.00	62.95	67.62	72.61	106.40	86.99	76.11	71.30	78.80	80.73	82.66	84.60	86.53	88.46	90.09	91.71	93.34	94.96	96.59
6	17	20	49.12	46.45	45.07	47.75	80.70	78.76	67.27	61.37	65.31	69.72	91.22	83.22	74.78	70.04	76.35	78.52	80.70	82.87	85.05	87.22	88.82	90.43	92.03	93.64	95.24
6	17	21	48.13	46.19	45.06	47.72	80.37	78.76	66.54	61.06	65.31	69.20	93.31	82.60	73.59	69.31	75.00	77.43	79.86	82.30	84.73	87.16	88.58	90.01	91.43	92.86	94.28
6	17	22	46.27	44.68	44.46	45.32	73.11	73.10	64.22	60.00	64.67	66.76	79.30	75.96	72.18	69.15	73.59	76.20	78.81	81.43	84.04	86.65	88.01	89.38	90.74	92.11	93.47
6	17	23	43.54	42.38	41.41	42.93	65.07	65.51	60.87	58.89	63.43	65.96	71.61	69.32	70.14	68.99	72.31	74.69	77.07	79.46	81.84	84.22	85.70	87.18	88.65	90.13	91.61
6	17	24	34.80	35.82	37.45	38.22	58.28	61.34	57.68	56.68	59.43	62.05	67.14	65.41	66.83	67.37	70.16	72.23	74.30	76.38	78.45	80.52	82.10	83.68	85.25	86.83	88.41
6	18	1	29.45	32.88	35.50	33.44	56.46	57.09	56.09	55.52	57.83	58.78	62.84	62.22	64.25	65.57	66.54	68.69	70.83	72.98	75.12	77.27	79.21	81.15	83.08	85.02	86.96
6	18	2	28.30	31.88	33.83	31.20	53.57	54.79	55.44	52.76	56.30	56.93	59.92	60.09	63.40	62.12	64.77	66.80	68.83	70.85	72.88	74.91	76.68	78.45	80.22	81.99	83.76
6	18	3	26.35	29.51	33.45	30.30	52.80	53.95	54.11	52.11	55.64	56.28	58.74	59.36	61.44	60.94	64.06	66.14	68.23	70.31	72.40	74.48	75.83	77.18	78.53	79.88	81.23
6	18	4	25.74	28.67	33.34	29.43	52.41	53.10	53.48	50.96	55.33	55.87	57.61	58.99	60.65	59.56	62.89	65.13	67.37	69.61	71.85	74.09	74.00	73.92	73.83	73.75	73.66
6	18	5	25.57	28.60	33.01	30.28	51.22	51.26	53.26	50.19	54.34	56.55	56.60	56.47	60.23	57.80	64.07	65.90	67.74	69.57	71.41	73.24	69.90	66.56	63.21	59.87	56.53
6	18	6	27.58	29.58	34.32	33.49	52.54	53.73	53.45	49.94	55.59	58.72	58.94	60.16	60.44	57.58	66.61	68.36	70.10	71.85	73.59	75.34	70.40	65.45	60.51	55.56	50.62
6	18	7	28.66	30.63	35.98	34.26	53.54	54.87	54.38	50.79	57.34	59.49	60.21	61.27	62.34	59.24	67.97	70.10	72.22	74.35	76.47	78.60	76.39	74.17	71.96	69.74	67.53
6	18	8	30.75	32.72	39.39	38.54	56.39	56.42	55.57	54.19	61.15	63.22	63.09	62.79	64.08	63.14	70.58	72.83	75.08	77.34	79.59	81.84	82.07	82.30	82.52	82.75	82.98
6	18	9	35.74	33.39	42.55	43.42	58.77	58.91	56.18	56.61	63.00	66.64	65.51	65.40	64.99	66.28	72.32	74.95	77.58	80.20	82.83	85.46	86.02	86.57	87.13	87.68	88.24
6	18	10	39.20	35.98	44.50	47.71	63.61	61.73	57.98	56.82	64.95	70.04	67.87	67.37	66.70	67.53	73.76	76.55	79.34	82.13	84.92	87.71	88.07	88.42	88.78	89.13	89.49
6	18	11	42.75	39.86	46.82	49.52	73.06	66.12	59.07	57.81	66.70	71.98	72.07	68.62	67.38	68.41	76.99	79.27	81.56	83.84	86.13	88.41	88.93	89.46	89.98	90.51	91.03
6	18	12	44.63	40.72	47.69	50.67	78.89	69.81	60.49	59.39	69.71	73.81	76.16	71.29	67.97	69.02	79.59	81.81	84.04	86.26	88.49	90.71	90.96	91.21	91.47	91.72	91.97
6	18	13	45.74	41.48	49.13	52.18	79.94	72.27	61.92	61.12	71.36	76.74	81.03	73.77	69.66	69.24	83.32	85.02	86.71	88.41	90.10	91.80	92.11	92.42	92.72	93.03	93.34
6	18	14	46.32	43.20	50.70	56.39	87.46	73.10	63.15	61.92	76.24	79.27	81.26	75.61	70.42	69.64	85.22	87.46	89.71	91.95	94.20	96.44	95.97	95.50	95.03	94.56	94.09
6	18	15	48.74	43.27	52.28	58.06	104.68	75.49	63.38	62.74	78.05	84.32	89.65	80.35	70.65	70.81	91.85	92.82	93.79	94.76	95.73	96.70	96.37	96.04	95.70	95.37	95.04

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	18	16	49.61	42.97	59.61	60.70	97.22	86.00	63.64	64.18	78.17	91.62	120.93	85.84	70.38	71.42	100.26	99.50	98.74	97.97	97.21	96.45	96.31	96.16	96.02	95.87	95.73
6	18	17	49.06	44.21	56.51	55.69	104.68	81.35	63.72	66.73	80.87	84.35	103.56	81.06	70.42	73.06	91.93	92.88	93.83	94.77	95.72	96.67	97.22	97.77	98.33	98.88	99.43
6	18	18	48.96	44.68	49.80	54.18	85.21	74.92	63.71	66.96	70.65	86.37	85.64	87.60	70.88	72.75	91.78	92.56	93.33	94.11	94.88	95.66	96.65	97.64	98.62	99.61	100.60
6	18	19	46.06	41.67	49.02	55.42	80.63	73.98	62.79	65.82	69.71	78.64	81.33	76.37	69.44	72.13	85.64	87.19	88.75	90.30	91.86	93.41	94.74	96.07	97.41	98.74	100.07
6	18	20	45.55	40.73	47.35	51.41	77.56	71.43	60.88	64.77	68.20	74.91	79.40	74.92	67.67	71.09	80.21	82.08	83.95	85.81	87.68	89.55	91.51	93.47	95.43	97.39	99.35
6	18	21	45.40	40.19	46.77	50.12	77.95	69.69	59.88	64.87	67.24	72.23	76.54	73.07	67.44	71.36	78.79	80.70	82.61	84.51	86.42	88.33	90.51	92.69	94.88	97.06	99.24
6	18	22	43.63	38.42	44.98	49.03	74.88	68.11	58.84	63.23	65.21	69.70	75.45	69.77	66.96	71.28	77.88	79.57	81.27	82.96	84.66	86.35	88.93	91.51	94.08	96.66	99.24
6	18	23	42.14	34.69	42.55	47.09	63.38	62.08	57.84	61.37	63.67	67.06	68.69	68.27	65.56	69.85	74.56	76.24	77.91	79.59	81.26	82.94	85.50	88.06	90.61	93.17	95.73
6	18	24	34.18	32.22	38.06	39.69	57.74	58.97	56.57	59.33	59.49	63.63	64.79	65.40	63.73	68.17	72.06	73.64	75.22	76.81	78.39	79.97	82.33	84.69	87.06	89.42	91.78
6	19	1	30.04	31.19	34.96	34.10	55.38	55.42	55.39	57.31	56.49	59.11	60.55	63.86	62.34	65.32	67.82	69.56	71.30	73.04	74.78	76.52	78.87	81.22	83.57	85.92	88.27
6	19	2	29.50	28.26	32.42	32.07	53.10	53.43	52.71	55.36	54.90	57.90	58.69	62.78	59.80	64.12	65.53	67.20	68.86	70.53	72.19	73.86	76.07	78.28	80.50	82.71	84.92
6	19	3	27.72	27.76	31.43	30.31	52.40	52.39	52.07	54.90	54.34	56.33	57.11	60.02	59.19	63.19	63.37	65.34	67.31	69.29	71.26	73.23	75.54	77.85	80.17	82.48	84.79
6	19	4	26.64	27.30	31.14	30.32	51.85	51.43	51.30	54.77	53.78	56.31	55.69	59.53	58.12	62.89	63.00	64.99	66.98	68.97	70.96	72.95	75.33	77.71	80.09	82.47	84.85
6	19	5	26.80	26.87	32.07	30.17	49.82	50.18	50.79	52.88	54.23	55.89	54.60	59.35	57.33	60.75	63.06	65.20	67.34	69.49	71.63	73.77	75.43	77.09	78.74	80.40	82.06
6	19	6	28.20	26.69	35.06	32.75	52.20	53.73	50.38	55.45	55.65	57.64	57.70	59.58	57.28	63.62	65.94	68.04	70.13	72.23	74.32	76.42	78.35	80.28	82.22	84.15	86.08
6	19	7	28.98	26.94	35.48	34.09	53.09	54.33	51.01	57.25	56.75	59.32	59.22	62.60	57.98	65.75	67.83	69.83	71.84	73.84	75.85	77.85	80.10	82.35	84.61	86.86	89.11
6	19	8	30.31	29.18	38.74	38.38	55.38	55.57	53.93	59.62	59.89	62.59	61.87	63.95	61.37	68.96	69.76	72.00	74.23	76.47	78.70	80.94	83.53	86.11	88.70	91.28	93.87
6	19	9	32.33	31.82	43.63	44.56	57.53	57.09	55.81	62.24	63.39	65.24	64.44	64.78	63.07	69.85	72.32	74.93	77.54	80.15	82.76	85.37	87.57	89.78	91.98	94.19	96.39
6	19	10	36.04	32.88	47.57	47.35	60.48	59.18	56.77	64.71	66.45	66.52	66.05	65.40	64.23	71.28	73.65	76.67	79.69	82.72	85.74	88.76	90.93	93.10	95.26	97.43	99.60
6	19	11	38.93	34.11	49.62	49.61	64.78	62.06	57.59	66.24	69.16	70.34	68.17	66.01	64.95	73.24	76.67	79.60	82.53	85.47	88.40	91.33	93.29	95.25	97.20	99.16	101.12
6	19	12	39.68	35.09	50.36	52.97	68.80	63.83	58.05	68.46	74.11	77.73	69.92	67.57	66.87	74.92	85.61	87.02	88.44	89.85	91.27	92.68	94.37	96.06	97.75	99.44	101.13
6	19	13	42.11	38.51	52.22	53.02	73.06	65.38	58.92	69.96	77.22	80.49	70.23	68.40	67.44	76.38	86.89	88.50	90.11	91.72	93.33	94.94	96.62	98.31	99.99	101.68	103.36
6	19	14	43.69	40.18	54.13	56.31	73.06	67.07	59.96	72.87	89.78	84.38	72.85	69.36	67.90	78.38	96.69	96.80	96.91	97.03	97.14	97.25	99.08	100.91	102.73	104.56	106.39
6	19	15	44.55	40.68	66.66	63.92	74.88	68.20	60.94	76.29	84.95	99.48	75.19	69.52	69.14	80.64	121.54	117.59	113.65	109.70	105.76	101.81	102.88	103.96	105.03	106.11	107.18
6	19	16	44.04	42.26	71.09	74.87	85.17	70.16	62.04	74.07	96.96	107.39	75.55	69.28	69.72	83.11	126.19	124.78	123.37	121.97	120.56	119.15	116.90	114.65	112.40	110.15	107.90
6	19	17	44.60	45.14	63.69	86.38	86.92	69.12	63.71	77.48	87.67	160.57	74.58	69.32	71.54	83.11	172.90	160.43	147.96	135.50	123.03	110.56	110.67	110.77	110.88	110.98	111.09
6	19	18	45.28	46.36	64.20	61.02	73.60	68.86	63.72	69.85	83.96	92.35	75.19	69.43	71.42	78.03	101.97	101.92	101.86	101.81	101.75	101.70	102.52	103.35	104.17	105.00	105.82
6	19	19	43.43	43.87	53.81	53.25	73.29	67.19	63.31	67.68	84.95	79.73	74.82	68.17	70.88	75.77	89.50	91.05	92.59	94.14	95.68	97.23	98.61	100.00	101.38	102.77	104.15
6	19	20	40.05	42.05	50.69	54.19	72.10	66.00	62.04	66.48	75.00	79.07	72.94	66.48	69.57	74.16	87.74	88.83	89.92	91.02	92.11	93.20	94.78	96.37	97.95	99.54	101.12
6	19	21	39.36	41.98	49.73	51.79	71.18	65.49	61.89	65.48	72.76	73.31	71.85	65.68	69.30	73.17	82.53	84.40	86.28	88.15	90.03	91.90	93.67	95.43	97.20	98.96	100.73
6	19	22	37.75	41.67	49.27	49.87	68.80	62.68	61.03	64.09	69.71	70.16	69.93	65.40	69.30	71.36	78.72	80.98	83.24	85.50	87.76	90.02	92.08	94.14	96.19	98.25	100.31
6	19	23	35.07	38.51	47.30	48.28	61.05	61.24	59.13	61.73	64.97	68.29	67.11	64.20	68.18	69.99	75.33	77.84	80.35	82.85	85.36	87.87	90.02	92.18	94.33	96.49	98.64
6	19	24	31.14	34.48	39.86	40.28	57.37	58.63	57.38	59.15	61.68	64.10	64.41	62.75	66.19	68.28	72.19	73.99	75.79	77.59	79.39	81.19	83.76	86.34	88.91	91.49	94.06
6	20	1	29.47	31.82	35.58	34.56	53.45	55.42	55.90	56.48	57.05	58.19	61.36	61.62	62.89	65.13	67.25	69.16	71.07	72.97	74.88	76.79	79.24	81.69	84.14	86.59	89.04
6	20	2	26.87	30.63	34.19	31.36	52.20	54.51	55.04	54.95	55.51	56.52	60.64	58.53	62.33	63.11	64.54	66.51	68.48	70.46	72.43	74.40	76.85	79.30	81.75	84.20	86.65
6	20	3	26.08	29.72	31.21	30.81	51.14	53.05	54.13	53.17	54.43	55.51	58.18	58.17	61.58	61.22	63.29	65.15	67.00	68.86	70.71	72.57	74.76	76.95	79.13	81.32	83.51
6	20	4	25.48	29.68	30.39	30.96	49.80	52.35	53.97	53.48	54.47	55.02	57.74	56.50	61.19	61.00	62.66	64.39	66.13	67.86	69.60	71.33	73.68	76.03	78.37	80.72	83.07
6	20	5	25.31	27.51	31.49	30.27	48.35	51.68	52.29	54.12	53.55	54.75	57.66	55.38	59.15	62.97	62.02	63.99	65.96	67.93	69.90	71.87	74.48	77.09	79.70	82.31	84.92
6	20	6	25.21	30.89	33.91	33.01	52.20	52.26	54.36	55.73	55.26	57.22	57.75	55.05	61.72	65.21	64.66	66.69	68.72	70.74	72.77	74.80	77.57	80.34	83.11	85.88	88.65
6	20	7	25.43	33.19	34.88	34.29	52.80	53.61	55.79	56.79	57.03	58.19	60.17	55.77	64.07	65.75	66.00	68.25	70.49	72.74	74.98	77.23	79.75	82.26	84.78	87.29	89.81
6	20	8	28.54	36.15	38.58	37.89	54.63	54.66	57.56	59.32	59.44	61.10	61.06	60.18	67.22	69.02	68.63	71.09	73.55	76.02	78.48	80.94	83.78	86.62	89.45	92.29	95.13
6	20	9	30.28	41.21	43.77	43.58	56.59	55.47	60.50	62.66	63.44	64.34	61.86	62.60	68.59	71.21	70.98	73.61	76.25	78.88	81.52	84.15	87.18	90.22	93.25	96.29	99.32
6	20	10	31.56	43.59	47.35	46.65	57.99	58.28	62.46	66.09	66.46	66.64	64.27	63.18	70.87	74.47	74.06	76.88	79.70	82.51	85.33	88.15	90.74	93.34	95.93	98.53	101.12
6	20	11	34.18	44.66	49.62	48.88	60.50	59.61	64.69	68.86	71.92	70.21	65.64	63.79	72.03	76.83	76.39	79.35	82.32	85.28	88.25	91.21	93.39	95.57	97.74	99.92	102.10
6	20	12	36.34	46.45	52.48	51.78	61.76	60.34	67.22	75.05	77.60	73.31	66.00	64.93	73.50	78.91	79.30	82.37	85.44	88.50	91.57	94.64	96.49	98.35	100.20	102.06	103.91
6	20	13	38.31	47.45	54.00	53.58	65.57	61.34	68.57	80.15	79.01	76.79	67.14	65.68	76.11	82.03	85.64	88.62	91.60	94.58	97.56	100.54	101.71	102.88	104.04	105.21	106.38
6	20	14	39.70	48.86	56.77	53.49	69.04	61.49	71.46	80.22	87.58	75.36	67.80	66.54	78.01	87.77	87.32	90.36	93.40	96.43	99.47	102.51	103.74	104.96	106.19	107.41	108.64
6	20	15	40.50	50.68	66.22	56.84	79.35	61.75	75.33	77.72	98.12	84.35	67.91	67.57	79.36	90.57	92.05	96.37	100.69	105.01	109.33	113.65	114.09	114.54	114.98	115.43	115.87
6	20	16	42.28	51.57	77.41	77.46	75.50	61.78	80.76	85.67	116.34	93.44	67.98	68.42	80.28	101.54	113.37	114.30	115.22	116.15	117.07	118.00	120.56	123.13	125.69	128.26	130.82
6	20	17	46.27	51.78	88.33	79.58	72.94	61.88	75.90	82.47	166.51	98.73	67.98	70.13	82.84	100.19	124.63	132.34	140.05	147.76	155.47	163.18	156.47	149.75	143.04	136.32	129.61
6	20	18	45.91	48.64	61.81	55.10	67.76	61.88	70.26	80.01	91.66	81.51	68.41	70.18	76.93	90.57	90.78	93.96	97.14	100.33	103.51	106.69	108.70	110.72	112.73	114.75	116.76
6	20	19	43.61	46.52	52.75	52.97	66.67	61.44	67.88	80.15	77.83	79.16	66.56	68.94	74.27	88.90	96.98	98.09	99.20	100.32	101.43	102.54	103.55	104.55	105.56	106.56	107.57
6	20	20	42.63	44.83	52.73	52.97	64.03	60.40	64.79	75.24	80.12	75.10	65.81	67.67	72.19	80.28	85.94	88.17	90.40	92.62	94.85	97.08	98.32	99.56	100.80	102.04	103.28
6	20	21	42.53	44.11	51.66	52.19	63.33	59.74	64.31	72.70	75.90	74.48	64.70	67.46	71.33	77.53	79.80	82.60	85.41	88.21	91.02	93.82	95.49	97.16	98.84	100.51	102.18
6	20	22	41.86	42.76	49.62	49.03	60.87	58.36	62.37	67.95	71.92	71.41	64.09	67.97	69.69	75.08	76.76	79.67	82.58	85.50	88.41	91.32	93.30	95.28	97.26	99.24	101.22
6	20	23	37.99	40.54	48.93	46.93	60.01	56.35	60.44	65.48	66.93	68.55	62.33	66.42	67.90	73.32	74.10	77.23	80.36	83.48	86.61	89.74	91.84	93.94	96.04	98.14	100.24
6	20	24	33.95	34.82	41.06	38.59	56.59	55.41	57.68	60.64	62.67	63.37	60.64	64.61	66.26	69.15	69.91	72.40	74.89	77.39	79.88	82.37	84.67	86.97	89.27	91.57	93.87
6	21	1	30.37	31.46	35.47	33.66	54.00	54.39	55.44	57.27	57.09	57.53	59.54	62.56	63.40	66.07	65.07	67.58	70.09	72.60	75.11	77.62	80.02	82.42	84.83	87.23	89.63
6	21	2	29.03	30.23	33.02	31.29	52.83	50.99	54.45	55.88	54.87	55.46	56.68	60.52	61.60	63.57	63.23	65.34	67.45	69.57	71.68	73.79	76.36	78.92	81.49	84.05	86.62

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	21	3	28.51	27.72	31.84	31.15	51.71	50.40	52.88	55.75	54.24	55.57	55.74	59.91	59.34	63.24	62.74	64.62	66.49	68.37	70.24	72.12	74.74	77.36	79.99	82.61	85.23
6	21	4	28.51	28.59	31.34	30.34	50.96	49.61	52.52	55.37	54.50	55.58	54.13	59.46	59.20	63.26	62.30	63.99	65.68	67.38	69.07	70.76	73.51	76.26	79.02	81.77	84.52
6	21	5	26.64	29.53	31.54	30.13	50.65	49.08	52.84	54.47	53.58	54.39	52.72	58.10	61.43	62.44	59.12	61.46	63.81	66.15	68.50	70.84	73.66	76.47	79.29	82.10	84.92
6	21	6	29.15	31.24	33.65	31.94	50.84	48.63	54.74	55.39	54.34	56.16	52.42	60.49	63.09	64.12	62.73	65.01	67.30	69.58	71.87	74.15	76.79	79.44	82.08	84.73	87.37
6	21	7	31.14	32.15	35.16	33.57	52.20	49.51	55.79	56.76	56.75	57.91	53.35	62.58	64.42	65.63	65.80	67.93	70.05	72.18	74.30	76.43	79.00	81.58	84.15	86.73	89.30
6	21	8	35.43	35.09	38.22	37.24	53.01	52.51	57.49	59.57	59.34	61.52	58.31	65.41	67.03	68.81	68.92	71.13	73.34	75.55	77.76	79.97	82.35	84.73	87.11	89.49	91.87
6	21	9	39.29	41.17	42.75	40.56	53.99	54.78	61.48	63.09	63.01	64.20	60.20	67.28	68.95	69.35	71.12	73.58	76.04	78.50	80.96	83.42	86.02	88.62	91.21	93.81	96.41
6	21	10	42.28	46.02	47.71	45.38	56.87	55.64	63.68	66.61	65.89	66.22	60.90	69.27	71.65	72.58	72.33	75.14	77.95	80.75	83.56	86.37	88.99	91.60	94.22	96.83	99.45
6	21	11	43.34	47.20	49.75	47.42	57.39	56.15	67.27	71.27	69.53	69.19	61.87	70.82	74.25	76.13	74.90	77.87	80.84	83.80	86.77	89.74	92.18	94.63	97.07	99.52	101.96
6	21	12	44.53	48.88	53.63	48.51	58.93	57.19	72.93	80.22	73.94	69.65	62.98	72.39	77.76	84.44	76.73	79.84	82.95	86.07	89.18	92.29	94.82	97.35	99.87	102.40	104.93
6	21	13	45.56	51.34	57.17	50.74	60.01	58.99	75.61	80.49	76.29	72.85	64.28	74.69	81.37	89.45	77.97	81.94	85.91	89.87	93.84	97.81	100.88	103.96	107.03	110.11	113.18
6	21	14	47.77	52.38	57.18	52.70	60.20	59.74	79.88	91.78	74.91	75.10	65.03	76.47	86.31	99.35	79.24	83.30	87.36	91.41	95.47	99.53	102.81	106.09	109.37	112.65	115.93
6	21	15	48.21	58.70	59.95	58.82	60.53	60.14	77.27	97.11	83.35	83.16	66.00	78.85	90.33	110.90	87.44	90.88	94.32	97.75	101.19	104.63	110.57	116.51	122.45	128.39	134.33
6	21	16	48.39	56.69	72.18	60.78	60.64	60.98	82.30	102.67	98.03	89.80	66.86	80.96	90.19	120.71	90.78	94.96	99.14	103.32	107.50	111.68	117.16	122.64	128.13	133.61	139.09
6	21	17	48.34	56.43	64.16	61.92	61.84	62.13	81.65	106.38	112.54	89.16	69.33	82.29	89.07	178.84	87.74	92.26	96.77	101.29	105.80	110.32	129.16	148.00	166.84	185.68	204.52
6	21	18	47.36	58.70	53.13	52.65	61.95	62.37	78.94	92.13	82.48	78.83	69.18	75.88	90.35	107.25	80.01	84.73	89.45	94.16	98.88	103.60	107.96	112.32	116.69	121.05	125.41
6	21	19	45.40	51.60	54.80	51.61	60.53	61.77	78.68	77.90	76.38	74.01	68.09	73.99	87.29	89.78	81.12	85.62	90.11	94.61	99.10	103.60	106.01	108.42	110.82	113.23	115.64
6	21	20	43.61	50.01	52.07	50.13	59.30	60.81	73.71	80.15	76.39	72.69	67.48	70.65	77.45	88.89	78.76	82.09	85.41	88.74	92.06	95.39	97.71	100.02	102.34	104.65	106.97
6	21	21	43.18	47.72	50.18	48.64	58.36	60.28	71.44	79.84	74.78	71.97	67.26	70.23	75.64	83.49	78.65	81.44	84.23	87.03	89.82	92.61	94.66	96.72	98.77	100.83	102.88
6	21	22	41.78	46.70	48.31	47.91	57.02	59.62	67.40	72.12	70.35	70.64	66.64	68.83	73.68	76.81	77.33	79.97	82.61	85.25	87.89	90.53	92.70	94.88	97.05	99.23	101.40
6	21	23	38.84	43.83	47.78	45.17	55.17	57.65	63.68	66.98	67.52	68.55	65.73	66.43	70.15	73.76	74.48	77.27	80.05	82.84	85.62	88.41	91.09	93.78	96.46	99.15	101.83
6	21	24	33.89	36.72	39.39	38.87	53.84	55.85	59.01	61.62	60.90	65.16	62.47	65.33	67.39	69.15	71.84	73.77	75.69	77.62	79.54	81.47	84.21	86.96	89.70	92.45	95.19
6	22	1	29.45	31.82	33.97	34.53	52.98	55.13	55.95	57.15	55.89	58.88	61.14	62.13	63.70	66.14	67.35	69.05	70.75	72.44	74.14	75.84	78.71	81.58	84.45	87.32	90.19
6	22	2	28.02	30.76	31.75	33.91	50.16	53.82	55.17	55.87	54.71	57.08	59.03	60.27	61.64	64.12	65.53	67.02	68.51	69.99	71.48	72.97	75.74	78.52	81.29	84.07	86.84
6	22	3	26.31	29.14	31.35	31.68	49.31	53.11	54.44	55.11	54.34	56.55	58.11	58.51	61.48	62.51	63.54	65.07	66.59	68.12	69.64	71.17	73.98	76.79	79.61	82.42	85.23
6	22	4	26.64	28.71	31.36	30.88	48.49	52.81	54.36	54.53	54.18	56.18	57.44	58.48	61.52	61.67	62.85	64.68	66.52	68.35	70.19	72.02	74.11	76.21	78.30	80.40	82.49
6	22	5	27.69	29.19	31.25	30.71	48.12	50.66	53.43	54.45	52.56	55.68	56.05	60.04	60.34	61.78	62.43	64.09	65.74	67.40	69.05	70.71	73.15	75.58	78.02	80.45	82.89
6	22	6	28.93	30.84	33.41	31.75	47.94	54.04	54.54	54.98	53.85	55.93	58.87	62.18	62.26	62.44	62.82	65.02	67.21	69.41	71.60	73.80	76.11	78.42	80.73	83.04	85.35
6	22	7	30.22	31.05	34.50	33.11	48.32	54.88	55.81	56.41	56.13	57.64	60.62	62.60	64.18	63.70	65.01	67.31	69.61	71.91	74.21	76.51	79.01	81.51	84.00	86.50	89.00
6	22	8	35.80	33.95	37.54	33.91	51.68	56.59	57.42	59.21	58.67	57.64	64.53	65.57	66.36	66.98	65.85	68.87	71.89	74.90	77.92	80.94	83.31	85.67	88.04	90.40	92.77
6	22	9	40.65	41.76	41.09	35.94	53.33	59.23	61.41	61.89	62.23	60.04	67.44	68.53	68.42	69.53	67.40	70.44	73.48	76.51	79.55	82.59	85.22	87.85	90.47	93.10	95.73
6	22	10	44.07	45.97	44.99	38.09	54.12	61.32	63.75	65.33	63.89	63.22	68.33	71.56	71.55	72.11	70.36	73.45	76.54	79.62	82.71	85.80	88.63	91.46	94.28	97.11	99.94
6	22	11	46.43	48.05	47.68	43.33	55.08	64.50	70.11	70.65	66.70	65.95	70.37	72.64	74.66	74.74	72.31	75.63	78.95	82.28	85.60	88.92	91.36	93.80	96.24	98.68	101.12
6	22	12	47.69	51.09	48.25	45.92	56.55	65.95	74.45	72.78	68.88	68.71	72.73	78.22	84.42	77.51	74.14	77.57	81.00	84.44	87.87	91.30	93.80	96.30	98.80	101.30	103.80
6	22	13	50.19	54.46	48.76	47.81	57.91	69.21	76.66	75.05	70.64	69.85	74.86	85.11	86.24	87.76	75.89	78.98	82.06	85.15	88.23	91.32	94.51	97.70	100.88	104.07	107.26
6	22	14	55.91	53.09	50.18	48.31	58.47	71.31	83.61	75.05	73.42	71.73	76.87	84.85	97.75	84.33	76.08	79.54	82.99	86.45	89.90	93.36	97.60	101.83	106.07	110.30	114.54
6	22	15	58.54	58.31	54.20	49.48	59.79	74.42	103.07	81.18	78.94	72.77	81.53	85.92	115.99	93.43	77.48	81.78	86.07	90.37	94.66	98.96	104.75	110.54	116.34	122.13	127.92
6	22	16	58.03	76.10	58.68	50.12	60.20	71.88	111.48	84.91	91.43	74.90	81.53	96.70	130.23	100.95	78.76	82.80	86.84	90.88	94.92	98.96	104.75	110.54	116.34	122.13	127.92
6	22	17	57.36	83.48	54.31	52.08	61.37	71.88	130.57	87.55	91.43	83.84	92.95	94.75	161.99	108.66	80.18	84.57	88.96	93.36	97.75	102.14	109.19	116.25	123.30	130.36	137.41
6	22	18	59.02	56.95	50.90	50.42	62.02	70.22	92.11	80.15	74.20	75.46	76.24	85.92	100.33	87.39	79.11	82.18	85.25	88.31	91.38	94.45	101.23	108.01	114.80	121.58	128.36
6	22	19	55.82	53.54	49.73	48.53	61.09	67.27	78.68	74.11	72.63	71.45	74.08	83.23	82.70	84.99	76.87	80.03	83.20	86.36	89.53	92.69	96.84	100.99	105.14	109.29	113.44
6	22	20	49.14	52.28	48.98	47.23	60.11	65.06	75.60	73.80	70.11	69.85	71.32	79.61	85.39	84.49	75.58	78.76	81.94	85.12	88.30	91.48	94.44	97.40	100.35	103.31	106.27
6	22	21	47.60	49.85	48.18	46.32	59.57	64.43	73.98	73.55	68.82	68.83	70.44	75.65	81.78	78.81	75.25	78.46	81.68	84.89	88.11	91.32	94.04	96.76	99.49	102.21	104.93
6	22	22	46.56	48.05	47.78	45.46	58.19	61.56	71.46	70.99	67.18	66.89	67.96	74.11	75.47	75.00	74.41	77.62	80.83	84.04	87.25	90.46	92.77	95.07	97.38	99.68	101.99
6	22	23	42.53	46.33	46.49	40.08	56.72	59.29	64.14	65.64	64.25	65.55	66.00	70.92	71.55	72.07	72.19	75.49	78.79	82.08	85.38	88.68	91.17	93.66	96.14	98.63	101.12
6	22	24	36.55	38.59	39.11	36.47	54.38	56.27	59.12	60.17	60.70	61.62	64.00	65.91	67.45	68.42	69.37	71.88	74.39	76.91	79.42	81.93	84.37	86.81	89.24	91.68	94.12
6	23	1	31.38	32.39	35.24	33.49	53.42	54.66	55.79	55.70	56.70	58.18	60.55	62.90	63.85	63.61	66.20	68.57	70.93	73.30	75.66	78.03	80.08	82.13	84.17	86.22	88.27
6	23	2	28.84	30.58	33.47	32.40	52.19	53.62	54.20	55.70	55.39	56.73	58.83	61.19	61.78	63.78	64.70	66.66	68.61	70.57	72.52	74.48	76.89	79.30	81.72	84.13	86.54
6	23	3	27.77	29.44	32.08	30.83	51.74	51.48	53.88	54.94	54.34	56.28	57.01	60.85	61.44	62.44	63.27	65.21	67.15	69.10	71.04	72.98	75.19	77.39	79.60	81.80	84.01
6	23	4	28.42	29.12	31.44	29.71	51.64	51.08	54.04	54.51	53.75	55.58	57.00	60.35	60.72	62.49	62.42	64.35	66.29	68.22	70.16	72.09	74.39	76.69	78.98	81.28	83.58
6	23	5	27.77	29.41	31.02	29.31	49.72	51.93	53.04	53.66	53.34	55.02	58.14	59.73	60.12	60.85	61.63	63.42	65.22	67.01	68.81	70.60	73.06	75.52	77.97	80.43	82.89
6	23	6	29.13	30.76	31.32	29.07	52.37	53.73	54.20	54.74	53.55	54.97	60.44	61.01	60.65	62.19	61.14	63.11	65.09	67.06	69.04	71.01	74.03	77.05	80.07	83.09	86.11
6	23	7	29.99	31.00	33.33	29.39	53.01	54.75	55.43	55.75	54.47	55.08	61.41	62.06	63.09	64.16	61.95	64.32	66.68	69.05	71.41	73.78	76.78	79.78	82.79	85.79	88.79
6	23	8	35.64	33.98	33.40	32.82	55.80	56.43	57.21	58.84	56.06	57.11	65.11	65.12	65.45	67.25	65.28	66.85	68.42	69.99	71.56	73.13	77.31	81.50	85.68	89.87	94.05
6	23	9	41.27	40.67	35.56	34.58	57.50	59.97	60.39	61.24	57.44	58.83	67.51	66.01	67.70	69.15	67.23	69.15	71.08	73.00	74.93	76.85	81.20	85.55	89.91	94.26	98.61
6	23	10	44.55	44.79	38.74	36.94	58.68	62.69	63.46	64.50	60.30	61.90	70.75	69.30	70.46	70.62	69.97	72.15	74.33	76.52	78.70	80.88	84.83	88.77	92.72	96.66	100.61
6	23	11	46.27	47.47	44.14	40.06	61.49	70.22	68.54	66.98	63.77	64.82	73.69	73.71	73.83	72.35	72.24	74.75	77.27	79.78	82.30	84.81	88.07	91.34	94.60	97.87	101.13
6	23	12	50.18	49.33	46.65	44.65	64.58	74.92	72.11	69.76	65.76	66.85	78.04	83.24	80.25	74.19	73.87	76.62	79.37	82.13	84.88	87.63	91.03	94.43	97.84	101.24	104.64
6	23	13	51.14	52.95	47.71	47.28	66.31	75.20	72.95	71.96	68.01	69.53	85.64	89.75	83.29	75.58	75.96	78.63	81.30	83.96	86.63	89.30	92.81	96.33	99.84	103.36	106.87

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	23	14	53.00	53.93	48.03	48.28	68.81	76.28	73.57	76.13	69.25	71.46	84.99	100.08	82.89	77.75	77.71	80.43	83.15	85.87	88.59	91.31	94.87	98.44	102.00	105.57	109.13
6	23	15	64.61	56.58	48.14	49.19	72.94	81.09	80.48	87.78	71.03	72.14	91.96	112.34	94.60	87.77	78.95	81.60	84.25	86.89	89.54	92.19	97.62	103.05	108.48	113.91	119.34
6	23	16	80.25	59.58	48.46	50.11	72.09	90.12	81.20	80.93	75.10	73.58	122.69	122.15	100.50	106.30	79.70	82.75	85.80	88.85	91.90	94.95	99.91	104.87	109.83	114.79	119.75
6	23	17	82.68	83.01	51.77	58.78	69.65	89.08	81.07	80.15	83.44	75.36	113.37	175.29	101.76	98.91	84.36	86.75	89.15	91.54	93.94	96.33	99.47	102.61	105.75	108.89	112.03
6	23	18	59.02	53.36	49.14	66.18	67.84	80.31	76.66	75.30	76.26	79.47	91.22	103.78	87.15	80.12	84.36	86.56	88.75	90.95	93.14	95.34	97.99	100.65	103.30	105.96	108.61
6	23	19	49.78	53.75	47.71	51.63	63.56	75.97	74.30	72.85	69.25	74.47	83.24	88.63	82.37	79.72	81.32	83.32	85.32	87.31	89.31	91.31	94.13	96.94	99.76	102.57	105.39
6	23	20	49.70	51.46	46.52	49.65	61.51	75.20	73.52	72.48	66.82	72.23	83.14	86.42	81.26	78.02	80.20	82.02	83.83	85.65	87.46	89.28	92.17	95.05	97.94	100.82	103.71
6	23	21	48.07	49.25	45.54	48.65	61.37	72.59	71.60	69.38	65.50	71.46	76.83	81.24	79.91	77.78	78.29	80.31	82.34	84.36	86.39	88.41	91.47	94.53	97.59	100.65	103.71
6	23	22	46.27	47.53	44.51	48.28	59.12	69.59	68.20	67.50	64.39	71.26	73.06	73.71	73.98	76.08	77.67	79.65	81.62	83.60	85.57	87.55	90.69	93.83	96.98	100.12	103.26
6	23	23	44.62	46.15	40.23	45.70	56.57	62.70	63.04	64.40	62.83	68.27	71.06	71.23	70.69	73.01	74.70	76.27	77.84	79.40	80.97	82.54	86.03	89.52	93.02	96.51	100.00
6	23	24	36.93	35.95	37.06	39.49	54.24	57.51	57.98	60.16	58.90	64.45	66.00	65.91	66.13	69.59	72.19	73.83	75.47	77.10	78.74	80.38	83.53	86.67	89.82	92.96	96.11
6	24	1	29.82	31.73	33.87	36.99	52.41	55.57	55.21	56.78	56.34	60.70	62.60	62.60	61.81	66.47	69.37	70.89	72.41	73.93	75.45	76.97	79.61	82.26	84.90	87.55	90.19
6	24	2	28.72	29.81	32.34	35.53	51.47	54.78	54.67	56.00	54.95	59.32	60.68	60.05	61.37	64.07	67.75	68.93	70.12	71.30	72.49	73.67	76.33	79.00	81.66	84.33	86.99
6	24	3	27.81	28.70	30.91	34.73	49.73	54.29	54.13	54.90	54.05	58.55	60.21	59.17	60.45	62.80	67.01	68.16	69.30	70.45	71.59	72.74	75.17	77.60	80.03	82.46	84.89
6	24	4	27.62	29.58	30.02	34.61	49.36	53.93	53.42	54.34	53.45	58.45	59.87	58.64	60.25	61.33	66.97	68.01	69.05	70.08	71.12	72.16	74.64	77.12	79.60	82.08	84.56
6	24	5	27.69	28.58	29.77	32.80	50.66	52.60	52.39	53.84	53.17	57.79	59.05	57.99	58.81	60.68	64.99	66.23	67.47	68.70	69.94	71.18	73.56	75.94	78.32	80.70	83.08
6	24	6	28.72	30.49	29.42	35.36	52.20	53.93	53.62	53.97	53.08	59.20	60.41	60.14	60.17	60.48	67.55	68.25	68.95	69.66	70.36	71.06	73.65	76.24	78.84	81.43	84.02
6	24	7	29.47	30.27	29.95	37.03	52.91	54.98	55.35	54.90	53.17	61.67	61.88	60.39	62.35	63.89	69.37	69.74	70.12	70.49	70.87	71.24	74.13	77.02	79.92	82.81	85.70
6	24	8	34.27	33.59	33.41	40.70	55.38	56.44	56.93	56.27	55.77	65.39	65.39	63.39	66.00	65.21	72.33	72.65	72.96	73.28	73.59	73.91	76.40	78.90	81.39	83.89	86.38
6	24	9	39.53	39.31	34.81	47.45	57.70	60.05	59.13	57.20	57.32	69.15	69.23	65.91	67.38	67.32	75.96	76.33	76.70	77.08	77.45	77.82	80.15	82.48	84.81	87.14	89.47
6	24	10	43.76	43.49	36.98	49.28	60.12	63.48	62.17	60.31	59.41	71.77	72.76	69.03	69.01	69.14	79.08	79.33	79.57	79.82	80.06	80.31	82.82	85.33	87.84	90.35	92.86
6	24	11	46.01	46.10	39.89	51.22	64.08	71.67	64.01	62.58	62.67	73.37	79.36	72.04	70.77	70.44	81.68	81.85	82.02	82.20	82.37	82.54	85.62	88.69	91.77	94.84	97.92
6	24	12	48.13	47.43	43.86	52.46	70.90	75.20	67.70	65.17	64.25	80.38	88.98	77.60	73.05	73.42	87.17	87.01	86.85	86.69	86.53	86.37	89.32	92.27	95.23	98.18	101.13
6	24	13	51.07	48.57	45.65	54.46	73.13	80.87	69.27	67.19	66.82	81.85	98.89	79.61	75.27	74.86	93.28	92.57	91.86	91.16	90.45	89.74	92.02	94.30	96.57	98.85	101.13
6	24	14	49.61	49.82	47.43	54.66	83.52	85.96	74.30	68.28	69.49	81.85	109.33	78.57	79.92	75.64	93.59	93.26	92.93	92.59	92.26	91.93	93.86	95.79	97.73	99.66	101.59
6	24	15	59.43	56.56	48.03	62.23	81.31	96.05	80.69	69.48	70.58	95.12	122.86	87.03	100.03	76.49	97.10	96.28	95.47	94.65	93.84	93.02	95.15	97.28	99.40	101.53	103.66
6	24	16	78.92	56.20	49.50	75.08	79.60	107.68	92.73	72.48	73.01	111.47	123.91	92.07	104.15	78.07	99.91	98.60	97.29	95.98	94.67	93.36	95.66	97.95	100.25	102.54	104.84
6	24	17	97.19	55.74	64.65	62.23	79.60	117.59	81.51	89.41	85.10	90.11	147.04	93.04	94.49	85.35	96.12	96.65	97.18	97.70	98.23	98.76	100.35	101.95	103.54	105.14	106.73
6	24	18	54.63	49.29	64.65	53.94	81.72	94.65	74.70	75.47	85.10	77.33	111.52	82.93	84.71	79.21	91.44	93.28	95.12	96.96	98.80	100.64	101.44	102.24	103.04	103.84	104.64
6	24	19	50.92	49.13	49.78	53.33	81.72	81.58	71.46	67.63	72.76	79.68	96.50	81.27	77.96	74.99	88.36	90.40	92.45	94.49	96.54	98.58	99.26	99.94	100.63	101.31	101.99
6	24	20	50.92	47.70	48.08	50.64	71.77	75.64	67.84	66.13	70.46	73.04	86.84	80.15	74.50	73.71	79.16	82.14	85.13	88.11	91.10	94.08	95.49	96.90	98.32	99.73	101.14
6	24	21	49.61	47.34	48.03	49.87	68.80	73.92	65.91	65.48	69.33	71.51	85.71	78.56	74.53	73.23	78.22	81.13	84.04	86.95	89.86	92.77	94.44	96.11	97.79	99.46	101.13
6	24	22	46.23	46.86	48.03	48.28	64.94	71.67	64.14	64.43	68.20	69.85	79.71	72.17	73.16	72.23	75.92	79.00	82.08	85.15	88.23	91.31	93.10	94.89	96.67	98.46	100.25
6	24	23	44.60	45.13	45.61	46.76	60.67	66.04	62.26	61.25	64.86	66.29	72.76	69.04	71.20	69.82	72.53	75.71	78.88	82.06	85.23	88.41	90.43	92.44	94.46	96.47	98.49
6	24	24	36.12	36.44	40.23	40.09	56.42	59.87	57.93	58.46	62.29	62.95	68.20	64.58	67.44	67.74	70.58	73.15	75.72	78.28	80.85	83.42	85.28	87.15	89.01	90.88	92.74
6	25	1	29.47	32.41	36.94	35.59	53.42	55.47	55.39	56.37	58.05	60.06	63.86	60.14	64.08	64.68	67.01	69.73	72.46	75.18	77.91	80.63	82.14	83.64	85.15	86.65	88.16
6	25	2	28.42	30.57	34.82	34.19	52.76	54.95	55.18	54.90	57.66	58.88	61.41	60.14	62.53	63.76	66.03	68.49	70.96	73.42	75.89	78.35	79.64	80.92	82.21	83.49	84.78
6	25	3	28.47	28.57	34.19	31.94	52.19	53.88	53.52	53.71	56.99	57.01	59.58	58.64	61.49	62.15	63.36	66.10	68.84	71.59	74.33	77.07	78.50	79.92	81.35	82.77	84.20
6	25	4	28.06	28.04	34.04	32.25	51.97	53.16	52.67	53.04	56.60	56.50	58.96	58.63	60.36	60.85	63.03	66.03	69.03	72.03	75.03	78.03	78.78	79.53	80.27	81.02	81.77
6	25	5	26.34	27.75	33.42	31.76	51.42	52.92	52.38	52.76	55.47	55.48	59.43	57.15	59.37	60.19	63.11	65.73	68.34	70.96	73.57	76.19	77.27	78.34	79.42	80.49	81.57
6	25	6	28.20	28.04	35.36	33.17	52.19	54.24	52.39	52.48	57.04	56.78	60.58	58.58	59.73	59.54	64.99	67.72	70.44	73.17	75.89	78.62	79.08	79.54	80.01	80.47	80.93
6	25	7	29.32	29.64	37.24	34.00	53.01	54.91	53.84	52.70	59.30	59.18	61.41	60.14	61.51	60.34	66.59	69.51	72.43	75.35	78.27	81.19	81.34	81.48	81.63	81.77	81.92
6	25	8	33.89	30.80	41.25	37.97	55.15	56.70	55.35	55.37	63.02	62.75	64.05	63.30	62.28	63.90	69.51	72.61	75.70	78.80	81.89	84.99	85.06	85.13	85.21	85.28	85.35
6	25	9	37.62	33.27	47.36	43.07	57.86	59.43	56.18	56.67	67.62	64.35	67.15	65.87	63.54	65.27	72.32	75.89	79.47	83.04	86.62	90.19	90.03	89.87	89.72	89.56	89.40
6	25	10	42.09	36.18	50.25	47.89	61.40	62.79	58.00	58.67	69.82	67.13	70.23	68.24	66.02	67.87	73.65	77.48	81.31	85.13	88.96	92.79	92.84	92.88	92.93	92.97	93.02
6	25	11	44.88	41.61	51.22	49.60	68.80	68.67	60.30	61.11	75.24	69.85	74.02	70.96	68.08	69.35	76.47	80.57	84.68	88.78	92.89	96.99	96.74	96.49	96.24	95.99	95.74
6	25	12	46.09	44.86	53.75	51.46	72.18	70.22	62.15	63.04	81.15	73.62	77.35	72.14	71.14	71.50	80.39	84.88	89.37	93.87	98.36	102.85	102.29	101.74	101.18	100.63	100.07
6	25	13	46.43	46.88	56.19	53.54	73.13	70.73	64.84	65.98	76.68	81.85	79.21	73.07	72.38	74.50	86.88	90.73	94.58	98.43	102.28	106.13	105.13	104.13	103.13	102.13	101.13
6	25	14	49.10	47.15	57.02	53.85	78.02	74.05	66.51	67.65	86.06	81.68	80.64	77.70	73.59	76.49	96.02	98.05	100.09	102.12	104.16	106.19	105.36	104.54	103.71	102.89	102.06
6	25	15	48.44	47.20	72.02	61.33	81.84	81.27	68.79	68.62	98.94	92.83	95.30	91.80	74.38	77.31	103.13	106.59	110.05	113.52	116.98	120.44	116.98	113.53	110.07	106.62	103.16
6	25	16	52.97	47.53	72.69	63.20	101.70	87.57	70.60	69.90	104.14	96.86	104.23	104.61	76.11	78.80	104.83	110.34	115.84	121.35	126.85	132.36	126.82	121.27	115.73	110.18	104.64
6	25	17	50.57	50.83	63.61	65.84	97.68	96.55	81.12	72.97	97.43	91.58	123.19	94.96	78.72	90.57	96.69	100.79	104.88	108.98	113.07	117.17	115.23	113.30	111.36	109.43	107.49
6	25	18	48.14	47.43	55.12	55.03	83.52	81.17	71.86	73.77	82.55	81.85	95.91	78.22	77.24	89.93	94.21	96.72	99.24	101.75	104.27	106.78	106.92	107.06	107.21	107.35	107.49
6	25	19	47.70	46.86	54.00	53.10	77.58	74.45	65.50	71.27	81.96	81.59	86.36	76.71	73.17	80.19	92.71	94.43	96.16	97.88	99.61	101.33	102.13	102.93	103.72	104.52	105.32
6	25	20	47.01	44.66	51.04	53.14	73.11	71.72	63.72	68.62	78.72	77.96	82.41	73.07	71.97	78.17	81.86	84.51	87.16	89.80	92.45	95.10	96.81	98.51	100.22	101.92	103.63
6	25	21	46.06	43.94	50.23	51.40	73.06	70.22	62.75	68.05	73.89	74.05	81.46	73.10	71.23	77.15	79.97	82.89	85.81	88.73	91.65	94.57	96.14	97.71	99.28	100.85	102.42
6	25	22	45.55	43.41	48.53	50.33	68.88	67.74	61.80	67.22	70.80	70.38	74.38	72.27	70.14	75.97	77.92	80.81	83.71	86.60	89.50	92.39	94.28	96.17	98.06	99.95	101.84
6	25	23	41.86	38.78	48.62	48.64	61.92	63.26	59.07	64.50	66.53	68.68	70.37	69.74	67.44	73.26	73.84	76.70	79.56	82.43	85.29	88.15	90.42	92.68	94.95	97.21	99.48
6	25	24	36.01	33.33	40.23	41.91	56.69	57.65	57.06	60.60	63.71	64.39	65.11	65.74	65.64	69.64	71.18	73.42	75.66	77.90	80.14	82.38	85.31	88.23	91.16	94.08	97.01

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	26	1	29.53	31.34	35.00	37.92	53.99	55.25	55.24	58.87	58.77	61.52	61.97	62.09	63.10	68.31	67.40	69.53	71.66	73.79	75.92	78.05	80.85	83.64	86.44	89.23	92.03
6	26	2	28.84	30.48	34.31	35.60	52.80	54.08	53.99	57.42	57.37	59.58	60.74	59.89	61.59	67.97	65.95	67.95	69.95	71.94	73.94	75.94	78.63	81.32	84.02	86.71	89.40
6	26	3	27.25	27.72	33.10	34.59	52.01	53.16	52.66	56.41	55.41	58.18	60.16	58.94	60.20	66.65	64.48	66.42	68.36	70.30	72.24	74.18	76.97	79.76	82.54	85.33	88.12
6	26	4	26.31	27.08	33.15	34.19	51.76	52.92	51.50	56.02	55.09	58.12	59.29	58.13	59.17	66.61	64.18	66.27	68.36	70.44	72.53	74.62	77.25	79.88	82.52	85.15	87.78
6	26	5	26.05	26.91	32.58	32.62	51.28	51.17	51.06	55.11	54.34	56.31	57.47	57.06	58.83	64.74	62.91	64.97	67.03	69.09	71.15	73.21	76.17	79.13	82.08	85.04	88.00
6	26	6	26.11	26.74	33.59	34.04	52.19	53.29	50.80	56.21	55.91	57.43	59.47	57.37	58.62	66.52	64.48	66.72	68.96	71.19	73.43	75.67	78.49	81.31	84.14	86.96	89.78
6	26	7	28.13	28.43	34.81	34.90	53.09	54.22	51.01	58.46	57.86	58.42	60.58	59.02	58.97	68.75	66.02	68.58	71.14	73.69	76.25	78.81	81.60	84.39	87.19	89.98	92.77
6	26	8	28.91	29.63	37.92	39.53	55.62	55.77	53.76	62.43	60.91	63.04	64.30	61.08	61.81	71.33	70.18	72.44	74.70	76.97	79.23	81.49	84.70	87.90	91.11	94.31	97.52
6	26	9	30.74	31.73	42.37	46.04	57.76	58.97	55.24	65.74	63.67	65.95	66.39	61.97	63.46	75.45	72.32	75.13	77.94	80.75	83.56	86.37	89.47	92.57	95.66	98.76	101.86
6	26	10	35.62	33.58	48.03	49.54	60.85	61.34	57.07	68.69	67.62	69.72	70.15	64.06	65.50	77.66	75.46	78.33	81.20	84.08	86.95	89.82	92.69	95.57	98.44	101.32	104.19
6	26	11	39.00	38.49	50.06	51.41	67.33	63.55	58.63	75.89	70.49	73.59	72.26	67.03	67.39	81.28	81.19	83.43	85.67	87.92	90.16	92.40	95.38	98.36	101.35	104.33	107.31
6	26	12	42.86	41.99	52.27	59.51	70.73	67.16	60.77	83.74	73.94	82.71	74.00	69.32	68.46	88.88	89.34	90.46	91.58	92.70	93.82	94.94	97.93	100.93	103.92	106.92	109.91
6	26	13	44.30	44.16	55.87	60.56	73.06	71.08	63.10	85.34	78.71	84.73	74.72	70.83	71.55	96.76	93.70	95.20	96.69	98.19	99.68	101.18	103.50	105.82	108.13	110.45	112.77
6	26	14	45.56	45.07	62.69	68.19	74.32	74.99	64.76	87.47	82.90	91.71	82.39	72.17	73.02	94.60	96.39	100.50	104.61	108.73	112.84	116.95	119.18	121.42	123.65	125.89	128.12
6	26	15	46.25	46.46	66.19	80.72	81.79	92.40	66.51	95.39	118.70	95.47	108.66	73.46	74.27	120.49	105.12	107.51	109.90	112.30	114.69	117.08	123.03	128.98	134.92	140.87	146.82
6	26	16	47.08	47.15	63.18	91.56	91.61	78.25	69.28	97.84	100.94	116.70	98.24	75.19	75.18	150.11	128.55	126.59	124.62	122.66	120.69	118.73	124.35	129.97	135.58	141.20	146.82
6	26	17	50.99	50.83	61.67	84.03	97.18	77.59	73.80	93.26	87.63	107.38	92.65	78.40	80.82	122.25	121.52	119.92	118.32	116.72	115.12	113.52	121.07	128.63	136.18	143.74	151.29
6	26	18	47.41	51.72	57.53	67.89	83.89	72.56	72.93	83.09	79.30	91.71	82.48	76.71	81.50	93.78	102.75	103.64	104.53	105.42	106.31	107.20	110.15	113.10	116.05	119.00	121.95
6	26	19	45.45	47.94	57.20	59.95	78.01	71.09	68.19	84.88	75.34	83.12	81.63	71.32	76.89	93.06	94.67	96.21	97.74	99.28	100.81	102.35	104.13	105.91	107.68	109.46	111.24
6	26	20	43.29	46.93	51.63	56.81	73.41	67.95	65.84	78.24	74.32	84.32	76.54	70.55	74.53	83.68	91.38	92.70	94.02	95.34	96.66	97.98	99.49	101.00	102.51	104.02	105.53
6	26	21	42.63	46.44	50.40	57.90	73.06	66.42	64.69	72.48	73.16	79.43	76.26	70.13	73.08	79.94	86.57	88.24	89.92	91.59	93.27	94.94	96.76	98.58	100.40	102.22	104.04
6	26	22	42.11	45.97	49.26	51.53	69.11	64.14	63.68	68.33	71.26	73.13	73.29	68.42	72.82	76.41	80.06	82.61	85.15	87.70	90.24	92.79	94.69	96.59	98.49	100.39	102.29
6	26	23	36.48	41.94	49.84	49.02	62.83	62.53	61.41	65.25	67.34	70.38	70.22	65.83	70.87	74.00	75.64	78.57	81.50	84.42	87.35	90.28	92.22	94.16	96.09	98.03	99.97
6	26	24	32.79	36.01	41.38	44.83	56.78	58.22	57.73	62.06	63.89	65.95	66.00	63.77	67.44	69.58	72.17	74.40	76.63	78.86	81.09	83.32	85.60	87.88	90.17	92.45	94.73
6	27	1	29.09	33.72	35.48	38.13	53.19	55.57	56.12	58.22	58.67	61.64	63.14	60.91	66.02	67.70	67.80	69.89	71.98	74.06	76.15	78.24	80.45	82.67	84.88	87.10	89.31
6	27	2	28.72	32.73	34.78	36.89	52.41	53.92	55.79	56.61	56.97	59.96	60.50	59.74	65.23	65.90	66.15	68.08	70.01	71.95	73.88	75.81	78.05	80.28	82.52	84.75	86.99
6	27	3	26.51	31.73	33.93	33.96	51.69	53.28	54.95	55.43	56.14	57.51	59.46	58.63	64.34	64.63	64.84	66.98	69.13	71.27	73.42	75.56	77.26	78.95	80.65	82.34	84.04
6	27	4	25.97	31.73	33.76	32.57	51.13	51.61	54.64	54.97	55.74	56.63	58.62	57.25	64.25	62.51	64.36	66.28	68.20	70.12	72.04	73.96	75.64	77.32	79.01	80.69	82.37
6	27	5	25.63	31.11	33.10	32.98	49.95	51.13	53.54	54.12	54.24	56.87	58.35	56.72	63.15	62.69	64.84	66.52	68.20	69.87	71.55	73.23	75.20	77.17	79.13	81.10	83.07
6	27	6	25.38	32.15	33.87	34.48	51.65	51.37	54.91	55.46	55.49	57.74	58.67	56.67	64.13	64.46	65.80	67.56	69.31	71.07	72.82	74.58	77.14	79.70	82.25	84.81	87.37
6	27	7	26.21	33.18	35.24	35.09	52.92	53.53	56.37	57.02	56.79	59.62	60.58	56.78	66.70	65.84	67.55	69.60	71.65	73.69	75.74	77.79	80.26	82.74	85.21	87.69	90.16
6	27	8	28.66	38.38	38.99	39.92	55.68	54.31	58.53	59.98	61.30	63.53	61.98	60.01	69.03	68.99	70.36	72.73	75.11	77.48	79.86	82.23	84.55	86.86	89.18	91.49	93.81
6	27	9	29.53	43.72	45.91	45.53	58.79	57.09	62.35	62.27	64.17	65.95	64.06	61.46	73.33	71.00	72.32	75.06	77.81	80.55	83.30	86.04	88.45	90.87	93.28	95.70	98.11
6	27	10	33.00	47.78	48.82	49.03	61.76	58.81	64.73	66.14	68.83	70.38	65.72	63.48	74.96	74.22	75.64	78.97	82.30	85.62	88.95	92.28	94.16	96.04	97.92	99.80	101.68
6	27	11	36.55	49.46	52.97	51.59	66.97	60.48	71.60	69.41	71.80	75.63	67.88	65.79	81.20	77.40	79.37	82.88	86.38	89.89	93.39	96.90	97.98	99.06	100.13	101.21	102.29
6	27	12	40.17	51.29	54.60	61.33	70.01	63.09	77.00	79.36	85.06	88.56	70.77	68.09	88.58	81.31	92.26	93.75	95.24	96.74	98.23	99.72	100.89	102.06	103.23	104.40	105.57
6	27	13	43.01	55.38	54.96	63.83	71.01	65.04	79.47	85.89	85.89	90.98	73.10	70.83	91.24	91.93	93.28	96.08	98.89	101.69	104.50	107.30	108.26	109.22	110.19	111.15	112.11
6	27	14	43.69	61.36	62.12	70.21	73.57	66.79	81.65	88.31	98.34	98.32	73.17	71.60	92.01	91.92	103.33	105.03	106.73	108.43	110.13	111.83	114.08	116.32	118.57	120.81	123.06
6	27	15	45.33	62.25	70.63	85.64	74.93	70.30	92.36	104.26	106.01	118.08	74.04	72.64	99.58	106.46	129.15	125.58	122.02	118.45	114.89	111.32	115.50	119.68	123.86	128.04	132.22
6	27	16	47.16	61.58	93.12	88.62	73.49	71.72	91.63	102.39	119.36	122.33	76.54	75.02	99.66	105.02	138.70	135.87	133.05	130.22	127.40	124.57	126.10	127.63	129.16	130.69	132.22
6	27	17	67.11	59.99	89.61	101.80	73.06	98.77	91.68	96.48	115.87	144.81	86.27	81.68	96.22	95.18	128.80	127.13	125.46	123.80	122.13	120.46	122.33	124.20	126.06	127.93	129.80
6	27	18	71.73	55.79	62.12	76.50	72.18	75.96	81.54	87.54	94.24	104.06	78.58	80.63	84.80	90.26	105.12	105.97	106.82	107.66	108.51	109.36	112.06	114.75	117.45	120.14	122.84
6	27	19	47.41	52.59	55.64	63.78	71.51	65.75	78.00	80.22	83.22	93.06	72.12	74.91	87.71	93.78	96.89	99.96	103.02	106.09	109.15	112.22	112.91	113.60	114.28	114.97	115.66
6	27	20	45.33	49.46	54.00	59.48	69.29	63.04	74.38	83.61	81.32	86.90	70.64	73.19	80.03	88.85	98.84	99.47	100.10	100.73	101.36	101.99	104.01	106.04	108.06	110.09	112.11
6	27	21	44.03	48.96	51.58	60.29	68.80	61.76	71.46	77.98	80.91	88.21	70.21	73.08	76.85	80.12	92.83	94.02	95.22	96.41	97.61	98.80	100.88	102.96	105.04	107.12	109.20
6	27	22	43.55	47.17	50.40	53.65	65.81	60.38	66.16	70.38	71.75	80.91	69.89	71.71	73.83	76.54	82.29	85.08	87.87	90.67	93.46	96.25	97.93	99.61	101.28	102.96	104.64
6	27	23	40.95	43.78	49.54	49.85	61.74	58.28	62.91	67.13	69.75	71.64	66.13	69.73	71.26	73.47	77.07	80.13	83.20	86.26	89.33	92.39	94.20	96.01	97.81	99.62	101.43
6	27	24	36.01	35.07	41.63	42.72	56.97	56.23	59.11	62.48	64.38	65.95	64.22	65.81	68.07	70.06	72.32	74.76	77.19	79.63	82.06	84.50	86.75	88.99	91.24	93.48	95.73
6	28	1	31.00	31.79	36.95	36.90	53.57	54.64	56.52	59.08	59.53	60.26	61.41	63.98	64.27	67.97	67.78	70.14	72.50	74.86	77.22	79.58	81.67	83.76	85.85	87.94	90.03
6	28	2	30.76	30.85	34.70	34.98	52.50	53.66	55.14	56.51	57.52	58.88	59.23	63.02	62.89	65.93	65.95	68.10	70.25	72.39	74.54	76.69	78.58	80.47	82.36	84.25	86.14
6	28	3	29.82	30.23	33.18	33.55	51.64	51.96	53.99	55.70	55.66	57.65	58.09	62.21	61.82	64.63	64.05	66.37	68.68	71.00	73.31	75.63	77.54	79.45	81.36	83.27	85.18
6	28	4	29.56	29.63	32.58	32.98	50.97	50.72	53.37	55.39	55.38	56.34	57.48	61.91	61.55	64.24	63.14	65.42	67.70	69.97	72.25	74.53	76.13	77.72	79.32	80.91	82.51
6	28	5	28.87	29.00	32.79	31.77	50.68	50.32	52.48	54.27	54.82	54.62	56.81	61.30	61.21	62.56	61.79	64.25	66.72	69.18	71.65	74.11	76.26	78.41	80.55	82.70	84.85
6	28	6	30.14	30.49	33.79	32.86	50.87	49.99	53.45	55.25	55.84	56.38	56.55	62.05	62.00	64.18	63.66	66.22	68.78	71.33	73.89	76.45	78.49	80.53	82.57	84.61	86.65
6	28	7	32.13	31.19	35.09	33.41	51.74	50.36	55.42	56.89	57.86	57.17	55.69	63.76	64.22	64.84	65.98	68.64	71.30	73.96	76.62	79.28	81.32	83.36	85.39	87.43	89.47
6	28	8	36.48	33.92	38.92	35.70	53.50	53.36	57.41	61.28	62.25	59.65	60.18	67.01	66.75	69.46	67.88	70.77	73.66	76.56	79.45	82.34	84.69	87.04	89.40	91.75	94.10
6	28	9	43.27	39.83	43.39	39.15	54.45	55.27	59.51	64.42	64.97	63.53	61.87	71.36	68.46	71.25	70.36	73.51	76.65	79.80	82.94	86.09	88.49	90.90	93.30	95.71	98.11
6	28	10	46.22	45.40	48.06	44.29	56.77	56.36	62.89	68.03	68.59	65.52	63.15	73.67	71.77	74.31	72.31	75.89	79.47	83.04	86.62	90.20	92.58	94.96	97.34	99.72	102.10
6	28	11	48.08	48.44	50.40	47.29	58.47	57.35	65.66	83.11	73.14	66.88	66.00	77.17	74.47	79.84	73.20	77.27	81.34	85.42	89.49	93.56	95.91	98.25	100.60	102.94	105.29

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	28	12	49.09	50.26	53.97	49.03	61.47	60.05	73.08	96.45	82.69	69.83	69.26	87.15	78.24	91.36	75.76	81.01	86.26	91.50	96.75	102.00	103.26	104.52	105.79	107.05	108.31
6	28	13	56.15	54.27	54.91	49.94	64.50	62.85	79.32	102.01	91.80	70.78	71.61	85.58	88.55	93.78	77.45	83.20	88.96	94.71	100.47	106.22	108.38	110.54	112.69	114.85	117.01
6	28	14	57.10	59.31	59.42	52.18	67.71	65.59	81.65	112.19	100.33	75.01	73.29	95.05	90.33	100.01	81.86	86.73	91.60	96.48	101.35	106.22	112.23	118.24	124.25	130.26	136.27
6	28	15	78.89	59.97	80.15	55.70	69.68	67.84	102.59	116.18	119.93	81.96	74.02	113.34	101.52	106.92	85.72	94.04	102.37	110.69	119.02	127.34	129.31	131.28	133.25	135.22	137.19
6	28	16	59.06	61.85	97.47	63.89	74.36	71.06	95.80	162.42	142.43	89.04	74.82	122.21	97.74	163.81	90.70	101.69	112.68	123.68	134.67	145.66	146.54	147.42	148.30	149.18	150.06
6	28	17	68.48	62.60	104.70	55.70	90.51	80.33	91.12	114.71	119.93	79.30	83.92	114.76	92.82	122.32	84.03	96.39	108.75	121.11	133.47	145.83	145.81	145.79	145.76	145.74	145.72
6	28	18	54.95	61.58	62.78	52.71	81.01	76.29	78.22	102.13	107.07	74.94	86.28	92.49	91.24	103.23	81.19	88.33	95.47	102.60	109.74	116.88	120.94	125.00	129.05	133.11	137.17
6	28	19	54.26	54.98	56.94	50.11	68.80	70.63	76.31	93.32	98.50	72.74	76.54	86.89	88.35	94.22	78.21	84.53	90.85	97.17	103.49	109.81	111.87	113.93	115.99	118.05	120.11
6	28	20	48.37	50.90	56.01	48.64	64.45	66.52	74.94	89.99	85.92	69.83	73.93	81.78	89.17	93.41	74.84	81.16	87.49	93.81	100.14	106.46	107.14	107.83	108.51	109.20	109.88
6	28	21	47.82	49.70	53.31	48.12	62.21	65.23	71.60	86.46	83.52	69.53	73.91	77.97	78.06	88.06	74.26	79.74	85.22	90.71	96.19	101.67	102.78	103.89	105.01	106.12	107.23
6	28	22	45.76	48.24	51.16	47.12	60.64	63.55	66.81	77.42	77.78	67.44	72.57	72.27	75.78	78.95	72.78	78.08	83.38	88.67	93.97	99.27	100.40	101.53	102.67	103.80	104.93
6	28	23	42.16	46.40	49.26	43.91	58.03	61.75	64.29	67.87	71.17	65.95	69.94	70.76	71.90	75.25	72.31	76.66	81.01	85.35	89.70	94.05	95.61	97.16	98.72	100.27	101.83
6	28	24	35.91	37.90	40.52	38.22	54.87	58.61	59.93	63.43	63.50	63.18	66.00	66.37	68.42	70.06	70.46	73.56	76.66	79.75	82.85	85.95	88.04	90.13	92.21	94.30	96.39
6	29	1	29.47	32.39	35.98	35.36	53.34	55.68	56.90	59.85	57.87	59.58	62.84	62.87	65.76	67.47	67.82	70.09	72.36	74.64	76.91	79.18	81.54	83.90	86.27	88.63	90.99
6	29	2	29.17	31.05	34.24	34.41	52.01	55.49	55.38	57.07	56.70	58.06	62.84	61.87	62.97	65.61	65.95	68.17	70.40	72.62	74.85	77.07	79.22	81.37	83.51	85.66	87.81
6	29	3	28.72	30.24	33.42	30.80	51.02	54.78	54.45	55.37	55.30	56.41	62.26	60.66	62.58	63.33	64.03	66.31	68.59	70.86	73.14	75.42	77.24	79.05	80.87	82.68	84.50
6	29	4	28.29	30.23	32.75	30.07	49.73	54.65	54.13	54.91	54.34	55.86	61.95	59.39	61.91	62.51	63.12	65.25	67.38	69.52	71.65	73.78	75.54	77.29	79.05	80.80	82.56
6	29	5	26.79	29.91	31.35	29.88	48.72	54.39	52.84	54.08	53.37	55.58	60.60	59.47	61.65	62.69	62.84	64.44	66.04	67.63	69.23	70.83	73.51	76.19	78.87	81.55	84.23
6	29	6	28.77	30.49	32.98	29.52	48.61	55.36	53.95	55.37	54.41	55.53	62.15	60.93	62.51	64.84	62.69	64.91	67.13	69.35	71.57	73.79	76.53	79.28	82.02	84.77	87.51
6	29	7	29.78	31.73	33.41	32.25	49.31	56.23	55.24	57.21	55.78	56.50	63.65	61.30	63.71	66.44	64.84	67.09	69.33	71.58	73.82	76.07	78.95	81.83	84.71	87.59	90.47
6	29	8	34.50	35.21	35.09	34.62	51.91	59.95	58.01	61.18	57.80	58.73	67.30	64.10	67.69	69.77	66.44	69.19	71.93	74.68	77.42	80.17	83.11	86.05	88.99	91.93	94.87
6	29	9	39.03	42.45	38.91	36.28	53.83	63.09	61.83	64.47	61.07	60.50	71.15	66.68	68.42	70.23	68.67	71.60	74.52	77.45	80.37	83.30	86.35	89.41	92.46	95.52	98.57
6	29	10	44.21	47.47	43.46	39.49	54.64	66.14	64.73	68.19	63.76	63.53	75.09	70.21	72.75	74.00	70.63	73.74	76.85	79.96	83.07	86.18	89.40	92.62	95.85	99.07	102.29
6	29	11	46.68	49.91	46.82	43.98	57.39	72.83	72.22	76.20	65.23	65.68	79.19	72.75	78.95	78.95	72.06	75.49	78.91	82.34	85.76	89.19	92.79	96.39	99.98	103.58	107.18
6	29	12	48.51	54.20	48.48	46.83	58.28	77.59	80.65	89.50	67.85	66.41	87.42	78.79	95.51	91.93	72.39	76.39	80.39	84.39	88.39	92.39	96.14	99.89	103.64	107.39	111.14
6	29	13	53.37	54.55	49.43	48.28	60.62	79.33	81.65	97.71	69.16	69.07	85.71	87.83	94.58	96.35	75.19	78.67	82.16	85.64	89.13	92.61	97.40	102.19	106.97	111.76	116.55
6	29	14	54.04	58.30	50.65	49.87	63.38	86.14	93.72	100.94	72.44	70.48	107.48	93.27	104.15	101.75	76.39	80.71	85.03	89.34	93.66	97.98	106.82	115.66	124.50	133.34	142.18
6	29	15	65.85	62.88	50.99	51.46	64.88	102.28	100.69	121.69	84.66	73.53	125.07	119.89	109.74	128.12	80.39	84.00	87.61	91.23	94.84	98.45	106.56	114.67	122.78	130.89	139.00
6	29	16	71.06	84.16	50.91	69.91	67.45	131.89	114.03	145.56	88.16	79.25	166.16	108.26	125.67	130.82	86.84	89.23	91.62	94.02	96.41	98.80	106.47	114.14	121.81	129.48	137.15
6	29	17	71.11	82.45	50.65	76.89	94.31	100.72	112.77	117.93	75.66	110.83	123.24	92.50	119.97	127.37	128.03	122.41	116.80	111.18	105.57	99.95	107.76	115.57	123.38	131.19	139.00
6	29	18	54.63	60.68	50.06	74.23	101.41	84.26	88.72	102.60	73.15	87.50	93.81	88.18	106.49	106.97	105.57	103.44	101.32	99.19	97.07	94.94	104.49	114.04	123.58	133.13	142.68
6	29	19	54.63	55.26	48.53	51.22	70.71	76.53	81.65	96.52	69.16	74.25	85.67	85.11	93.78	99.48	79.70	82.28	84.85	87.43	90.00	92.58	102.38	112.19	121.99	131.80	141.60
6	29	20	50.06	54.70	47.39	48.89	64.69	75.49	81.84	91.57	67.62	71.13	83.28	86.44	90.69	94.00	75.69	78.81	81.92	85.04	88.15	91.27	96.32	101.38	106.43	111.49	116.54
6	29	21	48.37	51.18	46.85	47.29	63.02	72.31	80.51	86.18	66.02	69.59	79.71	78.31	87.42	94.22	73.76	77.06	80.36	83.66	86.96	90.26	94.29	98.32	102.36	106.39	110.42
6	29	22	47.68	49.36	45.09	45.89	61.33	67.03	71.20	81.67	65.04	67.44	73.92	74.40	78.06	84.89	72.31	75.43	78.55	81.67	84.79	87.91	92.27	96.63	100.98	105.34	109.70
6	29	23	44.60	47.62	42.54	42.26	58.28	63.57	64.73	68.50	63.84	65.21	70.37	71.55	73.92	76.78	71.70	74.60	77.49	80.39	83.28	86.18	89.82	93.45	97.09	100.72	104.36
6	29	24	36.48	39.88	37.16	37.21	56.46	58.87	60.27	62.03	59.28	61.90	66.51	66.83	69.18	71.00	69.51	71.94	74.38	76.81	79.25	81.68	84.99	88.30	91.60	94.91	98.22
6	30	1	30.68	32.73	34.81	35.16	53.30	55.43	57.60	57.42	57.36	60.13	62.70	64.61	66.87	67.04	67.01	69.15	71.29	73.43	75.57	77.71	80.26	82.81	85.37	87.92	90.47
6	30	2	29.63	31.73	33.59	32.55	53.11	54.52	55.52	55.70	56.30	57.62	61.58	62.69	64.15	64.32	64.95	67.24	69.53	71.81	74.10	76.39	78.33	80.27	82.20	84.14	86.08
6	30	3	29.09	29.21	30.11	30.49	52.76	54.31	54.32	54.59	54.07	56.10	60.83	62.06	61.81	62.19	64.03	65.98	67.93	69.87	71.82	73.77	75.63	77.49	79.35	81.21	83.07
6	30	4	28.91	28.85	29.61	29.50	52.72	53.12	53.86	53.69	53.68	54.97	59.60	61.62	60.87	60.61	62.52	64.61	66.70	68.79	70.88	72.97	74.32	75.67	77.03	78.38	79.73
6	30	5	27.72	28.01	29.29	28.94	52.35	52.25	52.84	52.57	53.55	53.93	58.28	60.15	61.53	59.75	60.56	62.94	65.32	67.71	70.09	72.47	73.56	74.65	75.74	76.83	77.92
6	30	6	28.79	31.05	29.42	28.65	53.01	54.31	54.12	53.53	53.38	53.28	59.63	61.69	62.64	62.19	60.12	62.56	65.00	67.43	69.87	72.31	74.65	76.99	79.32	81.66	84.00
6	30	7	30.16	31.92	32.79	30.13	54.20	54.66	56.20	55.39	55.15	54.17	61.03	61.69	64.23	64.63	61.01	63.63	66.25	68.87	71.49	74.11	76.88	79.66	82.43	85.21	87.98
6	30	8	36.00	35.64	33.82	33.05	58.08	56.98	58.01	57.77	56.85	56.90	64.45	65.83	68.11	67.27	64.81	67.13	69.45	71.76	74.08	76.40	79.30	82.21	85.11	88.02	90.92
6	30	9	41.24	42.46	35.73	35.34	61.68	60.41	60.92	60.91	57.80	59.36	67.18	68.42	69.20	69.26	66.56	69.19	71.81	74.44	77.06	79.69	82.53	85.36	88.20	91.03	93.87
6	30	10	44.99	47.04	39.54	36.60	68.30	63.51	64.47	62.36	60.46	60.55	70.53	72.41	73.68	70.06	68.59	71.29	73.98	76.68	79.37	82.07	85.04	88.00	90.97	93.93	96.90
6	30	11	48.71	49.46	43.26	39.04	72.53	66.33	71.31	65.63	64.16	62.71	73.71	79.20	78.63	73.24	70.21	73.14	76.08	79.01	81.95	84.88	87.86	90.84	93.82	96.80	99.78
6	30	12	55.18	55.49	46.28	42.30	77.30	73.13	81.65	68.58	65.93	65.59	79.21	90.97	89.36	74.69	72.16	75.22	78.27	81.33	84.38	87.44	90.41	93.38	96.35	99.32	102.29
6	30	13	55.26	56.58	48.48	46.58	80.70	78.75	83.38	72.48	68.57	67.95	85.75	91.23	99.58	76.68	74.84	77.83	80.82	83.82	86.81	89.80	92.55	95.30	98.04	100.79	103.54
6	30	14	60.19	61.39	49.71	47.71	90.85	87.26	92.19	77.42	70.59	69.82	85.42	103.63	109.67	80.12	76.00	79.16	82.33	85.49	88.66	91.82	94.74	97.67	100.59	103.52	106.44
6	30	15	74.03	81.04	50.99	49.48	125.05	93.90	112.77	85.56	73.07	71.73	101.64	110.20	115.89	87.89	77.85	80.96	84.07	87.19	90.30	93.41	97.55	101.69	105.83	109.97	114.11
6	30	16	88.77	81.34	68.29	50.59	111.54	90.39	127.29	84.79	77.98	71.98	101.70	131.86	123.67	100.50	78.21	82.10	85.99	89.89	93.78	97.67	101.08	104.48	107.89	111.29	114.70
6	30	17	88.82	80.16	77.39	57.15	109.60	88.10	113.21	85.99	110.63	79.34	89.14	120.55	117.77	81.39	87.74	94.18	100.61	107.05	113.48	119.92	118.26	116.60	114.95	113.29	111.63
6	30	18	60.14	64.57	72.70	57.11	89.91	81.24	93.59	76.59	87.15	81.49	84.93	103.96	109.25	80.12	93.63	95.39	97.15	98.92	100.68	102.44	103.86	105.28	106.71	108.13	109.55
6	30	19	54.63	57.15	51.04	50.26	81.56	76.37	83.38	72.48	73.17	71.73	85.25	91.62	100.21	77.69	78.84	82.01	85.18	88.34	91.51	94.68	97.21	99.74	102.26	104.79	107.32
6	30	20	54.26	57.16	49.49	47.91	77.30	75.88	81.84	68.32	69.86	68.39	83.28	87.68	93.09	75.43	74.93	78.43	81.92	85.42	88.91	92.41	94.39	96.36	98.34	100.31	102.29
6	30	21	51.83	54.93	48.10	46.37	73.08	72.44	80.59	66.66	66.95	66.66	79.71	88.96	94.54	74.02	73.09	76.51	79.93	83.35	86.77	90.19	92.61	95.03	97.45	99.87	102.29
6	30	22	48.44	51.08	46.05	45.38	69.29	68.99	76.65	65.01	65.23	65.98	74.58	78.79	89.21	71.79	72.31	75.54	78.76	81.99	85.21	88.44	91.21	93.98	96.74	99.51	102.28

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
6	30	23	45.19	48.82	43.07	40.42	63.02	64.00	66.56	62.36	63.86	64.15	70.46	71.98	75.05	70.81	71.38	73.81	76.24	78.67	81.10	83.53	86.68	89.83	92.97	96.12	99.27
6	30	24	37.58	41.00	38.05	36.07	58.69	59.57	59.77	60.23	59.28	60.30	66.81	67.79	69.80	68.61	68.66	71.04	73.43	75.81	78.20	80.58	83.46	86.33	89.21	92.08	94.96
7	1	1	30.97	33.80	35.39	34.19	53.66	56.33	56.63	58.04	58.15	58.08	62.70	64.23	64.63	66.44	65.55	68.05	70.55	73.04	75.54	78.04	80.43	82.82	85.20	87.59	89.98
7	1	2	29.77	30.85	33.73	32.62	52.54	54.69	54.92	55.39	55.81	56.30	60.58	62.62	62.10	63.62	64.16	66.25	68.34	70.44	72.53	74.62	76.87	79.11	81.36	83.60	85.85
7	1	3	28.50	29.53	32.04	31.51	51.93	54.39	53.95	54.32	54.16	55.51	59.27	59.03	60.48	62.07	64.13	65.72	67.31	68.91	70.50	72.09	74.29	76.49	78.68	80.88	83.08
7	1	4	28.06	28.58	30.75	31.10	50.97	54.31	53.08	53.71	53.11	56.03	59.06	58.22	59.71	61.37	63.40	64.78	66.17	67.55	68.94	70.32	72.57	74.82	77.07	79.32	81.57
7	1	5	26.61	27.70	30.17	31.15	49.82	53.15	51.09	53.60	52.33	55.21	57.48	57.94	58.05	61.04	62.39	62.92	63.45	63.98	64.51	65.04	67.90	70.77	73.63	76.50	79.36
7	1	6	28.77	28.85	29.84	32.57	51.69	54.35	52.37	53.53	51.63	56.24	58.56	60.91	60.55	61.09	63.76	63.21	62.65	62.10	61.54	60.99	64.62	68.24	71.87	75.49	79.12
7	1	7	29.77	30.75	29.63	32.13	52.99	54.72	54.05	54.33	53.00	56.80	58.94	61.27	62.64	63.00	65.18	66.19	67.20	68.21	69.22	70.23	73.05	75.88	78.70	81.53	84.35
7	1	8	35.09	33.01	33.49	34.59	55.48	56.70	55.96	57.21	54.89	58.72	63.08	65.47	64.39	65.38	66.92	68.14	69.36	70.59	71.81	73.03	76.11	79.20	82.28	85.37	88.45
7	1	9	38.71	37.48	35.56	36.94	58.25	60.19	58.00	58.76	56.60	60.96	67.39	66.70	67.69	67.70	69.41	70.79	72.18	73.56	74.95	76.33	79.44	82.55	85.65	88.76	91.87
7	1	10	44.12	42.31	37.32	40.07	60.93	63.55	60.75	60.63	57.63	63.84	70.21	69.74	68.37	69.47	71.70	72.97	74.23	75.50	76.76	78.03	81.37	84.71	88.06	91.40	94.74
7	1	11	47.00	44.73	39.39	42.75	64.88	68.18	62.97	63.09	59.24	65.59	73.69	72.98	70.56	70.06	72.91	74.21	75.51	76.80	78.10	79.40	82.86	86.32	89.77	93.23	96.69
7	1	12	48.43	47.15	42.75	45.98	71.20	72.83	65.06	66.13	61.29	66.84	79.04	78.31	72.58	70.09	74.32	75.97	77.63	79.28	80.94	82.59	86.04	89.50	92.95	96.41	99.86
7	1	13	51.34	47.89	46.26	47.76	72.06	81.34	66.16	67.69	64.38	69.06	86.51	86.41	74.72	71.97	76.77	78.77	80.77	82.77	84.77	86.77	89.83	92.89	95.96	99.02	102.08
7	1	14	52.89	49.34	48.82	48.80	71.63	80.33	68.97	68.26	65.53	70.22	87.42	85.22	78.07	73.24	78.76	80.63	82.49	84.36	86.22	88.09	90.93	93.77	96.61	99.45	102.29
7	1	15	65.79	50.05	49.62	50.62	76.92	91.46	70.62	69.24	67.23	72.66	91.30	105.06	83.24	75.15	80.87	82.38	83.88	85.39	86.89	88.40	91.26	94.12	96.98	99.84	102.70
7	1	16	78.06	50.53	49.95	52.16	92.64	115.96	70.62	72.48	67.01	73.05	111.68	97.92	84.20	77.23	82.68	84.03	85.38	86.74	88.09	89.44	92.66	95.88	99.09	102.31	105.53
7	1	17	77.86	50.20	50.25	53.02	90.65	115.96	68.60	87.96	68.57	73.16	110.18	93.46	80.44	83.05	83.84	85.23	86.62	88.02	89.41	90.80	94.30	97.80	101.31	104.81	108.31
7	1	18	60.88	49.22	50.25	51.74	77.96	84.41	66.56	78.19	67.91	72.66	88.60	89.50	76.98	78.90	82.93	84.55	86.18	87.80	89.43	91.05	94.50	97.95	101.41	104.86	108.31
7	1	19	53.86	47.59	49.71	48.19	73.13	77.76	65.73	69.87	67.14	69.86	84.93	85.81	75.05	75.56	78.23	80.62	83.01	85.41	87.80	90.19	93.12	96.05	98.97	101.90	104.83
7	1	20	51.77	46.36	48.65	47.06	71.75	79.05	63.95	68.26	66.39	67.86	83.79	88.18	73.80	75.17	75.56	78.07	80.57	83.08	85.58	88.09	91.01	93.93	96.86	99.78	102.70
7	1	21	49.34	46.10	47.20	45.57	69.53	74.26	64.27	66.41	65.61	66.67	78.17	80.23	71.65	73.18	73.76	76.33	78.90	81.48	84.05	86.62	89.75	92.89	96.02	99.16	102.29
7	1	22	48.47	44.21	45.64	42.97	64.94	68.15	62.39	64.65	64.85	65.79	74.00	76.67	70.81	71.25	72.88	75.38	77.89	80.39	82.90	85.40	88.73	92.05	95.38	98.70	102.03
7	1	23	45.95	41.86	41.11	40.85	61.59	63.51	60.69	62.32	60.90	64.39	70.45	71.75	69.03	70.07	72.30	74.29	76.28	78.27	80.26	82.25	85.59	88.93	92.27	95.61	98.95
7	1	24	37.91	35.07	37.26	37.21	57.91	58.78	58.01	59.02	57.78	60.74	66.70	67.44	66.88	67.87	69.37	71.26	73.15	75.04	76.93	78.82	81.74	84.66	87.58	90.50	93.42
7	2	1	31.69	31.60	34.85	34.62	54.72	56.68	56.55	57.82	55.34	58.43	61.98	63.75	64.23	66.60	66.87	68.72	70.57	72.43	74.28	76.13	78.86	81.59	84.32	87.05	89.78
7	2	2	29.61	29.68	33.59	33.25	52.81	55.46	54.22	55.36	54.24	57.04	61.37	59.77	62.53	63.82	66.16	67.54	68.92	70.31	71.69	73.07	75.58	78.09	80.60	83.11	85.62
7	2	3	28.56	28.34	33.07	32.82	52.23	54.22	53.01	54.05	54.24	56.54	57.87	58.05	61.29	62.16	65.92	66.87	67.82	68.78	69.73	70.68	73.00	75.32	77.64	79.96	82.28
7	2	4	27.62	27.84	32.64	32.77	51.91	53.65	52.48	53.10	53.98	56.51	57.38	57.47	60.77	61.07	65.14	66.07	66.99	67.92	68.84	69.77	70.93	72.08	73.24	74.39	75.55
7	2	5	25.74	27.47	32.18	33.01	50.65	51.93	52.28	52.30	53.00	56.76	56.52	56.78	60.66	59.54	65.61	66.18	66.76	67.33	67.91	68.48	66.08	63.68	61.27	58.87	56.47
7	2	6	26.88	27.41	33.42	34.05	51.91	54.39	52.37	51.69	53.28	57.96	58.42	57.55	60.44	59.17	67.02	67.86	68.70	69.53	70.37	71.21	64.06	56.91	49.76	42.61	35.46
7	2	7	29.09	28.64	33.50	34.35	52.92	55.01	53.24	52.21	54.70	58.73	59.87	59.89	61.52	60.12	68.47	69.87	71.27	72.66	74.06	75.46	74.71	73.95	73.20	72.44	71.69
7	2	8	31.56	30.89	35.11	36.99	55.93	56.93	55.39	55.39	56.13	61.90	63.83	62.58	63.44	63.63	71.40	72.75	74.10	75.44	76.79	78.14	79.42	80.71	81.99	83.28	84.56
7	2	9	35.98	33.68	37.92	39.60	58.71	59.97	57.44	57.30	58.84	64.63	66.54	66.03	65.84	66.50	73.28	74.73	76.18	77.64	79.09	80.54	82.00	83.46	84.92	86.38	87.84
7	2	10	39.36	38.38	40.54	45.11	61.57	62.45	59.14	58.06	61.48	66.66	70.09	66.37	67.33	67.63	76.04	77.29	78.54	79.78	81.03	82.28	84.15	86.02	87.90	89.77	91.64
7	2	11	42.90	42.40	44.14	47.99	68.80	68.20	61.48	59.85	63.79	69.18	73.37	68.42	68.41	68.93	78.63	79.75	80.87	82.00	83.12	84.24	86.01	87.77	89.54	91.30	93.07
7	2	12	44.59	44.71	46.26	49.75	73.08	74.27	63.71	62.03	65.94	73.17	79.13	72.04	69.74	70.07	83.84	84.56	85.28	85.99	86.71	87.43	89.32	91.20	93.09	94.97	96.86
7	2	13	46.65	46.64	48.26	51.78	76.42	79.74	65.58	64.87	68.45	75.36	87.25	72.97	71.86	72.23	85.94	86.90	87.86	88.81	89.77	90.73	92.53	94.33	96.12	97.92	99.72
7	2	14	47.80	47.44	48.93	55.70	76.56	81.58	66.56	66.36	70.54	76.03	86.15	76.59	73.41	73.68	87.68	88.60	89.52	90.45	91.37	92.29	94.13	95.97	97.80	99.64	101.48
7	2	15	48.48	47.91	51.81	63.10	81.74	100.95	67.54	67.54	72.34	80.91	111.00	82.02	74.80	74.77	87.27	88.58	89.90	91.21	92.53	93.84	95.53	97.22	98.91	100.60	102.29
7	2	16	49.09	48.47	52.21	62.01	110.50	103.60	69.97	67.65	72.64	93.08	115.00	79.01	79.91	75.34	97.69	97.18	96.67	96.17	95.66	95.15	96.80	98.45	100.11	101.76	103.41
7	2	17	48.14	49.35	55.13	61.24	113.24	94.31	81.27	68.48	73.93	93.98	112.43	78.02	94.29	75.69	139.69	130.78	121.87	112.97	104.06	95.15	96.94	98.74	100.53	102.33	104.12
7	2	18	47.82	48.78	53.79	61.71	81.74	87.88	81.27	70.14	72.34	101.06	100.71	74.92	87.91	76.51	92.18	92.23	92.27	92.32	92.36	92.41	95.06	97.70	100.35	102.99	105.64
7	2	19	46.22	47.58	48.48	50.73	74.32	76.00	70.54	68.24	69.16	76.38	85.41	72.86	74.33	75.58	87.91	88.60	89.29	89.97	90.66	91.35	93.54	95.73	97.91	100.10	102.29
7	2	20	44.90	46.98	47.08	49.08	74.28	79.05	67.06	66.98	66.82	73.62	89.02	71.27	74.33	73.95	85.81	86.52	87.24	87.95	88.67	89.38	91.96	94.54	97.13	99.71	102.29
7	2	21	43.02	45.15	45.66	48.51	70.86	76.00	64.89	66.23	65.35	71.73	83.10	71.23	72.75	72.86	81.67	82.88	84.09	85.30	86.51	87.72	90.58	93.44	96.29	99.15	102.01
7	2	22	42.42	44.21	44.12	46.59	66.75	71.81	62.91	64.47	63.93	68.69	77.71	69.03	71.26	71.91	77.88	79.43	80.98	82.53	84.08	85.63	88.58	91.53	94.48	97.43	100.38
7	2	23	38.97	41.11	42.04	44.34	62.01	64.74	60.27	61.47	63.05	66.60	71.53	67.48	68.42	69.57	75.14	76.80	78.45	80.11	81.76	83.42	85.83	88.24	90.64	93.05	95.46
7	2	24	34.18	34.93	38.24	38.03	58.51	58.88	58.25	57.79	59.05	63.68	66.69	65.48	65.88	67.63	72.15	73.80	75.45	77.09	78.74	80.39	82.58	84.77	86.97	89.16	91.35
7	3	1	29.77	32.05	35.11	35.37	54.64	56.04	56.72	55.42	55.99	59.89	61.78	62.60	64.61	64.78	69.29	70.97	72.64	74.32	75.99	77.67	79.78	81.90	84.01	86.13	88.24
7	3	2	28.76	30.70	34.24	33.90	52.79	54.56	54.48	52.84	54.79	58.00	58.94	60.37	62.61	62.08	67.55	69.14	70.74	72.33	73.93	75.52	77.26	79.00	80.73	82.47	84.21
7	3	3	27.45	28.00	33.59	32.79	51.92	53.65	53.30	53.53	53.90	56.98	57.55	59.09	61.10	62.08	66.19	67.86	69.53	71.19	72.86	74.53	75.31	76.08	76.86	77.63	78.41
7	3	4	26.74	27.16	33.14	32.32	50.94	52.40	52.48	53.15	53.76	56.71	56.93	58.63	59.44	61.35	65.93	67.56	69.19	70.81	72.44	74.07	73.99	73.91	73.83	73.75	73.67
7	3	5	26.53	26.78	33.65	32.74	49.41	50.62	51.94	51.04	54.01	56.96	55.12	58.28	58.75	59.41	66.02	67.66	69.30	70.93	72.57	74.21	74.10	73.99	73.89	73.78	73.67
7	3	6	26.47	26.52	34.84	33.50	51.67	52.50	51.26	53.42	55.50	57.93	56.82	58.63	58.31	63.12	67.40	69.15	70.89	72.64	74.38	76.13	77.89	79.65	81.40	83.16	84.92
7	3	7	26.99	26.91	35.01	33.81	52.95	54.39	51.63	54.85	56.52	58.44	58.34	59.56	58.76	64.09	67.40	69.59	71.77	73.96	76.14	78.33	80.15	81.97	83.78	85.60	87.42
7	3	8	29.73	29.30	38.08	36.16	55.77	55.34	54.64	55.86	59.09	60.62	60.71	62.06	61.69	66.44	70.30	72.60	74.91	77.21	79.52	81.82	83.63	85.44	87.24	89.05	90.86
7	3	9	32.42	32.36	40.97	39.30	58.64	57.30	56.88	58.31	62.67	64.13	64.93	63.86	64.09	68.17	72.82	74.94	77.06	79.18	81.30	83.42	85.46	87.50	89.54	91.58	93.62

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	3	10	36.01	34.24	45.14	43.58	62.01	60.31	58.00	61.02	64.71	66.23	66.69	66.01	65.15	70.24	74.06	76.59	79.11	81.64	84.16	86.69	88.50	90.31	92.11	93.92	95.73
7	3	11	39.20	36.45	48.15	47.34	68.80	62.83	59.13	62.54	67.73	68.87	68.15	66.36	66.92	71.74	76.52	79.37	82.22	85.08	87.93	90.78	92.35	93.92	95.48	97.05	98.62
7	3	12	42.74	41.14	49.62	48.77	77.13	63.98	61.46	64.92	72.34	71.01	70.46	68.42	68.36	73.31	79.26	81.87	84.48	87.09	89.70	92.31	93.93	95.54	97.16	98.77	100.39
7	3	13	43.89	44.90	50.25	48.89	80.14	66.04	64.22	67.05	73.94	72.89	72.50	71.37	71.30	74.69	83.09	84.99	86.89	88.78	90.68	92.58	94.52	96.46	98.41	100.35	102.29
7	3	14	45.66	46.70	52.07	50.58	83.99	72.31	65.22	68.28	75.50	73.05	74.27	72.75	72.61	76.83	84.36	86.55	88.75	90.94	93.14	95.33	96.88	98.43	99.97	101.52	103.07
7	3	15	47.18	47.72	53.26	51.27	91.47	81.08	66.88	69.75	76.68	74.17	78.39	74.83	73.80	79.80	85.17	87.84	90.51	93.19	95.86	98.53	100.01	101.50	102.98	104.47	105.95
7	3	16	51.97	49.04	57.99	53.26	119.61	81.76	67.08	70.28	83.05	81.80	78.94	82.20	74.16	80.94	87.60	97.48	107.36	117.25	127.13	137.01	131.21	125.41	119.62	113.82	108.02
7	3	17	66.83	52.87	62.26	53.36	103.03	72.71	69.58	70.71	92.83	87.01	75.73	123.34	77.07	82.56	87.60	97.48	107.36	117.25	127.13	137.01	131.27	125.53	119.79	114.05	108.31
7	3	18	52.66	55.77	58.50	50.40	87.41	70.43	71.37	69.92	83.83	73.67	74.47	114.66	78.37	79.08	90.15	98.53	106.91	115.28	123.66	132.04	126.95	121.86	116.77	111.68	106.59
7	3	19	47.67	47.90	50.51	49.05	77.40	66.19	69.27	67.81	74.38	72.39	73.13	74.83	75.50	76.27	83.09	86.07	89.05	92.02	95.00	97.98	99.14	100.31	101.47	102.64	103.80
7	3	20	44.30	46.69	49.62	47.94	79.84	63.35	65.27	66.00	72.51	69.60	70.32	73.49	73.68	74.19	79.26	82.65	86.04	89.42	92.81	96.20	97.42	98.64	99.85	101.07	102.29
7	3	21	43.14	45.63	48.65	46.66	74.32	62.98	63.38	63.90	70.14	68.69	69.68	71.98	70.82	72.04	78.37	81.18	83.98	86.79	89.59	92.40	93.96	95.52	97.09	98.65	100.21
7	3	22	42.50	44.29	47.22	44.58	71.18	61.64	62.28	62.06	67.62	66.84	67.41	70.48	69.45	70.96	75.27	78.70	82.12	85.55	88.97	92.40	93.53	94.66	95.80	96.93	98.06
7	3	23	36.97	40.18	46.02	41.81	63.96	59.79	59.27	62.03	64.97	65.55	66.69	67.24	67.90	70.49	73.30	76.18	79.06	81.93	84.81	87.69	89.74	91.80	93.85	95.91	97.96
7	3	24	33.42	34.69	39.39	37.58	58.43	56.48	57.42	58.61	59.99	61.90	63.83	64.70	65.52	68.28	70.65	73.03	75.42	77.80	80.19	82.57	84.75	86.93	89.12	91.30	93.48
7	4	1	30.49	31.82	36.50	34.19	53.46	55.40	55.43	55.91	57.23	58.58	60.71	62.79	63.08	66.22	66.96	69.39	71.81	74.24	76.66	79.09	81.25	83.41	85.57	87.73	89.89
7	4	2	28.71	28.15	34.46	32.85	52.38	54.37	52.84	54.73	55.41	56.93	58.87	60.61	61.25	64.61	65.77	67.94	70.12	72.29	74.47	76.64	78.85	81.06	83.27	85.48	87.69
7	4	3	26.87	27.52	33.41	30.07	51.19	52.83	53.29	53.60	54.00	54.99	57.63	59.14	60.15	63.72	63.36	65.73	68.10	70.47	72.84	75.21	77.50	79.79	82.08	84.37	86.66
7	4	4	26.44	27.30	33.06	29.62	49.82	52.09	52.74	53.42	53.64	54.12	57.29	57.93	59.33	63.50	62.94	65.15	67.36	69.56	71.77	73.98	76.37	78.75	81.14	83.52	85.91
7	4	5	25.82	27.12	33.25	29.99	48.00	51.42	51.12	53.54	53.62	54.12	57.16	57.18	57.74	63.73	62.83	65.17	67.51	69.85	72.19	74.53	76.91	79.28	81.66	84.03	86.41
7	4	6	25.37	29.24	34.03	32.04	49.38	51.30	53.16	54.98	54.34	56.85	57.12	56.48	60.02	65.24	65.67	67.74	69.80	71.87	73.93	76.00	78.48	80.96	83.45	85.93	88.41
7	4	7	25.44	30.34	34.78	33.43	51.85	52.36	54.21	56.23	55.66	57.89	57.87	56.91	62.35	66.52	66.58	68.81	71.04	73.26	75.49	77.72	80.33	82.94	85.54	88.15	90.76
7	4	8	28.66	32.88	37.55	35.59	53.01	54.65	56.11	58.77	57.95	60.26	59.81	60.15	63.70	69.42	69.32	71.63	73.94	76.24	78.55	80.86	83.64	86.41	89.19	91.96	94.74
7	4	9	30.89	35.04	40.68	38.29	54.58	55.59	58.00	61.77	60.79	63.58	62.30	62.60	66.41	71.21	71.38	73.57	75.76	77.96	80.15	82.34	85.45	88.56	91.66	94.77	97.88
7	4	10	32.39	39.95	44.98	42.15	56.71	57.41	59.27	63.26	64.07	66.01	64.52	63.25	68.36	73.41	74.01	76.40	78.79	81.17	83.56	85.95	89.01	92.07	95.12	98.18	101.24
7	4	11	35.23	42.97	48.15	45.78	58.43	59.63	61.31	66.41	66.02	67.44	66.03	65.12	68.52	75.99	76.15	78.88	81.62	84.35	87.09	89.82	92.31	94.81	97.30	99.80	102.29
7	4	12	38.75	45.68	49.61	47.58	59.90	61.97	63.71	71.29	68.97	69.74	67.19	66.36	70.96	82.56	78.85	81.56	84.27	86.97	89.68	92.39	94.90	97.41	99.91	102.42	104.93
7	4	13	43.26	47.44	50.97	48.77	60.76	64.80	65.52	72.10	69.50	71.75	69.89	69.10	73.76	87.06	80.87	83.23	85.59	87.95	90.31	92.67	94.97	97.26	99.56	101.85	104.15
7	4	14	43.91	49.34	52.21	49.97	63.29	66.17	67.42	72.66	71.42	73.18	72.19	70.99	75.01	89.35	80.88	83.29	85.70	88.12	90.53	92.94	96.05	99.16	102.28	105.39	108.50
7	4	15	45.79	51.51	53.78	50.64	65.45	69.13	68.50	72.29	73.72	75.36	74.29	72.08	78.28	89.22	83.84	86.10	88.36	90.63	92.89	95.15	97.95	100.74	103.54	106.33	109.13
7	4	16	46.11	51.56	53.91	53.89	68.80	71.00	68.92	79.69	74.83	83.51	76.35	73.00	78.73	96.95	99.85	98.95	98.06	97.16	96.27	95.37	108.07	120.77	133.46	146.16	158.86
7	4	17	48.95	55.94	55.12	53.10	68.30	89.57	69.62	93.96	75.55	82.78	111.89	78.59	82.34	114.84	90.95	92.49	94.04	95.58	97.13	98.67	111.55	124.43	137.31	150.19	163.07
7	4	18	52.22	51.44	52.54	50.10	64.61	77.55	73.78	75.85	74.11	73.31	90.83	81.42	78.20	88.25	85.81	87.19	88.57	89.95	91.33	92.71	99.21	105.71	112.21	118.71	125.21
7	4	19	45.48	47.80	49.61	48.80	61.59	70.22	68.00	72.10	71.17	72.54	71.74	73.24	74.47	87.47	82.86	84.77	86.67	88.58	90.48	92.39	95.61	98.83	102.06	105.28	108.50
7	4	20	43.46	46.13	48.21	47.35	60.15	65.49	64.83	70.39	68.98	70.22	70.42	71.85	72.05	82.56	78.81	81.53	84.24	86.96	89.67	92.39	94.96	97.53	100.11	102.68	105.25
7	4	21	42.91	44.71	47.85	46.29	59.32	63.80	63.08	68.33	67.65	68.60	69.40	70.31	70.02	77.14	76.44	79.39	82.33	85.28	88.22	91.17	94.23	97.28	100.34	103.39	106.45
7	4	22	41.99	43.07	46.16	44.68	58.43	62.08	61.64	66.20	65.88	66.83	67.58	69.04	69.06	75.10	74.91	77.66	80.42	83.17	85.93	88.68	91.40	94.13	96.85	99.58	102.30
7	4	23	36.35	41.81	44.16	42.74	56.96	58.91	59.79	63.26	63.81	66.23	65.24	66.36	68.46	73.42	73.28	75.47	77.66	79.85	82.04	84.23	87.52	90.81	94.11	97.40	100.69
7	4	24	32.66	35.88	38.47	37.19	54.26	56.33	57.82	60.11	59.12	62.95	62.72	63.48	66.09	69.64	71.03	72.96	74.89	76.83	78.76	80.69	83.58	86.48	89.37	92.27	95.16
7	5	1	29.20	32.88	35.08	34.00	53.19	55.40	55.63	56.63	56.63	58.45	60.75	61.55	63.79	67.34	67.17	69.13	71.09	73.04	75.00	76.96	79.82	82.69	85.55	88.42	91.28
7	5	2	26.53	31.12	33.80	30.31	52.29	54.19	54.47	55.19	55.34	56.39	59.11	58.78	62.64	65.43	64.78	66.76	68.73	70.71	72.68	74.66	77.48	80.30	83.11	85.93	88.75
7	5	3	25.61	29.81	30.20	28.98	50.69	52.31	53.95	53.53	53.31	55.48	57.48	58.26	62.13	63.07	63.73	65.00	66.27	67.53	68.80	70.07	73.17	76.27	79.36	82.46	85.56
7	5	4	25.33	29.58	29.77	28.76	50.05	51.07	53.69	52.79	52.62	54.67	55.85	58.25	61.81	62.17	63.58	64.08	64.58	65.07	65.57	66.07	69.57	73.08	76.58	80.09	83.59
7	5	5	25.20	29.58	30.02	28.84	49.78	50.60	53.95	52.98	52.60	54.37	54.90	55.67	62.07	62.40	61.81	62.71	63.61	64.50	65.40	66.30	69.72	73.13	76.55	79.96	83.38
7	5	6	27.71	31.19	33.65	29.45	49.78	50.02	55.04	54.50	54.78	55.13	54.53	57.90	62.64	64.71	62.76	64.91	67.05	69.20	71.34	73.49	76.21	78.94	81.66	84.39	87.11
7	5	7	27.81	32.87	33.87	30.88	50.49	50.03	56.26	55.52	55.78	56.59	54.69	60.59	64.10	65.35	64.64	66.90	69.16	71.41	73.67	75.93	78.56	81.19	83.83	86.46	89.09
7	5	8	29.54	35.53	36.82	33.61	52.67	53.86	57.60	58.23	57.86	58.54	57.57	61.77	66.94	68.26	67.23	69.72	72.21	74.71	77.20	79.69	82.25	84.80	87.36	89.91	92.47
7	5	9	32.43	41.14	40.01	36.45	53.73	55.40	59.13	61.34	60.48	60.98	60.59	64.66	68.36	70.17	69.66	72.21	74.75	77.30	79.84	82.39	84.86	87.33	89.80	92.27	94.74
7	5	10	36.08	44.40	44.92	39.14	55.73	56.17	61.83	62.93	64.31	63.98	61.95	66.36	70.51	72.90	71.98	74.95	77.91	80.88	83.84	86.81	88.64	90.47	92.31	94.14	95.97
7	5	11	39.19	46.97	47.17	43.17	57.66	57.55	65.22	66.21	66.01	66.66	63.11	67.19	73.33	74.41	73.71	77.07	80.44	83.80	87.17	90.53	92.38	94.23	96.08	97.93	99.78
7	5	12	41.37	49.37	48.53	45.94	59.57	59.97	68.92	68.48	69.16	67.99	65.87	69.10	79.05	75.56	75.39	78.79	82.19	85.60	89.00	92.40	94.38	96.36	98.33	100.31	102.29
7	5	13	43.89	51.56	49.46	47.76	61.81	62.53	70.37	70.54	70.11	70.11	68.10	72.08	82.44	78.93	78.14	80.99	83.84	86.70	89.55	92.40	94.38	96.36	98.33	100.31	102.29
7	5	14	45.80	57.49	51.22	49.05	63.20	65.27	71.60	71.83	70.11	72.61	70.48	75.01	82.89	79.84	80.83	83.27	85.70	88.14	90.57	93.01	95.34	97.66	99.99	102.31	104.64
7	5	15	46.64	61.93	53.32	49.87	68.80	65.95	71.60	71.88	72.34	72.98	71.48	76.79	81.79	82.56	81.78	84.14	86.49	88.85	91.20	93.56	95.99	98.43	100.86	103.30	105.73
7	5	16	47.14	63.17	56.85	53.36	70.96	67.27	80.51	71.88	76.82	76.85	72.30	80.50	87.48	86.42	91.02	93.72	96.42	99.12	101.82	104.52	105.31	106.11	106.90	107.70	108.49
7	5	17	52.21	62.83	56.85	53.65	89.61	70.96	104.28	71.98	78.70	76.85	76.17	87.61	114.05	94.92	83.09	87.06	91.04	95.01	98.99	102.96	104.07	105.18	106.28	107.39	108.50
7	5	18	47.52	63.91	52.54	49.87	69.86	71.88	79.30	72.10	73.72	72.96	76.74	78.27	82.89	85.66	79.26	82.65	86.04	89.42	92.81	96.20	98.66	101.12	103.57	106.03	108.49
7	5	19	44.71	52.87	49.62	48.85	65.09	66.86	71.60	70.28	71.11	70.88	73.35	73.71	82.58	79.29	78.41	81.21	84.01	86.80	89.60	92.40	94.91	97.41	99.92	102.42	104.93
7	5	20	42.84	49.10	48.52	46.22	61.04	64.31	68.41	67.79	69.82	69.58	70.74	71.23	80.32	75.82	76.99	79.94	82.89	85.85	88.80	91.75	93.86	95.96	98.07	100.17	102.28

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	5	21	40.45	47.98	47.79	45.10	58.87	61.49	67.57	66.35	67.82	68.34	69.60	69.04	75.71	75.43	75.75	78.61	81.47	84.33	87.19	90.05	92.50	94.94	97.39	99.83	102.28
7	5	22	38.63	46.39	46.13	43.99	58.39	60.33	64.69	64.43	65.55	66.71	68.19	67.92	72.60	72.90	73.84	76.67	79.49	82.32	85.14	87.97	90.67	93.37	96.07	98.77	101.47
7	5	23	36.55	44.36	44.52	42.15	55.98	57.59	61.84	62.51	64.48	65.15	65.47	67.18	70.82	71.08	72.76	74.97	77.18	79.40	81.61	83.82	86.56	89.31	92.05	94.80	97.54
7	5	24	32.75	38.27	38.41	36.99	54.16	55.97	58.83	59.27	60.15	62.44	62.23	64.74	67.76	68.21	70.36	72.45	74.54	76.62	78.71	80.80	83.15	85.49	87.84	90.18	92.53
7	6	1	29.71	33.35	34.71	34.05	53.46	54.57	56.11	55.99	56.92	58.61	59.54	62.09	64.92	65.85	67.25	69.04	70.83	72.61	74.40	76.19	78.61	81.02	83.44	85.85	88.27
7	6	2	28.83	31.32	31.36	30.45	51.67	51.46	55.05	54.08	54.25	56.22	57.44	60.93	63.26	63.12	64.16	65.87	67.58	69.28	70.99	72.70	75.17	77.65	80.12	82.60	85.07
7	6	3	28.11	28.59	29.76	29.58	50.07	51.05	53.70	52.70	53.49	55.33	57.11	59.44	61.30	61.65	62.58	64.09	65.60	67.11	68.62	70.13	72.35	74.56	76.78	78.99	81.21
7	6	4	27.77	28.16	29.23	28.56	49.14	51.32	52.84	53.18	52.22	54.51	56.62	58.80	61.09	61.92	62.91	63.91	64.91	65.92	66.92	67.92	69.01	70.10	71.20	72.29	73.38
7	6	5	28.08	29.31	29.32	28.56	48.34	49.85	52.88	52.12	51.84	54.29	54.94	59.39	61.27	60.62	62.86	63.11	63.36	63.62	63.87	64.12	66.01	67.90	69.79	71.68	73.57
7	6	6	28.94	30.62	30.04	28.62	47.92	52.50	54.76	54.22	53.00	54.37	57.07	60.93	62.64	63.45	62.84	64.01	65.18	66.35	67.52	68.69	71.95	75.22	78.48	81.75	85.01
7	6	7	29.71	31.79	32.07	30.07	48.33	53.96	55.35	55.75	54.34	55.59	58.97	61.83	63.40	64.98	62.85	64.97	67.09	69.20	71.32	73.44	76.38	79.32	82.26	85.20	88.14
7	6	8	32.51	34.69	34.50	32.97	51.71	55.01	56.84	58.20	57.05	58.41	60.71	64.58	66.46	67.74	66.10	68.20	70.30	72.41	74.51	76.61	79.65	82.68	85.72	88.75	91.79
7	6	9	36.45	40.27	37.82	36.14	53.50	56.44	58.53	60.02	59.01	61.64	63.10	66.70	68.11	69.57	70.20	72.12	74.03	75.95	77.86	79.78	82.65	85.52	88.40	91.27	94.14
7	6	10	41.37	44.16	41.51	39.87	54.31	57.79	60.93	62.74	61.76	65.00	66.49	69.39	69.15	70.62	71.88	74.09	76.30	78.52	80.73	82.94	85.55	88.15	90.76	93.36	95.97
7	6	11	43.89	46.39	44.65	44.77	55.52	60.20	63.38	66.10	63.99	67.19	67.57	72.04	72.00	73.39	73.65	76.16	78.68	81.19	83.71	86.22	88.85	91.47	94.10	96.72	99.35
7	6	12	46.11	48.14	47.86	47.06	57.75	62.57	66.37	68.25	67.14	69.94	69.89	77.60	74.80	76.13	76.54	79.24	81.94	84.65	87.35	90.05	92.50	94.94	97.39	99.83	102.28
7	6	13	46.49	51.34	49.61	49.37	60.04	64.80	67.16	68.69	69.24	72.94	71.23	80.23	78.07	78.91	80.34	82.72	85.11	87.49	89.88	92.26	94.27	96.27	98.28	100.28	102.29
7	6	14	46.85	54.19	50.31	50.88	61.09	66.45	69.79	69.41	70.82	74.59	74.60	91.94	82.12	79.65	82.30	84.87	87.44	90.01	92.58	95.15	96.82	98.48	100.15	101.81	103.48
7	6	15	50.06	58.70	51.22	53.36	62.60	67.85	69.37	71.88	70.82	77.60	76.74	89.18	82.34	83.83	86.53	88.25	89.98	91.70	93.43	95.15	97.20	99.25	101.29	103.34	105.39
7	6	16	56.59	55.27	55.30	54.31	65.46	68.46	69.62	75.97	74.30	84.13	78.79	90.84	80.54	88.41	104.06	102.68	101.30	99.93	98.55	97.17	99.40	101.63	103.85	106.08	108.31
7	6	17	58.01	56.55	55.61	74.53	69.86	70.22	69.79	75.84	73.50	114.45	81.39	129.77	88.11	87.36	119.10	114.54	109.99	105.43	100.88	96.32	98.58	100.83	103.09	105.34	107.60
7	6	18	52.22	54.35	51.59	56.98	69.86	69.14	70.54	71.97	70.82	78.20	76.82	92.58	87.48	83.01	90.15	91.15	92.15	93.15	94.15	95.15	97.07	99.00	100.92	102.85	104.77
7	6	19	46.64	49.74	50.26	50.38	63.62	65.71	68.00	69.69	69.24	74.61	72.86	86.99	78.18	78.74	83.39	85.19	86.99	88.80	90.60	92.40	94.49	96.59	98.68	100.78	102.87
7	6	20	46.49	48.08	48.65	48.80	60.84	63.27	65.12	67.96	68.00	71.24	70.21	77.77	74.31	75.71	78.49	81.06	83.63	86.21	88.78	91.35	93.54	95.72	97.91	100.09	102.28
7	6	21	45.79	47.60	47.18	46.85	59.27	61.38	64.19	66.23	65.97	69.19	68.54	72.86	73.60	74.85	76.50	79.20	81.90	84.60	87.30	90.00	92.30	94.60	96.90	99.20	101.50
7	6	22	43.33	45.65	45.81	46.00	58.26	60.33	62.76	64.26	64.95	67.44	67.47	70.54	71.14	73.10	75.32	77.89	80.45	83.02	85.58	88.15	90.43	92.71	94.99	97.27	99.55
7	6	23	41.24	43.81	44.10	42.07	56.11	58.82	60.39	62.51	63.56	64.99	66.67	70.08	69.22	70.37	72.76	75.09	77.43	79.76	82.10	84.43	86.69	88.95	91.21	93.47	95.73
7	6	24	35.71	36.71	38.68	36.29	54.31	56.48	58.09	59.20	59.32	61.12	63.47	66.36	66.71	69.58	69.72	71.84	73.95	76.07	78.18	80.30	82.84	85.38	87.93	90.47	93.01
7	7	1	30.81	32.95	34.97	33.54	52.95	54.79	55.35	56.57	57.08	58.09	60.50	63.12	63.90	65.58	66.65	68.61	70.56	72.52	74.47	76.43	79.01	81.58	84.16	86.73	89.31
7	7	2	29.19	29.45	31.31	31.38	50.70	54.28	53.33	54.00	54.06	56.39	58.93	61.30	61.55	62.72	63.60	65.48	67.35	69.23	71.10	72.98	75.32	77.66	80.00	82.34	84.68
7	7	3	27.12	28.26	30.39	29.21	49.19	53.82	52.35	53.20	53.34	54.99	57.96	60.04	60.70	61.30	62.55	64.21	65.87	67.53	69.19	70.85	73.00	75.14	77.29	79.43	81.58
7	7	4	26.61	27.95	29.27	28.34	48.33	53.60	52.74	53.06	52.54	53.07	57.63	57.94	61.06	60.84	63.20	64.12	65.04	65.96	66.88	67.80	69.61	71.42	73.23	75.04	76.85
7	7	5	27.73	28.03	29.10	28.76	48.14	53.75	52.01	51.96	52.65	52.42	57.95	58.02	59.31	58.71	62.85	63.59	64.32	65.06	65.79	66.53	67.85	69.17	70.49	71.81	73.13
7	7	6	28.90	30.48	29.21	28.83	51.14	54.28	54.18	52.49	52.73	52.77	59.26	60.83	62.42	60.40	62.62	63.74	64.85	65.97	67.08	68.20	70.38	72.57	74.75	76.94	79.12
7	7	7	29.42	32.05	29.98	29.09	52.29	54.82	55.13	54.14	53.43	52.93	60.74	61.30	63.17	62.50	62.77	64.41	66.06	67.70	69.35	70.99	73.81	76.62	79.44	82.25	85.07
7	7	8	32.43	34.29	33.55	30.79	53.46	56.28	57.14	56.31	56.00	55.68	63.95	64.27	66.02	65.40	64.13	66.38	68.63	70.88	73.13	75.38	77.90	80.42	82.95	85.47	87.99
7	7	9	36.08	39.10	37.70	34.07	54.43	58.91	58.74	57.84	59.27	58.79	66.70	66.53	67.97	67.32	67.39	69.75	72.11	74.47	76.83	79.19	81.49	83.79	86.10	88.40	90.70
7	7	10	39.46	42.64	42.47	36.60	56.66	60.72	60.47	59.83	63.29	61.90	68.89	69.39	69.76	69.12	70.78	73.51	76.24	78.97	81.70	84.43	86.21	87.98	89.76	91.53	93.31
7	7	11	43.45	45.32	45.50	40.00	58.21	65.21	63.38	62.80	65.83	64.82	70.87	71.29	71.89	70.62	72.26	75.45	78.64	81.82	85.01	88.20	89.81	91.42	93.02	94.63	96.24
7	7	12	45.43	47.67	48.08	43.92	60.13	70.22	66.56	66.03	68.98	66.84	76.26	73.67	75.05	72.72	73.68	77.20	80.72	84.23	87.75	91.27	92.89	94.50	96.12	97.73	99.35
7	7	13	46.41	49.74	49.95	48.10	61.16	70.22	67.42	67.58	71.40	69.58	79.66	76.37	77.89	75.36	76.95	80.37	83.79	87.21	90.63	94.05	95.54	97.03	98.52	100.01	101.50
7	7	14	46.64	50.97	51.63	49.97	62.60	72.09	68.34	68.49	73.66	72.36	83.79	78.31	80.32	78.91	79.80	83.13	86.46	89.78	93.11	96.44	98.16	99.88	101.61	103.33	105.05
7	7	15	51.11	51.87	53.57	51.94	64.88	86.33	69.31	69.41	90.89	74.85	85.09	79.01	94.68	78.90	83.48	87.07	90.67	94.26	97.86	101.45	102.09	102.73	103.36	104.00	104.64
7	7	16	53.15	60.09	63.84	66.25	65.10	87.50	73.92	71.97	102.68	78.41	83.92	82.66	92.28	85.35	90.15	93.37	96.58	99.80	103.01	106.23	106.44	106.64	106.85	107.05	107.26
7	7	17	53.15	58.70	74.94	75.45	66.67	89.03	73.92	71.88	132.05	126.84	92.36	85.75	87.88	83.83	134.77	130.62	126.48	122.33	118.19	114.04	112.55	111.06	109.57	108.08	106.59
7	7	18	47.58	51.56	62.18	75.19	65.96	88.35	70.26	69.49	92.09	126.84	84.51	79.71	82.99	78.68	132.77	125.96	119.15	112.33	105.52	98.71	99.97	101.22	102.48	103.73	104.99
7	7	19	46.11	49.74	52.07	62.43	61.74	70.22	67.83	68.07	73.44	94.49	82.46	75.99	77.89	75.48	114.22	110.60	106.97	103.35	99.72	96.10	97.58	99.05	100.53	102.00	103.48
7	7	20	43.96	47.41	49.59	50.86	60.10	68.12	65.43	66.83	71.53	74.74	76.74	73.67	74.33	74.77	84.10	85.76	87.42	89.08	90.74	92.40	94.22	96.04	97.86	99.68	101.50
7	7	21	43.70	45.99	47.87	48.77	58.69	66.25	64.18	66.21	68.00	73.16	73.47	71.98	72.83	73.55	82.37	84.02	85.67	87.33	88.98	90.63	92.65	94.67	96.69	98.71	100.73
7	7	22	42.84	44.28	46.65	47.75	57.82	63.14	62.77	64.18	66.01	71.88	70.80	69.52	71.04	71.69	81.32	82.68	84.05	85.41	86.78	88.14	90.19	92.24	94.29	96.34	98.39
7	7	23	39.28	42.26	44.07	45.73	57.72	60.53	60.91	62.37	63.86	69.37	67.88	67.82	69.03	69.82	78.31	79.49	80.68	81.86	83.05	84.23	86.54	88.86	91.17	93.49	95.80
7	7	24	34.28	36.34	38.22	41.45	54.50	57.28	58.50	58.91	58.85	66.83	64.98	65.25	67.41	68.35	73.87	74.93	75.99	77.05	78.11	79.17	81.75	84.33	86.91	89.49	92.07
7	8	1	29.99	32.59	34.81	37.03	53.10	55.40	55.35	55.39	56.04	62.88	61.26	62.60	64.08	65.25	71.02	71.87	72.72	73.56	74.41	75.26	77.81	80.36	82.90	85.45	88.00
7	8	2	27.35	29.03	31.98	35.43	52.54	54.29	52.88	53.82	54.34	60.56	59.15	60.09	61.52	62.92	68.66	69.50	70.34	71.19	72.03	72.87	75.22	77.57	79.91	82.26	84.61
7	8	3	26.46	27.96	30.22	35.08	51.76	52.09	51.92	52.93	52.94	59.79	57.63	58.27	60.76	61.72	68.29	68.31	68.33	68.36	68.38	68.40	70.96	73.53	76.09	78.66	81.22
7	8	4	26.16	27.47	29.19	35.05	51.67	51.16	51.63	53.12	51.93	59.91	57.05	57.49	60.50	60.96	68.35	67.23	66.11	65.00	63.88	62.76	65.71	68.66	71.61	74.56	77.51
7	8	5	26.24	26.97	28.69	33.15	52.34	51.56	50.89	53.48	51.74	58.88	57.13	56.97	58.97	61.05	67.14	64.29	61.44	58.59	55.74	52.89	57.59	62.29	66.98	71.68	76.38
7	8	6	28.66	27.83	28.52	35.91	52.40	53.95	51.36	53.21	51.91	61.03	58.05	59.16	59.70	61.12	69.96	66.51	63.07	59.62	56.18	52.73	57.75	62.78	67.80	72.83	77.85
7	8	7	29.15	29.05	28.57	37.23	53.19	54.62	53.54	52.76	51.99	63.14	59.88	61.78	61.33	61.27	71.12	67.52	63.92	60.31	56.71	53.11	58.50	63.89	69.27	74.66	80.05

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	8	8	32.39	31.31	32.18	41.60	54.65	56.00	55.64	55.52	54.24	66.62	62.95	64.61	64.01	64.12	73.29	72.64	71.99	71.34	70.69	70.04	73.38	76.72	80.06	83.40	86.74
7	8	9	35.13	34.80	35.28	47.06	57.28	57.40	57.50	58.34	56.13	69.83	64.89	66.33	66.13	67.72	76.76	76.51	76.26	76.01	75.76	75.51	78.53	81.56	84.58	87.61	90.63
7	8	10	39.23	39.72	38.70	49.62	58.83	60.12	59.11	62.03	58.94	73.43	66.70	67.86	68.05	69.57	80.41	80.31	80.21	80.11	80.01	79.91	83.03	86.16	89.28	92.41	95.53
7	8	11	43.09	42.55	42.69	51.67	61.20	63.18	61.84	65.01	63.16	77.16	69.44	70.00	70.17	72.18	93.79	91.79	89.79	87.80	85.80	83.80	86.59	89.38	92.17	94.96	97.75
7	8	12	44.75	45.69	46.13	66.49	66.14	66.82	63.91	68.22	65.90	91.93	72.97	73.99	71.90	74.49	116.01	110.31	104.62	98.92	93.23	87.53	90.12	92.71	95.29	97.88	100.47
7	8	13	46.43	48.07	48.24	66.06	66.06	68.41	65.57	70.71	69.24	89.54	75.89	76.01	74.37	77.75	117.24	111.75	106.27	100.78	95.30	89.81	92.54	95.27	98.00	100.73	103.46
7	8	14	47.33	50.26	50.58	73.01	67.79	70.22	68.39	70.71	72.40	105.45	76.58	79.39	77.56	79.90	130.87	123.18	115.49	107.79	100.10	92.41	95.12	97.83	100.55	103.26	105.97
7	8	15	47.38	51.53	52.52	80.94	70.86	71.37	68.92	79.84	75.08	123.22	78.01	92.84	77.56	92.77	142.89	133.08	123.28	113.47	103.67	93.86	96.99	100.11	103.24	106.36	109.49
7	8	16	54.58	52.88	64.84	90.37	72.09	72.55	88.46	94.67	103.40	130.10	89.22	93.09	86.83	121.99	145.85	136.10	126.34	116.59	106.83	97.08	100.10	103.12	106.15	109.17	112.19
7	8	17	53.05	52.97	74.53	84.57	77.05	73.53	83.05	122.50	129.97	118.18	94.55	99.92	84.26	134.70	138.88	133.28	127.69	122.09	116.50	110.90	113.86	116.82	119.79	122.75	125.71
7	8	18	47.34	51.66	74.53	74.33	67.84	73.53	69.47	94.70	122.52	106.62	81.99	84.22	77.89	89.63	129.12	125.66	122.20	118.75	115.29	111.83	111.13	110.42	109.72	109.01	108.31
7	8	19	45.48	49.35	68.10	65.21	67.42	67.64	68.10	81.18	105.65	92.78	75.35	75.59	75.24	79.53	117.86	114.79	111.73	108.66	105.60	102.53	103.21	103.88	104.56	105.23	105.91
7	8	20	43.85	47.14	52.85	66.02	63.44	65.44	65.67	72.46	76.34	92.81	72.20	73.24	73.62	75.96	107.41	105.28	103.14	101.01	98.87	96.74	97.87	99.01	100.14	101.28	102.41
7	8	21	43.32	45.63	51.24	61.58	62.58	64.47	64.47	68.03	71.81	88.26	70.74	71.85	73.35	74.07	108.57	105.88	103.20	100.51	97.83	95.14	96.18	97.21	98.25	99.28	100.32
7	8	22	41.37	44.35	50.76	51.95	60.29	61.87	62.60	66.09	70.62	75.28	68.73	69.62	70.68	72.83	95.35	95.09	94.83	94.57	94.31	94.05	94.96	95.88	96.79	97.71	98.62
7	8	23	38.93	42.63	48.89	49.98	58.57	59.62	61.22	62.66	68.57	70.51	66.69	69.04	68.36	70.06	83.65	85.28	86.90	88.53	90.15	91.78	92.60	93.43	94.25	95.08	95.90
7	8	24	34.14	36.10	45.48	45.86	56.71	56.82	58.59	58.93	63.93	66.84	64.21	66.36	67.38	67.97	76.72	78.77	80.82	82.88	84.93	86.98	87.91	88.83	89.76	90.68	91.61
7	9	1	29.77	32.53	38.78	38.82	53.58	54.74	55.24	55.38	62.28	63.74	60.31	62.69	63.58	64.19	72.94	74.80	76.66	78.53	80.39	82.25	83.26	84.27	85.28	86.29	87.30
7	9	2	27.27	28.89	37.04	36.60	52.88	52.62	53.42	53.83	58.65	61.64	58.37	59.81	61.62	62.29	71.70	73.35	75.00	76.65	78.30	79.95	80.59	81.22	81.86	82.49	83.13
7	9	3	26.33	28.00	36.05	35.08	50.65	51.09	52.53	52.93	57.94	60.21	57.10	58.70	60.55	61.22	70.58	72.24	73.90	75.55	77.21	78.87	78.92	78.97	79.02	79.07	79.12
7	9	4	26.11	27.18	35.83	34.62	50.04	50.63	51.88	53.57	57.64	59.35	56.93	58.49	60.36	60.85	69.37	71.25	73.14	75.02	76.91	78.79	77.61	76.42	75.24	74.05	72.87
7	9	5	25.66	26.94	34.86	33.69	50.19	50.49	52.16	52.90	56.60	58.08	55.80	56.68	60.43	60.88	68.26	70.14	72.02	73.90	75.78	77.66	75.39	73.12	70.84	68.57	66.30
7	9	6	26.20	26.97	38.09	34.63	52.96	53.80	52.23	52.70	58.13	58.92	57.84	58.00	60.76	60.66	68.76	71.10	73.44	75.78	78.12	80.46	76.54	72.63	68.71	64.80	60.88
7	9	7	27.49	27.71	38.73	35.34	52.75	54.41	52.35	52.64	60.29	61.54	59.60	59.76	61.10	60.66	70.80	72.85	74.91	76.96	79.02	81.07	77.25	73.42	69.60	65.77	61.95
7	9	8	29.28	30.93	44.16	39.87	54.17	56.03	54.95	54.00	62.69	64.01	62.66	62.66	63.23	61.66	73.29	75.73	78.17	80.60	83.04	85.48	84.76	84.04	83.32	82.60	81.88
7	9	9	32.67	34.72	49.12	45.83	56.60	57.28	57.78	56.61	67.02	67.14	64.81	64.87	66.81	64.81	76.43	79.19	81.95	84.72	87.48	90.24	89.86	89.48	89.10	88.72	88.34
7	9	10	36.11	40.28	50.99	49.63	58.27	59.61	59.27	59.21	70.80	70.85	67.51	66.36	68.35	68.04	84.36	86.40	88.44	90.48	92.52	94.56	94.24	93.92	93.61	93.29	92.97
7	9	11	39.45	44.30	55.67	56.83	60.38	62.87	62.77	62.03	83.47	88.15	70.15	67.81	70.35	69.64	115.07	111.68	108.29	104.89	101.50	98.11	97.85	97.59	97.33	97.07	96.81
7	9	12	43.20	46.98	66.11	69.79	62.90	65.62	65.60	64.77	105.11	96.87	72.68	71.01	74.63	71.00	134.49	130.17	125.84	121.52	117.19	112.87	110.32	107.78	105.23	102.69	100.14
7	9	13	44.97	49.34	69.22	75.99	64.42	66.57	70.56	68.22	104.83	105.92	75.68	73.64	77.94	74.61	139.19	133.35	127.51	121.68	115.84	110.00	108.46	106.92	105.37	103.83	102.29
7	9	14	47.34	50.97	75.58	82.86	64.50	67.42	69.49	72.48	123.86	118.20	76.58	75.75	78.84	77.23	147.59	143.58	139.57	135.57	131.56	127.55	122.69	117.84	112.98	108.13	103.27
7	9	15	50.24	52.47	86.44	91.21	68.80	69.68	74.30	77.42	134.46	135.03	83.24	76.75	99.25	80.61	148.70	148.29	147.87	147.46	147.04	146.63	138.56	130.49	122.43	114.36	106.29
7	9	16	51.38	66.32	94.59	130.84	69.20	74.92	80.48	100.61	145.16	152.06	87.21	92.22	116.72	105.49	150.77	152.60	154.44	156.27	158.11	159.94	149.94	139.94	129.93	119.93	109.93
7	9	17	52.22	76.84	85.31	113.50	70.03	74.27	112.19	109.32	134.47	166.40	92.88	92.22	123.36	118.30	156.04	154.04	152.04	150.05	148.05	146.05	142.25	138.45	134.65	130.85	127.05
7	9	18	49.44	67.95	76.87	79.39	65.35	70.22	80.48	111.41	119.31	118.83	76.83	76.75	105.81	124.31	146.60	143.55	140.50	137.46	134.41	131.36	131.12	130.89	130.65	130.42	130.18
7	9	19	45.85	52.36	64.13	74.88	63.90	67.46	76.84	100.00	107.92	109.76	75.35	74.65	83.38	106.50	144.30	137.72	131.14	124.57	117.99	111.41	112.76	114.10	115.45	116.79	118.14
7	9	20	43.44	49.40	65.23	67.88	62.88	65.51	68.83	74.64	106.93	90.77	72.19	72.50	75.70	79.52	108.84	110.05	111.25	112.46	113.66	114.87	113.08	111.29	109.50	107.71	105.92
7	9	21	42.03	46.98	63.89	64.67	61.37	63.98	65.60	72.48	99.57	90.77	70.42	71.58	73.84	77.90	104.93	105.04	105.15	105.26	105.37	105.48	105.41	105.35	105.28	105.22	105.15
7	9	22	40.35	45.29	53.95	54.31	60.13	61.77	63.81	68.10	85.62	78.60	68.96	69.56	71.81	76.14	92.07	93.42	94.76	96.11	97.45	98.80	100.01	101.21	102.42	103.62	104.83
7	9	23	38.29	42.63	51.14	50.38	58.22	60.12	60.14	64.72	71.75	70.85	66.92	68.42	68.42	73.18	80.25	82.89	85.53	88.18	90.82	93.46	95.22	96.99	98.75	100.52	102.28
7	9	24	33.62	35.81	48.12	45.74	54.87	57.06	58.37	62.03	66.32	66.66	64.30	65.95	67.22	70.23	73.87	76.85	79.83	82.80	85.78	88.76	91.23	93.70	96.16	98.63	101.10
7	10	1	29.27	30.34	41.30	36.64	53.33	54.65	54.74	60.58	62.68	62.33	60.44	62.09	63.15	69.40	70.01	72.37	74.73	77.09	79.45	81.81	84.47	87.13	89.78	92.44	95.10
7	10	2	27.15	28.54	38.67	34.40	51.22	52.33	53.26	58.03	60.93	59.99	58.32	59.30	61.33	68.26	67.90	70.31	72.73	75.14	77.56	79.97	82.61	85.26	87.90	90.55	93.19
7	10	3	26.50	27.55	36.94	32.06	49.95	51.07	52.38	57.65	59.45	57.60	57.38	58.27	60.77	67.91	65.79	68.42	71.05	73.68	76.31	78.94	81.65	84.36	87.06	89.77	92.48
7	10	4	26.01	26.91	35.98	31.18	49.81	50.58	51.92	57.47	58.67	56.93	57.04	57.90	60.23	67.83	64.88	67.61	70.33	73.06	75.78	78.51	81.30	84.10	86.89	89.69	92.48
7	10	5	25.78	26.82	34.96	31.16	49.86	49.61	51.86	56.57	56.52	56.47	55.54	58.23	59.92	65.56	63.82	66.38	68.95	71.51	74.08	76.64	79.44	82.24	85.03	87.83	90.63
7	10	6	25.80	26.69	36.12	32.31	52.29	50.73	51.63	57.94	57.63	57.84	57.10	58.40	59.44	67.44	65.51	68.11	70.71	73.31	75.91	78.51	81.38	84.25	87.11	89.98	92.85
7	10	7	26.29	26.70	37.65	33.47	52.91	52.48	51.53	59.99	59.72	58.19	58.60	58.23	59.70	68.96	66.25	69.00	71.75	74.49	77.24	79.99	82.89	85.79	88.69	91.59	94.49
7	10	8	29.03	28.11	42.76	35.56	54.08	54.57	53.01	62.03	63.09	60.55	61.01	61.40	60.74	70.37	68.88	71.58	74.28	76.99	79.69	82.39	85.93	89.47	93.00	96.54	100.08
7	10	9	31.94	32.07	48.53	39.97	55.51	56.33	55.43	66.06	66.55	63.81	63.82	64.60	63.48	74.47	71.62	75.09	78.56	82.02	85.49	88.96	91.63	94.29	96.96	99.62	102.29
7	10	10	36.12	34.74	51.15	46.26	57.39	59.20	58.53	72.48	72.34	67.12	65.87	66.37	66.96	78.42	73.77	77.68	81.60	85.51	89.43	93.34	95.72	98.10	100.49	102.87	105.25
7	10	11	41.10	39.38	66.18	50.10	59.64	60.81	60.30	87.54	100.99	72.48	68.01	68.78	68.36	87.22	80.99	86.02	91.05	96.09	101.12	106.15	107.81	109.48	111.14	112.81	114.47
7	10	12	43.96	43.27	70.86	53.05	61.35	62.71	63.26	103.64	110.63	79.85	70.32	71.67	69.40	110.50	95.92	100.47	105.03	109.58	114.14	118.69	122.16	125.62	129.09	132.55	136.02
7	10	13	46.71	47.33	76.50	54.31	62.63	64.75	68.10	105.62	126.42	82.35	71.93	73.75	73.87	109.00	100.26	110.92	121.58	132.23	142.89	153.55	150.52	147.48	144.45	141.41	138.38
7	10	14	48.00	50.20	85.02	53.24	63.83	67.81	72.78	113.94	134.27	82.78	75.35	75.68	76.93	132.76	99.19	113.16	127.12	141.09	155.05	169.02	162.74	156.46	150.19	143.91	137.63
7	10	15	50.37	51.53	97.30	59.50	65.10	68.14	77.91	129.26	140.22	93.94	76.05	83.62	79.91	141.27	106.45	120.08	133.71	147.33	160.96	174.59	176.23	177.87	179.50	181.14	182.78
7	10	16	61.03	62.76	137.36	66.66	68.80	73.34	102.20	144.99	174.91	109.14	92.16	109.75	101.91	143.55	122.92	134.42	145.93	157.43	168.94	180.44	182.85	185.26	187.67	190.08	192.49
7	10	17	65.61	72.78	99.71	67.99	68.80	75.49	112.77	129.47	171.81	136.29	83.24	128.78	113.57	143.52	153.15	161.79	170.43	179.08	187.72	196.36	193.15	189.95	186.74	183.54	180.33
7	10	18	64.51	76.48	82.69	60.62	68.12	68.14	118.50	121.10	134.25	99.23	75.62	86.42	119.22	132.23	117.43	128.37	139.30	150.24	161.17	172.11	166.71	161.30	155.90	150.49	145.09

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	10	19	50.23	60.55	77.65	52.89	63.01	67.07	103.16	106.86	126.09	84.81	72.80	76.79	104.86	117.10	100.93	108.68	116.43	124.17	131.92	139.67	138.71	137.75	136.78	135.82	134.86
7	10	20	46.37	50.05	68.04	53.23	61.16	65.44	75.52	101.60	102.43	82.21	71.26	72.75	78.73	113.87	97.22	100.05	102.88	105.71	108.54	111.37	114.88	118.39	121.90	125.41	128.92
7	10	21	43.89	49.05	65.22	53.85	60.26	63.77	71.46	99.60	102.80	81.83	70.32	71.31	77.46	105.07	100.69	103.73	106.78	109.82	112.87	115.91	118.14	120.37	122.60	124.83	127.06
7	10	22	42.89	48.45	57.02	51.90	58.90	62.05	68.91	87.47	89.72	75.66	68.52	70.18	74.88	91.50	86.73	89.07	91.41	93.75	96.09	98.43	101.42	104.40	107.39	110.37	113.36
7	10	23	38.66	45.78	51.15	46.49	57.87	60.36	65.06	69.03	71.75	68.28	66.82	67.99	73.98	77.72	75.86	79.17	82.48	85.79	89.10	92.41	95.20	98.00	100.79	103.59	106.38
7	10	24	33.21	41.98	46.79	42.06	55.13	57.46	61.96	65.18	65.11	65.58	64.32	65.04	70.72	73.22	72.11	74.89	77.67	80.46	83.24	86.02	89.10	92.18	95.27	98.35	101.43
7	11	1	28.84	36.43	38.82	35.20	53.49	54.32	58.52	61.70	60.37	60.15	60.20	60.81	68.09	69.26	68.66	70.96	73.26	75.57	77.87	80.17	83.14	86.12	89.09	92.07	95.04
7	11	2	26.88	34.97	35.46	32.56	51.42	52.37	57.39	59.57	57.62	57.77	57.95	58.89	66.70	68.57	65.53	67.69	69.86	72.02	74.19	76.35	79.57	82.80	86.02	89.25	92.47
7	11	3	26.29	34.69	33.49	31.44	49.81	51.07	56.68	58.93	55.55	56.72	56.97	57.94	65.84	67.14	64.81	66.71	68.61	70.50	72.40	74.30	77.62	80.95	84.27	87.60	90.92
7	11	4	25.76	34.62	32.79	30.26	49.10	50.36	56.52	58.24	55.01	56.31	56.60	57.62	66.17	66.71	64.18	66.01	67.83	69.66	71.48	73.31	76.79	80.27	83.74	87.22	90.70
7	11	5	25.55	33.17	31.50	29.71	48.75	50.17	55.64	56.61	54.78	55.67	56.66	57.40	65.07	65.53	62.54	64.62	66.70	68.79	70.87	72.95	76.16	79.37	82.58	85.79	89.00
7	11	6	25.20	34.80	33.53	32.47	49.82	50.17	56.68	57.81	55.80	57.46	56.56	57.13	66.70	67.27	65.20	67.05	68.90	70.76	72.61	74.46	77.77	81.07	84.38	87.68	90.99
7	11	7	25.16	36.56	34.55	33.44	51.30	51.02	58.52	58.95	56.06	58.78	57.00	57.31	67.69	68.82	67.07	68.79	70.51	72.24	73.96	75.68	79.04	82.40	85.77	89.13	92.49
7	11	8	27.56	42.44	37.92	36.30	53.19	54.49	61.52	61.84	59.24	62.24	59.56	59.21	69.71	69.64	70.01	71.99	73.98	75.96	77.95	79.93	83.09	86.25	89.42	92.58	95.74
7	11	9	30.16	46.98	42.40	39.95	54.50	56.27	65.16	65.45	62.67	64.57	62.96	61.61	73.80	71.57	72.71	74.65	76.58	78.52	80.45	82.39	85.93	89.46	93.00	96.53	100.07
7	11	10	34.33	49.47	46.77	45.26	56.83	59.11	72.30	72.48	67.60	66.71	66.22	64.94	76.93	78.33	74.93	77.50	80.07	82.64	85.21	87.78	90.86	93.94	97.01	100.09	103.17
7	11	11	37.68	56.58	50.90	48.15	58.43	62.14	82.95	100.01	74.64	71.43	68.56	67.19	92.82	107.90	79.17	82.15	85.13	88.10	91.08	94.06	101.52	108.98	116.44	123.90	131.36
7	11	12	42.42	60.82	55.81	51.15	60.70	65.73	94.88	104.57	88.22	76.25	71.87	68.94	122.10	120.69	84.10	87.70	91.30	94.90	98.50	102.10	111.59	121.09	130.58	140.08	149.57
7	11	13	45.30	63.10	60.06	54.78	62.62	68.25	99.83	121.54	91.04	84.27	74.47	72.04	124.68	133.07	95.23	97.88	100.54	103.19	105.85	108.50	118.56	128.63	138.69	148.76	158.82
7	11	14	48.00	72.78	56.73	55.51	63.55	71.05	106.43	128.67	93.34	86.61	76.62	74.72	123.61	141.22	99.16	100.94	102.72	104.49	106.27	108.05	125.21	142.37	159.53	176.69	193.85
7	11	15	50.31	82.55	64.51	56.36	66.67	77.48	137.30	131.24	97.58	83.51	86.48	77.97	140.69	144.06	96.59	102.59	108.59	114.60	120.60	126.60	139.75	152.90	166.05	179.20	192.35
7	11	16	58.03	99.32	71.05	66.66	68.74	88.97	169.19	201.88	111.09	104.68	110.10	100.83	140.73	151.03	105.33	112.32	119.31	126.29	133.28	140.27	151.28	162.29	173.31	184.32	195.33
7	11	17	65.98	82.55	71.94	66.41	71.18	114.03	131.32	170.22	138.17	101.99	117.80	118.19	140.69	151.27	121.62	129.07	136.53	143.98	151.44	158.89	166.39	173.89	181.39	188.89	196.39
7	11	18	67.29	75.74	66.56	55.93	67.98	92.77	109.90	129.31	110.98	83.34	85.77	124.17	126.99	143.49	98.20	105.40	112.60	119.81	127.01	134.21	144.82	155.43	166.03	176.64	187.25
7	11	19	61.28	63.86	55.74	54.99	63.90	75.95	97.22	121.10	92.73	84.27	77.13	107.06	127.20	137.37	99.24	103.06	106.88	110.69	114.51	118.33	127.36	136.38	145.41	154.43	163.46
7	11	20	51.27	61.09	56.43	53.23	62.62	68.15	95.07	102.20	89.69	78.47	72.60	76.74	117.49	107.96	90.07	93.88	97.68	101.49	105.29	109.10	114.14	119.18	124.21	129.25	134.29
7	11	21	48.59	60.83	56.66	50.42	60.54	65.52	94.40	95.90	91.92	75.66	71.20	75.52	113.13	106.77	84.35	89.52	94.69	99.87	105.04	110.21	115.77	121.33	126.89	132.45	138.01
7	11	22	47.38	52.41	52.34	48.85	59.64	63.26	82.22	91.02	83.82	73.31	69.41	74.18	94.91	94.76	80.32	83.92	87.53	91.13	94.74	98.34	101.57	104.79	108.02	111.24	114.47
7	11	23	45.07	48.82	47.50	45.74	58.28	60.16	71.61	70.66	68.68	67.19	66.66	72.35	77.95	78.15	75.48	78.21	80.95	83.68	86.42	89.15	92.17	95.19	98.20	101.22	104.24
7	11	24	40.66	43.78	43.82	39.53	55.65	56.73	64.47	64.13	65.06	63.84	63.72	68.67	71.75	71.00	72.31	74.53	76.75	78.98	81.20	83.42	86.57	89.72	92.86	96.01	99.16
7	12	1	35.11	38.42	35.90	35.20	53.01	53.44	59.77	59.87	58.75	60.39	59.59	65.23	67.79	68.09	69.20	70.99	72.78	74.56	76.35	78.14	80.93	83.72	86.51	89.30	92.09
7	12	2	34.00	34.89	33.39	32.53	51.26	51.65	58.43	57.34	55.93	59.00	57.47	65.30	66.88	65.43	68.23	69.53	70.83	72.13	73.43	74.73	77.58	80.43	83.29	86.14	88.99
7	12	3	34.05	33.20	31.93	30.83	49.83	50.58	57.52	55.39	55.42	57.54	56.55	64.45	66.41	63.22	66.00	67.49	68.97	70.46	71.94	73.43	76.06	78.70	81.33	83.97	86.60
7	12	4	33.82	32.95	30.71	30.23	48.71	50.34	56.64	54.64	54.31	57.00	55.97	64.33	65.46	62.81	64.88	66.26	67.64	69.02	70.40	71.78	74.51	77.23	79.96	82.68	85.41
7	12	5	31.59	31.05	29.77	28.71	47.96	49.84	55.67	53.83	53.24	55.35	55.97	62.70	63.64	61.81	62.65	64.27	65.89	67.52	69.14	70.76	73.32	75.88	78.45	81.01	83.57
7	12	6	33.59	32.76	33.27	30.12	48.07	49.61	56.52	55.42	55.58	56.57	55.97	64.33	65.12	62.92	64.57	66.56	68.55	70.55	72.54	74.53	77.03	79.53	82.02	84.52	87.02
7	12	7	35.88	34.10	33.53	32.49	48.67	49.77	58.16	56.23	56.68	58.18	56.30	65.12	66.73	64.28	66.20	68.26	70.32	72.39	74.45	76.51	78.78	81.05	83.32	85.59	87.86
7	12	8	40.94	39.65	36.78	34.63	52.64	51.97	60.59	58.90	60.38	60.66	57.29	67.79	68.36	67.50	69.47	71.55	73.63	75.70	77.78	79.86	82.30	84.74	87.18	89.62	92.06
7	12	9	45.85	45.15	42.04	38.07	54.31	54.62	64.86	61.91	64.08	63.45	60.25	71.67	71.49	69.30	71.75	74.33	76.91	79.49	82.07	84.65	86.75	88.85	90.96	93.06	95.16
7	12	10	47.86	48.29	45.64	41.37	56.33	56.70	74.41	66.07	65.87	65.03	63.73	75.78	81.71	71.61	73.29	76.17	79.05	81.94	84.82	87.70	89.98	92.27	94.55	96.84	99.12
7	12	11	52.30	57.49	48.60	45.26	58.69	58.97	96.37	72.26	73.27	66.71	65.95	84.96	116.74	80.57	73.30	77.10	80.90	84.70	88.50	92.30	94.88	97.46	100.05	102.63	105.21
7	12	12	59.66	65.10	52.53	47.19	61.86	61.31	99.85	82.49	84.57	69.14	67.53	103.02	131.28	97.73	76.50	80.62	84.74	88.85	92.97	97.09	100.20	103.31	106.42	109.53	112.64
7	12	13	62.48	70.34	56.43	48.91	65.02	65.51	117.34	85.18	92.93	72.71	70.70	102.69	136.41	98.70	81.42	85.72	90.02	94.33	98.63	102.93	106.74	110.56	114.37	118.19	122.00
7	12	14	70.67	80.68	56.66	50.83	66.66	69.85	123.65	85.34	92.22	74.12	74.27	124.26	140.74	101.71	82.97	87.06	91.15	95.24	99.33	103.42	108.10	112.79	117.47	122.16	126.84
7	12	15	87.47	88.58	61.75	53.05	69.84	73.70	143.16	94.72	91.21	76.09	77.13	127.95	141.97	122.09	87.11	90.09	93.07	96.04	99.02	102.00	110.36	118.71	127.07	135.42	143.78
7	12	16	92.17	106.42	66.66	55.43	87.59	98.30	185.67	106.74	105.90	77.88	102.05	136.62	175.72	102.51	93.61	98.50	103.40	108.29	113.19	118.08	123.94	129.80	135.67	141.53	147.39
7	12	17	90.85	98.16	71.67	66.66	95.10	107.20	171.38	138.40	119.77	91.02	121.11	127.95	176.51	110.87	104.47	106.41	108.34	110.28	112.21	114.15	124.36	134.56	144.77	154.97	165.18
7	12	18	69.63	76.32	64.10	52.65	94.52	108.01	123.64	95.39	95.09	76.86	125.53	122.31	141.24	101.87	87.07	90.04	93.01	95.98	98.95	101.92	109.95	117.99	126.02	134.06	142.09
7	12	19	57.95	71.67	56.51	50.32	77.68	95.94	116.20	85.70	93.73	73.22	107.17	108.10	136.43	102.40	81.86	86.10	90.35	94.59	98.84	103.08	108.86	114.65	120.43	126.22	132.00
7	12	20	58.32	62.01	53.75	47.65	67.59	72.64	97.33	84.50	86.06	70.75	77.49	98.27	120.81	97.17	78.90	82.87	86.83	90.80	94.76	98.73	102.92	107.10	111.29	115.47	119.66
7	12	21	54.95	59.44	51.76	46.53	62.79	70.11	96.43	84.01	81.14	68.95	74.70	99.73	113.58	99.48	76.47	80.64	84.80	88.97	93.13	97.30	102.66	108.02	113.37	118.73	124.09
7	12	22	49.30	54.81	49.62	45.71	60.28	68.22	90.28	76.95	74.74	67.19	72.83	86.66	101.33	90.58	74.99	78.47	81.95	85.44	88.92	92.40	95.73	99.06	102.39	105.72	109.05
7	12	23	47.68	49.04	46.65	42.91	57.86	62.83	71.46	67.54	67.62	65.77	70.09	75.99	77.73	73.01	73.29	76.37	79.45	82.52	85.60	88.68	90.75	92.82	94.90	96.97	99.04
7	12	24	42.42	43.91	40.91	37.80	54.92	60.16	62.96	63.05	63.90	62.94	66.50	71.85	69.07	69.64	71.28	73.47	75.67	77.86	80.06	82.25	84.79	87.33	89.88	92.42	94.96
7	13	1	35.86	34.82	35.84	34.26	52.52	56.72	58.78	58.03	59.79	59.41	64.22	66.36	66.75	66.70	68.67	70.56	72.46	74.35	76.25	78.14	80.47	82.81	85.14	87.48	89.81
7	13	2	33.01	32.88	33.87	32.40	50.70	56.08	56.78	55.64	57.45	58.45	62.85	66.04	64.93	63.79	66.44	68.44	70.44	72.43	74.43	76.43	78.56	80.70	82.83	84.97	87.10
7	13	3	31.26	29.41	32.07	30.89	48.87	55.70	54.74	54.55	55.60	57.59	62.43	64.74	63.04	62.97	65.40	67.34	69.28	71.23	73.17	75.11	77.20	79.29	81.38	83.47	85.56
7	13	4	30.36	28.30	31.10	30.07	48.01	55.49	54.20	53.97	54.76	56.78	62.59	63.85	62.23	62.69	64.77	66.64	68.51	70.37	72.24	74.11	76.19	78.26	80.34	82.41	84.49
7	13	5	29.09	27.20	29.72	29.86	47.41	54.41	53.17	53.20	53.39	56.28	61.19	62.15	61.27	61.22	64.07	65.48	66.89	68.29	69.70	71.11	73.14	75.17	77.20	79.23	81.26

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	13	6	30.14	29.98	30.72	30.06	47.35	55.49	55.24	55.37	54.22	56.57	62.65	63.02	62.61	64.18	64.64	66.40	68.16	69.92	71.68	73.44	76.08	78.72	81.35	83.99	86.63
7	13	7	31.69	30.49	33.38	30.79	47.48	56.66	55.47	56.51	55.78	56.72	64.42	65.23	64.03	66.52	64.88	67.13	69.38	71.63	73.88	76.13	78.84	81.55	84.26	86.97	89.68
7	13	8	36.48	33.53	35.57	34.32	51.34	59.79	58.44	58.82	59.12	59.37	67.20	66.36	66.43	68.26	67.40	69.76	72.13	74.49	76.86	79.22	81.58	83.94	86.31	88.67	91.03
7	13	9	42.82	39.07	39.91	35.29	54.01	63.04	60.38	62.04	62.64	60.74	70.42	71.17	67.88	69.04	69.77	72.24	74.71	77.19	79.66	82.13	84.73	87.34	89.94	92.55	95.15
7	13	10	46.57	43.92	43.82	39.13	55.96	69.13	64.29	64.62	65.06	63.84	74.16	75.52	70.45	71.06	71.78	74.35	76.93	79.50	82.08	84.65	87.32	89.99	92.66	95.33	98.00
7	13	11	52.47	48.73	45.75	42.56	58.42	79.38	71.46	70.23	66.93	66.03	87.12	106.49	82.51	76.57	73.29	76.14	79.00	81.85	84.71	87.56	90.33	93.10	95.87	98.64	101.41
7	13	12	59.46	51.43	48.12	45.77	60.44	89.30	81.20	79.82	71.28	67.12	108.79	114.44	99.05	84.29	73.30	76.65	80.00	83.35	86.70	90.05	93.63	97.21	100.80	104.38	107.96
7	13	13	68.18	54.99	49.62	47.06	64.35	89.51	81.20	84.45	75.60	68.71	110.75	124.23	101.48	96.22	75.08	79.03	82.99	86.94	90.90	94.85	98.99	103.13	107.27	111.41	115.55
7	13	14	74.28	53.55	50.56	48.59	68.80	99.54	82.61	85.95	100.38	70.77	127.63	137.22	103.45	97.17	76.66	80.81	84.96	89.10	93.25	97.40	102.43	107.47	112.50	117.54	122.57
7	13	15	83.77	56.98	53.26	50.10	79.71	112.89	88.63	88.13	80.80	72.71	133.46	137.76	125.64	95.24	79.37	83.24	87.11	90.99	94.86	98.73	102.62	106.51	110.39	114.28	118.17
7	13	16	112.36	61.37	56.25	52.10	97.44	150.66	99.19	111.59	80.34	73.90	139.02	166.49	113.19	111.68	83.59	86.96	90.32	93.69	97.05	100.42	109.13	117.83	126.54	135.24	143.95
7	13	17	90.50	63.60	83.89	65.13	101.30	108.16	139.68	112.56	80.27	82.87	135.51	176.49	121.83	121.13	112.21	110.31	108.41	106.50	104.60	102.70	110.16	117.62	125.08	132.54	140.00
7	13	18	75.23	58.41	53.27	53.22	106.34	99.06	92.80	104.93	83.09	77.71	128.15	137.24	132.76	98.10	89.47	91.37	93.27	95.18	97.08	98.98	103.35	107.72	112.10	116.47	120.84
7	13	19	68.12	54.27	50.28	49.87	96.88	91.65	81.20	88.14	77.72	72.92	109.06	123.63	103.45	101.74	79.91	83.35	86.78	90.22	93.65	97.09	100.53	103.97	107.41	110.85	114.29
7	13	20	59.40	54.36	48.85	46.66	70.88	88.03	80.40	80.21	71.61	69.14	99.81	104.78	99.05	90.97	76.47	79.51	82.56	85.60	88.65	91.69	95.45	99.21	102.98	106.74	110.50
7	13	21	56.55	53.54	47.17	45.34	68.80	86.66	80.48	78.41	69.29	66.94	104.20	101.43	101.48	84.37	73.84	77.15	80.46	83.78	87.09	90.40	93.86	97.32	100.78	104.24	107.70
7	13	22	51.11	50.80	46.22	43.36	68.08	76.33	76.53	70.88	66.93	66.19	90.19	93.01	91.62	78.54	72.76	76.05	79.33	82.62	85.90	89.19	91.81	94.43	97.05	99.67	102.29
7	13	23	47.80	45.10	43.74	39.52	62.04	67.76	65.01	66.21	64.97	64.10	73.28	72.97	71.81	73.04	71.40	74.00	76.60	79.21	81.81	84.41	87.92	91.43	94.94	98.45	101.96
7	13	24	42.43	40.31	39.45	35.52	58.43	61.61	60.77	61.89	61.91	60.55	70.26	67.18	68.15	68.87	68.98	71.35	73.72	76.09	78.46	80.83	83.64	86.45	89.25	92.06	94.87
7	14	1	34.27	33.32	35.30	32.80	55.49	58.47	56.88	58.88	58.49	58.61	65.57	64.35	66.12	66.60	66.40	68.70	71.00	73.30	75.60	77.90	80.30	82.70	85.09	87.49	89.89
7	14	2	30.39	29.72	33.41	30.79	55.38	56.56	54.74	57.24	56.53	57.04	63.78	62.40	63.05	65.13	64.67	67.02	69.37	71.73	74.08	76.43	78.95	81.47	84.00	86.52	89.04
7	14	3	27.73	28.54	32.41	29.51	54.99	55.93	53.88	55.37	55.34	55.75	62.72	60.15	61.98	64.07	62.84	65.41	67.98	70.55	73.12	75.69	78.15	80.61	83.06	85.52	87.98
7	14	4	26.94	28.01	30.86	28.92	54.68	55.32	53.33	54.74	54.47	54.97	61.93	59.56	61.50	63.73	61.93	64.38	66.83	69.29	71.74	74.19	76.65	79.11	81.58	84.04	86.50
7	14	5	26.25	26.97	30.46	28.49	53.52	54.31	52.27	52.79	54.34	54.27	60.78	58.86	60.30	62.28	60.49	63.00	65.50	68.01	70.51	73.02	75.03	77.04	79.06	81.07	83.08
7	14	6	28.61	29.98	30.95	28.15	54.88	55.01	54.40	55.09	54.34	54.06	61.78	60.38	61.45	63.79	60.19	62.92	65.64	68.37	71.09	73.82	76.27	78.72	81.17	83.62	86.07
7	14	7	29.07	30.84	31.50	28.63	56.15	56.04	55.40	55.64	55.23	54.62	63.22	61.23	63.35	65.63	61.15	63.77	66.40	69.02	71.65	74.27	77.11	79.96	82.80	85.65	88.49
7	14	8	31.94	34.33	34.85	31.49	59.32	58.12	58.02	57.66	57.62	57.59	66.50	64.05	66.07	68.15	64.93	67.34	69.75	72.15	74.56	76.97	79.78	82.59	85.41	88.22	91.03
7	14	9	36.93	39.70	35.98	35.05	61.74	62.03	60.20	60.33	60.24	60.17	69.40	66.05	67.42	68.90	68.24	70.34	72.44	74.54	76.64	78.74	81.81	84.88	87.96	91.03	94.10
7	14	10	43.22	44.28	40.57	36.47	68.80	69.38	62.97	62.37	62.64	62.33	76.41	68.49	69.26	69.40	70.40	72.80	75.20	77.59	79.99	82.39	84.96	87.52	90.09	92.65	95.22
7	14	11	47.38	47.33	45.10	39.27	78.01	81.73	69.73	64.35	64.97	65.19	106.23	75.74	76.77	70.85	72.30	75.16	78.03	80.89	83.76	86.62	88.83	91.05	93.26	95.48	97.69
7	14	12	51.82	50.93	46.84	42.48	88.59	90.03	77.70	68.37	67.19	66.52	111.06	91.38	84.04	74.54	72.91	76.19	79.47	82.74	86.02	89.30	91.58	93.86	96.13	98.41	100.69
7	14	13	54.26	57.04	48.18	45.10	86.89	95.69	81.74	72.48	70.54	68.22	127.12	92.81	98.34	79.15	74.14	77.52	80.90	84.29	87.67	91.05	93.30	95.55	97.79	100.04	102.29
7	14	14	52.03	61.77	49.49	47.03	92.50	108.02	83.52	78.19	71.84	69.94	137.80	95.72	99.66	83.23	76.54	79.71	82.88	86.06	89.23	92.40	95.04	97.67	100.31	102.94	105.58
7	14	15	61.55	67.37	50.64	49.47	97.81	116.51	85.46	86.38	73.15	72.71	141.66	99.79	95.00	96.44	79.85	82.96	86.07	89.17	92.28	95.39	98.59	101.79	104.98	108.18	111.38
7	14	16	64.31	66.59	51.76	51.95	105.30	136.91	98.45	77.43	78.39	76.85	157.56	120.10	112.17	91.94	84.90	87.51	90.13	92.74	95.36	97.97	100.75	103.53	106.31	109.09	111.87
7	14	17	65.55	66.66	66.78	54.31	111.70	128.06	106.81	77.15	96.77	93.85	159.22	155.78	121.86	88.56	92.30	95.25	98.20	101.15	104.10	107.05	109.95	112.84	115.74	118.63	121.53
7	14	18	61.89	64.87	54.96	73.58	97.40	106.01	93.93	80.37	80.78	109.76	138.99	105.15	97.59	92.45	108.84	106.83	104.82	102.82	100.81	98.80	101.14	103.48	105.82	108.16	110.50
7	14	19	52.82	57.35	50.25	51.95	86.08	95.19	82.59	73.91	73.65	77.72	127.35	94.51	95.53	79.15	84.35	86.47	88.59	90.70	92.82	94.94	96.94	98.94	100.93	102.93	104.93
7	14	20	55.36	52.97	48.65	48.80	87.39	84.27	80.48	71.05	69.09	71.70	107.81	90.37	86.24	76.41	78.99	81.39	83.79	86.19	88.59	90.99	93.23	95.47	97.70	99.94	102.18
7	14	21	52.73	51.39	46.39	47.06	80.63	83.87	77.63	68.28	67.03	69.80	102.83	93.20	80.44	74.76	78.05	80.23	82.42	84.60	86.79	88.97	91.03	93.09	95.14	97.20	99.26
7	14	22	49.28	47.82	45.41	46.37	73.34	78.62	69.67	65.83	65.25	69.19	91.95	81.42	77.53	72.09	77.21	79.26	81.30	83.35	85.39	87.44	89.55	91.67	93.78	95.90	98.01
7	14	23	43.89	44.40	42.20	42.93	64.94	67.40	63.96	62.50	63.02	66.83	74.16	68.93	71.63	69.90	74.06	75.74	77.42	79.10	80.78	82.46	85.52	88.58	91.64	94.70	97.76
7	14	24	38.27	39.18	36.59	38.39	58.87	60.51	59.47	59.73	60.38	64.04	68.39	66.04	67.57	68.62	71.83	73.36	74.89	76.42	77.95	79.48	82.19	84.90	87.62	90.33	93.04
7	15	1	31.28	34.02	34.16	35.88	55.78	56.56	57.95	58.46	57.19	62.22	63.99	62.68	65.39	66.66	68.99	70.72	72.46	74.19	75.93	77.66	80.11	82.57	85.02	87.48	89.93
7	15	2	28.54	32.65	32.37	34.17	54.41	55.16	56.39	56.97	55.37	59.63	61.39	60.12	63.86	66.44	67.41	68.89	70.37	71.86	73.34	74.82	77.66	80.49	83.33	86.16	89.00
7	15	3	27.27	29.23	30.60	33.38	53.73	53.27	54.24	55.16	54.07	58.36	59.16	59.43	62.52	64.07	66.25	67.36	68.47	69.59	70.70	71.81	74.92	78.04	81.15	84.27	87.38
7	15	4	26.67	28.28	29.62	33.00	53.38	52.34	53.87	54.45	53.37	58.18	58.60	59.03	61.55	63.12	66.25	66.97	67.68	68.40	69.11	69.83	72.98	76.13	79.29	82.44	85.59
7	15	5	26.20	27.04	29.27	32.47	52.67	50.97	52.73	53.82	52.76	57.15	57.70	57.45	59.92	62.31	65.48	66.14	66.81	67.47	68.14	68.80	71.96	75.13	78.29	81.46	84.62
7	15	6	28.50	29.81	28.88	33.77	53.21	53.91	54.32	54.21	52.25	58.22	59.09	59.64	61.56	62.97	66.05	66.49	66.94	67.38	67.83	68.27	71.69	75.11	78.52	81.94	85.36
7	15	7	29.28	30.49	29.19	34.62	54.31	54.29	55.12	55.19	53.00	60.70	59.68	61.21	63.15	63.55	68.21	68.50	68.79	69.07	69.36	69.65	73.07	76.49	79.90	83.32	86.74
7	15	8	32.51	33.40	32.79	38.82	56.72	55.81	57.13	56.79	55.56	64.44	62.74	64.35	65.84	66.44	71.45	72.26	73.08	73.89	74.71	75.52	78.22	80.93	83.63	86.34	89.04
7	15	9	37.76	37.67	35.71	44.12	60.15	57.95	58.83	58.89	58.44	66.83	65.75	66.01	66.81	67.64	73.30	74.33	75.36	76.38	77.41	78.44	80.83	83.22	85.60	87.99	90.38
7	15	10	42.90	42.29	36.95	47.23	66.03	61.33	60.40	61.07	61.30	69.58	68.35	66.41	68.17	68.86	78.21	78.83	79.45	80.08	80.70	81.32	83.89	86.45	89.02	91.58	94.15
7	15	11	46.44	44.69	39.98	50.65	79.25	66.18	63.64	63.09	62.85	75.41	74.27	71.23	70.68	69.56	85.79	85.55	85.30	85.06	84.81	84.57	87.12	89.67	92.23	94.78	97.33
7	15	12	49.54	46.95	42.90	52.82	84.49	71.37	66.87	66.06	64.56	88.09	87.74	77.39	72.97	71.54	106.16	102.37	98.58	94.78	90.99	87.20	89.73	92.26	94.79	97.32	99.85
7	15	13	54.63	49.10	47.20	60.70	91.71	75.21	71.46	68.17	67.28	97.40	92.02	88.65	78.25	73.68	118.02	112.38	106.74	101.10	95.46	89.82	92.28	94.74	97.21	99.67	102.13
7	15	14	59.37	50.97	48.26	55.44	102.40	73.55	76.69	68.77	70.82	97.61	92.77	94.14	81.03	76.13	125.19	118.57	111.95	105.33	98.71	92.09	94.14	96.19	98.25	100.30	102.35
7	15	15	63.41	54.44	49.96	57.60	126.94	79.96	81.84	70.50	73.20	98.40	96.15	89.68	87.09	78.54	119.26	114.61	109.97	105.32	100.68	96.03	97.69	99.36	101.02	102.69	104.35
7	15	16	63.85	63.49	51.42	55.15	192.03	83.37	78.23	74.73	82.08	96.56	103.68	98.26	84.64	85.24	117.97	114.32	110.67	107.02	103.37	99.72	100.96	102.20	103.44	104.68	105.92

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	15	17	62.59	73.50	61.27	61.32	165.31	95.96	78.35	101.52	104.29	122.96	142.53	101.73	82.41	106.08	134.68	128.27	121.86	115.44	109.03	102.62	103.60	104.58	105.56	106.54	107.52
7	15	18	63.19	53.33	68.37	62.00	98.64	81.37	77.35	84.15	109.17	114.39	101.97	92.72	88.50	92.17	127.02	124.87	122.72	120.58	118.43	116.28	114.21	112.14	110.06	107.99	105.92
7	15	19	54.72	50.32	51.81	55.70	93.57	75.03	72.65	72.48	82.21	102.40	92.84	92.55	77.61	77.91	121.59	117.01	112.44	107.86	103.29	98.71	99.84	100.97	102.10	103.23	104.36
7	15	20	50.80	47.04	49.62	52.16	87.29	75.04	68.10	68.26	72.44	88.96	90.25	81.42	75.09	74.47	104.16	101.83	99.50	97.17	94.84	92.51	94.42	96.32	98.23	100.13	102.04
7	15	21	48.71	45.84	48.00	51.06	84.32	74.94	65.73	65.83	72.34	75.66	92.84	76.34	73.89	71.64	87.50	88.48	89.46	90.43	91.41	92.39	93.91	95.42	96.94	98.45	99.97
7	15	22	46.26	44.48	47.52	49.03	79.19	69.16	63.64	63.35	68.77	73.00	81.18	72.81	71.62	70.06	79.84	82.35	84.86	87.37	89.88	92.39	93.57	94.74	95.92	97.09	98.27
7	15	23	42.66	41.93	44.77	47.89	68.37	62.54	60.87	61.56	65.16	69.53	69.32	68.36	68.73	69.35	77.07	79.45	81.83	84.20	86.58	88.96	90.14	91.32	92.51	93.69	94.87
7	15	24	36.01	36.48	39.09	42.78	58.83	59.42	58.63	57.74	62.64	66.83	65.95	66.05	66.70	68.17	73.29	75.31	77.34	79.36	81.39	83.41	85.15	86.89	88.64	90.38	92.12
7	16	1	31.55	33.39	36.66	36.94	55.41	56.04	57.69	57.01	59.86	62.23	61.48	63.30	65.39	66.59	70.09	72.07	74.04	76.02	77.99	79.97	81.95	83.94	85.92	87.91	89.89
7	16	2	29.64	31.82	34.82	35.08	54.16	53.66	55.85	55.85	57.54	60.44	58.94	62.05	63.63	64.19	68.54	70.40	72.27	74.13	76.00	77.86	79.91	81.96	84.02	86.07	88.12
7	16	3	27.30	30.70	34.08	34.48	52.05	52.66	54.14	53.32	56.30	59.52	58.31	60.12	62.56	61.55	68.08	69.80	71.52	73.23	74.95	76.67	78.14	79.60	81.07	82.53	84.00
7	16	4	26.62	28.37	33.71	34.35	51.22	51.56	53.33	52.45	56.03	58.98	57.63	59.45	61.62	60.94	67.64	69.25	70.87	72.48	74.10	75.71	76.84	77.97	79.09	80.22	81.35
7	16	5	25.82	28.20	33.36	32.79	50.70	50.64	52.55	51.69	55.37	58.14	56.93	57.09	60.75	60.70	67.01	68.35	69.68	71.02	72.35	73.69	74.57	75.45	76.33	77.21	78.09
7	16	6	27.41	28.92	34.33	34.35	52.66	53.95	52.86	51.19	56.32	58.92	58.83	59.69	61.00	59.94	68.51	70.32	72.13	73.94	75.75	77.56	77.27	76.99	76.70	76.42	76.13
7	16	7	28.53	29.88	35.36	35.15	53.49	54.43	54.24	52.20	57.68	61.15	60.35	60.66	61.72	60.80	70.30	72.30	74.30	76.31	78.31	80.31	80.33	80.34	80.36	80.37	80.39
7	16	8	30.82	31.79	39.45	39.14	54.94	56.17	55.79	54.98	62.85	64.41	63.06	63.45	63.64	63.22	72.98	75.41	77.84	80.26	82.69	85.12	85.44	85.77	86.09	86.42	86.74
7	16	9	35.11	33.95	45.70	45.19	58.23	58.65	58.01	57.53	65.29	68.41	65.47	65.91	65.40	66.44	76.09	78.84	81.58	84.33	87.07	89.82	89.69	89.56	89.43	89.30	89.17
7	16	10	38.11	37.67	48.48	48.74	62.13	61.47	59.05	58.86	69.09	71.66	67.54	66.36	67.12	67.74	79.70	82.46	85.23	87.99	90.76	93.52	93.13	92.74	92.36	91.97	91.58
7	16	11	41.69	41.13	50.80	51.06	69.29	67.61	61.52	61.44	81.34	79.14	72.19	67.59	68.37	68.90	97.40	97.42	97.44	97.46	97.48	97.50	96.97	96.45	95.92	95.40	94.87
7	16	12	43.91	43.81	56.73	61.65	75.65	71.68	63.64	63.09	101.26	94.69	76.89	69.77	71.00	70.02	121.38	120.72	120.06	119.41	118.75	118.09	113.94	109.78	105.63	101.47	97.32
7	16	13	46.57	45.31	65.72	66.05	76.60	76.54	66.03	66.27	108.70	98.71	87.43	74.11	73.79	72.62	137.87	140.50	143.13	145.77	148.40	151.03	140.78	130.53	120.28	110.03	99.78
7	16	14	48.71	46.97	67.11	69.79	76.28	78.36	67.03	68.32	115.64	104.45	93.76	75.72	76.34	75.44	146.79	142.07	137.35	132.62	127.90	123.18	118.88	114.58	110.28	105.98	101.68
7	16	15	49.94	48.10	68.67	76.11	79.73	79.15	70.23	69.87	124.86	111.34	91.48	78.91	80.03	77.84	148.74	144.19	139.63	135.08	130.52	125.97	121.65	117.32	113.00	108.67	104.35
7	16	16	52.66	49.35	67.97	92.46	86.92	85.06	75.07	73.38	116.91	138.48	105.67	81.69	97.98	84.37	149.68	145.88	142.08	138.29	134.49	130.69	126.43	122.17	117.92	113.66	109.40
7	16	17	60.58	51.11	88.77	94.58	94.50	101.88	103.06	81.35	159.68	131.04	107.35	103.31	120.47	105.81	188.57	177.95	167.34	156.72	146.11	135.49	131.02	126.55	122.08	117.61	113.14
7	16	18	49.94	49.36	83.80	71.93	85.57	83.54	88.53	105.66	133.82	108.65	94.10	78.91	103.73	122.53	143.03	140.37	137.71	135.06	132.40	129.74	128.59	127.45	126.30	125.16	124.01
7	16	19	47.68	47.77	67.74	67.33	76.95	79.45	71.63	78.19	122.88	103.30	93.28	74.92	78.48	84.49	142.89	138.98	135.07	131.17	127.26	123.35	120.02	116.69	113.37	110.04	106.71
7	16	20	45.18	45.54	56.53	66.06	76.95	73.13	65.94	69.87	102.83	97.84	81.18	71.92	73.24	76.78	128.43	130.14	131.85	133.56	135.27	136.98	130.34	123.71	117.07	110.44	103.80
7	16	21	43.63	44.65	52.33	60.17	76.55	71.79	63.96	69.01	90.71	92.79	76.33	69.85	71.81	75.43	131.74	126.09	120.44	114.80	109.15	103.50	103.26	103.02	102.77	102.53	102.29
7	16	22	41.99	42.49	49.68	52.16	69.74	67.91	61.77	67.21	78.29	78.07	73.49	68.60	69.21	74.02	101.80	100.55	99.30	98.04	96.79	95.54	96.89	98.24	99.59	100.94	102.29
7	16	23	39.24	39.13	48.64	49.19	62.31	62.56	59.42	63.10	69.06	73.04	68.73	66.36	67.71	71.14	81.90	84.02	86.14	88.27	90.39	92.51	93.95	95.40	96.84	98.29	99.73
7	16	24	34.41	34.11	44.80	45.61	58.32	58.47	57.59	60.57	65.06	67.22	64.77	65.25	66.66	69.35	76.52	78.95	81.38	83.82	86.25	88.68	89.94	91.19	92.45	93.70	94.96
7	17	1	31.20	31.82	37.62	37.91	54.28	56.08	56.00	58.57	61.22	62.75	62.65	63.30	65.01	67.25	71.21	73.51	75.81	78.12	80.42	82.72	84.59	86.46	88.34	90.21	92.08
7	17	2	29.35	29.81	36.05	35.88	52.74	55.40	54.64	56.49	59.10	61.05	60.71	62.19	62.90	66.44	69.95	72.11	74.27	76.42	78.58	80.74	82.44	84.14	85.84	87.54	89.24
7	17	3	28.18	26.92	35.34	33.15	51.41	53.45	52.07	55.39	58.36	59.23	58.92	60.15	60.10	65.11	68.18	70.60	73.02	75.44	77.86	80.28	81.80	83.32	84.85	86.37	87.89
7	17	4	26.52	26.37	35.30	32.56	50.84	52.69	51.20	55.19	58.25	58.56	57.95	59.53	59.65	64.38	67.40	69.86	72.32	74.78	77.24	79.70	81.31	82.92	84.52	86.13	87.74
7	17	5	26.24	25.91	34.50	31.24	49.80	50.80	50.61	53.71	56.87	57.87	56.56	58.97	58.89	62.42	66.06	68.54	71.03	73.51	76.00	78.48	79.82	81.16	82.50	83.84	85.18
7	17	6	26.62	25.90	35.57	34.48	51.67	53.45	50.16	55.52	57.11	59.58	57.87	59.42	58.47	64.50	68.19	70.54	72.89	75.25	77.60	79.95	81.64	83.33	85.03	86.72	88.41
7	17	7	28.15	27.24	35.85	35.08	52.96	54.38	50.97	57.22	59.28	60.55	59.62	60.23	59.09	66.94	69.75	72.20	74.66	77.11	79.57	82.02	83.82	85.63	87.43	89.24	91.04
7	17	8	29.82	28.95	39.96	39.20	54.63	56.04	53.88	60.20	62.79	64.85	62.70	62.06	61.72	69.25	72.52	75.28	78.05	80.81	83.58	86.34	88.22	90.10	91.97	93.85	95.73
7	17	9	31.68	32.13	46.86	44.95	57.60	57.37	56.62	62.74	66.64	66.84	64.44	64.29	65.34	71.77	74.47	77.97	81.47	84.98	88.48	91.98	93.72	95.47	97.21	98.96	100.70
7	17	10	35.93	34.22	49.62	47.67	60.19	59.75	58.05	66.51	71.20	71.25	65.87	66.04	66.19	74.96	80.14	83.09	86.05	89.00	91.96	94.91	96.58	98.25	99.91	101.58	103.25
7	17	11	39.00	38.40	51.27	53.66	66.14	62.05	59.73	77.90	96.43	89.99	67.40	66.36	67.65	85.24	109.00	107.65	106.30	104.95	103.60	102.25	103.30	104.35	105.39	106.44	107.49
7	17	12	41.64	41.43	65.09	69.02	73.36	65.51	62.02	87.67	109.28	111.07	71.67	68.16	68.48	105.80	137.85	138.72	139.58	140.45	141.31	142.18	138.61	135.03	131.46	127.88	124.31
7	17	13	43.85	43.91	70.46	68.88	76.45	70.12	64.25	94.53	122.43	111.34	74.79	70.65	72.31	132.74	141.95	142.45	142.95	143.45	143.95	144.45	144.84	145.23	145.61	146.00	146.39
7	17	14	44.90	46.10	75.87	71.95	79.02	71.62	66.66	95.62	125.22	113.92	76.89	72.06	74.44	112.17	147.79	149.36	150.93	152.49	154.06	155.63	148.13	140.62	133.12	125.61	118.11
7	17	15	46.46	48.78	82.67	87.23	79.39	74.92	69.28	97.52	130.29	154.61	78.79	74.83	77.74	112.19	151.10	153.93	156.76	159.60	162.43	165.26	157.75	150.24	142.72	135.21	127.70
7	17	16	47.56	49.82	88.76	95.44	79.41	84.98	75.24	95.39	162.81	156.60	83.99	86.60	86.24	111.19	153.14	157.48	161.82	166.16	170.50	174.84	165.01	155.18	145.36	135.53	125.70
7	17	17	50.80	67.67	90.17	92.89	91.84	85.35	92.92	116.74	166.74	156.47	81.66	106.61	99.31	124.36	156.38	160.11	163.85	167.58	171.32	175.05	167.76	160.47	153.17	145.88	138.59
7	17	18	47.68	77.68	76.41	75.98	76.99	73.86	113.35	130.13	128.00	133.85	79.43	86.60	115.01	123.98	148.75	149.96	151.17	152.38	153.59	154.80	150.24	145.68	141.12	136.56	132.00
7	17	19	46.37	50.93	73.54	69.13	76.74	70.51	79.07	99.44	127.78	111.34	75.62	74.75	84.61	115.46	141.98	144.11	146.24	148.37	150.50	152.63	145.58	138.53	131.48	124.43	117.38
7	17	20	43.32	48.23	68.15	65.34	73.36	66.85	67.02	89.81	127.12	100.73	72.34	69.97	75.76	120.25	141.94	141.39	140.84	140.28	139.73	139.18	140.97	142.75	144.54	146.32	148.11
7	17	21	42.66	47.31	63.21	64.16	70.41	64.75	66.92	81.81	109.24	101.18	70.59	69.15	73.28	95.92	133.74	133.54	133.34	133.13	132.93	132.73	128.66	124.58	120.51	116.43	112.36
7	17	22	41.11	47.00	52.76	51.95	66.77	62.31	65.08	75.05	90.81	84.26	69.14	66.98	71.81	81.03	96.90	98.51	100.12	101.74	103.35	104.96	105.03	105.09	105.16	105.22	105.29
7	17	23	36.61	43.75	50.45	49.03	60.70	60.14	62.45	66.28	71.80	71.09	66.70	66.04	69.64	75.26	80.01	83.09	86.17	89.25	92.33	95.41	96.79	98.16	99.54	100.91	102.29
7	17	24	32.63	37.78	46.39	45.71	56.50	57.04	58.87	63.09	65.82	66.84	64.06	64.08	67.32	72.47	75.00	77.96	80.93	83.89	86.86	89.82	91.70	93.59	95.47	97.36	99.24
7	18	1	30.00	33.89	39.27	37.67	54.26	56.17	57.27	59.37	61.70	63.53	62.72	62.19	66.11	69.61	71.12	73.54	75.96	78.39	80.81	83.23	85.37	87.51	89.66	91.80	93.94
7	18	2	28.70	31.79	36.71	34.59	53.46	55.09	56.01	57.80	59.93	60.72	60.72	60.31	64.24	68.35	68.74	71.19	73.65	76.10	78.56	81.01	83.30	85.59	87.89	90.18	92.47
7	18	3	26.07	31.31	34.56	33.46	51.35	53.26	55.38	57.09	57.72	59.46	59.01	58.46	63.35	68.04	67.22	69.53	71.84	74.15	76.46	78.77	81.36	83.95	86.53	89.12	91.71

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	18	4	25.92	31.14	34.06	32.62	50.70	52.34	55.24	56.67	57.07	58.88	58.40	57.40	62.47	67.84	66.52	68.77	71.03	73.28	75.54	77.79	80.49	83.19	85.88	88.58	91.28
7	18	5	25.35	30.82	33.22	31.95	49.36	51.53	53.88	55.82	55.63	57.96	57.70	56.79	61.05	66.72	65.61	67.77	69.94	72.10	74.27	76.43	79.05	81.68	84.30	86.93	89.55
7	18	6	25.25	31.73	35.30	34.09	51.11	52.10	55.05	56.61	58.13	60.04	58.21	56.53	62.71	67.94	67.67	70.03	72.38	74.74	77.09	79.45	81.91	84.36	86.82	89.27	91.73
7	18	7	26.26	32.53	35.97	36.45	51.88	54.28	56.46	58.23	59.60	62.13	59.36	57.27	65.01	69.57	70.43	72.48	74.53	76.58	78.63	80.68	83.35	86.01	88.68	91.34	94.01
7	18	8	28.26	38.84	40.91	39.66	54.09	55.14	59.33	61.35	63.21	65.19	61.06	59.65	67.32	70.06	72.60	74.97	77.33	79.70	82.06	84.43	87.05	89.66	92.28	94.89	97.51
7	18	9	31.17	44.38	46.28	45.84	55.03	56.17	62.10	63.31	66.80	68.62	62.90	62.47	69.53	73.30	76.17	78.90	81.63	84.36	87.09	89.82	92.22	94.63	97.03	99.44	101.84
7	18	10	33.04	48.01	50.11	48.83	57.81	57.93	66.16	68.69	74.08	73.04	64.82	63.98	73.35	79.12	81.04	84.09	87.15	90.20	93.26	96.31	97.89	99.46	101.04	102.61	104.19
7	18	11	36.33	51.29	58.26	51.94	60.66	60.36	77.25	86.46	99.77	90.83	66.50	65.63	83.88	101.21	107.09	109.90	112.71	115.51	118.32	121.13	120.35	119.57	118.80	118.02	117.24
7	18	12	39.52	58.86	74.55	67.52	63.60	62.15	89.97	97.21	125.67	106.35	68.33	66.36	98.37	135.13	130.94	131.37	131.79	132.22	132.64	133.07	138.36	143.65	148.95	154.24	159.53
7	18	13	42.84	67.81	74.68	68.52	68.19	63.80	98.78	104.57	126.28	107.09	70.55	69.43	116.31	140.78	133.22	134.71	136.21	137.70	139.20	140.69	143.73	146.77	149.82	152.86	155.90
7	18	14	44.71	70.07	76.33	79.71	72.78	64.75	101.66	114.13	132.73	129.03	71.38	71.36	125.02	142.95	148.74	150.88	153.02	155.15	157.29	159.43	158.54	157.66	156.77	155.89	155.00
7	18	15	46.68	70.07	82.82	89.02	74.23	67.91	110.35	122.16	138.50	150.01	72.97	73.56	120.71	143.52	149.00	154.31	159.61	164.92	170.22	175.53	175.36	175.19	175.03	174.86	174.69
7	18	16	48.60	71.45	92.37	87.15	78.86	71.53	99.85	156.06	142.46	139.46	75.35	81.18	122.98	146.36	151.71	156.91	162.11	167.31	172.51	177.71	180.61	183.51	186.42	189.32	192.22
7	18	17	60.37	87.34	89.62	107.15	78.60	84.26	138.34	156.06	151.20	184.81	99.97	96.35	143.99	149.10	179.05	178.94	178.82	178.71	178.59	178.48	181.23	183.98	186.74	189.49	192.24
7	18	18	68.35	73.32	79.12	73.44	73.36	79.89	124.97	117.11	134.61	109.41	81.70	113.48	140.58	142.97	133.88	142.05	150.22	158.40	166.57	174.74	172.56	170.37	168.19	166.00	163.82
7	18	19	47.87	66.80	72.75	70.49	68.74	68.59	99.78	114.65	131.83	108.69	73.66	80.21	131.47	142.04	128.78	132.98	137.17	141.37	145.56	149.76	151.45	153.13	154.82	156.50	158.19
7	18	20	46.07	62.45	69.75	68.52	64.33	63.82	92.99	101.60	124.95	103.00	70.15	72.08	101.48	139.18	138.68	136.30	133.92	131.53	129.15	126.77	132.65	138.53	144.42	150.30	156.18
7	18	21	43.89	53.12	68.97	66.76	62.62	62.24	85.27	94.59	121.74	100.85	67.49	71.86	95.87	133.46	135.58	136.46	137.35	138.23	139.12	140.00	141.78	143.57	145.35	147.14	148.92
7	18	22	43.31	49.21	56.70	54.27	60.26	60.62	76.09	84.96	95.36	92.79	66.50	71.23	83.88	99.95	113.01	110.74	108.47	106.20	103.93	101.66	105.10	108.54	111.97	115.41	118.85
7	18	23	40.19	47.00	50.75	50.38	57.60	58.47	66.42	69.03	73.95	74.46	64.59	67.79	72.59	80.12	84.36	86.16	87.96	89.76	91.56	93.36	95.88	98.40	100.92	103.44	105.96
7	18	24	35.21	42.88	46.78	46.29	54.92	56.17	62.65	63.64	67.21	68.69	62.18	66.05	69.93	73.22	77.56	79.84	82.12	84.41	86.69	88.97	91.46	93.95	96.45	98.94	101.43
7	19	1	31.17	33.86	39.46	38.03	54.26	55.17	58.53	59.66	62.14	63.74	60.69	63.18	67.04	69.40	72.45	74.41	76.37	78.33	80.29	82.25	84.63	87.01	89.40	91.78	94.16
7	19	2	29.77	32.28	36.25	35.71	53.07	53.62	57.41	58.57	59.43	60.95	58.94	62.24	65.70	68.35	70.41	72.41	74.41	76.41	78.41	80.41	82.64	84.88	87.11	89.35	91.58
7	19	3	29.09	31.82	35.11	32.82	51.21	50.70	56.31	57.81	57.62	58.83	57.01	61.30	65.01	67.64	67.64	69.70	71.75	73.81	75.86	77.92	80.37	82.82	85.26	87.71	90.16
7	19	4	28.87	31.65	34.82	32.07	50.84	49.66	56.09	57.03	57.09	58.07	56.07	60.91	65.01	66.60	66.33	68.33	70.34	72.34	74.35	76.35	78.94	81.53	84.13	86.72	89.31
7	19	5	27.81	30.36	33.53	30.82	50.16	49.27	55.22	55.75	55.80	57.16	55.44	58.93	64.44	65.38	64.90	67.15	69.41	71.66	73.92	76.17	78.63	81.08	83.54	85.99	88.45
7	19	6	29.06	31.74	35.49	33.55	50.70	48.77	56.24	56.67	57.80	58.72	55.03	60.77	65.28	67.14	67.67	69.78	71.90	74.01	76.13	78.24	80.61	82.98	85.35	87.72	90.09
7	19	7	29.53	32.95	36.74	34.23	52.01	49.48	57.52	58.05	60.15	59.43	55.97	62.79	67.15	68.81	68.98	71.47	73.96	76.45	78.94	81.43	83.46	85.49	87.52	89.55	91.58
7	19	8	35.64	37.67	42.09	38.01	53.76	53.40	60.10	61.39	63.74	63.73	58.45	66.35	68.36	69.35	72.37	74.85	77.33	79.82	82.30	84.78	86.89	89.00	91.10	93.21	95.32
7	19	9	41.54	43.73	46.91	42.52	54.46	55.71	64.70	63.19	67.02	66.38	60.99	67.46	70.97	71.83	74.84	77.89	80.94	84.00	87.05	90.10	92.34	94.58	96.81	99.05	101.29
7	19	10	44.57	47.64	50.11	46.46	56.14	56.56	71.60	72.67	73.62	68.91	62.72	71.11	77.94	79.72	78.77	81.69	84.62	87.54	90.47	93.39	95.89	98.39	100.90	103.40	105.90
7	19	11	47.86	51.43	61.74	50.37	58.51	58.70	85.43	92.35	103.90	75.10	64.45	76.67	101.60	107.70	89.59	96.04	102.49	108.95	115.40	121.85	123.37	124.89	126.41	127.93	129.45
7	19	12	54.26	65.36	74.14	53.85	60.28	60.34	104.11	106.93	127.13	89.33	66.50	93.78	130.34	134.23	122.57	125.58	128.60	131.61	134.63	137.64	138.77	139.90	141.03	142.16	143.29
7	19	13	63.36	69.17	75.85	66.05	61.84	62.65	104.00	116.51	130.32	95.95	67.53	101.27	130.93	134.67	133.88	135.34	136.81	138.27	139.74	141.20	142.18	143.17	144.15	145.14	146.12
7	19	14	62.84	73.74	81.39	61.99	63.55	64.37	115.63	120.80	134.27	94.93	70.37	105.06	137.85	139.46	142.24	148.45	154.66	160.86	167.07	173.28	173.03	172.77	172.52	172.26	172.01
7	19	15	64.74	77.40	95.35	67.75	67.22	66.85	123.66	135.14	142.06	101.18	72.65	109.06	142.48	147.70	131.84	141.49	151.13	160.78	170.42	180.07	183.16	186.25	189.35	192.44	195.53
7	19	16	62.74	84.08	94.73	69.54	70.38	71.52	168.56	145.72	148.25	110.54	76.99	103.09	158.86	144.34	143.39	150.74	158.08	165.43	172.77	180.12	183.34	186.55	189.77	192.98	196.20
7	19	17	65.68	84.79	98.36	72.81	93.98	77.56	150.25	134.20	152.88	125.11	99.34	128.87	170.24	174.30	146.62	154.40	162.17	169.95	177.72	185.50	187.64	189.78	191.91	194.05	196.19
7	19	18	62.77	76.28	77.36	66.06	74.32	99.91	118.49	122.46	134.26	103.45	117.53	128.07	140.76	143.49	132.20	140.88	149.56	158.25	166.93	175.61	177.33	179.05	180.76	182.48	184.20
7	19	19	60.18	67.83	73.71	61.04	66.14	77.20	116.85	113.64	128.49	94.78	77.49	106.70	136.75	134.74	137.85	140.39	142.92	145.46	147.99	150.53	153.74	156.95	160.16	163.37	166.58
7	19	20	52.53	65.97	70.94	59.64	62.58	68.14	104.30	102.66	124.13	93.92	72.23	96.54	135.07	133.72	134.76	133.61	132.46	131.30	130.15	129.00	131.48	133.97	136.45	138.94	141.42
7	19	21	49.13	63.27	71.94	53.82	60.28	66.18	98.84	96.08	123.42	89.82	70.35	85.58	126.71	129.79	115.45	117.87	120.28	122.70	125.11	127.53	133.01	138.50	143.98	149.47	154.95
7	19	22	46.65	53.31	65.96	50.74	58.72	64.75	86.65	84.94	99.11	77.72	68.62	75.23	97.38	100.83	91.06	99.85	108.64	117.44	126.23	135.02	131.68	128.34	125.01	121.67	118.33
7	19	23	44.76	49.04	51.32	47.67	57.12	60.81	71.94	70.51	79.12	69.80	66.71	70.77	77.95	79.21	79.33	83.09	86.85	90.60	94.36	98.12	99.55	100.99	102.42	103.86	105.29
7	19	24	38.99	44.42	48.22	40.35	54.71	57.65	63.64	65.11	68.85	64.90	64.89	67.46	70.21	73.24	75.30	78.72	82.14	85.56	88.98	92.40	93.99	95.59	97.18	98.78	100.37
7	20	1	32.39	35.39	40.44	36.51	54.00	56.50	59.03	59.96	62.49	62.16	62.72	64.28	67.09	69.35	71.38	73.86	76.34	78.83	81.31	83.79	85.86	87.93	90.00	92.07	94.14
7	20	2	29.82	32.95	37.50	34.42	52.40	55.56	58.01	59.02	59.43	59.96	60.72	62.78	66.07	68.62	68.98	71.52	74.06	76.60	79.14	81.68	83.84	86.00	88.15	90.31	92.47
7	20	3	29.30	31.94	34.55	32.79	50.08	54.74	57.40	56.80	57.77	57.88	59.47	62.15	65.01	67.24	66.40	68.92	71.44	73.95	76.47	78.99	81.44	83.89	86.33	88.78	91.23
7	20	4	29.09	31.49	33.91	30.82	49.14	54.25	56.33	56.09	57.19	56.92	59.06	62.06	64.00	65.63	65.78	68.23	70.68	73.14	75.59	78.04	80.31	82.58	84.86	87.13	89.40
7	20	5	27.84	30.07	32.37	30.26	48.63	53.29	55.42	55.39	55.38	56.59	57.75	61.78	63.19	65.17	65.12	67.15	69.18	71.20	73.23	75.26	78.02	80.78	83.54	86.30	89.06
7	20	6	29.09	31.74	35.12	31.29	48.34	54.50	56.46	56.64	57.60	56.71	59.09	62.79	65.08	67.03	65.40	67.92	70.44	72.97	75.49	78.01	80.65	83.30	85.94	88.59	91.23
7	20	7	30.43	33.00	35.63	32.62	48.37	55.90	57.97	57.71	58.14	58.19	61.31	64.03	66.43	69.14	66.92	69.49	72.06	74.62	77.19	79.76	82.60	85.43	88.27	91.10	93.94
7	20	8	35.46	38.98	39.74	34.40	51.85	58.64	59.64	61.85	62.49	59.67	64.91	66.36	67.33	70.06	69.47	72.34	75.21	78.08	80.95	83.82	86.78	89.74	92.69	95.65	98.61
7	20	9	41.67	44.11	44.60	38.83	54.09	62.08	62.55	63.71	64.97	63.09	66.70	69.62	69.89	73.47	72.02	75.03	78.03	81.04	84.04	87.05	90.10	93.14	96.19	99.23	102.28
7	20	10	45.95	47.89	48.10	40.48	54.87	66.17	74.30	70.42	69.08	64.29	69.86	73.44	75.64	79.97	73.29	76.97	80.65	84.34	88.02	91.70	94.72	97.74	100.75	103.77	106.79
7	20	11	49.35	58.02	50.83	45.78	56.82	75.49	94.82	92.13	89.78	67.33	78.60	86.50	100.96	113.16	76.74	80.99	85.24	89.48	93.73	97.98	107.88	117.77	127.67	137.56	147.46
7	20	12	60.14	72.56	65.56	48.19	58.70	82.51	112.95	108.76	99.35	70.60	90.93	107.54	128.34	139.44	78.99	89.81	100.63	111.44	122.26	133.08	137.69	142.29	146.90	151.50	156.11
7	20	13	62.77	72.93	69.53	49.95	60.86	91.70	119.01	113.34	115.88	74.19	102.40	116.53	131.45	139.47	85.28	93.13	100.98	108.84	116.69	124.54	133.02	141.50	149.99	158.47	166.95
7	20	14	66.85	76.14	68.15	51.48	62.60	91.67	116.20	125.44	121.91	77.72	102.26	127.67	135.08	143.56	90.86	99.00	107.14	115.28	123.42	131.56	144.99	158.42	171.86	185.29	198.72

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	20	15	73.80	90.75	73.98	53.10	63.96	86.32	131.51	148.78	117.38	82.30	103.86	124.44	143.11	147.74	101.24	110.24	119.25	128.25	137.26	146.26	157.10	167.94	178.79	189.63	200.47
7	20	16	82.02	107.04	74.81	71.84	69.86	89.45	149.97	155.28	123.36	91.31	101.62	137.20	153.13	161.79	117.59	125.56	133.52	141.49	149.45	157.42	166.43	175.45	184.46	193.48	202.49
7	20	17	82.02	98.80	80.23	74.87	74.32	109.07	139.36	185.23	134.25	125.28	141.15	137.87	143.12	175.05	129.58	135.81	142.05	148.28	154.52	160.75	169.43	178.11	186.78	195.46	204.14
7	20	18	69.44	77.87	69.82	70.35	91.90	95.94	124.75	122.11	121.58	103.94	121.83	125.46	136.39	143.89	128.20	132.15	136.09	140.04	143.98	147.93	157.60	167.26	176.93	186.59	196.26
7	20	19	60.38	68.68	67.44	52.10	70.03	85.36	116.49	117.57	120.36	77.51	105.13	127.13	131.44	139.44	93.18	98.56	103.95	109.33	114.72	120.10	131.23	142.36	153.50	164.63	175.76
7	20	20	60.92	67.93	68.06	49.05	64.88	81.66	109.33	109.23	116.62	72.82	93.64	120.29	130.46	139.19	82.68	91.14	99.60	108.06	116.52	124.98	127.93	130.88	133.84	136.79	139.74
7	20	21	54.52	64.57	62.70	47.81	63.56	74.55	106.34	106.48	97.85	69.87	83.18	102.20	124.48	138.32	79.53	90.08	100.64	111.19	121.75	132.30	133.27	134.24	135.21	136.18	137.15
7	20	22	49.35	55.27	52.81	46.29	61.79	71.09	88.44	94.40	90.85	67.44	74.55	85.62	95.45	131.67	76.96	81.16	85.37	89.57	93.78	97.98	108.66	119.34	130.03	140.71	151.39
7	20	23	47.05	48.82	49.31	42.28	58.64	63.67	74.38	75.93	70.32	65.70	69.89	74.42	76.35	87.59	73.30	77.22	81.14	85.07	88.99	92.91	96.12	99.33	102.53	105.74	108.95
7	20	24	41.54	44.36	43.22	39.25	56.53	60.46	64.18	65.63	64.86	63.81	66.71	70.07	70.73	74.16	72.06	74.85	77.64	80.44	83.23	86.02	89.27	92.52	95.78	99.03	102.28
7	21	1	33.21	35.36	38.70	35.58	54.92	56.82	59.37	60.74	61.23	60.96	62.72	65.16	67.01	69.66	69.82	72.09	74.37	76.64	78.92	81.19	83.94	86.70	89.45	92.21	94.96
7	21	2	30.41	33.24	35.83	33.94	54.00	55.71	58.53	58.53	58.80	59.11	61.32	63.30	66.19	68.69	67.71	69.93	72.14	74.36	76.57	78.79	81.41	84.02	86.64	89.25	91.87
7	21	3	29.47	32.05	33.48	31.20	53.06	55.01	57.40	57.09	57.08	57.54	60.62	62.36	64.42	67.37	65.78	67.87	69.96	72.06	74.15	76.24	79.11	81.99	84.86	87.74	90.61
7	21	4	29.13	31.79	32.64	30.45	52.75	54.75	56.00	56.05	55.93	56.97	60.52	61.30	63.72	66.24	64.78	66.94	69.11	71.27	73.44	75.60	78.29	80.98	83.66	86.35	89.04
7	21	5	27.73	31.15	31.97	30.15	51.63	54.28	54.96	55.39	55.38	56.59	59.81	61.30	62.64	65.13	64.55	66.62	68.69	70.77	72.84	74.91	77.50	80.10	82.69	85.29	87.88
7	21	6	29.13	32.10	32.37	30.07	52.67	54.77	56.08	56.28	55.58	56.44	60.83	62.69	63.32	66.65	64.46	66.66	68.86	71.06	73.26	75.46	78.33	81.20	84.06	86.93	89.80
7	21	7	30.23	32.95	34.34	30.79	53.64	56.02	58.01	57.03	57.48	56.47	62.58	64.29	66.09	67.90	64.54	67.05	69.55	72.06	74.56	77.07	80.08	83.09	86.10	89.11	92.12
7	21	8	35.91	39.16	35.83	33.46	55.25	57.79	60.41	60.73	58.64	59.00	65.82	66.36	68.08	69.47	66.84	69.22	71.60	73.98	76.36	78.74	81.94	85.14	88.34	91.54	94.74
7	21	9	42.15	44.99	39.85	36.67	58.36	60.99	64.40	62.56	62.64	61.62	68.90	68.61	70.41	70.23	69.91	72.25	74.58	76.92	79.25	81.59	85.08	88.56	92.05	95.53	99.02
7	21	10	45.61	48.89	42.63	39.72	61.49	66.17	74.99	66.41	64.56	63.84	73.09	73.56	77.94	76.25	71.88	74.35	76.82	79.30	81.77	84.24	87.78	91.33	94.87	98.42	101.96
7	21	11	51.35	58.31	46.05	43.33	71.06	74.92	96.90	81.64	67.85	65.94	84.40	95.71	106.02	94.30	73.29	76.43	79.56	82.70	85.83	88.97	92.91	96.84	100.78	104.71	108.65
7	21	12	65.52	75.15	48.60	46.53	76.84	85.93	117.72	91.52	73.72	67.75	102.77	123.57	135.82	129.75	76.11	79.37	82.63	85.88	89.14	92.40	106.54	120.68	134.82	148.96	163.10
7	21	13	67.22	76.10	51.59	49.03	81.74	86.97	116.96	103.40	85.31	72.06	105.64	126.66	131.74	136.50	80.41	83.79	87.16	90.54	93.91	97.29	104.94	112.59	120.23	127.88	135.53
7	21	14	69.96	82.00	54.61	49.87	81.41	92.42	127.83	101.89	87.63	73.61	120.50	128.25	139.02	134.67	83.00	86.92	90.83	94.75	98.66	102.58	110.68	118.78	126.88	134.98	143.08
7	21	15	83.07	94.32	61.75	50.87	84.34	98.93	139.13	112.06	94.07	74.85	124.83	141.05	147.15	137.57	84.75	89.93	95.12	100.30	105.49	110.67	122.28	133.90	145.51	157.13	168.74
7	21	16	83.07	95.26	73.12	53.85	88.07	122.11	147.34	110.39	115.78	85.65	139.15	156.22	151.76	143.39	97.19	104.43	111.67	118.92	126.16	133.40	143.74	154.08	164.42	174.76	185.10
7	21	17	83.07	122.96	73.71	74.80	126.45	145.96	164.38	112.06	130.50	105.82	155.49	143.34	175.53	143.49	116.38	126.14	135.91	145.67	155.44	165.20	170.18	175.15	180.13	185.10	190.08
7	21	18	71.45	79.45	72.99	79.66	84.36	98.05	123.64	111.26	121.14	133.92	121.21	132.95	136.56	135.69	134.29	133.37	132.45	131.52	130.60	129.68	137.45	145.23	153.00	160.78	168.55
7	21	19	62.38	75.14	56.38	51.48	84.36	91.71	119.57	101.12	90.02	78.81	126.67	131.19	135.42	132.61	93.71	94.90	96.09	97.29	98.48	99.67	106.84	114.01	121.19	128.36	135.53
7	21	20	63.03	75.08	50.37	49.87	79.22	87.97	114.91	96.63	80.60	73.22	107.93	127.35	136.22	132.08	82.94	85.43	87.93	90.42	92.92	95.41	102.70	109.98	117.27	124.55	131.84
7	21	21	60.91	70.65	49.47	49.64	73.60	83.80	107.31	92.33	73.00	72.25	100.62	122.89	133.71	125.63	82.94	84.68	86.42	88.15	89.89	91.63	105.30	118.97	132.65	146.32	159.99
7	21	22	49.91	62.90	47.88	49.03	67.23	79.16	93.96	83.31	69.09	70.47	86.45	90.21	111.97	96.44	81.32	83.00	84.68	86.35	88.03	89.71	94.17	98.62	103.08	107.53	111.99
7	21	23	46.84	49.83	44.29	45.44	60.75	69.19	79.79	68.11	65.18	68.71	74.04	72.86	79.20	77.16	76.47	78.13	79.78	81.44	83.09	84.75	88.60	92.45	96.30	100.15	104.00
7	21	24	41.54	46.17	41.41	40.47	57.87	61.47	64.48	62.51	63.55	66.19	67.82	68.22	71.63	70.62	73.30	75.21	77.12	79.02	80.93	82.84	85.84	88.84	91.83	94.83	97.83
7	22	1	33.05	37.63	37.50	36.53	54.72	57.41	59.77	59.57	60.18	63.13	63.82	65.16	67.33	68.82	73.02	74.48	75.94	77.39	78.85	80.31	82.67	85.03	87.40	89.76	92.12
7	22	2	31.06	33.22	35.41	36.30	53.79	56.37	58.24	56.85	57.95	61.30	61.96	64.41	66.71	66.77	70.89	72.38	73.86	75.35	76.83	78.32	80.56	82.80	85.03	87.27	89.51
7	22	3	29.55	31.82	32.79	34.66	53.31	55.45	57.03	56.07	55.83	59.16	61.04	62.31	65.28	65.85	68.47	69.94	71.40	72.87	74.33	75.80	78.26	80.72	83.18	85.64	88.10
7	22	4	29.13	31.10	31.80	34.59	53.03	54.87	55.35	55.39	55.06	59.39	60.74	62.13	63.27	64.80	67.82	69.14	70.46	71.78	73.10	74.42	77.03	79.64	82.26	84.87	87.48
7	22	5	27.77	29.63	31.00	33.44	51.75	54.27	55.17	55.04	54.62	58.18	59.59	61.34	62.97	64.19	66.25	67.71	69.17	70.64	72.10	73.56	76.27	78.98	81.68	84.39	87.10
7	22	6	29.17	31.16	30.90	34.53	52.91	55.09	55.98	55.11	54.34	58.59	60.72	62.60	64.11	64.52	67.40	68.60	69.79	70.99	72.18	73.38	76.16	78.95	81.73	84.52	87.30
7	22	7	31.11	32.48	31.04	35.66	53.83	56.17	57.41	56.23	54.45	60.07	62.09	64.89	65.76	65.13	69.18	70.02	70.87	71.71	72.56	73.40	76.48	79.56	82.65	85.73	88.81
7	22	8	36.35	36.52	34.81	39.33	55.72	58.04	58.96	57.88	57.64	63.62	65.11	66.37	67.42	66.60	73.29	74.06	74.83	75.59	76.36	77.13	79.57	82.00	84.44	86.87	89.31
7	22	9	42.73	42.64	38.02	45.61	58.54	60.69	61.44	61.24	61.06	67.96	66.78	70.77	68.37	68.66	77.20	77.85	78.49	79.14	79.78	80.43	82.91	85.39	87.88	90.36	92.84
7	22	10	46.48	46.40	41.89	48.83	62.38	70.45	65.83	62.54	63.84	72.90	72.93	76.18	72.58	69.72	82.40	82.54	82.69	82.83	82.98	83.12	85.64	88.16	90.69	93.21	95.73
7	22	11	52.78	50.84	44.75	51.66	71.15	80.37	82.95	66.07	65.23	81.68	96.86	99.37	88.27	73.24	100.69	97.74	94.79	91.85	88.90	85.95	88.91	91.86	94.82	97.77	100.73
7	22	12	66.17	58.82	47.88	55.60	80.22	88.26	92.97	70.71	68.57	90.06	109.26	128.26	108.34	79.27	105.93	102.71	99.49	96.26	93.04	89.82	92.40	94.97	97.55	100.12	102.70
7	22	13	69.79	67.69	49.97	60.85	81.74	92.68	103.74	77.90	73.89	95.82	127.42	124.51	129.47	88.41	124.82	118.36	111.90	105.43	98.97	92.51	95.37	98.23	101.08	103.94	106.80
7	22	14	75.96	65.52	51.22	70.19	85.19	93.91	103.51	80.63	77.98	107.80	121.61	137.20	126.18	96.31	137.02	128.57	120.12	111.67	103.22	94.77	98.15	101.53	104.90	108.28	111.66
7	22	15	87.83	72.10	53.27	74.95	90.65	131.52	107.65	85.82	82.48	112.52	144.74	142.94	132.19	103.90	139.40	131.00	122.60	114.20	105.80	97.40	103.08	108.75	114.43	120.10	125.78
7	22	16	89.25	72.86	68.42	96.15	103.09	126.27	109.51	104.36	93.70	129.66	150.41	145.49	131.81	117.03	151.72	141.76	131.80	121.84	111.88	101.92	112.88	123.84	134.79	145.75	156.71
7	22	17	100.72	75.02	74.13	105.71	102.99	139.03	112.95	118.40	119.95	138.17	143.65	176.46	136.53	128.16	181.19	166.05	150.91	135.76	120.62	105.48	121.25	137.02	152.80	168.57	184.34
7	22	18	75.03	66.34	81.08	72.23	93.45	97.87	107.65	110.76	124.25	106.12	133.49	137.20	128.28	125.83	133.03	130.14	127.25	124.36	121.47	118.58	126.30	134.02	141.75	149.47	157.19
7	22	19	68.18	66.19	56.51	64.08	82.20	89.08	103.54	84.50	87.75	95.53	126.18	131.29	133.39	94.91	135.25	127.76	120.27	112.77	105.28	97.79	100.72	103.66	106.59	109.53	112.46
7	22	20	66.50	66.43	51.22	54.87	81.95	85.94	97.43	77.88	78.52	84.81	101.09	129.88	121.26	81.05	110.86	107.77	104.68	101.59	98.50	95.41	97.45	99.49	101.52	103.56	105.60
7	22	21	64.59	61.04	51.15	54.16	81.63	84.77	91.17	69.95	75.23	85.24	99.62	126.96	103.39	77.09	104.28	102.51	100.74	98.97	97.20	95.43	96.80	98.17	99.55	100.92	102.29
7	22	22	56.60	52.41	50.37	50.37	73.13	79.05	84.50	66.95	71.05	75.36	86.31	105.94	90.52	73.93	93.12	93.52	93.92	94.33	94.73	95.13	96.35	97.57	98.80	100.02	101.24
7	22	23	47.82	48.24	47.80	48.37	63.56	70.06	66.54	62.95	68.17	71.63	71.74	80.28	72.79	70.07	79.16	81.43	83.71	85.98	88.26	90.53	91.57	92.61	93.65	94.69	95.73
7	22	24	43.16	42.03	42.62	41.62	58.83	62.05	60.81	61.24	64.17	64.79	67.09	71.11	67.90	69.40	75.57	77.65	79.72	81.80	83.87	85.95	87.54	89.13	90.72	92.31	93.90
7	23	1	34.57	35.02	39.45	35.71	55.37	57.40	58.63	58.84	63.01	61.81	63.14	66.36	66.48	68.17	71.02	73.46	75.90	78.35	80.79	83.23	84.79	86.35	87.91	89.47	91.03

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	23	2	30.90	31.58	38.21	34.42	54.41	56.33	56.08	55.89	61.70	59.82	62.18	64.94	64.18	66.24	68.67	71.20	73.72	76.25	78.77	81.30	82.69	84.08	85.46	86.85	88.24
7	23	3	29.30	29.72	36.65	33.30	53.90	55.08	54.92	55.24	59.12	58.40	60.96	63.12	62.47	65.13	67.83	70.12	72.42	74.71	77.01	79.30	80.88	82.46	84.05	85.63	87.21
7	23	4	28.27	28.97	36.19	32.66	53.64	54.65	54.34	54.35	58.03	57.64	60.65	61.45	61.81	63.55	67.07	69.41	71.76	74.10	76.45	78.79	80.35	81.92	83.48	85.05	86.61
7	23	5	27.42	28.26	34.96	31.98	52.77	54.17	53.98	53.85	56.33	56.53	60.21	61.19	61.49	63.12	66.10	68.21	70.32	72.42	74.53	76.64	78.46	80.27	82.09	83.90	85.72
7	23	6	28.59	28.43	36.21	33.05	53.35	54.65	54.07	53.73	57.73	57.41	61.22	62.29	61.58	63.04	66.54	68.96	71.38	73.81	76.23	78.65	80.02	81.39	82.77	84.14	85.51
7	23	7	29.32	30.98	38.17	34.32	54.26	56.16	55.31	53.66	60.45	59.17	62.72	63.70	63.05	62.95	68.35	70.76	73.17	75.58	77.99	80.40	81.42	82.44	83.45	84.47	85.49
7	23	8	33.60	32.95	42.25	37.53	55.83	57.86	56.87	56.64	63.45	62.75	65.72	66.36	64.50	65.76	72.09	74.89	77.69	80.49	83.29	86.09	86.68	87.27	87.86	88.45	89.04
7	23	9	38.90	37.19	48.48	41.07	58.83	60.79	58.87	58.90	67.34	64.94	68.96	68.10	67.15	68.26	73.29	76.89	80.49	84.09	87.69	91.29	91.22	91.14	91.07	90.99	90.92
7	23	10	43.31	40.24	50.99	46.29	66.14	69.58	60.20	61.92	75.14	68.16	73.87	72.01	67.56	69.35	77.45	81.24	85.03	88.83	92.62	96.41	96.02	95.63	95.23	94.84	94.45
7	23	11	48.07	44.42	56.83	48.63	75.86	79.17	64.29	63.14	99.47	71.01	95.13	81.69	69.74	70.62	83.97	88.74	93.51	98.28	103.05	107.82	105.71	103.60	101.50	99.39	97.28
7	23	12	53.87	47.58	61.74	50.62	84.28	93.50	69.99	67.05	106.04	75.36	114.96	101.72	75.03	73.67	97.82	102.93	108.04	113.16	118.27	123.38	118.99	114.60	110.21	105.82	101.43
7	23	13	62.81	50.80	69.26	50.98	84.81	93.72	76.73	71.82	118.56	79.85	121.01	124.44	82.01	79.11	107.86	112.55	117.24	121.92	126.61	131.30	125.80	120.30	114.80	109.30	103.80
7	23	14	62.70	53.65	78.03	52.71	91.60	98.99	80.35	73.11	128.54	84.81	133.47	123.30	91.20	81.05	121.40	123.28	125.16	127.04	128.92	130.80	125.73	120.67	115.60	110.54	105.47
7	23	15	68.89	61.27	85.47	58.95	110.07	115.45	82.40	73.11	134.28	94.53	137.81	116.97	98.37	84.60	132.74	134.34	135.94	137.54	139.14	140.74	134.04	127.35	120.65	113.96	107.26
7	23	16	83.02	75.10	116.85	75.97	126.32	119.04	91.92	81.53	194.23	109.75	137.80	124.50	112.66	105.90	160.89	160.66	160.43	160.21	159.98	159.75	150.43	141.11	131.78	122.46	113.14
7	23	17	92.19	76.53	109.77	65.88	100.04	167.40	105.10	87.55	202.31	98.53	171.01	134.58	118.35	123.44	129.00	137.84	146.67	155.51	164.34	173.18	164.75	156.31	147.88	139.44	131.01
7	23	18	70.52	70.73	77.89	56.59	90.66	93.79	103.20	113.81	128.50	95.18	124.56	119.46	115.20	141.37	135.23	134.53	133.83	133.12	132.42	131.72	138.40	145.08	151.75	158.43	165.11
7	23	19	61.90	53.27	68.15	51.94	83.04	90.03	81.73	81.18	118.35	80.07	121.40	122.65	87.90	95.41	108.80	115.85	122.90	129.94	136.99	144.04	137.18	130.33	123.47	116.62	109.76
7	23	20	59.67	49.13	61.75	53.36	81.74	88.03	73.61	72.48	101.25	80.91	113.86	117.23	78.43	81.29	106.19	108.38	110.57	112.76	114.95	117.14	114.79	112.44	110.09	107.74	105.39
7	23	21	54.63	46.98	60.16	51.79	81.19	86.80	69.47	71.91	103.87	77.10	104.46	99.92	74.55	80.86	99.98	103.66	107.34	111.01	114.69	118.37	115.84	113.31	110.79	108.26	105.73
7	23	22	49.30	45.00	53.00	48.89	74.88	81.27	65.17	68.11	89.70	71.88	96.76	85.84	71.54	77.17	84.76	88.42	92.09	95.75	99.42	103.08	103.42	103.75	104.09	104.42	104.76
7	23	23	45.48	42.05	50.06	48.51	67.56	70.58	61.48	64.12	73.32	69.46	74.16	71.67	67.90	74.11	78.76	82.02	85.27	88.53	91.78	95.04	96.47	97.90	99.33	100.76	102.19
7	23	24	37.12	38.39	43.31	40.63	60.28	61.80	59.77	61.89	65.07	64.39	68.77	66.43	67.31	71.11	75.76	78.24	80.72	83.19	85.67	88.15	90.17	92.20	94.22	96.25	98.27
7	24	1	31.99	33.80	38.67	35.96	55.85	57.18	58.30	60.75	61.19	60.76	64.93	64.66	65.46	69.77	71.84	73.44	75.05	76.65	78.26	79.86	82.90	85.93	88.97	92.00	95.04
7	24	2	28.65	30.01	35.83	34.38	54.77	56.08	55.54	59.13	57.99	59.02	62.70	62.33	63.17	69.35	69.89	71.54	73.19	74.84	76.49	78.14	81.11	84.09	87.06	90.04	93.01
7	24	3	27.10	28.98	34.99	33.26	54.16	55.06	54.67	57.02	57.05	58.19	60.74	60.93	62.09	68.07	68.60	70.22	71.84	73.46	75.08	76.70	79.85	83.01	86.16	89.32	92.47
7	24	4	26.57	28.06	34.08	32.91	53.64	53.50	53.98	56.66	55.97	57.26	59.03	60.23	61.37	67.19	68.12	69.66	71.21	72.75	74.30	75.84	79.07	82.29	85.52	88.74	91.97
7	24	5	26.25	27.75	33.41	31.99	52.96	53.52	53.54	55.67	54.89	56.08	59.16	59.77	60.96	66.00	66.13	67.94	69.75	71.55	73.36	75.17	77.96	80.76	83.55	86.35	89.14
7	24	6	26.33	27.54	34.46	32.82	53.72	54.41	53.34	56.52	56.16	57.30	60.11	59.96	60.78	67.14	67.25	69.09	70.92	72.76	74.59	76.43	79.38	82.32	85.27	88.21	91.16
7	24	7	27.89	27.62	35.83	34.08	54.70	54.82	53.37	57.78	58.13	58.80	61.02	60.63	60.78	68.57	68.16	70.45	72.74	75.04	77.33	79.62	82.27	84.91	87.56	90.20	92.85
7	24	8	29.61	30.84	39.00	37.06	56.59	56.82	56.11	61.63	62.64	62.19	64.91	62.69	62.89	70.08	71.69	73.83	75.97	78.11	80.25	82.39	85.61	88.84	92.06	95.29	98.51
7	24	9	34.01	34.24	44.23	40.93	59.57	59.20	58.36	65.46	64.39	64.79	66.70	65.62	65.75	74.07	73.89	76.52	79.15	81.79	84.42	87.05	90.08	93.11	96.14	99.17	102.20
7	24	10	36.45	39.14	48.12	45.87	68.37	63.18	60.22	69.76	67.33	66.50	69.52	66.36	67.22	79.29	76.33	79.15	81.97	84.80	87.62	90.44	94.01	97.59	101.16	104.74	108.31
7	24	11	41.67	41.76	50.32	48.34	79.83	71.31	62.18	88.69	73.72	70.00	76.35	69.16	68.37	104.12	79.72	82.55	85.38	88.20	91.03	93.86	101.49	109.12	116.74	124.37	132.00
7	24	12	44.90	45.09	52.99	50.42	85.62	79.05	64.73	98.04	90.02	74.23	93.99	72.57	71.26	109.81	87.41	91.11	94.80	98.50	102.19	105.89	113.02	120.15	127.27	134.40	141.53
7	24	13	47.89	47.91	54.00	52.14	86.82	83.00	71.51	106.43	94.28	75.66	100.73	79.14	77.41	130.20	90.54	95.42	100.31	105.19	110.08	114.96	125.33	135.71	146.08	156.46	166.83
7	24	14	49.32	49.54	54.89	52.46	99.65	86.61	74.38	118.56	104.51	76.86	100.36	89.20	78.51	142.92	101.19	107.35	113.52	119.68	125.85	132.01	138.73	145.45	152.17	158.89	165.61
7	24	15	50.73	50.93	63.85	53.36	112.73	87.59	79.40	125.42	118.56	80.89	105.71	94.21	81.36	143.51	109.57	114.96	120.35	125.74	131.13	136.52	144.02	151.52	159.02	166.52	174.02
7	24	16	60.39	57.11	69.41	56.26	192.51	99.41	91.00	188.02	118.56	113.85	121.08	111.50	97.83	156.12	148.65	152.47	156.29	160.10	163.92	167.74	173.89	180.04	186.20	192.35	198.50
7	24	17	65.34	75.96	66.14	53.44	141.86	114.76	105.44	183.16	110.63	83.12	179.61	120.63	109.24	165.50	110.91	117.07	123.24	129.40	135.57	141.73	154.18	166.63	179.07	191.52	203.97
7	24	18	60.39	76.28	60.72	51.66	99.06	88.22	100.27	115.38	116.86	76.38	108.06	113.22	119.44	142.02	96.54	104.62	112.71	120.79	128.88	136.96	141.51	146.06	150.61	155.16	159.71
7	24	19	49.84	52.04	53.65	52.16	87.62	85.89	80.99	106.82	102.74	75.66	100.04	86.13	86.71	128.91	88.66	95.77	102.87	109.98	117.08	124.19	128.84	133.50	138.15	142.81	147.46
7	24	20	46.44	49.34	56.36	50.63	84.69	83.00	72.89	95.39	91.49	74.37	99.02	76.18	78.42	108.44	91.77	94.58	97.39	100.19	103.00	105.81	114.02	122.22	130.43	138.63	146.84
7	24	21	44.03	48.78	54.34	49.60	84.28	79.91	72.80	90.51	90.25	72.48	93.71	73.00	77.90	107.54	84.36	88.83	93.30	97.78	102.25	106.72	113.36	120.00	126.64	133.28	139.92
7	24	22	42.90	48.19	50.99	47.87	78.61	74.92	69.47	80.63	77.89	69.46	81.18	70.11	74.12	94.35	79.27	83.41	87.54	91.68	95.81	99.95	103.27	106.59	109.91	113.23	116.55
7	24	23	37.74	44.42	50.08	45.79	68.98	64.68	64.29	68.18	69.81	66.59	70.03	66.98	71.50	79.29	76.70	79.84	82.98	86.12	89.26	92.40	94.96	97.52	100.07	102.63	105.19
7	24	24	34.66	40.60	42.32	39.18	60.28	59.42	61.68	63.03	64.80	63.56	66.50	65.83	68.36	71.00	73.34	75.89	78.44	80.99	83.54	86.09	89.17	92.26	95.34	98.43	101.51
7	25	1	30.32	34.97	38.55	36.15	55.62	56.91	60.07	58.60	60.15	60.50	62.75	63.51	67.43	68.81	70.46	72.50	74.55	76.59	78.64	80.68	83.10	85.52	87.93	90.35	92.77
7	25	2	27.73	34.04	35.81	34.53	54.40	54.62	58.50	56.78	58.38	59.62	60.48	61.33	66.94	66.61	69.30	71.09	72.89	74.68	76.48	78.27	80.59	82.92	85.24	87.57	89.89
7	25	3	26.71	32.95	34.90	33.53	53.50	53.54	56.25	55.75	57.52	58.45	58.83	60.28	65.01	65.13	67.98	69.78	71.58	73.37	75.17	76.97	79.43	81.89	84.34	86.80	89.26
7	25	4	26.22	32.95	34.24	33.03	51.59	52.84	56.00	55.37	56.92	57.90	58.19	59.51	64.42	63.79	67.25	69.09	70.92	72.76	74.59	76.43	78.65	80.87	83.09	85.31	87.53
7	25	5	25.97	31.82	33.41	32.60	51.59	52.37	54.91	54.23	55.70	57.10	57.74	59.11	63.55	63.55	65.96	67.97	69.99	72.00	74.02	76.03	77.99	79.96	81.92	83.89	85.85
7	25	6	25.82	32.88	34.19	33.25	52.96	52.61	56.00	55.37	56.31	58.08	57.84	58.97	64.42	64.80	67.63	69.39	71.15	72.91	74.67	76.43	78.96	81.48	84.01	86.53	89.06
7	25	7	25.87	34.21	35.48	34.19	53.49	54.43	56.90	57.07	57.33	59.68	59.48	58.98	66.02	67.64	69.09	70.92	72.75	74.58	76.41	78.24	80.80	83.35	85.91	88.46	91.02
7	25	8	28.49	39.88	38.52	36.67	54.99	55.59	60.69	59.85	60.70	62.95	61.31	61.30	68.36	69.64	71.70	73.79	75.88	77.98	80.07	82.16	84.70	87.24	89.79	92.33	94.87
7	25	9	31.14	44.78	43.69	39.97	57.60	57.64	64.66	62.67	64.16	64.94	64.06	63.76	71.26	70.33	73.29	75.80	78.31	80.82	83.33	85.84	88.72	91.60	94.49	97.37	100.25
7	25	10	35.23	49.34	46.79	45.86	61.09	59.10	70.93	65.57	66.13	66.85	65.53	65.87	75.77	74.47	75.57	78.37	81.16	83.96	86.75	89.55	92.16	94.77	97.39	100.00	102.61
7	25	11	38.72	54.35	49.62	47.94	69.29	62.15	88.34	69.76	72.83	69.46	67.52	66.84	98.52	80.12	79.04	81.71	84.38	87.06	89.73	92.40	95.51	98.62	101.74	104.85	107.96
7	25	12	42.59	60.85	51.13	49.55	75.86	65.95	93.52	75.31	78.18	73.98	71.50	69.85	105.41	98.90	82.65	85.30	87.94	90.59	93.23	95.88	100.11	104.34	108.58	112.81	117.04

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	25	13	45.89	65.53	53.00	51.66	79.73	70.71	104.71	82.71	84.25	77.72	76.24	73.80	119.07	111.83	91.43	93.30	95.17	97.03	98.90	100.77	105.98	111.19	116.41	121.62	126.83
7	25	14	47.63	74.13	53.91	54.31	82.74	72.73	117.51	92.54	89.14	80.49	81.00	76.71	128.81	128.78	96.59	99.66	102.74	105.81	108.89	111.96	121.67	131.39	141.10	150.82	160.53
7	25	15	48.51	77.79	55.35	54.31	101.57	76.91	120.01	99.57	98.75	82.99	87.82	78.43	136.54	120.59	94.26	100.81	107.36	113.91	120.46	127.01	134.52	142.03	149.53	157.04	164.55
7	25	16	51.85	120.15	83.89	58.78	94.01	85.44	182.21	121.15	137.73	84.81	102.74	93.41	174.07	132.32	97.86	107.50	117.15	126.79	136.44	146.08	155.31	164.54	173.78	183.01	192.24
7	25	17	64.86	110.83	56.33	58.78	103.60	106.10	148.48	115.92	104.98	83.36	120.90	116.22	175.54	122.94	96.59	102.79	108.99	115.19	121.39	127.59	135.42	143.25	151.08	158.91	166.74
7	25	18	68.46	73.11	53.00	54.31	85.66	95.61	117.23	108.21	88.91	80.28	107.47	122.78	125.36	125.72	93.87	96.69	99.51	102.33	105.15	107.97	118.87	129.78	140.68	151.59	162.49
7	25	19	49.35	62.40	52.71	51.26	81.02	75.21	102.65	87.02	83.82	76.25	79.41	83.31	124.06	114.52	87.10	89.84	92.59	95.33	98.08	100.82	109.23	117.65	126.06	134.48	142.89
7	25	20	46.78	58.31	51.94	49.19	79.22	70.12	91.80	82.34	82.53	75.00	74.45	75.38	104.26	98.86	84.36	87.43	90.50	93.58	96.65	99.72	103.25	106.78	110.30	113.83	117.36
7	25	21	46.65	56.86	50.12	48.50	78.32	65.71	89.63	80.22	75.33	73.22	71.30	74.37	100.99	98.85	82.37	85.11	87.84	90.58	93.31	96.05	101.78	107.51	113.23	118.96	124.69
7	25	22	45.96	51.59	48.48	46.46	71.56	62.56	81.28	71.85	71.52	69.35	68.67	72.40	87.48	85.75	79.21	81.64	84.07	86.49	88.92	91.35	94.96	98.57	102.19	105.80	109.41
7	25	23	42.38	48.60	46.48	44.34	63.02	59.54	67.80	66.07	65.80	66.80	65.75	69.73	74.94	74.87	75.94	78.54	81.15	83.75	86.36	88.96	91.67	94.38	97.09	99.80	102.51
7	25	24	36.96	41.65	39.71	37.88	57.12	57.64	62.25	62.55	64.68	63.40	63.82	66.59	68.46	70.07	72.55	75.17	77.79	80.41	83.03	85.65	88.35	91.05	93.76	96.46	99.16
7	26	1	33.06	33.98	37.16	35.20	54.85	56.26	57.81	58.98	60.69	61.30	61.37	66.15	67.15	68.62	69.82	72.05	74.28	76.51	78.74	80.97	83.32	85.67	88.01	90.36	92.71
7	26	2	32.39	32.48	35.47	33.69	52.96	53.93	56.25	56.69	58.96	59.13	59.15	65.48	65.28	66.74	67.45	69.90	72.35	74.80	77.25	79.70	81.79	83.88	85.97	88.06	90.15
7	26	3	30.09	31.79	34.65	33.05	51.67	52.62	55.26	55.75	57.85	57.92	58.31	63.07	63.24	65.75	66.13	68.58	71.03	73.49	75.94	78.39	80.52	82.65	84.78	86.91	89.04
7	26	4	29.77	31.30	33.95	31.94	50.87	51.56	54.45	55.40	57.42	56.93	57.48	62.13	62.64	64.83	64.68	67.17	69.65	72.14	74.62	77.11	79.42	81.73	84.03	86.34	88.65
7	26	5	28.98	30.07	33.25	31.69	50.39	51.09	53.42	53.95	56.08	55.89	57.21	60.95	61.81	63.99	63.27	65.76	68.24	70.73	73.21	75.70	78.11	80.52	82.92	85.33	87.74
7	26	6	29.96	31.65	33.93	32.67	50.87	50.97	54.72	55.37	57.32	56.73	57.07	61.72	62.64	64.26	65.45	67.86	70.27	72.67	75.08	77.49	79.54	81.59	83.64	85.69	87.74
7	26	7	31.67	32.69	34.90	33.14	52.64	51.06	56.31	56.57	58.67	58.45	57.13	63.78	64.92	66.74	66.69	69.25	71.81	74.36	76.92	79.48	81.60	83.72	85.85	87.97	90.09
7	26	8	36.93	35.09	37.92	35.76	53.83	54.57	58.15	58.91	62.55	60.92	59.55	66.66	67.53	69.35	69.46	72.02	74.58	77.13	79.69	82.25	84.40	86.55	88.71	90.86	93.01
7	26	9	44.10	41.81	42.04	39.14	55.72	56.37	61.54	62.12	64.64	64.10	61.98	70.75	68.36	70.07	71.88	74.50	77.12	79.73	82.35	84.97	87.68	90.39	93.10	95.81	98.52
7	26	10	47.56	45.84	46.47	43.77	57.12	58.47	64.52	64.41	66.61	65.98	64.41	75.45	71.50	72.15	73.59	76.65	79.70	82.76	85.81	88.87	91.27	93.66	96.06	98.45	100.85
7	26	11	51.48	48.44	48.41	47.47	60.24	60.33	71.44	69.76	72.75	68.57	66.22	94.95	77.53	81.27	76.74	79.87	83.00	86.14	89.27	92.40	95.21	98.02	100.82	103.63	106.44
7	26	12	55.55	51.11	50.59	48.91	63.90	62.44	81.27	75.05	82.91	73.16	67.83	99.57	96.55	93.23	80.88	83.85	86.83	89.80	92.78	95.75	99.15	102.54	105.94	109.33	112.73
7	26	13	64.78	52.04	54.41	50.40	69.86	66.99	85.73	74.76	92.64	75.69	72.32	113.01	103.38	98.51	84.13	89.11	94.10	99.08	104.07	109.05	111.27	113.49	115.70	117.92	120.14
7	26	14	74.07	55.15	72.67	53.44	71.73	70.11	91.76	77.42	93.25	84.81	74.24	130.74	114.43	104.43	126.82	123.40	119.99	116.57	113.16	109.74	113.36	116.99	120.61	124.24	127.86
7	26	15	76.24	64.35	57.45	56.10	78.35	70.12	99.84	84.79	97.85	83.12	75.85	129.03	113.34	110.93	93.20	100.11	107.02	113.92	120.83	127.74	131.03	134.31	137.60	140.88	144.17
7	26	16	104.13	73.84	56.36	55.06	98.41	73.70	140.58	116.61	133.46	82.28	84.55	141.65	129.47	135.10	92.32	102.18	112.03	121.89	131.74	141.60	147.05	152.50	157.95	163.40	168.85
7	26	17	111.17	68.21	56.44	60.25	100.30	78.86	110.63	94.33	108.86	81.71	106.44	152.79	120.38	116.64	89.68	96.93	104.19	111.44	118.70	125.95	129.57	133.19	136.81	140.43	144.05
7	26	18	73.04	63.93	57.73	55.67	81.45	105.08	98.84	79.82	92.17	83.38	115.53	129.49	123.14	99.83	93.60	95.72	97.84	99.95	102.07	104.19	109.07	113.95	118.84	123.72	128.60
7	26	19	62.88	53.29	55.17	51.66	71.18	76.43	84.87	72.92	92.89	75.76	77.88	113.47	105.75	93.23	87.09	90.29	93.49	96.68	99.88	103.08	105.29	107.50	109.72	111.93	114.14
7	26	20	56.46	55.27	50.99	49.16	67.46	68.46	82.24	72.98	83.82	74.65	73.07	99.61	99.54	98.39	82.37	85.88	89.39	92.90	96.41	99.92	101.89	103.86	105.83	107.80	109.77
7	26	21	53.19	52.55	49.70	48.51	63.14	69.22	81.42	71.29	79.17	72.37	72.77	96.89	95.02	89.19	80.11	82.79	85.46	88.14	90.81	93.49	95.98	98.46	100.95	103.43	105.92
7	26	22	50.18	49.46	48.48	47.04	60.64	65.48	72.73	67.96	71.38	68.40	71.29	84.54	81.29	79.29	76.77	79.64	82.51	85.37	88.24	91.11	93.45	95.80	98.14	100.49	102.83
7	26	23	47.11	47.91	46.54	44.89	58.17	61.80	66.36	64.14	65.37	66.72	69.20	73.67	72.31	72.33	74.81	77.71	80.61	83.52	86.42	89.32	91.44	93.57	95.69	97.82	99.94
7	26	24	38.89	40.54	39.01	37.85	55.77	59.43	61.51	62.56	64.69	63.25	66.50	68.42	68.36	70.07	71.70	73.86	76.02	78.17	80.33	82.49	85.54	88.60	91.65	94.71	97.76
7	27	1	32.28	33.30	36.40	35.19	54.50	56.93	58.00	59.04	60.16	61.03	64.32	64.38	66.36	68.57	69.14	71.40	73.67	75.93	78.20	80.46	82.80	85.14	87.49	89.83	92.17
7	27	2	30.41	32.39	35.01	33.13	52.11	56.44	56.46	57.62	58.28	58.45	62.50	62.79	64.21	67.38	66.75	69.05	71.35	73.66	75.96	78.26	80.74	83.22	85.70	88.18	90.66
7	27	3	29.34	31.64	34.23	31.97	51.12	55.31	55.51	56.31	57.40	57.54	60.74	61.27	64.10	66.52	65.78	67.94	70.10	72.25	74.41	76.57	79.09	81.61	84.13	86.65	89.17
7	27	4	28.87	31.20	33.13	30.83	50.07	55.02	55.05	54.92	55.94	56.82	60.74	60.52	63.15	64.34	64.84	66.89	68.95	71.00	73.06	75.11	77.76	80.41	83.06	85.71	88.36
7	27	5	27.77	30.29	32.07	30.75	49.63	54.31	53.76	54.40	55.38	56.63	59.61	58.87	62.20	63.55	64.70	66.46	68.22	69.98	71.74	73.50	76.38	79.25	82.13	85.00	87.88
7	27	6	28.93	31.40	33.56	31.13	49.51	54.98	54.49	55.39	56.60	57.03	60.63	60.47	63.05	64.83	65.18	67.19	69.20	71.20	73.21	75.22	78.01	80.80	83.59	86.38	89.17
7	27	7	29.48	32.30	34.81	33.26	49.82	56.15	55.43	56.93	57.63	58.14	61.52	62.07	64.42	66.94	67.27	69.35	71.43	73.50	75.58	77.66	80.25	82.84	85.43	88.02	90.61
7	27	8	33.82	34.82	36.95	34.90	52.92	58.07	58.01	59.30	60.29	60.01	65.37	65.67	67.18	69.35	69.41	71.48	73.55	75.62	77.69	79.76	82.30	84.84	87.39	89.93	92.47
7	27	9	39.41	41.43	40.54	36.41	54.72	62.00	60.46	62.02	64.15	62.13	68.61	66.65	68.36	70.07	71.70	74.03	76.36	78.69	81.02	83.35	86.02	88.69	91.35	94.02	96.69
7	27	10	44.86	44.45	45.47	39.74	56.11	66.75	62.76	64.12	66.01	64.79	74.89	70.52	69.51	72.33	73.30	75.96	78.63	81.29	83.96	86.62	89.28	91.95	94.61	97.28	99.94
7	27	11	46.72	47.91	48.18	44.46	58.32	80.43	70.11	68.49	71.99	66.65	88.74	74.10	76.93	78.68	74.90	77.88	80.87	83.85	86.84	89.82	92.38	94.94	97.49	100.05	102.61
7	27	12	49.44	50.85	50.23	46.46	60.82	84.48	75.33	72.48	77.32	68.65	94.76	88.86	87.65	85.83	77.87	80.97	84.07	87.16	90.26	93.36	95.75	98.14	100.53	102.92	105.31
7	27	13	50.97	51.60	52.38	48.51	64.50	92.91	76.78	77.07	85.76	71.71	106.17	99.68	91.97	98.95	80.61	84.16	87.71	91.27	94.82	98.37	101.35	104.33	107.32	110.30	113.28
7	27	14	51.26	52.34	86.74	49.87	68.35	100.32	80.13	79.82	99.57	73.85	123.94	108.29	98.09	95.92	84.17	90.02	95.86	101.71	107.55	113.40	115.83	118.25	120.68	123.10	125.53
7	27	15	63.06	54.90	56.57	51.06	70.73	102.62	90.42	80.63	88.70	77.72	131.66	119.89	103.37	101.68	93.27	97.57	101.87	106.16	110.46	114.76	117.68	120.59	123.51	126.42	129.34
7	27	16	68.16	84.14	57.07	53.60	76.14	142.91	122.18	94.55	88.91	90.98	200.15	143.91	144.01	128.45	125.73	123.06	120.39	117.71	115.04	112.37	120.37	128.37	136.38	144.38	152.38
7	27	17	66.02	58.55	56.57	66.66	84.22	142.71	90.40	88.20	87.17	105.52	203.39	122.65	105.79	111.49	128.20	124.78	121.36	117.94	114.52	111.10	114.85	118.59	122.34	126.08	129.83
7	27	18	60.54	51.58	56.70	51.95	85.43	96.17	79.13	80.63	88.91	79.86	122.79	117.27	95.51	93.01	89.57	95.26	100.95	106.65	112.34	118.03	119.35	120.67	121.98	123.30	124.62
7	27	19	51.27	52.59	54.03	49.70	71.46	91.35	77.28	75.57	88.48	72.82	108.81	96.32	91.66	96.30	82.69	86.34	89.99	93.65	97.30	100.95	102.71	104.48	106.24	108.01	109.77
7	27	20	52.66	50.79	50.65	47.26	69.24	83.51	75.81	75.64	80.75	69.51	93.97	91.56	91.62	89.10	79.24	82.79	86.34	89.89	93.44	96.99	98.88	100.77	102.66	104.55	106.44
7	27	21	50.30	48.74	49.62	46.53	66.31	82.98	71.44	71.91	76.36	67.95	92.65	89.94	84.18	82.97	78.12	81.17	84.22	87.26	90.31	93.36	95.31	97.26	99.22	101.17	103.12
7	27	22	48.01	46.78	48.12	45.59	62.28	74.42	67.04	67.96	71.43	66.94	80.08	76.18	75.03	76.78	76.77	79.38	81.99	84.60	87.21	89.82	92.25	94.69	97.12	99.56	101.99
7	27	23	46.15	44.35	46.05	41.91	59.11	63.95	62.97	63.09	67.79	65.52	72.25	71.67	69.72	72.32	74.23	77.24	80.26	83.27	86.29	89.30	91.40	93.49	95.59	97.68	99.78

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	27	24	37.36	38.31	39.06	37.39	56.85	59.57	60.27	62.27	63.70	62.60	66.84	66.99	68.27	69.99	72.11	74.16	76.20	78.25	80.29	82.34	84.90	87.47	90.03	92.60	95.16
7	28	1	31.49	33.26	36.82	35.22	54.64	56.73	58.01	58.60	60.06	60.50	63.10	64.52	67.05	68.17	69.73	71.70	73.67	75.63	77.60	79.57	81.97	84.37	86.78	89.18	91.58
7	28	2	30.09	32.05	34.88	32.87	54.64	55.49	56.16	56.57	57.35	58.21	61.13	62.12	65.76	66.41	67.01	69.00	70.99	72.98	74.97	76.96	79.64	82.32	85.01	87.69	90.37
7	28	3	29.04	31.14	34.16	31.49	54.02	54.98	55.39	55.27	56.13	57.17	60.52	61.27	63.64	64.81	65.80	67.81	69.82	71.82	73.83	75.84	78.43	81.03	83.62	86.22	88.81
7	28	4	28.77	30.84	33.39	30.27	53.86	54.26	54.20	54.00	55.53	56.44	59.53	60.39	62.62	63.45	64.54	66.56	68.58	70.60	72.62	74.64	76.82	79.01	81.19	83.38	85.56
7	28	5	27.73	30.42	33.12	29.91	52.92	52.53	53.76	53.23	55.46	56.21	58.88	59.21	61.81	62.42	64.03	66.10	68.18	70.25	72.33	74.40	76.56	78.72	80.87	83.03	85.19
7	28	6	28.72	31.05	33.41	29.97	53.35	54.31	54.72	54.45	55.93	56.21	59.62	60.14	63.60	63.79	64.24	66.55	68.86	71.16	73.47	75.78	78.12	80.46	82.80	85.14	87.48
7	28	7	29.13	31.81	34.52	30.07	54.73	55.23	55.87	56.20	57.77	56.44	60.74	62.06	65.28	65.83	64.76	67.34	69.92	72.50	75.08	77.66	79.93	82.20	84.46	86.73	89.00
7	28	8	32.39	34.82	35.98	33.46	57.71	56.86	58.36	58.20	59.26	58.57	63.99	64.52	66.79	68.74	67.90	70.16	72.43	74.69	76.96	79.22	81.69	84.16	86.64	89.11	91.58
7	28	9	37.43	40.67	39.09	35.10	60.55	59.02	60.10	61.89	63.50	61.30	66.57	66.65	67.42	70.07	70.48	72.53	74.58	76.64	78.69	80.74	83.62	86.51	89.39	92.28	95.16
7	28	10	43.05	44.40	42.76	37.45	65.07	61.49	62.74	63.35	64.55	62.73	69.31	69.26	69.28	72.04	72.24	74.41	76.58	78.74	80.91	83.08	86.45	89.82	93.20	96.57	99.94
7	28	11	45.96	46.98	46.05	41.07	78.19	68.90	67.59	67.69	66.56	65.44	73.22	76.18	73.59	76.15	74.08	76.89	79.69	82.50	85.30	88.11	90.94	93.78	96.61	99.45	102.28
7	28	12	47.47	50.10	48.12	45.10	84.75	73.92	71.77	72.48	70.76	67.35	80.82	88.57	80.45	81.05	76.77	79.73	82.69	85.66	88.62	91.58	94.25	96.92	99.59	102.26	104.93
7	28	13	49.99	51.43	50.12	47.48	91.15	75.44	77.35	76.44	73.89	70.11	87.13	85.06	92.51	85.24	78.78	81.65	84.52	87.39	90.26	93.13	96.21	99.29	102.36	105.44	108.52
7	28	14	50.01	54.19	51.86	49.03	109.78	80.17	77.04	109.69	80.87	72.71	90.97	93.25	95.58	126.70	82.92	85.53	88.15	90.76	93.38	95.99	101.88	107.77	113.67	119.56	125.45
7	28	15	50.19	65.53	54.07	50.64	120.00	86.31	77.35	95.18	91.64	74.94	99.92	98.27	96.09	96.78	86.02	89.59	93.16	96.74	100.31	103.88	107.90	111.92	115.95	119.97	123.99
7	28	16	52.48	62.55	67.45	53.30	118.07	102.04	80.93	90.14	105.61	84.75	122.58	120.72	130.49	93.66	101.04	105.08	109.12	113.16	117.20	121.24	122.21	123.18	124.15	125.12	126.09
7	28	17	51.45	62.55	72.80	70.33	113.49	93.78	80.86	87.79	118.10	125.25	119.64	97.07	107.69	91.26	135.20	132.75	130.31	127.86	125.42	122.97	123.59	124.22	124.84	125.47	126.09
7	28	18	50.12	54.29	55.65	68.35	102.79	90.59	77.35	95.09	89.55	114.39	117.27	89.58	91.24	94.37	134.48	127.60	120.72	113.85	106.97	100.09	105.01	109.93	114.86	119.78	124.70
7	28	19	50.19	51.57	50.65	51.13	91.93	80.36	76.02	87.67	75.76	75.58	93.16	82.55	93.39	93.87	87.41	88.84	90.27	91.70	93.13	94.56	98.26	101.95	105.65	109.34	113.04
7	28	20	48.58	49.74	48.76	49.87	84.41	78.03	74.30	74.64	72.74	71.77	87.56	84.26	83.85	83.38	82.81	84.75	86.69	88.63	90.57	92.51	95.21	97.90	100.60	103.29	105.99
7	28	21	46.74	48.08	47.85	48.74	81.74	76.50	70.95	71.45	70.54	70.74	84.07	77.97	78.10	79.52	82.81	84.29	85.76	87.24	88.71	90.19	93.04	95.89	98.73	101.58	104.43
7	28	22	44.86	46.10	46.62	48.22	76.16	70.80	65.88	66.36	67.75	69.58	74.99	72.53	71.81	76.23	80.01	81.80	83.59	85.38	87.17	88.96	91.62	94.29	96.95	99.62	102.28
7	28	23	43.04	43.95	44.07	44.68	63.33	63.22	62.94	63.35	64.71	66.83	70.74	68.32	69.92	73.24	76.74	78.28	79.83	81.37	82.92	84.46	87.82	91.18	94.55	97.91	101.27
7	28	24	35.98	36.33	38.95	39.20	58.66	58.23	60.06	61.24	63.45	65.12	66.69	66.65	67.90	69.67	73.30	75.00	76.70	78.41	80.11	81.81	84.42	87.03	89.65	92.26	94.87
7	29	1	31.78	32.95	36.35	36.89	56.42	56.66	57.78	58.57	59.72	62.67	62.71	64.52	66.43	67.95	70.65	72.38	74.11	75.84	77.57	79.30	81.81	84.33	86.84	89.36	91.87
7	29	2	29.69	31.83	34.25	36.12	54.16	55.41	55.42	57.07	56.74	61.76	60.94	62.75	63.58	66.77	70.17	71.43	72.68	73.94	75.19	76.45	79.19	81.93	84.68	87.42	90.16
7	29	3	28.94	31.15	33.10	34.98	53.24	54.91	54.81	55.83	55.67	60.11	59.86	61.39	62.44	65.13	69.11	70.30	71.49	72.68	73.87	75.06	77.88	80.70	83.53	86.35	89.17
7	29	4	27.84	30.70	31.75	34.92	52.81	54.41	53.70	54.31	54.86	59.33	59.51	60.10	61.07	63.34	68.68	69.66	70.63	71.61	72.58	73.56	76.20	78.84	81.47	84.11	86.75
7	29	5	27.62	29.10	30.83	34.32	52.00	52.73	52.49	54.19	54.34	58.26	57.63	59.91	60.23	63.22	68.68	69.53	70.39	71.24	72.10	72.95	75.73	78.52	81.30	84.09	86.87
7	29	6	28.76	30.84	30.87	36.05	52.92	54.31	53.88	55.37	54.34	60.21	59.43	60.58	62.00	64.35	70.58	71.09	71.60	72.11	72.62	73.13	76.30	79.48	82.65	85.83	89.00
7	29	7	29.23	31.22	31.31	37.01	54.00	54.64	54.70	55.75	54.86	63.18	60.21	62.18	63.59	65.57	72.40	72.72	73.04	73.37	73.69	74.01	77.02	80.03	83.04	86.05	89.06
7	29	8	32.95	33.45	34.90	40.61	55.19	56.67	56.90	57.75	57.41	66.05	63.04	64.52	65.89	67.16	74.11	74.75	75.40	76.04	76.69	77.33	80.07	82.81	85.54	88.28	91.02
7	29	9	37.70	38.22	37.55	45.95	58.47	58.60	59.05	60.23	59.86	67.50	65.57	66.01	68.05	69.09	76.87	77.45	78.03	78.60	79.18	79.76	82.63	85.50	88.36	91.23	94.10
7	29	10	43.10	42.61	38.96	48.92	61.07	60.92	62.10	61.94	63.17	70.67	67.15	67.79	68.46	69.90	80.70	80.85	81.01	81.16	81.32	81.47	84.62	87.76	90.91	94.05	97.20
7	29	11	45.80	46.19	43.80	51.82	68.80	68.15	66.93	64.14	65.13	79.05	73.71	71.11	71.80	72.23	94.91	92.82	90.73	88.64	86.55	84.46	87.53	90.59	93.66	96.72	99.79
7	29	12	48.09	48.04	46.91	68.93	75.01	71.06	71.83	67.31	67.35	109.91	80.81	74.85	76.85	75.96	135.65	126.15	116.65	107.15	97.65	88.15	90.98	93.81	96.63	99.46	102.29
7	29	13	49.69	49.92	48.95	76.97	81.74	71.83	77.35	70.28	71.43	122.11	82.62	85.98	81.43	79.49	142.13	131.97	121.82	111.66	101.51	91.35	94.04	96.73	99.41	102.10	104.79
7	29	14	51.96	52.55	51.22	78.81	84.47	73.48	111.09	73.55	73.92	128.30	83.21	88.83	102.11	81.41	149.20	138.05	126.91	115.76	104.62	93.47	96.11	98.76	101.40	104.05	106.69
7	29	15	52.66	57.50	53.39	80.11	89.50	81.27	90.94	80.29	82.53	133.46	85.63	85.63	91.19	94.37	149.54	138.94	128.34	117.74	107.14	96.54	101.89	107.24	112.60	117.95	123.30
7	29	16	53.97	66.66	69.10	111.67	92.08	89.65	84.45	103.84	99.57	142.52	99.78	91.78	89.00	112.38	181.21	165.73	150.25	134.78	119.30	103.82	111.51	119.20	126.88	134.57	142.26
7	29	17	53.24	66.92	76.94	107.63	98.74	88.78	83.57	106.65	128.30	167.30	86.84	89.20	87.48	115.48	191.43	180.82	170.21	159.61	149.00	138.39	139.98	141.57	143.15	144.74	146.33
7	29	18	52.71	57.06	81.21	81.07	89.97	74.41	88.09	86.16	130.05	137.54	83.71	85.37	89.36	89.33	149.55	147.15	144.75	142.36	139.96	137.56	132.29	127.02	121.74	116.47	111.20
7	29	19	49.72	51.37	56.77	78.82	81.03	72.09	83.57	72.96	86.06	124.65	79.08	84.57	90.93	79.98	149.18	138.74	128.30	117.87	107.43	96.99	98.65	100.31	101.97	103.63	105.29
7	29	20	47.56	49.21	50.99	76.57	77.85	70.80	74.30	68.61	74.55	123.87	76.66	77.37	78.39	76.56	138.64	129.99	121.34	112.70	104.05	95.40	97.08	98.76	100.45	102.13	103.81
7	29	21	46.15	47.60	50.65	71.22	78.01	67.82	70.73	67.57	73.74	112.28	74.73	75.50	75.70	75.44	138.64	129.58	120.53	111.47	102.42	93.36	95.14	96.93	98.71	100.50	102.28
7	29	22	43.98	45.99	48.85	52.19	73.13	65.49	66.36	64.74	71.53	90.03	70.78	70.22	73.46	72.98	103.75	101.50	99.25	97.01	94.76	92.51	94.35	96.19	98.03	99.87	101.71
7	29	23	40.45	43.60	46.76	49.03	62.38	60.89	63.22	62.51	65.88	73.71	66.85	68.00	69.89	70.09	81.14	82.71	84.27	85.84	87.40	88.97	90.73	92.49	94.24	96.00	97.76
7	29	24	34.49	36.12	42.39	46.07	57.91	58.05	59.38	60.59	63.90	69.79	65.76	66.35	67.43	69.72	77.71	79.02	80.34	81.65	82.97	84.28	86.23	88.18	90.13	92.08	94.03
7	30	1	30.44	33.08	38.27	38.58	55.85	56.69	57.39	58.35	60.58	64.88	62.05	63.94	65.72	67.74	73.57	75.05	76.52	78.00	79.47	80.95	82.97	84.98	87.00	89.01	91.03
7	30	2	29.15	31.95	37.68	36.92	54.27	55.45	55.92	56.79	60.76	62.89	60.63	61.64	63.98	66.50	71.28	73.11	74.93	76.76	78.58	80.41	82.29	84.17	86.05	87.93	89.81
7	30	3	28.30	31.13	36.35	35.36	53.45	54.43	55.24	55.55	59.82	60.39	59.93	60.25	62.67	64.61	69.69	71.69	73.69	75.70	77.70	79.70	81.55	83.39	85.24	87.08	88.93
7	30	4	27.72	30.71	36.21	34.79	53.00	53.06	53.88	54.09	59.33	59.25	58.63	59.11	61.55	63.11	69.11	71.23	73.35	75.46	77.58	79.70	81.06	82.42	83.78	85.14	86.50
7	30	5	27.13	30.29	35.35	34.15	52.00	52.21	53.71	53.59	57.94	58.14	58.07	58.32	61.53	62.71	68.45	70.55	72.64	74.74	76.83	78.93	80.24	81.56	82.87	84.19	85.50
7	30	6	28.06	30.49	37.09	35.39	53.00	53.68	54.94	53.63	60.47	59.81	58.94	59.51	62.47	62.73	70.18	72.30	74.42	76.53	78.65	80.77	81.73	82.70	83.66	84.63	85.59
7	30	7	28.72	30.84	39.20	36.57	53.91	55.00	55.39	54.60	63.10	62.92	60.72	61.34	62.80	63.50	72.15	74.21	76.27	78.33	80.39	82.45	83.55	84.64	85.74	86.83	87.93
7	30	8	30.39	32.47	44.64	41.62	54.99	56.86	56.55	56.25	65.44	66.76	63.24	63.25	65.23	65.57	75.61	77.84	80.07	82.30	84.53	86.76	87.22	87.67	88.13	88.58	89.04
7	30	9	36.09	34.17	47.64	48.05	56.69	58.37	58.85	58.82	68.14	71.11	65.35	65.76	66.85	67.74	79.92	82.16	84.39	86.63	88.86	91.10	91.23	91.35	91.48	91.60	91.73
7	30	10	40.85	38.38	50.34	50.04	59.25	60.88	60.13	59.85	73.72	76.96	66.85	67.61	67.67	69.35	86.70	88.33	89.96	91.60	93.23	94.86	94.66	94.46	94.26	94.06	93.86

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
7	30	11	44.99	42.35	55.63	64.24	63.85	65.95	62.96	62.63	97.39	114.33	69.89	70.50	69.64	70.06	130.72	127.51	124.29	121.08	117.86	114.65	111.22	107.79	104.37	100.94	97.51
7	30	12	46.84	45.17	74.13	80.99	67.89	70.22	65.73	64.77	127.27	134.20	74.99	74.67	72.74	73.18	149.58	147.07	144.56	142.05	139.54	137.03	129.70	122.37	115.03	107.70	100.37
7	30	13	49.40	47.58	82.75	94.21	70.83	75.20	71.14	68.22	134.80	138.34	81.25	77.97	78.24	76.13	154.61	155.32	156.03	156.75	157.46	158.17	147.08	135.98	124.89	113.79	102.70
7	30	14	73.22	48.78	83.63	98.38	69.65	81.66	73.71	73.16	135.04	155.23	84.45	126.96	84.47	80.00	168.26	168.88	169.50	170.12	170.74	171.36	158.15	144.93	131.72	118.50	105.29
7	30	15	63.32	49.74	87.55	114.62	73.62	75.92	80.82	77.27	137.90	159.46	83.21	88.96	98.15	84.88	176.44	176.19	175.94	175.69	175.44	175.19	161.51	147.82	134.14	120.45	106.77
7	30	16	63.87	52.04	95.07	147.53	92.17	81.69	100.90	86.32	167.47	184.60	85.57	86.17	118.00	102.65	244.97	231.75	218.53	205.30	192.08	178.86	166.36	153.87	141.37	128.88	116.38
7	30	17	63.87	63.71	94.86	148.06	87.98	80.43	110.11	119.70	184.21	185.37	85.43	85.32	121.19	125.77	286.42	265.25	244.07	222.90	201.72	180.55	175.97	171.39	166.82	162.24	157.66
7	30	18	63.32	53.26	86.75	103.41	73.08	81.27	81.65	121.68	137.90	157.95	82.02	88.83	100.98	126.07	176.44	176.79	177.14	177.49	177.84	178.19	174.11	170.03	165.95	161.87	157.79
7	30	19	51.11	49.04	84.45	93.86	71.47	73.56	72.83	80.66	135.04	141.56	81.18	84.48	80.03	88.24	151.04	152.56	154.07	155.59	157.10	158.62	148.83	139.04	129.26	119.47	109.68
7	30	20	48.03	46.24	78.81	83.63	68.12	70.22	67.59	72.81	135.04	131.94	76.11	75.91	75.18	80.42	150.27	150.53	150.79	151.05	151.31	151.57	142.44	133.31	124.18	115.05	105.92
7	30	21	46.45	45.29	75.90	81.29	65.00	67.44	65.60	70.71	129.02	127.90	73.70	73.40	73.81	78.55	149.58	145.88	142.18	138.49	134.79	131.09	125.80	120.51	115.22	109.93	104.64
7	30	22	44.33	44.42	58.78	70.82	62.38	64.31	63.96	67.04	109.74	116.37	69.53	70.73	71.20	75.49	135.30	133.29	131.28	129.28	127.27	125.26	121.08	116.89	112.71	108.52	104.34
7	30	23	41.94	40.64	50.36	51.41	58.95	60.66	60.77	63.14	76.69	79.66	66.85	68.42	68.36	72.64	91.20	92.84	94.48	96.12	97.76	99.40	99.86	100.31	100.77	101.22	101.68
7	30	24	35.11	35.09	48.94	48.22	57.25	57.73	59.03	61.84	70.12	71.48	64.93	65.73	67.32	70.06	81.53	84.18	86.83	89.48	92.13	94.78	95.30	95.83	96.35	96.88	97.40
7	31	1	31.05	33.27	42.39	41.18	54.85	56.22	57.63	58.57	63.96	66.27	61.64	63.85	65.46	68.56	75.05	77.55	80.04	82.54	85.03	87.53	88.63	89.72	90.82	91.91	93.01
7	31	2	29.51	31.89	38.47	37.96	53.57	54.52	55.64	58.82	62.21	64.26	60.30	61.97	64.19	67.81	73.66	75.40	77.13	78.87	80.60	82.34	84.14	85.93	87.73	89.52	91.32
7	31	3	28.77	30.93	36.90	36.90	52.85	53.91	54.87	57.27	59.72	62.25	59.10	60.72	62.70	67.27	72.44	74.20	75.96	77.71	79.47	81.23	83.17	85.11	87.04	88.98	90.92
7	31	4	27.84	28.00	36.21	35.88	52.01	52.44	52.84	56.89	58.84	60.79	58.01	59.96	61.52	67.22	71.85	73.59	75.33	77.08	78.82	80.56	82.59	84.62	86.64	88.67	90.70
7	31	5	27.73	27.40	34.86	34.54	51.22	51.47	52.38	56.27	57.64	59.17	56.78	59.69	61.01	67.22	70.16	71.99	73.83	75.66	77.50	79.33	81.44	83.55	85.67	87.78	89.89
7	31	6	28.21	27.31	36.35	36.29	52.24	53.00	52.35	57.39	59.71	61.85	57.94	60.32	61.09	68.42	72.11	73.88	75.66	77.43	79.21	80.98	83.18	85.38	87.59	89.79	91.99
7	31	7	28.72	29.40	39.45	37.68	53.50	54.41	53.99	60.32	63.01	63.53	59.64	61.03	61.63	70.23	73.66	75.42	77.18	78.93	80.69	82.45	84.79	87.13	89.46	91.80	94.14
7	31	8	29.77	31.44	44.92	42.47	54.86	56.45	55.42	62.57	65.43	67.13	62.28	62.79	63.35	71.00	75.97	78.56	81.15	83.74	86.33	88.92	90.90	92.89	94.87	96.86	98.84
7	31	9	32.14	33.66	48.92	48.30	56.21	57.92	57.87	64.63	71.38	70.31	65.00	65.50	65.75	75.23	80.65	83.56	86.47	89.38	92.29	95.20	96.55	97.90	99.26	100.61	101.96
7	31	10	36.35	35.33	51.55	50.51	58.90	60.55	59.13	68.19	86.65	74.29	66.84	66.25	67.34	79.29	86.70	90.98	95.27	99.55	103.84	108.12	107.55	106.99	106.42	105.86	105.29
7	31	11	40.45	40.52	77.86	55.98	62.91	63.88	61.69	89.70	123.54	96.40	69.92	67.57	68.38	100.44	127.55	133.52	139.50	145.47	151.45	157.42	149.96	142.50	135.05	127.59	120.13
7	31	12	43.25	43.39	89.93	80.87	69.29	69.47	64.29	113.41	135.51	121.77	73.91	70.26	70.94	127.49	144.81	150.96	157.11	163.25	169.40	175.55	172.44	169.33	166.22	163.11	160.00
7	31	13	45.94	46.86	98.06	83.81	73.98	71.66	67.77	126.50	151.31	137.23	76.25	75.14	74.81	139.95	150.25	155.20	160.15	165.11	170.06	175.01	172.97	170.94	168.90	166.87	164.83
7	31	14	47.35	48.78	102.57	90.50	69.65	75.44	74.56	127.31	156.86	135.70	109.98	77.37	81.36	143.99	156.75	161.73	166.71	171.69	176.67	181.65	179.43	177.21	175.00	172.78	170.56
7	31	15	49.13	50.58	122.32	99.49	69.50	75.20	79.88	134.20	170.18	144.49	85.64	86.49	86.87	144.84	165.39	172.05	178.71	185.37	192.03	198.69	197.41	196.12	194.84	193.55	192.27
7	31	16	59.06	66.01	162.68	146.88	69.50	75.03	90.27	146.10	270.30	155.07	83.71	104.62	105.94	149.80	191.59	210.78	229.97	249.16	268.35	287.54	268.67	249.81	230.94	212.08	193.21
7	31	17	64.42	82.19	162.68	131.45	69.74	75.44	114.87	146.10	270.29	161.54	84.52	117.38	126.00	154.22	195.03	213.53	232.03	250.54	269.04	287.54	269.51	251.47	233.44	215.40	197.37
7	31	18	52.71	82.13	106.17	98.00	70.00	76.53	105.38	133.29	162.01	144.51	92.78	87.55	126.28	144.87	168.30	173.38	178.46	183.55	188.63	193.71	193.16	192.62	192.07	191.53	190.98
7	31	19	47.35	51.91	95.73	86.29	68.80	72.06	81.58	124.19	151.09	138.30	80.81	76.18	88.50	142.40	151.59	157.33	163.06	168.80	174.53	180.27	175.91	171.55	167.20	162.84	158.48
7	31	20	45.32	48.82	93.07	81.55	68.80	70.83	72.42	126.53	140.86	129.22	75.52	73.05	78.48	138.81	149.57	155.34	161.10	166.87	172.63	178.40	171.22	164.03	156.85	149.66	142.48
7	31	21	44.06	47.91	94.21	80.94	64.83	68.51	71.93	122.76	140.86	131.50	73.27	70.93	77.43	137.79	146.02	151.41	156.80	162.18	167.57	172.96	166.46	159.97	153.47	146.98	140.48
7	31	22	42.58	47.02	80.30	69.95	61.15	64.10	67.77	99.22	130.78	107.39	69.92	68.95	73.68	106.63	143.13	145.02	146.91	148.81	150.70	152.59	147.00	141.41	135.81	130.22	124.63
7	31	23	38.12	44.29	55.65	51.53	58.76	60.89	63.96	70.51	87.58	79.31	67.14	66.64	70.27	80.82	88.36	92.99	97.62	102.25	106.88	111.51	110.72	109.93	109.14	108.35	107.56
7	31	24	33.58	40.28	50.24	48.68	55.71	57.82	60.85	66.28	72.01	70.49	64.82	65.57	67.90	75.87	79.70	83.28	86.86	90.43	94.01	97.59	98.86	100.14	101.41	102.69	103.96
8	1	1	29.82	34.77	46.36	41.21	54.59	56.53	58.30	62.07	67.66	66.89	62.29	63.54	66.38	70.42	75.61	78.63	81.65	84.66	87.68	90.70	92.01	93.32	94.63	95.94	97.25
8	1	2	29.03	33.82	40.97	38.22	53.65	55.16	58.02	59.37	63.89	62.94	60.51	61.85	65.50	69.14	73.01	75.64	78.28	80.91	83.55	86.18	87.61	89.04	90.48	91.91	93.34
8	1	3	28.08	33.01	38.97	37.12	52.57	54.60	56.68	57.43	62.62	61.33	59.16	60.58	64.51	67.73	71.38	73.65	75.92	78.19	80.46	82.73	84.56	86.39	88.21	90.04	91.87
8	1	4	25.78	32.88	37.97	34.11	51.67	52.43	56.44	56.89	61.96	59.61	57.94	59.15	64.23	67.25	69.90	72.26	74.63	76.99	79.36	81.72	83.58	85.44	87.31	89.17	91.03
8	1	5	25.48	32.22	35.83	34.53	50.18	52.18	55.42	56.21	59.40	59.41	57.76	58.81	63.67	66.77	68.82	71.18	73.53	75.89	78.24	80.60	82.52	84.44	86.35	88.27	90.19
8	1	6	25.48	33.57	38.52	36.11	52.25	54.39	57.18	57.30	62.29	60.98	58.62	58.83	65.75	67.86	70.73	72.98	75.23	77.49	79.74	81.99	84.06	86.12	88.19	90.25	92.32
8	1	7	27.26	36.07	41.49	38.03	53.45	54.49	58.74	60.17	64.05	63.51	59.16	59.65	67.33	69.87	73.01	75.31	77.61	79.90	82.20	84.50	86.46	88.41	90.37	92.32	94.28
8	1	8	28.63	41.37	46.73	42.63	54.87	55.57	61.83	62.49	67.71	67.50	61.25	61.64	68.28	73.18	77.03	79.66	82.28	84.91	87.53	90.16	92.03	93.90	95.77	97.64	99.51
8	1	9	30.74	45.35	49.61	48.19	56.21	56.96	63.91	66.59	71.84	70.95	64.19	64.34	70.04	77.43	79.92	83.06	86.19	89.33	92.46	95.60	97.09	98.57	100.06	101.54	103.03
8	1	10	33.37	47.79	52.07	50.04	58.83	58.45	69.54	75.99	87.57	77.45	65.21	65.82	73.89	83.38	85.00	88.65	92.30	95.94	99.59	103.24	104.85	106.46	108.08	109.69	111.30
8	1	11	37.43	52.63	71.69	54.20	62.11	61.35	82.34	109.74	113.57	98.08	66.84	66.68	85.43	121.73	103.48	115.09	126.70	138.31	149.92	161.53	158.55	155.58	152.60	149.63	146.65
8	1	12	40.95	67.54	87.62	79.76	66.07	64.24	100.13	129.54	135.03	130.57	69.16	68.53	113.47	142.39	140.07	147.04	154.01	160.98	167.95	174.92	173.52	172.12	170.73	169.33	167.93
8	1	13	44.06	75.16	96.55	86.27	69.24	67.13	117.87	134.57	140.86	135.83	72.35	71.73	136.96	144.82	149.27	154.48	159.68	164.89	170.09	175.30	177.72	180.15	182.57	185.00	187.42
8	1	14	46.41	75.74	99.69	93.86	71.79	69.86	116.74	148.32	148.34	137.10	74.75	74.16	134.66	159.15	150.76	156.26	161.76	167.25	172.75	178.25	182.54	186.84	191.13	195.43	199.72
8	1	15	47.98	79.14	111.79	109.26	80.58	73.21	123.93	155.06	152.60	139.97	79.03	76.87	141.14	167.68	150.25	156.82	163.39	169.96	176.53	183.10	188.68	194.27	199.85	205.44	211.02
8	1	16	49.50	98.40	159.52	152.00	80.58	75.21	182.74	177.55	167.82	144.47	78.73	85.25	145.15	248.11	154.83	162.72	170.61	178.49	186.38	194.27	210.53	226.78	243.04	259.29	275.55
8	1	17	51.07	98.40	160.59	151.91	80.58	86.15	182.74	183.60	168.92	141.52	79.95	96.15	143.14	227.19	154.84	163.77	172.69	181.62	190.54	199.47	204.04	208.61	213.17	217.74	222.31
8	1	18	50.75	77.04	109.52	99.48	73.42	78.40	123.95	151.65	154.66	139.25	84.91	116.03	141.17	160.79	149.53	156.01	162.48	168.96	175.43	181.91	186.90	191.89	196.87	201.86	206.85
8	1	19	49.46	75.99	99.23	83.46	70.90	68.62	117.32	143.40	145.42	133.90	74.04	78.85	131.58	149.63	149.22	154.37	159.52	164.66	169.81	174.96	178.03	181.11	184.18	187.26	190.33
8	1	20	47.97	74.39	92.63	83.97	68.50	65.54	117.53	132.23	138.73	137.41	70.58	75.59	126.22	142.40	146.69	152.48	158.27	164.05	169.84	175.63	173.21	170.79	168.38	165.96	163.54
8	1	21	46.84	71.06	89.93	80.14	64.12	64.41	104.25	128.59	140.69	128.20	69.16	73.68	131.91	143.93	144.75	150.78	156.81	162.83	168.86	174.89	173.25	171.60	169.96	168.31	166.67

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	1	22	46.11	54.06	76.76	59.40	60.87	61.87	85.38	119.28	127.33	96.08	67.28	71.66	95.95	133.52	103.48	112.72	121.96	131.19	140.43	149.67	152.38	155.10	157.81	160.53	163.24
8	1	23	42.11	48.89	56.06	50.38	59.11	59.60	70.31	85.07	87.56	74.82	66.69	68.95	77.94	85.64	84.44	88.72	93.00	97.27	101.55	105.83	107.50	109.16	110.83	112.49	114.16
8	1	24	36.43	46.10	50.30	44.12	55.97	57.59	65.25	70.26	71.53	67.50	63.90	66.64	73.54	79.94	76.84	80.51	84.19	87.86	91.54	95.21	97.39	99.58	101.76	103.95	106.13
8	2	1	32.33	39.27	44.51	37.42	54.85	56.22	60.44	63.81	64.05	62.23	61.67	63.84	67.67	72.39	71.38	74.29	77.19	80.10	83.00	85.91	88.75	91.59	94.42	97.26	100.10
8	2	2	31.52	34.24	39.37	35.92	54.09	54.98	58.74	60.79	61.88	61.52	60.49	63.99	67.15	69.91	69.90	72.33	74.76	77.19	79.62	82.05	84.84	87.62	90.41	93.19	95.98
8	2	3	30.80	33.23	37.01	33.90	53.30	54.31	57.69	59.70	59.72	59.42	59.02	62.80	65.95	69.35	67.22	69.94	72.66	75.37	78.09	80.81	83.40	85.99	88.57	91.16	93.75
8	2	4	30.44	32.77	35.57	32.32	52.27	52.09	56.93	58.60	58.00	57.77	57.70	62.67	65.08	68.93	65.89	68.80	71.71	74.61	77.52	80.43	82.83	85.23	87.63	90.03	92.43
8	2	5	29.96	31.81	34.50	31.98	51.96	51.47	55.95	57.09	57.44	57.64	57.16	62.06	63.63	68.03	65.18	67.85	70.51	73.18	75.84	78.51	81.12	83.74	86.35	88.97	91.58
8	2	6	31.49	33.22	36.12	34.02	52.99	51.55	57.57	59.26	59.08	58.69	57.18	63.84	65.29	69.35	68.17	70.41	72.66	74.90	77.15	79.39	82.02	84.65	87.27	89.90	92.53
8	2	7	34.37	35.36	39.45	35.08	53.00	52.73	58.79	61.36	62.29	60.98	57.96	66.01	67.43	69.84	70.12	72.76	75.39	78.03	80.66	83.30	85.63	87.95	90.28	92.60	94.93
8	2	8	38.09	42.13	44.79	37.99	54.09	54.78	63.05	63.06	65.44	63.62	59.64	67.59	68.98	72.84	73.23	76.17	79.11	82.06	85.00	87.94	90.37	92.79	95.22	97.64	100.07
8	2	9	42.66	46.60	49.14	40.23	54.67	56.70	66.90	67.36	69.24	65.85	62.72	70.12	73.56	77.29	74.24	77.91	81.57	85.24	88.90	92.57	94.66	96.75	98.85	100.94	103.03
8	2	10	46.79	50.11	51.58	45.06	56.09	57.82	78.28	75.89	75.64	67.50	64.36	73.41	83.43	83.15	74.83	79.55	84.27	88.99	93.71	98.43	101.50	104.56	107.63	110.69	113.76
8	2	11	51.02	63.30	64.32	46.48	58.16	60.05	103.76	101.60	99.19	69.79	66.56	85.27	116.03	113.82	77.62	85.63	93.63	101.64	109.64	117.65	122.21	126.77	131.34	135.90	140.46
8	2	12	63.25	78.75	80.38	48.04	60.87	62.60	123.94	126.51	130.80	73.19	67.82	107.53	132.92	141.83	79.62	89.13	98.65	108.16	117.68	127.19	131.15	135.11	139.06	143.02	146.98
8	2	13	74.45	82.92	97.00	49.12	62.84	65.28	131.12	130.57	135.05	75.36	70.70	126.41	141.15	144.76	84.36	101.22	118.08	134.93	151.79	168.65	167.37	166.10	164.82	163.55	162.27
8	2	14	72.72	95.43	96.99	51.37	64.91	69.43	144.13	138.33	137.03	81.70	73.97	131.14	153.48	149.75	88.29	105.71	123.12	140.54	157.95	175.37	179.91	184.45	188.98	193.52	198.06
8	2	15	77.24	102.02	116.08	54.04	67.16	70.45	154.96	147.91	152.73	98.41	76.67	134.09	169.45	163.81	101.71	117.51	133.31	149.12	164.92	180.72	184.96	189.20	193.45	197.69	201.93
8	2	16	103.59	119.49	149.72	70.18	71.47	73.21	202.65	179.45	181.25	98.45	81.18	143.03	292.07	201.52	99.98	116.31	132.64	148.98	165.31	181.64	189.59	197.53	205.48	213.42	221.37
8	2	17	86.87	119.49	148.95	76.42	87.04	85.23	202.65	179.17	154.65	101.57	83.99	140.33	267.38	203.28	96.84	113.67	130.50	147.34	164.17	181.00	189.07	197.15	205.22	213.30	221.37
8	2	18	75.58	98.77	103.04	53.59	79.13	88.09	146.29	149.57	140.86	84.87	87.54	135.37	160.18	168.49	89.53	106.60	123.66	140.73	157.79	174.86	181.35	187.84	194.34	200.83	207.32
8	2	19	71.91	82.99	92.62	51.25	68.74	73.92	130.93	131.33	136.39	75.72	76.99	125.11	146.09	149.75	84.36	100.57	116.78	132.99	149.20	165.41	169.84	174.27	178.69	183.12	187.55
8	2	20	70.91	78.66	95.71	50.41	63.49	70.22	125.39	131.21	134.82	73.99	73.02	126.03	141.12	144.83	83.92	95.98	108.03	120.09	132.14	144.20	146.08	147.95	149.83	151.70	153.58
8	2	21	65.08	78.90	83.31	49.03	61.12	68.36	127.56	128.79	122.54	71.23	71.29	111.93	141.13	144.81	81.12	90.34	99.56	108.77	117.99	127.21	133.43	139.64	145.86	152.07	158.29
8	2	22	50.47	69.22	68.55	47.47	59.00	64.77	117.93	109.41	96.95	69.46	70.48	87.79	131.43	125.31	78.60	86.34	94.08	101.83	109.57	117.31	128.13	138.94	149.76	160.57	171.39
8	2	23	46.15	50.37	51.93	45.28	56.67	61.06	84.92	77.67	73.98	67.30	68.04	73.64	84.27	83.15	75.71	80.25	84.80	89.34	93.89	98.43	100.99	103.55	106.12	108.68	111.24
8	2	24	44.37	48.17	46.92	38.24	55.19	58.63	68.92	69.35	65.44	63.46	66.31	70.21	77.33	76.41	71.21	74.62	78.02	81.43	84.83	88.24	91.45	94.66	97.86	101.07	104.28
8	3	1	36.35	42.00	38.03	35.34	54.34	56.67	62.63	62.68	61.11	61.21	62.47	66.64	69.97	70.42	69.60	72.09	74.59	77.08	79.58	82.07	85.18	88.29	91.40	94.51	97.62
8	3	2	32.61	37.37	36.80	33.79	53.69	56.26	60.24	59.35	59.72	59.41	62.53	64.74	67.57	68.90	67.22	69.91	72.59	75.28	77.96	80.65	83.38	86.10	88.83	91.55	94.28
8	3	3	30.46	33.93	34.85	32.92	52.99	55.64	58.95	57.59	57.60	58.70	61.69	63.30	67.03	67.63	66.15	68.61	71.07	73.54	76.00	78.46	81.27	84.09	86.90	89.72	92.53
8	3	4	30.09	33.01	33.25	30.88	51.08	55.39	58.40	57.12	56.22	56.98	61.69	62.78	66.71	66.65	64.90	67.13	69.36	71.59	73.82	76.05	79.05	82.04	85.04	88.03	91.03
8	3	5	29.17	31.82	32.96	30.27	50.16	54.81	56.93	56.12	55.49	56.58	60.14	62.07	65.60	66.17	64.66	66.80	68.95	71.09	73.24	75.38	78.29	81.19	84.10	87.00	89.91
8	3	6	30.68	33.33	34.19	32.47	50.16	56.12	58.74	56.51	57.53	57.64	62.26	62.95	66.94	67.32	66.05	68.54	71.03	73.53	76.02	78.51	81.10	83.69	86.29	88.88	91.47
8	3	7	33.32	36.54	36.21	32.90	52.08	57.59	59.89	59.57	58.95	58.18	64.56	64.93	67.42	69.24	66.44	69.28	72.12	74.95	77.79	80.63	83.36	86.09	88.82	91.55	94.28
8	3	8	38.52	42.72	39.77	34.48	53.19	60.30	63.52	62.77	62.42	60.21	66.84	68.11	70.97	70.66	68.35	71.36	74.37	77.39	80.40	83.41	86.50	89.59	92.68	95.77	98.86
8	3	9	45.28	47.35	43.55	36.35	54.53	62.77	66.83	67.16	64.44	62.01	69.59	71.43	75.69	73.92	70.75	73.82	76.89	79.96	83.03	86.10	89.37	92.64	95.92	99.19	102.46
8	3	10	48.04	50.23	45.91	39.16	55.52	66.30	76.63	71.89	65.44	64.04	71.64	76.79	82.06	78.02	72.22	75.41	78.59	81.78	84.96	88.15	92.14	96.13	100.12	104.11	108.10
8	3	11	60.97	62.46	48.30	44.71	57.50	78.22	98.33	91.42	68.49	67.30	82.61	107.30	111.55	98.86	73.65	77.15	80.66	84.16	87.67	91.17	99.14	107.11	115.07	123.04	131.01
8	3	12	76.24	78.84	49.94	47.76	60.31	91.96	123.93	112.30	70.16	68.73	102.96	132.52	136.97	126.92	76.73	79.90	83.06	86.23	89.39	92.56	107.86	123.16	138.47	153.77	169.07
8	3	13	77.81	85.61	51.86	49.35	63.56	95.48	128.35	126.50	76.05	71.63	123.07	138.17	141.14	142.41	79.15	83.12	87.08	91.05	95.01	98.98	108.80	118.62	128.45	138.27	148.09
8	3	14	88.74	92.28	55.70	50.69	68.09	100.64	130.30	130.37	86.24	73.44	127.64	148.25	146.63	143.97	82.75	86.49	90.22	93.96	97.69	101.43	117.70	133.97	150.25	166.52	182.79
8	3	15	125.21	100.38	62.84	51.83	68.80	107.84	143.42	142.20	88.24	77.33	130.62	163.37	157.94	151.31	86.49	91.92	97.35	102.79	108.22	113.65	130.54	147.43	164.32	181.21	198.10
8	3	16	140.54	151.62	66.06	61.92	73.60	118.52	183.83	179.08	89.18	100.95	143.34	243.25	206.47	159.45	116.64	115.64	114.64	113.64	112.64	111.64	129.26	146.87	164.49	182.10	199.72
8	3	17	137.76	181.10	66.49	67.57	95.50	121.28	183.83	177.38	89.19	113.26	143.34	236.21	195.25	165.01	123.60	121.12	118.64	116.17	113.69	111.21	136.11	161.01	185.92	210.82	235.72
8	3	18	92.52	102.31	57.38	62.72	100.00	103.22	144.42	134.03	88.70	83.96	129.17	154.60	153.03	149.95	98.77	99.30	99.83	100.37	100.90	101.43	119.80	138.16	156.53	174.89	193.26
8	3	19	78.13	90.58	54.82	50.95	78.17	95.07	130.66	130.39	76.68	75.10	128.18	141.69	145.49	143.92	82.03	85.42	88.81	92.20	95.59	98.98	112.44	125.91	139.37	152.84	166.30
8	3	20	75.19	82.04	51.19	48.92	68.80	94.61	128.00	130.36	74.04	71.39	128.50	137.64	138.40	141.85	78.84	81.82	84.80	87.78	90.76	93.74	104.24	114.74	125.25	135.75	146.25
8	3	21	76.23	78.41	50.57	47.80	66.73	93.22	123.94	114.33	71.92	68.77	112.93	136.36	136.96	136.20	77.23	80.36	83.49	86.61	89.74	92.87	103.88	114.89	125.91	136.92	147.93
8	3	22	63.90	69.06	48.56	45.94	61.95	77.06	105.38	93.34	68.97	67.78	88.00	116.47	124.24	97.91	75.66	78.68	81.71	84.73	87.76	90.78	97.24	103.71	110.17	116.64	123.10
8	3	23	49.45	52.90	46.38	40.23	59.11	67.55	81.65	70.77	64.97	65.64	74.16	81.12	81.27	79.21	73.01	75.74	78.47	81.19	83.92	86.65	90.73	94.81	98.90	102.98	107.06
8	3	24	45.85	48.40	39.20	37.30	56.94	62.60	66.58	62.77	60.92	62.62	70.51	74.92	74.50	70.42	70.85	73.04	75.23	77.43	79.62	81.81	85.30	88.79	92.29	95.78	99.27
8	4	1	38.01	40.54	36.29	35.25	55.92	57.82	61.66	58.75	58.58	60.76	66.68	68.15	68.71	68.05	69.42	71.43	73.44	75.46	77.47	79.48	82.19	84.89	87.60	90.30	93.01
8	4	2	35.62	34.99	34.96	33.43	54.85	56.56	58.79	56.94	57.17	59.23	63.73	66.64	66.91	67.16	66.92	69.16	71.41	73.65	75.90	78.14	80.65	83.16	85.68	88.19	90.70
8	4	3	32.61	33.06	33.41	32.11	54.09	55.52	57.32	55.52	55.93	57.88	61.65	65.83	65.76	65.31	65.61	67.77	69.92	72.08	74.23	76.39	78.79	81.20	83.60	86.01	88.41
8	4	4	30.95	32.38	32.62	30.04	53.69	55.02	56.72	54.93	54.79	56.34	61.22	65.13	65.24	64.63	64.09	66.07	68.06	70.04	72.03	74.01	76.67	79.33	81.98	84.64	87.30
8	4	5	29.47	31.19	31.85	29.57	53.09	54.19	55.24	53.71	54.48	55.87	60.43	63.87	63.59	63.16	63.18	65.31	67.43	69.56	71.68	73.81	76.06	78.31	80.55	82.80	85.05
8	4	6	31.90	32.49	33.10	29.56	54.51	55.16	56.36	55.57	55.89	55.75	61.78	65.47	64.68	65.38	63.06	65.65	68.24	70.82	73.41	76.00	78.60	81.20	83.80	86.40	89.00
8	4	7	34.50	35.06	33.39	30.96	54.87	56.71	58.37	57.02	55.93	57.08	64.33	66.64	67.05	67.36	64.76	67.04	69.32	71.61	73.89	76.17	79.14	82.11	85.09	88.06	91.03
8	4	8	38.79	41.76	35.04	32.59	57.81	59.49	62.05	59.37	57.80	58.55	66.84	68.89	69.03	69.61	66.68	69.05	71.42	73.79	76.16	78.53	81.60	84.67	87.73	90.80	93.87

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	4	9	45.00	46.46	38.35	35.92	61.52	63.24	65.48	62.32	61.00	61.86	70.61	73.56	73.98	70.37	69.90	72.21	74.53	76.84	79.16	81.47	84.32	87.18	90.03	92.89	95.74
8	4	10	47.98	49.28	40.20	37.82	67.02	71.79	70.50	63.28	62.47	63.47	75.77	79.13	76.88	70.46	71.79	73.90	76.01	78.12	80.23	82.34	85.48	88.62	91.75	94.89	98.03
8	4	11	61.02	56.27	45.85	42.31	74.90	91.50	89.12	65.12	65.45	66.77	104.93	106.42	96.05	72.82	73.76	76.20	78.64	81.09	83.53	85.97	88.91	91.86	94.80	97.75	100.69
8	4	12	75.06	75.65	48.00	46.84	89.97	108.04	115.24	67.62	68.22	68.17	128.45	133.60	128.15	74.14	76.99	79.32	81.65	83.97	86.30	88.63	91.40	94.16	96.93	99.69	102.46
8	4	13	75.64	77.62	49.16	49.34	94.88	117.78	125.39	71.37	71.21	72.80	137.76	137.63	141.13	79.72	80.75	82.99	85.23	87.47	89.71	91.95	94.42	96.89	99.35	101.82	104.29
8	4	14	84.16	85.22	50.59	51.32	94.88	123.22	123.97	76.39	73.64	76.14	152.21	143.71	141.75	84.37	84.72	86.61	88.50	90.39	92.28	94.17	96.97	99.78	102.58	105.39	108.19
8	4	15	97.74	99.17	52.07	52.25	117.48	139.52	141.53	88.18	75.88	80.49	158.36	155.41	152.73	108.61	91.75	92.80	93.85	94.90	95.95	97.00	100.86	104.72	108.59	112.45	116.31
8	4	16	154.73	113.08	61.46	65.91	126.01	186.56	173.48	93.10	110.50	90.05	211.86	179.89	167.11	122.05	120.60	116.79	112.97	109.16	105.34	101.53	104.57	107.61	110.64	113.68	116.72
8	4	17	164.31	126.19	67.16	75.83	121.18	182.72	173.48	98.59	113.50	117.60	175.42	188.71	167.11	111.45	134.64	130.95	127.26	123.58	119.89	116.20	116.43	116.66	116.90	117.13	117.36
8	4	18	98.91	93.00	56.09	77.47	99.53	129.43	128.18	83.16	82.53	124.69	152.00	153.80	146.62	87.49	141.01	132.60	124.20	115.79	107.39	98.98	100.86	102.73	104.61	106.48	108.36
8	4	19	78.16	78.93	51.35	60.70	91.97	118.63	123.59	76.84	74.19	84.38	137.76	139.02	141.15	82.61	98.90	98.00	97.10	96.21	95.31	94.41	96.84	99.28	101.71	104.15	106.58
8	4	20	74.07	83.41	49.53	51.13	90.05	113.31	123.95	70.71	70.04	75.18	131.94	135.32	139.10	78.94	85.28	86.58	87.88	89.19	90.49	91.79	94.49	97.19	99.89	102.59	105.29
8	4	21	75.60	77.61	48.26	50.95	84.72	114.84	109.78	68.50	69.01	74.43	131.94	133.54	124.57	76.25	85.35	86.28	87.22	88.15	89.09	90.02	92.51	95.00	97.48	99.97	102.46
8	4	22	65.03	63.19	46.65	49.70	71.64	99.59	87.07	65.14	66.11	72.31	115.16	110.80	92.34	73.06	81.88	83.07	84.25	85.44	86.62	87.81	90.47	93.13	95.78	98.44	101.10
8	4	23	48.63	50.12	43.43	46.25	64.67	76.38	69.49	62.96	63.46	68.86	79.73	78.35	76.03	70.42	77.92	79.19	80.46	81.74	83.01	84.28	86.75	89.22	91.69	94.16	96.63
8	4	24	45.24	42.85	38.60	40.85	60.81	65.87	62.26	59.15	59.95	66.23	72.68	71.77	70.05	68.16	74.01	75.52	77.04	78.55	80.07	81.58	83.75	85.93	88.10	90.28	92.45
8	5	1	36.57	33.93	35.93	38.00	56.78	60.11	58.10	56.97	58.27	64.10	67.51	66.64	66.41	66.71	72.38	73.74	75.09	76.45	77.80	79.16	81.16	83.16	85.17	87.17	89.17
8	5	2	32.39	33.01	34.52	36.99	55.51	57.81	56.86	56.01	56.88	62.38	65.21	64.58	64.92	65.37	71.40	72.46	73.52	74.58	75.64	76.70	78.86	81.01	83.17	85.32	87.48
8	5	3	30.20	31.14	33.23	36.39	54.12	56.34	55.20	55.09	55.46	61.03	64.33	63.18	63.29	63.99	70.10	71.11	72.13	73.14	74.16	75.17	77.36	79.55	81.75	83.94	86.13
8	5	4	29.49	30.35	30.89	36.04	53.61	55.70	54.33	54.30	54.05	60.07	63.14	62.78	61.81	63.31	69.82	70.47	71.11	71.76	72.40	73.05	75.63	78.21	80.80	83.38	85.96
8	5	5	28.64	28.95	30.55	34.66	52.99	54.79	53.69	54.01	53.53	59.11	61.63	61.61	60.26	63.20	68.51	69.24	69.97	70.70	71.43	72.16	74.70	77.24	79.79	82.33	84.87
8	5	6	29.63	31.26	30.41	36.90	54.34	56.12	55.25	54.49	53.38	61.46	63.86	62.24	62.44	63.78	70.83	71.04	71.25	71.45	71.66	71.87	74.80	77.72	80.65	83.57	86.50
8	5	7	33.00	32.95	32.15	38.08	55.81	57.24	56.44	54.69	54.93	63.53	65.24	64.67	64.68	64.02	72.73	73.04	73.35	73.65	73.96	74.27	76.64	79.01	81.37	83.74	86.11
8	5	8	37.30	36.12	33.81	43.57	58.83	60.41	58.64	56.49	56.30	66.85	67.22	66.64	67.60	65.90	75.63	75.93	76.22	76.52	76.81	77.11	79.50	81.89	84.28	86.67	89.06
8	5	9	43.47	40.18	36.35	48.41	62.23	64.00	59.73	58.76	58.81	69.60	71.89	70.46	68.70	67.87	79.65	79.78	79.91	80.05	80.18	80.31	82.45	84.60	86.74	88.89	91.03
8	5	10	46.83	43.62	39.39	51.03	70.23	70.94	61.67	59.76	60.29	75.42	78.07	74.17	68.71	69.05	83.00	82.86	82.71	82.57	82.42	82.28	84.49	86.70	88.92	91.13	93.34
8	5	11	51.54	46.19	44.34	55.80	89.45	84.71	64.27	62.77	64.48	89.27	99.48	87.55	70.90	70.62	102.98	99.60	96.23	92.85	89.48	86.10	88.03	89.95	91.88	93.80	95.73
8	5	12	68.16	47.61	47.51	77.41	105.27	102.72	66.34	65.59	67.34	115.94	125.16	115.74	72.34	72.87	125.70	118.52	111.35	104.17	97.00	89.82	91.70	93.58	95.47	97.35	99.23
8	5	13	71.81	49.51	50.00	80.44	111.90	114.24	71.96	67.97	71.93	118.40	133.57	130.93	73.98	74.86	139.11	130.20	121.30	112.39	103.49	94.58	96.15	97.73	99.30	100.88	102.45
8	5	14	75.75	52.10	51.55	85.67	115.08	115.74	76.84	69.58	75.67	122.95	142.99	138.14	76.35	76.61	137.89	129.91	121.92	113.94	105.95	97.97	99.11	100.25	101.39	102.53	103.67
8	5	15	88.49	58.31	52.07	96.71	142.20	120.55	94.76	72.48	81.24	129.82	155.34	141.14	84.44	79.79	146.46	136.92	127.38	117.83	108.29	98.75	100.20	101.65	103.09	104.54	105.99
8	5	16	116.00	76.77	57.18	98.90	172.87	141.35	97.20	84.63	91.68	133.85	182.92	163.29	107.87	89.33	149.48	139.88	130.28	120.67	111.07	101.47	103.80	106.14	108.47	110.81	113.14
8	5	17	112.60	72.71	73.09	97.63	165.54	156.27	98.02	112.90	123.60	128.30	187.10	174.96	88.88	117.71	149.13	144.02	138.92	133.81	128.71	123.60	126.01	128.42	130.84	133.25	135.66
8	5	18	78.91	56.79	76.55	87.21	121.07	124.09	82.49	79.88	129.50	125.71	154.64	141.80	81.26	81.62	135.80	138.63	141.45	144.28	147.10	149.93	142.29	134.66	127.02	119.39	111.75
8	5	19	75.42	50.71	55.33	77.79	113.02	115.20	74.30	71.75	85.35	122.40	140.02	134.07	77.92	77.16	138.29	131.06	123.84	116.61	109.39	102.16	102.90	103.64	104.39	105.13	105.87
8	5	20	75.49	49.41	51.08	79.31	102.72	114.35	71.46	67.97	75.57	112.37	130.03	129.63	74.70	74.81	133.37	126.49	119.61	112.74	105.86	98.98	99.61	100.23	100.86	101.48	102.11
8	5	21	68.21	48.68	51.08	71.24	104.10	109.71	68.31	65.95	74.59	100.00	129.22	124.48	72.75	73.59	114.86	111.63	108.40	105.16	101.93	98.70	99.10	99.50	99.89	100.29	100.69
8	5	22	57.60	46.59	49.97	56.52	89.51	92.46	64.60	64.02	71.34	82.53	111.54	90.98	71.03	71.84	92.87	93.00	93.13	93.25	93.38	93.51	94.58	95.65	96.71	97.78	98.85
8	5	23	46.88	43.67	47.71	50.69	69.34	73.10	61.84	60.76	67.25	73.69	78.11	76.00	68.71	69.87	81.32	82.94	84.56	86.17	87.79	89.41	90.64	91.88	93.11	94.35	95.58
8	5	24	38.79	35.77	42.99	46.63	61.95	64.00	58.37	58.45	63.65	67.50	71.79	68.00	66.19	68.17	76.93	78.78	80.63	82.48	84.33	86.18	87.52	88.85	90.19	91.52	92.86
8	6	1	31.46	33.18	39.64	38.92	57.57	58.40	56.14	57.12	61.93	64.03	66.84	63.86	64.44	66.43	72.47	74.56	76.66	78.75	80.85	82.94	84.57	86.20	87.82	89.45	91.08
8	6	2	29.71	31.69	37.82	36.45	56.02	56.34	55.05	55.64	59.86	62.08	63.47	63.02	63.05	64.35	70.10	72.50	74.90	77.31	79.71	82.11	83.32	84.53	85.75	86.96	88.17
8	6	3	28.72	30.46	36.29	35.43	54.14	55.37	53.98	54.38	58.77	60.50	62.12	61.28	61.89	63.07	69.33	71.67	74.01	76.35	78.69	81.03	82.03	83.04	84.04	85.05	86.05
8	6	4	27.77	29.18	35.91	34.51	53.27	54.98	53.56	53.82	58.14	60.04	61.63	60.65	61.29	62.30	68.67	71.07	73.46	75.86	78.25	80.65	81.44	82.23	83.01	83.80	84.59
8	6	5	26.32	28.83	34.82	33.99	52.91	53.91	53.24	53.44	57.28	58.44	60.29	59.19	60.88	61.70	67.79	70.10	72.41	74.71	77.02	79.33	80.26	81.20	82.13	83.07	84.00
8	6	6	28.44	29.41	36.42	35.69	53.57	54.83	53.76	53.39	59.25	60.98	61.21	61.55	61.17	61.45	69.78	71.99	74.21	76.42	78.64	80.85	81.52	82.19	82.86	83.53	84.20
8	6	7	29.51	30.23	39.06	36.89	55.22	56.67	53.96	53.83	61.95	63.40	64.28	62.82	61.66	62.56	71.87	74.16	76.44	78.73	81.01	83.30	83.61	83.92	84.23	84.54	84.85
8	6	8	33.00	32.05	44.38	41.83	58.33	59.03	55.42	55.38	65.44	66.05	66.84	64.94	63.58	64.14	74.41	76.86	79.31	81.75	84.20	86.65	86.93	87.20	87.48	87.75	88.03
8	6	9	36.25	33.87	48.62	46.67	61.95	62.13	57.49	57.81	68.80	67.54	69.93	66.34	65.57	66.86	79.15	81.83	84.51	87.20	89.88	92.56	92.39	92.22	92.05	91.88	91.71
8	6	10	39.38	37.83	50.57	49.03	69.44	68.18	58.91	59.02	74.05	72.60	73.41	66.65	67.25	68.35	84.44	87.01	89.58	92.15	94.72	97.29	96.66	96.03	95.40	94.77	94.14
8	6	11	43.31	42.58	57.45	53.86	85.49	80.35	61.63	62.45	93.46	87.43	85.95	68.88	68.36	69.84	108.57	108.95	109.33	109.71	110.09	110.47	107.82	105.16	102.51	99.85	97.20
8	6	12	45.17	45.18	72.06	75.38	98.75	96.19	63.94	65.58	118.22	110.90	111.75	71.01	70.05	73.11	144.32	143.34	142.36	141.38	140.40	139.42	131.86	124.29	116.73	109.16	101.60
8	6	13	47.68	47.39	77.86	75.59	111.04	112.61	66.19	69.37	118.11	115.12	131.44	73.46	72.40	76.37	139.91	139.97	140.03	140.08	140.14	140.20	133.09	125.98	118.86	111.75	104.64
8	6	14	51.45	49.25	80.33	83.44	113.90	116.03	67.70	74.71	126.95	125.93	137.35	80.84	74.76	80.12	150.21	147.59	144.98	142.36	139.75	137.13	131.74	126.35	120.97	115.58	110.19
8	6	15	66.66	51.17	88.69	97.67	113.97	121.04	70.26	72.62	134.79	134.20	137.76	90.42	77.25	83.06	150.20	151.76	153.32	154.87	156.43	157.99	148.76	139.53	130.30	121.07	111.84
8	6	16	74.32	70.36	98.17	116.30	136.84	132.43	82.37	80.22	134.79	173.22	140.65	93.92	84.94	106.69	180.96	175.35	169.75	164.14	158.54	152.93	148.55	144.17	139.79	135.41	131.03
8	6	17	76.63	76.09	88.17	118.22	161.87	131.80	108.59	89.79	128.91	138.30	166.73	87.59	109.22	127.31	156.52	154.11	151.70	149.28	146.87	144.46	148.95	153.44	157.93	162.42	166.91
8	6	18	54.63	53.67	82.28	86.22	116.02	120.49	78.48	104.64	121.21	134.17	137.42	83.08	81.07	133.47	150.49	146.94	143.40	139.85	136.31	132.76	139.45	146.14	152.82	159.51	166.20
8	6	19	49.56	49.02	76.39	76.88	111.35	110.45	69.53	80.34	120.33	126.89	130.41	79.50	75.47	91.58	149.15	148.37	147.60	146.82	146.05	145.27	138.55	131.83	125.11	118.39	111.67

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	6	20	47.61	46.10	72.30	72.80	109.77	109.89	66.58	71.06	110.15	114.21	125.91	73.06	72.19	80.83	136.21	135.77	135.32	134.88	134.43	133.99	128.46	122.93	117.40	111.87	106.34
8	6	21	46.79	45.18	66.27	70.82	99.32	94.61	64.70	72.48	103.12	110.49	111.54	71.36	70.52	80.62	130.62	126.07	121.52	116.98	112.43	107.88	107.52	107.16	106.79	106.43	106.07
8	6	22	43.41	44.12	55.62	53.41	86.46	82.52	62.42	68.41	88.15	87.07	86.15	69.03	68.71	76.64	107.02	105.76	104.50	103.23	101.97	100.71	101.46	102.21	102.96	103.71	104.46
8	6	23	40.47	39.47	51.18	50.28	72.06	68.76	59.70	63.91	73.71	72.60	73.02	66.64	67.47	73.43	82.33	84.87	87.41	89.95	92.49	95.03	96.17	97.31	98.45	99.59	100.73
8	6	24	34.07	34.88	46.53	46.46	62.92	59.94	57.97	62.35	67.82	67.51	66.84	64.61	65.56	70.42	78.21	80.26	82.30	84.35	86.39	88.44	90.42	92.39	94.37	96.34	98.32
8	7	1	30.41	32.92	39.20	37.88	57.22	56.34	56.26	59.97	63.13	63.78	62.70	62.79	64.02	69.35	72.36	74.38	76.40	78.41	80.43	82.45	84.68	86.92	89.15	91.39	93.62
8	7	2	29.13	30.70	36.24	34.98	55.92	55.16	55.04	58.88	59.53	61.52	60.80	61.51	62.29	68.35	69.41	71.53	73.64	75.76	77.87	79.99	82.73	85.46	88.20	90.93	93.67
8	7	3	28.52	29.11	35.41	34.23	53.42	54.40	53.85	57.42	58.99	60.04	58.94	60.14	61.17	67.69	68.21	70.55	72.88	75.22	77.55	79.89	82.50	85.12	87.73	90.35	92.96
8	7	4	27.73	28.05	34.97	33.83	53.00	53.46	53.17	56.97	58.23	59.86	57.95	59.38	60.10	67.25	67.67	69.96	72.25	74.55	76.84	79.13	81.85	84.56	87.28	89.99	92.71
8	7	5	27.56	27.71	33.93	33.08	52.34	51.62	53.01	56.17	57.68	58.37	57.29	58.78	59.30	66.60	67.55	69.56	71.58	73.59	75.61	77.62	80.09	82.55	85.02	87.48	89.95
8	7	6	27.77	27.64	35.59	34.54	53.30	54.29	52.81	57.43	59.30	60.44	59.25	59.35	59.34	68.04	68.53	70.81	73.09	75.37	77.65	79.93	82.55	85.16	87.78	90.39	93.01
8	7	7	28.41	28.01	38.12	36.90	54.87	55.33	53.28	59.68	61.48	63.18	61.33	59.58	60.23	69.35	71.18	73.37	75.56	77.74	79.93	82.12	84.75	87.38	90.02	92.65	95.28
8	7	8	29.57	29.98	43.08	41.95	57.70	57.05	54.49	62.62	65.16	65.45	64.33	61.71	61.73	71.26	75.31	77.34	79.37	81.40	83.43	85.46	88.36	91.25	94.15	97.04	99.94
8	7	9	32.33	33.57	47.99	46.40	60.96	58.19	56.76	64.37	68.49	68.13	65.34	63.76	64.89	76.10	79.24	81.49	83.74	85.99	88.24	90.49	92.88	95.27	97.67	100.06	102.45
8	7	10	35.98	34.97	49.62	49.03	66.35	59.92	58.57	70.98	72.82	73.37	66.84	65.41	66.58	80.48	82.83	85.45	88.08	90.70	93.33	95.95	98.66	101.37	104.07	106.78	109.49
8	7	11	39.62	40.46	55.65	53.38	77.25	61.87	60.50	86.59	91.42	86.37	67.43	66.56	67.97	96.07	115.06	113.65	112.24	110.84	109.43	108.02	110.81	113.60	116.40	119.19	121.98
8	7	12	43.82	44.85	71.80	69.95	96.34	65.87	64.25	104.70	109.97	112.32	69.89	68.27	69.55	125.61	136.70	138.78	140.86	142.94	145.02	147.10	149.47	151.83	154.20	156.56	158.93
8	7	13	46.18	47.04	72.06	72.48	102.54	70.36	67.67	108.15	118.19	114.35	72.58	70.66	74.27	134.10	142.55	143.70	144.84	145.99	147.13	148.28	147.52	146.76	145.99	145.23	144.47
8	7	14	48.48	49.82	78.13	75.57	108.29	75.87	72.02	117.15	123.45	130.33	79.65	72.27	78.21	116.98	149.54	148.95	148.36	147.76	147.17	146.58	149.79	153.00	156.22	159.43	162.64
8	7	15	50.12	51.23	92.89	80.77	115.93	84.75	73.02	128.87	134.79	134.96	87.79	74.11	80.77	138.24	152.13	154.89	157.65	160.41	163.17	165.93	171.62	177.31	183.01	188.70	194.39
8	7	16	55.59	73.94	110.38	106.51	159.08	85.93	81.11	129.00	179.12	151.26	93.64	83.22	106.00	135.84	196.60	200.72	204.84	208.95	213.07	217.19	212.18	207.17	202.16	197.15	192.14
8	7	17	63.37	83.74	96.62	115.40	136.84	85.93	99.41	126.50	143.06	197.89	86.86	104.47	120.30	127.36	227.94	216.63	205.32	194.01	182.70	171.39	171.38	171.37	171.35	171.34	171.33
8	7	18	53.17	83.74	82.40	81.21	113.02	81.66	106.85	116.15	134.80	138.27	80.59	77.96	125.93	128.16	154.11	155.44	156.77	158.09	159.42	160.75	162.74	164.73	166.72	168.71	170.70
8	7	19	48.71	56.01	76.96	71.82	105.26	72.74	79.52	109.11	125.46	126.70	74.73	72.75	87.84	129.97	149.15	147.75	146.35	144.96	143.56	142.16	146.55	150.95	155.34	159.74	164.13
8	7	20	46.55	49.55	70.86	70.63	102.12	70.11	72.73	104.70	109.74	112.28	71.09	70.40	77.80	113.71	140.34	141.69	143.04	144.40	145.75	147.10	147.39	147.68	147.98	148.27	148.56
8	7	21	44.70	49.55	69.03	69.91	96.34	66.30	72.79	98.46	109.74	110.90	70.09	68.95	76.46	100.09	142.55	140.82	139.08	137.35	135.61	133.88	132.12	130.37	128.61	126.86	125.10
8	7	22	43.19	48.22	53.61	53.22	82.17	62.44	66.52	80.97	92.18	91.24	67.44	66.90	73.24	88.12	113.44	111.81	110.17	108.54	106.90	105.27	106.27	107.28	108.28	109.29	110.29
8	7	23	37.74	44.56	50.24	50.21	68.50	59.90	62.93	71.19	71.83	73.13	66.82	65.67	70.18	78.74	84.44	86.09	87.75	89.40	91.06	92.71	95.20	97.69	100.17	102.66	105.15
8	7	24	34.04	39.85	47.37	46.48	59.14	56.75	60.14	63.91	67.55	67.50	63.00	63.84	68.27	72.12	76.31	78.80	81.29	83.77	86.26	88.75	91.25	93.75	96.24	98.74	101.24
8	8	1	30.95	36.56	38.96	37.62	56.02	56.04	58.30	60.69	62.29	63.83	61.26	62.60	67.33	69.67	72.71	74.49	76.26	78.04	79.81	81.59	84.33	87.06	89.80	92.53	95.27
8	8	2	29.23	34.16	35.81	34.93	53.42	54.84	57.63	57.60	58.99	61.86	59.91	60.66	66.19	68.35	70.51	72.11	73.71	75.31	76.91	78.51	81.31	84.10	86.90	89.69	92.49
8	8	3	28.49	33.24	34.96	33.54	52.72	54.12	56.73	56.89	58.13	59.63	58.62	59.58	65.44	67.64	68.67	70.56	72.45	74.34	76.23	78.12	80.84	83.56	86.27	88.99	91.71
8	8	4	26.87	32.88	34.96	33.15	52.04	52.81	56.00	56.46	57.75	58.94	57.61	58.49	64.90	66.74	67.88	69.83	71.78	73.74	75.69	77.64	80.25	82.86	85.48	88.09	90.70
8	8	5	26.40	31.68	34.03	32.61	50.67	52.29	55.05	55.64	56.95	58.44	57.17	58.00	63.70	65.85	66.49	68.52	70.54	72.57	74.59	76.62	79.14	81.66	84.17	86.69	89.21
8	8	6	26.20	33.53	35.48	34.06	52.71	52.79	56.83	57.05	58.04	60.21	57.59	57.76	65.50	67.42	69.07	71.00	72.94	74.87	76.81	78.74	81.37	84.00	86.64	89.27	91.90
8	8	7	26.65	36.01	37.96	35.91	54.09	53.91	58.37	59.29	60.29	63.25	57.89	58.51	67.05	68.68	71.70	73.68	75.65	77.63	79.60	81.58	84.24	86.90	89.55	92.21	94.87
8	8	8	29.05	42.60	44.16	39.93	54.99	55.02	60.67	62.49	64.95	65.96	60.21	60.31	68.71	70.51	74.09	76.24	78.39	80.53	82.68	84.83	87.70	90.56	93.43	96.29	99.16
8	8	9	31.51	46.55	47.25	45.93	57.31	56.45	64.53	65.65	67.81	67.50	61.87	62.78	71.73	73.73	78.76	81.00	83.24	85.49	87.73	89.97	92.47	94.96	97.46	99.95	102.45
8	8	10	34.41	49.66	49.62	48.04	59.30	57.53	70.46	69.44	71.79	71.77	64.24	64.14	77.81	77.75	84.36	86.88	89.41	91.93	94.46	96.98	98.64	100.30	101.97	103.63	105.29
8	8	11	38.15	55.79	54.76	51.22	61.82	60.11	81.95	84.04	91.58	84.52	66.42	66.26	89.28	94.62	103.51	104.71	105.92	107.12	108.33	109.53	111.90	114.28	116.65	119.03	121.40
8	8	12	43.47	68.84	71.61	55.28	68.37	62.60	99.25	104.07	108.03	98.87	67.62	67.65	117.01	122.88	132.90	133.78	134.66	135.55	136.43	137.31	143.82	150.34	156.85	163.37	169.88
8	8	13	46.58	71.23	72.71	64.24	71.51	65.70	101.42	104.07	109.79	103.96	70.10	71.41	118.25	120.83	143.02	143.34	143.66	143.98	144.30	144.62	150.52	156.43	162.33	168.24	174.14
8	8	14	48.64	77.83	76.96	65.03	78.28	66.85	109.99	109.74	129.98	109.96	71.64	75.66	129.29	142.44	140.05	142.83	145.61	148.38	151.16	153.94	154.76	155.58	156.39	157.21	158.03
8	8	15	50.05	94.53	81.88	69.76	79.11	70.34	131.53	118.06	134.79	115.76	74.09	76.80	128.21	138.46	149.15	151.39	153.63	155.87	158.11	160.35	165.04	169.72	174.41	179.09	183.78
8	8	16	61.74	105.51	109.26	74.92	78.11	80.87	164.53	126.48	161.42	112.32	84.45	87.74	131.11	143.95	149.15	154.66	160.17	165.67	171.18	176.69	179.84	182.99	186.15	189.30	192.45
8	8	17	71.79	96.24	140.84	86.26	78.16	103.10	123.10	126.48	203.42	162.85	115.73	119.03	124.80	143.96	178.60	180.42	182.24	184.06	185.88	187.70	188.64	189.58	190.53	191.47	192.41
8	8	18	71.79	79.81	83.02	67.70	78.94	80.20	111.46	116.81	136.23	113.81	77.30	119.03	127.78	132.90	139.12	146.35	153.59	160.82	168.06	175.29	176.59	177.89	179.18	180.48	181.78
8	8	19	53.10	71.32	71.66	59.06	73.18	70.11	100.13	108.87	120.67	97.77	72.61	81.31	126.99	126.36	142.47	141.35	140.23	139.11	137.99	136.87	140.37	143.86	147.36	150.85	154.35
8	8	20	49.19	68.83	70.66	63.14	70.60	65.07	96.92	100.37	108.29	97.94	69.68	74.11	116.53	114.89	135.97	136.21	136.45	136.69	136.93	137.17	142.88	148.60	154.31	160.03	165.74
8	8	21	48.39	62.58	68.56	58.01	68.37	63.04	89.64	96.68	108.03	96.49	67.64	73.34	99.83	112.90	129.29	130.97	132.65	134.32	136.00	137.68	139.67	141.66	143.65	145.64	147.63
8	8	22	46.83	53.11	54.52	51.25	61.68	61.06	76.16	79.15	93.46	82.78	66.84	71.67	86.67	91.42	101.83	102.63	103.44	104.24	105.05	105.85	106.86	107.86	108.87	109.87	110.88
8	8	23	42.81	49.31	50.80	47.22	59.10	58.37	69.03	68.81	71.84	70.67	64.83	68.01	75.23	76.23	79.92	82.95	85.99	89.02	92.06	95.09	96.68	98.27	99.85	101.44	103.03
8	8	24	38.30	44.06	47.32	43.57	56.14	56.56	62.93	64.80	67.06	67.00	62.27	66.65	69.82	71.54	75.76	78.65	81.55	84.44	87.34	90.23	92.32	94.41	96.51	98.60	100.69
8	9	1	34.52	36.35	39.04	35.58	54.59	54.98	58.91	59.67	61.70	61.62	60.83	65.12	67.42	68.86	70.51	72.90	75.29	77.67	80.06	82.45	84.90	87.34	89.79	92.23	94.68
8	9	2	33.42	33.78	35.83	33.54	53.49	54.02	57.72	57.02	58.95	59.33	58.98	63.85	65.64	66.71	68.61	70.78	72.96	75.13	77.31	79.48	81.54	83.59	85.65	87.70	89.76
8	9	3	31.85	32.84	34.50	32.62	52.99	52.58	56.85	56.35	57.18	58.09	57.89	63.00	64.44	66.23	66.84	69.10	71.36	73.62	75.88	78.14	80.27	82.41	84.54	86.68	88.81
8	9	4	31.19	32.01	34.22	31.94	51.78	51.58	56.66	56.12	56.68	57.57	57.11	62.80	64.11	65.21	66.10	68.27	70.45	72.62	74.80	76.97	79.20	81.43	83.66	85.89	88.12
8	9	5	29.53	31.30	33.47	31.45	51.29	51.03	55.50	55.13	55.51	56.44	56.56	61.64	63.05	64.24	65.56	67.67	69.77	71.88	73.98	76.09	78.50	80.92	83.33	85.75	88.16
8	9	6	32.43	32.90	34.96	33.12	51.67	50.73	56.84	56.42	57.02	58.18	56.23	62.68	64.38	65.76	67.58	69.91	72.24	74.56	76.89	79.22	81.26	83.29	85.33	87.36	89.40

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	9	7	34.88	34.27	37.04	34.62	52.47	51.45	58.67	58.95	60.13	60.30	57.02	64.13	66.13	67.87	70.30	72.60	74.91	77.21	79.52	81.82	84.23	86.64	89.05	91.46	93.87
8	9	8	40.06	40.67	42.42	38.09	54.09	53.41	60.48	62.49	64.07	63.47	58.69	66.90	68.46	70.41	72.78	75.23	77.68	80.14	82.59	85.04	87.32	89.59	91.87	94.14	96.42
8	9	9	45.00	44.44	46.43	42.03	55.21	55.51	63.79	64.87	65.61	66.89	61.83	70.95	69.92	71.71	75.63	78.39	81.15	83.92	86.68	89.44	91.59	93.73	95.88	98.02	100.17
8	9	10	48.63	47.49	48.82	46.36	57.26	56.75	69.13	69.80	68.83	68.85	63.51	74.79	73.24	76.07	78.85	81.73	84.61	87.49	90.37	93.25	95.21	97.16	99.12	101.07	103.03
8	9	11	54.52	51.79	51.47	48.52	60.08	59.26	83.47	79.15	83.18	71.77	65.49	85.11	90.19	95.01	81.89	86.52	91.15	95.78	100.41	105.04	107.10	109.16	111.22	113.28	115.34
8	9	12	68.16	66.96	62.70	49.85	63.21	62.60	97.89	98.61	100.00	75.10	67.61	100.67	116.09	118.81	94.55	99.67	104.79	109.91	115.03	120.15	127.45	134.75	142.06	149.36	156.66
8	9	13	68.06	70.24	68.06	52.65	68.37	66.30	100.13	102.13	102.94	85.81	70.84	104.12	116.02	123.99	116.25	120.26	124.26	128.27	132.27	136.28	142.84	149.40	155.95	162.51	169.07
8	9	14	74.87	74.10	69.74	52.78	70.63	71.58	110.62	102.52	106.65	86.75	75.33	114.18	133.98	138.51	102.24	109.20	116.17	123.13	130.10	137.06	140.67	144.28	147.90	151.51	155.12
8	9	15	80.98	83.54	86.38	53.42	78.36	71.46	121.51	121.98	114.03	88.83	76.89	124.54	136.13	143.93	100.83	111.18	121.53	131.89	142.24	152.59	162.31	172.03	181.76	191.48	201.20
8	9	16	82.60	103.35	107.03	77.79	94.42	76.65	155.98	125.02	108.69	105.72	87.77	123.84	137.01	148.00	116.73	128.73	140.73	152.73	164.73	176.73	182.73	188.73	194.72	200.72	206.72
8	9	17	83.68	103.55	114.38	60.62	99.29	85.02	130.23	180.61	166.28	106.90	119.88	116.51	137.01	223.82	116.73	135.92	155.12	174.31	193.51	212.70	214.58	216.46	218.35	220.23	222.11
8	9	18	75.94	80.89	78.61	53.78	87.98	107.90	116.87	112.66	111.77	87.63	127.17	120.87	131.35	142.38	96.60	108.33	120.06	131.78	143.51	155.24	162.40	169.57	176.73	183.90	191.06
8	9	19	66.36	71.31	62.59	52.85	71.18	75.92	100.13	97.68	100.00	90.80	81.23	106.42	128.58	138.19	98.28	106.46	114.65	122.83	131.02	139.20	140.61	142.02	143.43	144.84	146.25
8	9	20	67.82	70.24	64.85	51.61	67.71	70.45	97.51	93.52	99.65	81.27	74.16	94.57	114.96	117.54	87.32	95.81	104.30	112.80	121.29	129.78	136.58	143.38	150.18	156.98	163.78
8	9	21	64.27	67.91	60.30	50.28	63.56	71.09	93.96	91.42	94.19	75.85	74.04	84.04	111.01	118.07	83.72	91.74	99.76	107.77	115.79	123.81	132.94	142.06	151.19	160.31	169.44
8	9	22	52.30	54.37	52.07	48.10	60.67	65.23	80.48	79.15	80.17	71.41	70.17	77.33	89.61	95.18	77.21	81.80	86.39	90.97	95.56	100.15	103.05	105.95	108.85	111.75	114.65
8	9	23	46.90	48.59	49.12	45.40	58.19	60.71	67.70	69.63	67.41	67.85	66.85	72.93	73.54	76.97	73.93	77.44	80.95	84.46	87.97	91.48	94.04	96.60	99.17	101.73	104.29
8	9	24	42.98	44.80	45.51	38.92	55.63	58.40	63.34	65.32	65.00	64.07	66.05	66.85	70.19	71.26	71.67	74.54	77.41	80.28	83.15	86.02	88.96	91.90	94.85	97.79	100.73
8	10	1	35.51	35.07	36.29	35.75	54.10	56.86	58.91	59.66	59.12	61.85	64.37	64.23	67.32	68.52	69.66	71.81	73.96	76.10	78.25	80.40	83.14	85.88	88.62	91.36	94.10
8	10	2	31.49	32.78	34.24	34.19	52.73	56.45	57.15	56.67	56.94	59.99	62.75	62.69	65.23	66.58	68.16	69.98	71.80	73.61	75.43	77.25	80.16	83.07	85.97	88.88	91.79
8	10	3	31.15	31.22	33.47	33.61	51.47	55.57	56.24	56.23	55.75	59.25	61.87	61.99	64.11	65.76	66.81	68.66	70.51	72.35	74.20	76.05	78.69	81.33	83.98	86.62	89.26
8	10	4	29.82	31.01	33.12	32.55	50.52	55.02	55.72	55.74	55.58	58.44	60.65	61.62	63.40	64.76	66.49	68.10	69.71	71.31	72.92	74.53	77.28	80.04	82.79	85.55	88.30
8	10	5	29.15	30.86	32.74	32.06	49.83	54.31	54.80	54.95	54.34	57.95	60.15	61.23	61.89	63.99	66.46	68.11	69.77	71.42	73.08	74.73	77.20	79.66	82.13	84.59	87.06
8	10	6	31.15	31.73	33.62	32.57	49.44	55.52	55.90	56.28	55.84	58.04	62.18	62.07	63.65	65.61	66.20	68.27	70.34	72.40	74.47	76.54	79.22	81.89	84.57	87.24	89.92
8	10	7	33.77	34.13	34.96	33.50	50.16	56.70	58.03	58.75	57.89	58.88	64.37	63.89	66.13	67.78	66.92	69.39	71.86	74.34	76.81	79.28	82.08	84.89	87.69	90.50	93.30
8	10	8	37.62	41.67	38.96	35.09	52.63	59.01	60.07	62.25	61.49	61.72	66.84	65.77	67.67	69.87	68.98	71.85	74.72	77.58	80.45	83.32	85.84	88.36	90.88	93.40	95.92
8	10	9	43.02	44.52	44.48	38.31	54.83	61.85	63.09	64.03	64.36	64.03	69.68	68.46	70.79	70.80	71.84	74.68	77.53	80.37	83.22	86.06	88.78	91.50	94.21	96.93	99.65
8	10	10	47.68	47.91	47.27	40.95	55.68	66.61	66.56	67.62	65.77	66.81	74.27	71.86	73.56	75.18	73.64	77.00	80.35	83.71	87.06	90.42	92.86	95.31	97.75	100.20	102.64
8	10	11	55.57	51.38	48.76	46.65	58.57	75.87	80.10	72.66	69.19	68.54	86.15	79.06	94.43	85.52	75.05	78.59	82.13	85.66	89.20	92.74	96.11	99.49	102.86	106.24	109.61
8	10	12	68.38	64.19	50.34	48.92	61.09	91.50	95.48	83.43	74.19	72.24	109.83	97.93	114.96	112.30	77.90	81.75	85.61	89.46	93.32	97.17	106.79	116.41	126.02	135.64	145.26
8	10	13	72.80	67.71	55.65	50.59	64.13	92.54	97.83	88.86	86.42	75.43	115.16	103.81	118.41	112.40	81.68	85.96	90.23	94.51	98.78	103.06	115.83	128.60	141.36	154.13	166.90
8	10	14	76.24	74.03	55.65	51.37	69.98	94.61	96.65	87.09	84.92	84.26	115.92	108.08	128.59	123.65	86.70	90.77	94.84	98.90	102.97	107.04	114.62	122.20	129.78	137.36	144.94
8	10	15	88.59	80.50	56.94	53.85	72.89	110.48	118.18	92.25	84.92	109.79	124.99	121.09	137.00	109.45	116.42	114.62	112.82	111.01	109.21	107.41	117.26	127.11	136.97	146.82	156.67
8	10	16	96.84	86.72	78.98	68.58	85.79	114.11	130.23	100.26	89.63	118.22	125.29	148.33	155.86	117.39	131.94	128.98	126.01	123.05	120.08	117.12	130.33	143.54	156.74	169.95	183.16
8	10	17	90.87	103.55	78.61	70.14	105.84	98.90	167.79	100.57	88.42	118.90	117.73	124.43	221.74	119.56	130.39	127.50	124.61	121.73	118.84	115.95	128.17	140.39	152.61	164.83	177.05
8	10	18	78.85	77.45	55.65	54.31	103.05	96.81	108.94	91.21	84.92	94.03	123.04	112.08	141.14	127.30	94.49	97.65	100.81	103.98	107.14	110.30	117.64	124.98	132.31	139.65	146.99
8	10	19	68.99	70.04	56.25	50.95	77.17	94.26	95.68	82.66	86.16	76.68	112.13	105.27	127.57	114.90	84.36	89.16	93.96	98.76	103.56	108.36	116.09	123.81	131.54	139.26	146.99
8	10	20	66.11	68.20	52.41	49.34	69.11	90.41	92.13	88.48	76.56	74.57	103.87	97.65	114.96	106.35	79.70	83.56	87.41	91.27	95.12	98.98	108.51	118.03	127.56	137.08	146.61
8	10	21	65.03	65.21	49.86	48.92	69.77	84.24	90.75	84.54	72.91	72.24	94.54	94.44	111.16	101.89	79.15	82.39	85.62	88.86	92.09	95.33	104.09	112.85	121.60	130.36	139.12
8	10	22	51.45	54.42	48.00	46.61	63.14	73.41	78.23	72.92	68.33	69.49	81.24	77.05	96.33	87.56	76.15	79.25	82.34	85.44	88.53	91.63	95.18	98.73	102.27	105.82	109.37
8	10	23	47.42	48.63	45.92	40.42	59.24	65.49	67.26	67.16	65.41	66.50	73.02	72.15	75.26	75.46	72.88	75.84	78.80	81.76	84.72	87.68	90.63	93.59	96.54	99.50	102.45
8	10	24	42.81	44.89	39.30	37.88	56.62	60.11	63.24	63.73	60.90	63.62	67.43	66.99	70.72	70.42	70.75	73.26	75.77	78.28	80.79	83.30	86.34	89.38	92.41	95.45	98.49
8	11	1	34.19	35.09	36.12	34.80	54.96	57.05	58.75	57.82	58.61	60.79	64.02	64.15	67.43	67.25	68.54	70.69	72.84	74.98	77.13	79.28	81.99	84.70	87.42	90.13	92.84
8	11	2	30.46	33.06	34.90	33.57	54.15	56.26	56.52	56.23	57.16	59.40	61.98	62.36	65.33	65.67	66.92	69.12	71.31	73.51	75.70	77.90	80.24	82.58	84.93	87.27	89.61
8	11	3	29.49	32.00	33.62	31.97	53.30	55.54	55.43	55.37	56.58	58.18	61.22	61.59	63.86	64.07	65.64	67.94	70.24	72.53	74.83	77.13	79.36	81.59	83.81	86.04	88.27
8	11	4	29.06	31.34	33.38	30.99	53.10	55.08	55.33	53.42	55.96	57.11	60.90	60.96	62.90	63.01	64.61	66.99	69.37	71.75	74.13	76.51	78.33	80.14	81.96	83.77	85.59
8	11	5	28.30	30.23	33.23	30.82	52.30	54.55	53.98	53.60	55.58	56.46	59.50	59.79	61.30	63.26	63.81	66.30	68.79	71.29	73.78	76.27	78.12	79.96	81.81	83.65	85.50
8	11	6	29.53	32.27	33.40	30.31	53.35	55.76	55.39	55.64	55.59	56.21	60.58	61.64	63.56	64.80	62.87	65.53	68.19	70.85	73.51	76.17	78.74	81.32	83.89	86.47	89.04
8	11	7	31.94	34.18	33.62	30.93	54.87	56.64	57.87	57.07	56.22	56.80	63.50	63.18	66.09	66.74	64.57	67.17	69.77	72.36	74.96	77.56	80.51	83.46	86.40	89.35	92.30
8	11	8	36.69	40.05	35.42	32.38	57.22	58.34	59.20	60.21	57.95	58.80	65.35	66.55	68.11	69.15	66.44	69.04	71.64	74.23	76.83	79.43	82.67	85.91	89.16	92.40	95.64
8	11	9	42.03	44.31	39.30	35.34	59.92	61.06	62.29	63.08	60.93	61.52	68.04	67.47	68.71	70.43	69.57	72.04	74.51	76.99	79.46	81.93	85.53	89.13	92.74	96.34	99.94
8	11	10	46.15	46.97	44.64	38.10	63.05	65.87	65.52	65.12	63.84	63.98	71.06	70.81	72.29	73.18	71.45	74.22	77.00	79.77	82.55	85.32	88.74	92.17	95.59	99.02	102.44
8	11	11	48.58	49.91	47.50	40.04	71.45	76.40	72.87	67.92	66.05	66.83	84.45	78.74	81.71	76.11	72.78	76.08	79.38	82.69	85.99	89.29	91.92	94.56	97.19	99.83	102.46
8	11	12	61.53	58.31	48.55	44.05	85.19	89.48	83.21	71.68	69.92	68.17	109.24	95.04	101.83	79.51	73.64	77.43	81.21	85.00	88.78	92.57	96.02	99.47	102.92	106.37	109.82
8	11	13	65.51	64.28	50.30	47.36	91.20	90.17	86.99	75.19	72.97	70.72	109.72	101.08	110.99	97.12	75.05	78.83	82.61	86.38	90.16	93.94	98.66	103.39	108.11	112.84	117.56
8	11	14	71.15	68.38	52.49	49.10	94.70	93.04	89.28	73.76	75.65	71.86	118.78	105.28	110.76	91.82	77.34	81.29	85.24	89.20	93.15	97.10	100.14	103.17	106.21	109.24	112.28
8	11	15	79.03	70.78	67.47	50.15	103.76	95.82	96.54	75.51	87.07	74.85	129.20	138.29	114.79	89.93	79.59	84.70	89.82	94.93	100.05	105.16	106.72	108.29	109.85	111.42	112.98
8	11	16	88.58	73.40	79.08	50.93	113.22	104.08	107.92	104.78	105.26	81.49	138.20	147.80	152.55	106.72	83.91	95.82	107.73	119.64	131.55	143.46	139.18	134.90	130.61	126.33	122.05
8	11	17	93.93	79.07	80.82	51.32	161.24	104.91	108.71	96.57	102.05	89.97	138.20	204.55	167.51	109.52	84.76	91.35	97.94	104.52	111.11	117.70	118.13	118.56	118.98	119.41	119.84

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	11	18	75.81	70.62	56.25	51.32	102.72	96.65	91.42	79.29	82.30	90.04	129.21	120.74	115.20	90.15	86.74	89.81	92.88	95.94	99.01	102.08	104.22	106.35	108.49	110.62	112.76
8	11	19	67.89	64.21	51.19	50.28	91.93	93.04	84.07	74.69	73.94	76.10	122.05	100.68	100.16	93.25	82.30	85.01	87.72	90.42	93.13	95.84	99.38	102.93	106.47	110.02	113.56
8	11	20	63.24	64.57	49.12	48.94	91.40	89.48	86.24	72.66	71.87	72.35	108.95	95.73	101.23	84.49	76.90	80.14	83.38	86.62	89.86	93.10	96.49	99.87	103.26	106.64	110.03
8	11	21	61.19	58.82	48.31	49.11	83.31	89.48	82.95	70.85	70.64	71.63	109.72	94.61	97.13	79.29	76.25	79.39	82.54	85.68	88.83	91.97	94.94	97.91	100.87	103.84	106.81
8	11	22	50.01	50.92	46.92	46.86	71.45	75.87	72.60	67.08	67.36	68.59	87.94	79.29	83.30	74.00	74.90	77.66	80.41	83.17	85.92	88.68	91.42	94.16	96.89	99.63	102.37
8	11	23	46.24	46.55	41.67	41.28	64.07	65.23	64.60	64.37	63.26	66.12	70.67	72.14	73.83	71.42	72.27	74.65	77.02	79.40	81.77	84.15	87.39	90.64	93.88	97.13	100.37
8	11	24	42.71	42.39	39.05	37.88	60.05	60.98	60.91	59.84	60.40	64.08	67.58	68.15	68.72	68.95	71.40	73.27	75.14	77.00	78.87	80.74	83.60	86.46	89.32	92.18	95.04
8	12	1	33.04	34.12	35.83	35.10	55.86	57.24	57.63	57.31	57.78	62.12	64.22	64.52	65.75	66.61	68.68	70.54	72.39	74.25	76.10	77.96	80.85	83.74	86.63	89.52	92.41
8	12	2	31.05	31.82	34.25	33.25	54.27	56.24	55.42	56.28	56.51	59.58	61.78	62.22	64.01	65.24	66.74	68.72	70.70	72.68	74.66	76.64	79.44	82.24	85.03	87.83	90.63
8	12	3	29.53	30.63	33.06	32.62	53.50	55.54	54.49	55.78	55.33	58.42	60.21	60.81	62.32	64.61	65.79	67.56	69.33	71.10	72.87	74.64	77.61	80.59	83.56	86.54	89.51
8	12	4	29.04	28.57	31.75	32.33	53.27	55.12	52.98	55.37	54.36	58.04	59.87	60.26	61.16	64.07	64.98	66.34	67.69	69.05	70.40	71.76	75.12	78.49	81.85	85.22	88.58
8	12	5	28.20	28.77	30.91	31.95	52.61	54.55	52.89	55.19	53.99	56.58	58.94	59.10	60.30	63.93	63.90	65.17	66.44	67.70	68.97	70.24	73.80	77.36	80.91	84.47	88.03
8	12	6	29.71	31.14	30.39	33.12	53.50	55.52	54.66	55.31	53.73	58.24	60.75	61.27	62.33	63.99	65.72	66.83	67.94	69.05	70.16	71.27	74.60	77.93	81.27	84.60	87.93
8	12	7	31.68	33.10	31.50	35.35	54.70	56.66	56.51	55.78	54.32	61.90	63.50	63.48	64.53	64.71	68.89	69.47	70.05	70.62	71.20	71.78	75.27	78.75	82.24	85.72	89.21
8	12	8	36.32	36.34	33.14	38.10	56.36	58.63	58.67	57.30	55.66	64.66	65.22	65.59	67.67	66.53	70.86	71.97	73.08	74.18	75.29	76.40	79.59	82.78	85.98	89.17	92.36
8	12	9	41.78	41.47	36.27	41.91	60.18	60.98	59.41	60.03	58.42	66.43	67.31	66.65	68.72	68.41	72.11	73.55	74.99	76.42	77.86	79.30	82.41	85.53	88.64	91.76	94.87
8	12	10	44.88	44.60	39.39	46.32	64.18	65.10	62.62	62.77	60.23	68.03	71.37	70.21	71.26	70.23	73.43	75.15	76.88	78.60	80.33	82.05	85.37	88.69	92.00	95.32	98.64
8	12	11	46.85	47.16	41.53	47.90	75.22	75.68	65.73	65.95	62.62	71.63	84.98	75.52	74.39	71.29	75.05	77.07	79.09	81.10	83.12	85.14	88.26	91.38	94.49	97.61	100.73
8	12	12	53.79	49.31	45.86	50.08	89.97	86.26	71.46	68.32	65.73	76.54	107.98	91.97	79.94	73.68	79.56	81.33	83.10	84.88	86.65	88.42	91.23	94.04	96.84	99.65	102.46
8	12	13	60.58	52.92	47.51	52.74	91.47	87.56	79.64	70.59	67.94	87.03	107.98	93.20	92.00	77.93	87.13	87.94	88.76	89.57	90.39	91.20	93.97	96.74	99.50	102.27	105.04
8	12	14	59.53	54.53	48.97	54.31	95.23	91.78	75.32	72.48	69.84	94.30	118.05	97.77	86.77	81.18	97.82	96.85	95.87	94.90	93.92	92.95	96.15	99.35	102.54	105.74	108.94
8	12	15	66.66	57.11	50.54	55.09	103.24	109.54	77.58	79.56	71.84	96.06	143.66	101.60	87.48	91.33	100.83	99.73	98.63	97.53	96.43	95.33	99.20	103.07	106.93	110.80	114.67
8	12	16	68.62	81.28	52.38	55.34	127.93	113.02	93.05	110.34	73.98	97.13	168.29	129.93	107.49	113.54	100.51	99.91	99.32	98.72	98.13	97.53	107.98	118.43	128.89	139.34	149.79
8	12	17	65.10	79.64	52.91	60.70	172.54	148.07	90.65	115.10	78.32	129.62	212.96	154.37	109.97	114.05	126.16	120.65	115.14	109.63	104.12	98.61	106.96	115.31	123.67	132.02	140.37
8	12	18	61.85	57.63	53.32	63.90	102.22	94.92	77.58	79.16	94.51	121.69	135.27	101.15	86.77	83.62	118.84	115.15	111.46	107.78	104.09	100.40	102.89	105.37	107.86	110.34	112.83
8	12	19	52.66	54.94	51.02	54.15	89.49	89.35	79.19	73.18	73.86	94.26	108.88	94.14	86.83	77.11	94.93	95.41	95.89	96.38	96.86	97.34	99.57	101.80	104.04	106.27	108.50
8	12	20	59.11	50.92	49.00	51.25	89.97	83.51	71.46	69.83	69.92	82.34	106.35	92.84	82.60	76.41	84.68	86.25	87.83	89.40	90.98	92.55	95.12	97.69	100.25	102.82	105.39
8	12	21	55.49	49.31	48.32	50.27	87.25	84.32	68.59	68.32	70.04	75.36	101.21	89.32	76.48	75.43	79.57	82.06	84.56	87.05	89.55	92.04	94.12	96.21	98.29	100.38	102.46
8	12	22	48.22	46.10	47.34	47.43	77.19	76.67	64.27	66.14	66.31	69.41	87.45	76.79	72.19	73.18	74.83	77.61	80.39	83.18	85.96	88.74	91.31	93.88	96.46	99.03	101.60
8	12	23	43.25	44.21	45.17	45.23	65.10	65.58	61.89	62.26	63.29	67.23	71.94	69.03	69.06	70.13	73.01	75.18	77.36	79.53	81.71	83.88	86.38	88.88	91.38	93.88	96.38
8	12	24	37.45	37.07	39.88	40.20	60.58	61.20	58.74	59.70	60.48	66.52	67.39	66.65	67.00	68.19	71.87	73.87	75.87	77.87	79.87	81.87	84.03	86.19	88.35	90.51	92.67
8	13	1	31.63	34.11	36.35	35.59	56.07	57.18	57.15	57.22	58.21	62.79	64.36	62.81	65.19	65.94	69.42	71.16	72.90	74.64	76.38	78.12	80.46	82.80	85.13	87.47	89.81
8	13	2	29.68	32.25	35.30	34.24	54.57	56.04	55.66	56.26	57.08	60.62	62.32	61.27	63.71	64.71	68.23	69.87	71.51	73.15	74.79	76.43	78.74	81.05	83.36	85.67	87.98
8	13	3	28.56	31.35	34.10	33.24	53.69	55.14	54.77	55.11	56.37	59.25	60.47	59.85	62.58	63.73	67.06	68.62	70.18	71.73	73.29	74.85	76.93	79.00	81.08	83.15	85.23
8	13	4	26.91	30.63	33.87	33.05	53.30	54.84	54.18	54.03	56.04	58.75	59.54	58.90	61.96	62.51	66.52	68.42	70.32	72.21	74.11	76.01	77.28	78.55	79.83	81.10	82.37
8	13	5	27.56	30.34	33.41	32.01	52.98	54.22	53.76	52.58	55.35	57.11	58.43	58.39	61.81	59.66	65.06	66.83	68.61	70.38	72.16	73.93	74.89	75.85	76.81	77.77	78.73
8	13	6	28.91	30.41	34.93	33.56	53.80	55.16	53.85	52.19	57.09	58.69	60.70	60.26	61.65	59.04	66.72	68.61	70.51	72.40	74.30	76.19	75.38	74.57	73.76	72.95	72.14
8	13	7	30.15	30.93	36.98	35.34	54.99	56.49	54.38	53.98	58.43	62.60	63.61	62.58	62.44	62.45	69.47	71.42	73.37	75.32	77.27	79.22	79.95	80.69	81.42	82.16	82.89
8	13	8	34.14	33.33	40.43	39.17	57.25	57.81	56.09	55.64	61.64	65.57	65.28	64.66	64.12	63.77	71.76	73.90	76.04	78.17	80.31	82.45	83.33	84.22	85.10	85.99	86.87
8	13	9	37.29	36.26	44.98	45.26	60.15	60.41	58.37	57.83	64.39	67.48	67.04	66.65	66.71	66.65	73.66	75.88	78.11	80.33	82.56	84.78	85.95	87.12	88.29	89.46	90.63
8	13	10	42.58	40.64	46.85	47.44	64.75	63.72	60.27	60.26	66.10	70.31	70.67	67.69	68.29	68.43	76.41	78.64	80.87	83.09	85.32	87.55	88.87	90.19	91.50	92.82	94.14
8	13	11	44.66	44.59	48.60	49.71	75.86	71.79	63.15	61.59	69.79	76.01	78.37	70.35	69.16	69.84	81.23	83.13	85.04	86.94	88.85	90.75	91.75	92.74	93.74	94.73	95.73
8	13	12	46.41	46.10	50.86	52.25	89.91	81.27	65.41	64.19	73.94	94.89	97.02	73.56	71.83	70.43	92.12	92.48	92.85	93.21	93.58	93.94	95.00	96.05	97.11	98.16	99.22
8	13	13	49.72	48.98	56.26	54.78	90.42	82.51	68.99	66.95	83.69	99.91	99.98	82.20	74.96	71.21	101.19	101.35	101.51	101.67	101.83	101.99	101.65	101.32	100.98	100.65	100.31
8	13	14	51.96	51.04	56.66	53.45	89.91	85.58	72.87	68.28	89.89	96.41	107.72	81.63	80.27	73.59	101.16	103.18	105.20	107.22	109.24	111.26	109.41	107.56	105.72	103.87	102.02
8	13	15	52.71	54.12	56.73	55.70	108.95	89.69	85.19	69.58	89.50	108.86	109.84	81.63	104.16	75.57	115.32	114.63	113.95	113.26	112.58	111.89	110.05	108.21	106.38	104.54	102.70
8	13	16	53.61	73.41	62.34	61.33	127.75	97.73	108.00	72.46	96.51	112.28	136.38	98.27	107.45	77.22	125.01	122.56	120.11	117.67	115.22	112.77	111.19	109.60	108.02	106.43	104.85
8	13	17	53.61	74.79	73.50	61.33	127.75	116.53	108.79	72.73	119.42	110.90	131.57	93.25	107.40	79.50	121.83	127.47	133.11	138.76	144.40	150.04	141.20	132.37	123.53	114.70	105.86
8	13	18	52.22	55.32	73.11	59.06	94.21	89.69	79.41	78.15	115.50	110.16	108.58	81.63	82.81	81.01	123.28	127.13	130.97	134.82	138.66	142.51	135.18	127.85	120.53	113.20	105.87
8	13	19	49.67	49.97	56.94	53.70	87.93	82.04	71.05	71.68	92.28	95.74	96.88	82.24	77.32	77.53	98.65	100.57	102.50	104.42	106.35	108.27	107.26	106.25	105.24	104.23	103.22
8	13	20	48.25	47.35	52.75	53.42	83.92	81.59	66.90	68.25	80.17	98.01	99.10	77.29	74.02	73.89	100.83	100.31	99.80	99.28	98.77	98.25	99.00	99.75	100.49	101.24	101.99
8	13	21	46.79	46.55	50.97	52.89	81.40	81.22	65.86	67.78	73.86	96.49	97.68	73.56	72.38	74.00	99.20	97.98	96.77	95.55	94.34	93.12	94.89	96.66	98.42	100.19	101.96
8	13	22	44.06	44.80	48.07	50.17	73.62	71.88	63.33	65.84	67.73	75.58	78.99	69.01	70.13	72.56	80.21	82.10	83.99	85.88	87.77	89.66	91.87	94.07	96.28	98.48	100.69
8	13	23	41.34	40.17	45.91	46.99	63.83	61.91	60.14	62.41	65.52	69.30	69.86	66.92	67.67	69.88	74.82	77.07	79.33	81.58	83.84	86.09	88.02	89.95	91.87	93.80	95.73
8	13	24	34.84	34.98	42.45	44.24	59.37	59.48	58.75	59.75	63.56	67.59	66.69	64.67	66.93	68.57	73.11	75.05	76.99	78.94	80.88	82.82	84.94	87.06	89.19	91.31	93.43
8	14	1	31.69	32.54	36.98	36.60	55.52	56.44	56.47	57.30	59.53	63.81	62.85	62.53	64.15	66.50	70.65	72.61	74.56	76.52	78.47	80.43	82.27	84.12	85.96	87.81	89.65
8	14	2	29.91	30.90	35.35	35.29	54.53	54.85	55.24	56.54	58.13	62.17	60.49	61.27	62.57	64.99	69.07	71.03	72.99	74.95	76.91	78.87	80.60	82.34	84.07	85.81	87.54
8	14	3	29.13	29.25	34.50	34.24	54.02	54.29	54.12	56.16	56.68	60.50	58.94	60.51	61.48	63.75	67.78	69.80	71.83	73.85	75.88	77.90	79.71	81.52	83.33	85.14	86.95
8	14	4	28.65	28.42	34.22	33.86	53.50	51.58	53.42	55.78	55.89	60.13	57.75	60.08	60.51	63.41	67.04	69.06	71.08	73.09	75.11	77.13	78.98	80.83	82.68	84.53	86.38

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	14	5	28.29	26.92	33.25	32.57	52.77	51.97	51.02	54.62	54.96	58.63	57.07	59.89	58.87	61.39	66.04	67.75	69.45	71.16	72.86	74.57	76.43	78.29	80.15	82.01	83.87
8	14	6	28.44	26.91	34.96	34.58	53.72	54.52	50.25	56.20	56.14	60.57	59.69	59.51	58.14	63.78	68.01	69.80	71.59	73.39	75.18	76.97	78.99	81.00	83.02	85.03	87.05
8	14	7	29.05	28.32	36.35	36.46	54.64	55.45	52.31	57.21	58.73	63.53	61.87	60.43	60.21	66.22	70.08	71.85	73.62	75.40	77.17	78.94	81.29	83.64	86.00	88.35	90.70
8	14	8	30.90	29.94	40.91	40.00	55.86	57.19	54.17	60.15	62.67	66.59	64.89	62.13	61.81	68.51	73.01	75.08	77.15	79.21	81.28	83.35	85.31	87.26	89.22	91.17	93.13
8	14	9	34.22	33.27	46.43	45.96	57.95	58.79	56.67	62.65	65.67	67.70	66.84	64.79	64.70	69.68	73.66	76.55	79.43	82.32	85.20	88.09	89.82	91.55	93.27	95.00	96.73
8	14	10	36.45	35.09	48.49	47.79	61.13	60.85	58.74	64.20	68.29	70.69	67.61	66.65	66.78	70.49	76.47	79.67	82.87	86.07	89.27	92.47	93.85	95.22	96.60	97.97	99.35
8	14	11	42.90	39.89	50.42	51.03	68.80	64.81	59.93	67.09	75.70	86.76	70.09	68.00	67.69	72.05	86.75	89.12	91.49	93.86	96.23	98.60	99.03	99.45	99.88	100.30	100.73
8	14	12	44.30	42.26	55.58	53.42	77.19	70.52	62.42	70.97	87.24	100.69	74.83	72.01	68.97	74.78	112.06	110.59	109.12	107.64	106.17	104.70	104.25	103.80	103.36	102.91	102.46
8	14	13	46.11	44.93	61.77	57.60	81.03	76.00	64.18	76.15	96.47	103.27	85.63	73.41	71.23	81.69	112.49	115.18	117.88	120.57	123.27	125.96	122.22	118.48	114.74	111.00	107.26
8	14	14	48.31	47.25	56.09	55.53	81.74	73.43	65.49	75.89	92.90	108.25	84.09	78.72	73.56	91.52	128.54	128.70	128.86	129.02	129.18	129.34	125.41	121.49	117.56	113.64	109.71
8	14	15	50.44	48.97	64.00	77.34	91.10	75.06	67.75	76.97	107.35	139.30	87.28	94.71	74.92	89.48	149.06	147.05	145.05	143.04	141.04	139.03	134.62	130.21	125.81	121.40	116.99
8	14	16	62.94	49.76	66.52	71.23	105.16	78.14	69.99	79.57	126.38	116.43	103.16	119.11	78.23	87.05	143.25	144.06	144.88	145.69	146.51	147.32	141.62	135.93	130.23	124.54	118.84
8	14	17	63.73	51.11	67.50	72.44	125.83	76.67	71.46	90.35	112.76	116.98	103.43	113.99	79.91	125.78	142.56	144.61	146.66	148.70	150.75	152.80	146.37	139.94	133.51	127.08	120.65
8	14	18	49.50	56.01	62.18	63.64	93.88	74.38	89.10	83.63	110.60	112.28	84.25	83.24	80.83	87.29	125.75	126.99	128.23	129.46	130.70	131.94	129.74	127.54	125.33	123.13	120.93
8	14	19	46.83	49.52	55.75	53.22	79.37	73.60	68.79	80.83	96.39	98.81	84.17	75.68	76.38	98.15	110.15	112.50	114.85	117.20	119.55	121.90	119.91	117.92	115.93	113.94	111.95
8	14	20	45.79	47.27	60.72	53.38	81.40	73.43	65.51	72.66	95.36	98.54	79.09	72.39	73.18	79.29	101.67	105.91	110.15	114.40	118.64	122.88	119.48	116.08	112.67	109.27	105.87
8	14	21	45.17	47.16	56.73	53.36	78.06	68.98	65.86	70.34	93.96	95.81	74.79	71.86	72.19	75.34	101.19	103.96	106.73	109.51	112.28	115.05	112.57	110.08	107.60	105.11	102.63
8	14	22	42.81	45.18	50.34	51.01	68.80	63.72	63.28	67.07	73.20	77.59	70.58	68.95	70.28	72.54	83.84	86.01	88.18	90.36	92.53	94.70	95.91	97.11	98.32	99.52	100.73
8	14	23	37.03	40.81	48.15	47.87	60.48	60.87	60.15	63.90	66.55	70.38	66.84	66.12	67.89	70.43	77.04	79.96	82.88	85.79	88.71	91.63	93.07	94.51	95.95	97.39	98.83
8	14	24	34.53	35.09	45.47	44.94	57.49	57.60	58.71	62.25	65.45	67.55	64.53	64.52	67.33	69.25	73.43	76.26	79.08	81.91	84.73	87.56	88.92	90.28	91.63	92.99	94.35
8	15	1	31.26	32.88	38.82	37.54	54.63	56.40	56.75	58.89	60.29	63.81	62.84	62.09	64.92	67.14	70.47	72.78	75.09	77.41	79.72	82.03	83.94	85.85	87.76	89.67	91.58
8	15	2	29.09	30.95	36.24	35.52	53.72	55.16	55.43	56.81	59.00	62.44	60.80	60.62	63.05	65.68	69.15	71.27	73.39	75.52	77.64	79.76	81.79	83.82	85.85	87.88	89.91
8	15	3	28.03	30.56	35.46	34.78	52.91	54.66	54.99	56.28	58.00	61.50	59.95	59.23	62.15	64.55	68.18	70.32	72.46	74.59	76.73	78.87	80.84	82.81	84.77	86.74	88.71
8	15	4	27.16	30.23	34.38	34.62	50.96	53.92	54.60	56.20	57.43	60.79	59.40	58.28	61.73	63.99	67.69	69.80	71.91	74.02	76.13	78.24	80.22	82.21	84.19	86.18	88.16
8	15	5	25.38	29.20	33.70	34.02	50.16	53.45	53.01	54.59	55.78	58.98	58.99	57.00	60.44	62.45	66.40	68.40	70.40	72.39	74.39	76.39	78.15	79.90	81.66	83.41	85.17
8	15	6	25.33	30.90	35.58	35.13	52.95	53.75	55.24	56.27	58.03	61.03	58.92	56.31	62.40	64.32	68.01	70.21	72.41	74.60	76.80	79.00	80.85	82.70	84.54	86.39	88.24
8	15	7	26.78	32.79	37.54	36.53	53.89	54.42	56.73	57.81	59.36	63.13	59.81	58.09	64.42	66.52	69.75	72.17	74.59	77.00	79.42	81.84	83.53	85.21	86.90	88.58	90.27
8	15	8	28.27	35.09	42.48	39.90	54.99	55.37	58.46	61.59	64.35	65.68	61.53	59.77	66.79	68.97	71.83	74.49	77.15	79.82	82.48	85.14	87.09	89.03	90.98	92.92	94.87
8	15	9	31.19	41.04	45.81	45.86	56.47	56.93	59.86	63.74	65.78	68.07	64.28	62.14	67.67	70.44	74.41	77.26	80.12	82.97	85.83	88.68	90.52	92.36	94.21	96.05	97.89
8	15	10	34.44	44.60	48.32	49.11	58.83	59.08	61.64	67.07	68.42	73.64	65.54	64.61	68.71	73.33	78.84	81.48	84.12	86.77	89.41	92.05	93.79	95.53	97.27	99.01	100.75
8	15	11	36.29	45.83	52.75	53.18	62.28	60.98	63.67	70.72	84.09	94.89	67.82	66.19	70.74	75.62	91.99	93.55	95.11	96.68	98.24	99.80	100.40	100.99	101.59	102.18	102.78
8	15	12	39.87	49.55	56.77	59.26	67.12	64.83	68.62	79.15	96.39	107.56	70.53	66.99	74.49	85.65	114.01	116.82	119.62	122.43	125.23	128.04	123.74	119.44	115.13	110.83	106.53
8	15	13	43.48	53.64	60.45	68.52	73.08	68.64	75.80	82.71	101.47	112.28	73.86	68.80	81.98	97.34	128.20	130.17	132.15	134.12	136.10	138.07	135.21	132.36	129.50	126.65	123.79
8	15	14	44.79	58.30	58.17	72.08	77.95	71.88	76.63	80.22	106.79	122.94	79.03	71.01	88.95	97.21	141.91	140.00	138.09	136.17	134.26	132.35	131.28	130.21	129.13	128.06	126.99
8	15	15	46.63	58.55	83.68	76.57	86.80	86.26	77.58	86.60	149.08	142.50	97.31	72.94	86.55	98.02	149.17	156.36	163.56	170.75	177.95	185.14	174.47	163.80	153.13	142.46	131.79
8	15	16	48.31	60.66	72.39	99.47	82.89	102.37	81.40	100.07	133.80	219.95	111.78	75.68	84.34	126.94	161.02	164.22	167.42	170.62	173.82	177.02	172.08	167.13	162.19	157.24	152.30
8	15	17	49.98	66.66	72.46	101.33	81.02	99.09	97.58	100.86	133.80	174.95	113.10	79.26	108.81	104.66	159.85	162.43	165.01	167.58	170.16	172.74	167.44	162.14	156.85	151.55	146.25
8	15	18	50.18	61.01	66.42	84.87	82.41	76.05	82.63	94.40	111.66	144.47	83.37	93.31	86.29	100.38	146.85	147.05	147.24	147.44	147.63	147.83	145.99	144.16	142.32	140.49	138.65
8	15	19	46.93	56.64	55.65	71.89	73.60	69.12	82.04	81.56	95.50	127.24	74.45	74.68	88.77	93.54	141.96	140.69	139.42	138.15	136.88	135.61	133.88	132.15	130.43	128.70	126.97
8	15	20	44.92	50.95	56.61	68.82	69.72	65.51	71.46	82.71	96.95	109.06	71.67	71.01	77.85	93.14	125.55	126.69	127.83	128.96	130.10	131.24	129.52	127.81	126.09	124.38	122.66
8	15	21	45.18	49.12	55.74	61.33	66.79	64.36	68.55	81.56	92.18	105.93	70.24	71.07	74.50	88.87	114.93	115.75	116.58	117.40	118.23	119.05	118.21	117.37	116.54	115.70	114.86
8	15	22	43.22	45.71	52.42	56.31	61.71	61.15	63.23	70.29	75.97	94.88	67.36	68.49	70.65	76.67	97.69	97.51	97.33	97.15	96.97	96.79	97.92	99.06	100.19	101.33	102.46
8	15	23	38.00	43.81	48.18	49.52	58.21	58.37	61.08	66.94	69.69	71.74	65.37	65.98	68.66	73.73	78.09	80.44	82.79	85.14	87.49	89.84	92.23	94.61	97.00	99.38	101.77
8	15	24	35.04	39.47	45.84	46.53	55.52	57.16	59.63	64.03	65.50	68.01	64.22	64.91	67.89	70.43	73.65	76.54	79.43	82.31	85.20	88.09	90.17	92.24	94.32	96.39	98.47
8	16	1	31.35	33.25	38.75	36.64	54.51	55.16	57.06	59.76	60.78	63.01	61.00	62.60	65.90	68.30	69.52	72.11	74.69	77.28	79.86	82.45	84.62	86.79	88.97	91.14	93.31
8	16	2	29.48	31.44	36.29	34.97	53.74	54.19	55.59	58.10	58.88	60.44	59.41	61.27	64.02	66.77	67.98	70.39	72.80	75.21	77.62	80.03	82.15	84.26	86.38	88.49	90.61
8	16	3	28.94	30.88	35.46	33.96	53.00	52.47	55.24	56.81	58.02	59.04	58.03	60.40	62.88	65.58	66.68	69.16	71.64	74.13	76.61	79.09	81.11	83.12	85.14	87.15	89.17
8	16	4	28.81	30.52	35.34	31.95	52.54	51.47	54.71	56.39	57.79	57.29	57.21	60.26	62.31	64.83	64.81	67.62	70.43	73.25	76.06	78.87	80.90	82.94	84.97	87.01	89.04
8	16	5	27.91	29.58	34.63	32.76	51.95	49.41	53.10	55.24	56.84	57.42	55.12	58.35	60.88	63.29	64.99	67.41	69.84	72.26	74.69	77.11	79.11	81.10	83.10	85.09	87.09
8	16	6	29.32	30.91	35.82	34.05	52.20	48.90	55.38	56.90	57.96	58.97	54.60	61.27	62.62	65.98	66.96	69.42	71.89	74.35	76.82	79.28	81.40	83.52	85.65	87.77	89.89
8	16	7	31.51	32.48	37.58	35.25	52.95	51.01	56.73	58.79	59.36	60.26	57.08	62.12	64.95	68.11	68.48	70.92	73.37	75.81	78.26	80.70	83.16	85.62	88.09	90.55	93.01
8	16	8	35.68	36.41	41.25	37.86	53.98	53.22	58.74	62.06	62.67	63.38	58.56	64.52	67.67	70.37	70.54	73.39	76.25	79.10	81.96	84.81	86.96	89.10	91.25	93.39	95.54
8	16	9	38.17	42.63	45.86	42.31	54.96	55.59	61.08	64.02	66.11	66.31	61.53	66.65	68.71	70.43	73.05	76.19	79.34	82.48	85.63	88.77	90.83	92.89	94.96	97.02	99.08
8	16	10	42.80	45.18	48.99	47.11	56.09	57.46	63.58	67.65	71.35	69.54	64.28	68.10	71.22	73.36	74.90	78.43	81.96	85.50	89.03	92.56	94.39	96.22	98.04	99.87	101.70
8	16	11	44.94	48.32	54.52	49.55	58.80	58.45	69.55	74.28	90.39	74.23	65.46	70.03	73.98	83.35	80.67	85.07	89.48	93.88	98.29	102.69	106.24	109.79	113.35	116.90	120.45
8	16	12	46.46	51.34	61.75	51.36	61.31	60.92	75.03	82.71	101.21	84.38	66.84	72.97	86.87	101.31	91.43	100.64	109.85	119.07	128.28	137.49	138.58	139.67	140.75	141.84	142.93
8	16	13	49.40	56.92	68.35	52.65	64.50	62.70	81.65	84.11	109.50	84.38	68.38	81.17	95.75	99.54	91.60	103.08	114.57	126.05	137.54	149.02	149.42	149.82	150.21	150.61	151.01
8	16	14	61.38	51.34	71.94	53.10	68.80	63.92	81.88	87.80	118.76	86.24	70.45	89.80	92.90	109.06	97.05	110.07	123.09	136.11	149.13	162.15	159.83	157.50	155.18	152.85	150.53
8	16	15	57.54	55.71	80.67	54.27	73.62	65.90	85.46	94.03	135.03	91.48	72.08	91.71	97.42	112.51	101.39	117.43	133.47	149.50	165.54	181.58	181.52	181.46	181.39	181.33	181.27

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	16	16	55.18	58.86	100.35	66.66	84.75	70.34	116.35	100.37	188.07	100.80	74.04	92.58	111.01	117.40	108.86	129.82	150.78	171.73	192.69	213.65	209.57	205.49	201.41	197.33	193.25
8	16	17	58.28	58.82	107.27	86.95	90.31	72.57	102.13	100.50	206.97	102.31	75.30	112.01	106.72	112.44	108.86	130.75	152.64	174.52	196.41	218.30	212.53	206.76	201.00	195.23	189.46
8	16	18	56.79	58.31	80.68	54.57	71.51	90.14	98.50	90.93	138.49	93.25	82.45	89.26	102.16	117.40	102.28	118.33	134.39	150.44	166.50	182.55	178.89	175.23	171.56	167.90	164.24
8	16	19	55.80	52.08	70.63	53.22	65.09	69.96	81.20	81.56	124.28	89.26	73.75	99.11	91.52	99.54	95.15	106.46	117.77	129.09	140.40	151.71	152.90	154.09	155.29	156.48	157.67
8	16	20	48.80	56.66	69.45	53.15	62.44	65.04	81.11	81.56	109.45	85.60	70.09	77.40	93.67	99.53	91.88	102.44	113.00	123.56	134.12	144.68	143.92	143.15	142.39	141.62	140.86
8	16	21	46.42	54.27	64.46	52.58	60.95	64.88	80.07	81.56	101.70	84.03	69.88	72.69	93.33	93.89	86.83	95.86	104.89	113.92	122.95	131.98	132.02	132.06	132.11	132.15	132.19
8	16	22	43.88	48.17	57.16	49.84	59.09	61.35	68.99	72.66	96.47	74.13	67.27	69.01	74.70	79.83	79.38	84.41	89.44	94.46	99.49	104.52	105.07	105.62	106.16	106.71	107.26
8	16	23	40.02	45.00	48.99	46.61	56.62	58.70	63.66	67.10	71.40	68.71	65.70	66.85	70.36	74.00	74.06	77.76	81.46	85.17	88.87	92.57	94.41	96.25	98.09	99.93	101.77
8	16	24	36.09	42.29	46.26	39.89	55.50	57.22	61.08	64.21	66.46	64.52	64.25	66.50	68.27	70.43	70.61	74.23	77.85	81.48	85.10	88.72	90.68	92.63	94.59	96.54	98.50
8	17	1	30.95	33.87	37.70	36.81	54.27	56.12	58.55	59.66	60.11	63.10	61.58	63.84	66.60	68.20	68.96	71.34	73.71	76.09	78.46	80.84	83.48	86.12	88.75	91.39	94.03
8	17	2	29.45	32.45	35.58	35.34	53.22	55.08	56.73	57.67	57.89	60.96	60.68	61.89	65.01	66.69	67.80	70.01	72.23	74.44	76.66	78.87	81.59	84.31	87.03	89.75	92.47
8	17	3	28.92	31.34	34.45	34.20	51.76	54.22	56.00	56.82	56.60	59.25	59.97	60.85	64.01	66.21	66.29	68.35	70.40	72.46	74.51	76.57	79.46	82.36	85.25	88.15	91.04
8	17	4	28.54	30.91	32.97	33.21	50.37	53.31	55.76	56.81	54.86	58.88	59.87	60.58	63.32	65.69	66.14	67.82	69.51	71.19	72.88	74.56	77.67	80.79	83.90	87.02	90.13
8	17	5	27.73	29.97	33.10	33.12	48.34	52.39	54.84	55.75	55.30	58.80	58.63	58.90	61.66	63.91	66.16	67.93	69.71	71.48	73.26	75.03	77.56	80.10	82.63	85.17	87.70
8	17	6	29.15	31.73	34.76	33.49	48.34	54.22	56.11	56.85	56.63	58.92	60.41	60.77	63.71	65.76	66.44	68.68	70.93	73.17	75.42	77.66	80.22	82.77	85.33	87.88	90.44
8	17	7	30.09	33.66	36.00	34.38	49.89	56.00	58.14	58.20	57.89	59.54	61.42	62.67	66.09	67.34	67.22	69.67	72.13	74.58	77.04	79.49	82.20	84.90	87.61	90.31	93.02
8	17	8	35.64	38.71	39.20	35.60	52.16	57.00	59.86	61.09	60.76	61.47	64.02	65.98	68.28	69.34	68.57	71.36	74.16	76.95	79.75	82.54	85.42	88.29	91.17	94.04	96.92
8	17	9	39.70	43.22	43.89	38.92	54.16	58.34	62.05	63.89	64.17	63.53	65.21	67.46	68.71	71.26	70.70	73.97	77.24	80.51	83.78	87.05	89.58	92.11	94.64	97.17	99.70
8	17	10	44.03	45.41	48.18	42.47	55.52	60.48	65.91	68.08	67.73	66.05	66.76	69.18	71.26	75.84	72.53	75.71	78.89	82.08	85.26	88.44	91.65	94.86	98.07	101.28	104.49
8	17	11	46.15	50.77	50.28	46.38	55.96	63.30	73.56	75.31	73.33	68.22	68.56	72.41	80.98	86.99	73.83	78.13	82.43	86.74	91.04	95.34	98.92	102.50	106.09	109.67	113.25
8	17	12	48.89	57.30	52.91	48.57	57.76	68.03	81.31	86.18	80.59	70.58	71.21	88.57	98.82	102.97	76.29	82.94	89.59	96.24	102.89	109.54	116.44	123.34	130.24	137.14	144.04
8	17	13	54.26	58.70	52.92	49.55	59.70	75.18	83.21	93.52	76.68	72.46	79.63	93.53	98.97	114.01	78.24	84.66	91.07	97.49	103.90	110.32	118.48	126.64	134.80	142.96	151.12
8	17	14	53.48	58.31	54.55	50.87	60.94	75.02	83.56	100.68	82.41	75.23	83.30	94.10	109.46	136.76	81.94	89.23	96.53	103.82	111.12	118.41	132.20	145.99	159.79	173.58	187.37
8	17	15	53.30	64.80	56.05	52.48	63.46	75.18	91.54	114.87	85.70	77.54	85.51	95.72	126.18	143.96	83.84	91.62	99.40	107.17	114.95	122.73	137.94	153.14	168.35	183.55	198.76
8	17	16	66.66	69.05	61.02	53.16	67.59	75.52	94.35	142.78	89.28	90.38	86.55	102.18	126.01	159.23	92.11	101.13	110.16	119.18	128.21	137.23	157.96	178.69	199.42	220.15	240.88
8	17	17	61.28	71.06	68.03	54.27	70.96	91.16	94.35	158.54	89.28	114.64	101.85	102.07	122.85	172.43	99.40	106.97	114.53	122.10	129.66	137.23	157.96	178.69	199.42	220.15	240.88
8	17	18	55.65	65.14	56.18	52.48	70.46	91.16	87.27	116.48	85.83	79.71	83.75	101.90	113.37	141.04	83.84	92.59	101.34	110.10	118.85	127.60	143.03	158.45	173.88	189.30	204.73
8	17	19	51.12	54.96	54.55	50.64	67.23	79.90	80.12	97.23	82.48	76.40	88.10	95.73	102.29	136.43	79.00	85.46	91.93	98.39	104.86	111.32	122.71	134.11	145.50	156.90	168.29
8	17	20	52.05	57.08	54.74	49.55	64.13	71.83	81.95	88.31	81.49	71.67	76.24	93.25	95.75	117.44	76.73	82.29	87.85	93.40	98.96	104.52	116.14	127.75	139.37	150.98	162.60
8	17	21	50.01	57.30	53.66	48.80	63.84	68.20	80.18	85.94	77.32	70.67	72.87	91.97	93.13	102.13	75.63	81.13	86.63	92.13	97.63	103.13	111.28	119.43	127.57	135.72	143.87
8	17	22	45.94	50.46	50.59	46.82	60.94	62.76	71.19	80.04	71.84	68.69	68.47	73.60	77.96	94.35	74.04	78.04	82.04	86.03	90.03	94.03	98.15	102.27	106.39	110.51	114.63
8	17	23	43.43	46.10	47.49	42.31	58.13	60.12	64.52	68.35	65.45	66.08	66.81	68.83	71.84	75.93	72.07	75.34	78.62	81.89	85.17	88.44	91.32	94.21	97.09	99.98	102.86
8	17	24	38.35	42.90	40.95	38.91	55.68	58.33	61.95	64.18	61.54	64.15	65.24	67.11	68.71	71.08	70.15	72.80	75.46	78.11	80.77	83.42	86.63	89.85	93.06	96.28	99.49
8	18	1	32.18	34.82	37.55	35.47	54.67	56.56	58.59	58.62	59.27	61.33	61.98	65.18	66.71	67.25	68.09	70.56	73.03	75.49	77.96	80.43	82.97	85.51	88.04	90.58	93.12
8	18	2	30.22	33.24	35.72	33.99	54.09	55.58	56.90	56.81	57.83	59.14	60.89	63.30	65.43	65.62	66.20	68.68	71.15	73.63	76.10	78.58	81.16	83.74	86.31	88.89	91.47
8	18	3	29.13	32.27	34.62	33.12	53.19	54.41	56.32	56.25	56.49	57.89	60.55	61.98	64.36	64.40	65.18	67.43	69.68	71.93	74.18	76.43	79.03	81.63	84.23	86.83	89.43
8	18	4	28.84	31.82	33.68	32.07	52.86	54.00	56.19	55.52	55.89	56.79	59.74	61.66	64.02	63.55	63.86	66.37	68.87	71.38	73.88	76.39	78.81	81.22	83.64	86.05	88.47
8	18	5	27.91	30.83	33.69	30.25	51.87	52.57	55.35	54.43	55.78	55.29	58.83	60.39	62.62	63.04	62.01	64.89	67.78	70.66	73.55	76.43	78.40	80.37	82.35	84.32	86.29
8	18	6	29.56	32.23	33.90	30.33	53.30	54.41	56.44	56.21	55.94	55.67	60.57	61.89	64.08	64.58	62.54	65.32	68.10	70.87	73.65	76.43	78.95	81.47	84.00	86.52	89.04
8	18	7	31.46	33.91	34.91	32.16	54.52	56.36	57.17	56.82	56.90	57.19	62.12	64.34	65.61	65.85	64.58	67.15	69.73	72.30	74.88	77.45	80.42	83.39	86.36	89.33	92.30
8	18	8	36.29	37.98	35.93	33.39	55.58	57.61	59.61	59.26	58.14	58.29	64.89	66.49	67.51	68.15	65.60	68.17	70.74	73.30	75.87	78.44	81.84	85.23	88.63	92.02	95.42
8	18	9	40.82	43.33	39.44	35.56	57.76	60.21	61.95	62.44	60.29	61.72	66.84	67.46	69.59	70.42	68.21	71.01	73.80	76.60	79.39	82.19	85.47	88.76	92.04	95.33	98.61
8	18	10	44.12	46.55	42.80	38.48	60.26	63.02	67.16	66.14	63.07	64.10	69.63	70.23	72.57	73.04	70.13	73.03	75.93	78.83	81.73	84.63	87.92	91.21	94.51	97.80	101.09
8	18	11	48.55	52.37	46.53	39.49	64.14	69.26	76.31	68.87	65.50	63.98	72.78	86.43	83.14	79.14	69.97	73.45	76.92	80.40	83.87	87.35	91.05	94.76	98.46	102.17	105.87
8	18	12	53.59	58.30	48.27	43.48	70.03	73.02	84.13	72.58	68.88	66.39	86.84	99.74	99.99	88.72	71.95	75.36	78.77	82.17	85.58	88.99	95.74	102.50	109.25	116.01	122.76
8	18	13	52.22	65.93	49.36	45.84	73.44	81.66	90.03	73.14	71.20	67.50	94.96	101.13	109.45	88.68	73.17	77.05	80.93	84.81	88.69	92.57	99.82	107.07	114.31	121.56	128.81
8	18	14	59.32	69.15	50.97	47.19	72.89	76.95	95.37	73.80	73.11	69.46	93.93	107.35	127.67	94.23	73.78	78.12	82.46	86.80	91.14	95.48	103.44	111.41	119.37	127.34	135.30
8	18	15	65.66	74.31	52.14	49.11	73.13	79.56	101.11	77.98	74.54	71.12	94.47	108.24	137.90	98.40	76.25	80.45	84.66	88.86	93.07	97.27	107.98	118.68	129.39	140.09	150.80
8	18	16	77.38	93.34	55.37	50.41	73.49	82.98	179.12	88.62	78.32	73.71	99.58	119.49	150.67	113.89	79.10	83.70	88.30	92.90	97.50	102.10	116.44	130.79	145.13	159.48	173.82
8	18	17	69.09	93.34	66.66	52.25	73.98	82.72	148.43	106.84	102.22	86.05	99.41	118.74	150.67	108.69	81.86	87.55	93.24	98.93	104.62	110.31	120.85	131.39	141.92	152.46	163.00
8	18	18	61.06	79.37	53.13	52.47	73.98	84.23	113.31	87.09	76.83	84.49	98.25	119.49	140.62	99.93	82.40	85.56	88.72	91.88	95.04	98.20	106.97	115.75	124.52	133.30	142.07
8	18	19	53.20	69.94	51.20	50.69	73.33	79.35	94.83	74.90	73.72	74.72	90.08	98.12	126.10	89.93	80.67	83.57	86.46	89.36	92.25	95.15	100.24	105.33	110.42	115.51	120.60
8	18	20	52.78	66.91	49.36	49.74	72.20	79.11	89.36	75.84	71.21	72.61	87.02	96.25	109.49	85.65	79.38	82.02	84.65	87.29	89.92	92.56	97.79	103.01	108.24	113.46	118.69
8	18	21	52.15	65.21	48.78	50.17	68.15	78.40	86.65	74.09	69.14	73.39	89.61	96.10	102.05	85.24	79.15	81.56	83.97	86.38	88.79	91.20	95.85	100.50	105.15	109.80	114.45
8	18	22	47.05	58.82	46.89	48.41	61.67	68.69	81.31	69.20	66.19	69.58	72.86	80.11	87.71	76.63	75.86	78.54	81.22	83.90	86.58	89.26	92.47	95.68	98.90	102.11	105.32
8	18	23	43.75	47.25	41.74	44.88	58.12	62.44	67.21	65.14	62.67	66.90	68.49	72.12	72.35	71.12	73.01	75.55	78.10	80.64	83.19	85.73	88.55	91.36	94.18	96.99	99.81
8	18	24	38.76	43.53	39.27	39.67	56.47	60.11	62.50	60.45	60.80	64.39	66.66	67.65	69.31	68.81	71.11	73.32	75.54	77.75	79.97	82.18	84.77	87.37	89.96	92.56	95.15
8	19	1	33.01	34.37	35.88	36.60	54.86	56.94	58.35	58.79	58.03	62.32	63.65	65.45	66.11	66.80	69.42	71.39	73.36	75.34	77.31	79.28	81.95	84.61	87.28	89.94	92.61
8	19	2	30.76	33.01	34.81	34.93	54.27	56.15	56.71	56.99	56.30	60.07	61.52	63.93	64.30	65.86	67.40	69.28	71.16	73.03	74.91	76.79	79.61	82.43	85.26	88.08	90.90

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	19	3	29.80	31.30	33.27	33.46	53.45	55.37	55.59	56.41	54.50	59.13	60.74	62.73	62.90	64.55	66.18	67.88	69.57	71.27	72.96	74.66	77.47	80.28	83.10	85.91	88.72
8	19	4	29.48	31.01	32.05	33.10	52.79	54.87	55.06	55.82	53.81	58.65	60.28	62.22	61.81	64.14	65.60	67.15	68.70	70.25	71.80	73.35	76.28	79.21	82.14	85.07	88.00
8	19	5	28.92	29.21	30.04	32.62	51.63	53.77	53.95	55.70	52.60	57.85	58.79	61.64	61.34	64.13	64.46	65.69	66.92	68.15	69.38	70.61	74.09	77.56	81.04	84.51	87.99
8	19	6	29.82	31.82	29.90	33.93	53.27	55.33	55.70	56.19	53.24	59.25	60.83	62.32	62.90	64.58	66.15	67.13	68.11	69.10	70.08	71.06	74.45	77.84	81.23	84.62	88.01
8	19	7	31.44	33.24	32.53	35.90	54.52	56.67	56.46	56.61	54.34	62.20	63.50	64.75	64.41	65.19	68.94	69.68	70.42	71.15	71.89	72.63	75.91	79.19	82.48	85.76	89.04
8	19	8	35.66	34.99	33.47	39.16	55.86	57.95	58.60	57.57	55.38	64.88	65.28	65.95	66.70	66.38	71.17	72.01	72.86	73.70	74.55	75.39	78.40	81.41	84.43	87.44	90.45
8	19	9	40.19	41.20	36.21	43.19	57.99	60.49	60.87	59.70	58.03	66.82	67.05	68.15	68.57	68.28	73.02	74.23	75.44	76.66	77.87	79.08	82.07	85.06	88.05	91.04	94.03
8	19	10	45.15	45.35	38.75	46.45	60.56	64.09	63.94	62.27	60.29	68.03	70.11	71.57	71.14	69.86	73.81	75.43	77.06	78.68	80.31	81.93	84.89	87.85	90.81	93.77	96.73
8	19	11	49.49	48.81	39.75	48.82	63.42	73.39	68.16	64.77	60.62	70.95	85.19	91.15	75.41	70.62	77.03	77.99	78.95	79.92	80.88	81.84	85.28	88.71	92.15	95.58	99.02
8	19	12	53.46	51.17	43.24	50.95	68.80	81.53	71.96	66.84	63.10	77.54	97.32	105.50	81.98	73.33	81.12	81.84	82.57	83.29	84.02	84.74	88.08	91.42	94.76	98.10	101.44
8	19	13	62.88	52.32	46.47	52.48	73.08	83.78	71.49	67.97	65.38	80.49	99.90	113.36	83.14	75.17	84.49	84.84	85.19	85.55	85.90	86.25	89.73	93.21	96.68	100.16	103.64
8	19	14	66.27	52.95	47.89	53.22	73.13	86.06	75.60	69.22	66.61	85.52	104.29	125.91	85.44	76.74	87.01	87.15	87.30	87.44	87.59	87.73	91.64	95.54	99.45	103.35	107.26
8	19	15	75.33	56.62	49.33	54.27	72.36	90.90	77.58	71.68	68.49	80.09	117.68	138.20	91.15	79.78	84.91	86.07	87.23	88.40	89.56	90.72	94.46	98.21	101.95	105.70	109.44
8	19	16	95.66	66.29	50.59	53.22	78.70	101.79	80.48	75.84	71.20	84.87	159.90	161.38	96.11	93.78	87.01	88.36	89.70	91.05	92.39	93.74	98.17	102.59	107.02	111.44	115.87
8	19	17	96.14	79.66	52.07	53.22	78.20	124.54	82.35	106.20	74.54	108.56	159.90	161.58	96.33	108.04	92.49	93.20	93.92	94.63	95.35	96.06	101.00	105.94	110.88	115.82	120.76
8	19	18	75.33	58.31	52.07	53.36	73.64	91.76	80.18	72.16	72.74	80.91	111.05	138.19	94.87	79.82	84.73	86.85	88.97	91.09	93.21	95.33	97.96	100.59	103.23	105.86	108.49
8	19	19	62.05	53.79	50.76	52.48	72.14	82.52	77.58	68.82	71.58	82.78	95.75	127.72	91.15	76.49	87.01	88.35	89.69	91.02	92.36	93.70	95.97	98.24	100.52	102.79	105.06
8	19	20	56.24	52.82	49.91	50.28	71.18	81.24	75.31	67.55	70.61	74.41	96.91	121.03	87.26	74.29	81.25	83.51	85.78	88.04	90.31	92.57	94.55	96.52	98.50	100.47	102.45
8	19	21	55.43	51.91	49.79	49.11	70.96	80.45	72.48	66.95	70.71	73.18	93.55	107.47	82.65	73.19	78.73	81.50	84.26	87.03	89.79	92.56	94.42	96.28	98.14	100.00	101.86
8	19	22	50.86	49.21	48.15	45.45	64.50	71.99	68.31	64.77	67.48	68.93	75.51	96.54	75.41	71.87	74.60	77.62	80.64	83.65	86.67	89.69	91.67	93.65	95.64	97.62	99.60
8	19	23	45.58	45.45	45.16	42.60	59.76	63.72	63.41	61.71	64.97	66.30	70.09	72.40	71.52	69.68	72.06	74.87	77.68	80.48	83.29	86.10	88.02	89.95	91.87	93.80	95.72
8	19	24	39.86	37.37	40.32	38.19	57.96	60.70	59.87	59.13	60.74	63.90	66.84	68.51	68.24	67.67	70.57	72.95	75.32	77.70	80.07	82.45	84.56	86.68	88.79	90.91	93.02
8	20	1	32.49	34.14	37.16	35.13	55.00	57.59	58.39	56.79	58.23	60.79	63.49	65.04	66.36	65.66	68.57	70.94	73.31	75.69	78.06	80.43	82.34	84.25	86.16	88.07	89.98
8	20	2	30.22	32.72	35.44	34.33	54.30	56.60	56.73	55.89	57.26	59.52	61.96	62.67	65.02	63.69	67.32	69.61	71.91	74.20	76.50	78.79	80.58	82.37	84.16	85.95	87.74
8	20	3	29.16	31.76	34.19	33.90	53.80	55.98	55.98	55.00	56.31	59.11	61.31	61.75	63.72	62.90	66.35	68.47	70.59	72.72	74.84	76.96	78.57	80.18	81.80	83.41	85.02
8	20	4	28.72	30.83	33.71	33.41	53.41	55.58	55.42	52.19	55.78	58.73	60.92	61.07	63.05	60.79	65.74	67.81	69.89	71.96	74.04	76.11	77.23	78.35	79.46	80.58	81.70
8	20	5	28.03	30.43	33.42	32.30	52.70	54.67	55.24	51.76	54.54	57.55	59.59	59.58	63.00	59.73	64.52	66.45	68.39	70.32	72.26	74.19	74.96	75.73	76.50	77.27	78.04
8	20	6	29.25	30.65	34.81	34.22	53.88	56.04	55.43	51.96	55.99	59.25	61.11	61.64	63.15	60.29	66.55	68.74	70.93	73.13	75.32	77.51	78.07	78.62	79.18	79.73	80.29
8	20	7	29.99	31.34	36.35	35.75	54.53	56.66	56.11	53.70	58.03	61.33	62.26	63.07	64.01	62.50	69.16	71.31	73.46	75.62	77.77	79.92	80.69	81.46	82.23	83.00	83.77
8	20	8	32.49	33.01	39.99	38.29	56.12	58.08	56.93	55.31	60.85	63.64	65.14	65.57	65.09	63.12	70.69	73.04	75.39	77.75	80.10	82.45	83.20	83.95	84.71	85.46	86.21
8	20	9	36.94	35.64	44.79	42.03	58.57	60.70	58.84	57.03	65.09	66.64	67.30	66.65	66.98	65.61	73.01	75.34	77.66	79.99	82.31	84.64	85.65	86.66	87.66	88.67	89.68
8	20	10	41.53	40.24	46.50	46.44	61.62	65.89	61.32	59.30	66.29	68.17	70.56	69.10	68.35	67.32	75.05	77.72	80.39	83.07	85.74	88.41	89.22	90.03	90.85	91.66	92.47
8	20	11	46.40	43.91	48.69	48.92	65.86	75.44	63.06	59.98	69.74	71.63	83.20	76.94	70.93	67.74	78.41	80.90	83.38	85.87	88.35	90.84	91.34	91.84	92.33	92.83	93.33
8	20	12	48.48	46.66	50.94	52.25	69.60	83.51	64.65	61.92	73.51	77.37	98.88	89.21	72.38	69.08	83.19	85.56	87.93	90.31	92.68	95.05	95.05	95.05	95.04	95.04	95.04
8	20	13	50.01	48.17	53.29	55.03	73.47	90.32	67.22	62.98	75.68	85.60	106.08	88.96	73.98	70.41	87.01	89.62	92.23	94.85	97.46	100.07	99.63	99.19	98.74	98.30	97.86
8	20	14	50.19	49.55	56.70	55.28	72.46	92.66	68.64	64.32	76.55	91.13	116.87	96.14	77.18	71.99	92.36	94.59	96.82	99.04	101.27	103.50	102.65	101.79	100.94	100.08	99.23
8	20	15	52.66	50.92	64.46	55.96	73.62	101.52	70.16	66.28	75.95	87.47	131.89	97.81	78.25	73.80	87.01	90.03	93.05	96.06	99.08	102.10	101.84	101.58	101.33	101.07	100.81
8	20	16	89.00	53.22	62.04	59.53	81.74	127.80	79.19	68.30	75.35	102.54	163.10	114.50	85.21	75.84	118.07	115.09	112.11	109.13	106.15	103.17	103.30	103.43	103.56	103.69	103.82
8	20	17	52.22	68.58	63.95	59.64	87.02	134.88	100.90	69.56	75.89	101.01	175.41	124.36	103.37	77.25	99.91	100.79	101.68	102.56	103.45	104.33	104.64	104.95	105.25	105.56	105.87
8	20	18	50.63	50.92	58.34	55.50	79.88	116.29	71.69	69.49	75.19	88.00	137.74	105.72	79.62	76.50	87.01	90.24	93.47	96.70	99.93	103.16	103.61	104.05	104.50	104.94	105.39
8	20	19	50.01	49.08	52.92	55.28	73.19	93.13	68.72	68.93	74.41	92.82	121.65	91.74	75.84	75.98	87.41	90.67	93.93	97.19	100.45	103.71	103.85	103.99	104.12	104.26	104.40
8	20	20	50.01	47.74	50.62	53.36	72.89	89.62	67.18	68.57	72.09	79.81	104.26	89.64	73.98	75.60	83.32	86.19	89.05	91.92	94.78	97.65	98.84	100.03	101.21	102.40	103.59
8	20	21	49.44	46.90	49.62	52.05	73.33	89.36	65.49	68.75	71.21	78.34	102.19	85.32	72.67	75.84	82.40	84.48	86.55	88.63	90.70	92.78	94.74	96.70	98.67	100.63	102.59
8	20	22	46.28	44.33	46.69	48.18	67.84	82.51	63.63	66.17	65.93	71.23	92.02	73.47	70.93	73.37	77.03	79.20	81.36	83.53	85.69	87.86	90.43	92.99	95.56	98.12	100.69
8	20	23	42.11	39.49	43.76	45.40	60.81	65.54	61.03	62.74	63.10	67.42	70.75	69.67	68.37	70.41	73.53	75.71	77.89	80.07	82.25	84.43	86.82	89.21	91.59	93.98	96.37
8	20	24	35.17	35.09	39.67	41.20	57.99	61.20	58.80	59.97	61.38	66.19	67.23	66.46	67.53	69.30	72.22	74.14	76.07	77.99	79.92	81.84	84.25	86.65	89.06	91.46	93.87
8	21	1	32.34	32.88	36.35	36.47	55.62	57.27	56.97	57.77	58.14	61.79	62.96	63.92	65.08	67.69	69.00	71.11	73.22	75.33	77.44	79.55	81.97	84.39	86.81	89.23	91.65
8	21	2	30.22	31.73	35.47	34.91	54.63	56.04	55.70	55.38	57.29	60.04	61.02	62.54	63.05	64.58	67.12	69.27	71.41	73.56	75.70	77.85	80.02	82.19	84.37	86.54	88.71
8	21	3	28.98	29.96	34.99	34.19	54.27	54.92	54.82	54.12	56.85	59.52	59.63	61.64	61.64	63.41	66.24	68.21	70.19	72.16	74.14	76.11	78.29	80.46	82.64	84.81	86.99
8	21	4	28.45	28.21	34.64	33.89	54.06	54.52	52.10	53.60	56.63	58.94	59.47	61.27	59.19	63.11	65.75	67.68	69.60	71.53	73.45	75.38	77.49	79.61	81.72	83.84	85.95
8	21	5	28.11	27.80	33.44	32.61	53.27	53.78	51.59	53.20	54.89	57.90	58.72	60.93	58.70	62.00	64.19	66.13	68.08	70.02	71.97	73.91	75.88	77.85	79.83	81.80	83.77
8	21	6	28.47	27.94	35.35	34.38	54.11	55.07	51.72	55.63	57.15	59.48	60.25	61.21	58.95	65.19	66.04	68.16	70.28	72.40	74.52	76.64	78.89	81.14	83.38	85.63	87.88
8	21	7	29.05	28.60	36.69	36.07	55.04	56.17	53.56	57.27	58.31	62.08	61.41	61.86	61.01	67.55	68.98	71.02	73.05	75.09	77.12	79.16	81.59	84.02	86.46	88.89	91.32
8	21	8	30.22	30.52	39.87	40.23	57.03	57.81	54.99	59.19	60.29	65.82	63.51	62.75	61.96	69.69	71.53	73.69	75.85	78.02	80.18	82.34	84.69	87.04	89.40	91.75	94.10
8	21	9	33.18	33.17	44.66	45.29	59.57	59.71	57.31	62.01	65.18	67.47	66.68	65.37	65.20	71.24	73.66	76.02	78.38	80.74	83.10	85.46	87.59	89.72	91.84	93.97	96.10
8	21	10	36.30	35.01	46.63	48.03	64.13	63.55	58.92	64.38	66.69	70.97	68.92	66.65	67.02	73.18	76.95	79.24	81.53	83.83	86.12	88.41	90.36	92.30	94.25	96.19	98.14
8	21	11	39.86	36.50	48.80	51.02	73.11	67.62	58.87	67.05	71.21	77.37	74.00	69.55	66.81	75.74	81.48	83.54	85.60	87.67	89.73	91.79	93.63	95.48	97.32	99.17	101.01
8	21	12	42.58	41.75	52.91	57.81	77.68	72.94	61.12	69.27	77.01	88.91	83.21	71.23	68.71	77.93	84.84	87.31	89.78	92.25	94.72	97.19	98.93	100.66	102.40	104.13	105.87
8	21	13	45.18	43.63	57.16	60.45	82.74	75.20	62.77	72.65	81.17	95.74	81.19	73.05	70.32	80.43	94.58	96.31	98.05	99.78	101.52	103.25	104.48	105.71	106.94	108.17	109.40

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	21	14	46.63	46.66	60.39	61.72	88.17	79.91	64.15	77.21	90.88	90.16	85.89	76.00	70.88	90.65	92.40	94.84	97.29	99.73	102.18	104.62	106.35	108.07	109.80	111.52	113.25
8	21	15	47.81	48.24	60.17	70.08	91.46	86.95	65.80	78.56	80.16	93.90	90.31	79.29	72.74	84.10	97.45	98.87	100.29	101.71	103.13	104.55	106.53	108.51	110.49	112.47	114.45
8	21	16	50.13	49.55	66.66	83.31	126.87	96.39	68.54	76.59	90.86	102.74	94.18	86.77	74.29	88.22	116.70	116.83	116.95	117.08	117.20	117.33	116.43	115.53	114.63	113.73	112.83
8	21	17	58.80	67.21	66.66	83.31	142.79	113.76	73.66	79.86	87.17	102.87	94.56	106.88	78.07	95.03	128.47	124.97	121.47	117.97	114.47	110.97	111.67	112.36	113.06	113.75	114.45
8	21	18	48.25	57.68	57.57	75.28	90.48	86.00	73.66	76.42	80.12	103.21	92.65	81.19	77.44	82.87	108.23	107.45	106.67	105.89	105.11	104.33	106.79	109.25	111.72	114.18	116.64
8	21	19	46.63	49.25	59.33	60.64	82.74	76.96	70.07	74.15	80.17	91.24	88.94	74.20	75.84	84.10	91.62	94.54	97.45	100.37	103.28	106.20	106.84	107.48	108.12	108.76	109.40
8	21	20	44.57	48.12	54.07	57.81	79.18	75.44	68.70	69.77	75.78	88.54	83.21	72.22	74.89	77.16	87.88	90.53	93.18	95.82	98.47	101.12	102.19	103.27	104.34	105.42	106.49
8	21	21	43.82	47.95	52.41	59.86	77.86	71.99	68.66	67.97	74.55	90.56	77.80	70.36	75.27	75.70	87.67	89.90	92.13	94.37	96.60	98.83	99.71	100.59	101.47	102.35	103.23
8	21	22	41.44	45.63	48.97	52.48	77.19	66.30	65.13	63.81	69.79	77.41	72.93	68.94	71.49	71.83	81.13	83.42	85.70	87.99	90.27	92.56	93.81	95.07	96.32	97.58	98.83
8	21	23	36.45	42.63	46.30	47.81	63.66	61.71	62.05	61.59	65.63	71.23	67.59	66.46	68.82	69.82	76.83	79.03	81.22	83.42	85.61	87.81	89.32	90.84	92.35	93.87	95.38
8	21	24	33.04	37.47	43.78	44.81	58.46	58.30	59.93	59.37	62.75	67.62	64.53	65.77	67.47	68.28	73.66	75.74	77.81	79.89	81.96	84.04	85.66	87.27	88.89	90.50	92.12
8	22	1	30.44	33.82	37.58	39.89	55.55	56.96	57.63	57.20	58.24	64.39	62.89	62.82	66.04	66.43	70.30	72.23	74.16	76.08	78.01	79.94	81.87	83.80	85.72	87.65	89.58
8	22	2	29.13	31.44	36.19	36.75	54.53	56.04	55.24	56.33	57.56	62.94	61.31	61.64	63.22	65.35	68.68	70.52	72.36	74.20	76.04	77.88	79.87	81.86	83.85	85.84	87.83
8	22	3	28.06	29.68	35.73	35.55	53.76	55.16	54.12	56.16	57.25	61.42	59.62	59.58	62.00	64.57	67.25	69.16	71.07	72.99	74.90	76.81	78.77	80.73	82.69	84.65	86.61
8	22	4	26.05	29.18	35.38	35.20	53.19	54.73	53.61	55.34	56.98	60.26	59.59	58.00	61.59	63.31	66.67	68.49	70.31	72.14	73.96	75.78	77.61	79.44	81.26	83.09	84.92
8	22	5	25.78	28.19	34.29	33.92	51.89	54.52	53.09	54.24	54.96	58.77	59.60	57.14	60.10	62.32	65.01	66.83	68.66	70.48	72.31	74.13	76.04	77.95	79.85	81.76	83.67
8	22	6	25.82	31.14	35.88	35.37	53.57	54.74	55.39	56.53	57.15	61.12	59.84	57.92	63.09	64.57	66.92	68.81	70.70	72.59	74.48	76.37	78.51	80.66	82.80	84.95	87.09
8	22	7	27.30	33.18	37.52	37.54	54.53	55.46	56.87	58.14	58.49	63.45	60.83	59.23	64.89	67.02	69.16	71.26	73.36	75.47	77.57	79.67	81.85	84.03	86.22	88.40	90.58
8	22	8	28.47	36.54	41.63	41.90	55.87	56.34	59.41	59.75	63.93	66.43	61.58	60.45	67.23	68.90	72.43	74.84	77.26	79.67	82.09	84.50	86.36	88.22	90.09	91.95	93.81
8	22	9	30.82	40.47	45.68	46.61	58.21	57.65	61.23	62.66	65.73	69.47	64.30	63.11	68.71	70.42	75.13	77.73	80.34	82.94	85.55	88.15	89.80	91.46	93.11	94.77	96.42
8	22	10	33.06	44.22	48.50	49.24	60.41	59.38	63.47	64.83	69.39	73.38	66.08	65.65	69.19	71.24	78.25	81.11	83.97	86.83	89.69	92.55	93.89	95.22	96.56	97.89	99.23
8	22	11	34.28	46.55	52.58	53.33	63.56	61.98	65.99	68.32	77.29	88.27	67.83	65.25	73.25	74.11	83.40	86.31	89.22	92.12	95.03	97.94	98.84	99.75	100.65	101.56	102.46
8	22	12	36.97	47.95	63.96	64.16	67.23	63.80	71.46	72.92	83.17	95.80	70.15	67.79	77.44	78.94	96.84	98.85	100.87	102.88	104.90	106.91	106.71	106.50	106.30	106.09	105.89
8	22	13	39.60	51.17	61.75	66.81	69.31	65.75	74.30	78.19	88.09	102.80	72.11	69.25	79.76	84.10	103.45	105.33	107.20	109.08	110.95	112.83	112.41	111.99	111.58	111.16	110.74
8	22	14	41.10	54.65	64.26	72.60	69.33	68.30	72.06	77.65	82.21	119.04	74.04	70.39	87.48	84.91	116.09	115.90	115.71	115.53	115.34	115.15	115.01	114.87	114.73	114.59	114.45
8	22	15	43.38	65.56	70.21	77.74	73.62	71.11	72.67	75.97	93.95	126.58	76.37	72.22	81.37	81.45	132.44	130.10	127.75	125.41	123.06	120.72	120.42	120.12	119.83	119.53	119.23
8	22	16	45.62	59.01	84.49	95.16	80.77	80.08	71.31	87.59	109.23	191.55	83.21	75.22	81.12	87.20	151.09	149.40	147.71	146.02	144.33	142.64	137.90	133.15	128.41	123.66	118.92
8	22	17	52.22	58.94	77.83	112.92	76.72	93.80	71.82	86.62	115.93	181.19	107.65	84.57	83.14	89.19	151.38	149.75	148.12	146.48	144.85	143.22	138.54	133.86	129.18	124.50	119.82
8	22	18	51.43	65.52	70.18	76.57	73.77	74.99	71.82	74.15	102.95	125.48	76.99	81.19	82.29	82.86	132.26	134.41	136.55	138.70	140.84	142.99	137.91	132.83	127.74	122.66	117.58
8	22	19	45.62	51.52	57.38	66.23	71.47	69.35	70.16	75.84	86.02	103.31	73.69	74.67	83.57	83.22	107.21	109.06	110.91	112.76	114.61	116.46	116.40	116.34	116.29	116.23	116.17
8	22	20	44.12	49.23	57.91	60.58	70.86	65.66	69.41	72.86	82.50	96.38	70.84	73.72	76.53	80.12	97.37	99.44	101.51	103.59	105.66	107.73	107.96	108.19	108.41	108.64	108.87
8	22	21	44.12	47.95	57.99	61.33	68.80	64.81	68.43	72.62	85.89	93.69	69.62	73.66	74.29	79.06	96.48	99.15	101.82	104.48	107.15	109.82	109.31	108.80	108.28	107.77	107.26
8	22	22	43.01	44.27	51.87	53.59	63.88	61.42	63.40	67.49	76.91	84.01	67.99	70.02	70.53	73.89	85.51	88.10	90.69	93.29	95.88	98.47	99.27	100.07	100.86	101.66	102.46
8	22	23	37.30	41.09	48.32	48.72	60.49	59.01	61.52	63.90	69.09	72.02	65.87	66.66	68.35	70.45	76.96	80.08	83.20	86.31	89.43	92.55	93.76	94.97	96.19	97.40	98.61
8	22	24	34.84	34.72	45.99	44.88	56.96	57.82	59.46	62.06	66.03	67.88	64.36	65.65	67.16	69.68	73.17	76.07	78.96	81.86	84.75	87.65	88.98	90.31	91.65	92.98	94.31
8	23	1	31.18	32.05	40.09	37.86	55.52	56.44	57.03	57.99	62.33	63.62	61.78	64.10	65.43	66.65	69.90	72.46	75.02	77.59	80.15	82.71	84.16	85.61	87.05	88.50	89.95
8	23	2	28.70	32.05	37.45	35.27	54.52	54.99	56.11	56.73	59.29	61.86	59.56	61.90	63.44	65.24	68.21	70.62	73.03	75.44	77.85	80.26	81.85	83.44	85.04	86.63	88.22
8	23	3	27.64	31.29	36.21	34.38	53.55	54.29	55.41	55.78	58.16	59.96	58.78	61.11	62.81	64.22	66.56	68.97	71.37	73.78	76.18	78.59	80.29	81.99	83.69	85.39	87.09
8	23	4	27.08	30.97	35.91	33.93	52.82	51.58	54.67	55.18	57.87	59.01	56.31	60.39	61.52	63.46	65.96	68.34	70.73	73.11	75.50	77.88	79.63	81.37	83.12	84.86	86.61
8	23	5	26.52	30.42	34.51	32.83	52.74	51.09	54.08	54.31	56.67	57.88	55.43	59.26	60.30	62.23	64.54	66.78	69.02	71.26	73.50	75.74	77.52	79.29	81.07	82.84	84.62
8	23	6	29.13	31.54	36.26	34.29	52.95	50.93	55.68	56.28	58.14	59.40	55.97	61.32	62.79	64.22	66.43	68.81	71.19	73.57	75.95	78.33	80.17	82.01	83.85	85.69	87.53
8	23	7	30.18	34.13	38.43	35.68	53.86	53.03	57.61	58.43	59.43	62.32	57.91	63.82	64.64	66.89	68.71	71.13	73.56	75.98	78.41	80.83	82.85	84.86	86.88	88.89	90.91
8	23	8	34.41	36.44	42.87	39.43	54.67	54.29	59.41	61.71	64.64	65.30	58.87	65.83	66.59	69.86	72.02	74.86	77.70	80.54	83.38	86.22	87.94	89.66	91.37	93.09	94.81
8	23	9	36.97	41.63	47.00	45.64	55.83	56.56	61.02	63.48	67.58	68.37	62.10	66.25	68.65	71.86	73.66	77.20	80.74	84.29	87.83	91.37	92.84	94.30	95.77	97.23	98.70
8	23	10	40.98	45.00	49.85	48.02	57.64	58.05	63.77	66.94	71.57	71.71	64.15	67.98	70.77	73.86	77.03	80.66	84.28	87.91	91.53	95.16	96.52	97.87	99.23	100.58	101.94
8	23	11	43.54	47.37	55.65	50.95	59.90	58.64	69.14	71.90	82.54	75.87	64.25	71.00	73.57	77.43	80.76	85.43	90.10	94.77	99.44	104.11	104.34	104.56	104.79	105.01	105.24
8	23	12	45.65	50.85	63.70	58.68	61.42	60.41	77.58	78.36	91.63	99.64	66.62	76.21	76.26	84.91	98.30	101.55	104.80	108.04	111.29	114.54	113.51	112.48	111.46	110.43	109.40
8	23	13	47.81	57.43	65.78	61.33	63.79	62.05	86.21	79.74	96.70	98.42	67.72	82.20	79.76	89.93	99.98	106.23	112.47	118.72	124.96	131.21	128.90	126.60	124.29	121.99	119.68
8	23	14	49.14	58.31	68.92	55.70	66.27	62.69	86.21	79.15	103.08	104.50	69.26	92.10	87.30	89.14	103.50	112.33	121.16	129.98	138.81	147.64	142.16	136.69	131.21	125.74	120.26
8	23	15	49.50	55.97	73.39	68.83	67.84	64.69	84.69	85.62	116.20	114.77	71.35	85.86	79.24	94.66	117.10	127.75	138.39	149.04	159.68	170.33	159.90	149.47	139.03	128.60	118.17
8	23	16	53.05	58.31	103.04	69.60	69.74	67.78	104.10	96.01	172.60	125.53	73.41	85.78	86.96	113.78	134.31	149.64	164.98	180.31	195.65	210.98	196.81	182.64	168.46	154.29	140.12
8	23	17	52.22	58.55	103.82	72.44	80.09	78.74	90.95	126.30	172.60	120.45	83.52	89.53	83.57	118.44	143.22	152.95	162.69	172.42	182.16	191.89	182.87	173.85	164.83	155.81	146.79
8	23	18	49.50	53.91	71.30	68.17	69.04	78.77	81.20	100.66	112.75	110.49	79.59	83.95	80.68	107.31	128.34	135.99	143.64	151.30	158.95	166.60	160.72	154.85	148.97	143.10	137.22
8	23	19	47.39	55.01	64.76	55.80	65.04	67.81	81.20	80.67	96.87	97.36	74.44	81.63	82.30	88.14	104.74	109.98	115.22	120.46	125.70	130.94	129.51	128.08	126.64	125.21	123.78
8	23	20	44.61	53.21	59.86	58.92	63.03	66.00	74.30	76.58	91.53	89.81	73.02	75.91	77.95	83.45	95.26	99.42	103.58	107.73	111.89	116.05	116.61	117.16	117.72	118.27	118.83
8	23	21	43.80	51.79	60.06	59.06	61.37	65.95	72.11	79.75	90.55	95.74	72.89	73.16	77.55	84.91	100.83	102.48	104.13	105.77	107.42	109.07	109.90	110.73	111.56	112.39	113.22
8	23	22	40.07	47.49	55.20	52.59	59.38	63.12	67.26	73.11	81.24	78.03	69.62	69.35	73.42	77.83	83.20	86.81	90.43	94.04	97.66	101.27	102.30	103.33	104.35	105.38	106.41
8	23	23	36.32	44.60	49.38	49.30	57.44	60.40	62.83	66.90	70.03	71.26	66.67	66.50	69.74	73.68	78.71	81.48	84.25	87.01	89.78	92.55	94.41	96.27	98.14	100.00	101.86
8	23	24	31.74	40.95	46.37	41.81	55.73	57.95	61.12	63.67	66.03	66.43	64.28	65.67	67.84	71.11	73.43	76.36	79.29	82.21	85.14	88.07	89.63	91.20	92.76	94.33	95.89

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	24	1	29.24	34.74	39.44	37.05	54.18	56.43	57.57	60.14	61.40	63.81	62.80	62.95	65.54	68.28	70.45	72.60	74.75	76.91	79.06	81.21	83.43	85.65	87.88	90.10	92.32
8	24	2	28.52	33.27	36.65	35.20	53.27	54.39	56.45	58.69	58.67	61.44	59.96	62.16	63.40	66.20	68.61	70.68	72.74	74.81	76.87	78.94	81.18	83.42	85.65	87.89	90.13
8	24	3	28.50	31.82	35.83	34.38	52.08	53.36	55.42	56.56	57.78	59.54	58.94	61.49	62.09	64.64	67.40	69.44	71.47	73.51	75.54	77.58	79.81	82.03	84.26	86.48	88.71
8	24	4	28.44	31.65	35.19	33.15	48.68	52.77	55.11	56.16	56.65	58.76	58.59	60.23	61.56	64.22	66.40	68.41	70.42	72.44	74.45	76.46	78.74	81.03	83.31	85.60	87.88
8	24	5	28.08	30.95	33.65	33.08	48.34	51.79	54.45	55.44	55.66	58.64	57.63	59.38	60.50	63.11	66.19	67.86	69.53	71.19	72.86	74.53	77.04	79.55	82.06	84.57	87.08
8	24	6	29.40	33.13	35.73	33.34	48.67	54.52	55.96	56.85	57.20	58.79	60.52	61.62	62.97	64.56	66.75	68.81	70.88	72.94	75.01	77.07	79.46	81.86	84.25	86.65	89.04
8	24	7	30.39	34.91	37.06	34.40	50.65	55.62	57.71	58.62	59.05	59.91	62.12	63.75	65.06	66.65	67.90	70.27	72.64	75.02	77.39	79.76	82.24	84.72	87.21	89.69	92.17
8	24	8	32.94	40.54	40.88	36.16	52.51	57.69	60.20	62.07	62.85	62.44	64.41	65.41	67.85	69.85	69.07	72.11	75.16	78.20	81.25	84.29	86.81	89.32	91.84	94.35	96.87
8	24	9	36.69	44.07	45.84	38.99	54.52	59.23	62.75	64.32	65.52	63.79	65.91	66.65	69.87	72.27	71.88	75.11	78.34	81.57	84.80	88.03	90.67	93.31	95.94	98.58	101.22
8	24	10	41.61	47.18	48.54	41.95	55.51	61.38	67.27	68.30	68.45	66.81	67.29	68.51	72.19	75.10	73.66	77.40	81.15	84.89	88.64	92.38	94.94	97.51	100.07	102.64	105.20
8	24	11	43.99	50.60	52.90	46.87	56.07	63.92	73.90	75.35	75.95	69.26	70.22	72.17	75.30	82.20	74.12	78.66	83.20	87.73	92.27	96.81	99.60	102.38	105.17	107.95	110.74
8	24	12	46.98	58.31	62.26	49.21	58.25	67.81	83.47	84.24	98.25	71.63	75.06	81.19	82.54	91.10	77.02	84.03	91.03	98.04	105.04	112.05	114.57	117.08	119.60	122.11	124.63
8	24	13	49.50	56.64	61.39	50.64	59.08	71.72	83.61	86.18	96.47	75.56	79.09	91.87	87.70	96.65	82.30	88.44	94.59	100.73	106.88	113.02	117.00	120.98	124.96	128.94	132.92
8	24	14	55.17	57.30	69.69	52.25	60.68	74.95	84.88	91.05	101.45	86.24	79.09	94.04	86.07	102.02	107.58	111.16	114.74	118.32	121.90	125.48	130.10	134.72	139.34	143.96	148.58
8	24	15	55.74	66.13	73.14	52.60	61.95	83.59	88.53	100.66	107.97	83.85	78.25	89.02	89.41	116.91	91.68	100.96	110.24	119.51	128.79	138.07	146.96	155.85	164.74	173.63	182.52
8	24	16	55.22	72.81	84.85	53.85	63.56	74.61	100.86	118.19	116.99	97.57	85.79	107.33	95.44	149.77	106.61	114.21	121.81	129.42	137.02	144.62	159.65	174.68	189.72	204.75	219.78
8	24	17	54.77	72.26	91.56	54.27	66.14	74.19	100.86	114.51	135.43	103.93	102.85	104.94	112.84	141.07	105.56	114.01	122.47	130.92	139.38	147.83	160.24	172.64	185.05	197.45	209.86
8	24	18	55.29	64.37	72.46	52.72	68.74	74.23	90.62	97.10	108.19	83.12	76.33	92.14	106.72	115.32	87.39	96.16	104.93	113.69	122.46	131.23	140.39	149.55	158.70	167.86	177.02
8	24	19	50.14	55.37	63.61	50.95	64.88	71.37	83.09	86.89	96.86	77.72	76.05	91.03	86.65	98.54	84.60	91.81	99.02	106.23	113.44	120.65	125.47	130.29	135.12	139.94	144.76
8	24	20	48.15	57.23	59.81	50.39	62.90	67.07	82.88	82.97	91.74	73.44	75.89	84.61	80.68	90.74	80.21	85.32	90.44	95.55	100.67	105.78	109.63	113.48	117.34	121.19	125.04
8	24	21	46.63	56.16	60.17	49.51	63.03	64.87	85.02	82.92	96.47	71.67	71.52	81.53	83.38	91.37	76.89	83.98	91.07	98.15	105.24	112.33	114.70	117.06	119.43	121.79	124.16
8	24	22	43.51	50.02	52.92	47.26	60.30	61.66	72.90	75.91	76.68	68.69	68.18	72.18	76.03	81.51	73.83	78.37	82.91	87.45	91.99	96.53	99.25	101.98	104.70	107.43	110.15
8	24	23	39.87	47.47	49.10	42.93	57.55	59.02	66.59	67.08	68.29	66.52	66.28	68.33	71.79	73.79	73.01	76.92	80.83	84.74	88.65	92.56	94.79	97.02	99.24	101.47	103.70
8	24	24	34.06	43.17	43.92	38.20	55.86	57.73	63.01	63.62	64.45	63.53	64.51	66.64	68.76	70.43	70.08	73.06	76.04	79.01	81.99	84.97	87.64	90.31	92.98	95.65	98.32
8	25	1	29.69	37.75	39.71	35.89	54.52	56.04	59.14	59.21	61.22	61.88	61.97	64.27	66.73	67.66	68.38	71.02	73.67	76.31	78.96	81.60	83.80	85.99	88.19	90.38	92.58
8	25	2	29.55	34.24	37.22	34.22	52.63	54.74	57.78	56.96	58.62	59.30	60.92	62.62	64.87	65.74	66.72	69.27	71.81	74.36	76.90	79.45	81.55	83.64	85.74	87.83	89.93
8	25	3	28.53	32.30	35.93	33.10	51.36	54.35	55.57	55.29	57.80	58.07	60.57	61.74	63.36	63.90	65.64	68.09	70.54	73.00	75.45	77.90	79.88	81.86	83.85	85.83	87.81
8	25	4	28.33	31.75	35.30	30.82	51.03	52.91	55.13	54.90	56.26	56.31	58.94	61.12	62.93	63.20	63.51	66.06	68.61	71.15	73.70	76.25	78.30	80.35	82.40	84.45	86.50
8	25	5	28.47	31.35	35.17	30.02	49.43	51.79	55.12	53.47	56.04	55.95	58.33	59.89	62.39	61.29	62.91	65.57	68.22	70.88	73.53	76.19	77.76	79.33	80.89	82.46	84.03
8	25	6	29.71	33.24	35.43	30.13	53.21	54.41	56.54	56.51	56.52	56.43	60.41	61.88	63.70	63.91	63.55	66.13	68.70	71.28	73.85	76.43	78.76	81.09	83.41	85.74	88.07
8	25	7	31.15	34.95	36.14	32.25	53.68	55.67	57.87	57.31	57.61	57.22	62.02	64.33	65.91	66.27	64.81	67.58	70.34	73.11	75.87	78.64	81.18	83.72	86.26	88.80	91.34
8	25	8	35.08	40.75	37.85	33.65	55.38	57.41	60.16	60.53	59.33	58.76	64.41	66.65	68.31	69.09	66.14	68.95	71.75	74.56	77.36	80.17	83.28	86.39	89.50	92.61	95.72
8	25	9	39.60	44.39	40.51	36.18	57.28	59.04	63.25	63.55	61.67	61.90	65.75	67.60	70.46	71.11	68.67	71.45	74.23	77.02	79.80	82.58	86.03	89.49	92.94	96.40	99.85
8	25	10	43.39	47.81	44.82	38.49	59.10	61.48	69.06	67.08	64.87	63.62	67.18	72.06	73.33	73.83	70.58	73.77	76.96	80.16	83.35	86.54	89.65	92.76	95.87	98.98	102.09
8	25	11	47.52	52.76	48.32	40.06	61.78	65.69	80.79	72.29	67.32	64.66	70.58	76.75	79.70	77.25	71.96	75.53	79.09	82.66	86.22	89.79	92.98	96.18	99.37	102.57	105.76
8	25	12	50.42	59.81	49.91	44.24	64.85	71.05	85.52	83.74	70.88	67.32	76.35	95.19	87.70	89.64	73.51	77.53	81.55	85.56	89.58	93.60	97.90	102.20	106.50	110.80	115.10
8	25	13	53.04	62.41	52.02	47.44	69.39	76.59	87.35	81.56	73.84	69.42	83.21	95.37	92.49	96.24	75.29	79.73	84.16	88.60	93.03	97.47	102.91	108.35	113.79	119.23	124.67
8	25	14	51.83	70.27	56.44	48.96	74.28	75.81	94.06	87.53	86.51	71.59	84.27	93.56	97.35	96.04	77.07	83.74	90.41	97.08	103.75	110.42	114.10	117.78	121.45	125.13	128.81
8	25	15	53.16	77.26	59.33	50.09	75.03	74.49	100.35	99.11	83.96	73.36	78.99	99.41	107.17	106.51	78.76	85.18	91.60	98.03	104.45	110.87	119.34	127.81	136.29	144.76	153.23
8	25	16	68.48	94.27	68.36	50.95	73.13	83.82	132.83	100.94	93.94	75.10	116.17	160.32	151.10	118.29	80.54	87.92	95.30	102.69	110.07	117.45	125.31	133.17	141.04	148.90	156.76
8	25	17	55.59	93.15	68.60	52.25	73.60	81.22	132.83	111.27	111.24	79.33	94.38	142.00	127.51	122.39	83.84	89.26	94.67	100.09	105.50	110.92	121.71	132.49	143.28	154.06	164.85
8	25	18	52.53	71.25	66.66	52.47	73.69	74.66	100.00	99.49	83.73	83.72	83.71	116.29	109.30	102.45	83.84	87.81	91.77	95.74	99.70	103.67	111.52	119.37	127.21	135.06	142.91
8	25	19	51.43	65.10	52.69	50.39	68.35	75.47	87.06	86.18	76.26	73.69	81.97	93.30	95.09	93.98	79.59	83.67	87.76	91.84	95.93	100.01	107.06	114.11	121.16	128.21	135.26
8	25	20	50.88	57.19	50.94	49.34	64.43	73.58	84.25	80.70	73.73	72.80	77.10	91.68	88.77	89.95	78.52	81.91	85.30	88.70	92.09	95.48	101.14	106.80	112.47	118.13	123.79
8	25	21	49.50	58.65	50.12	49.21	63.10	71.33	85.14	84.94	71.43	71.63	76.85	95.19	86.75	93.98	77.23	80.30	83.36	86.43	89.49	92.56	99.81	107.06	114.31	121.56	128.81
8	25	22	47.22	52.79	48.15	47.10	60.56	64.63	80.27	72.87	66.87	68.32	70.21	78.81	79.94	77.48	73.65	76.85	80.05	83.26	86.46	89.66	93.25	96.85	100.44	104.04	107.63
8	25	23	42.91	48.17	44.15	40.71	58.28	60.87	67.19	67.15	64.84	65.66	66.84	72.16	72.35	74.94	72.36	75.11	77.87	80.62	83.38	86.13	89.39	92.66	95.92	99.19	102.45
8	25	24	37.04	43.26	39.53	38.10	55.24	58.37	63.09	62.81	61.64	64.10	66.01	69.42	68.71	70.11	70.84	73.00	75.16	77.33	79.49	81.65	84.72	87.79	90.85	93.92	96.99
8	26	1	31.32	36.51	36.70	34.06	54.33	56.47	58.55	59.37	59.18	58.88	62.90	66.25	66.55	67.40	66.74	69.35	71.96	74.58	77.19	79.80	82.39	84.99	87.58	90.18	92.77
8	26	2	30.69	34.02	35.34	30.38	53.52	55.36	56.70	56.97	57.57	56.58	60.94	64.10	64.39	65.84	64.29	67.01	69.73	72.44	75.16	77.88	80.46	83.05	85.63	88.22	90.80
8	26	3	28.76	32.22	33.93	30.96	53.19	54.29	54.81	56.56	55.91	56.70	59.39	62.73	62.58	64.52	64.02	66.29	68.57	70.84	73.12	75.39	78.08	80.77	83.45	86.14	88.83
8	26	4	28.65	31.73	31.00	30.83	51.59	53.98	54.34	54.74	54.43	56.48	58.94	62.05	61.85	63.01	64.02	65.89	67.76	69.64	71.51	73.38	76.00	78.63	81.25	83.88	86.50
8	26	5	28.66	30.73	30.60	31.15	50.38	52.50	53.10	54.64	54.24	56.80	58.09	60.85	60.50	63.06	64.02	65.74	67.46	69.19	70.91	72.63	75.42	78.21	80.99	83.78	86.57
8	26	6	29.82	32.95	30.85	32.59	53.52	54.74	55.61	56.22	54.50	58.11	59.74	62.78	63.05	63.91	65.07	66.74	68.42	70.09	71.77	73.44	76.25	79.07	81.88	84.70	87.51
8	26	7	31.42	34.23	33.12	34.19	54.26	56.45	56.76	56.79	55.41	58.99	61.98	64.87	64.71	65.32	66.69	68.28	69.86	71.45	73.03	74.62	77.60	80.58	83.55	86.53	89.51
8	26	8	36.04	39.76	34.50	36.45	55.58	57.83	58.94	58.13	56.58	62.18	65.25	66.65	67.56	66.59	69.34	70.71	72.08	73.45	74.82	76.19	79.14	82.08	85.03	87.97	90.92
8	26	9	41.39	44.02	36.86	39.30	57.73	60.53	62.41	59.98	59.35	64.11	66.84	70.20	70.06	68.43	71.45	73.16	74.87	76.58	78.29	80.00	82.67	85.34	88.00	90.67	93.34
8	26	10	45.65	47.57	39.48	43.44	59.37	63.68	66.00	62.98	62.21	66.33	69.68	73.21	72.35	69.88	72.94	74.83	76.72	78.61	80.50	82.39	85.38	88.37	91.37	94.36	97.35
8	26	11	48.80	50.09	41.41	46.21	63.78	69.56	71.46	65.95	63.26	67.18	73.91	89.24	75.96	70.62	72.94	75.24	77.54	79.83	82.13	84.43	87.57	90.71	93.86	97.00	100.14

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	26	12	55.73	58.43	45.55	47.86	68.11	75.58	81.95	68.37	65.45	69.19	81.24	97.39	89.30	74.00	74.50	77.13	79.77	82.40	85.04	87.67	90.68	93.68	96.69	99.69	102.70
8	26	13	52.71	59.18	48.11	48.55	73.33	79.91	81.75	70.71	68.27	70.75	88.88	99.96	83.38	76.74	76.28	79.15	82.03	84.90	87.78	90.65	93.69	96.74	99.78	102.83	105.87
8	26	14	60.52	62.66	49.66	49.48	75.07	76.32	83.40	77.48	71.21	73.13	84.93	121.01	89.60	89.86	79.37	82.13	84.89	87.66	90.42	93.18	98.81	104.44	110.06	115.69	121.32
8	26	15	68.71	74.73	50.30	49.86	80.75	79.24	94.00	76.66	72.92	74.99	90.23	133.34	99.83	89.24	80.49	83.39	86.29	89.18	92.08	94.98	98.94	102.91	106.87	110.84	114.80
8	26	16	84.97	80.62	51.55	49.97	80.23	83.01	96.48	81.33	75.68	75.36	102.40	219.37	107.52	102.56	81.52	84.40	87.29	90.17	93.06	95.94	101.31	106.68	112.04	117.41	122.78
8	26	17	89.55	85.05	52.10	49.55	81.28	86.80	123.93	88.31	86.26	74.07	136.46	219.76	119.29	102.82	81.52	84.72	87.92	91.13	94.33	97.53	100.83	104.14	107.44	110.75	114.05
8	26	18	64.15	71.32	52.16	48.94	78.80	82.51	91.42	75.84	89.78	72.59	103.32	130.05	98.49	85.24	78.84	82.76	86.68	90.59	94.51	98.43	101.12	103.81	106.50	109.19	111.88
8	26	19	54.47	56.69	50.55	47.99	78.56	75.05	83.72	72.86	71.95	70.28	84.57	103.23	89.15	79.55	76.29	79.95	83.61	87.26	90.92	94.58	96.77	98.97	101.16	103.36	105.55
8	26	20	52.53	58.37	50.01	46.96	69.68	73.21	81.95	69.79	71.43	69.41	82.11	97.44	84.60	77.02	75.10	78.59	82.08	85.56	89.05	92.54	94.52	96.51	98.49	100.48	102.46
8	26	21	53.20	61.13	49.31	46.97	67.95	74.97	81.65	68.22	69.88	68.68	83.75	96.30	89.34	75.84	74.90	78.39	81.88	85.37	88.86	92.35	94.37	96.39	98.41	100.43	102.45
8	26	22	48.62	50.53	47.48	44.05	61.73	69.19	74.54	65.97	66.46	66.55	74.21	85.55	76.51	72.75	72.94	76.20	79.47	82.73	86.00	89.26	91.36	93.46	95.57	97.67	99.77
8	26	23	44.44	49.44	41.75	40.00	58.92	63.20	65.73	62.66	64.18	65.06	70.59	72.67	72.32	70.30	72.30	74.75	77.21	79.66	82.12	84.57	86.80	89.03	91.27	93.50	95.73
8	26	24	37.19	41.96	39.04	36.15	55.87	59.49	60.84	59.57	62.18	61.33	66.84	69.52	68.24	67.87	68.88	71.56	74.25	76.93	79.62	82.30	84.39	86.47	88.56	90.64	92.73
8	27	1	31.23	36.11	34.60	33.56	54.63	57.61	58.03	57.12	56.70	58.93	64.16	65.22	66.64	66.37	66.52	68.69	70.86	73.02	75.19	77.36	80.16	82.97	85.77	88.58	91.38
8	27	2	30.36	33.67	31.98	32.62	53.75	56.22	56.47	56.28	54.70	57.85	61.81	63.00	64.48	64.68	65.48	67.33	69.18	71.03	72.88	74.73	77.61	80.50	83.38	86.27	89.15
8	27	3	28.66	32.30	31.10	31.89	52.64	54.57	55.59	53.89	54.54	56.96	60.36	61.70	63.40	62.86	64.55	66.52	68.49	70.46	72.43	74.40	76.63	78.87	81.10	83.34	85.57
8	27	4	28.24	30.88	30.39	31.79	52.52	54.34	53.98	52.95	54.24	55.97	59.77	60.66	61.73	61.29	63.95	65.89	67.84	69.78	71.73	73.67	75.70	77.72	79.75	81.77	83.80
8	27	5	26.91	30.84	31.81	32.57	50.70	53.85	53.98	52.58	54.34	57.86	58.78	59.37	61.60	60.76	64.69	66.47	68.25	70.02	71.80	73.58	75.40	77.22	79.04	80.86	82.68
8	27	6	29.52	31.76	33.51	33.29	53.69	55.05	55.26	53.04	55.56	59.32	60.44	61.50	62.27	61.11	65.83	67.70	69.58	71.45	73.33	75.20	76.88	78.56	80.24	81.92	83.60
8	27	7	30.59	32.55	34.46	35.33	54.53	56.45	56.00	54.83	56.63	60.06	62.59	63.48	63.52	62.56	68.09	70.01	71.93	73.85	75.77	77.69	79.24	80.79	82.35	83.90	85.45
8	27	8	34.33	33.68	36.39	38.88	56.49	57.95	56.97	55.82	59.16	63.32	66.48	65.65	64.95	63.57	70.72	72.73	74.74	76.75	78.76	80.77	82.16	83.56	84.95	86.35	87.74
8	27	9	38.86	36.21	40.01	42.15	59.90	60.69	58.86	57.48	62.23	64.85	67.57	68.20	66.55	66.58	72.91	74.95	77.00	79.04	81.09	83.13	84.81	86.49	88.18	89.86	91.54
8	27	10	43.83	40.76	44.57	45.57	62.73	64.88	61.27	59.78	63.51	66.66	71.13	71.86	68.48	68.32	72.94	75.51	78.08	80.64	83.21	85.78	87.15	88.51	89.88	91.24	92.61
8	27	11	46.34	45.09	46.35	46.99	68.74	71.80	63.70	61.46	65.67	69.19	76.95	77.30	70.65	69.60	74.90	77.55	80.20	82.85	85.50	88.15	89.46	90.77	92.09	93.40	94.71
8	27	12	50.73	47.79	47.77	48.42	74.26	79.97	65.56	63.55	67.08	70.24	91.76	97.48	73.92	71.07	76.29	79.02	81.74	84.47	87.19	89.92	91.36	92.81	94.25	95.70	97.14
8	27	13	53.04	49.53	48.42	49.84	74.13	79.97	69.99	66.29	67.95	72.42	92.49	97.25	77.22	72.95	78.21	80.93	83.65	86.37	89.09	91.81	93.54	95.26	96.99	98.71	100.44
8	27	14	52.14	52.04	48.93	50.62	78.32	84.19	75.29	68.01	69.50	74.56	97.49	99.57	86.77	75.09	79.61	82.36	85.10	87.85	90.59	93.34	95.16	96.98	98.81	100.63	102.45
8	27	15	61.41	54.68	50.30	52.21	81.31	88.44	75.29	69.20	71.30	76.18	106.42	115.40	86.77	75.89	83.84	86.14	88.44	90.74	93.04	95.34	97.14	98.94	100.74	102.54	104.34
8	27	16	74.11	68.20	50.79	52.58	85.85	104.81	90.83	72.23	71.34	82.77	135.37	148.29	95.69	76.67	97.25	96.93	96.62	96.30	95.99	95.67	97.62	99.56	101.51	103.45	105.40
8	27	17	74.11	69.12	50.31	52.53	83.26	121.02	100.66	75.19	71.34	76.32	141.22	194.93	86.77	79.26	88.14	89.60	91.06	92.51	93.97	95.43	97.74	100.05	102.36	104.67	106.98
8	27	18	56.94	54.56	49.62	51.48	77.35	86.78	76.10	75.22	70.62	74.27	100.64	120.95	80.68	78.71	82.58	84.97	87.35	89.74	92.12	94.51	96.88	99.25	101.63	104.00	106.37
8	27	19	53.53	50.85	48.49	49.96	72.06	82.21	71.46	70.39	68.66	71.93	92.73	98.50	77.99	75.96	78.59	81.20	83.80	86.41	89.01	91.62	93.94	96.26	98.59	100.91	103.23
8	27	20	55.21	49.12	47.89	48.79	71.58	76.32	68.59	68.63	67.29	70.21	88.41	95.33	75.17	75.87	76.44	79.34	82.24	85.13	88.03	90.93	93.14	95.34	97.55	99.75	101.96
8	27	21	54.63	48.46	47.77	48.42	72.14	79.91	66.56	68.30	66.47	69.37	89.22	100.32	74.17	75.84	75.78	78.61	81.45	84.28	87.12	89.95	92.36	94.78	97.19	99.61	102.02
8	27	22	48.05	45.90	45.44	46.33	67.29	71.75	63.62	65.83	64.85	67.18	76.92	77.79	70.92	72.95	74.45	76.98	79.51	82.05	84.58	87.11	89.63	92.15	94.68	97.20	99.72
8	27	23	45.24	41.62	41.26	42.82	61.58	64.37	60.94	62.62	63.08	65.41	71.62	72.53	68.40	70.13	72.76	74.89	77.02	79.15	81.28	83.41	85.85	88.29	90.74	93.18	95.62
8	27	24	37.84	36.56	37.17	36.45	58.12	58.70	58.55	60.17	58.51	61.53	66.85	67.79	67.33	68.52	68.06	70.44	72.81	75.19	77.56	79.94	82.55	85.17	87.78	90.40	93.01
8	28	1	32.39	33.95	34.32	33.32	55.51	56.93	56.76	55.78	56.04	58.82	63.82	65.45	65.64	65.75	65.60	67.80	70.00	72.20	74.40	76.60	79.19	81.78	84.37	86.96	89.55
8	28	2	31.30	31.84	33.47	32.31	54.46	56.08	55.42	55.15	55.21	56.43	61.41	63.05	63.42	63.81	64.03	66.15	68.27	70.38	72.50	74.62	76.91	79.21	81.50	83.80	86.09
8	28	3	29.96	30.23	32.49	30.14	53.23	54.52	53.10	55.06	54.01	55.47	59.43	61.90	61.35	63.52	61.62	63.89	66.16	68.44	70.71	72.98	75.61	78.24	80.88	83.51	86.14
8	28	4	28.68	28.87	32.47	29.63	53.03	54.00	51.97	54.69	54.11	54.83	58.76	60.39	59.83	63.15	60.37	62.85	65.32	67.80	70.27	72.75	75.34	77.93	80.53	83.12	85.71
8	28	5	28.57	28.40	32.97	31.51	52.85	52.48	51.33	54.90	54.57	55.96	57.47	60.37	59.15	63.30	62.23	64.57	66.90	69.24	71.57	73.91	76.32	78.73	81.15	83.56	85.97
8	28	6	29.42	28.42	34.46	33.86	53.72	54.97	52.07	55.06	56.03	58.29	60.21	60.72	60.09	63.59	64.89	67.09	69.30	71.50	73.71	75.91	78.05	80.19	82.32	84.46	86.60
8	28	7	29.99	30.56	35.82	35.88	54.63	56.26	53.50	56.23	57.30	60.16	61.67	61.90	61.00	65.19	66.92	69.36	71.80	74.23	76.67	79.11	81.19	83.27	85.35	87.43	89.51
8	28	8	31.75	31.34	39.17	38.88	56.20	57.38	54.79	57.93	60.32	63.40	64.36	63.94	62.14	67.72	70.36	72.64	74.92	77.20	79.48	81.76	84.03	86.31	88.58	90.86	93.13
8	28	9	33.66	33.95	42.91	41.95	58.92	59.55	56.86	60.37	63.14	66.31	66.84	65.62	65.20	69.61	72.87	75.21	77.55	79.89	82.23	84.57	86.65	88.73	90.80	92.88	94.96
8	28	10	37.29	36.11	45.56	45.55	61.68	62.20	58.55	61.82	64.55	67.74	69.89	66.65	67.33	69.75	72.94	75.84	78.73	81.63	84.52	87.42	89.11	90.80	92.50	94.19	95.88
8	28	11	43.09	39.89	47.30	47.67	69.41	69.47	59.73	64.16	66.01	69.88	73.03	69.70	68.09	71.11	75.76	78.44	81.13	83.81	86.50	89.18	91.19	93.20	95.22	97.23	99.24
8	28	12	45.50	43.91	48.42	48.73	75.61	78.12	62.21	66.03	68.51	72.70	89.50	72.17	69.07	72.20	76.74	79.60	82.45	85.31	88.16	91.02	92.95	94.89	96.82	98.76	100.69
8	28	13	47.54	46.66	50.12	50.84	77.49	79.35	63.94	66.87	70.47	76.46	91.53	79.61	71.20	73.24	80.62	83.13	85.65	88.16	90.68	93.19	94.94	96.68	98.43	100.17	101.92
8	28	14	51.47	48.02	52.12	52.58	85.63	81.20	65.17	68.16	72.43	77.92	93.73	94.13	73.99	74.81	82.67	85.08	87.49	89.89	92.30	94.71	96.36	98.00	99.65	101.29	102.94
8	28	15	52.48	49.21	55.30	53.28	89.48	87.25	66.88	68.36	76.26	84.29	102.41	89.06	75.15	75.56	90.70	91.73	92.77	93.80	94.84	95.87	97.44	99.01	100.59	102.16	103.73
8	28	16	58.47	50.75	55.30	59.53	120.14	89.48	68.35	68.37	77.23	99.19	106.71	104.37	76.07	75.67	100.95	100.69	100.43	100.16	99.90	99.64	100.64	101.64	102.64	103.64	104.64
8	28	17	59.26	54.03	55.30	53.67	113.11	94.38	70.07	68.26	74.73	89.86	121.69	105.68	77.55	75.75	96.13	96.66	97.19	97.71	98.24	98.77	100.03	101.29	102.55	103.81	105.07
8	28	18	51.50	51.64	52.80	52.71	87.98	87.19	70.15	67.60	73.49	77.92	100.43	89.24	76.64	74.86	83.48	85.87	88.26	90.65	93.04	95.43	97.04	98.64	100.25	101.85	103.46
8	28	19	48.54	48.46	50.63	50.37	77.92	81.38	68.35	66.47	70.96	74.27	90.30	79.48	75.06	73.54	79.39	82.15	84.91	87.67	90.43	93.19	94.94	96.69	98.43	100.18	101.93
8	28	20	46.63	47.79	48.51	48.73	74.28	79.40	67.24	65.81	68.80	72.09	88.66	74.64	74.42	72.90	76.86	79.73	82.61	85.48	88.36	91.23	93.35	95.46	97.58	99.69	101.81
8	28	21	45.94	47.26	48.16	48.43	75.72	79.40	66.56	65.24	67.85	70.56	90.00	72.22	74.09	71.61	76.45	79.31	82.16	85.02	87.87	90.73	92.73	94.73	96.73	98.73	100.73
8	28	22	43.52	45.18	46.28	45.96	69.47	70.94	63.42	62.94	65.13	68.57	73.08	69.48	71.14	70.60	74.84	77.51	80.18	82.86	85.53	88.20	90.61	93.02	95.42	97.83	100.24

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	28	23	38.82	40.57	43.70	43.26	62.90	63.30	60.14	61.31	63.62	65.96	70.37	66.74	68.36	69.67	72.87	75.18	77.49	79.81	82.12	84.43	86.69	88.95	91.21	93.47	95.73
8	28	24	34.04	36.11	37.74	38.97	57.50	59.34	58.93	57.33	58.35	63.24	65.63	65.61	67.21	67.00	70.36	72.12	73.88	75.65	77.41	79.17	81.52	83.87	86.22	88.57	90.92
8	29	1	31.80	31.55	34.50	35.89	54.87	56.86	55.26	55.33	56.02	59.88	63.78	63.11	62.70	64.68	67.42	69.10	70.79	72.47	74.16	75.84	78.47	81.10	83.74	86.37	89.00
8	29	2	29.99	30.53	33.47	34.47	54.27	55.91	54.94	54.49	55.13	58.18	61.88	62.05	62.00	63.17	65.74	67.28	68.82	70.37	71.91	73.45	76.02	78.60	81.17	83.75	86.32
8	29	3	28.52	30.30	30.58	32.12	52.95	54.98	53.42	53.42	53.98	57.13	60.21	59.91	61.25	62.88	64.81	66.08	67.35	68.63	69.90	71.17	73.88	76.59	79.30	82.01	84.72
8	29	4	27.62	30.27	30.86	32.30	52.51	53.91	52.84	53.41	53.63	57.23	58.62	58.87	60.37	62.89	64.81	65.96	67.11	68.25	69.40	70.55	73.40	76.24	79.09	81.93	84.78
8	29	5	27.01	30.61	32.98	34.19	51.59	53.84	53.78	53.95	54.61	58.18	58.09	58.68	61.15	63.12	65.89	67.25	68.61	69.97	71.33	72.69	75.26	77.83	80.39	82.96	85.53
8	29	6	27.38	30.88	34.54	35.92	53.59	54.31	54.14	55.63	56.42	60.00	58.94	59.06	61.52	64.15	68.10	69.58	71.06	72.55	74.03	75.51	77.98	80.45	82.92	85.39	87.86
8	29	7	28.72	31.40	36.35	39.08	54.47	55.02	55.39	56.81	58.28	63.33	60.57	59.96	62.64	65.81	71.16	72.65	74.13	75.62	77.10	78.59	81.01	83.43	85.86	88.28	90.70
8	29	8	29.40	33.99	39.90	44.29	55.96	56.03	57.06	59.19	61.55	64.84	61.78	61.22	64.81	68.58	72.94	74.71	76.49	78.26	80.04	81.81	84.27	86.73	89.18	91.64	94.10
8	29	9	31.96	39.11	43.66	45.48	58.95	56.93	58.68	61.24	63.15	67.09	63.53	63.92	67.32	69.74	72.94	75.52	78.11	80.69	83.28	85.86	88.25	90.64	93.02	95.41	97.80
8	29	10	33.99	42.13	46.39	48.10	61.76	58.37	60.32	62.32	64.88	69.52	65.35	65.87	68.14	70.53	76.47	78.68	80.89	83.11	85.32	87.53	90.09	92.64	95.20	97.75	100.31
8	29	11	36.64	44.46	48.18	50.41	68.35	61.04	62.35	64.93	67.06	74.07	67.29	66.65	69.43	72.47	79.70	81.96	84.23	86.49	88.76	91.02	93.20	95.38	97.56	99.74	101.92
8	29	12	39.86	45.99	48.74	54.42	75.63	64.79	64.24	66.99	69.30	84.90	70.38	68.49	70.82	74.11	91.60	91.89	92.19	92.48	92.78	93.07	94.97	96.88	98.78	100.69	102.59
8	29	13	43.82	47.34	50.71	55.36	77.04	68.11	64.99	69.52	74.68	84.90	74.45	70.40	72.38	76.06	94.72	95.22	95.72	96.23	96.73	97.23	98.84	100.45	102.07	103.68	105.29
8	29	14	45.77	47.84	53.35	66.30	84.62	73.41	66.68	69.31	78.35	103.44	87.50	72.22	74.08	75.39	108.78	107.01	105.24	103.48	101.71	99.94	101.14	102.33	103.53	104.72	105.92
8	29	15	46.44	49.38	63.41	73.10	87.25	71.99	66.99	71.35	90.75	108.75	87.50	73.36	74.21	76.71	119.09	115.85	112.61	109.38	106.14	102.90	104.02	105.14	106.25	107.37	108.49
8	29	16	46.84	48.98	59.24	96.08	93.94	85.36	67.00	72.53	90.09	153.56	107.07	75.68	74.08	79.84	179.09	166.13	153.18	140.22	127.27	114.31	113.15	111.99	110.82	109.66	108.50
8	29	17	50.13	49.04	55.11	87.59	99.68	90.69	66.99	71.40	82.02	149.16	108.53	86.57	73.98	79.07	160.41	149.61	138.81	128.00	117.20	106.40	106.82	107.24	107.65	108.07	108.49
8	29	18	50.13	48.59	55.65	68.09	85.85	75.18	65.53	70.53	82.62	103.89	82.69	86.97	73.63	77.68	110.06	108.47	106.88	105.28	103.69	102.10	102.95	103.80	104.66	105.51	106.36
8	29	19	45.94	47.06	51.80	53.10	75.75	70.11	64.57	68.30	74.19	84.52	77.16	73.83	71.86	75.63	86.95	88.87	90.79	92.70	94.62	96.54	97.76	98.97	100.19	101.40	102.62
8	29	20	45.80	46.04	49.67	53.28	74.90	66.42	63.98	66.87	70.64	84.56	72.00	72.90	71.23	74.29	86.95	88.43	89.91	91.39	92.87	94.35	95.86	97.38	98.89	100.41	101.92
8	29	21	46.15	45.50	49.24	53.85	73.84	64.43	63.41	66.17	69.50	83.52	70.47	72.14	70.67	73.30	89.59	90.40	91.21	92.01	92.82	93.63	95.29	96.95	98.60	100.26	101.92
8	29	22	43.34	43.17	47.31	50.60	69.78	61.16	61.84	64.30	66.54	72.87	67.53	68.21	68.42	71.62	78.76	81.02	83.29	85.55	87.82	90.08	92.22	94.37	96.51	98.66	100.80
8	29	23	37.01	39.88	44.98	47.39	61.94	58.92	59.25	61.74	64.16	69.13	66.05	66.38	67.56	69.74	74.90	76.99	79.08	81.16	83.25	85.34	87.80	90.25	92.71	95.16	97.62
8	29	24	32.54	33.80	39.91	39.89	57.82	57.22	56.84	58.07	61.63	63.62	64.61	65.25	65.12	67.57	71.40	73.35	75.30	77.25	79.20	81.15	83.06	84.97	86.88	88.79	90.70
8	30	1	29.48	31.16	37.03	34.51	56.07	56.12	54.45	55.64	58.26	58.88	62.78	61.55	62.39	64.24	66.13	68.48	70.83	73.18	75.53	77.88	79.90	81.93	83.95	85.98	88.00
8	30	2	28.49	30.53	34.96	33.04	54.47	54.74	52.92	53.83	56.98	57.62	60.66	61.03	61.17	62.97	64.64	66.99	69.34	71.70	74.05	76.40	78.19	79.98	81.78	83.57	85.36
8	30	3	28.43	29.58	33.41	31.03	53.74	52.61	52.58	53.07	55.70	56.33	58.42	59.78	59.89	61.22	62.91	65.32	67.73	70.14	72.55	74.96	76.89	78.82	80.74	82.67	84.60
8	30	4	28.14	29.62	33.37	30.82	52.95	51.58	52.58	52.58	55.83	56.21	57.17	59.41	59.57	60.60	63.00	65.36	67.72	70.08	72.44	74.80	76.21	77.62	79.02	80.43	81.84
8	30	5	28.61	30.47	34.96	31.20	52.36	51.03	53.34	53.21	56.56	56.31	56.85	60.37	60.43	61.26	63.27	65.90	68.53	71.17	73.80	76.43	78.02	79.61	81.19	82.78	84.37
8	30	6	28.77	31.43	37.28	33.99	52.99	51.47	55.05	55.24	58.27	58.85	57.17	59.68	62.23	63.78	65.77	68.43	71.10	73.76	76.43	79.09	80.78	82.48	84.17	85.87	87.56
8	30	7	29.77	33.28	40.59	36.16	53.30	53.38	56.36	57.00	61.00	61.77	58.21	61.61	63.69	65.93	68.21	71.22	74.23	77.25	80.26	83.27	84.71	86.15	87.59	89.03	90.47
8	30	8	32.62	36.45	44.83	39.74	54.37	54.35	58.15	59.35	63.56	63.72	59.30	63.85	66.19	68.99	71.70	74.63	77.56	80.48	83.41	86.34	87.93	89.52	91.10	92.69	94.28
8	30	9	36.19	41.00	47.26	44.30	55.68	56.45	59.73	61.92	65.37	64.74	62.75	65.63	68.01	70.62	72.91	75.97	79.03	82.08	85.14	88.20	90.31	92.42	94.53	96.64	98.75
8	30	10	38.96	43.92	48.70	45.89	57.48	57.60	61.72	63.13	68.26	67.96	64.34	66.46	68.57	72.08	72.94	76.76	80.58	84.41	88.23	92.05	93.77	95.49	97.20	98.92	100.64
8	30	11	43.04	45.58	52.75	47.96	60.09	58.71	62.99	65.70	73.25	70.32	66.15	68.21	70.34	74.92	75.76	80.10	84.43	88.77	93.10	97.44	98.34	99.24	100.13	101.03	101.93
8	30	12	43.75	47.81	54.11	50.03	62.20	60.90	65.56	66.90	79.31	73.09	67.44	69.74	71.94	76.16	78.72	85.28	91.83	98.39	104.94	111.50	109.79	108.08	106.36	104.65	102.94
8	30	13	45.09	49.52	54.38	52.75	65.60	62.52	68.47	70.51	82.96	75.36	69.37	71.67	73.81	77.49	86.35	92.89	99.43	105.97	112.51	119.05	115.83	112.61	109.38	106.16	102.94
8	30	14	46.02	50.80	70.10	60.78	67.58	64.82	68.49	73.15	96.86	82.78	71.13	73.19	74.88	78.74	95.12	106.05	116.98	127.91	138.84	149.77	141.02	132.26	123.51	114.75	106.00
8	30	15	46.72	54.76	84.72	56.07	68.08	66.00	70.16	75.73	101.32	80.91	72.57	73.19	76.75	80.24	89.37	105.29	121.21	137.13	153.05	168.97	157.42	145.86	134.31	122.75	111.20
8	30	16	46.77	52.01	116.97	56.33	71.00	70.34	70.28	103.06	147.29	86.56	74.43	73.89	77.75	102.70	97.57	128.62	159.67	190.72	221.77	252.82	226.42	200.02	173.63	147.23	120.83
8	30	17	47.40	49.35	97.63	54.31	83.85	72.94	69.99	81.46	121.10	91.36	75.96	74.43	77.25	89.19	131.71	153.06	174.40	195.75	217.09	238.44	215.27	192.10	168.93	145.76	122.59
8	30	18	46.45	48.20	68.23	55.20	71.06	72.49	69.31	74.07	96.96	77.30	75.25	73.00	76.34	79.29	87.50	100.30	113.11	125.91	138.72	151.52	143.35	135.18	127.00	118.83	110.66
8	30	19	44.25	47.64	55.62	53.48	67.76	67.09	67.83	70.11	78.46	79.94	72.35	71.43	74.08	76.22	87.50	92.24	96.98	101.73	106.47	111.21	110.08	108.94	107.81	106.67	105.54
8	30	20	43.63	47.16	55.64	53.09	64.36	65.58	66.99	67.55	79.12	77.75	70.86	70.38	72.92	74.86	83.55	88.74	93.94	99.13	104.33	109.52	108.00	106.49	104.97	103.46	101.94
8	30	21	43.59	46.54	55.11	51.65	62.70	64.52	66.54	66.05	77.76	75.36	70.60	69.57	71.86	73.83	83.43	87.63	91.83	96.03	100.23	104.43	103.93	103.43	102.94	102.44	101.94
8	30	22	39.65	44.49	50.28	48.61	60.04	61.02	62.48	63.89	71.07	72.42	67.12	67.81	69.68	71.86	78.65	82.16	85.67	89.18	92.69	96.20	97.35	98.49	99.64	100.78	101.93
8	30	23	36.63	40.99	47.84	45.77	57.60	58.20	59.97	61.82	67.32	68.33	65.35	65.91	68.01	69.74	74.53	78.03	81.54	85.04	88.55	92.05	93.41	94.76	96.12	97.47	98.83
8	30	24	32.63	34.23	40.47	39.57	55.60	57.19	57.60	59.57	61.97	63.51	64.44	63.03	66.14	68.17	71.44	73.89	76.34	78.79	81.24	83.69	85.84	87.99	90.13	92.28	94.43
8	31	1	29.45	31.14	35.43	35.13	54.41	54.38	55.24	56.85	56.92	60.21	60.26	60.82	62.55	65.68	67.55	69.61	71.67	73.73	75.79	77.85	80.35	82.86	85.36	87.87	90.37
8	31	2	29.03	30.24	34.04	33.17	53.19	53.98	54.18	55.72	55.55	58.88	58.08	59.46	60.98	64.12	65.76	67.68	69.61	71.53	73.46	75.38	77.99	80.59	83.20	85.80	88.41
8	31	3	28.82	28.97	32.79	32.88	51.14	53.77	53.42	55.24	54.24	59.21	58.74	58.72	60.10	63.53	64.93	66.80	68.67	70.53	72.40	74.27	76.90	79.53	82.16	84.79	87.42
8	31	4	28.45	28.27	31.97	31.20	50.16	53.77	53.42	55.38	54.18	56.55	58.28	58.72	58.97	63.62	63.36	65.44	67.52	69.60	71.68	73.76	76.56	79.35	82.15	84.94	87.74
8	31	5	28.80	28.71	33.10	31.17	49.63	54.19	53.82	55.74	54.24	56.32	58.87	58.99	59.80	64.10	62.91	65.11	67.31	69.51	71.71	73.91	76.81	79.71	82.61	85.51	88.41
8	31	6	29.45	31.28	35.13	32.39	49.75	54.02	55.51	57.28	55.91	58.54	58.84	61.02	61.69	66.12	64.24	66.85	69.46	72.08	74.69	77.30	80.02	82.75	85.47	88.20	90.92
8	31	7	31.52	33.53	37.59	33.01	51.14	54.66	57.14	59.66	58.69	58.88	59.91	62.26	63.93	68.35	65.42	68.45	71.48	74.51	77.54	80.57	83.28	86.00	88.71	91.43	94.14
8	31	8	34.59	37.22	40.63	33.26	52.91	55.50	58.61	61.92	62.01	58.88	62.15	64.93	66.63	69.74	65.74	69.48	73.22	76.95	80.69	84.43	86.92	89.41	91.89	94.38	96.87
8	31	9	37.49	41.47	44.57	35.37	54.58	56.79	60.63	63.12	63.76	60.49	64.35	66.35	68.74	70.62	67.73	71.37	75.01	78.65	82.29	85.93	88.61	91.30	93.98	96.67	99.35

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
8	31	10	40.98	43.88	46.92	39.14	55.67	58.51	62.66	65.66	64.88	63.44	65.45	67.46	70.34	72.88	70.30	74.02	77.73	81.45	85.16	88.88	91.49	94.10	96.71	99.32	101.93
8	31	11	43.46	46.25	48.52	43.35	56.96	60.08	65.57	71.66	67.06	65.35	66.48	69.54	73.75	76.68	72.56	76.46	80.36	84.25	88.15	92.05	94.58	97.10	99.63	102.15	104.68
8	31	12	46.03	47.69	50.49	46.18	58.90	61.29	68.51	75.19	71.34	66.56	68.12	72.31	74.46	83.23	73.62	77.72	81.82	85.92	90.02	94.12	97.59	101.06	104.54	108.01	111.48
8	31	13	46.48	49.11	54.00	47.07	60.64	63.08	71.80	75.98	74.36	68.11	69.64	75.23	76.17	82.78	75.25	80.32	85.39	90.45	95.52	100.59	104.85	109.11	113.37	117.63	121.89
8	31	14	49.60	50.10	55.65	48.42	62.38	63.57	93.59	86.98	77.55	69.18	70.16	72.82	78.04	99.19	76.09	81.61	87.14	92.66	98.19	103.71	111.76	119.81	127.87	135.92	143.97
8	31	15	49.71	51.42	53.92	49.04	64.04	63.81	76.63	92.98	75.89	69.89	70.38	73.67	79.59	110.44	77.05	82.22	87.39	92.56	97.73	102.90	113.66	124.42	135.18	145.94	156.70
8	31	16	49.60	51.26	69.79	50.09	66.26	63.80	76.02	130.02	77.81	72.50	70.50	73.66	84.80	172.69	78.49	84.68	90.87	97.05	103.24	109.43	133.82	158.22	182.61	207.01	231.40
8	31	17	46.52	51.42	87.34	57.64	69.68	63.80	75.60	122.04	83.76	74.01	70.84	74.77	82.27	142.52	79.72	95.43	111.14	126.85	142.56	158.27	165.04	171.80	178.57	185.33	192.10
8	31	18	46.45	51.42	53.34	49.97	68.84	63.12	78.56	88.19	74.59	73.69	71.14	74.63	78.55	100.40	79.21	83.96	88.71	93.46	98.21	102.96	112.33	121.71	131.08	140.46	149.83
8	31	19	45.27	49.39	54.33	49.01	64.07	62.46	72.15	75.73	74.90	72.60	70.09	72.48	75.85	84.00	78.21	82.90	87.59	92.27	96.96	101.65	104.60	107.54	110.49	113.43	116.38
8	31	20	44.80	47.41	53.14	48.11	62.11	61.91	68.61	75.73	75.60	71.14	68.86	71.36	73.75	84.91	76.60	81.20	85.79	90.39	94.98	99.58	104.92	110.26	115.59	120.93	126.27
8	31	21	44.43	46.91	51.05	47.87	62.13	61.72	67.83	74.89	73.94	69.32	68.41	70.73	72.67	82.56	75.02	79.74	84.46	89.18	93.90	98.62	100.90	103.18	105.47	107.75	110.03
8	31	22	42.94	44.62	49.62	45.19	60.17	59.94	63.69	68.69	68.29	66.56	66.48	67.85	70.72	74.81	72.94	76.76	80.59	84.41	88.24	92.06	94.67	97.28	99.90	102.51	105.12
8	31	23	38.05	42.34	46.70	40.01	57.84	58.44	61.72	64.67	64.17	64.12	64.91	65.98	68.66	72.04	71.03	74.43	77.84	81.24	84.65	88.05	90.77	93.49	96.20	98.92	101.64
8	31	24	32.39	36.97	40.08	36.86	55.38	56.10	59.11	60.17	61.10	61.78	61.92	64.03	66.96	68.66	67.55	70.68	73.82	76.95	80.09	83.22	85.44	87.65	89.87	92.08	94.30
9	1	1	29.32	32.73	36.48	33.88	52.63	53.98	57.06	56.27	57.28	58.88	59.43	60.82	64.53	65.14	65.71	68.50	71.29	74.09	76.88	79.67	81.77	83.88	85.98	88.09	90.19
9	1	2	28.49	31.26	34.85	33.12	52.23	53.01	55.83	54.89	55.78	58.88	57.17	60.26	62.93	63.63	64.99	67.46	69.92	72.39	74.85	77.32	79.43	81.54	83.66	85.77	87.88
9	1	3	26.81	30.88	34.32	30.82	52.23	52.49	55.24	53.91	55.42	56.14	55.80	59.75	62.28	61.31	63.06	65.67	68.28	70.88	73.49	76.10	78.06	80.02	81.99	83.95	85.91
9	1	4	26.20	30.88	32.34	30.02	52.40	52.59	55.24	53.42	54.27	55.58	55.96	58.50	62.45	61.47	61.98	64.51	67.04	69.57	72.10	74.63	76.73	78.83	80.93	83.03	85.13
9	1	5	26.65	31.14	31.82	29.40	52.77	53.07	55.35	53.94	54.04	55.31	57.02	59.73	62.86	63.15	61.20	63.80	66.40	68.99	71.59	74.19	76.61	79.04	81.46	83.89	86.31
9	1	6	29.42	32.65	33.42	29.43	52.91	54.43	56.93	55.64	54.89	55.58	58.70	61.27	65.17	65.28	61.82	64.35	66.88	69.41	71.94	74.47	77.56	80.65	83.73	86.82	89.91
9	1	7	30.39	37.22	34.19	31.13	52.70	54.66	58.71	57.56	55.78	57.75	60.58	63.65	67.95	67.25	62.33	65.12	67.90	70.69	73.47	76.26	79.63	83.01	86.38	89.76	93.13
9	1	8	33.77	41.76	34.71	32.19	53.85	56.68	61.32	60.17	55.78	58.79	62.44	65.25	69.44	69.35	64.74	67.07	69.40	71.74	74.07	76.40	80.70	84.99	89.29	93.58	97.88
9	1	9	36.91	44.09	36.40	33.83	55.92	58.33	62.82	61.82	58.06	59.32	64.61	66.56	71.30	69.75	65.85	68.57	71.29	74.01	76.73	79.45	83.39	87.32	91.26	95.19	99.13
9	1	10	40.61	47.70	40.04	36.32	57.40	59.99	67.62	63.81	61.03	61.47	66.48	68.27	73.95	71.99	68.09	71.03	73.96	76.90	79.83	82.77	86.37	89.98	93.58	97.19	100.79
9	1	11	43.40	50.11	44.83	38.84	58.39	61.26	75.60	66.47	64.45	63.58	67.61	71.17	78.65	74.54	70.78	73.94	77.11	80.27	83.44	86.60	89.87	93.14	96.40	99.67	102.94
9	1	12	46.19	55.53	46.65	42.03	60.07	63.04	81.84	72.88	65.98	66.56	70.09	74.40	86.85	81.12	72.88	76.04	79.19	82.35	85.50	88.66	92.83	97.00	101.16	105.33	109.50
9	1	13	46.77	54.55	48.01	45.19	60.78	65.33	90.81	73.54	67.70	68.12	72.41	81.31	95.95	82.56	74.12	77.54	80.96	84.37	87.79	91.21	95.87	100.53	105.18	109.84	114.50
9	1	14	48.21	74.78	49.14	45.99	62.24	66.63	95.36	78.83	69.50	69.42	73.30	85.28	109.34	84.00	75.02	78.43	81.84	85.25	88.66	92.07	98.16	104.25	110.34	116.43	122.52
9	1	15	48.82	106.61	49.51	47.30	63.00	71.05	101.09	79.61	69.82	72.47	76.24	80.84	122.64	84.91	77.40	80.93	84.46	87.98	91.51	95.04	100.54	106.03	111.53	117.02	122.52
9	1	16	53.55	86.33	50.00	48.53	64.88	74.05	144.30	94.99	71.46	72.87	92.15	118.07	173.24	93.45	79.21	82.44	85.66	88.89	92.11	95.34	103.54	111.74	119.93	128.13	136.33
9	1	17	52.72	92.73	50.00	48.61	63.80	71.81	142.95	86.73	71.88	72.91	84.94	118.59	174.68	103.59	78.95	82.20	85.45	88.69	91.94	95.19	105.34	115.49	125.65	135.80	145.95
9	1	18	49.48	69.09	50.15	48.72	62.13	67.95	100.35	77.03	71.36	72.91	74.92	79.99	110.16	84.00	78.62	81.70	84.78	87.87	90.95	94.03	99.19	104.35	109.52	114.68	119.84
9	1	19	46.53	54.68	49.76	47.39	60.46	65.51	89.19	75.30	70.62	72.50	70.62	78.60	91.17	84.00	77.51	80.64	83.77	86.90	90.03	93.16	98.44	103.72	109.00	114.28	119.56
9	1	20	45.25	55.26	48.94	46.60	60.16	63.00	86.90	72.66	68.96	70.77	68.69	74.15	90.72	82.56	76.22	79.32	82.42	85.53	88.63	91.73	95.70	99.67	103.64	107.61	111.58
9	1	21	44.15	55.69	48.42	46.23	60.05	62.32	83.95	74.78	67.62	69.79	68.03	72.39	83.76	81.47	75.13	78.18	81.23	84.27	87.32	90.37	94.42	98.47	102.52	106.57	110.62
9	1	22	41.84	49.12	45.88	44.20	57.54	60.02	72.53	68.26	64.84	67.42	66.48	69.80	76.08	76.53	73.04	75.76	78.48	81.21	83.93	86.65	90.37	94.09	97.81	101.53	105.25
9	1	23	37.94	45.41	40.98	39.26	57.49	57.55	64.25	62.94	61.61	64.46	64.70	67.79	72.38	72.69	71.40	73.80	76.20	78.61	81.01	83.41	86.89	90.37	93.85	97.33	100.81
9	1	24	33.23	38.01	36.96	35.91	54.09	55.52	59.41	60.17	57.95	60.97	62.44	65.63	67.62	69.68	67.80	70.17	72.54	74.90	77.27	79.64	83.11	86.57	90.04	93.50	96.97
9	2	1	30.70	31.31	34.32	33.49	52.40	53.30	55.88	56.23	55.89	58.19	58.87	63.02	62.79	66.65	65.40	67.83	70.26	72.68	75.11	77.54	80.25	82.96	85.68	88.39	91.10
9	2	2	29.63	30.23	33.94	32.67	52.04	52.34	55.68	55.06	55.42	57.61	57.16	61.83	61.42	64.58	64.21	66.59	68.97	71.35	73.73	76.11	78.43	80.74	83.06	85.37	87.69
9	2	3	29.21	29.18	31.33	31.87	51.51	51.22	55.11	53.98	53.67	57.74	56.42	62.05	61.37	64.14	63.00	65.03	67.07	69.10	71.14	73.17	75.91	78.65	81.39	84.13	86.87
9	2	4	29.09	28.78	30.29	31.16	51.50	50.89	54.59	53.61	53.03	57.04	55.13	62.16	61.59	63.55	62.37	64.26	66.15	68.03	69.92	71.81	74.68	77.54	80.41	83.27	86.14
9	2	5	29.15	29.11	29.84	31.36	52.18	51.58	55.26	53.35	52.88	57.77	56.17	62.13	60.98	63.24	62.66	64.32	65.97	67.63	69.28	70.94	73.77	76.60	79.42	82.25	85.08
9	2	6	31.19	30.95	30.07	31.94	52.76	53.41	55.35	53.53	53.01	57.64	58.48	63.45	62.52	63.40	62.69	64.35	66.01	67.66	69.32	70.98	73.57	76.16	78.76	81.35	83.94
9	2	7	33.23	33.18	32.69	33.46	53.19	54.85	57.58	53.94	53.67	59.27	60.25	64.94	65.20	64.22	65.79	67.26	68.73	70.19	71.66	73.13	75.77	78.40	81.04	83.67	86.31
9	2	8	37.74	36.44	33.51	35.61	55.22	56.02	58.73	54.63	54.34	61.29	62.70	66.22	67.95	64.63	68.31	69.64	70.98	72.31	73.65	74.98	77.49	79.99	82.50	85.00	87.51
9	2	9	42.41	40.63	35.09	37.97	57.24	57.37	60.75	56.31	55.96	63.47	64.89	68.52	68.83	66.75	70.53	71.82	73.10	74.39	75.67	76.96	79.75	82.54	85.34	88.13	90.92
9	2	10	46.24	43.82	36.98	39.43	58.82	59.94	62.83	59.21	57.95	64.45	66.47	71.77	71.17	68.97	71.62	73.26	74.89	76.53	78.16	79.80	82.60	85.40	88.21	91.01	93.81
9	2	11	48.69	46.21	40.31	41.06	60.79	62.12	66.60	61.89	60.15	65.95	68.09	84.62	73.78	70.38	72.60	74.59	76.58	78.56	80.55	82.54	85.59	88.64	91.70	94.75	97.80
9	2	12	50.65	50.10	44.24	43.99	61.94	64.23	74.75	64.23	63.86	66.94	70.13	92.21	79.26	71.88	72.88	75.37	77.85	80.34	82.82	85.31	88.29	91.28	94.26	97.25	100.23
9	2	13	50.90	51.33	46.38	44.89	63.03	69.61	71.60	65.70	65.54	67.74	73.01	97.13	81.73	73.41	72.95	75.94	78.94	81.93	84.93	87.92	90.66	93.40	96.14	98.88	101.62
9	2	14	61.27	58.64	47.85	45.71	66.26	70.34	75.09	66.96	67.07	69.49	77.05	126.70	83.17	74.40	73.94	77.31	80.68	84.04	87.41	90.78	93.01	95.24	97.46	99.69	101.92
9	2	15	81.93	53.38	49.26	46.21	68.26	74.88	78.81	67.99	68.31	69.49	81.09	142.70	85.74	75.10	74.02	77.63	81.24	84.84	88.45	92.06	94.03	96.01	97.98	99.96	101.93
9	2	16	97.40	55.26	50.74	46.71	71.47	76.55	81.89	69.56	70.36	70.72	105.60	219.66	96.86	77.17	75.34	78.98	82.63	86.27	89.92	93.56	95.90	98.24	100.57	102.91	105.25
9	2	17	97.17	83.27	52.07	46.93	68.69	76.41	83.12	73.86	71.75	71.01	83.49	219.66	141.11	79.79	76.22	80.02	83.82	87.62	91.42	95.22	97.66	100.09	102.53	104.96	107.40
9	2	18	77.54	55.97	52.07	46.58	65.35	73.92	77.23	70.72	75.56	70.54	76.57	128.20	83.38	78.50	74.84	79.21	83.58	87.96	92.33	96.70	98.79	100.88	102.97	105.06	107.15
9	2	19	51.41	51.62	49.54	46.14	62.17	66.03	71.61	67.92	69.06	69.63	72.69	102.37	86.06	75.38	73.94	77.68	81.42	85.15	88.89	92.63	95.26	97.90	100.53	103.17	105.80
9	2	20	51.99	51.26	48.18	45.86	60.38	64.49	73.24	66.22	67.61	69.06	70.37	96.72	83.38	74.86	73.91	77.28	80.66	84.03	87.41	90.78	93.01	95.24	97.47	99.70	101.93

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	2	21	51.41	49.54	47.77	45.16	60.04	63.96	76.17	65.70	66.66	68.11	70.15	86.39	80.32	73.52	73.43	76.59	79.75	82.91	86.07	89.23	91.77	94.31	96.84	99.38	101.92
9	2	22	48.18	47.34	44.98	40.84	57.43	60.53	67.70	62.72	64.29	66.01	67.56	74.65	75.07	71.18	72.53	75.39	78.24	81.10	83.95	86.81	89.55	92.29	95.04	97.78	100.52
9	2	23	44.65	43.81	40.65	39.04	56.60	58.96	62.38	60.89	61.48	63.51	65.48	70.73	71.85	68.97	70.67	73.14	75.62	78.09	80.57	83.04	85.82	88.59	91.37	94.14	96.92
9	2	24	35.71	36.07	36.74	36.12	54.02	56.10	58.60	57.60	57.79	60.60	62.89	65.92	68.00	66.74	67.67	69.91	72.15	74.39	76.63	78.87	81.52	84.17	86.82	89.47	92.12
9	3	1	30.28	31.52	33.60	33.90	52.06	54.62	55.88	55.31	55.58	58.73	60.45	61.67	64.68	64.61	65.60	67.64	69.67	71.71	73.74	75.78	78.24	80.71	83.17	85.64	88.10
9	3	2	28.93	30.62	33.65	32.93	51.22	53.87	55.80	54.62	54.89	57.89	59.19	60.96	63.15	63.55	64.29	66.27	68.25	70.23	72.21	74.19	76.73	79.26	81.80	84.33	86.87
9	3	3	27.73	30.20	32.91	32.68	49.95	53.56	54.76	52.70	54.34	57.01	58.78	60.23	62.82	61.28	63.28	65.34	67.40	69.46	71.52	73.58	75.69	77.79	79.90	82.00	84.11
9	3	4	27.45	29.18	32.06	32.87	49.78	53.43	54.11	51.58	54.24	57.37	58.79	59.91	62.02	60.76	63.85	65.64	67.43	69.23	71.02	72.81	74.34	75.87	77.40	78.93	80.46
9	3	5	27.86	28.97	32.70	33.11	49.90	53.56	53.90	51.46	54.74	58.02	59.27	60.37	61.59	60.15	64.69	66.38	68.07	69.76	71.45	73.14	74.26	75.38	76.49	77.61	78.73
9	3	6	29.23	29.14	32.75	34.96	51.79	54.39	54.11	51.96	54.80	60.04	60.43	61.01	61.73	60.34	66.92	68.27	69.62	70.97	72.32	73.67	75.12	76.57	78.02	79.47	80.92
9	3	7	31.69	30.05	34.33	38.21	53.05	56.04	54.91	52.58	56.13	61.57	62.65	62.79	62.53	61.81	70.17	71.64	73.11	74.58	76.05	77.52	78.82	80.12	81.41	82.71	84.01
9	3	8	34.14	30.49	36.29	40.09	53.86	57.65	55.88	53.82	57.79	64.04	65.15	65.72	62.86	63.15	72.51	74.09	75.67	77.25	78.83	80.41	81.45	82.49	83.54	84.58	85.62
9	3	9	37.18	31.46	39.19	43.88	55.68	60.08	56.45	54.92	59.44	66.56	66.89	67.20	64.48	64.58	73.80	75.60	77.40	79.20	81.00	82.80	83.84	84.87	85.91	86.94	87.98
9	3	10	42.11	34.18	40.61	47.67	57.22	62.54	58.44	57.02	60.77	69.58	69.10	69.88	66.88	66.61	77.19	78.64	80.09	81.53	82.98	84.43	85.91	87.40	88.88	90.37	91.85
9	3	11	46.01	39.96	42.94	48.85	59.37	70.96	60.77	59.37	62.90	71.38	74.00	72.64	68.90	68.32	79.24	80.66	82.08	83.50	84.92	86.34	88.08	89.82	91.56	93.30	95.04
9	3	12	47.86	41.98	44.24	50.03	60.90	74.27	62.36	61.68	64.05	73.77	83.37	83.29	71.28	70.05	81.56	82.67	83.78	84.89	86.00	87.11	89.56	92.01	94.45	96.90	99.35
9	3	13	48.92	44.77	44.91	51.21	62.97	79.12	64.24	63.26	64.89	75.10	89.29	79.11	72.32	71.14	82.66	83.96	85.27	86.57	87.88	89.18	91.57	93.96	96.35	98.74	101.13
9	3	14	58.89	45.89	46.17	53.32	64.98	88.11	65.66	65.33	66.61	80.31	106.43	85.11	72.82	73.08	86.10	87.22	88.33	89.45	90.56	91.68	93.73	95.78	97.82	99.87	101.92
9	3	15	55.34	46.88	46.44	75.29	67.87	95.71	67.00	66.47	66.62	107.96	120.81	89.88	73.43	73.97	107.42	104.35	101.27	98.20	95.12	92.05	94.03	96.00	97.98	99.95	101.93
9	3	16	53.87	47.64	47.49	65.59	70.86	123.08	69.59	68.22	68.68	99.86	165.36	110.73	74.89	75.36	105.93	103.44	100.95	98.47	95.98	93.49	95.68	97.86	100.05	102.23	104.42
9	3	17	58.34	61.90	47.85	59.43	70.86	123.08	83.85	69.66	68.80	96.38	141.23	156.49	76.57	76.18	105.94	103.45	100.95	98.46	95.96	93.47	95.76	98.05	100.35	102.64	104.93
9	3	18	53.23	50.05	47.32	65.53	68.80	92.25	70.26	68.75	68.07	97.81	105.34	87.41	74.88	76.44	104.47	102.19	99.91	97.63	95.35	93.07	95.44	97.81	100.19	102.56	104.93
9	3	19	49.78	47.81	46.22	53.47	63.48	78.12	67.62	66.96	67.09	75.85	86.15	79.68	74.20	75.10	83.28	84.86	86.45	88.03	89.62	91.20	93.35	95.49	97.64	99.78	101.93
9	3	20	48.74	45.61	46.35	51.45	61.53	77.27	65.93	66.05	66.54	74.20	83.72	86.61	73.55	73.30	80.49	82.48	84.47	86.46	88.45	90.44	92.74	95.04	97.33	99.63	101.93
9	3	21	48.31	44.48	45.51	50.24	60.69	73.92	64.91	65.45	64.98	71.72	83.69	82.15	73.33	72.79	77.88	80.14	82.40	84.66	86.92	89.18	91.54	93.89	96.25	98.60	100.96
9	3	22	46.21	42.79	42.18	47.28	58.89	68.69	62.14	62.63	62.85	67.31	72.39	73.34	70.61	70.55	75.27	77.22	79.17	81.12	83.07	85.02	87.85	90.68	93.50	96.33	99.16
9	3	23	40.37	38.37	39.71	41.62	57.49	61.17	59.36	60.27	60.74	64.64	68.28	69.99	67.76	68.62	72.74	74.70	76.66	78.62	80.58	82.54	84.89	87.25	89.60	91.96	94.31
9	3	24	34.11	33.32	37.06	37.98	54.63	56.70	57.56	56.97	57.60	61.88	63.78	65.97	64.55	66.34	69.70	71.63	73.56	75.50	77.43	79.36	81.49	83.62	85.74	87.87	90.00
9	4	1	29.59	31.34	34.11	33.86	52.98	54.38	56.04	54.97	55.55	57.90	59.15	62.78	62.39	63.12	65.64	67.79	69.94	72.10	74.25	76.40	78.25	80.10	81.94	83.79	85.64
9	4	2	28.71	30.84	33.40	32.62	52.23	52.70	54.74	53.39	54.70	56.44	57.52	62.08	61.81	59.00	64.23	66.34	68.45	70.55	72.66	74.77	75.56	76.34	77.13	77.91	78.70
9	4	3	28.35	29.63	33.10	31.98	51.99	52.96	52.76	52.77	54.55	55.95	56.84	60.82	59.81	56.23	62.79	65.08	67.36	69.65	71.93	74.22	71.52	68.81	66.11	63.40	60.70
9	4	4	27.80	27.70	33.36	31.90	51.99	52.67	52.14	51.47	54.76	55.53	56.56	59.89	58.79	54.01	62.37	64.82	67.27	69.72	72.17	74.62	59.70	44.77	29.85	14.92	0.00
9	4	5	27.64	27.41	33.57	31.98	52.23	52.85	51.89	52.24	54.87	56.14	56.85	59.70	58.31	54.61	62.69	65.26	67.84	70.41	72.99	75.56	60.45	45.34	30.22	15.11	0.00
9	4	6	27.73	28.97	35.65	34.48	53.01	53.87	51.95	51.78	56.69	57.91	58.37	60.27	58.65	59.04	64.90	67.67	70.44	73.22	75.99	78.76	79.14	79.51	79.89	80.26	80.64
9	4	7	28.36	28.71	38.58	36.47	54.39	55.14	53.84	55.37	59.61	60.10	61.35	60.63	60.09	63.79	67.88	70.60	73.32	76.03	78.75	81.47	82.67	83.87	85.06	86.26	87.46
9	4	8	28.55	29.58	40.98	39.69	57.41	56.39	54.80	57.01	62.58	62.91	63.77	61.18	61.59	65.62	70.86	73.44	76.01	78.59	81.16	83.74	85.08	86.42	87.76	89.10	90.44
9	4	9	29.77	31.14	44.22	41.94	60.44	57.82	56.60	58.56	63.92	64.09	65.11	62.10	63.57	67.32	71.88	75.01	78.15	81.28	84.42	87.55	88.51	89.48	90.44	91.41	92.37
9	4	10	32.67	33.12	47.37	45.47	62.37	60.12	56.99	59.78	67.40	65.58	66.48	64.94	64.34	68.45	72.94	76.56	80.17	83.79	87.40	91.02	91.78	92.55	93.31	94.08	94.84
9	4	11	37.19	36.11	48.59	47.96	70.00	62.59	58.95	60.93	69.37	67.92	68.33	65.97	66.94	69.73	74.69	78.42	82.16	85.89	89.63	93.36	94.29	95.21	96.14	97.06	97.99
9	4	12	39.66	40.87	50.28	49.25	73.58	70.76	61.35	61.82	74.56	70.22	73.92	67.29	68.42	70.62	76.47	80.54	84.61	88.68	92.75	96.82	97.41	98.01	98.60	99.20	99.79
9	4	13	43.38	43.17	52.75	52.09	73.85	71.04	62.92	62.40	78.70	74.56	76.24	69.86	69.96	71.72	79.75	84.01	88.28	92.54	96.81	101.07	100.99	100.92	100.84	100.77	100.69
9	4	14	43.99	44.35	55.59	58.47	86.23	70.22	64.31	64.38	95.89	79.25	89.73	70.76	71.36	72.32	82.79	87.98	93.17	98.37	103.56	108.75	107.36	105.97	104.59	103.20	101.81
9	4	15	44.65	45.84	71.20	58.47	108.54	70.31	67.00	64.39	90.02	91.05	83.20	71.43	72.48	72.69	87.13	94.06	100.99	107.92	114.85	121.78	117.79	113.79	109.80	105.80	101.81
9	4	16	46.24	47.32	74.63	57.45	145.79	72.43	69.83	65.84	85.10	97.48	88.96	72.82	73.51	73.41	108.01	110.59	113.17	115.74	118.32	120.90	117.11	113.31	109.52	105.72	101.93
9	4	17	60.63	49.46	74.63	56.44	110.50	74.40	72.06	66.10	82.53	93.06	120.08	74.30	74.46	73.64	107.80	110.32	112.85	115.37	117.90	120.42	116.72	113.02	109.33	105.63	101.93
9	4	18	48.19	49.09	75.23	56.46	87.02	70.22	70.50	65.70	85.13	96.65	81.43	73.75	73.93	73.24	101.30	103.47	105.65	107.82	110.00	112.17	110.12	108.07	106.03	103.98	101.93
9	4	19	44.65	45.51	54.09	56.49	73.79	70.22	66.67	64.66	94.87	76.19	80.95	71.58	72.51	71.73	82.12	86.83	91.54	96.25	100.96	105.67	104.90	104.13	103.36	102.59	101.82
9	4	20	43.48	44.07	52.78	52.95	73.48	72.36	65.10	64.14	75.34	74.58	76.54	70.76	70.97	72.78	79.59	83.46	87.33	91.19	95.06	98.93	99.53	100.13	100.73	101.33	101.93
9	4	21	43.04	43.97	50.77	50.79	72.26	71.05	63.60	62.74	73.72	71.88	74.52	70.11	71.20	71.73	78.11	81.58	85.04	88.51	91.97	95.44	96.49	97.54	98.59	99.64	100.69
9	4	22	39.47	42.05	47.89	47.67	65.59	64.52	61.70	61.16	67.33	67.24	71.38	67.45	69.73	69.67	74.77	78.00	81.23	84.46	87.69	90.92	92.08	93.24	94.39	95.55	96.71
9	4	23	35.88	36.65	43.58	43.71	60.71	60.61	58.86	59.66	63.97	64.91	69.19	65.44	66.85	68.50	71.98	74.59	77.20	79.80	82.41	85.02	86.86	88.70	90.53	92.37	94.21
9	4	24	31.20	33.10	38.47	38.26	56.15	57.15	56.96	56.97	60.07	61.78	64.89	62.86	63.56	66.07	68.95	71.24	73.52	75.81	78.09	80.38	82.48	84.58	86.69	88.79	90.89
9	5	1	28.93	31.14	34.95	33.53	52.79	54.61	54.47	54.89	56.32	58.03	60.94	61.45	61.11	63.19	64.46	66.78	69.10	71.43	73.75	76.07	78.23	80.38	82.54	84.69	86.85
9	5	2	28.61	27.08	33.39	32.87	51.67	53.88	52.58	53.64	55.34	56.52	59.43	59.75	58.35	62.32	63.13	65.40	67.67	69.95	72.22	74.49	76.39	78.30	80.20	82.11	84.01
9	5	3	27.40	26.49	32.98	32.46	51.48	53.75	51.96	53.53	54.43	55.76	59.62	58.27	55.25	61.93	62.37	64.65	66.94	69.22	71.51	73.79	75.85	77.91	79.96	82.02	84.08
9	5	4	26.11	25.62	33.09	32.00	51.18	53.12	51.33	53.71	54.37	56.31	58.97	56.95	53.57	62.40	62.35	64.43	66.51	68.59	70.67	72.75	75.11	77.47	79.84	82.20	84.56
9	5	5	25.97	25.79	33.10	32.52	51.50	52.96	52.17	54.10	54.43	56.25	58.79	56.70	53.94	63.07	62.69	64.69	66.69	68.70	70.70	72.70	75.27	77.85	80.42	83.00	85.57
9	5	6	26.66	29.18	34.83	34.19	52.72	53.00	52.34	55.86	56.04	58.46	59.03	56.97	58.20	65.61	64.92	67.10	69.28	71.45	73.63	75.81	78.59	81.37	84.15	86.93	89.71
9	5	7	27.12	31.77	37.06	37.54	53.53	53.58	55.39	58.57	58.35	60.49	59.92	58.86	61.74	68.22	68.59	70.82	73.06	75.29	77.53	79.76	82.60	85.43	88.27	91.10	93.94

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	5	8	27.97	33.34	40.09	39.99	55.22	53.87	56.42	60.32	59.91	63.06	58.62	59.62	63.90	69.74	71.62	73.77	75.93	78.08	80.24	82.39	85.43	88.47	91.52	94.56	97.60
9	5	9	28.90	34.68	43.15	43.49	56.72	54.83	57.58	62.20	62.88	65.11	61.01	61.43	65.53	70.98	72.87	75.23	77.58	79.94	82.29	84.65	87.68	90.71	93.73	96.76	99.79
9	5	10	30.76	36.59	45.81	45.86	59.01	56.52	58.73	65.28	64.49	66.56	63.78	62.13	66.52	73.30	72.95	75.85	78.75	81.64	84.54	87.44	90.34	93.23	96.13	99.02	101.92
9	5	11	34.13	39.88	47.52	48.50	61.74	58.28	59.85	66.87	67.09	69.14	64.68	64.59	67.58	75.63	74.81	78.05	81.29	84.54	87.78	91.02	93.20	95.38	97.56	99.74	101.92
9	5	12	36.95	41.10	49.44	49.77	64.78	60.24	60.88	69.97	70.64	71.30	66.47	66.02	68.41	78.69	77.50	80.89	84.28	87.68	91.07	94.46	96.68	98.89	101.11	103.32	105.54
9	5	13	40.61	42.05	52.75	53.46	68.87	62.12	61.80	73.48	75.34	76.86	67.86	68.08	69.13	79.93	83.15	86.00	88.85	91.70	94.55	97.40	98.48	99.56	100.63	101.71	102.79
9	5	14	42.75	43.54	60.71	59.52	70.24	63.82	62.80	76.42	80.98	98.25	68.59	69.51	69.94	82.09	105.73	105.30	104.88	104.45	104.03	103.60	103.94	104.28	104.61	104.95	105.29
9	5	15	43.85	43.77	74.55	59.52	70.62	65.33	62.92	97.75	90.98	94.32	69.48	70.85	69.95	96.95	104.99	106.37	107.75	109.14	110.52	111.90	112.80	113.70	114.60	115.50	116.40
9	5	16	46.03	44.02	67.10	62.02	71.18	68.15	64.31	101.89	87.89	98.68	71.40	71.66	70.27	119.91	105.57	108.73	111.89	115.04	118.20	121.36	127.81	134.26	140.70	147.15	153.60
9	5	17	48.96	44.06	66.66	80.44	71.70	88.32	64.49	97.75	86.18	106.46	72.35	72.52	70.81	119.91	116.58	117.31	118.04	118.78	119.51	120.24	129.99	139.75	149.50	159.26	169.01
9	5	18	48.61	43.97	67.61	60.62	68.80	70.87	63.98	92.97	88.60	95.91	72.27	72.39	70.19	90.74	104.99	108.26	111.54	114.81	118.09	121.36	119.90	118.44	116.99	115.53	114.07
9	5	19	44.02	43.34	56.51	59.12	69.11	65.95	62.79	73.75	78.98	83.28	71.29	70.52	69.80	79.36	86.95	89.77	92.60	95.42	98.25	101.07	102.55	104.04	105.52	107.01	108.49
9	5	20	42.84	43.53	53.48	53.48	71.45	64.25	62.79	71.85	74.78	77.36	70.25	69.08	69.94	77.50	83.21	86.04	88.87	91.69	94.52	97.35	98.30	99.24	100.19	101.13	102.08
9	5	21	42.59	42.95	51.41	50.89	69.10	61.73	62.27	70.55	72.20	74.48	69.19	68.31	69.76	75.96	79.89	83.05	86.21	89.38	92.54	95.70	96.95	98.19	99.44	100.68	101.93
9	5	22	38.69	39.67	47.85	47.56	64.17	59.56	59.61	65.06	66.44	68.34	66.56	66.82	67.69	73.10	74.83	78.11	81.38	84.66	87.93	91.21	93.14	95.08	97.01	98.95	100.88
9	5	23	34.09	35.93	44.57	44.85	60.30	57.20	58.20	61.77	63.56	66.38	64.36	64.53	66.58	69.74	72.88	75.38	77.89	80.39	82.90	85.40	87.47	89.53	91.60	93.66	95.73
9	5	24	30.14	33.20	38.55	38.41	56.62	55.46	56.48	58.87	58.94	62.04	61.13	62.78	64.08	66.96	70.08	71.98	73.88	75.78	77.68	79.58	82.17	84.76	87.35	89.94	92.53
9	6	1	28.78	31.73	34.43	34.21	53.21	54.35	54.23	55.31	55.50	58.13	59.63	59.23	61.44	63.09	65.71	67.62	69.53	71.44	73.35	75.26	77.62	79.98	82.33	84.69	87.05
9	6	2	25.78	30.87	33.24	33.30	52.37	53.91	53.37	53.59	54.50	56.73	59.03	56.05	59.97	61.37	64.69	66.50	68.30	70.11	71.91	73.72	75.90	78.08	80.26	82.44	84.62
9	6	3	25.44	30.23	33.06	32.53	52.35	52.35	52.88	52.16	54.32	56.21	56.92	52.88	59.66	58.78	63.13	65.14	67.15	69.17	71.18	73.19	74.63	76.08	77.52	78.97	80.41
9	6	4	25.78	30.61	33.16	32.29	51.99	51.51	52.91	52.24	53.91	55.84	55.41	51.23	60.09	58.48	63.15	65.03	66.91	68.79	70.67	72.55	73.97	75.39	76.81	78.23	79.65
9	6	5	25.58	30.86	33.23	32.63	51.76	51.47	53.31	53.39	54.24	56.05	54.83	51.89	60.90	60.34	63.85	65.78	67.71	69.63	71.56	73.49	75.11	76.74	78.36	79.99	81.61
9	6	6	27.63	32.15	34.98	34.48	52.04	51.56	55.81	55.19	55.42	58.08	55.38	55.89	63.23	63.15	66.14	67.87	69.60	71.34	73.07	74.80	77.34	79.88	82.43	84.97	87.51
9	6	7	29.22	34.69	37.75	37.33	52.26	53.17	57.27	57.18	58.13	60.54	57.06	59.79	65.64	65.84	68.82	70.96	73.10	75.24	77.38	79.52	81.82	84.12	86.43	88.73	91.03
9	6	8	30.99	38.12	40.76	39.11	52.40	53.69	58.62	59.82	60.76	63.51	58.66	61.61	68.00	67.64	71.93	74.13	76.33	78.54	80.74	82.94	85.13	87.31	89.50	91.68	93.87
9	6	9	32.65	41.27	44.20	41.95	53.11	54.39	60.67	61.10	63.76	64.84	60.07	63.45	70.31	69.04	73.39	75.83	78.28	80.72	83.17	85.61	87.46	89.31	91.17	93.02	94.87
9	6	10	34.73	43.95	47.29	46.28	55.98	55.52	62.99	62.75	64.86	67.13	61.09	64.34	72.32	70.24	75.42	77.88	80.34	82.79	85.25	87.71	89.51	91.31	93.11	94.91	96.71
9	6	11	36.49	46.44	48.49	49.03	57.81	57.20	65.42	65.06	67.59	70.36	63.29	65.74	74.21	72.89	78.65	81.33	84.02	86.70	89.39	92.07	93.51	94.95	96.39	97.83	99.27
9	6	12	38.11	47.42	50.89	52.38	58.49	58.89	67.85	68.28	71.34	74.02	65.95	66.22	76.72	74.57	82.06	84.93	87.80	90.67	93.54	96.41	97.45	98.48	99.52	100.55	101.59
9	6	13	40.22	47.69	58.96	53.88	59.92	60.51	73.30	72.08	77.06	76.86	67.24	66.96	77.97	78.02	86.25	88.79	91.33	93.88	96.42	98.96	100.21	101.45	102.70	103.94	105.19
9	6	14	41.45	50.29	68.05	59.33	61.18	61.99	76.41	76.30	92.84	99.68	68.13	67.88	79.20	79.47	100.84	104.49	108.13	111.78	115.42	119.07	116.69	114.31	111.92	109.54	107.16
9	6	15	42.13	55.18	67.10	56.46	64.09	64.98	100.39	103.32	90.04	89.23	69.41	67.88	87.92	84.85	101.30	105.12	108.95	112.77	116.60	120.42	118.42	116.41	114.41	112.40	110.40
9	6	16	43.02	64.21	67.89	58.79	67.33	67.14	100.36	96.68	97.87	89.23	70.49	68.50	107.44	131.39	100.89	107.96	115.03	122.09	129.16	136.23	131.98	127.73	123.48	119.23	114.98
9	6	17	43.37	71.06	83.55	57.77	68.82	70.81	92.57	96.18	100.81	84.80	71.83	68.81	103.38	129.78	100.99	108.06	115.13	122.20	129.27	136.34	131.95	127.55	123.16	118.76	114.37
9	6	18	42.84	53.10	66.66	56.34	67.11	69.73	92.57	97.75	87.26	82.33	71.29	68.42	84.41	104.07	94.58	99.75	104.92	110.08	115.25	120.42	119.08	117.74	116.39	115.05	113.71
9	6	19	41.63	49.00	72.83	58.53	63.79	65.11	71.60	75.72	76.83	86.92	69.18	67.88	76.93	79.18	100.21	100.91	101.61	102.32	103.02	103.72	104.41	105.10	105.78	106.47	107.16
9	6	20	41.87	47.75	63.04	53.46	61.09	61.74	70.19	72.04	75.34	78.71	68.38	67.99	75.68	77.83	86.96	89.36	91.76	94.16	96.56	98.96	100.21	101.46	102.72	103.97	105.22
9	6	21	40.64	47.19	52.81	51.65	60.29	60.61	68.00	70.89	72.10	75.27	67.40	67.17	73.95	75.49	81.87	84.86	87.85	90.84	93.83	96.82	98.12	99.42	100.72	102.02	103.32
9	6	22	36.08	44.06	48.42	48.85	58.39	59.94	62.77	65.23	66.55	71.50	66.37	65.45	71.22	71.81	76.68	79.50	82.32	85.14	87.96	90.78	92.80	94.82	96.83	98.85	100.87
9	6	23	33.40	39.09	45.57	44.61	56.47	57.18	59.74	61.79	63.89	67.00	63.21	63.85	68.00	69.68	74.16	76.41	78.66	80.91	83.16	85.41	87.55	89.69	91.83	93.97	96.11
9	6	24	30.69	33.67	39.47	38.38	53.85	54.94	57.35	58.95	58.90	62.54	60.47	61.61	65.62	66.61	70.06	72.12	74.18	76.24	78.30	80.36	82.61	84.87	87.12	89.38	91.63
9	7	1	29.09	31.30	35.09	34.62	52.91	53.88	54.83	54.88	56.05	58.19	57.76	59.34	62.00	62.81	65.96	67.96	69.97	71.97	73.98	75.98	77.90	79.81	81.73	83.64	85.56
9	7	2	28.71	29.42	33.30	33.14	52.23	51.58	53.56	53.48	54.93	56.43	54.47	58.11	60.76	61.00	64.44	66.39	68.34	70.29	72.24	74.19	75.93	77.67	79.41	81.15	82.89
9	7	3	28.15	26.78	32.95	32.47	50.72	50.42	52.17	52.35	54.86	55.51	50.83	58.03	58.47	58.22	62.89	65.07	67.25	69.42	71.60	73.78	74.23	74.68	75.12	75.57	76.02
9	7	4	27.86	26.74	33.15	31.96	49.95	49.30	52.13	51.97	54.70	55.66	48.20	58.23	58.42	56.56	62.84	65.05	67.27	69.48	71.70	73.91	72.96	72.02	71.07	70.13	69.18
9	7	5	28.71	28.70	33.41	31.94	49.45	50.20	52.98	53.19	54.70	55.61	48.14	58.63	58.69	60.29	62.59	64.89	67.19	69.49	71.79	74.09	75.26	76.42	77.59	78.75	79.92
9	7	6	29.52	30.85	35.41	32.17	49.44	52.09	55.01	55.15	55.99	55.05	54.35	61.27	61.74	63.15	63.40	66.08	68.76	71.43	74.11	76.79	78.69	80.60	82.50	84.41	86.31
9	7	7	32.39	32.28	38.05	32.98	51.35	54.53	56.48	58.03	58.67	56.00	58.48	63.41	63.25	66.43	64.39	67.38	70.37	73.37	76.36	79.35	81.75	84.15	86.55	88.95	91.35
9	7	8	35.98	34.72	40.61	34.30	52.16	55.36	57.87	60.22	61.55	57.44	60.41	65.97	66.88	68.62	65.80	69.28	72.75	76.23	79.70	83.18	85.55	87.92	90.30	92.67	95.04
9	7	9	38.33	37.70	43.81	36.70	52.99	56.04	58.91	61.77	62.91	60.19	61.69	66.55	67.87	69.74	68.43	71.84	75.24	78.65	82.05	85.46	87.71	89.97	92.22	94.48	96.73
9	7	10	42.84	41.66	47.56	39.14	54.00	57.32	60.32	63.06	64.88	63.50	62.75	69.05	68.45	70.82	70.76	74.34	77.93	81.51	85.10	88.68	90.86	93.04	95.23	97.41	99.59
9	7	11	44.44	44.43	49.62	44.44	55.45	58.35	62.83	65.70	68.11	66.56	64.44	71.44	70.90	73.04	72.93	76.76	80.58	84.41	88.23	92.06	93.98	95.91	97.83	99.76	101.68
9	7	12	46.02	46.16	52.71	47.28	57.40	58.85	66.54	70.74	74.10	69.19	65.57	74.69	72.13	75.88	74.69	79.65	84.62	89.58	94.55	99.51	100.20	100.88	101.57	102.25	102.94
9	7	13	46.28	47.81	55.65	48.82	58.59	59.94	70.71	76.47	77.02	70.43	66.26	75.85	76.38	78.33	76.29	81.15	86.01	90.88	95.74	100.60	101.70	102.79	103.89	104.98	106.08
9	7	14	48.69	50.85	67.61	49.70	60.56	61.08	74.30	96.65	92.85	73.19	67.15	78.31	77.95	90.03	78.78	87.59	96.40	105.21	114.02	122.83	120.70	118.57	116.43	114.30	112.17
9	7	15	57.83	52.48	66.66	51.87	63.13	61.54	84.37	96.23	84.58	75.37	67.14	85.18	82.69	101.14	80.55	87.45	94.35	101.26	108.16	115.06	116.00	116.93	117.87	118.80	119.74
9	7	16	59.92	55.96	68.05	57.77	64.93	62.79	90.08	96.18	86.05	84.04	67.62	102.57	113.94	120.42	85.04	91.99	98.94	105.90	112.85	119.80	122.05	124.29	126.54	128.78	131.03
9	7	17	65.92	54.59	68.05	70.57	65.70	63.08	87.06	94.68	86.45	107.67	67.75	108.19	104.16	114.62	121.50	120.24	118.99	117.73	116.48	115.22	119.07	122.92	126.77	130.62	134.47
9	7	18	54.54	54.84	65.01	55.21	65.26	62.32	90.72	96.21	83.52	78.07	67.57	87.49	96.66	98.63	83.85	89.81	95.77	101.72	107.68	113.64	113.79	113.93	114.08	114.22	114.37

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	7	19	46.72	49.50	66.66	51.11	62.64	61.31	71.79	89.71	83.21	74.05	67.13	74.69	77.81	79.74	79.19	86.58	93.97	101.37	108.76	116.15	114.38	112.62	110.85	109.09	107.32
9	7	20	46.20	47.89	59.19	49.48	60.04	61.00	70.02	76.97	77.51	73.12	66.82	73.76	76.35	78.31	78.76	83.30	87.83	92.37	96.90	101.44	101.84	102.24	102.65	103.05	103.45
9	7	21	45.54	47.36	53.06	49.24	58.89	60.09	68.20	72.46	75.57	72.83	66.26	71.77	74.25	75.99	78.39	82.44	86.49	90.55	94.60	98.65	99.30	99.96	100.61	101.27	101.92
9	7	22	41.09	44.43	49.62	46.93	57.90	57.93	62.84	65.70	68.81	69.19	64.28	68.26	70.79	72.50	74.90	78.33	81.76	85.20	88.63	92.06	93.79	95.53	97.26	99.00	100.73
9	7	23	36.06	39.75	47.02	40.32	55.92	57.17	59.74	62.06	63.95	66.54	62.28	65.96	68.00	69.74	72.76	75.76	78.76	81.75	84.75	87.75	89.88	92.01	94.14	96.27	98.40
9	7	24	31.51	34.13	39.22	37.46	52.99	55.24	57.54	59.37	60.10	62.09	60.21	63.09	65.09	67.29	69.75	71.93	74.10	76.28	78.45	80.63	83.07	85.52	87.96	90.41	92.85
9	8	1	28.49	31.17	35.83	34.27	51.52	53.78	54.45	55.58	56.52	58.29	57.78	59.91	61.17	63.14	65.80	67.93	70.05	72.18	74.30	76.43	78.74	81.05	83.36	85.67	87.98
9	8	2	27.38	29.52	33.57	32.98	48.78	53.16	53.33	54.24	54.86	57.69	56.52	58.42	59.73	61.81	64.65	66.54	68.43	70.33	72.22	74.11	76.40	78.70	80.99	83.29	85.58
9	8	3	25.33	27.47	33.37	31.06	47.34	53.00	52.17	52.94	54.25	55.76	56.00	56.37	57.69	60.54	62.54	64.79	67.03	69.28	71.52	73.77	75.17	76.57	77.96	79.36	80.76
9	8	4	25.21	27.16	33.37	30.85	45.88	53.16	51.72	52.76	54.76	55.24	56.37	55.84	56.99	60.35	62.41	64.51	66.60	68.70	70.79	72.89	74.24	75.59	76.95	78.30	79.65
9	8	5	25.80	29.12	33.27	30.99	47.20	53.46	52.84	53.65	54.34	55.34	57.24	57.14	58.82	61.41	61.21	63.49	65.78	68.06	70.35	72.63	74.81	76.99	79.16	81.34	83.52
9	8	6	28.76	31.31	33.47	31.06	49.51	54.83	54.82	55.37	54.23	55.55	60.21	59.23	61.69	64.13	61.43	63.78	66.14	68.49	70.85	73.20	76.30	79.41	82.51	85.62	88.72
9	8	7	29.47	33.14	33.53	32.02	52.76	56.98	56.90	58.04	54.89	56.64	61.76	61.27	64.90	66.86	62.92	65.19	67.47	69.74	72.02	74.29	77.80	81.31	84.83	88.34	91.85
9	8	8	32.08	35.62	35.30	32.90	53.57	59.34	58.29	59.93	55.93	57.28	63.60	63.96	67.81	69.25	64.57	66.94	69.31	71.69	74.06	76.43	80.18	83.93	87.68	91.43	95.18
9	8	9	35.48	39.96	37.97	35.49	53.85	60.16	59.61	61.70	58.13	59.17	66.31	65.87	68.27	69.73	66.92	69.39	71.86	74.34	76.81	79.28	83.17	87.05	90.94	94.82	98.71
9	8	10	37.91	42.78	41.16	37.89	55.25	61.28	61.67	64.59	61.95	62.94	68.12	66.59	70.54	71.66	70.36	72.77	75.17	77.58	79.98	82.39	85.97	89.56	93.14	96.73	100.31
9	8	11	42.74	44.53	46.02	40.71	55.89	63.81	64.31	68.19	64.29	65.03	70.21	68.58	73.44	73.68	72.34	75.00	77.66	80.32	82.98	85.64	88.93	92.22	95.50	98.79	102.08
9	8	12	44.05	46.96	48.39	45.58	57.83	66.44	68.42	72.58	67.61	66.56	72.62	70.08	74.53	76.11	72.95	76.52	80.08	83.65	87.21	90.78	94.11	97.44	100.76	104.09	107.42
9	8	13	46.12	49.90	49.76	48.01	58.89	68.48	73.17	77.21	69.20	69.14	72.63	74.15	77.21	78.84	75.22	78.62	82.02	85.42	88.82	92.22	95.73	99.24	102.75	106.26	109.77
9	8	14	47.64	63.97	51.01	49.24	60.16	72.32	96.52	97.75	70.85	70.80	75.90	75.86	91.20	97.30	76.99	80.54	84.09	87.63	91.18	94.73	99.22	103.71	108.20	112.69	117.18
9	8	15	52.40	74.55	53.19	51.00	60.64	86.84	85.14	88.62	73.72	73.62	78.80	81.21	101.69	111.85	80.08	83.52	86.96	90.39	93.83	97.27	106.90	116.53	126.15	135.78	145.41
9	8	16	54.31	79.94	63.57	52.72	61.27	104.48	84.74	84.73	77.98	76.56	93.43	100.12	105.21	103.34	87.74	90.40	93.06	95.73	98.39	101.05	108.10	115.15	122.19	129.24	136.29
9	8	17	53.55	67.70	76.61	66.66	62.05	113.59	87.88	82.63	99.89	100.99	97.82	101.66	108.71	98.67	111.69	113.64	115.58	117.53	119.47	121.42	126.68	131.94	137.19	142.45	147.71
9	8	18	54.31	79.45	61.79	66.21	60.70	81.68	91.69	86.14	76.59	89.05	77.23	94.22	105.68	99.20	108.74	106.91	105.08	103.25	101.42	99.59	106.93	114.27	121.61	128.95	136.29
9	8	19	47.40	50.76	51.44	51.09	60.04	70.65	78.38	94.15	72.58	73.77	73.42	75.54	78.55	90.15	81.92	84.53	87.14	89.74	92.35	94.96	99.08	103.21	107.33	111.46	115.58
9	8	20	46.11	49.67	50.31	51.09	59.49	66.28	72.35	81.62	70.37	73.77	71.26	74.78	77.53	80.61	80.97	83.45	85.93	88.40	90.88	93.36	96.57	99.79	103.00	106.22	109.43
9	8	21	44.65	47.64	49.62	51.45	58.49	64.25	69.47	75.31	69.10	73.77	70.22	72.64	75.71	78.50	80.21	82.58	84.95	87.32	89.69	92.06	95.33	98.59	101.86	105.12	108.39
9	8	22	40.91	44.48	48.08	48.88	57.41	60.69	63.22	67.60	66.19	70.79	66.89	68.78	71.46	74.82	76.78	79.39	82.00	84.60	87.21	89.82	92.74	95.66	98.57	101.49	104.41
9	8	23	36.27	40.60	42.26	47.56	55.93	58.64	60.13	64.18	62.83	66.56	64.36	65.97	69.77	71.69	73.63	75.82	78.01	80.19	82.38	84.57	87.58	90.58	93.59	96.59	99.60
9	8	24	30.42	34.11	38.69	41.58	53.57	55.81	57.82	59.37	59.03	64.00	61.41	62.42	66.38	68.11	71.70	73.51	75.32	77.12	78.93	80.74	83.28	85.81	88.35	90.88	93.42
9	9	1	27.77	31.79	35.12	37.13	52.18	53.29	54.67	55.52	56.09	61.68	58.15	59.17	61.96	64.13	69.09	70.80	72.51	74.23	75.94	77.65	79.75	81.85	83.96	86.06	88.16
9	9	2	26.11	30.23	33.24	34.56	50.16	52.11	53.03	54.09	54.96	59.11	57.00	57.78	60.89	62.51	67.20	68.76	70.31	71.87	73.42	74.98	77.11	79.24	81.36	83.49	85.62
9	9	3	25.15	27.07	31.27	34.19	49.78	51.02	51.94	53.28	54.05	58.58	54.92	55.18	58.94	59.08	67.27	68.53	69.79	71.06	72.32	73.58	75.02	76.45	77.89	79.32	80.76
9	9	4	24.91	26.97	31.00	33.97	50.16	50.62	51.71	53.01	54.07	58.68	54.68	53.91	58.87	58.21	66.88	67.88	68.88	69.87	70.87	71.87	72.82	73.77	74.71	75.66	76.61
9	9	5	25.91	29.47	30.74	34.56	51.25	51.52	52.40	52.64	53.87	58.88	55.86	56.52	60.17	57.11	67.82	68.48	69.14	69.79	70.45	71.11	71.83	72.55	73.26	73.98	74.70
9	9	6	28.87	31.85	30.85	37.43	52.99	53.72	54.64	53.42	54.05	61.07	57.58	58.63	62.93	60.48	69.00	69.52	70.04	70.57	71.09	71.61	73.71	75.81	77.92	80.02	82.12
9	9	7	29.71	33.27	32.97	42.07	54.45	55.22	56.66	53.95	54.70	64.09	59.95	62.07	65.08	61.96	72.95	73.10	73.25	73.41	73.56	73.71	76.05	78.39	80.73	83.07	85.41
9	9	8	32.67	35.26	33.10	47.21	56.86	56.05	57.93	55.06	55.19	69.19	62.22	64.61	68.01	64.02	75.18	75.07	74.96	74.84	74.73	74.62	77.44	80.26	83.07	85.89	88.71
9	9	9	36.08	39.64	35.83	48.82	58.27	57.05	59.31	57.16	57.46	70.60	64.04	65.97	69.33	66.60	76.97	77.20	77.43	77.66	77.89	78.12	80.81	83.50	86.20	88.89	91.58
9	9	10	38.87	43.21	39.32	49.83	59.37	58.64	62.55	60.31	59.86	73.43	65.34	67.78	71.80	68.86	80.41	80.60	80.78	80.97	81.15	81.34	84.02	86.70	89.38	92.06	94.74
9	9	11	43.40	46.40	42.38	51.79	61.74	61.31	64.78	62.27	63.56	75.98	67.39	69.41	73.94	70.37	81.68	82.03	82.37	82.72	83.06	83.41	86.41	89.41	92.40	95.40	98.40
9	9	12	45.54	47.77	46.37	52.82	64.43	63.76	69.36	65.82	65.44	82.53	69.71	72.35	74.67	73.18	95.83	94.51	93.19	91.87	90.55	89.23	91.52	93.81	96.11	98.40	100.69
9	9	13	47.99	49.83	48.26	52.26	67.64	66.10	73.03	68.40	68.80	80.33	72.62	75.85	77.97	74.69	99.61	98.10	96.59	95.08	93.57	92.06	94.24	96.41	98.59	100.76	102.94
9	9	14	61.35	58.70	50.00	64.64	67.88	69.10	98.69	70.55	71.24	93.00	75.23	91.33	96.29	75.96	111.84	108.14	104.45	100.75	97.06	93.36	95.54	97.71	99.89	102.06	104.24
9	9	15	61.40	61.97	51.24	86.89	75.15	71.88	85.56	75.38	72.47	107.60	77.19	96.98	101.15	78.03	133.58	126.07	118.57	111.06	103.56	96.05	98.42	100.80	103.17	105.55	107.92
9	9	16	63.93	61.97	54.69	138.47	97.78	77.47	84.51	90.54	76.39	155.61	98.62	98.87	97.65	81.62	190.78	172.32	153.87	135.41	116.96	98.50	100.99	103.47	105.96	108.44	110.93
9	9	17	62.81	58.36	66.58	96.14	102.07	76.59	81.61	107.82	103.40	151.52	84.97	98.87	97.10	99.57	188.63	174.03	159.44	144.84	130.25	115.65	115.64	115.62	115.61	115.59	115.58
9	9	18	60.55	54.95	65.70	65.64	81.52	72.36	82.91	82.76	99.87	97.41	77.30	98.87	97.66	79.84	115.97	114.71	113.45	112.19	110.93	109.67	109.73	109.79	109.84	109.90	109.96
9	9	19	51.68	51.62	51.40	54.04	66.75	67.75	88.17	70.97	73.15	80.71	73.69	76.84	87.15	76.27	99.47	98.60	97.74	96.87	96.01	95.14	97.16	99.18	101.21	103.23	105.25
9	9	20	48.40	50.61	51.01	52.15	64.57	65.95	74.94	70.02	73.06	76.56	72.36	75.33	80.29	75.62	95.02	94.96	94.91	94.85	94.80	94.74	96.64	98.54	100.43	102.33	104.23
9	9	21	46.21	49.09	50.75	53.18	62.86	64.60	72.22	68.29	72.40	79.07	70.62	72.58	76.75	74.35	94.93	94.62	94.30	93.99	93.67	93.36	95.80	98.23	100.67	103.10	105.54
9	9	22	42.73	45.53	48.31	49.51	58.76	60.69	64.91	65.79	67.95	72.22	67.64	69.34	73.67	72.32	79.70	81.92	84.13	86.35	88.56	90.78	93.01	95.24	97.46	99.69	101.92
9	9	23	37.46	41.79	45.54	48.39	57.25	57.32	62.02	61.66	64.38	69.00	64.44	66.56	69.95	69.73	74.90	77.11	79.33	81.54	83.76	85.97	88.50	91.03	93.56	96.09	98.62
9	9	24	31.97	34.74	39.85	38.91	54.08	55.73	58.01	58.12	60.78	63.63	61.41	63.09	66.68	67.25	71.97	74.08	76.20	78.31	80.43	82.54	84.62	86.71	88.79	90.88	92.96
9	10	1	28.76	32.04	37.09	34.73	51.78	53.34	54.75	55.52	57.63	59.40	57.76	59.88	62.35	63.99	66.78	69.13	71.47	73.82	76.16	78.51	80.53	82.55	84.57	86.59	88.61
9	10	2	26.79	30.36	34.31	33.10	49.80	51.62	53.43	53.98	56.36	57.58	56.54	58.60	60.88	62.00	64.90	67.30	69.70	72.11	74.51	76.91	78.63	80.36	82.08	83.81	85.53
9	10	3	25.51	27.20	33.65	32.08	49.33	49.88	52.35	53.56	56.08	56.52	54.60	56.37	58.39	60.66	64.01	66.60	69.19	71.79	74.38	76.97	78.28	79.59	80.90	82.21	83.52
9	10	4	25.34	26.69	33.65	31.67	48.74	49.21	51.70	53.24	55.79	56.78	54.04	55.50	57.02	59.11	63.67	66.15	68.63	71.10	73.58	76.06	76.59	77.12	77.66	78.19	78.72
9	10	5	26.25	26.48	34.32	32.06	49.22	51.22	51.64	52.83	56.13	57.22	55.96	57.93	56.10	57.10	63.81	66.41	69.01	71.61	74.21	76.81	76.56	76.30	76.05	75.79	75.54

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	10	6	29.09	28.59	36.29	34.15	52.04	53.16	52.47	52.99	57.88	58.23	59.03	60.37	58.94	57.69	65.83	68.42	71.02	73.61	76.21	78.80	78.30	77.80	77.30	76.80	76.30
9	10	7	30.41	30.13	41.83	36.77	53.16	55.16	53.08	53.47	62.58	60.58	60.58	62.57	60.92	61.10	68.47	71.51	74.55	77.58	80.62	83.66	83.51	83.35	83.20	83.04	82.89
9	10	8	33.27	31.76	46.38	38.82	54.17	56.04	54.41	54.05	64.88	63.22	63.78	65.83	62.56	62.50	70.91	74.50	78.10	81.69	85.29	88.88	88.29	87.69	87.10	86.50	85.91
9	10	9	36.45	33.20	47.74	42.65	55.74	57.05	56.33	56.27	67.53	65.06	65.38	66.01	64.68	65.53	72.95	76.75	80.55	84.36	88.16	91.96	91.48	91.00	90.51	90.03	89.55
9	10	10	40.05	36.03	50.24	46.46	57.40	58.75	58.46	59.29	70.25	66.66	66.75	68.50	67.67	68.20	72.95	77.23	81.51	85.80	90.08	94.36	93.91	93.46	93.02	92.57	92.12
9	10	11	44.98	40.69	51.40	48.82	59.26	60.90	60.76	61.36	74.58	69.45	69.38	71.17	69.64	69.73	75.06	79.23	83.40	87.58	91.75	95.92	95.83	95.75	95.66	95.58	95.49
9	10	12	46.88	44.53	55.37	50.61	62.45	65.28	63.73	63.70	81.33	71.77	72.27	72.43	71.94	71.72	78.72	83.68	88.64	93.61	98.57	103.53	102.58	101.64	100.69	99.75	98.80
9	10	13	48.74	48.00	54.82	51.88	65.52	68.55	65.49	66.18	83.16	75.36	74.77	76.79	73.93	74.29	86.26	90.04	93.83	97.61	101.40	105.18	104.41	103.65	102.88	102.12	101.35
9	10	14	60.92	48.86	65.25	56.61	73.13	71.74	67.70	69.25	97.02	80.31	81.51	89.75	74.59	75.91	93.03	99.39	105.74	112.10	118.45	124.81	120.44	116.06	111.69	107.31	102.94
9	10	15	60.18	49.90	82.12	53.54	82.13	74.92	71.44	71.21	106.28	79.81	90.55	97.64	76.75	77.39	92.66	103.37	114.08	124.80	135.51	146.22	137.82	129.43	121.03	112.64	104.24
9	10	16	57.60	51.82	108.23	55.94	89.61	74.92	75.64	75.05	169.33	83.78	100.48	97.50	82.74	81.62	99.66	113.70	127.75	141.79	155.84	169.88	157.13	144.37	131.62	118.86	106.11
9	10	17	57.60	66.67	89.26	56.27	85.61	71.66	101.96	102.08	155.92	89.45	93.17	92.62	102.78	107.46	104.02	117.19	130.36	143.54	156.71	169.88	161.47	153.07	144.66	136.26	127.85
9	10	18	54.09	51.65	65.87	52.71	82.03	71.53	74.70	94.43	104.11	78.91	87.34	94.96	80.24	96.95	99.75	106.97	114.19	121.42	128.64	135.86	130.45	125.04	119.63	114.22	108.81
9	10	19	50.17	49.09	54.34	53.16	68.68	67.91	67.77	71.69	82.75	79.81	74.96	87.73	75.22	77.68	87.50	90.48	93.46	96.44	99.42	102.40	102.83	103.26	103.69	104.12	104.55
9	10	20	48.61	48.63	53.97	52.53	65.74	66.03	66.20	70.01	80.51	78.21	73.21	78.07	74.59	77.98	91.85	94.32	96.78	99.25	101.71	104.18	104.39	104.61	104.82	105.04	105.25
9	10	21	47.94	48.24	54.11	51.81	64.09	65.28	65.11	69.87	79.43	75.25	71.15	75.30	74.33	76.74	86.35	90.09	93.83	97.56	101.30	105.04	104.87	104.71	104.54	104.38	104.21
9	10	22	44.35	43.97	50.28	48.61	60.04	60.72	63.04	65.81	70.98	70.21	66.98	70.76	72.32	73.68	76.87	79.97	83.08	86.18	89.29	92.39	94.32	96.25	98.19	100.12	102.05
9	10	23	38.05	38.85	47.02	44.89	56.54	57.51	59.20	63.62	65.41	66.61	66.03	67.89	69.47	72.02	72.95	76.30	79.64	82.99	86.33	89.68	91.90	94.12	96.35	98.57	100.79
9	10	24	32.29	33.96	39.56	38.10	53.86	55.73	57.15	61.77	61.84	62.08	61.50	63.84	66.96	69.73	70.67	73.12	75.58	78.03	80.49	82.94	85.80	88.66	91.53	94.39	97.25
9	11	1	28.84	31.82	35.35	34.19	51.24	53.01	54.49	59.08	57.10	57.97	58.41	60.22	63.04	67.98	66.44	68.71	70.98	73.25	75.52	77.79	80.82	83.85	86.89	89.92	92.95
9	11	2	27.73	30.27	33.60	32.35	49.78	50.89	52.88	57.48	55.78	56.30	57.07	58.84	60.91	67.28	64.83	66.79	68.75	70.70	72.66	74.62	77.94	81.27	84.59	87.92	91.24
9	11	3	25.33	27.30	33.33	30.81	48.67	50.11	52.40	57.31	55.07	55.23	55.36	56.70	59.30	66.60	63.93	65.90	67.87	69.83	71.80	73.77	77.21	80.64	84.08	87.51	90.95
9	11	4	25.07	26.49	33.10	30.86	48.07	49.91	51.64	57.33	55.06	55.33	55.01	55.77	58.39	66.61	63.54	65.59	67.63	69.68	71.72	73.77	77.07	80.38	83.68	86.99	90.29
9	11	5	24.91	26.02	33.26	31.95	48.86	50.77	51.22	57.42	55.07	56.40	56.61	55.18	57.26	67.18	64.23	66.19	68.15	70.11	72.07	74.03	77.54	81.05	84.56	88.07	91.58
9	11	6	25.89	26.19	34.86	34.19	51.95	53.29	51.31	59.52	56.10	58.24	59.19	57.19	57.33	68.35	66.10	68.17	70.23	72.30	74.36	76.43	79.98	83.52	87.07	90.61	94.16
9	11	7	27.38	27.73	37.26	35.91	53.11	54.98	52.13	61.76	58.96	60.44	61.26	58.54	59.15	69.87	68.68	71.01	73.33	75.66	77.98	80.31	83.97	87.63	91.30	94.96	98.62
9	11	8	28.54	30.02	39.85	38.04	54.41	56.23	52.97	62.80	62.29	63.14	63.48	60.05	61.25	72.88	70.63	72.98	75.33	77.67	80.02	82.37	86.23	90.09	93.96	97.82	101.68
9	11	9	30.28	31.93	43.91	40.07	56.42	57.35	55.62	64.80	63.96	64.33	65.42	61.87	64.15	74.97	71.88	74.76	77.65	80.53	83.42	86.30	89.63	92.96	96.28	99.61	102.94
9	11	10	33.82	34.69	46.03	45.01	58.15	59.72	57.63	68.50	65.36	66.02	68.50	65.18	66.88	77.39	72.95	76.13	79.30	82.48	85.65	88.83	91.91	94.98	98.06	101.13	104.21
9	11	11	37.61	38.49	48.20	46.65	60.12	62.18	59.14	72.57	68.08	68.71	71.15	67.79	68.01	78.90	74.46	77.73	81.00	84.27	87.54	90.81	93.95	97.08	100.22	103.35	106.49
9	11	12	42.84	42.43	50.63	48.80	62.64	66.00	61.89	79.50	73.34	71.77	72.53	69.77	68.62	85.26	78.09	81.70	85.31	88.93	92.54	96.15	99.12	102.09	105.05	108.02	110.99
9	11	13	44.70	45.12	53.97	51.65	67.82	70.22	63.81	78.01	76.00	75.96	75.21	71.61	71.20	84.11	85.90	88.36	90.81	93.27	95.72	98.18	101.99	105.80	109.60	113.41	117.22
9	11	14	46.87	47.33	55.37	53.16	75.54	79.75	66.14	92.96	78.18	86.65	88.50	73.00	73.94	97.70	91.78	95.56	99.34	103.12	106.90	110.68	115.10	119.52	123.95	128.37	132.79
9	11	15	47.95	48.04	55.37	53.47	89.55	92.56	67.81	109.54	85.28	89.47	109.76	74.96	74.50	111.77	90.07	93.27	96.47	99.66	102.86	106.06	115.22	124.38	133.54	142.70	151.86
9	11	16	54.73	55.73	56.26	53.49	96.49	100.28	71.23	137.34	108.53	88.96	111.79	78.90	76.93	156.41	107.21	106.98	106.75	106.52	106.29	106.06	124.39	142.72	161.04	179.37	197.70
9	11	17	65.47	71.13	58.71	54.15	96.17	100.28	103.40	126.97	123.24	88.01	113.54	102.46	97.42	139.82	107.21	107.60	107.99	108.37	108.76	109.15	123.25	137.36	151.46	165.57	179.67
9	11	18	52.23	72.14	56.21	54.31	87.58	88.09	91.49	94.25	110.39	92.94	105.16	77.97	88.23	100.51	90.59	93.80	97.01	100.21	103.42	106.63	113.97	121.32	128.66	136.01	143.35
9	11	19	47.51	48.04	54.69	53.27	69.03	71.67	69.54	80.22	79.40	79.78	81.18	72.87	76.94	85.26	91.46	94.35	97.24	100.14	103.03	105.92	107.81	109.70	111.58	113.47	115.36
9	11	20	45.59	49.68	54.91	52.25	67.72	70.22	68.86	77.26	78.70	76.32	75.57	72.01	76.35	85.26	86.88	89.57	92.26	94.94	97.63	100.32	105.04	109.76	114.49	119.21	123.93
9	11	21	45.22	49.68	54.00	50.02	64.37	69.61	68.44	77.20	76.68	74.64	73.42	71.51	74.96	82.56	82.15	85.18	88.20	91.23	94.25	97.28	100.56	103.84	107.12	110.40	113.68
9	11	22	41.87	46.65	48.26	46.33	59.55	62.27	64.91	68.22	69.18	68.42	70.23	69.55	72.03	74.69	75.31	78.66	82.01	85.35	88.70	92.05	94.51	96.97	99.43	101.89	104.35
9	11	23	36.34	41.76	44.99	41.73	56.55	58.64	62.22	63.07	64.88	65.35	67.15	66.01	70.60	72.57	72.88	75.90	78.92	81.94	84.96	87.98	90.51	93.04	95.58	98.11	100.64
9	11	24	31.12	36.16	38.71	37.13	53.79	56.05	58.48	59.78	60.01	61.10	61.87	63.11	68.01	68.86	69.40	71.95	74.50	77.06	79.61	82.16	84.81	87.46	90.11	92.76	95.41
9	12	1	28.44	33.18	34.99	33.90	51.34	54.38	56.76	55.77	56.68	57.26	58.77	59.99	66.54	65.25	65.30	67.69	70.08	72.46	74.85	77.24	79.77	82.31	84.84	87.38	89.91
9	12	2	27.25	32.30	33.53	32.47	49.45	52.63	55.76	54.83	55.46	55.93	57.07	58.60	65.52	63.15	64.06	66.10	68.14	70.19	72.23	74.27	76.74	79.21	81.69	84.16	86.63
9	12	3	25.44	32.07	31.75	31.45	48.36	50.71	55.29	53.82	54.34	55.57	55.03	57.13	65.19	61.47	63.92	65.60	67.28	68.95	70.63	72.31	74.78	77.25	79.71	82.18	84.65
9	12	4	25.20	31.96	32.34	31.19	47.86	49.60	55.26	54.09	54.47	55.58	54.44	56.04	64.92	62.64	63.54	65.13	66.73	68.32	69.92	71.51	73.46	75.41	77.35	79.30	81.25
9	12	5	25.12	32.25	33.40	32.83	48.62	49.42	55.91	54.09	55.35	56.94	54.09	55.18	65.32	62.26	64.51	66.30	68.09	69.87	71.66	73.45	75.24	77.03	78.83	80.62	82.41
9	12	6	25.12	33.93	34.70	33.93	52.01	51.12	57.30	55.70	56.61	57.56	55.85	55.50	66.74	63.35	65.64	67.86	70.08	72.29	74.51	76.73	78.98	81.23	83.48	85.73	87.98
9	12	7	25.97	37.15	36.17	36.03	53.01	52.23	58.51	57.83	58.35	59.87	57.00	57.69	68.42	66.95	68.71	71.04	73.36	75.69	78.01	80.34	82.70	85.06	87.41	89.77	92.13
9	12	8	26.89	43.26	39.07	37.98	55.07	53.77	63.18	59.54	60.79	62.77	58.94	58.83	71.26	68.93	71.02	73.28	75.55	77.81	80.08	82.34	84.90	87.47	90.03	92.60	95.16
9	12	9	28.91	46.87	41.30	39.89	56.60	55.24	65.33	61.02	63.29	63.77	60.57	61.48	72.54	70.37	72.06	74.33	76.60	78.87	81.14	83.41	86.45	89.49	92.53	95.57	98.61
9	12	10	31.82	47.93	44.96	44.08	58.03	56.56	66.71	62.59	64.81	65.72	63.33	63.86	74.93	71.96	72.94	75.57	78.20	80.82	83.45	86.08	88.86	91.64	94.41	97.19	99.97
9	12	11	35.65	49.35	47.16	45.97	60.10	59.23	71.46	64.98	68.26	67.46	66.40	66.22	76.26	72.91	72.95	76.21	79.46	82.72	85.97	89.23	91.77	94.31	96.85	99.39	101.93
9	12	12	37.49	50.25	48.74	48.04	61.25	61.90	76.17	68.31	71.23	69.46	68.60	69.05	82.27	75.25	75.69	78.96	82.23	85.51	88.78	92.05	94.03	96.00	97.98	99.95	101.93
9	12	13	42.75	56.58	52.12	49.51	65.71	63.12	76.65	71.69	74.73	73.62	71.02	71.21	85.95	77.87	80.49	83.92	87.35	90.77	94.20	97.63	99.06	100.50	101.93	103.37	104.80
9	12	14	44.52	54.28	62.18	51.11	68.82	65.54	87.57	77.21	92.01	76.61	72.39	72.42	94.41	85.03	85.77	89.88	93.98	98.09	102.19	106.30	106.99	107.68	108.37	109.06	109.75
9	12	15	46.12	59.14	62.93	54.31	80.99	68.86	94.50	75.38	79.02	83.52	74.25	73.45	112.28	85.33	119.24	117.02	114.80	112.59	110.37	108.15	109.32	110.50	111.67	112.85	114.02
9	12	16	47.02	81.82	62.18	55.23	89.57	72.25	124.49	81.56	101.93	89.86	77.17	77.42	141.03	94.01	98.79	100.81	102.83	104.84	106.86	108.88	116.43	123.98	131.53	139.08	146.63

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	12	17	64.56	81.70	64.45	54.31	81.40	86.37	116.53	83.68	108.90	90.80	100.60	104.15	132.26	84.00	99.78	101.60	103.42	105.24	107.06	108.88	110.32	111.76	113.20	114.64	116.08
9	12	18	58.17	55.62	66.72	52.45	68.93	71.43	88.77	81.56	92.11	77.30	75.89	98.45	96.95	84.91	87.20	91.75	96.30	100.85	105.40	109.95	112.90	115.86	118.81	121.77	124.72
9	12	19	45.91	53.22	54.49	50.61	67.23	66.18	75.24	78.31	83.19	75.35	72.87	74.78	84.05	84.91	83.84	87.40	90.96	94.53	98.09	101.65	103.21	104.77	106.33	107.89	109.45
9	12	20	45.89	53.09	53.04	50.45	65.48	64.08	73.76	76.99	76.83	75.62	71.51	74.64	86.29	82.56	83.50	86.74	89.98	93.23	96.47	99.71	101.47	103.23	104.98	106.74	108.50
9	12	21	45.10	50.86	51.27	49.12	63.24	62.44	74.94	72.88	74.35	73.04	70.82	74.55	80.62	77.44	81.98	84.65	87.32	90.00	92.67	95.34	97.75	100.16	102.57	104.98	107.39
9	12	22	43.84	47.54	47.11	46.33	59.06	60.07	66.04	65.95	68.09	69.46	69.18	71.41	73.34	73.60	76.78	79.20	81.61	84.03	86.44	88.86	91.48	94.09	96.71	99.32	101.94
9	12	23	38.11	42.61	44.23	41.78	56.98	57.19	61.86	62.27	64.49	65.56	66.02	68.42	70.64	71.11	73.80	76.03	78.27	80.50	82.74	84.97	87.81	90.65	93.49	96.33	99.17
9	12	24	34.07	34.74	37.49	36.94	54.12	55.81	58.13	58.41	59.28	62.19	61.90	65.95	66.79	67.57	70.15	72.24	74.32	76.41	78.49	80.58	83.28	85.97	88.67	91.36	94.06
9	13	1	30.85	31.65	34.03	33.53	52.36	54.38	54.75	55.37	56.23	58.18	59.29	64.06	62.29	64.14	65.56	67.57	69.59	71.60	73.62	75.63	78.12	80.62	83.11	85.61	88.10
9	13	2	29.45	30.03	33.43	33.51	50.16	51.15	53.34	54.49	55.06	58.10	57.20	62.78	60.10	61.38	64.92	66.69	68.46	70.24	72.01	73.78	76.02	78.26	80.51	82.75	84.99
9	13	3	29.09	28.79	32.37	31.90	49.24	50.63	52.58	53.42	54.48	56.48	56.43	62.31	59.12	60.38	64.07	65.74	67.41	69.07	70.74	72.41	73.88	75.35	76.83	78.30	79.77
9	13	4	29.04	28.53	32.49	31.77	48.43	49.97	52.49	53.25	54.36	56.23	55.01	62.60	58.31	59.78	63.60	65.35	67.09	68.84	70.58	72.33	73.07	73.81	74.54	75.28	76.02
9	13	5	29.31	29.08	33.10	33.20	48.19	49.42	52.73	53.15	55.51	58.05	54.44	62.79	59.20	60.27	64.93	66.63	68.33	70.03	71.73	73.43	74.72	76.00	77.29	78.57	79.86
9	13	6	31.69	31.05	34.33	33.94	49.20	49.73	54.95	55.06	56.59	58.93	54.51	64.94	61.03	63.15	65.96	67.91	69.85	71.80	73.74	75.69	77.93	80.16	82.40	84.63	86.87
9	13	7	35.57	32.40	36.00	36.10	50.37	50.89	56.38	57.42	58.18	60.74	56.35	66.53	64.42	66.61	68.88	71.04	73.20	75.37	77.53	79.69	81.94	84.18	86.43	88.67	90.92
9	13	8	40.40	34.08	39.17	38.04	51.88	52.84	57.57	59.26	60.45	63.53	57.50	70.30	66.36	68.16	71.52	73.58	75.65	77.71	79.78	81.84	83.90	85.95	88.01	90.06	92.12
9	13	9	43.48	38.07	41.52	38.91	53.19	54.66	59.17	60.58	63.14	64.05	60.16	72.20	68.01	68.86	72.31	74.57	76.83	79.10	81.36	83.62	85.67	87.72	89.77	91.82	93.87
9	13	10	46.18	41.96	45.00	40.72	55.96	56.04	60.98	62.28	64.89	65.21	62.70	73.39	68.62	70.37	72.95	75.48	78.01	80.54	83.07	85.60	87.52	89.45	91.37	93.30	95.22
9	13	11	47.19	47.06	46.86	44.36	57.43	57.31	63.28	64.98	67.35	66.23	65.94	74.61	71.14	72.34	73.02	76.00	78.98	81.95	84.93	87.91	89.93	91.95	93.96	95.98	98.00
9	13	12	48.78	48.04	48.36	45.47	58.89	60.06	66.59	68.24	69.82	67.25	68.09	81.57	73.95	74.38	74.06	77.26	80.47	83.67	86.88	90.08	92.13	94.17	96.22	98.26	100.31
9	13	13	49.29	50.62	50.12	46.27	60.94	62.13	71.64	75.88	73.50	69.17	70.32	81.27	75.67	83.45	75.18	79.18	83.17	87.17	91.16	95.16	97.19	99.21	101.24	103.26	105.29
9	13	14	51.41	54.63	52.75	47.56	63.02	63.81	75.24	78.56	76.38	70.50	72.26	99.13	80.92	84.37	76.78	81.21	85.65	90.08	94.52	98.95	100.78	102.61	104.43	106.26	108.09
9	13	15	56.99	60.19	56.03	48.55	67.72	66.02	75.01	74.69	110.20	72.09	73.16	107.88	96.57	89.19	78.49	83.68	88.87	94.05	99.24	104.43	106.30	108.17	110.04	111.91	113.78
9	13	16	86.71	55.77	59.74	48.90	74.73	69.38	78.22	76.87	115.46	72.60	74.79	173.14	86.43	85.04	79.25	87.41	95.58	103.74	111.91	120.07	125.14	130.21	135.27	140.34	145.41
9	13	17	82.82	53.41	60.90	51.21	91.67	88.19	78.22	79.82	117.27	73.55	94.59	169.58	85.74	85.11	82.48	90.00	97.52	105.03	112.55	120.07	125.14	130.21	135.27	140.34	145.41
9	13	18	54.06	54.63	53.24	48.38	74.90	81.95	84.45	76.87	81.46	72.01	84.51	99.88	85.81	84.92	78.60	83.23	87.86	92.48	97.11	101.74	104.15	106.56	108.96	111.37	113.78
9	13	19	48.69	52.44	52.20	47.59	64.02	67.39	77.53	73.52	75.59	70.95	74.25	83.44	81.00	82.09	77.42	81.73	86.03	90.34	94.64	98.95	100.61	102.27	103.94	105.60	107.26
9	13	20	48.69	49.63	51.81	47.56	61.77	67.39	75.24	72.96	74.95	70.67	72.95	81.30	78.41	80.57	77.14	81.18	85.23	89.27	93.32	97.36	99.34	101.32	103.30	105.28	107.26
9	13	21	48.99	49.35	50.11	46.97	60.68	67.27	71.71	71.33	73.70	69.66	72.87	81.27	75.81	78.18	75.31	79.05	82.80	86.54	90.29	94.03	95.81	97.59	99.38	101.16	102.94
9	13	22	46.24	46.44	46.94	43.98	58.39	62.13	63.76	65.70	68.38	66.56	71.07	72.29	72.49	73.39	72.95	76.15	79.34	82.54	85.73	88.93	90.89	92.85	94.81	96.77	98.73
9	13	23	38.70	41.50	42.76	40.42	56.53	59.98	60.32	61.78	64.29	64.47	67.41	67.87	68.71	69.74	72.06	74.64	77.22	79.80	82.38	84.96	86.98	89.00	91.01	93.03	95.05
9	13	24	32.43	34.11	37.26	36.89	54.03	57.18	57.58	57.61	59.37	61.82	65.11	64.91	66.09	67.57	68.06	70.52	72.97	75.43	77.88	80.34	82.46	84.57	86.69	88.80	90.92
9	14	1	29.09	31.74	33.82	33.98	51.67	55.26	54.55	55.06	55.89	58.88	62.33	60.85	62.20	63.70	65.67	67.66	69.64	71.63	73.61	75.60	77.79	79.99	82.18	84.38	86.57
9	14	2	27.73	30.23	33.60	33.86	50.07	54.43	53.17	53.53	55.89	58.92	61.13	58.55	59.73	61.80	65.07	67.08	69.09	71.11	73.12	75.13	76.59	78.05	79.50	80.96	82.42
9	14	3	26.54	27.43	32.84	31.97	49.15	54.29	52.56	53.42	54.80	56.71	60.83	57.53	58.42	60.96	63.69	65.71	67.73	69.76	71.78	73.80	74.59	75.38	76.16	76.95	77.74
9	14	4	25.86	27.30	32.49	31.38	48.21	54.29	51.91	53.69	54.37	56.25	60.83	57.03	57.57	61.09	62.99	65.08	67.17	69.27	71.36	73.45	73.70	73.95	74.20	74.45	74.70
9	14	5	26.87	29.14	33.39	31.49	47.53	54.47	52.19	53.53	55.54	56.30	61.22	57.46	58.20	60.87	62.85	65.23	67.60	69.98	72.35	74.73	75.80	76.87	77.94	79.01	80.08
9	14	6	28.37	31.35	34.70	33.15	47.78	56.97	54.75	55.06	56.13	58.08	63.61	60.03	61.81	63.89	63.00	65.76	68.52	71.29	74.05	76.81	78.82	80.83	82.85	84.86	86.87
9	14	7	29.45	32.88	35.98	34.12	48.87	57.94	56.32	57.02	58.36	59.21	64.95	62.06	64.11	66.42	64.32	67.41	70.50	73.60	76.69	79.78	81.69	83.59	85.50	87.40	89.31
9	14	8	32.39	34.81	38.43	34.19	49.97	60.33	57.31	58.61	60.15	59.83	68.40	64.27	65.89	69.15	66.46	69.53	72.60	75.66	78.73	81.80	83.62	85.45	87.27	89.10	90.92
9	14	9	35.92	37.81	40.25	36.03	52.79	63.09	58.48	60.60	61.68	60.44	70.12	65.97	67.13	69.74	67.66	70.81	73.96	77.11	80.26	83.41	85.33	87.25	89.17	91.09	93.01
9	14	10	38.45	42.31	42.37	37.96	54.08	64.36	60.32	62.74	63.89	63.36	71.89	66.92	68.01	70.81	69.96	72.85	75.75	78.64	81.54	84.43	86.69	88.95	91.22	93.48	95.74
9	14	11	43.92	44.93	44.98	38.83	55.78	68.69	62.48	64.23	65.29	64.08	74.07	68.62	70.15	72.92	71.40	74.44	77.48	80.51	83.55	86.59	88.95	91.31	93.68	96.04	98.40
9	14	12	45.15	46.91	45.95	41.29	58.17	71.33	66.14	66.73	67.11	65.69	77.65	71.77	72.15	73.60	72.88	75.72	78.56	81.41	84.25	87.09	89.50	91.90	94.31	96.71	99.12
9	14	13	47.83	49.67	46.88	43.55	59.82	71.29	74.98	69.63	68.03	66.41	80.74	75.75	78.57	76.86	72.95	75.97	78.98	82.00	85.01	88.03	90.81	93.59	96.37	99.15	101.93
9	14	14	53.29	50.84	48.00	44.55	61.03	73.92	79.43	72.08	69.35	66.55	86.04	88.75	81.79	79.49	72.95	76.66	80.37	84.08	87.79	91.50	94.43	97.36	100.29	103.22	106.15
9	14	15	51.13	51.72	48.49	45.76	63.78	91.59	80.84	79.22	71.29	66.96	100.67	88.11	89.14	85.35	73.65	77.54	81.42	85.31	89.19	93.08	96.27	99.46	102.64	105.83	109.02
9	14	16	51.96	53.39	49.10	45.98	70.97	135.62	81.05	88.89	73.10	67.13	132.20	84.84	91.27	112.96	74.10	77.99	81.88	85.78	89.67	93.56	97.56	101.56	105.57	109.57	113.57
9	14	17	50.85	54.63	49.71	46.22	81.52	149.16	86.95	79.17	82.01	67.26	117.22	84.21	91.33	98.12	74.82	78.94	83.06	87.17	91.29	95.41	99.98	104.54	109.11	113.67	118.24
9	14	18	50.77	53.40	48.49	45.76	75.90	85.48	91.14	72.48	70.61	67.02	90.41	89.42	86.17	80.86	74.81	78.56	82.31	86.06	89.81	93.56	96.46	99.36	102.25	105.15	108.05
9	14	19	50.85	49.50	48.16	45.43	64.98	72.33	74.30	71.94	69.95	66.41	81.61	89.77	77.63	79.71	73.02	76.94	80.86	84.79	88.71	92.63	95.39	98.15	100.91	103.67	106.43
9	14	20	48.20	49.12	48.03	45.36	64.57	71.67	71.60	72.04	69.76	66.52	80.95	80.87	76.03	79.30	73.40	77.13	80.86	84.59	88.32	92.05	94.54	97.03	99.51	102.00	104.49
9	14	21	47.32	47.64	47.26	44.89	65.34	70.96	69.32	69.21	68.80	66.23	76.03	73.56	73.82	77.76	73.31	76.75	80.19	83.64	87.08	90.52	93.12	95.72	98.31	100.91	103.51
9	14	22	43.59	44.53	45.41	40.04	61.05	63.56	62.48	65.30	64.52	63.91	70.72	69.86	70.38	73.79	72.06	75.21	78.37	81.52	84.68	87.83	90.63	93.42	96.22	99.01	101.81
9	14	23	36.93	40.64	41.20	37.89	58.63	59.98	59.61	61.66	62.67	61.85	68.09	66.42	68.01	70.68	70.53	73.47	76.41	79.35	82.29	85.23	87.73	90.22	92.72	95.21	97.71
9	14	24	31.69	33.80	37.16	35.08	57.49	56.49	57.27	57.44	58.69	59.45	63.47	63.13	65.01	68.81	67.96	70.55	73.14	75.73	78.32	80.91	83.22	85.53	87.85	90.16	92.47
9	15	1	28.45	31.16	34.66	33.56	55.07	53.77	54.44	54.50	55.66	58.70	59.27	60.26	61.81	63.00	66.01	68.34	70.67	73.00	75.33	77.66	79.23	80.81	82.38	83.96	85.53
9	15	2	26.86	29.30	34.24	31.91	53.30	52.35	52.58	54.16	55.89	56.37	56.93	58.55	60.20	63.05	64.32	66.98	69.65	72.31	74.98	77.64	78.54	79.44	80.35	81.25	82.15
9	15	3	25.33	27.94	32.98	30.80	52.99	51.47	52.58	53.81	54.47	55.65	55.78	57.33	58.57	62.81	63.54	65.72	67.90	70.07	72.25	74.43	75.70	76.96	78.23	79.49	80.76

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	15	4	25.14	27.75	32.07	30.31	53.09	51.09	52.40	53.61	54.25	55.31	55.32	56.70	57.87	62.30	62.74	64.98	67.21	69.45	71.68	73.92	75.29	76.66	78.02	79.39	80.76
9	15	5	26.03	28.85	32.23	30.32	53.52	51.56	52.58	53.82	54.32	54.95	55.78	57.40	58.81	62.81	61.45	63.94	66.43	68.93	71.42	73.91	75.32	76.73	78.14	79.55	80.96
9	15	6	27.70	31.22	33.49	30.80	56.63	53.53	54.27	54.99	55.72	55.59	57.86	59.80	61.81	64.39	62.06	64.73	67.40	70.08	72.75	75.42	77.71	80.00	82.29	84.58	86.87
9	15	7	29.09	32.41	34.50	32.79	57.69	55.64	55.98	56.97	55.94	57.29	60.00	61.57	64.42	66.61	63.92	66.66	69.41	72.15	74.90	77.64	80.30	82.95	85.61	88.26	90.92
9	15	8	31.40	34.72	34.96	33.56	59.72	56.44	57.16	58.30	56.84	58.56	62.73	63.76	67.15	69.20	66.02	68.50	70.98	73.46	75.94	78.42	81.31	84.20	87.08	89.97	92.86
9	15	9	33.51	37.46	36.35	34.53	60.88	57.51	58.57	59.98	57.30	59.01	65.17	65.47	67.69	69.74	67.28	69.92	72.56	75.20	77.84	80.48	83.17	85.86	88.56	91.25	93.94
9	15	10	36.93	41.78	38.86	36.29	64.21	59.98	60.76	61.25	59.46	60.00	66.47	67.03	68.01	70.67	69.44	71.92	74.40	76.88	79.36	81.84	84.60	87.36	90.12	92.88	95.64
9	15	11	41.21	43.44	41.07	37.50	67.66	61.74	62.36	62.29	61.94	61.72	68.42	69.15	68.43	72.04	70.63	73.63	76.62	79.62	82.61	85.61	87.66	89.72	91.77	93.83	95.88
9	15	12	44.32	45.51	43.04	39.26	71.21	64.00	64.90	63.08	63.21	63.18	70.62	71.58	70.13	72.67	72.06	75.01	77.95	80.90	83.84	86.79	89.01	91.23	93.44	95.66	97.88
9	15	13	47.07	46.99	44.60	41.17	75.31	66.57	68.06	64.79	64.52	64.11	73.50	80.12	73.26	73.24	72.85	75.79	78.72	81.66	84.59	87.53	89.88	92.23	94.58	96.93	99.28
9	15	14	49.58	47.81	45.95	42.03	74.14	71.66	70.38	65.79	65.12	64.72	77.06	80.87	76.55	74.26	72.87	75.94	79.01	82.07	85.14	88.21	90.80	93.38	95.97	98.55	101.14
9	15	15	50.78	49.50	46.39	43.57	80.39	67.80	80.84	66.71	65.95	65.68	80.74	82.20	81.31	76.00	72.94	76.13	79.31	82.50	85.68	88.87	91.48	94.09	96.70	99.31	101.92
9	15	16	52.40	52.59	46.88	44.88	109.01	67.80	86.95	68.25	66.54	66.23	95.67	81.52	92.08	77.92	72.94	76.24	79.54	82.85	86.15	89.45	92.19	94.92	97.66	100.39	103.13
9	15	17	56.85	51.89	47.32	45.59	95.10	66.44	85.63	68.57	67.32	66.55	77.06	82.28	85.65	80.34	74.10	77.26	80.42	83.57	86.73	89.89	93.08	96.27	99.45	102.64	105.83
9	15	18	52.41	49.09	46.88	45.70	80.89	66.46	70.16	67.50	66.53	66.55	80.95	81.17	77.97	75.92	74.82	77.81	80.80	83.80	86.79	89.78	92.44	95.10	97.75	100.41	103.07
9	15	19	47.93	47.84	45.83	45.45	72.13	68.77	69.47	66.48	64.88	66.24	76.53	77.97	76.75	74.43	74.01	76.84	79.67	82.49	85.32	88.15	91.03	93.91	96.78	99.66	102.54
9	15	20	46.71	47.89	45.83	45.58	74.85	68.09	69.01	66.21	65.21	66.53	74.46	76.59	76.06	74.33	72.94	76.09	79.24	82.38	85.53	88.68	91.44	94.21	96.97	99.74	102.50
9	15	21	46.02	47.34	45.36	45.19	70.97	67.09	67.27	65.33	64.85	66.41	73.13	74.63	74.85	73.37	72.93	76.03	79.13	82.23	85.33	88.43	91.13	93.83	96.52	99.22	101.92
9	15	22	42.47	45.09	40.86	41.14	61.98	62.25	62.79	61.96	62.48	64.21	69.77	68.83	72.18	70.62	71.69	74.49	77.29	80.10	82.90	85.70	88.10	90.50	92.90	95.30	97.70
9	15	23	36.35	41.00	38.31	37.54	58.83	59.01	60.07	59.99	59.29	62.04	66.47	65.96	69.68	69.74	68.76	71.49	74.21	76.94	79.66	82.39	84.97	87.54	90.12	92.69	95.27
9	15	24	30.49	34.81	35.37	34.62	55.97	56.16	57.06	57.02	56.66	59.45	61.94	62.63	66.07	67.59	67.53	69.93	72.33	74.72	77.12	79.52	81.93	84.34	86.74	89.15	91.56
9	16	1	27.85	31.48	34.33	33.14	52.40	54.00	53.98	55.06	55.56	58.07	58.15	59.68	61.64	64.68	65.44	67.82	70.20	72.59	74.97	77.35	79.37	81.39	83.42	85.44	87.46
9	16	2	26.33	29.05	32.48	32.54	51.44	52.23	53.42	54.60	54.22	57.03	57.02	58.60	60.37	63.08	64.69	66.82	68.96	71.09	73.23	75.36	76.88	78.40	79.92	81.44	82.96
9	16	3	25.28	29.25	31.05	31.99	50.27	50.59	53.48	53.61	53.69	56.52	55.80	57.79	59.65	62.91	64.12	66.08	68.04	70.01	71.97	73.93	75.56	77.20	78.83	80.47	82.10
9	16	4	25.34	29.42	30.42	32.11	49.81	50.63	52.89	53.26	53.55	56.62	54.93	57.40	59.35	62.08	63.43	65.41	67.39	69.36	71.34	73.32	75.22	77.12	79.03	80.93	82.83
9	16	5	25.78	29.38	30.04	32.97	50.61	50.89	53.43	53.21	53.34	57.64	55.50	57.80	60.28	62.11	65.14	66.52	67.89	69.27	70.64	72.02	74.10	76.18	78.27	80.35	82.43
9	16	6	27.63	32.05	30.43	35.12	52.23	54.00	54.38	53.42	53.67	58.88	57.86	59.41	62.29	62.68	66.52	67.85	69.17	70.50	71.82	73.15	75.23	77.32	79.40	81.49	83.57
9	16	7	29.13	34.18	32.41	37.25	53.30	55.52	55.98	55.17	54.34	60.19	59.92	61.55	64.90	64.84	68.66	69.87	71.09	72.30	73.52	74.73	76.76	78.78	80.81	82.83	84.86
9	16	8	31.52	36.11	33.41	40.06	55.38	56.27	56.90	55.39	55.89	63.24	62.44	63.76	66.94	65.18	72.68	73.45	74.22	74.98	75.75	76.52	78.55	80.57	82.60	84.62	86.65
9	16	9	34.49	37.76	34.96	41.91	56.87	57.32	57.82	56.55	57.17	65.15	63.94	65.24	67.88	67.35	73.80	74.84	75.87	76.91	77.94	78.98	81.35	83.71	86.08	88.44	90.81
9	16	10	36.98	40.36	36.24	44.70	58.03	59.66	58.76	57.72	58.49	66.61	65.89	66.22	68.24	68.85	74.90	76.09	77.29	78.48	79.68	80.87	83.38	85.89	88.40	90.91	93.42
9	16	11	39.59	42.68	38.61	46.16	60.56	61.96	60.57	59.25	59.53	67.96	67.31	68.32	68.89	69.73	76.02	77.24	78.45	79.67	80.88	82.10	84.69	87.28	89.86	92.45	95.04
9	16	12	43.21	43.52	39.86	47.94	62.23	64.03	61.89	61.21	61.01	68.63	70.09	69.67	69.43	70.81	76.68	78.03	79.38	80.72	82.07	83.42	86.07	88.72	91.38	94.03	96.68
9	16	13	45.25	44.86	41.34	47.90	66.31	68.31	62.58	62.25	62.70	69.15	74.21	73.54	70.39	71.72	76.30	78.02	79.73	81.45	83.16	84.88	87.87	90.87	93.86	96.86	99.85
9	16	14	46.48	45.99	43.60	48.50	71.40	67.07	64.74	62.93	63.53	69.48	76.24	75.63	71.13	72.79	76.29	78.24	80.18	82.13	84.07	86.02	88.86	91.70	94.55	97.39	100.23
9	16	15	50.91	46.92	45.12	48.11	74.24	67.71	66.22	64.14	64.89	69.58	77.58	80.87	72.20	73.08	76.02	78.30	80.58	82.87	85.15	87.43	90.01	92.58	95.16	97.73	100.31
9	16	16	59.59	47.77	45.60	55.73	74.19	67.22	67.18	64.33	65.98	80.42	83.03	91.97	73.43	72.90	83.50	84.44	85.38	86.32	87.26	88.20	90.47	92.74	95.02	97.29	99.56
9	16	17	59.80	48.89	46.09	51.69	72.66	67.84	67.04	65.06	66.80	73.93	95.67	105.90	73.60	73.08	79.01	80.94	82.87	84.80	86.73	88.66	91.05	93.44	95.82	98.21	100.60
9	16	18	47.88	46.88	46.09	49.11	74.63	69.13	65.45	64.51	67.31	72.74	81.18	78.49	72.23	73.18	80.63	82.24	83.85	85.46	87.07	88.68	91.06	93.45	95.83	98.22	100.60
9	16	19	45.98	46.15	45.89	48.85	69.86	67.22	64.48	62.74	66.06	71.00	76.22	75.58	71.57	71.40	78.62	80.57	82.52	84.46	86.41	88.36	90.47	92.58	94.69	96.80	98.91
9	16	20	45.34	46.15	46.09	48.85	70.44	69.38	64.75	62.66	67.11	70.30	74.38	75.45	70.88	71.92	79.01	81.08	83.14	85.21	87.27	89.34	91.52	93.70	95.87	98.05	100.23
9	16	21	44.90	45.13	45.68	47.60	66.26	67.36	63.31	62.16	66.12	68.20	70.75	74.63	69.83	71.75	76.73	79.11	81.49	83.88	86.26	88.64	90.93	93.21	95.50	97.78	100.07
9	16	22	42.04	42.48	41.92	43.96	60.56	62.13	60.76	60.46	64.17	66.42	67.14	69.48	67.95	69.73	73.28	75.69	78.10	80.52	82.93	85.34	87.42	89.49	91.57	93.64	95.72
9	16	23	36.70	39.41	38.25	40.25	57.91	59.21	58.83	57.80	59.53	63.84	64.81	66.31	67.07	68.35	72.86	74.40	75.94	77.48	79.02	80.56	83.12	85.68	88.25	90.81	93.37
9	16	24	31.71	34.67	35.33	37.13	54.41	56.14	56.33	55.37	57.53	60.76	60.72	63.73	64.42	66.52	69.32	71.20	73.08	74.95	76.83	78.71	80.92	83.13	85.34	87.55	89.76
9	17	1	28.15	32.13	33.52	33.91	52.22	54.38	54.45	54.90	55.66	58.19	57.40	59.29	62.20	63.12	66.52	68.36	70.19	72.03	73.86	75.70	77.58	79.45	81.33	83.20	85.08
9	17	2	25.99	29.76	33.14	32.70	49.75	52.35	54.14	53.64	55.03	57.59	56.52	59.18	59.35	62.89	65.60	67.34	69.08	70.82	72.56	74.30	75.85	77.40	78.96	80.51	82.06
9	17	3	26.08	29.43	32.79	32.11	48.92	51.63	53.23	53.50	54.53	56.78	54.74	58.94	59.64	62.00	65.19	66.94	68.70	70.45	72.21	73.96	75.56	77.17	78.77	80.38	81.98
9	17	4	26.35	29.58	33.06	32.01	48.68	51.89	52.72	53.35	54.32	55.88	53.96	58.85	59.36	61.11	64.85	66.74	68.64	70.53	72.43	74.32	75.87	77.42	78.97	80.52	82.07
9	17	5	26.64	29.86	33.41	32.70	48.92	52.09	52.63	52.79	55.06	57.35	54.51	59.50	59.57	60.27	64.08	66.41	68.73	71.06	73.38	75.71	76.40	77.08	77.77	78.45	79.14
9	17	6	28.98	30.23	34.81	34.81	51.96	53.81	53.13	53.15	56.85	59.37	57.20	60.66	60.09	60.88	66.27	68.67	71.06	73.46	75.85	78.25	78.89	79.52	80.16	80.79	81.43
9	17	7	30.38	31.35	37.53	37.83	53.06	55.22	54.54	53.64	59.53	60.41	59.81	62.63	61.64	61.85	69.41	71.82	74.24	76.65	79.07	81.48	81.77	82.06	82.36	82.65	82.94
9	17	8	32.49	32.45	39.48	40.06	54.08	56.39	54.95	54.90	61.95	63.10	62.12	64.74	62.02	63.85	72.06	74.61	77.16	79.71	82.26	84.81	84.82	84.83	84.83	84.84	84.85
9	17	9	34.27	34.72	42.17	42.07	55.51	57.15	56.00	55.70	63.81	64.89	64.46	64.94	63.97	66.22	72.95	76.05	79.14	82.24	85.33	88.43	88.54	88.66	88.77	88.89	89.00
9	17	10	36.15	37.00	44.43	45.01	56.69	58.91	57.32	56.82	65.50	66.41	66.36	65.87	65.33	67.87	73.97	76.50	79.02	81.55	84.07	86.60	87.63	88.65	89.68	90.70	91.73
9	17	11	38.30	39.88	46.03	46.18	58.27	60.58	58.40	58.22	67.28	67.15	66.47	66.43	67.03	68.90	74.84	77.65	80.46	83.27	86.08	88.89	89.80	90.70	91.61	92.51	93.42
9	17	12	39.65	41.77	46.70	48.38	61.07	63.04	59.17	59.70	68.03	67.96	68.53	67.73	67.95	69.56	75.65	78.42	81.19	83.95	86.72	89.49	90.59	91.68	92.78	93.87	94.97
9	17	13	40.27	43.15	47.13	48.85	64.77	66.00	60.20	61.23	68.88	69.49	70.38	69.30	68.01	69.73	76.27	78.86	81.45	84.05	86.64	89.23	90.56	91.89	93.21	94.54	95.87
9	17	14	43.09	43.52	47.64	51.54	64.17	68.99	61.52	61.84	69.47	71.45	73.31	70.70	68.09	69.82	79.29	81.76	84.23	86.69	89.16	91.63	92.68	93.73	94.77	95.82	96.87

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	17	15	43.97	44.77	48.07	53.84	68.40	72.36	62.35	62.66	70.09	74.20	76.92	71.41	68.46	70.36	82.48	84.28	86.09	87.89	89.70	91.50	92.74	93.97	95.21	96.44	97.68
9	17	16	44.20	45.09	54.99	60.70	70.22	85.49	62.38	63.55	90.22	84.56	82.44	72.12	68.62	71.69	91.78	91.84	91.90	91.95	92.01	92.07	93.44	94.81	96.17	97.54	98.91
9	17	17	51.02	45.12	51.20	60.62	74.70	85.66	62.79	64.40	73.81	76.47	82.44	72.82	69.08	72.70	91.02	91.49	91.96	92.42	92.89	93.36	94.75	96.14	97.53	98.92	100.31
9	17	18	44.17	44.86	49.33	54.82	68.80	69.04	62.46	64.38	71.10	73.41	74.53	71.54	68.58	72.93	82.05	84.21	86.37	88.54	90.70	92.86	94.49	96.12	97.75	99.38	101.01
9	17	19	43.44	43.95	48.01	49.89	66.17	66.66	61.52	63.55	69.69	71.52	73.31	70.73	68.00	72.27	78.39	80.94	83.49	86.03	88.58	91.13	92.62	94.11	95.60	97.09	98.58
9	17	20	43.44	44.42	48.15	49.70	68.11	67.71	61.23	63.55	70.13	71.61	73.51	70.18	68.01	72.67	80.20	82.28	84.36	86.45	88.53	90.61	92.27	93.93	95.59	97.25	98.91
9	17	21	43.01	44.02	46.86	49.03	64.09	67.03	60.14	62.59	68.51	69.58	71.32	69.30	68.01	72.24	76.99	79.43	81.87	84.30	86.74	89.18	91.05	92.93	94.80	96.68	98.55
9	17	22	38.74	40.91	44.23	45.30	58.52	61.99	58.82	61.36	64.88	66.56	68.12	66.22	67.58	70.17	74.67	77.25	79.83	82.42	85.00	87.58	89.18	90.78	92.37	93.97	95.57
9	17	23	35.71	36.07	39.71	40.55	56.70	59.43	56.48	57.57	63.05	63.81	64.98	65.91	65.64	68.14	72.91	75.09	77.27	79.45	81.63	83.81	85.51	87.21	88.90	90.60	92.30
9	17	24	31.80	33.68	36.74	37.60	53.76	56.26	54.77	55.64	58.51	61.33	62.55	62.81	63.65	66.18	70.17	72.21	74.25	76.28	78.32	80.36	81.96	83.55	85.15	86.74	88.34
9	18	1	28.77	29.77	34.19	34.23	51.98	53.75	52.75	53.89	55.89	58.18	58.05	60.95	60.55	62.88	66.75	68.70	70.65	72.61	74.56	76.51	78.03	79.55	81.07	82.59	84.11
9	18	2	25.99	28.85	33.45	32.85	49.81	52.97	52.48	53.39	55.07	57.14	57.57	59.76	59.35	61.02	64.61	66.61	68.62	70.62	72.63	74.63	76.01	77.40	78.78	80.17	81.55
9	18	3	26.66	29.16	32.62	31.72	49.33	52.92	51.53	52.82	54.70	55.76	57.56	59.29	59.19	60.81	63.92	65.97	68.03	70.08	72.14	74.19	75.00	75.81	76.61	77.42	78.23
9	18	4	26.60	28.85	32.49	31.64	48.95	52.56	51.01	53.28	54.32	55.09	57.43	58.86	58.94	61.14	62.99	65.18	67.37	69.55	71.74	73.93	75.44	76.96	78.47	79.99	81.50
9	18	5	26.64	28.60	32.95	32.21	49.16	53.50	50.50	53.80	54.87	56.62	57.71	58.81	58.20	63.29	64.07	66.07	68.07	70.07	72.07	74.07	76.23	78.38	80.54	82.69	84.85
9	18	6	26.80	28.85	34.85	35.53	52.04	53.88	51.01	55.37	56.70	59.23	59.38	59.31	58.97	65.35	66.97	68.89	70.81	72.72	74.64	76.56	78.90	81.24	83.57	85.91	88.25
9	18	7	28.52	29.58	36.99	37.97	52.91	55.59	51.88	57.58	59.72	60.44	61.05	61.46	59.72	67.97	69.16	71.32	73.48	75.63	77.79	79.95	82.48	85.01	87.55	90.08	92.61
9	18	8	28.84	31.12	39.45	40.54	54.00	56.49	53.95	59.99	62.09	63.18	62.75	62.11	61.49	69.74	72.31	74.64	76.97	79.30	81.63	83.96	86.50	89.04	91.58	94.12	96.66
9	18	9	30.41	33.26	41.69	42.66	55.78	57.37	54.68	61.76	63.55	64.12	64.06	62.76	63.03	71.14	72.94	75.42	77.89	80.37	82.84	85.32	88.03	90.74	93.45	96.16	98.87
9	18	10	32.88	34.76	44.29	45.89	56.63	58.75	55.88	62.37	65.10	65.63	64.59	65.02	64.74	72.64	72.94	75.67	78.40	81.14	83.87	86.60	89.25	91.91	94.56	97.22	99.87
9	18	11	35.01	36.12	45.59	47.78	58.33	59.93	57.44	63.49	66.16	66.61	65.73	65.90	66.13	73.95	74.10	76.79	79.47	82.16	84.84	87.53	90.40	93.28	96.15	99.03	101.90
9	18	12	36.35	39.12	46.82	48.61	60.47	61.30	58.53	64.93	68.03	68.05	66.47	66.06	67.04	75.22	74.89	77.65	80.40	83.16	85.91	88.67	91.32	93.97	96.62	99.27	101.92
9	18	13	38.18	40.67	47.80	51.80	63.61	62.18	59.20	65.58	69.18	70.89	67.18	66.88	67.56	74.11	76.83	79.49	82.14	84.80	87.45	90.11	92.47	94.83	97.20	99.56	101.92
9	18	14	39.02	41.76	49.41	52.25	66.59	63.02	59.88	66.18	73.06	71.99	68.40	67.54	67.76	74.40	78.62	81.42	84.22	87.03	89.83	92.63	94.49	96.35	98.20	100.06	101.92
9	18	15	40.02	42.76	52.05	55.32	67.67	64.62	60.93	66.67	77.86	79.42	69.99	68.24	67.95	75.20	83.50	85.99	88.48	90.98	93.47	95.96	97.15	98.34	99.54	100.73	101.92
9	18	16	40.15	44.06	58.63	58.93	70.86	65.45	61.77	68.26	102.66	83.36	70.62	68.39	68.00	76.37	87.95	94.54	101.14	107.73	114.33	120.92	117.66	114.41	111.15	107.90	104.64
9	18	17	40.61	44.46	55.37	56.30	72.94	66.18	62.26	69.65	102.66	83.73	70.84	68.56	68.01	78.50	90.41	92.02	93.62	95.23	96.83	98.44	99.74	101.04	102.33	103.63	104.93
9	18	18	40.02	44.62	52.28	53.12	67.67	64.60	62.29	70.04	76.71	74.71	70.22	68.24	68.04	81.70	82.11	84.88	87.65	90.42	93.19	95.96	97.93	99.90	101.86	103.83	105.80
9	18	19	39.38	44.06	49.56	50.03	64.97	63.61	61.58	67.82	73.04	72.60	69.33	66.98	68.01	76.55	78.48	81.26	84.04	86.83	89.61	92.39	94.83	97.27	99.70	102.14	104.58
9	18	20	39.75	44.53	49.14	50.38	66.73	63.61	61.47	67.84	73.59	73.22	69.24	66.98	68.93	76.99	79.70	82.17	84.64	87.12	89.59	92.06	94.63	97.21	99.78	102.36	104.93
9	18	21	38.45	44.42	47.80	48.85	64.50	62.46	60.94	65.70	69.28	70.90	67.57	67.09	68.42	75.03	78.59	80.85	83.11	85.37	87.63	89.89	92.68	95.48	98.27	101.07	103.86
9	18	22	35.39	41.99	45.27	45.45	59.72	60.22	59.11	62.28	65.75	66.55	65.89	65.90	67.51	72.25	74.06	76.61	79.16	81.72	84.27	86.82	89.49	92.16	94.84	97.51	100.18
9	18	23	31.79	36.02	40.01	40.29	56.98	57.96	57.46	61.11	63.69	64.25	64.90	63.69	65.40	70.23	72.06	74.37	76.67	78.98	81.28	83.59	86.15	88.71	91.26	93.82	96.38
9	18	24	29.09	33.93	36.88	37.43	53.78	55.99	55.35	57.72	59.53	61.28	61.58	62.13	63.06	68.22	68.90	71.18	73.46	75.75	78.03	80.31	82.67	85.03	87.40	89.76	92.12
9	19	1	26.11	31.76	33.99	34.03	51.19	54.07	53.71	55.34	56.06	58.07	58.78	59.65	60.04	64.83	66.64	68.60	70.56	72.51	74.47	76.43	78.54	80.64	82.75	84.85	86.96
9	19	2	26.62	29.41	33.23	31.90	49.82	53.66	52.71	54.43	55.24	57.48	57.22	59.21	58.90	62.80	65.56	67.31	69.05	70.80	72.54	74.29	76.39	78.49	80.59	82.69	84.79
9	19	3	26.05	28.73	31.51	31.12	49.50	52.53	52.24	53.72	54.18	56.85	58.02	58.89	58.16	62.00	64.99	66.65	68.32	69.98	71.65	73.31	75.40	77.49	79.59	81.68	83.77
9	19	4	25.80	28.87	31.36	31.19	49.38	52.09	52.34	53.42	54.07	56.74	57.56	58.26	58.92	61.15	64.95	66.47	67.99	69.50	71.02	72.54	74.45	76.35	78.26	80.16	82.07
9	19	5	25.80	31.30	32.45	32.06	49.41	52.27	53.34	53.82	54.61	56.87	57.64	56.98	60.39	61.58	65.18	66.90	68.62	70.33	72.05	73.77	75.56	77.34	79.13	80.91	82.70
9	19	6	26.05	33.48	35.25	35.26	52.19	53.01	55.62	56.01	57.08	58.91	57.84	58.10	62.48	65.62	67.88	69.72	71.56	73.39	75.23	77.07	79.23	81.39	83.56	85.72	87.88
9	19	7	26.69	36.02	37.14	37.89	53.05	53.93	56.83	58.03	60.34	61.47	59.06	58.89	64.78	68.17	70.69	72.55	74.40	76.26	78.11	79.97	82.61	85.24	87.88	90.51	93.15
9	19	8	28.72	39.62	40.23	40.47	55.07	54.19	58.65	59.99	62.35	63.56	59.74	60.61	67.67	69.74	72.93	75.06	77.19	79.33	81.46	83.59	85.95	88.32	90.68	93.05	95.41
9	19	9	29.05	41.52	41.18	44.18	56.40	55.02	60.33	62.68	63.44	65.31	60.57	61.50	68.58	72.97	73.31	75.55	77.79	80.02	82.26	84.50	87.43	90.37	93.30	96.24	99.17
9	19	10	30.37	43.39	44.26	46.99	56.72	56.44	61.52	64.21	64.68	66.56	62.44	63.05	69.72	73.24	75.07	77.12	79.18	81.23	83.29	85.34	88.41	91.48	94.56	97.63	100.70
9	19	11	32.18	44.87	45.95	48.82	57.42	57.32	62.58	65.30	66.36	69.24	64.04	64.20	71.03	73.39	76.78	78.91	81.05	83.18	85.32	87.45	90.34	93.24	96.13	99.03	101.92
9	19	12	34.06	45.53	47.12	49.51	58.65	58.66	63.04	66.12	67.81	70.22	65.07	65.57	72.32	73.75	78.14	80.29	82.43	84.58	86.72	88.87	91.48	94.09	96.70	99.31	101.92
9	19	13	35.71	46.25	49.97	53.20	60.04	59.90	63.28	67.17	70.78	73.13	66.42	65.91	72.00	74.35	79.99	82.29	84.59	86.89	89.19	91.49	93.58	95.66	97.75	99.83	101.92
9	19	14	36.15	46.91	50.59	55.23	61.67	61.07	63.55	71.48	71.71	75.70	66.47	65.96	71.85	76.67	83.86	85.50	87.14	88.79	90.43	92.07	94.50	96.93	99.35	101.78	104.21
9	19	15	37.49	47.20	52.71	55.74	63.83	61.49	64.74	78.92	79.46	75.98	67.19	66.38	71.38	78.50	82.27	84.88	87.49	90.11	92.72	95.33	97.58	99.83	102.08	104.33	106.58
9	19	16	38.75	51.79	56.02	54.64	63.80	61.81	66.20	87.50	85.99	79.43	67.50	67.04	72.34	81.78	84.61	86.88	89.15	91.42	93.69	95.96	98.69	101.42	104.16	106.89	109.62
9	19	17	39.45	56.05	53.97	53.85	64.79	61.99	68.51	87.44	85.99	75.33	67.60	67.81	73.93	84.19	82.59	85.34	88.09	90.84	93.59	96.34	99.04	101.74	104.43	107.13	109.83
9	19	18	40.02	53.12	51.20	53.85	63.23	61.49	68.47	74.26	76.71	74.87	67.92	67.87	76.35	78.19	82.03	84.87	87.71	90.54	93.38	96.22	98.21	100.21	102.20	104.20	106.19
9	19	19	39.80	46.40	50.54	53.20	62.86	60.36	64.90	68.98	71.47	74.09	66.82	67.03	74.48	76.16	81.98	84.01	86.04	88.08	90.11	92.14	94.55	96.96	99.37	101.78	104.19
9	19	20	40.25	46.44	50.54	55.23	62.86	60.41	65.07	69.10	72.13	74.76	66.47	67.54	74.91	76.41	89.71	90.18	90.65	91.13	91.60	92.07	94.49	96.92	99.34	101.77	104.19
9	19	21	39.88	45.41	48.35	51.91	61.68	59.62	62.37	66.50	69.65	72.48	66.47	67.79	72.42	74.40	81.03	82.90	84.77	86.63	88.50	90.37	92.68	94.99	97.30	99.61	101.92
9	19	22	36.33	43.24	45.57	47.56	58.44	57.54	60.30	62.79	65.56	67.96	64.98	65.96	69.46	72.90	76.78	78.91	81.04	83.18	85.31	87.44	90.25	93.05	95.86	98.66	101.47
9	19	23	32.83	39.83	40.84	42.66	56.98	56.14	59.37	61.02	62.85	66.41	62.74	64.66	68.01	70.23	74.11	75.96	77.81	79.65	81.50	83.35	86.00	88.65	91.30	93.95	96.60
9	19	24	29.63	34.41	36.98	37.92	54.07	55.13	56.54	57.41	58.68	62.10	60.56	62.17	65.57	68.17	71.60	73.27	74.95	76.62	78.30	79.97	82.50	85.02	87.55	90.07	92.60
9	20	1	28.36	32.40	34.46	32.90	52.54	53.16	54.49	54.93	55.78	58.19	57.76	59.51	62.87	64.52	67.40	69.20	71.00	72.80	74.60	76.40	78.66	80.92	83.18	85.44	87.70

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	20	2	26.80	29.41	32.95	31.96	50.70	52.63	52.84	53.53	54.46	57.54	57.06	58.49	61.55	61.93	66.08	67.77	69.46	71.15	72.84	74.53	76.59	78.65	80.70	82.76	84.82
9	20	3	26.59	28.80	32.07	30.82	50.96	52.09	52.25	53.12	53.82	56.71	57.43	57.67	60.86	61.16	65.19	66.95	68.72	70.48	72.25	74.01	75.90	77.79	79.69	81.58	83.47
9	20	4	26.65	28.59	31.82	30.81	50.84	51.57	52.10	52.81	53.79	56.34	57.06	58.17	60.09	60.85	64.99	66.78	68.57	70.35	72.14	73.93	75.63	77.33	79.02	80.72	82.42
9	20	5	28.47	29.01	32.22	31.71	50.84	51.40	52.94	53.64	54.18	56.87	55.00	59.75	60.08	61.74	65.64	67.32	69.00	70.68	72.36	74.04	76.07	78.10	80.14	82.17	84.20
9	20	6	29.56	32.47	35.36	35.11	51.19	51.64	55.34	55.64	57.21	58.78	57.00	62.06	63.02	65.61	67.92	69.96	72.01	74.05	76.10	78.14	80.25	82.37	84.48	86.60	88.71
9	20	7	31.47	34.07	37.59	37.75	52.23	52.26	56.83	58.13	59.40	61.21	57.21	63.69	65.25	68.17	70.84	72.80	74.76	76.71	78.67	80.63	83.14	85.65	88.17	90.68	93.19
9	20	8	34.67	36.86	40.01	40.08	52.72	53.72	57.93	60.51	62.83	63.50	58.09	65.29	68.01	69.73	72.77	74.90	77.03	79.16	81.29	83.42	85.80	88.18	90.56	92.94	95.32
9	20	9	36.69	40.30	42.13	42.17	53.57	54.56	59.79	61.62	64.24	64.58	60.25	66.59	68.97	70.14	73.97	76.22	78.47	80.73	82.98	85.23	87.54	89.84	92.15	94.45	96.76
9	20	10	38.76	41.53	44.98	45.16	55.87	55.52	61.28	62.80	65.48	66.56	61.90	67.96	70.17	70.97	75.93	78.06	80.20	82.33	84.47	86.60	88.93	91.27	93.60	95.94	98.27
9	20	11	41.63	44.02	46.65	46.19	56.69	56.27	62.21	64.31	68.00	68.02	64.05	69.57	71.03	72.04	76.99	79.37	81.75	84.14	86.52	88.90	90.92	92.95	94.97	97.00	99.02
9	20	12	42.58	44.68	48.82	47.43	56.87	57.10	62.50	65.95	69.29	69.88	64.99	70.01	71.77	72.66	79.63	81.80	83.96	86.13	88.29	90.46	92.45	94.45	96.44	98.44	100.43
9	20	13	43.25	46.10	52.13	48.46	57.45	58.15	64.74	68.26	72.42	73.13	66.15	69.86	71.94	73.86	81.03	83.73	86.43	89.14	91.84	94.54	96.02	97.50	98.97	100.45	101.93
9	20	14	44.05	49.68	54.00	51.65	58.65	58.93	66.62	71.90	77.32	74.50	66.42	69.39	74.04	76.16	86.36	88.40	90.44	92.49	94.53	96.57	98.24	99.91	101.59	103.26	104.93
9	20	15	44.15	58.97	55.09	56.46	59.61	59.93	69.62	87.42	77.91	98.05	67.14	69.54	84.90	79.65	105.10	103.22	101.34	99.45	97.57	95.69	98.23	100.78	103.32	105.87	108.41
9	20	16	50.91	59.02	55.09	55.26	60.09	60.42	73.92	95.26	78.65	84.34	67.61	70.71	101.29	81.02	94.79	94.96	95.13	95.31	95.48	95.65	98.65	101.65	104.66	107.66	110.66
9	20	17	53.85	52.15	55.02	53.30	60.31	60.97	69.62	85.85	78.71	94.51	68.43	71.93	101.29	81.27	129.39	122.64	115.89	109.15	102.40	95.65	98.44	101.22	104.01	106.79	109.58
9	20	18	50.74	50.12	54.09	49.89	60.04	60.97	67.19	76.70	76.40	79.42	68.48	73.75	81.48	79.49	95.30	95.34	95.38	95.41	95.45	95.49	97.96	100.42	102.89	105.35	107.82
9	20	19	43.99	46.41	54.09	48.50	58.76	60.23	64.99	70.16	75.46	73.05	67.70	71.93	74.04	76.00	80.97	83.68	86.40	89.11	91.83	94.54	96.43	98.33	100.22	102.12	104.01
9	20	20	44.05	46.56	54.84	48.61	58.51	61.23	65.42	73.06	78.22	73.05	66.47	72.23	75.17	75.67	79.63	82.68	85.74	88.79	91.85	94.90	96.72	98.54	100.37	102.19	104.01
9	20	21	42.83	45.39	50.07	47.59	58.03	60.40	62.83	68.77	72.25	70.30	66.47	69.17	72.18	74.10	77.38	80.32	83.26	86.19	89.13	92.07	94.05	96.03	98.00	99.98	101.96
9	20	22	38.02	42.52	46.21	45.45	56.53	58.76	60.87	64.15	67.60	67.57	64.98	66.59	70.95	70.62	75.64	78.22	80.80	83.38	85.96	88.54	90.70	92.86	95.03	97.19	99.35
9	20	23	35.54	38.51	42.03	40.47	54.27	56.39	58.63	61.36	64.49	65.96	62.74	66.42	68.01	69.67	72.81	75.22	77.64	80.05	82.47	84.88	86.93	88.98	91.02	93.07	95.12
9	20	24	31.41	33.90	37.97	37.53	52.99	54.98	56.97	57.44	59.62	62.60	60.53	64.06	65.64	66.64	69.29	71.67	74.05	76.43	78.81	81.19	83.36	85.53	87.69	89.86	92.03
9	21	1	28.84	31.85	33.78	34.53	50.01	52.71	55.06	55.06	56.08	59.29	57.98	61.03	62.71	64.18	66.44	68.36	70.28	72.19	74.11	76.03	78.41	80.78	83.16	85.53	87.91
9	21	2	26.80	28.85	32.96	32.09	50.65	52.10	53.12	54.22	55.17	56.95	56.96	59.73	60.50	63.00	64.76	66.71	68.67	70.62	72.58	74.53	76.76	78.98	81.21	83.43	85.66
9	21	3	26.51	28.26	31.97	30.81	49.86	51.56	52.38	53.52	54.23	55.65	56.45	58.91	59.47	62.42	64.00	65.96	67.92	69.88	71.84	73.80	76.00	78.20	80.39	82.59	84.79
9	21	4	26.05	28.19	31.58	30.32	49.78	51.95	52.33	53.48	54.23	54.99	56.68	58.41	58.97	62.50	63.24	65.30	67.37	69.43	71.50	73.56	75.72	77.88	80.04	82.20	84.36
9	21	5	27.38	31.02	32.09	30.36	49.05	53.01	53.28	53.82	54.61	54.99	58.48	58.71	60.21	63.14	63.24	65.38	67.52	69.65	71.79	73.93	76.29	78.65	81.01	83.37	85.73
9	21	6	29.67	32.53	34.90	31.09	49.43	54.43	55.44	55.86	57.18	55.92	60.35	62.18	63.57	65.79	64.16	66.87	69.57	72.28	74.98	77.69	80.16	82.63	85.09	87.56	90.03
9	21	7	32.18	34.74	37.04	33.86	49.95	55.76	57.11	57.99	59.54	58.44	61.41	64.06	66.00	68.26	66.03	68.83	71.63	74.42	77.22	80.02	82.84	85.66	88.49	91.31	94.13
9	21	8	35.03	37.19	39.60	35.08	52.23	57.54	58.30	60.54	62.91	59.96	64.46	65.79	68.01	69.72	67.88	70.74	73.59	76.45	79.30	82.16	84.97	87.79	90.60	93.42	96.23
9	21	9	37.01	40.25	41.55	37.39	52.40	59.56	59.81	61.68	64.06	62.67	66.47	67.66	68.41	70.81	70.18	72.98	75.77	78.57	81.36	84.16	87.44	90.73	94.01	97.30	100.58
9	21	10	38.97	41.99	44.63	39.39	53.24	60.08	61.68	62.75	65.55	64.09	67.51	68.19	69.33	72.09	71.88	74.82	77.77	80.71	83.66	86.60	89.45	92.30	95.14	97.99	100.84
9	21	11	41.73	43.69	45.90	41.38	54.17	60.81	62.35	66.05	67.92	65.79	69.51	68.67	70.17	73.39	72.88	76.11	79.34	82.56	85.79	89.02	91.60	94.18	96.76	99.34	101.92
9	21	12	43.01	45.09	47.50	44.28	54.84	62.19	63.86	68.18	69.29	67.12	70.49	69.54	71.80	74.02	73.32	76.87	80.41	83.96	87.50	91.05	93.54	96.03	98.51	101.00	103.49
9	21	13	44.15	46.70	48.93	45.24	55.68	62.94	65.07	69.49	73.34	68.98	69.77	69.94	72.12	76.50	75.62	79.02	82.42	85.81	89.21	92.61	95.15	97.70	100.24	102.79	105.33
9	21	14	46.68	50.07	49.99	46.60	57.39	64.75	67.93	76.42	80.66	69.81	70.09	71.44	74.07	81.38	76.99	80.26	83.54	86.81	90.09	93.36	96.48	99.60	102.73	105.85	108.97
9	21	15	50.34	56.86	53.50	47.00	58.19	65.53	69.81	73.73	102.89	70.30	70.60	74.16	85.98	84.69	77.17	80.76	84.35	87.93	91.52	95.11	97.69	100.26	102.84	105.41	107.99
9	21	16	51.85	60.57	53.44	48.66	58.57	69.06	79.13	73.73	91.91	70.72	71.39	85.11	87.81	86.21	78.34	81.77	85.20	88.62	92.05	95.48	98.19	100.90	103.62	106.33	109.04
9	21	17	53.04	60.57	52.76	56.91	59.20	74.05	76.32	73.70	78.30	72.42	73.62	83.43	87.92	86.03	79.70	83.11	86.52	89.94	93.35	96.76	98.91	101.06	103.22	105.37	107.52
9	21	18	50.17	53.12	49.14	48.46	59.65	74.05	68.54	70.45	75.49	70.43	75.82	74.88	79.86	80.92	77.51	81.07	84.64	88.20	91.77	95.33	97.69	100.06	102.42	104.79	107.15
9	21	19	45.73	49.96	48.38	47.28	58.69	64.49	67.02	68.95	72.25	70.40	71.98	70.91	74.02	78.70	76.78	79.90	83.02	86.15	89.27	92.39	95.41	98.43	101.45	104.47	107.49
9	21	20	46.00	48.14	48.35	47.33	59.95	64.58	67.78	69.83	71.34	70.36	71.50	71.58	74.75	79.65	76.78	79.90	83.02	86.15	89.27	92.39	95.48	98.57	101.67	104.76	107.85
9	21	21	44.05	46.40	47.13	46.29	58.94	62.19	64.31	68.30	69.54	69.27	69.73	69.76	73.93	77.76	75.02	78.43	81.84	85.25	88.66	92.07	95.14	98.20	101.27	104.33	107.40
9	21	22	39.32	42.74	45.59	43.36	57.70	59.69	61.52	64.81	66.77	66.38	67.14	67.51	70.56	73.73	72.95	76.54	80.13	83.72	87.31	90.90	93.10	95.31	97.51	99.72	101.92
9	21	23	35.88	38.31	41.34	38.54	55.07	58.28	59.66	61.69	63.76	63.51	66.00	66.33	67.95	71.00	71.40	74.27	77.14	80.00	82.87	85.74	88.74	91.74	94.73	97.73	100.73
9	21	24	31.80	33.95	37.50	35.75	53.37	55.85	57.51	58.38	59.53	60.44	62.03	63.67	65.30	68.82	69.42	71.69	73.95	76.22	78.48	80.75	83.55	86.34	89.14	91.93	94.73
9	22	1	28.98	31.89	34.90	31.91	51.98	54.16	55.06	55.58	56.57	57.33	59.64	60.85	62.48	64.84	65.60	67.79	69.98	72.16	74.35	76.54	79.00	81.46	83.93	86.39	88.85
9	22	2	27.25	31.01	33.10	30.15	50.81	52.60	54.06	54.12	54.32	56.19	57.90	59.09	61.00	63.16	64.32	66.17	68.02	69.88	71.73	73.58	76.08	78.58	81.09	83.59	86.09
9	22	3	26.20	28.45	31.66	29.07	50.05	51.56	52.89	53.53	53.78	54.98	57.38	58.58	60.10	62.42	63.16	64.90	66.63	68.37	70.10	71.84	74.47	77.09	79.72	82.34	84.97
9	22	4	26.05	28.45	30.88	28.51	49.46	51.62	52.84	53.38	53.33	53.54	56.97	58.10	60.10	61.92	60.81	62.41	64.00	65.60	67.19	68.79	71.92	75.05	78.19	81.32	84.45
9	22	5	28.29	31.30	30.84	28.31	51.26	52.09	53.83	53.73	53.33	53.05	57.36	58.97	61.44	62.40	60.38	61.98	63.59	65.19	66.80	68.40	71.74	75.07	78.41	81.74	85.08
9	22	6	30.28	32.47	32.09	28.75	53.01	54.24	55.83	55.93	53.82	53.91	60.36	62.60	63.58	65.68	60.99	63.17	65.34	67.52	69.69	71.87	75.47	79.07	82.66	86.26	89.86
9	22	7	32.90	34.13	34.16	29.41	54.00	56.04	57.33	58.45	55.96	55.26	61.78	63.85	66.08	68.22	63.06	65.42	67.79	70.15	72.52	74.88	78.72	82.56	86.40	90.24	94.08
9	22	8	35.44	37.25	35.58	32.90	56.78	57.16	58.87	60.10	57.63	57.93	64.07	65.86	68.27	69.71	66.20	68.58	70.97	73.35	75.74	78.12	81.82	85.52	89.21	92.91	96.61
9	22	9	36.69	40.60	37.64	34.58	57.90	58.51	61.28	61.16	59.54	59.46	66.47	66.38	69.53	70.23	68.74	71.11	73.48	75.84	78.21	80.58	84.32	88.05	91.79	95.52	99.26
9	22	10	39.00	42.12	41.26	36.60	58.46	59.56	62.34	62.66	62.97	61.20	67.14	67.37	70.71	72.22	70.37	73.02	75.68	78.33	80.99	83.64	87.25	90.86	94.48	98.09	101.70
9	22	11	41.59	44.44	43.29	38.04	59.41	60.37	63.86	63.96	63.87	62.67	67.61	68.42	72.32	73.30	70.84	73.79	76.74	79.68	82.63	85.58	88.85	92.12	95.38	98.65	101.92
9	22	12	42.81	46.40	45.43	39.92	60.43	61.96	65.21	66.04	66.00	63.81	68.88	68.80	73.11	74.74	71.45	74.74	78.03	81.33	84.62	87.91	90.71	93.51	96.32	99.12	101.92

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	22	13	45.09	50.47	46.35	41.94	60.92	63.64	66.96	67.57	68.07	64.70	69.56	69.94	74.39	76.25	72.29	75.80	79.30	82.81	86.31	89.82	92.27	94.72	97.18	99.63	102.08
9	22	14	48.04	62.83	47.84	42.32	62.98	65.80	71.91	68.70	69.32	65.30	71.17	72.16	88.35	82.40	72.94	76.56	80.18	83.81	87.43	91.05	93.77	96.49	99.20	101.92	104.64
9	22	15	49.83	63.49	48.63	42.71	67.31	74.68	75.42	74.99	69.06	65.79	74.87	81.92	80.65	107.02	72.94	76.73	80.52	84.30	88.09	91.88	95.68	99.48	103.29	107.09	110.89
9	22	16	50.32	63.98	49.14	43.57	68.29	102.83	75.43	72.37	69.52	66.54	88.43	85.11	79.74	90.97	73.65	77.45	81.24	85.04	88.83	92.63	96.57	100.51	104.46	108.40	112.34
9	22	17	50.34	60.14	53.28	44.39	69.33	86.95	75.88	71.59	75.50	66.54	84.24	85.00	82.79	87.99	73.84	77.92	82.00	86.09	90.17	94.25	97.41	100.56	103.72	106.87	110.03
9	22	18	49.40	59.63	48.38	45.57	67.29	71.30	70.45	69.36	69.50	66.54	73.45	75.04	76.64	79.80	73.22	76.99	80.75	84.52	88.28	92.05	95.43	98.82	102.20	105.59	108.97
9	22	19	47.79	48.58	47.83	44.75	62.64	65.29	68.68	67.70	69.30	66.54	70.79	71.72	76.40	76.74	72.94	76.61	80.28	83.95	87.62	91.29	93.79	96.29	98.80	101.30	103.80
9	22	20	47.30	48.58	47.86	46.73	62.63	65.68	70.56	67.95	69.32	66.77	71.17	72.21	79.71	76.50	73.82	77.31	80.81	84.30	87.80	91.29	93.88	96.47	99.07	101.66	104.25
9	22	21	44.85	46.95	46.47	44.75	60.45	62.86	66.71	66.12	68.47	66.54	69.77	70.01	76.17	75.38	72.91	76.54	80.17	83.79	87.42	91.05	93.60	96.15	98.70	101.25	103.80
9	22	22	39.57	43.41	43.86	40.47	57.99	59.94	62.38	62.74	64.97	64.04	67.41	67.52	72.32	72.52	71.40	74.66	77.91	81.17	84.42	87.68	90.53	93.38	96.22	99.07	101.92
9	22	23	35.97	39.96	39.84	37.81	56.78	57.73	60.94	61.16	61.95	62.19	65.44	66.59	70.27	69.74	70.20	72.84	75.48	78.13	80.77	83.41	86.28	89.15	92.01	94.88	97.75
9	22	24	31.92	34.11	36.99	35.60	53.86	55.81	57.87	57.08	58.64	60.18	61.96	64.57	66.74	68.35	67.64	70.18	72.72	75.26	77.80	80.34	83.10	85.86	88.61	91.37	94.13
9	23	1	29.05	31.97	33.49	34.98	52.23	54.37	55.39	55.15	55.44	59.37	59.62	61.27	63.41	64.71	65.63	67.73	69.83	71.93	74.03	76.13	78.70	81.28	83.85	86.43	89.00
9	23	2	28.23	28.93	32.07	34.24	50.13	52.60	54.20	53.54	54.24	58.29	57.47	59.99	61.59	62.80	64.92	66.74	68.56	70.37	72.19	74.01	76.26	78.51	80.76	83.01	85.26
9	23	3	26.81	28.28	30.63	33.23	49.76	52.18	53.42	52.75	53.67	57.74	56.88	59.49	60.91	61.29	64.72	66.04	67.37	68.69	70.02	71.34	73.89	76.45	79.00	81.56	84.11
9	23	4	26.66	28.28	29.72	33.05	49.78	52.11	52.90	51.76	52.78	57.19	56.26	59.10	60.31	59.65	64.62	65.39	66.16	66.92	67.69	68.46	71.01	73.56	76.12	78.67	81.22
9	23	5	28.79	28.64	29.69	34.92	50.44	52.56	53.22	51.46	52.84	58.97	57.43	60.11	60.60	60.24	65.83	66.27	66.72	67.16	67.61	68.05	70.43	72.81	75.19	77.57	79.95
9	23	6	30.20	32.30	30.07	38.09	52.99	54.38	55.62	52.94	53.34	62.04	60.52	62.60	63.40	61.56	68.10	68.51	68.91	69.32	69.72	70.13	72.89	75.64	78.40	81.15	83.91
9	23	7	32.18	34.11	30.79	41.81	53.86	56.20	57.10	54.49	53.69	65.09	61.66	64.32	65.50	63.90	70.71	70.79	70.86	70.94	71.01	71.09	74.32	77.55	80.77	84.00	87.23
9	23	8	35.45	36.81	33.49	46.46	56.59	57.41	58.63	55.70	55.65	66.55	64.19	65.98	68.16	65.61	73.80	73.96	74.13	74.29	74.46	74.62	77.79	80.96	84.13	87.30	90.47
9	23	9	36.86	39.96	35.82	47.48	57.90	58.24	60.87	57.09	57.80	68.02	65.60	67.58	69.03	68.13	76.17	76.69	77.22	77.74	78.27	78.79	81.84	84.90	87.95	91.01	94.06
9	23	10	39.01	41.76	37.66	49.00	58.39	59.56	62.09	59.54	59.36	70.77	66.42	68.44	70.44	69.74	77.14	77.97	78.80	79.64	80.47	81.30	84.50	87.69	90.89	94.08	97.28
9	23	11	42.99	43.95	39.42	49.62	59.55	60.73	63.04	61.24	61.42	71.77	67.24	70.23	71.61	69.74	78.23	79.06	79.90	80.73	81.57	82.40	85.43	88.47	91.50	94.54	97.57
9	23	12	44.79	45.10	40.98	50.39	60.67	62.16	65.07	62.40	62.54	72.16	68.40	71.46	73.11	71.69	78.45	79.43	80.41	81.39	82.37	83.35	86.53	89.72	92.90	96.09	99.27
9	23	13	47.90	46.40	41.86	51.38	61.91	64.46	66.56	63.70	63.45	74.99	70.03	72.66	74.22	73.30	80.91	81.57	82.23	82.88	83.54	84.20	87.54	90.87	94.21	97.54	100.88
9	23	14	52.57	48.58	42.57	59.72	67.56	66.57	70.28	65.18	63.96	83.15	71.11	83.87	75.03	74.57	98.50	95.80	93.11	90.41	87.72	85.02	88.40	91.78	95.17	98.55	101.93
9	23	15	55.64	54.32	42.84	53.89	68.35	74.63	95.27	66.05	64.79	79.36	80.81	83.87	85.22	75.13	95.30	93.49	91.68	89.87	88.06	86.25	89.39	92.52	95.66	98.79	101.93
9	23	16	54.11	53.71	44.55	53.55	72.63	77.96	83.58	66.48	65.17	77.53	81.51	82.60	76.29	75.36	119.27	112.81	106.35	99.88	93.42	86.96	90.14	93.32	96.50	99.68	102.86
9	23	17	50.34	54.95	45.26	52.71	73.79	75.44	73.53	66.72	65.39	75.47	83.54	80.67	76.96	78.25	89.07	88.68	88.29	87.90	87.51	87.12	90.46	93.79	97.13	100.46	103.80
9	23	18	50.71	47.81	45.45	52.58	68.15	70.92	69.57	66.26	65.47	73.33	75.09	76.44	74.18	75.13	80.90	82.11	83.32	84.53	85.74	86.95	89.95	92.94	95.94	98.93	101.93
9	23	19	46.64	46.41	44.65	52.40	62.81	65.80	66.75	65.81	65.64	75.21	71.16	73.83	73.53	75.13	82.03	83.16	84.29	85.42	86.55	87.68	90.53	93.38	96.23	99.08	101.93
9	23	20	47.18	46.70	46.39	74.28	63.41	65.95	66.75	66.03	66.17	77.29	71.17	82.76	73.19	75.13	103.65	100.50	97.35	94.21	91.06	87.91	90.71	93.52	96.32	99.13	101.93
9	23	21	44.90	45.89	45.59	52.22	60.78	64.52	65.42	64.57	65.21	73.50	69.61	74.87	72.49	73.75	80.99	82.07	83.15	84.24	85.32	86.40	89.51	92.61	95.72	98.82	101.93
9	23	22	40.97	43.44	41.64	48.63	58.17	60.31	62.36	61.62	62.83	68.12	66.47	70.23	70.99	71.11	76.53	77.62	78.71	79.79	80.88	81.97	85.80	89.63	93.47	97.30	101.13
9	23	23	36.35	39.27	37.59	45.80	57.56	58.36	60.91	58.97	59.26	66.55	64.93	68.42	68.00	69.68	73.17	74.55	75.94	77.32	78.71	80.09	83.26	86.43	89.61	92.78	95.95
9	23	24	32.03	34.34	35.19	38.82	54.27	56.05	57.87	56.85	57.27	63.74	62.23	65.06	65.50	67.41	70.22	71.57	72.92	74.27	75.62	76.97	80.05	83.13	86.20	89.28	92.36
9	24	1	29.03	31.96	34.97	35.06	52.63	54.38	55.43	55.06	56.56	59.86	59.96	61.79	62.53	64.63	67.40	69.13	70.85	72.58	74.30	76.03	78.50	80.98	83.45	85.93	88.40
9	24	2	26.90	29.21	34.13	32.71	51.22	53.01	54.18	52.70	55.41	57.54	58.33	60.24	60.31	62.78	65.83	67.49	69.14	70.80	72.45	74.11	76.29	78.47	80.66	82.84	85.02
9	24	3	26.28	28.28	33.59	31.93	49.90	52.13	53.43	51.69	54.69	56.28	57.76	59.30	58.95	61.00	64.80	66.43	68.05	69.68	71.30	72.93	74.74	76.55	78.36	80.17	81.98
9	24	4	26.05	27.99	33.55	31.51	49.96	52.08	52.88	50.56	54.34	55.95	57.74	59.00	57.69	57.76	64.14	65.91	67.68	69.44	71.21	72.98	72.73	72.49	72.24	72.00	71.75
9	24	5	27.04	27.72	34.96	32.48	51.34	52.96	52.71	50.26	55.54	57.50	58.77	59.09	57.42	57.76	65.07	67.16	69.25	71.34	73.43	75.52	74.73	73.94	73.15	72.36	71.57
9	24	6	30.05	28.36	37.88	36.49	53.10	54.38	53.32	50.89	58.33	61.77	60.57	62.60	59.13	59.73	68.52	70.62	72.71	74.81	76.90	79.00	78.41	77.82	77.23	76.64	76.05
9	24	7	31.69	31.45	42.43	39.25	55.07	55.85	54.70	51.69	62.67	64.39	62.24	63.83	61.64	60.85	70.71	73.12	75.54	77.95	80.37	82.78	82.39	82.00	81.62	81.23	80.84
9	24	8	34.60	32.58	45.06	44.29	57.61	57.24	55.91	54.46	64.98	66.55	64.46	65.96	63.16	63.24	73.62	76.86	80.10	83.34	86.58	89.82	89.00	88.18	87.37	86.55	85.73
9	24	9	36.69	34.42	46.35	47.90	58.17	58.51	57.33	56.23	66.83	68.35	66.35	67.17	65.59	65.84	76.82	79.87	82.91	85.96	89.00	92.05	91.60	91.15	90.71	90.26	89.81
9	24	10	39.60	37.40	47.02	49.07	58.89	59.74	59.65	57.42	67.95	70.15	67.14	68.32	67.94	68.11	77.18	80.15	83.13	86.10	89.08	92.05	92.32	92.59	92.87	93.14	93.41
9	24	11	42.21	39.86	49.33	49.07	60.61	61.73	60.97	58.83	68.81	71.08	69.29	69.81	67.94	69.35	78.40	81.13	83.86	86.60	89.33	92.06	92.66	93.25	93.85	94.44	95.04
9	24	12	43.81	41.25	50.19	49.70	62.19	63.57	62.99	59.54	69.25	71.30	70.62	71.10	68.09	69.67	79.07	81.67	84.27	86.86	89.46	92.06	92.77	93.47	94.18	94.88	95.59
9	24	13	45.26	43.41	51.98	49.49	64.97	65.68	64.48	60.77	71.56	72.20	72.07	72.67	69.57	69.69	79.49	82.02	84.55	87.09	89.62	92.15	92.94	93.74	94.53	95.33	96.12
9	24	14	47.80	44.59	57.35	49.98	67.80	71.37	65.50	61.24	89.72	73.04	78.10	78.06	71.13	69.82	80.70	83.75	86.79	89.84	92.88	95.93	96.32	96.70	97.09	97.47	97.86
9	24	15	50.34	44.90	53.97	50.22	74.54	71.04	66.75	61.77	79.74	73.57	73.06	91.82	71.83	70.24	81.95	84.58	87.20	89.83	92.45	95.08	95.80	96.52	97.24	97.96	98.68
9	24	16	52.61	45.85	52.46	49.90	72.34	71.58	67.27	62.54	77.62	73.42	74.00	91.34	72.20	70.81	79.72	84.28	88.85	93.41	97.98	102.54	101.90	101.26	100.62	99.98	99.34
9	24	17	53.52	47.86	52.73	49.89	72.03	71.60	68.23	62.68	77.62	73.72	73.99	85.84	72.66	70.95	82.03	86.60	91.18	95.75	100.33	104.90	103.79	102.68	101.56	100.45	99.34
9	24	18	47.02	45.08	52.46	49.55	68.69	67.43	66.75	63.05	75.66	72.99	73.06	75.09	71.95	70.98	78.65	82.26	85.87	89.49	93.10	96.71	97.29	97.87	98.45	99.03	99.61
9	24	19	44.33	45.09	52.71	48.61	66.84	67.43	65.44	62.54	75.38	70.65	72.35	71.93	71.77	70.81	77.18	80.61	84.04	87.48	90.91	94.34	95.39	96.44	97.49	98.54	99.59
9	24	20	44.51	45.12	58.26	49.38	65.28	68.08	65.76	63.08	82.21	72.99	73.68	71.52	71.77	71.00	78.89	83.20	87.51	91.82	96.13	100.44	100.11	99.78	99.46	99.13	98.80
9	24	21	44.05	44.46	53.01	49.38	62.77	64.83	64.75	62.49	72.93	72.99	71.21	71.48	71.59	69.87	78.40	81.79	85.19	88.58	91.98	95.37	95.93	96.49	97.06	97.62	98.18
9	24	22	41.39	41.41	47.30	47.21	58.92	60.32	62.37	60.19	66.99	68.35	68.60	68.65	68.17	68.57	76.02	79.13	82.24	85.35	88.46	91.57	92.29	93.01	93.74	94.46	95.18
9	24	23	36.30	36.58	45.32	43.58	57.87	57.82	59.61	57.56	63.77	67.50	66.47	66.59	66.68	66.61	73.97	76.56	79.14	81.73	84.31	86.90	87.84	88.78	89.71	90.65	91.59

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	24	24	32.33	33.68	38.74	38.12	54.70	55.85	57.64	55.93	59.16	64.34	63.30	64.93	64.92	64.18	70.72	72.81	74.90	76.98	79.07	81.16	82.73	84.30	85.86	87.43	89.00
9	25	1	29.11	31.73	35.42	34.23	52.32	54.27	55.87	56.86	56.01	59.58	60.29	61.95	62.27	63.91	67.40	69.46	71.52	73.57	75.63	77.69	79.98	82.26	84.55	86.83	89.12
9	25	2	27.73	28.03	33.45	32.11	50.84	52.44	54.21	55.00	55.07	57.53	58.66	59.92	59.53	61.92	65.49	67.25	69.01	70.76	72.52	74.28	76.57	78.87	81.16	83.46	85.75
9	25	3	26.61	27.14	33.10	31.73	49.90	51.58	53.29	54.15	54.34	56.52	57.61	59.11	57.88	60.92	64.84	66.32	67.81	69.29	70.78	72.26	74.67	77.09	79.50	81.92	84.33
9	25	4	25.94	26.66	32.83	31.36	49.78	51.42	52.49	53.89	54.21	56.23	57.35	58.06	55.28	60.85	64.16	65.55	66.93	68.32	69.70	71.09	73.71	76.33	78.96	81.58	84.20
9	25	5	25.78	26.18	33.41	32.62	51.65	52.18	52.11	55.19	54.91	57.17	57.79	57.99	54.68	62.89	65.09	66.64	68.19	69.75	71.30	72.85	75.58	78.31	81.04	83.77	86.50
9	25	6	26.62	26.74	36.40	36.49	53.09	54.07	52.51	57.34	57.36	61.88	60.21	58.88	55.71	65.84	68.86	70.72	72.57	74.43	76.28	78.14	80.84	83.54	86.24	88.94	91.64
9	25	7	28.91	29.14	39.83	39.39	55.22	55.90	53.09	60.07	61.06	64.74	62.18	60.84	57.45	69.06	70.89	73.03	75.17	77.31	79.45	81.59	84.52	87.46	90.39	93.33	96.26
9	25	8	30.05	31.20	43.70	42.66	57.87	56.97	54.49	62.79	62.91	66.37	64.46	62.69	61.17	71.72	73.02	75.74	78.46	81.17	83.89	86.61	89.83	93.04	96.26	99.47	102.69
9	25	9	32.31	32.84	46.03	45.80	58.65	57.82	56.45	64.26	65.76	66.62	66.00	64.86	63.49	73.35	74.98	78.09	81.20	84.31	87.42	90.53	92.87	95.21	97.55	99.89	102.23
9	25	10	35.41	34.24	47.02	47.59	60.43	59.34	58.04	65.22	67.28	68.33	67.18	66.55	65.01	74.94	75.81	78.96	82.11	85.27	88.42	91.57	93.84	96.11	98.38	100.65	102.92
9	25	11	36.69	35.82	48.93	48.61	61.91	60.40	59.25	65.91	68.26	69.50	68.96	66.59	66.13	75.44	76.87	79.91	82.94	85.98	89.01	92.05	95.00	97.95	100.89	103.84	106.79
9	25	12	39.39	38.33	50.30	49.15	64.09	62.24	60.14	66.03	68.47	69.96	70.97	68.56	66.60	75.55	76.78	79.83	82.89	85.94	89.00	92.05	95.06	98.08	101.09	104.11	107.12
9	25	13	40.25	40.28	49.14	49.44	66.99	64.09	61.75	66.86	69.90	70.22	71.49	69.52	67.47	76.20	76.87	79.91	82.94	85.98	89.01	92.05	95.40	98.74	102.09	105.43	108.78
9	25	14	42.80	40.67	52.57	50.46	73.61	68.90	62.61	76.46	70.03	72.92	72.36	70.29	67.81	78.33	77.44	80.36	83.28	86.21	89.13	92.05	96.05	100.05	104.06	108.06	112.06
9	25	15	42.11	41.20	53.56	51.35	77.61	77.32	63.07	83.90	69.85	72.68	79.03	71.42	68.00	90.31	77.21	80.18	83.15	86.11	89.08	92.05	96.42	100.79	105.16	109.53	113.90
9	25	16	47.07	41.39	53.02	51.98	77.28	71.05	63.88	83.61	69.79	80.48	74.00	72.76	68.01	95.35	79.99	82.57	85.15	87.74	90.32	92.90	99.72	106.54	113.36	120.18	127.00
9	25	17	54.80	41.54	49.54	51.98	77.75	66.91	63.98	78.59	72.97	80.90	72.62	82.55	68.15	94.48	77.20	80.34	83.48	86.62	89.76	92.90	99.72	106.54	113.35	120.17	126.99
9	25	18	43.08	41.57	48.99	51.26	70.75	65.80	63.88	69.90	70.00	73.18	70.84	71.46	68.19	78.51	78.63	81.31	84.00	86.68	89.37	92.05	96.12	100.19	104.26	108.33	112.40
9	25	19	42.75	41.61	48.14	49.29	66.45	64.77	62.64	73.46	68.26	70.93	70.59	70.96	68.01	76.34	76.78	79.74	82.70	85.67	88.63	91.59	95.34	99.09	102.85	106.60	110.35
9	25	20	43.25	43.41	52.25	49.83	65.70	64.52	63.88	78.22	68.47	71.38	69.99	71.35	68.15	78.87	76.77	79.83	82.88	85.94	88.99	92.05	96.31	100.58	104.84	109.11	113.37
9	25	21	42.45	42.40	50.82	49.54	62.96	63.09	62.07	66.99	67.97	71.23	69.24	71.16	68.00	76.19	76.51	79.52	82.54	85.55	88.57	91.58	95.07	98.56	102.04	105.53	109.02
9	25	22	37.75	38.38	47.02	47.10	58.89	59.93	59.63	65.10	65.40	67.75	66.78	68.80	67.94	74.33	74.11	77.38	80.66	83.93	87.21	90.48	93.30	96.13	98.95	101.78	104.60
9	25	23	34.40	34.24	43.63	42.94	58.27	57.78	57.95	62.42	63.62	67.30	64.46	65.91	66.68	71.30	72.78	75.80	78.82	81.83	84.85	87.87	90.32	92.77	95.23	97.68	100.13
9	25	24	30.90	32.28	38.53	38.44	55.12	55.91	56.11	59.26	58.51	64.12	62.33	63.85	64.08	68.72	69.93	72.17	74.41	76.65	78.89	81.13	83.76	86.39	89.01	91.64	94.27
9	26	1	28.76	33.15	35.24	34.51	52.75	54.26	56.35	55.86	55.63	60.06	59.62	61.63	63.23	65.03	66.92	68.86	70.81	72.75	74.70	76.64	79.12	81.60	84.08	86.56	89.04
9	26	2	26.22	31.46	33.33	32.31	50.40	52.09	54.97	54.46	54.36	57.54	57.25	60.11	61.09	62.61	64.57	66.46	68.35	70.24	72.13	74.02	76.22	78.42	80.62	82.82	85.02
9	26	3	25.52	30.88	33.02	31.59	49.78	51.08	54.06	53.62	54.21	56.62	55.85	59.06	59.15	60.99	63.12	65.17	67.22	69.28	71.33	73.38	75.11	76.84	78.56	80.29	82.02
9	26	4	25.16	30.86	32.80	31.33	49.24	50.89	54.00	53.38	53.75	56.55	54.69	57.40	58.80	60.39	63.00	64.90	66.79	68.69	70.58	72.48	74.17	75.85	77.54	79.22	80.91
9	26	5	25.12	32.39	33.45	33.03	49.82	50.89	55.24	54.10	54.69	58.88	54.60	57.38	61.44	61.53	65.36	67.12	68.88	70.63	72.39	74.15	75.90	77.65	79.39	81.14	82.89
9	26	6	25.16	35.03	36.90	36.50	53.09	51.27	57.74	56.84	57.30	62.11	56.00	58.14	64.44	65.32	68.67	70.69	72.72	74.74	76.77	78.79	80.97	83.15	85.32	87.50	89.68
9	26	7	26.14	39.32	39.39	40.30	55.15	53.55	59.90	59.37	60.79	65.59	58.83	58.89	67.09	68.85	71.21	73.44	75.67	77.91	80.14	82.37	84.72	87.07	89.43	91.78	94.13
9	26	8	28.66	42.67	42.69	43.56	56.98	54.27	62.02	61.99	62.97	66.54	60.21	60.55	69.78	71.37	72.78	75.77	78.76	81.75	84.74	87.73	89.95	92.18	94.40	96.63	98.85
9	26	9	30.22	44.09	44.62	46.89	58.17	55.24	62.95	63.82	64.84	68.24	61.33	62.78	71.94	73.35	72.94	76.20	79.46	82.71	85.97	89.23	91.83	94.43	97.03	99.63	102.23
9	26	10	31.76	46.10	45.90	47.93	58.83	56.68	63.69	65.10	66.02	69.19	64.04	63.98	72.53	74.43	74.82	78.09	81.36	84.63	87.90	91.17	93.38	95.60	97.81	100.03	102.24
9	26	11	33.04	48.17	46.86	48.82	60.43	57.87	64.39	65.60	67.69	70.38	64.58	65.41	73.93	75.38	76.02	79.23	82.43	85.64	88.84	92.05	94.43	96.81	99.19	101.57	103.95
9	26	12	34.30	48.89	47.02	48.82	60.92	59.93	65.09	66.04	67.76	70.15	65.87	65.87	73.79	75.41	76.30	79.45	82.60	85.76	88.91	92.06	94.54	97.02	99.51	101.99	104.47
9	26	13	35.92	53.44	48.93	49.09	62.19	61.48	69.07	66.83	67.93	70.76	66.89	65.96	76.03	75.63	76.34	79.48	82.63	85.77	88.92	92.06	94.68	97.30	99.92	102.54	105.16
9	26	14	36.12	53.35	49.77	49.57	65.90	62.27	78.44	68.57	69.18	71.52	67.60	66.75	90.36	76.19	76.74	79.80	82.87	85.93	89.00	92.06	95.18	98.31	101.43	104.56	107.68
9	26	15	36.35	64.40	49.38	49.55	67.64	62.41	79.62	68.34	71.26	71.72	67.87	67.75	93.49	76.37	76.87	80.15	83.44	86.72	90.01	93.29	95.95	98.60	101.26	103.91	106.57
9	26	16	37.19	58.95	50.10	49.55	71.02	62.46	75.76	67.48	74.94	72.14	68.59	68.56	98.48	76.20	77.19	80.60	84.01	87.43	90.84	94.25	96.61	98.97	101.33	103.69	106.05
9	26	17	38.01	58.95	50.10	49.55	70.39	62.81	75.33	68.57	74.93	72.26	69.53	68.79	96.41	77.20	76.84	80.30	83.76	87.23	90.69	94.15	96.67	99.20	101.72	104.25	106.77
9	26	18	38.76	51.22	49.33	48.82	63.92	62.32	70.57	67.08	71.28	71.51	68.56	68.59	83.55	76.31	76.02	79.50	82.99	86.47	89.96	93.44	96.07	98.69	101.32	103.94	106.57
9	26	19	38.26	50.22	48.18	48.77	60.93	62.30	74.50	65.99	68.51	69.88	68.32	67.70	83.48	74.35	75.81	79.06	82.31	85.57	88.82	92.07	94.58	97.08	99.59	102.09	104.60
9	26	20	39.88	51.91	49.87	52.63	61.36	61.90	78.34	66.44	68.44	72.45	69.20	68.53	84.23	74.29	76.74	80.12	83.50	86.89	90.27	93.65	95.76	97.87	99.98	102.09	104.20
9	26	21	39.08	49.59	49.14	49.83	60.90	60.67	69.22	65.85	67.96	71.38	68.88	68.62	74.79	74.19	76.29	79.44	82.59	85.75	88.90	92.05	94.40	96.74	99.09	101.43	103.78
9	26	22	35.34	44.22	46.65	47.21	58.59	58.49	63.34	64.26	65.50	68.35	66.43	66.38	72.53	73.05	72.94	76.47	80.00	83.53	87.06	90.59	92.92	95.25	97.58	99.91	102.24
9	26	23	31.69	41.71	43.42	42.66	58.21	56.66	61.88	62.58	62.91	67.43	64.22	65.45	69.58	71.78	72.94	75.93	78.92	81.91	84.90	87.89	90.20	92.50	94.81	97.11	99.42
9	26	24	29.56	36.13	38.47	37.98	55.07	55.64	58.25	58.37	58.14	63.51	61.27	63.47	67.03	68.87	69.64	71.87	74.11	76.34	78.58	80.81	83.31	85.81	88.31	90.81	93.31
9	27	1	30.01	32.73	35.58	34.19	52.70	54.27	55.85	55.37	55.65	59.94	59.60	62.23	63.32	63.93	66.10	68.17	70.24	72.32	74.39	76.46	78.55	80.65	82.74	84.84	86.93
9	27	2	28.70	30.58	33.49	32.17	50.70	51.03	54.36	53.82	54.41	57.49	57.06	59.99	60.83	62.00	64.04	65.85	67.67	69.48	71.30	73.11	75.18	77.25	79.33	81.40	83.47
9	27	3	28.06	29.58	33.03	31.33	49.50	50.40	53.48	53.39	53.98	56.50	55.19	59.21	58.68	61.22	62.55	64.45	66.35	68.26	70.16	72.06	74.07	76.08	78.10	80.11	82.12
9	27	4	28.15	29.34	32.95	31.13	49.00	49.57	53.21	53.16	53.55	56.22	52.53	58.92	58.32	60.87	62.53	64.43	66.33	68.22	70.12	72.02	73.45	74.89	76.32	77.76	79.19
9	27	5	29.60	30.75	33.74	32.03	48.68	49.46	54.07	53.84	54.80	57.11	52.26	60.50	59.80	61.92	62.97	65.21	67.44	69.68	71.91	74.15	76.12	78.09	80.06	82.03	84.00
9	27	6	32.16	33.80	36.35	36.21	49.39	50.04	57.06	56.78	57.30	61.75	53.60	63.76	64.22	65.84	67.70	69.90	72.11	74.31	76.52	78.72	80.95	83.18	85.40	87.63	89.86
9	27	7	36.35	37.00	40.03	39.18	52.04	50.70	59.00	59.87	60.41	64.53	55.01	66.21	66.98	69.65	70.58	72.85	75.12	77.39	79.66	81.93	84.50	87.06	89.63	92.19	94.76
9	27	8	39.63	41.47	44.22	42.66	52.89	53.35	61.33	62.09	62.67	66.42	58.41	68.04	69.44	70.64	72.88	75.14	77.40	79.65	81.91	84.17	87.27	90.38	93.48	96.59	99.69
9	27	9	41.28	42.71	45.86	45.03	54.62	54.66	62.68	63.11	62.97	66.54	60.35	70.23	71.94	71.72	73.34	76.07	78.79	81.52	84.24	86.97	89.72	92.48	95.23	97.99	100.74
9	27	10	43.63	44.96	46.24	46.89	56.78	55.72	63.40	64.31	64.23	67.96	61.52	71.23	73.17	72.61	72.94	75.90	78.86	81.82	84.78	87.74	90.64	93.54	96.43	99.33	102.23

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	27	11	46.63	46.75	46.86	47.75	58.03	56.49	63.70	65.80	65.35	69.66	62.89	71.49	72.68	74.29	72.94	76.20	79.46	82.71	85.97	89.23	92.18	95.12	98.07	101.01	103.96
9	27	12	47.38	46.96	47.43	48.38	58.46	57.47	64.21	65.84	65.67	70.09	63.73	72.20	72.53	74.14	73.62	76.63	79.64	82.66	85.67	88.68	91.72	94.75	97.79	100.82	103.86
9	27	13	49.80	48.85	47.49	48.90	60.09	58.91	65.05	65.99	65.76	70.84	64.26	74.50	72.53	74.08	73.62	76.74	79.86	82.98	86.10	89.22	92.21	95.21	98.20	101.20	104.19
9	27	14	51.52	52.12	48.93	49.09	60.30	60.05	66.94	66.83	65.67	69.64	64.36	88.72	72.60	75.88	74.96	77.81	80.67	83.52	86.38	89.23	92.70	96.18	99.65	103.13	106.60
9	27	15	56.50	50.58	49.14	49.11	60.38	60.14	68.82	67.48	66.82	69.64	64.58	91.42	72.53	75.62	75.11	77.93	80.76	83.58	86.41	89.23	92.75	96.27	99.78	103.30	106.82
9	27	16	56.50	50.58	48.93	48.38	60.63	60.25	66.57	70.12	66.85	69.15	65.57	91.42	72.53	76.51	75.07	77.96	80.86	83.75	86.65	89.54	93.20	96.85	100.51	104.16	107.82
9	27	17	53.20	52.78	49.29	48.22	60.67	60.30	68.62	70.90	67.45	69.53	65.66	91.42	72.53	76.54	75.65	78.54	81.43	84.32	87.21	90.10	93.64	97.19	100.73	104.28	107.82
9	27	18	50.20	51.74	48.29	47.78	60.56	60.72	65.21	68.34	66.82	68.62	66.09	86.80	73.03	75.62	74.84	77.92	81.00	84.07	87.15	90.23	93.47	96.72	99.96	103.21	106.45
9	27	19	46.94	48.29	48.29	47.59	60.29	60.39	64.72	66.44	67.46	68.65	65.85	87.67	71.30	74.61	75.08	78.32	81.56	84.81	88.05	91.29	94.09	96.88	99.68	102.47	105.27
9	27	20	50.16	49.64	55.99	49.70	60.44	61.43	66.08	66.36	68.56	70.68	66.42	89.46	71.82	74.29	76.10	79.27	82.44	85.60	88.77	91.94	94.39	96.84	99.30	101.75	104.20
9	27	21	48.24	48.87	50.07	49.70	58.89	59.97	64.72	65.85	66.83	70.72	66.15	73.24	71.54	73.90	76.73	79.70	82.67	85.64	88.61	91.58	93.92	96.25	98.59	100.92	103.26
9	27	22	43.01	44.08	46.65	47.28	56.87	57.79	62.88	64.58	64.84	67.65	64.28	69.70	69.78	72.00	75.09	77.69	80.30	82.90	85.51	88.11	91.14	94.17	97.20	100.23	103.26
9	27	23	39.25	41.04	41.57	42.12	54.60	56.14	61.88	62.42	62.45	66.55	61.93	69.58	68.48	70.68	72.53	74.50	76.47	78.43	80.40	82.37	85.96	89.54	93.13	96.71	100.30
9	27	24	33.72	35.83	38.03	37.78	53.19	54.84	58.31	58.24	57.94	63.72	60.52	66.06	66.73	67.41	69.11	71.26	73.41	75.56	77.71	79.86	82.58	85.31	88.03	90.76	93.48
9	28	1	29.98	32.44	35.08	34.41	51.51	54.80	55.21	55.62	55.66	60.06	59.67	62.18	62.27	63.64	66.92	68.77	70.63	72.48	74.34	76.19	78.39	80.58	82.78	84.97	87.17
9	28	2	28.45	30.58	33.40	32.31	49.14	53.70	54.06	53.94	54.69	57.95	57.22	60.00	58.99	60.87	64.70	66.50	68.30	70.11	71.91	73.71	75.82	77.94	80.05	82.17	84.28
9	28	3	27.64	29.51	32.95	31.73	47.93	52.85	53.76	53.39	54.22	57.44	56.49	59.06	58.42	59.57	63.53	65.30	67.07	68.84	70.61	72.38	74.28	76.17	78.07	79.96	81.86
9	28	4	27.46	29.26	32.53	31.72	47.04	52.45	53.39	53.37	54.00	57.04	56.54	58.50	57.77	59.57	63.55	65.13	66.71	68.29	69.87	71.45	73.78	76.11	78.43	80.76	83.09
9	28	5	28.35	30.34	33.39	31.87	46.94	54.23	54.16	54.94	54.57	57.21	58.60	59.48	59.01	62.00	63.95	65.67	67.39	69.10	70.82	72.54	75.33	78.12	80.92	83.71	86.50
9	28	6	31.10	33.92	36.41	32.58	47.43	56.12	57.06	57.29	57.64	57.96	60.85	63.20	64.22	65.24	64.69	67.35	70.02	72.68	75.35	78.01	80.62	83.23	85.85	88.46	91.07
9	28	7	33.99	38.31	39.62	35.63	48.63	58.72	59.73	61.12	60.75	60.71	63.46	66.09	67.00	68.86	67.42	70.30	73.19	76.07	78.96	81.84	84.25	86.66	89.08	91.49	93.90
9	28	8	37.51	41.32	42.62	37.80	51.04	59.57	61.34	62.29	63.55	63.51	66.76	66.60	68.58	69.84	69.37	72.70	76.03	79.36	82.69	86.02	88.35	90.68	93.02	95.35	97.68
9	28	9	40.34	42.09	45.06	40.85	52.32	60.58	61.68	62.94	64.84	64.74	67.66	70.25	69.46	69.99	72.71	76.09	79.47	82.85	86.23	89.61	91.52	93.43	95.34	97.25	99.16
9	28	10	42.24	43.54	46.65	43.79	53.56	61.32	62.67	64.10	64.87	66.54	70.51	71.69	71.65	69.99	73.58	76.48	79.38	82.27	85.17	88.07	90.54	93.01	95.48	97.95	100.42
9	28	11	45.11	46.55	47.36	45.45	54.50	62.51	63.53	64.87	65.35	66.62	71.09	71.93	72.53	71.01	74.45	77.16	79.87	82.57	85.28	87.99	90.69	93.39	96.09	98.79	101.49
9	28	12	45.75	47.02	47.80	45.77	55.04	62.51	63.68	64.62	65.63	67.57	71.13	70.96	72.53	71.30	75.61	78.11	80.61	83.11	85.61	88.11	90.79	93.47	96.15	98.83	101.51
9	28	13	46.12	47.60	47.80	45.96	56.94	68.12	63.89	65.22	65.67	67.68	74.20	70.91	72.49	73.13	75.16	77.94	80.72	83.50	86.28	89.06	91.63	94.20	96.78	99.35	101.92
9	28	14	48.41	48.78	48.14	46.23	57.99	73.69	65.08	65.22	65.78	68.68	74.20	71.39	73.22	72.04	74.12	77.51	80.90	84.28	87.67	91.06	93.29	95.52	97.75	99.98	102.21
9	28	15	55.64	49.01	47.80	46.25	58.02	75.08	66.04	64.97	65.67	68.67	84.08	71.31	73.83	73.39	73.39	76.86	80.33	83.80	87.27	90.74	93.14	95.53	97.93	100.32	102.72
9	28	16	54.04	48.78	47.30	46.71	58.16	75.08	69.96	65.10	65.89	69.65	84.08	70.91	75.17	73.17	75.09	78.22	81.35	84.48	87.61	90.74	93.20	95.65	98.11	100.56	103.02
9	28	17	58.39	48.78	46.35	47.29	58.44	74.92	70.57	65.39	66.18	70.09	83.56	71.35	74.88	72.26	75.25	78.44	81.64	84.83	88.03	91.22	93.62	96.02	98.41	100.81	103.21
9	28	18	53.82	48.31	46.02	46.29	58.62	69.78	67.24	65.10	65.67	69.54	73.69	70.91	74.02	71.85	75.08	78.20	81.31	84.43	87.54	90.66	92.97	95.28	97.59	99.90	102.21
9	28	19	43.79	47.29	46.21	46.42	58.27	71.38	65.24	65.39	65.88	69.28	74.30	69.80	73.73	72.24	75.59	78.71	81.83	84.96	88.08	91.20	93.26	95.32	97.37	99.43	101.49
9	28	20	47.89	49.45	47.83	47.73	58.68	74.04	65.77	67.66	67.61	70.07	76.23	72.27	72.47	73.13	76.78	79.83	82.89	85.94	89.00	92.05	94.29	96.53	98.78	101.02	103.26
9	28	21	46.63	47.64	47.02	49.11	58.39	64.74	64.98	65.84	67.14	70.07	72.35	70.99	71.71	72.77	77.51	80.88	84.25	87.63	91.00	94.37	96.04	97.71	99.38	101.05	102.72
9	28	22	41.71	44.21	45.43	45.11	56.69	61.29	62.81	63.40	65.09	66.55	68.35	68.48	69.78	70.68	73.80	77.19	80.57	83.96	87.34	90.73	92.56	94.39	96.22	98.05	99.88
9	28	23	39.79	41.32	41.11	39.42	54.03	59.78	61.48	61.47	62.04	63.83	66.76	68.82	68.36	70.00	72.07	74.39	76.71	79.03	81.35	83.67	86.08	88.49	90.89	93.30	95.71
9	28	24	33.45	35.81	36.56	36.99	52.91	57.19	58.27	57.77	57.94	61.78	62.98	65.45	66.74	66.94	68.75	70.98	73.21	75.44	77.67	79.90	82.26	84.62	86.98	89.34	91.70
9	29	1	29.94	32.73	34.23	34.27	53.43	54.46	55.43	55.32	56.06	58.96	60.05	61.17	62.53	63.73	66.00	68.10	70.20	72.31	74.41	76.51	78.68	80.85	83.03	85.20	87.37
9	29	2	28.45	30.37	33.39	31.67	52.29	52.67	54.18	54.45	55.07	56.39	58.35	59.37	58.98	62.26	63.73	65.85	67.97	70.09	72.21	74.33	76.61	78.90	81.18	83.47	85.75
9	29	3	27.73	28.97	32.79	29.74	51.17	52.07	53.76	53.65	54.82	55.28	56.68	58.58	58.10	61.16	62.37	64.56	66.75	68.93	71.12	73.31	75.61	77.90	80.20	82.49	84.79
9	29	4	27.06	28.71	32.80	28.81	50.97	51.62	53.68	52.98	54.77	54.67	55.79	58.27	57.99	59.19	61.58	63.85	66.11	68.38	70.64	72.91	74.61	76.32	78.02	79.73	81.43
9	29	5	28.45	31.73	33.03	28.88	52.91	52.49	54.96	54.19	54.82	54.94	57.24	58.59	61.49	61.93	60.88	63.28	65.68	68.07	70.47	72.87	75.38	77.89	80.41	82.92	85.43
9	29	6	31.49	33.96	33.41	29.81	54.92	55.70	57.21	56.53	55.31	55.04	60.60	62.60	64.89	64.75	62.01	64.32	66.62	68.93	71.23	73.54	76.83	80.13	83.42	86.72	90.01
9	29	7	34.67	38.84	35.83	32.31	58.14	57.00	59.90	59.68	57.30	56.80	62.70	64.81	68.25	67.74	64.07	66.88	69.69	72.50	75.31	78.12	81.33	84.53	87.74	90.94	94.15
9	29	8	37.67	41.48	37.62	34.59	58.49	59.04	61.63	62.42	58.71	58.91	66.08	66.58	68.26	70.17	66.09	69.00	71.91	74.81	77.72	80.63	84.14	87.65	91.17	94.68	98.19
9	29	9	39.17	42.09	40.27	37.28	58.65	60.15	62.22	63.16	61.98	61.12	68.56	67.51	68.29	71.11	68.52	71.70	74.88	78.05	81.23	84.41	87.54	90.67	93.81	96.94	100.07
9	29	10	40.77	42.65	42.86	38.41	59.63	60.95	62.80	63.40	64.42	63.51	70.34	68.31	69.67	70.68	71.05	74.23	77.42	80.60	83.79	86.97	89.45	91.92	94.40	96.87	99.35
9	29	11	43.22	43.46	45.12	40.58	60.80	61.14	63.30	64.04	65.07	64.09	70.80	70.25	70.70	70.62	72.66	75.75	78.83	81.92	85.00	88.09	90.47	92.85	95.24	97.62	100.00
9	29	12	44.21	44.02	45.66	43.61	62.56	61.91	63.30	64.10	65.88	65.35	71.13	69.78	71.26	70.73	72.93	76.03	79.13	82.22	85.32	88.42	90.82	93.22	95.62	98.02	100.42
9	29	13	44.22	44.45	45.95	44.63	64.50	62.55	62.81	64.31	66.37	66.23	71.13	69.78	71.14	71.56	72.93	76.11	79.29	82.46	85.64	88.82	91.20	93.58	95.97	98.35	100.73
9	29	14	47.75	45.36	46.01	45.70	64.69	63.61	63.69	65.15	67.24	66.45	71.16	71.29	71.54	72.77	72.94	76.21	79.48	82.75	86.02	89.29	91.71	94.14	96.56	98.99	101.41
9	29	15	47.92	45.36	46.09	45.80	65.01	65.61	63.75	65.10	66.17	66.55	71.74	71.90	71.50	72.77	73.13	76.36	79.59	82.83	86.06	89.29	91.66	94.02	96.39	98.75	101.12
9	29	16	48.48	44.99	48.52	46.22	66.62	64.25	64.00	65.10	68.11	67.02	71.13	72.12	71.54	72.80	73.69	76.83	79.97	83.10	86.24	89.38	91.72	94.07	96.41	98.76	101.10
9	29	17	49.24	45.15	48.89	47.29	66.37	66.13	64.45	65.30	68.80	68.05	73.18	72.20	71.54	73.43	74.99	77.88	80.78	83.67	86.57	89.46	91.85	94.24	96.63	99.02	101.41
9	29	18	47.68	44.56	46.82	48.19	62.93	63.48	64.09	65.10	68.07	67.96	71.66	71.77	71.14	72.80	75.28	78.00	80.71	83.43	86.14	88.86	91.24	93.62	96.01	98.39	100.77
9	29	19	44.31	44.93	47.79	47.67	62.84	62.37	64.54	65.10	68.42	68.98	68.51	70.78	71.29	72.80	75.73	78.42	81.11	83.80	86.49	89.18	91.64	94.10	96.55	99.01	101.47
9	29	20	47.20	48.08	51.58	74.94	64.69	63.61	65.11	65.84	74.32	71.84	68.70	69.65	71.78	74.19	78.16	80.63	83.11	85.58	88.06	90.53	93.18	95.83	98.48	101.13	103.78
9	29	21	44.20	45.81	47.83	51.27	64.52	63.09	64.51	65.84	69.64	71.34	68.64	69.45	71.54	74.19	76.13	78.87	81.61	84.34	87.08	89.82	92.66	95.51	98.35	101.20	104.04

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
9	29	22	40.81	43.10	44.83	48.39	60.42	60.30	61.81	64.26	65.16	68.00	66.95	67.59	69.12	71.85	74.13	76.79	79.45	82.11	84.77	87.43	90.26	93.09	95.93	98.76	101.59
9	29	23	38.22	38.85	40.23	41.73	59.59	59.99	61.16	61.47	62.62	65.06	66.91	68.01	68.26	69.99	72.16	74.10	76.03	77.97	79.90	81.84	84.65	87.46	90.27	93.08	95.89
9	29	24	33.45	34.17	37.65	37.98	56.81	57.09	57.21	57.76	58.51	62.75	62.41	64.53	66.84	67.07	70.03	71.82	73.61	75.40	77.19	78.98	81.55	84.13	86.70	89.28	91.85
9	30	1	29.76	31.89	34.97	34.81	53.52	53.86	55.33	55.37	56.85	59.34	59.31	60.85	62.56	64.18	66.14	68.08	70.02	71.96	73.90	75.84	78.25	80.66	83.06	85.47	87.88
9	30	2	27.97	31.17	33.33	33.17	51.44	52.26	54.51	54.74	54.64	57.54	57.21	58.50	61.25	63.07	64.52	66.06	67.60	69.13	70.67	72.21	75.07	77.93	80.78	83.64	86.50
9	30	3	27.02	30.23	31.71	32.85	50.43	51.79	54.20	53.89	54.07	56.98	56.97	57.69	59.68	61.16	64.12	65.25	66.38	67.50	68.63	69.76	72.73	75.70	78.66	81.63	84.60
9	30	4	27.02	27.46	30.90	33.22	49.66	51.67	52.90	53.84	53.55	57.17	56.55	57.62	57.37	61.16	64.60	65.26	65.93	66.59	67.26	67.92	71.04	74.16	77.28	80.40	83.52
9	30	5	29.17	31.12	31.06	35.91	51.17	52.71	54.94	54.62	53.34	59.39	57.48	59.89	61.17	62.72	66.29	65.76	65.23	64.69	64.16	63.63	67.91	72.19	76.46	80.74	85.02
9	30	6	30.95	33.18	31.93	38.58	54.64	55.86	56.86	55.37	53.87	62.53	60.83	62.76	64.33	63.41	70.36	69.33	68.30	67.28	66.25	65.22	69.37	73.52	77.68	81.83	85.98
9	30	7	34.91	36.28	33.63	42.89	56.96	57.36	59.47	56.53	54.86	66.64	63.99	65.71	67.05	65.17	73.06	72.83	72.60	72.36	72.13	71.90	75.51	79.12	82.73	86.34	89.95
9	30	8	38.01	40.21	35.31	47.78	59.29	59.56	61.29	57.99	57.09	69.63	66.70	66.21	68.26	67.69	75.96	75.85	75.74	75.64	75.53	75.42	78.80	82.19	85.57	88.96	92.34
9	30	9	39.12	41.75	37.09	48.60	59.47	60.15	62.01	60.37	58.71	69.57	66.76	66.55	69.41	69.99	76.71	77.14	77.57	78.01	78.44	78.87	82.24	85.61	88.97	92.34	95.71
9	30	10	40.48	42.10	39.26	49.03	60.38	60.85	62.31	62.50	61.57	69.98	67.04	67.60	68.50	71.02	76.89	77.66	78.43	79.20	79.97	80.74	84.39	88.04	91.70	95.35	99.00
9	30	11	42.29	42.92	40.98	49.62	61.40	62.41	62.63	63.06	62.95	71.28	70.80	68.60	69.12	71.65	77.96	78.82	79.69	80.55	81.42	82.28	85.96	89.65	93.33	97.02	100.70
9	30	12	42.90	43.37	42.88	50.60	62.28	62.31	63.22	63.45	63.98	71.75	68.70	68.77	69.62	71.85	79.61	80.54	81.47	82.40	83.33	84.26	87.84	91.43	95.01	98.60	102.18
9	30	13	43.04	43.96	44.51	51.34	62.34	62.31	62.88	63.72	64.76	71.94	68.70	69.09	70.27	71.69	79.65	80.71	81.77	82.83	83.89	84.95	88.19	91.42	94.66	97.89	101.13
9	30	14	46.08	44.95	45.08	51.23	63.91	63.58	63.49	64.47	65.07	72.63	72.70	69.56	70.67	71.30	79.52	80.78	82.03	83.29	84.54	85.80	88.70	91.60	94.51	97.41	100.31
9	30	15	43.46	44.93	44.52	50.86	64.12	63.58	64.08	64.60	65.20	72.14	72.24	70.06	70.51	71.20	79.21	80.53	81.85	83.16	84.48	85.80	88.36	90.92	93.49	96.05	98.61
9	30	16	43.62	44.93	45.04	50.60	64.20	65.20	64.51	65.54	65.95	71.96	73.05	70.70	70.51	72.84	79.01	80.45	81.89	83.34	84.78	86.22	88.98	91.74	94.51	97.27	100.03
9	30	17	43.67	45.28	46.47	50.85	64.23	65.20	64.59	65.97	67.45	72.37	72.66	71.05	70.55	72.31	79.21	81.10	83.00	84.89	86.79	88.68	90.96	93.24	95.51	97.79	100.07
9	30	18	43.56	44.22	48.70	50.86	62.89	63.77	63.80	65.10	67.91	72.63	71.69	69.05	69.78	71.85	79.84	81.74	83.64	85.53	87.43	89.33	91.33	93.34	95.34	97.35	99.35
9	30	19	43.49	44.13	48.30	51.22	62.89	63.81	64.51	65.64	67.90	73.06	70.35	68.89	69.99	72.61	80.76	82.52	84.27	86.03	87.78	89.54	91.95	94.36	96.77	99.18	101.59
9	30	20	45.00	48.89	56.55	51.91	66.39	63.52	64.59	65.85	69.82	74.12	69.13	69.78	71.94	73.68	83.49	84.90	86.31	87.72	89.13	90.54	92.87	95.20	97.54	99.87	102.20
9	30	21	44.20	46.11	47.83	51.22	64.36	62.55	63.67	65.26	67.95	71.87	68.13	69.57	72.00	74.29	79.61	81.46	83.31	85.16	87.01	88.86	91.72	94.59	97.45	100.32	103.18
9	30	22	39.84	42.79	45.11	47.66	60.83	60.30	61.88	63.06	64.87	68.01	66.76	67.46	70.14	71.65	76.23	78.17	80.10	82.04	83.97	85.91	88.72	91.54	94.35	97.17	99.98
9	30	23	36.35	40.17	40.91	45.81	60.25	59.59	61.08	61.13	62.32	66.92	66.76	66.54	68.25	69.66	73.20	74.90	76.60	78.29	79.99	81.69	84.18	86.66	89.15	91.63	94.12
9	30	24	32.48	35.00	38.14	38.41	57.70	57.09	57.17	58.24	58.96	63.47	62.00	63.98	66.74	66.95	70.53	72.26	74.00	75.73	77.47	79.20	81.45	83.71	85.96	88.22	90.47
10	1	1	30.36	32.73	35.01	34.67	52.95	55.14	56.07	55.86	55.78	59.67	60.80	61.96	64.50	64.46	66.14	68.29	70.44	72.58	74.73	76.88	79.16	81.43	83.71	85.98	88.26
10	1	2	29.53	31.73	33.72	32.80	51.53	52.96	54.94	53.95	55.15	57.64	58.78	60.07	62.75	62.96	65.11	66.96	68.81	70.66	72.51	74.36	76.47	78.57	80.68	82.78	84.89
10	1	3	29.04	29.42	33.65	32.12	50.27	52.25	54.00	53.53	54.85	56.73	57.94	58.84	61.71	61.53	64.33	66.21	68.08	69.96	71.83	73.71	75.50	77.29	79.09	80.88	82.67
10	1	4	27.44	28.62	34.03	32.31	50.05	51.97	53.95	53.07	54.91	56.66	57.76	58.44	61.56	61.13	64.19	66.20	68.21	70.23	72.24	74.25	75.60	76.95	78.31	79.66	81.01
10	1	5	29.74	30.88	35.83	33.22	51.71	53.71	54.23	53.04	55.69	58.00	59.04	60.04	61.68	60.85	64.71	67.23	69.76	72.28	74.81	77.33	77.92	78.50	79.09	79.67	80.26
10	1	6	32.26	31.40	38.66	37.69	55.22	56.32	55.05	53.34	58.11	61.25	62.81	63.58	62.31	61.01	68.96	71.27	73.58	75.89	78.20	80.51	80.78	81.05	81.31	81.58	81.85
10	1	7	36.08	33.25	43.17	42.24	57.63	58.72	56.74	54.51	62.19	65.76	65.35	65.68	65.44	63.12	71.03	74.08	77.14	80.19	83.25	86.30	86.24	86.17	86.11	86.04	85.98
10	1	8	38.98	35.09	46.65	47.78	59.13	59.76	58.28	55.86	65.92	67.90	68.18	67.96	67.90	64.98	74.50	77.96	81.42	84.88	88.34	91.80	91.17	90.54	89.92	89.29	88.66
10	1	9	41.05	39.09	47.43	48.83	60.98	60.85	59.90	58.46	67.70	68.65	68.18	69.41	68.56	67.65	75.29	78.71	82.13	85.54	88.96	92.38	92.26	92.13	92.01	91.88	91.76
10	1	10	41.92	42.37	48.28	49.04	61.94	60.96	61.33	61.11	69.17	69.63	68.47	69.57	71.20	69.41	76.23	79.46	82.69	85.92	89.15	92.38	92.94	93.50	94.07	94.63	95.19
10	1	11	42.65	43.71	48.73	49.47	64.20	62.32	62.69	61.99	69.99	71.03	69.54	69.65	71.56	70.00	77.44	80.50	83.56	86.61	89.67	92.73	93.56	94.40	95.23	96.07	96.90
10	1	12	45.59	44.21	48.87	49.62	64.30	62.55	63.30	62.94	70.90	72.87	69.33	69.83	71.78	70.36	79.70	82.30	84.91	87.51	90.12	92.72	93.95	95.19	96.42	97.66	98.89
10	1	13	45.70	44.53	49.15	51.19	64.50	62.82	63.17	63.60	71.13	72.64	69.29	69.99	71.55	71.02	79.70	82.49	85.28	88.07	90.86	93.65	94.96	96.27	97.59	98.90	100.21
10	1	14	45.90	44.79	49.72	51.94	64.66	62.83	63.26	64.62	70.91	74.05	69.69	70.49	71.30	71.69	79.89	82.84	85.80	88.75	91.71	94.66	95.88	97.09	98.31	99.52	100.74
10	1	15	45.66	44.83	50.27	56.84	64.89	62.82	63.31	65.03	70.91	76.02	69.31	69.98	71.26	71.37	83.11	85.25	87.38	89.52	91.65	93.79	95.15	96.51	97.88	99.24	100.60
10	1	16	43.23	44.88	50.27	56.39	65.37	62.09	64.98	65.10	70.91	80.72	69.21	69.94	71.73	72.24	85.16	86.88	88.61	90.33	92.06	93.78	95.01	96.24	97.47	98.70	99.93
10	1	17	43.17	44.79	50.52	55.52	64.59	61.40	64.75	66.33	71.53	82.44	69.21	69.94	71.55	73.43	85.16	87.03	88.90	90.77	92.64	94.51	96.04	97.57	99.11	100.64	102.17
10	1	18	43.17	44.81	50.54	54.65	64.52	61.49	64.72	66.66	72.57	80.72	69.31	69.74	71.26	73.69	86.63	88.36	90.09	91.83	93.56	95.29	96.72	98.15	99.57	101.00	102.43
10	1	19	43.13	45.50	52.03	56.84	63.75	61.49	64.40	66.29	74.13	84.54	69.69	69.80	71.55	74.61	82.63	85.30	87.98	90.65	93.33	96.00	97.55	99.11	100.66	102.22	103.77
10	1	20	43.17	48.68	59.92	61.41	66.36	62.79	64.52	66.90	81.10	91.59	71.15	70.96	74.22	75.13	89.84	91.59	93.33	95.08	96.82	98.57	99.89	101.21	102.52	103.84	105.16
10	1	21	45.70	48.10	49.15	52.74	65.37	62.97	64.99	66.44	70.73	74.70	71.16	70.70	73.79	75.13	80.91	83.62	86.32	89.03	91.73	94.44	96.27	98.11	99.94	101.78	103.61
10	1	22	42.24	43.74	47.20	49.19	60.98	60.49	62.56	64.66	66.17	71.26	67.62	69.63	71.29	72.95	78.13	80.66	83.20	85.73	88.27	90.80	93.08	95.35	97.63	99.90	102.18
10	1	23	37.63	39.21	44.51	47.61	59.15	59.78	60.36	61.85	63.36	68.55	66.92	67.47	70.08	70.00	73.98	76.55	79.12	81.69	84.26	86.83	88.88	90.92	92.97	95.01	97.06
10	1	24	34.07	34.78	38.48	40.42	57.45	56.85	57.80	59.75	58.20	65.14	62.98	65.48	66.98	68.20	71.96	73.67	75.38	77.10	78.81	80.52	83.10	85.68	88.26	90.84	93.42
10	2	1	30.66	31.82	35.33	36.03	53.13	54.08	55.92	56.02	55.49	60.07	60.42	62.69	63.30	64.61	68.51	69.98	71.44	72.91	74.37	75.84	78.53	81.23	83.92	86.62	89.31
10	2	2	30.09	29.17	33.59	33.50	51.64	53.12	54.12	55.00	54.24	58.05	58.93	60.80	61.71	63.47	66.16	67.37	68.58	69.80	71.01	72.22	75.12	78.01	80.91	83.80	86.70
10	2	3	28.42	28.36	33.37	33.08	49.89	51.53	53.46	54.74	53.74	57.59	57.70	59.92	60.50	63.04	65.89	66.98	68.07	69.15	70.24	71.33	74.17	77.01	79.85	82.69	85.53
10	2	4	27.63	27.69	33.39	32.95	50.27	50.87	52.96	55.20	53.41	57.39	57.07	59.91	59.15	63.29	65.76	66.77	67.78	68.80	69.81	70.82	74.00	77.18	80.36	83.54	86.72
10	2	5	29.19	27.75	33.90	33.39	52.31	53.22	52.95	56.18	54.22	58.02	58.78	60.11	59.00	65.07	66.31	67.46	68.60	69.75	70.89	72.04	75.54	79.04	82.55	86.05	89.55
10	2	6	29.96	28.28	37.43	37.69	56.41	55.90	53.42	60.29	57.60	62.06	61.02	60.60	59.85	68.99	69.52	71.27	73.02	74.76	76.51	78.26	81.62	84.97	88.33	91.68	95.04
10	2	7	31.56	31.34	41.25	42.07	58.12	58.26	54.94	63.72	59.77	65.05	64.61	62.98	61.71	70.18	72.89	74.52	76.14	77.77	79.39	81.02	85.26	89.50	93.73	97.97	102.21
10	2	8	34.14	32.95	45.00	47.80	59.95	59.76	56.47	66.04	63.51	69.05	66.76	66.03	64.09	74.44	76.76	78.94	81.12	83.29	85.47	87.65	91.15	94.65	98.16	101.66	105.16

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	2	9	36.90	35.00	46.43	48.71	60.32	60.36	58.71	66.62	64.15	71.70	68.09	66.28	66.83	75.03	79.21	81.22	83.23	85.23	87.24	89.25	92.71	96.18	99.64	103.11	106.57
10	2	10	40.07	38.07	47.86	49.04	61.94	60.87	60.33	67.11	65.97	71.70	68.18	68.41	68.83	76.16	79.45	81.80	84.16	86.51	88.87	91.22	94.29	97.36	100.42	103.49	106.56
10	2	11	42.65	40.60	48.77	49.47	63.07	60.95	61.32	68.10	69.24	72.71	67.61	69.05	70.09	76.35	81.28	83.50	85.72	87.94	90.16	92.38	95.05	97.72	100.38	103.05	105.72
10	2	12	43.13	42.45	49.61	50.35	63.11	60.96	61.88	68.78	70.91	73.94	68.05	69.29	71.23	76.41	81.66	84.11	86.56	89.01	91.46	93.91	96.63	99.35	102.07	104.79	107.51
10	2	13	43.59	43.41	50.54	52.80	64.06	61.32	62.70	69.63	70.66	75.68	68.42	69.05	71.34	76.57	83.12	85.44	87.76	90.08	92.40	94.72	97.33	99.95	102.56	105.18	107.79
10	2	14	42.38	44.23	56.54	60.84	65.72	62.31	63.15	70.07	73.99	82.24	68.70	69.15	72.05	76.40	88.22	89.82	91.42	93.01	94.61	96.21	98.50	100.79	103.07	105.36	107.65
10	2	15	42.41	44.69	60.60	54.31	66.51	61.65	63.52	69.79	81.64	81.99	68.42	69.45	72.53	76.35	86.53	88.67	90.82	92.96	95.11	97.25	99.24	101.24	103.23	105.23	107.22
10	2	16	43.38	44.93	58.09	53.87	64.59	61.64	64.61	69.63	84.02	81.62	68.43	70.23	72.97	76.28	91.79	93.53	95.27	97.01	98.75	100.49	101.62	102.76	103.89	105.03	106.16
10	2	17	44.36	46.10	59.01	53.61	64.62	61.85	64.98	70.07	83.36	81.99	68.50	70.45	73.72	76.40	94.61	95.57	96.52	97.48	98.43	99.39	100.74	102.10	103.45	104.81	106.16
10	2	18	43.65	47.69	58.09	54.09	64.54	60.99	65.58	70.38	82.52	78.79	68.23	69.78	73.96	76.97	95.78	96.50	97.23	97.95	98.68	99.40	101.05	102.70	104.35	106.00	107.65
10	2	19	43.79	45.66	59.15	56.78	64.54	61.49	66.11	72.48	82.10	89.58	68.42	69.78	74.11	80.92	99.17	99.19	99.21	99.22	99.24	99.26	101.14	103.02	104.89	106.77	108.65
10	2	20	46.61	49.26	61.05	60.33	66.36	63.45	66.56	83.06	83.67	93.24	71.16	70.23	77.36	89.74	99.01	99.96	100.91	101.86	102.81	103.76	105.31	106.86	108.42	109.97	111.52
10	2	21	46.49	49.01	53.38	51.10	64.51	63.20	65.35	69.15	73.59	75.14	71.42	71.18	79.92	76.34	82.42	85.57	88.72	91.87	95.02	98.17	100.07	101.96	103.86	105.75	107.65
10	2	22	41.47	44.21	48.40	48.30	60.63	60.95	63.30	65.54	68.73	71.47	68.27	68.60	73.72	73.75	77.47	80.62	83.77	86.93	90.08	93.23	95.12	97.01	98.89	100.78	102.67
10	2	23	36.35	40.81	46.43	47.27	59.12	59.96	61.44	62.44	65.45	69.19	66.92	66.58	70.58	71.04	75.63	78.56	81.49	84.42	87.35	90.28	92.12	93.96	95.79	97.63	99.47
10	2	24	32.39	36.48	40.44	39.48	56.69	57.15	59.90	58.24	60.70	64.37	62.93	64.66	68.25	68.35	72.34	74.49	76.64	78.78	80.93	83.08	85.36	87.64	89.92	92.20	94.48
10	3	1	29.53	33.14	36.92	35.04	53.09	54.64	56.31	55.17	56.22	60.03	60.52	61.66	63.39	63.79	67.66	69.89	72.13	74.36	76.60	78.83	80.57	82.30	84.04	85.77	87.51
10	3	2	28.11	31.16	34.15	32.75	51.84	53.81	55.24	53.82	55.12	58.15	59.33	60.05	62.44	62.74	65.89	67.92	69.95	71.97	74.00	76.03	77.98	79.94	81.89	83.85	85.80
10	3	3	27.09	31.12	33.71	32.14	49.66	52.50	55.17	53.28	54.70	57.65	58.37	59.25	61.94	61.81	64.50	66.74	68.97	71.21	73.44	75.68	77.28	78.88	80.48	82.08	83.68
10	3	4	26.66	31.52	33.53	32.10	49.46	52.50	55.33	53.21	54.33	57.53	57.78	58.72	62.39	61.52	64.08	66.31	68.54	70.77	73.00	75.23	77.01	78.79	80.58	82.36	84.14
10	3	5	26.65	33.82	34.46	34.19	52.01	53.20	55.83	54.76	54.92	59.20	58.44	58.40	63.40	62.50	66.03	68.09	70.15	72.21	74.27	76.33	78.34	80.35	82.36	84.37	86.38
10	3	6	27.09	37.76	38.48	37.37	55.61	53.61	61.16	57.29	57.94	61.53	59.20	58.63	67.90	66.75	69.76	71.96	74.16	76.36	78.56	80.76	82.76	84.77	86.77	88.78	90.78
10	3	7	29.19	42.34	42.96	41.99	57.15	55.41	62.07	60.29	61.33	65.31	60.98	60.30	70.81	68.95	72.89	75.30	77.71	80.11	82.52	84.93	86.98	89.03	91.08	93.13	95.18
10	3	8	31.05	46.52	47.68	47.80	58.74	56.88	64.15	62.79	65.62	68.65	62.81	62.18	73.37	71.56	76.21	79.33	82.44	85.56	88.67	91.79	93.56	95.32	97.09	98.85	100.62
10	3	9	33.29	47.09	48.77	48.14	59.71	59.09	64.81	64.23	68.77	69.45	66.33	64.95	74.61	72.41	76.68	79.82	82.96	86.10	89.24	92.38	94.20	96.02	97.85	99.67	101.49
10	3	10	36.01	47.65	49.03	48.71	60.78	60.45	65.62	65.24	68.60	69.82	67.44	66.21	74.91	74.02	77.17	80.74	84.31	87.88	91.45	95.02	96.68	98.33	99.99	101.64	103.30
10	3	11	37.25	48.25	49.39	49.10	62.06	60.87	66.96	66.49	70.13	70.89	68.06	66.72	75.86	76.32	77.47	81.22	84.96	88.71	92.45	96.20	98.12	100.04	101.97	103.89	105.81
10	3	12	39.45	48.99	49.61	49.04	62.70	61.20	67.40	68.81	71.58	70.96	68.35	68.00	75.94	77.42	78.82	82.30	85.78	89.25	92.73	96.21	98.63	101.04	103.46	105.87	108.29
10	3	13	41.73	49.36	55.72	49.50	63.16	61.32	68.14	70.12	74.33	71.23	68.09	68.54	76.51	77.38	79.44	83.15	86.87	90.58	94.30	98.01	99.91	101.82	103.72	105.63	107.53
10	3	14	42.31	49.30	60.02	49.90	64.06	61.64	68.36	72.66	80.57	72.66	67.58	69.15	76.38	77.78	80.39	84.35	88.32	92.28	96.25	100.21	101.84	103.47	105.11	106.74	108.37
10	3	15	42.95	49.30	56.80	49.90	64.17	61.64	69.36	78.23	82.52	74.03	67.28	70.14	75.67	80.56	83.94	87.27	90.61	93.94	97.28	100.61	102.44	104.27	106.11	107.94	109.77
10	3	16	43.78	49.23	56.54	50.17	64.36	63.72	69.42	78.23	80.45	75.34	68.05	70.83	74.75	87.26	85.49	88.51	91.54	94.56	97.59	100.61	103.18	105.75	108.32	110.89	113.46
10	3	17	46.50	49.21	55.65	50.40	63.09	65.45	69.58	78.29	80.37	75.34	68.73	71.75	75.27	86.52	85.48	88.61	91.74	94.86	97.99	101.12	103.49	105.86	108.22	110.59	112.96
10	3	18	46.67	49.30	55.65	50.40	61.83	62.72	69.73	77.88	79.09	73.93	68.13	72.08	75.85	88.28	85.49	88.68	91.87	95.05	98.24	101.43	103.45	105.47	107.48	109.50	111.52
10	3	19	47.34	53.38	58.26	56.78	61.81	63.27	75.60	77.83	78.79	82.63	68.30	73.15	83.68	89.28	95.11	96.26	97.41	98.56	99.71	100.86	103.21	105.56	107.92	110.27	112.62
10	3	20	57.04	60.75	59.23	66.90	64.36	76.54	84.02	82.68	82.10	91.00	70.51	79.40	93.79	92.03	97.94	99.16	100.38	101.61	102.83	104.05	106.52	108.98	111.45	113.91	116.38
10	3	21	56.85	49.30	53.55	50.85	63.17	65.51	67.44	71.05	73.94	71.65	70.32	74.92	74.91	78.64	79.76	83.12	86.48	89.85	93.21	96.57	99.45	102.34	105.22	108.11	110.99
10	3	22	43.58	45.63	47.47	48.71	59.15	60.64	62.83	66.35	67.69	70.33	67.58	69.74	72.47	75.91	77.44	80.43	83.41	86.40	89.38	92.37	94.93	97.49	100.04	102.60	105.16
10	3	23	38.12	43.33	44.97	47.67	59.00	58.03	61.16	63.27	64.78	69.33	65.22	67.14	70.58	72.56	75.75	78.78	81.81	84.83	87.86	90.89	93.10	95.31	97.51	99.72	101.93
10	3	24	35.09	37.28	39.01	39.33	56.79	56.01	57.80	60.29	60.12	64.93	62.19	65.65	67.25	69.98	72.90	74.98	77.05	79.13	81.20	83.28	85.97	88.67	91.36	94.06	96.75
10	4	1	31.44	33.24	35.88	36.10	53.26	54.16	55.24	55.93	56.14	60.59	59.68	62.17	62.03	66.61	68.22	70.29	72.37	74.44	76.52	78.59	81.19	83.79	86.38	88.98	91.58
10	4	2	29.33	32.49	33.42	34.54	52.77	52.38	53.76	54.76	54.38	59.04	57.97	61.04	60.36	65.13	66.72	68.48	70.24	72.00	73.76	75.52	78.21	80.90	83.58	86.27	88.96
10	4	3	29.27	31.11	33.15	33.65	50.99	51.17	53.33	54.23	54.11	58.10	57.03	60.49	59.37	64.25	65.16	66.96	68.76	70.55	72.35	74.15	76.85	79.54	82.24	84.93	87.63
10	4	4	29.82	31.16	33.16	32.61	50.70	50.94	53.01	54.10	53.92	56.23	56.55	61.11	59.04	64.22	64.76	66.25	67.74	69.24	70.73	72.22	75.19	78.16	81.12	84.09	87.06
10	4	5	31.98	32.72	35.06	34.56	51.19	50.96	54.45	55.10	55.50	58.88	56.12	62.20	61.57	65.26	66.46	68.36	70.26	72.17	74.07	75.97	78.47	80.97	83.46	85.96	88.46
10	4	6	37.35	36.20	37.92	37.97	52.49	51.27	57.53	57.73	57.94	62.06	56.83	65.60	65.11	68.81	69.56	71.50	73.44	75.38	77.32	79.26	81.97	84.68	87.40	90.11	92.82
10	4	7	41.10	39.76	41.20	42.07	53.26	53.46	59.28	61.19	60.93	66.16	58.69	67.82	67.77	70.23	72.88	74.98	77.08	79.17	81.27	83.37	86.47	89.57	92.67	95.77	98.87
10	4	8	45.50	45.00	46.43	46.72	55.51	54.64	62.21	63.41	63.91	67.87	60.08	69.83	71.14	74.19	75.93	78.88	81.82	84.77	87.71	90.66	92.97	95.28	97.60	99.91	102.22
10	4	9	45.94	46.12	47.39	48.03	57.76	56.67	62.32	66.03	65.47	68.22	61.78	70.49	71.29	76.28	76.45	79.52	82.60	85.67	88.75	91.82	94.47	97.12	99.76	102.41	105.06
10	4	10	46.42	47.40	47.46	48.03	58.74	57.73	63.22	66.18	66.19	69.13	64.22	70.70	71.90	76.69	76.87	79.97	83.07	86.17	89.27	92.37	94.98	97.60	100.21	102.83	105.44
10	4	11	46.52	48.07	48.20	48.03	59.12	58.72	65.31	67.59	67.62	69.77	65.35	72.45	72.54	77.76	76.76	80.05	83.33	86.62	89.90	93.19	96.10	99.00	101.91	104.81	107.72
10	4	12	46.71	49.46	48.45	49.04	59.12	59.51	67.85	70.56	68.76	69.78	66.41	72.46	74.75	78.78	76.83	80.33	83.82	87.32	90.81	94.31	97.11	99.91	102.71	105.51	108.31
10	4	13	47.36	49.60	48.96	49.04	59.25	60.36	69.54	74.07	69.64	69.78	66.76	73.37	74.69	85.48	77.10	80.72	84.33	87.95	91.56	95.18	98.16	101.14	104.11	107.09	110.07
10	4	14	48.49	52.14	50.00	48.83	59.48	61.16	75.60	77.22	70.91	69.63	67.02	73.37	76.30	89.47	77.37	81.14	84.91	88.67	92.44	96.21	99.27	102.33	105.38	108.44	111.50
10	4	15	48.49	60.92	50.48	48.03	60.27	61.67	88.64	76.18	72.65	68.60	67.61	73.37	78.74	89.07	76.88	81.02	85.16	89.30	93.44	97.58	100.42	103.25	106.09	108.92	111.76
10	4	16	48.67	55.54	50.51	47.80	60.27	62.54	81.30	75.57	73.60	67.73	68.37	74.54	86.06	89.07	76.35	80.64	84.93	89.22	93.51	97.80	101.04	104.29	107.53	110.78	114.02
10	4	17	48.36	55.88	50.48	47.67	60.61	63.46	80.90	73.70	71.89	67.55	70.59	74.80	93.29	87.62	76.22	80.50	84.78	89.06	93.34	97.62	100.53	103.44	106.34	109.25	112.16
10	4	18	48.36	55.94	50.63	47.67	60.29	64.20	80.90	73.80	72.93	68.71	71.30	74.99	93.79	89.28	76.22	80.49	84.76	89.04	93.31	97.58	101.35	105.13	108.90	112.68	116.45
10	4	19	49.60	55.71	54.83	48.83	60.33	64.74	85.05	76.18	74.50	70.24	71.32	78.73	94.83	87.79	77.15	81.47	85.79	90.12	94.44	98.76	101.83	104.90	107.97	111.04	114.11

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	4	20	54.93	61.52	55.37	49.20	60.74	73.29	103.93	75.57	81.70	76.36	75.95	90.34	99.71	90.53	79.70	83.53	87.35	91.18	95.00	98.83	101.91	104.99	108.07	111.15	114.23
10	4	21	48.06	52.90	48.82	48.83	60.12	71.16	73.40	71.13	70.28	70.38	72.09	73.30	76.89	78.78	76.76	80.48	84.20	87.92	91.64	95.36	97.99	100.62	103.24	105.87	108.50
10	4	22	43.49	48.24	47.38	46.37	57.77	60.89	65.34	65.47	68.26	66.85	68.23	69.05	74.08	74.92	75.31	78.72	82.13	85.55	88.96	92.37	94.93	97.49	100.04	102.60	105.16
10	4	23	39.73	46.08	45.20	44.95	56.17	58.91	62.66	62.51	65.30	66.79	65.99	67.84	70.97	72.83	73.95	77.46	80.97	84.48	87.99	91.50	93.33	95.16	97.00	98.83	100.66
10	4	24	34.47	39.35	39.32	38.56	54.13	57.09	59.09	58.76	60.66	63.18	63.99	64.24	67.98	69.40	71.02	73.50	75.98	78.45	80.93	83.41	85.75	88.08	90.42	92.75	95.09
10	5	1	30.54	34.13	36.14	36.50	52.63	54.41	56.02	55.64	56.56	60.31	60.65	60.60	65.01	65.55	67.89	70.05	72.22	74.38	76.55	78.71	81.14	83.57	86.01	88.44	90.87
10	5	2	30.25	33.24	35.20	34.84	51.58	53.35	55.05	54.74	55.65	59.62	59.39	59.80	62.57	63.73	67.40	69.15	70.90	72.65	74.40	76.15	78.54	80.93	83.32	85.71	88.10
10	5	3	28.44	32.59	34.46	33.15	50.41	53.22	54.34	53.28	54.82	57.58	58.94	58.51	62.27	63.47	65.23	67.07	68.91	70.74	72.58	74.42	76.75	79.07	81.40	83.72	86.05
10	5	4	28.70	32.53	33.24	32.65	49.62	53.46	54.23	53.53	54.13	57.09	59.33	58.51	62.19	62.69	65.16	66.76	68.37	69.97	71.58	73.18	75.45	77.72	79.98	82.25	84.52
10	5	5	30.38	33.82	35.30	33.77	49.30	54.67	55.18	55.19	55.56	58.23	60.68	60.34	63.09	63.47	65.95	67.97	69.99	72.02	74.04	76.06	78.37	80.68	82.98	85.29	87.60
10	5	6	32.99	37.16	37.77	34.62	49.90	57.65	57.44	57.09	57.72	59.04	64.58	63.83	66.88	67.15	67.21	69.75	72.30	74.84	77.39	79.93	82.44	84.95	87.47	89.98	92.49
10	5	7	37.51	41.33	41.71	36.72	52.08	59.78	59.68	60.37	61.69	61.05	66.77	66.22	68.25	69.98	69.64	72.39	75.15	77.90	80.66	83.41	86.27	89.13	91.98	94.84	97.70
10	5	8	42.22	47.54	44.30	37.89	53.11	62.30	63.30	62.42	64.78	62.79	71.13	68.90	72.32	73.15	72.47	75.90	79.32	82.75	86.17	89.60	92.12	94.64	97.15	99.67	102.19
10	5	9	44.56	47.90	45.20	41.43	54.64	62.99	64.55	63.61	65.47	64.11	71.72	69.32	74.20	73.81	73.17	76.89	80.61	84.34	88.06	91.78	93.87	95.96	98.04	100.13	102.22
10	5	10	45.81	48.32	45.99	45.80	55.85	63.59	66.00	64.59	66.01	66.78	72.17	69.80	74.69	74.19	75.31	78.61	81.91	85.20	88.50	91.80	93.88	95.97	98.05	100.14	102.22
10	5	11	46.93	49.11	46.10	46.50	57.39	64.64	66.94	65.84	66.04	66.78	72.44	71.02	74.91	74.69	75.75	78.96	82.17	85.38	88.59	91.80	93.89	95.97	98.06	100.14	102.23
10	5	12	47.05	50.33	46.63	46.67	57.53	66.20	69.46	66.88	66.38	66.78	73.14	72.45	75.94	75.27	75.16	78.59	82.03	85.46	88.90	92.33	95.10	97.87	100.64	103.41	106.18
10	5	13	48.19	50.98	47.02	46.12	58.80	68.69	76.21	68.46	67.09	66.78	73.69	73.15	84.69	75.91	74.02	77.69	81.36	85.02	88.69	92.36	95.31	98.25	101.20	104.14	107.09
10	5	14	50.33	54.90	47.34	45.31	59.95	68.94	83.50	68.79	67.82	66.23	73.39	75.96	96.26	77.00	73.17	77.01	80.85	84.68	88.52	92.36	95.55	98.74	101.93	105.12	108.31
10	5	15	53.89	53.23	47.38	45.19	60.32	68.46	75.40	69.15	67.66	65.40	73.15	80.51	92.33	79.74	72.87	76.77	80.67	84.56	88.46	92.36	95.92	99.49	103.05	106.62	110.18
10	5	16	53.39	52.61	47.43	44.44	60.87	67.84	74.21	69.26	67.21	65.45	72.93	91.73	90.96	85.23	72.51	76.37	80.23	84.09	87.95	91.81	95.96	100.11	104.26	108.41	112.56
10	5	17	53.00	52.24	47.38	44.90	62.65	67.87	74.21	69.37	67.00	65.37	73.20	89.27	86.52	80.17	73.02	76.72	80.42	84.13	87.83	91.53	95.32	99.11	102.91	106.70	110.49
10	5	18	54.65	54.19	47.43	44.56	62.83	69.19	76.21	70.69	67.00	65.91	73.82	94.75	91.88	83.90	72.84	76.58	80.32	84.05	87.79	91.53	95.41	99.28	103.16	107.03	110.91
10	5	19	53.78	56.51	48.72	45.80	65.66	71.72	80.35	74.94	68.58	66.33	75.29	91.50	93.79	85.93	73.17	77.01	80.85	84.68	88.52	92.36	96.44	100.52	104.61	108.69	112.77
10	5	20	53.96	56.31	52.65	48.03	87.90	88.67	82.94	74.60	81.70	67.44	83.24	101.35	94.75	90.71	75.02	79.07	83.12	87.16	91.21	95.26	98.63	101.99	105.36	108.72	112.09
10	5	21	49.65	49.89	47.46	47.71	74.37	67.08	70.04	68.57	67.36	66.90	72.95	76.59	76.47	76.81	74.56	78.01	81.46	84.91	88.36	91.81	94.91	98.01	101.11	104.21	107.31
10	5	22	46.08	47.14	45.82	42.44	60.80	61.49	63.85	66.29	64.85	66.17	68.77	72.22	72.34	75.58	72.55	76.19	79.84	83.48	87.13	90.77	93.68	96.59	99.50	102.41	105.32
10	5	23	42.15	44.38	43.67	38.56	58.28	59.70	62.24	63.06	63.62	63.25	67.51	70.70	71.28	74.31	70.31	73.83	77.35	80.87	84.39	87.91	90.52	93.13	95.75	98.36	100.97
10	5	24	36.09	38.87	38.48	36.68	56.50	56.56	58.65	60.08	59.06	60.80	63.30	66.69	68.25	70.24	67.98	70.76	73.54	76.33	79.11	81.89	84.52	87.15	89.78	92.41	95.04
10	6	1	31.53	33.90	35.35	34.28	53.59	53.88	56.56	56.46	56.16	58.79	60.57	63.07	64.47	66.53	65.86	68.50	71.15	73.79	76.44	79.08	81.54	84.01	86.47	88.94	91.40
10	6	2	30.71	32.88	34.46	32.10	52.40	52.84	55.21	55.06	55.39	56.28	58.90	62.13	61.82	64.83	64.88	67.28	69.68	72.08	74.48	76.88	79.18	81.48	83.77	86.07	88.37
10	6	3	30.46	31.31	33.11	31.65	52.40	51.79	53.83	53.88	54.36	55.34	57.76	61.30	60.60	63.69	64.27	66.44	68.61	70.77	72.94	75.11	77.21	79.31	81.42	83.52	85.62
10	6	4	30.56	32.32	32.38	30.82	52.73	51.59	54.16	53.82	54.21	54.94	57.64	61.62	60.50	63.47	63.92	65.94	67.96	69.98	72.00	74.02	76.28	78.54	80.80	83.06	85.32
10	6	5	31.28	33.20	33.42	30.84	54.28	53.49	55.44	55.00	54.48	54.99	59.62	62.35	62.26	64.66	64.12	66.34	68.56	70.79	73.01	75.23	77.84	80.45	83.05	85.66	88.27
10	6	6	34.49	36.65	33.77	32.01	58.28	56.43	58.19	57.72	55.21	55.95	62.42	64.61	65.58	67.55	64.70	67.20	69.71	72.21	74.72	77.22	80.38	83.54	86.69	89.85	93.01
10	6	7	39.08	40.81	35.30	33.91	60.17	57.32	59.31	60.82	56.20	58.03	64.36	67.03	67.81	70.23	66.02	68.76	71.49	74.23	76.96	79.70	83.08	86.46	89.85	93.23	96.61
10	6	8	45.43	46.12	37.67	35.10	62.68	60.30	62.31	63.72	57.95	59.10	66.92	70.31	70.51	72.93	67.01	69.92	72.84	75.75	78.67	81.58	85.48	89.37	93.27	97.16	101.06
10	6	9	46.42	47.31	39.91	37.34	62.52	60.71	62.63	64.49	60.79	61.79	67.51	72.45	71.56	73.85	68.61	71.96	75.30	78.65	81.99	85.34	88.57	91.79	95.02	98.24	101.47
10	6	10	47.05	47.54	43.41	38.14	61.81	61.29	62.81	65.19	62.75	63.29	68.43	72.81	71.78	74.23	69.44	73.31	77.18	81.05	84.92	88.79	91.48	94.16	96.85	99.53	102.22
10	6	11	47.82	47.93	44.97	38.39	62.68	63.48	63.61	65.22	63.98	63.69	71.51	73.54	71.96	74.19	70.21	74.33	78.44	82.56	86.67	90.79	93.08	95.36	97.65	99.93	102.22
10	6	12	49.11	48.24	44.16	39.43	64.39	65.36	65.98	65.22	63.98	63.83	73.15	73.81	72.54	74.31	71.40	75.06	78.71	82.37	86.02	89.68	92.19	94.70	97.20	99.71	102.22
10	6	13	51.68	48.66	43.29	39.10	64.59	69.42	68.23	65.39	63.92	64.10	73.34	82.50	74.56	74.41	71.30	74.57	77.84	81.11	84.38	87.65	90.56	93.48	96.39	99.31	102.22
10	6	14	56.69	49.47	42.42	40.32	66.29	71.67	68.91	65.79	63.69	63.82	75.64	90.92	75.67	75.02	71.67	74.61	77.55	80.49	83.43	86.37	89.54	92.71	95.88	99.05	102.22
10	6	15	55.64	49.82	41.71	40.11	66.36	82.07	69.07	65.79	63.62	63.81	86.30	99.48	77.00	74.29	71.67	74.49	77.31	80.13	82.95	85.77	89.06	92.35	95.64	98.93	102.22
10	6	16	54.65	51.65	41.67	40.56	66.35	81.66	69.57	65.54	63.45	63.82	88.35	95.34	81.38	74.19	71.79	74.49	77.18	79.88	82.57	85.27	88.66	92.05	95.44	98.83	102.22
10	6	17	53.89	51.65	41.80	41.62	66.30	76.50	69.07	65.39	63.61	64.11	84.39	89.51	78.91	74.19	72.12	74.81	77.50	80.20	82.89	85.58	88.87	92.16	95.44	98.73	102.02
10	6	18	56.22	51.60	41.71	42.68	66.30	75.56	69.07	65.60	63.45	65.04	83.61	91.86	88.00	73.15	72.73	75.30	77.87	80.44	83.01	85.58	88.83	92.08	95.33	98.58	101.83
10	6	19	57.33	61.58	43.64	44.50	71.04	80.22	78.95	66.18	63.99	66.78	83.61	115.48	92.29	73.85	73.17	76.30	79.43	82.55	85.68	88.81	91.75	94.70	97.64	100.59	103.53
10	6	20	57.02	69.88	45.66	49.70	80.31	89.35	81.08	74.96	65.12	68.45	91.91	97.45	94.48	75.78	75.75	78.80	81.85	84.89	87.94	90.99	93.71	96.43	99.16	101.88	104.60
10	6	21	51.33	48.81	44.66	48.97	64.15	71.67	68.90	65.60	63.98	68.45	77.36	76.68	74.80	73.51	75.68	78.51	81.34	84.16	86.99	89.82	92.52	95.21	97.91	100.60	103.30
10	6	22	45.50	47.56	41.25	44.44	60.04	63.81	63.59	62.71	61.69	66.78	71.91	70.88	72.30	71.51	73.17	75.61	78.05	80.48	82.92	85.36	88.38	91.39	94.41	97.42	100.44
10	6	23	44.72	46.10	37.98	39.64	58.75	60.95	62.32	61.99	58.57	64.11	68.50	69.12	71.55	70.97	71.61	73.63	75.65	77.67	79.69	81.71	85.24	88.77	92.29	95.82	99.35
10	6	24	36.46	39.04	35.35	37.55	56.87	58.33	58.74	57.98	56.43	62.10	66.03	65.98	68.25	68.35	68.65	70.73	72.82	74.90	76.99	79.07	82.26	85.46	88.65	91.85	95.04
10	7	1	31.18	33.85	34.04	41.91	52.95	54.67	56.65	55.97	55.15	65.68	61.95	62.07	64.47	65.96	70.99	72.00	73.01	74.02	75.03	76.04	79.16	82.28	85.41	88.53	91.65
10	7	2	30.43	32.97	31.91	38.02	51.34	54.04	54.95	55.36	53.79	62.38	60.60	61.13	62.33	64.68	68.48	69.49	70.51	71.52	72.54	73.55	76.73	79.92	83.10	86.29	89.47
10	7	3	29.09	29.68	31.25	37.43	50.85	53.52	53.68	54.05	53.22	61.38	60.21	60.08	61.27	63.30	67.92	68.80	69.69	70.57	71.46	72.34	75.19	78.04	80.88	83.73	86.58
10	7	4	30.26	29.52	31.04	37.43	50.85	53.48	53.53	53.82	52.86	61.80	60.21	59.99	60.72	62.97	68.21	68.74	69.27	69.79	70.32	70.85	73.73	76.60	79.48	82.35	85.23
10	7	5	30.71	33.10	31.14	40.76	52.63	54.53	54.87	53.94	52.79	64.29	60.84	61.27	62.04	63.07	70.80	70.86	70.92	70.97	71.03	71.09	73.99	76.88	79.78	82.67	85.57
10	7	6	33.06	36.20	32.13	46.15	56.47	56.70	57.62	55.37	53.28	68.19	63.06	64.45	66.60	64.68	74.23	73.93	73.64	73.34	73.05	72.75	76.04	79.32	82.61	85.89	89.18

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	7	7	38.37	40.69	33.72	49.70	58.59	59.05	58.47	56.42	54.45	71.46	66.02	66.22	68.08	66.53	77.48	76.84	76.20	75.56	74.92	74.28	77.89	81.51	85.12	88.74	92.35
10	7	8	44.06	43.61	35.11	51.20	60.22	61.14	61.33	57.82	55.78	74.75	69.79	69.58	70.81	68.33	80.77	79.89	79.01	78.13	77.25	76.37	79.88	83.38	86.89	90.39	93.90
10	7	9	45.46	46.10	36.91	51.91	60.78	62.55	62.16	60.23	57.64	74.75	71.28	69.80	71.55	69.67	81.15	80.82	80.50	80.17	79.85	79.52	82.97	86.41	89.86	93.30	96.75
10	7	10	46.42	46.74	38.44	51.91	62.54	64.29	62.31	61.67	58.72	75.64	72.95	70.24	71.92	70.37	82.12	81.85	81.58	81.31	81.04	80.77	84.46	88.15	91.83	95.52	99.21
10	7	11	46.93	47.05	39.10	60.88	63.58	65.61	62.32	62.19	59.24	75.70	74.00	70.63	72.16	70.83	82.12	82.09	82.05	82.02	81.98	81.95	85.69	89.43	93.18	96.92	100.66
10	7	12	47.51	47.40	39.72	53.66	64.56	69.47	62.68	62.01	60.60	76.13	74.51	71.79	72.41	70.43	81.58	81.79	82.00	82.20	82.41	82.62	86.39	90.16	93.93	97.70	101.47
10	7	13	49.42	47.40	39.85	85.32	66.60	74.65	63.09	61.89	61.01	77.97	75.86	73.89	72.48	70.02	81.68	81.78	81.88	81.98	82.08	82.18	85.76	89.34	92.91	96.49	100.07
10	7	14	48.67	47.30	39.97	83.13	71.84	88.67	63.26	61.85	61.76	76.13	83.61	75.53	72.70	69.82	82.03	82.10	82.17	82.24	82.31	82.38	85.74	89.09	92.45	95.80	99.16
10	7	15	51.81	47.13	39.92	51.91	77.86	85.73	63.17	61.77	61.87	75.42	84.49	77.58	72.54	69.66	81.17	81.39	81.61	81.84	82.06	82.28	85.35	88.42	91.49	94.56	97.63
10	7	16	52.99	47.30	39.91	51.91	76.74	80.91	62.90	61.68	62.16	74.95	86.21	85.10	72.32	69.30	80.72	81.08	81.44	81.81	82.17	82.53	85.37	88.20	91.04	93.87	96.71
10	7	17	51.74	46.64	40.95	51.60	74.36	79.23	63.09	61.52	62.69	74.82	83.80	77.66	71.94	69.42	80.72	81.26	81.80	82.35	82.89	83.43	86.27	89.11	91.95	94.79	97.63
10	7	18	50.27	46.64	42.44	51.73	73.77	88.67	64.48	61.68	63.02	75.10	85.99	77.24	71.94	69.34	81.49	82.24	82.99	83.75	84.50	85.25	87.53	89.82	92.10	94.39	96.67
10	7	19	53.78	47.72	44.18	56.37	77.96	90.03	65.34	61.98	64.17	83.57	86.42	84.23	73.06	70.14	92.79	91.59	90.39	89.18	87.98	86.78	89.26	91.73	94.21	96.68	99.16
10	7	20	56.81	58.24	46.89	64.70	76.96	100.01	67.49	62.71	66.01	122.10	86.42	81.96	80.99	70.95	140.35	130.55	120.75	110.94	101.14	91.34	93.45	95.56	97.66	99.77	101.88
10	7	21	49.28	47.54	46.10	56.52	67.74	71.51	64.98	61.98	65.38	79.38	75.80	74.25	72.41	70.21	93.18	92.70	92.22	91.73	91.25	90.77	92.70	94.63	96.56	98.49	100.42
10	7	22	46.37	45.20	43.53	49.73	61.83	63.17	61.28	61.13	63.20	73.14	71.09	70.49	70.81	69.44	79.44	80.85	82.26	83.66	85.07	86.48	88.62	90.77	92.91	95.06	97.20
10	7	23	45.32	44.38	39.45	48.53	60.22	60.87	61.82	58.03	59.29	69.53	68.47	69.32	70.91	67.82	78.35	79.10	79.85	80.60	81.35	82.10	84.36	86.63	88.89	91.16	93.42
10	7	24	37.39	37.74	36.88	45.08	58.17	58.62	58.05	56.42	57.20	66.78	66.33	66.01	68.26	66.53	74.23	75.30	76.36	77.43	78.49	79.56	81.72	83.88	86.05	88.21	90.37
10	8	1	31.44	33.53	40.84	39.02	54.57	55.00	55.85	55.06	60.99	62.58	60.65	62.78	64.53	63.69	70.30	72.32	74.34	76.37	78.39	80.41	81.90	83.40	84.89	86.39	87.88
10	8	2	30.54	32.24	38.17	36.65	52.92	54.39	54.74	53.53	58.72	60.21	59.43	61.27	62.56	62.35	67.78	69.76	71.73	73.71	75.68	77.66	79.00	80.34	81.68	83.02	84.36
10	8	3	28.24	29.20	37.49	34.62	52.23	53.46	52.90	52.99	57.63	59.10	58.80	60.11	61.49	61.64	66.29	68.36	70.42	72.49	74.55	76.62	77.84	79.06	80.28	81.50	82.72
10	8	4	27.91	28.79	37.52	34.62	52.63	53.50	52.86	52.41	57.31	59.34	58.87	59.91	60.72	61.18	66.14	68.21	70.28	72.34	74.41	76.48	77.50	78.51	79.53	80.54	81.56
10	8	5	30.49	29.10	40.41	37.40	53.95	54.53	52.90	52.56	59.26	61.49	59.25	61.13	60.98	61.26	67.92	70.31	72.70	75.10	77.49	79.88	80.32	80.77	81.21	81.66	82.10
10	8	6	33.27	32.25	46.23	42.14	57.09	56.41	54.74	53.34	63.11	66.46	62.81	64.75	62.48	62.00	72.73	74.95	77.17	79.38	81.60	83.82	83.79	83.77	83.74	83.72	83.69
10	8	7	37.02	33.76	48.06	49.04	59.15	59.02	55.99	54.51	68.36	69.72	66.34	66.31	65.08	62.96	76.08	78.62	81.17	83.71	86.26	88.80	88.29	87.78	87.27	86.76	86.25
10	8	8	42.38	35.64	50.51	51.37	60.80	60.92	57.06	55.96	69.70	71.78	69.79	68.89	66.87	64.68	80.33	82.73	85.12	87.52	89.91	92.31	91.62	90.92	90.23	89.53	88.84
10	8	9	44.88	38.87	50.97	51.63	61.83	62.02	58.57	57.09	70.93	72.51	71.13	69.58	68.25	66.53	81.15	83.38	85.61	87.85	90.08	92.31	92.06	91.81	91.56	91.31	91.06
10	8	10	45.68	41.70	52.73	51.90	62.67	62.82	61.16	57.90	70.93	74.00	71.28	69.94	69.62	67.38	80.82	83.21	85.60	87.99	90.38	92.77	92.84	92.91	92.99	93.06	93.13
10	8	11	46.21	42.82	55.37	51.92	64.02	63.48	61.76	57.97	74.44	75.42	71.28	70.21	70.91	68.25	79.76	82.44	85.13	87.81	90.50	93.18	93.30	93.41	93.53	93.64	93.76
10	8	12	46.63	42.84	53.62	52.71	65.86	65.01	62.07	58.57	74.09	75.92	72.31	70.24	71.20	68.45	79.75	82.35	84.95	87.55	90.15	92.75	93.11	93.48	93.84	94.21	94.57
10	8	13	45.50	41.75	52.92	52.71	68.49	65.96	61.33	58.88	74.62	76.04	75.27	70.23	70.17	68.99	79.75	82.35	84.96	87.56	90.17	92.77	93.04	93.31	93.59	93.86	94.13
10	8	14	45.50	41.04	52.91	52.78	75.03	70.22	61.08	59.39	75.44	77.39	81.77	70.11	69.58	68.81	79.76	82.44	85.13	87.81	90.50	93.18	93.50	93.82	94.13	94.45	94.77
10	8	15	44.78	40.81	52.25	52.71	74.66	77.20	60.87	59.29	74.09	77.05	83.81	69.80	69.27	68.85	79.75	82.32	84.89	87.47	90.04	92.61	93.09	93.57	94.05	94.53	95.01
10	8	16	44.45	40.76	51.34	51.91	70.76	80.88	60.30	59.39	73.25	76.04	84.39	69.57	68.52	68.81	79.44	82.03	84.61	87.20	89.78	92.37	92.95	93.52	94.10	94.67	95.25
10	8	17	44.42	40.81	51.34	51.91	71.48	80.84	60.25	59.83	72.26	76.43	83.91	69.42	69.26	68.85	79.76	82.33	84.90	87.47	90.04	92.61	93.22	93.82	94.43	95.03	95.64
10	8	18	44.44	40.80	51.51	51.91	72.98	80.90	60.32	60.50	72.23	76.84	79.62	69.42	68.94	69.44	80.87	83.21	85.55	87.90	90.24	92.58	93.27	93.96	94.65	95.34	96.03
10	8	19	46.23	42.61	55.25	52.27	75.20	90.68	61.16	62.51	82.05	81.83	80.88	70.25	70.31	69.98	87.24	89.79	92.34	94.88	97.43	99.98	99.79	99.59	99.40	99.20	99.01
10	8	20	56.69	47.04	59.71	54.73	75.66	92.52	62.35	64.10	102.73	89.74	83.61	72.20	72.08	72.81	96.53	109.89	123.25	136.62	149.98	163.34	151.11	138.88	126.66	114.43	102.20
10	8	21	45.50	43.10	53.97	52.71	66.95	67.51	62.26	63.06	74.44	80.33	73.69	69.58	71.28	71.73	82.30	84.61	86.92	89.24	91.55	93.86	95.53	97.20	98.86	100.53	102.20
10	8	22	43.38	40.54	49.34	50.32	61.89	63.81	58.71	61.83	69.17	72.18	71.28	67.99	69.26	70.49	77.15	80.18	83.21	86.25	89.28	92.31	93.98	95.65	97.31	98.98	100.65
10	8	23	41.05	36.56	47.81	49.56	59.43	61.13	57.32	58.78	66.48	69.46	69.38	67.99	68.09	68.52	76.21	79.05	81.90	84.74	87.59	90.43	91.37	92.31	93.26	94.20	95.14
10	8	24	35.85	33.57	44.20	42.74	57.40	57.96	55.64	56.97	63.10	66.77	65.95	64.66	64.47	67.14	72.84	75.16	77.48	79.79	82.11	84.43	86.05	87.67	89.29	90.91	92.53
10	9	1	31.59	31.93	37.59	38.59	54.64	55.14	54.16	60.91	58.51	62.25	61.50	62.60	61.82	69.56	68.64	70.64	72.65	74.65	76.66	78.66	81.63	84.60	87.58	90.55	93.52
10	9	2	30.54	28.58	36.28	36.62	52.89	54.02	52.75	59.76	56.24	60.13	59.62	61.40	59.55	68.98	67.92	69.51	71.10	72.70	74.29	75.88	78.96	82.04	85.12	88.20	91.28
10	9	3	28.00	28.04	34.96	35.88	51.84	52.74	52.10	58.65	55.42	58.88	58.54	60.31	58.87	66.88	67.40	68.80	70.20	71.59	72.99	74.39	77.42	80.45	83.49	86.52	89.55
10	9	4	27.72	27.57	34.92	35.72	51.84	52.42	51.64	58.79	55.37	58.88	58.28	60.05	58.33	66.71	66.72	68.22	69.71	71.21	72.70	74.20	77.19	80.18	83.17	86.16	89.15
10	9	5	27.81	27.68	36.98	37.54	53.52	54.02	51.99	60.29	56.79	61.37	59.35	60.23	58.39	69.86	68.23	69.89	71.56	73.22	74.89	76.55	79.64	82.73	85.83	88.92	92.01
10	9	6	30.47	28.63	41.26	41.94	56.06	57.09	52.84	62.20	61.15	66.38	62.81	61.51	59.15	71.51	72.38	74.10	75.82	77.55	79.27	80.99	84.29	87.59	90.88	94.18	97.48
10	9	7	31.94	31.82	47.02	48.23	58.50	57.28	54.35	66.03	65.39	69.46	65.44	63.07	60.51	74.01	76.06	78.27	80.48	82.70	84.91	87.12	89.95	92.78	95.61	98.44	101.27
10	9	8	33.49	32.75	50.51	50.62	59.79	60.45	55.39	68.49	68.45	71.77	67.57	64.09	62.49	76.31	79.76	82.27	84.78	87.30	89.81	92.32	94.61	96.90	99.20	101.49	103.78
10	9	9	36.49	34.13	51.51	50.89	60.78	61.05	56.54	69.94	68.92	72.52	68.06	66.20	64.53	77.57	80.87	83.16	85.45	87.74	90.03	92.32	94.98	97.64	100.30	102.96	105.62
10	9	10	39.61	35.60	51.51	51.10	61.51	61.49	57.42	77.14	69.25	73.27	68.71	68.00	66.58	79.08	80.89	83.18	85.46	87.75	90.03	92.32	95.13	97.94	100.74	103.55	106.36
10	9	11	41.64	36.33	52.83	51.63	63.09	61.87	58.15	84.12	69.89	74.98	68.70	68.24	67.25	80.17	81.15	83.38	85.62	87.85	90.09	92.32	96.79	101.26	105.74	110.21	114.68
10	9	12	40.64	37.61	54.05	51.80	64.13	62.36	58.29	83.45	70.01	75.48	68.71	67.82	67.67	79.08	82.29	84.30	86.30	88.31	90.31	92.32	96.93	101.54	106.16	110.77	115.38
10	9	13	39.65	38.19	53.44	51.81	66.36	62.31	58.71	84.98	70.38	75.58	68.70	66.59	67.67	82.40	81.54	83.70	85.86	88.01	90.17	92.33	95.23	98.13	101.04	103.94	106.84
10	9	14	38.54	38.38	53.25	51.80	68.21	62.59	58.83	92.17	70.79	75.32	69.13	66.20	67.67	80.13	80.72	83.05	85.39	87.72	90.06	92.39	95.38	98.37	101.37	104.36	107.35
10	9	15	37.87	38.34	51.51	51.80	70.74	62.55	58.84	82.00	71.86	75.16	69.31	66.18	67.54	77.94	79.77	82.28	84.79	87.30	89.81	92.32	95.17	98.02	100.86	103.71	106.56
10	9	16	37.49	38.60	51.51	51.63	72.73	62.74	58.92	72.00	70.34	74.79	69.54	66.01	67.54	77.94	79.37	81.89	84.40	86.92	89.43	91.95	94.99	98.02	101.06	104.09	107.13
10	9	17	37.87	39.64	51.51	50.85	67.61	62.07	59.43	70.38	70.73	74.75	69.54	66.19	67.67	77.61	79.46	81.97	84.47	86.98	89.48	91.99	94.86	97.74	100.61	103.49	106.36

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	9	18	37.19	40.54	51.51	50.85	69.08	62.50	59.52	70.43	71.53	75.10	69.10	66.19	68.25	78.02	79.76	82.27	84.78	87.30	89.81	92.32	95.06	97.81	100.55	103.30	106.04
10	9	19	39.30	42.79	55.99	52.71	74.46	64.52	61.28	79.51	73.25	78.22	70.73	67.37	68.29	85.92	81.58	84.11	86.63	89.16	91.68	94.21	103.35	112.49	121.62	130.76	139.90
10	9	20	46.15	47.04	56.63	53.22	79.39	69.56	62.66	84.69	79.55	89.35	75.27	68.53	71.26	130.77	92.27	92.68	93.10	93.51	93.93	94.34	104.30	114.27	124.23	134.20	144.16
10	9	21	40.54	46.89	55.48	51.81	67.33	62.54	62.26	77.19	73.52	73.50	69.13	67.99	71.26	82.56	79.76	82.27	84.78	87.30	89.81	92.32	99.72	107.11	114.51	121.90	129.30
10	9	22	37.51	41.94	50.31	49.54	61.05	60.21	60.89	67.20	67.41	70.85	66.76	66.19	68.29	75.27	76.06	78.85	81.64	84.44	87.23	90.02	92.86	95.71	98.55	101.40	104.24
10	9	23	34.49	37.97	47.58	48.64	60.71	60.30	58.09	64.59	65.13	68.74	66.24	65.16	68.25	73.20	74.60	76.95	79.31	81.66	84.02	86.37	89.53	92.69	95.86	99.02	102.18
10	9	24	31.47	34.18	42.46	42.15	57.77	57.55	56.66	61.86	62.15	64.75	62.89	63.20	65.57	72.03	71.21	73.12	75.03	76.95	78.86	80.77	84.22	87.66	91.11	94.55	98.00
10	10	1	29.86	40.36	37.59	37.40	54.63	54.66	59.73	57.55	58.27	61.71	60.62	60.91	68.69	67.27	68.45	70.47	72.49	74.50	76.52	78.54	80.96	83.38	85.81	88.23	90.65
10	10	2	27.38	38.18	36.41	35.53	52.63	53.69	58.78	56.68	56.49	59.90	59.62	59.69	67.49	65.70	66.66	68.53	70.40	72.26	74.13	76.00	78.74	81.48	84.23	86.97	89.71
10	10	3	26.35	36.07	36.21	33.77	50.99	52.49	56.38	56.23	55.96	58.88	58.17	59.34	64.76	65.13	64.92	66.89	68.85	70.82	72.78	74.75	77.57	80.39	83.21	86.03	88.85
10	10	4	26.11	36.21	36.21	34.62	50.69	52.07	56.44	56.23	55.98	59.34	57.70	59.07	64.92	65.80	66.09	67.81	69.53	71.24	72.96	74.68	77.56	80.43	83.31	86.18	89.06
10	10	5	26.16	39.95	37.16	36.43	52.39	51.97	59.20	57.29	57.06	61.53	57.97	59.16	68.11	66.68	68.64	70.33	72.01	73.70	75.38	77.07	79.64	82.21	84.78	87.35	89.92
10	10	6	27.34	46.27	41.19	41.99	56.12	53.58	62.26	60.60	60.97	64.93	59.45	59.58	71.90	69.98	71.52	73.25	74.98	76.70	78.43	80.16	83.17	86.18	89.18	92.19	95.20
10	10	7	29.53	48.33	47.82	48.23	58.12	54.66	66.56	62.86	65.62	69.09	60.68	60.30	74.77	72.87	74.22	76.38	78.54	80.70	82.86	85.02	87.95	90.88	93.82	96.75	99.68
10	10	8	30.51	50.07	50.51	50.66	59.15	56.60	68.84	65.60	68.38	70.68	62.22	62.22	76.48	75.17	76.88	79.34	81.80	84.27	86.73	89.19	92.11	95.03	97.96	100.88	103.80
10	10	9	32.23	50.79	51.51	51.20	60.63	58.67	72.38	66.29	69.70	71.82	64.63	64.06	78.18	75.97	77.44	80.29	83.14	86.00	88.85	91.70	94.17	96.65	99.12	101.60	104.07
10	10	10	33.27	51.05	51.53	51.38	61.17	60.02	80.63	67.23	69.89	72.77	66.70	65.01	78.66	76.41	78.20	80.89	83.57	86.26	88.94	91.63	94.10	96.57	99.03	101.50	103.97
10	10	11	34.08	58.68	53.62	51.53	61.83	60.30	86.21	68.39	70.90	74.28	66.76	65.25	79.46	76.73	79.76	82.18	84.59	87.01	89.42	91.84	94.22	96.61	98.99	101.38	103.76
10	10	12	35.40	57.92	56.25	51.63	61.81	60.30	81.11	68.53	71.47	75.16	66.62	65.25	79.98	76.50	79.76	82.20	84.65	87.09	89.54	91.98	94.10	96.22	98.34	100.46	102.58
10	10	13	35.85	59.16	55.86	51.67	60.78	60.15	79.97	68.91	70.88	75.35	65.95	65.94	80.92	76.44	80.82	82.95	85.08	87.20	89.33	91.46	93.70	95.93	98.17	100.40	102.64
10	10	14	35.97	59.16	56.30	51.91	60.76	59.90	79.97	69.66	70.48	75.72	65.87	65.68	83.77	76.31	80.82	82.87	84.92	86.96	89.01	91.06	93.46	95.86	98.25	100.65	103.05
10	10	15	35.97	57.92	53.97	51.69	60.74	59.34	70.57	70.00	70.12	75.42	65.43	65.68	79.80	76.22	80.72	82.85	84.98	87.12	89.25	91.38	93.76	96.14	98.53	100.91	103.29
10	10	16	35.98	55.38	51.51	51.69	60.64	58.86	68.69	69.11	70.01	75.59	64.99	65.97	78.41	76.01	80.86	82.93	85.00	87.08	89.15	91.22	93.63	96.05	98.46	100.88	103.29
10	10	17	36.35	54.32	51.51	51.63	60.61	58.86	67.37	69.16	69.94	75.63	65.43	66.19	79.41	76.01	82.62	84.37	86.12	87.88	89.63	91.38	93.88	96.38	98.88	101.38	103.88
10	10	18	36.98	55.38	51.53	51.63	60.78	58.86	67.31	69.72	69.70	75.70	65.43	66.53	80.31	76.51	80.72	82.85	84.99	87.12	89.26	91.39	94.32	97.25	100.17	103.10	106.03
10	10	19	40.17	58.50	56.47	52.71	62.67	59.96	73.72	70.41	71.25	84.82	66.62	68.00	91.76	79.53	94.96	94.45	93.93	93.42	92.90	92.39	95.61	98.83	102.05	105.27	108.49
10	10	20	46.50	67.85	60.91	53.55	68.66	60.45	109.57	73.53	77.04	87.31	66.91	69.63	136.43	82.49	96.53	95.78	95.03	94.29	93.54	92.79	98.55	104.31	110.06	115.82	121.58
10	10	21	45.90	57.92	54.43	51.91	60.80	60.30	77.58	70.33	69.17	75.42	66.72	69.33	90.96	77.42	81.15	83.06	84.97	86.89	88.80	90.71	93.61	96.51	99.41	102.31	105.21
10	10	22	39.66	49.28	49.92	49.54	58.76	59.34	66.94	65.84	66.01	71.37	65.21	68.09	75.89	73.48	77.23	79.14	81.05	82.97	84.88	86.79	89.68	92.57	95.47	98.36	101.25
10	10	23	35.79	47.56	48.72	48.84	58.78	57.05	64.96	62.98	64.55	69.60	62.66	65.22	73.95	73.20	77.01	78.26	79.51	80.75	82.00	83.25	86.53	89.80	93.08	96.35	99.63
10	10	24	32.39	44.38	41.49	42.42	56.59	54.66	60.78	61.10	61.38	66.08	60.62	63.69	70.27	71.18	72.84	74.06	75.28	76.50	77.72	78.94	82.13	85.31	88.50	91.68	94.87
10	11	1	37.51	36.96	38.21	37.62	53.04	53.15	58.17	57.04	57.65	61.85	58.94	67.03	67.71	67.90	68.18	69.86	71.53	73.21	74.88	76.56	79.46	82.36	85.26	88.16	91.06
10	11	2	35.43	35.00	36.91	35.37	52.20	51.17	56.87	56.41	56.18	59.80	57.10	66.19	64.80	66.11	66.59	68.11	69.63	71.15	72.67	74.19	77.32	80.45	83.57	86.70	89.83
10	11	3	32.33	33.81	35.07	33.53	51.42	50.87	56.22	55.10	55.20	58.25	56.15	64.19	63.30	64.22	65.80	66.92	68.04	69.15	70.27	71.39	74.56	77.73	80.89	84.06	87.23
10	11	4	32.39	33.84	36.17	33.48	50.65	50.36	56.74	54.94	56.08	58.10	55.44	64.20	64.41	64.01	65.61	67.26	68.91	70.57	72.22	73.87	76.49	79.12	81.74	84.37	86.99
10	11	5	37.23	36.21	37.69	36.30	50.38	50.42	57.99	57.09	57.63	60.44	55.45	66.19	66.68	66.58	67.65	68.95	70.26	71.56	72.87	74.17	77.30	80.43	83.57	86.70	89.83
10	11	6	44.15	40.88	41.25	41.73	52.39	50.94	60.47	60.72	60.84	65.43	56.65	69.98	68.84	70.14	71.33	72.78	74.23	75.69	77.14	78.59	81.38	84.17	86.96	89.75	92.54
10	11	7	45.47	47.01	48.28	47.56	53.01	53.00	63.68	63.27	63.88	69.46	57.80	72.29	72.60	73.15	75.77	77.38	79.00	80.61	82.23	83.84	86.90	89.96	93.02	96.08	99.14
10	11	8	48.36	48.39	51.02	49.83	54.68	53.98	66.94	66.04	66.40	71.35	59.43	74.31	75.86	75.68	77.52	79.41	81.31	83.20	85.10	86.99	90.11	93.23	96.36	99.48	102.60
10	11	9	48.96	50.09	51.72	50.20	56.79	54.84	68.12	66.45	67.59	72.05	60.82	75.97	76.23	76.22	79.97	81.60	83.23	84.86	86.49	88.12	91.29	94.46	97.63	100.80	103.97
10	11	10	48.43	50.50	52.34	51.02	58.46	56.32	69.32	67.10	67.99	73.46	62.18	78.31	76.23	76.41	81.15	82.70	84.26	85.81	87.37	88.92	91.93	94.94	97.95	100.96	103.97
10	11	11	50.94	51.17	53.78	51.63	58.51	56.75	70.28	67.82	69.17	75.16	62.89	80.24	76.39	76.95	82.15	83.73	85.30	86.88	88.45	90.03	92.84	95.65	98.46	101.27	104.08
10	11	12	53.48	51.17	54.78	51.63	58.50	57.05	71.82	68.31	69.17	75.38	63.83	81.88	76.45	77.24	82.27	83.96	85.65	87.33	89.02	90.71	93.43	96.15	98.87	101.59	104.31
10	11	13	52.47	50.86	54.99	51.63	58.43	57.09	71.31	68.40	69.89	75.48	63.19	78.31	76.51	76.73	82.39	84.05	85.72	87.38	89.05	90.71	93.36	96.01	98.67	101.32	103.97
10	11	14	51.66	51.43	55.38	51.53	57.97	56.70	71.66	68.38	70.24	75.09	63.51	78.31	77.73	76.73	81.68	83.53	85.38	87.24	89.09	90.94	93.55	96.15	98.76	101.36	103.97
10	11	15	49.89	50.95	54.53	51.02	57.35	56.70	71.62	67.45	70.29	73.46	63.43	75.45	75.87	76.31	80.67	82.83	84.99	87.14	89.30	91.46	93.68	95.91	98.13	100.36	102.58
10	11	16	49.32	50.50	51.81	51.34	57.25	56.86	70.79	67.17	70.11	74.55	63.81	74.88	75.73	75.91	80.02	82.49	84.96	87.43	89.90	92.37	94.33	96.29	98.26	100.22	102.18
10	11	17	48.72	49.89	51.51	51.00	57.21	57.18	69.96	67.11	70.11	74.05	64.71	76.80	75.83	75.46	79.44	82.10	84.75	87.41	90.06	92.72	94.61	96.50	98.40	100.29	102.18
10	11	18	48.99	49.75	51.51	51.00	57.20	57.61	69.96	67.92	70.11	75.09	65.70	78.31	76.51	76.02	79.44	82.03	84.61	87.20	89.78	92.37	94.36	96.35	98.35	100.34	102.33
10	11	19	52.90	50.35	57.48	51.91	58.12	59.78	73.61	70.81	74.80	78.68	66.38	86.95	84.20	79.95	88.33	89.22	90.11	90.99	91.88	92.77	95.34	97.91	100.48	103.05	105.62
10	11	20	56.69	51.03	58.25	53.40	58.74	60.85	81.37	73.47	72.09	85.92	68.50	124.73	90.28	81.45	92.79	92.79	92.79	92.79	92.79	92.79	96.96	101.13	105.30	109.47	113.64
10	11	21	56.56	49.89	54.95	51.53	58.62	60.85	77.81	68.91	69.53	74.60	67.83	84.37	79.53	76.42	79.76	82.18	84.60	87.02	89.44	91.86	93.93	95.99	98.06	100.12	102.19
10	11	22	47.05	47.84	50.31	49.41	57.20	59.96	66.61	64.28	67.26	71.48	66.76	73.71	74.68	73.24	76.83	79.19	81.55	83.92	86.28	88.64	90.87	93.09	95.32	97.54	99.77
10	11	23	45.05	47.09	49.12	48.84	55.07	57.25	64.14	62.82	65.39	69.63	63.33	72.46	73.60	73.15	76.83	78.68	80.54	82.39	84.25	86.10	88.57	91.04	93.51	95.98	98.45
10	11	24	38.99	41.04	42.47	43.38	53.42	55.41	60.39	60.05	62.32	66.78	61.44	68.93	69.22	69.97	73.17	74.63	76.09	77.54	79.00	80.46	82.87	85.29	87.70	90.12	92.53
10	12	1	33.47	35.90	38.12	39.02	52.13	58.43	58.09	57.02	57.68	63.74	64.95	64.22	66.63	67.79	71.40	72.57	73.73	74.90	76.06	77.23	79.65	82.06	84.48	86.89	89.31
10	12	2	31.69	33.90	36.43	37.31	50.65	57.79	56.74	55.90	56.10	61.54	62.81	61.79	64.58	65.13	69.61	70.65	71.70	72.74	73.79	74.83	77.21	79.59	81.96	84.34	86.72
10	12	3	31.51	31.83	34.90	34.25	50.00	55.50	54.45	55.20	55.28	59.14	61.58	61.32	62.46	63.30	66.92	68.21	69.50	70.80	72.09	73.38	75.78	78.19	80.59	83.00	85.40
10	12	4	31.51	31.76	34.74	33.91	49.19	56.08	54.45	55.18	55.05	58.87	61.62	61.13	62.27	63.23	66.67	67.92	69.17	70.41	71.66	72.91	75.42	77.92	80.43	82.93	85.44

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	12	5	32.48	35.16	37.33	34.19	49.10	58.43	56.74	56.70	56.30	58.88	64.92	63.26	65.23	66.97	66.63	68.38	70.13	71.88	73.63	75.38	78.02	80.66	83.30	85.94	88.58
10	12	6	38.14	39.73	40.80	37.39	49.76	61.71	60.05	60.82	61.36	61.71	68.91	67.72	68.88	69.69	68.49	70.77	73.05	75.32	77.60	79.88	82.40	84.92	87.45	89.97	92.49
10	12	7	45.54	46.96	47.46	40.57	51.57	63.85	64.17	63.40	65.13	64.10	71.28	70.24	72.54	72.88	71.40	73.98	76.57	79.15	81.74	84.32	87.07	89.83	92.58	95.34	98.09
10	12	8	47.98	47.90	50.45	44.01	52.76	67.87	66.86	66.49	67.60	66.78	73.51	73.77	75.86	74.15	73.17	76.29	79.41	82.52	85.64	88.76	91.26	93.76	96.26	98.76	101.26
10	12	9	48.41	48.14	50.92	47.80	54.06	69.43	67.55	66.55	68.47	67.78	73.50	74.15	76.51	74.31	76.08	78.95	81.82	84.69	87.56	90.43	92.78	95.13	97.48	99.83	102.18
10	12	10	48.76	48.18	51.89	49.51	54.75	70.89	68.47	67.54	69.25	69.58	74.28	74.31	76.46	75.91	77.44	80.28	83.12	85.95	88.79	91.63	93.77	95.91	98.04	100.18	102.32
10	12	11	49.32	48.36	52.81	50.20	55.04	73.33	69.25	69.03	69.98	70.62	80.19	73.81	76.39	76.42	79.76	82.27	84.79	87.30	89.82	92.33	94.40	96.47	98.55	100.62	102.69
10	12	12	51.23	48.65	52.81	50.20	55.48	73.30	69.52	68.75	70.16	70.41	81.84	73.56	76.39	76.53	79.75	82.27	84.80	87.32	89.85	92.37	94.59	96.82	99.04	101.27	103.49
10	12	13	50.94	49.06	53.31	50.21	55.95	74.26	69.26	69.03	69.70	69.92	78.40	73.81	76.30	76.61	77.62	80.62	83.62	86.61	89.61	92.61	94.79	96.97	99.14	101.32	103.50
10	12	14	51.21	49.28	53.38	50.17	55.95	72.91	69.19	69.63	69.32	69.58	78.56	77.15	76.23	77.07	77.15	80.09	83.03	85.96	88.90	91.84	94.17	96.50	98.84	101.17	103.50
10	12	15	49.89	49.06	52.65	50.00	55.95	74.48	68.98	70.07	68.73	69.46	78.22	75.67	76.22	77.07	76.87	79.47	82.07	84.68	87.28	89.88	92.62	95.35	98.09	100.82	103.56
10	12	16	49.62	48.57	52.09	49.47	55.95	68.02	68.06	70.30	69.08	69.19	75.85	74.93	75.83	77.38	76.57	79.29	82.01	84.73	87.45	90.17	93.05	95.93	98.80	101.68	104.56
10	12	17	49.51	48.35	51.03	49.47	56.26	67.64	68.13	69.19	68.83	69.19	76.34	75.23	75.86	77.40	76.82	79.45	82.09	84.72	87.36	89.99	92.94	95.89	98.83	101.78	104.73
10	12	18	49.89	48.39	52.09	49.47	56.40	68.59	68.21	70.01	69.17	69.46	76.87	76.51	76.22	77.38	77.15	79.80	82.46	85.11	87.77	90.42	93.27	96.13	98.98	101.84	104.69
10	12	19	51.51	51.64	56.12	50.66	57.93	78.00	71.24	80.75	72.62	71.29	86.90	85.52	82.55	80.89	79.37	81.96	84.55	87.15	89.74	92.33	95.45	98.57	101.68	104.80	107.92
10	12	20	52.47	50.99	61.50	51.50	59.48	104.79	81.76	81.14	74.31	73.14	129.22	87.19	84.20	79.40	81.15	83.45	85.74	88.04	90.33	92.63	98.23	103.83	109.44	115.04	120.64
10	12	21	49.89	49.49	52.83	50.62	58.85	76.77	70.58	70.47	69.53	71.42	85.29	76.58	75.93	76.61	79.18	81.55	83.93	86.30	88.68	91.05	93.64	96.22	98.81	101.39	103.98
10	12	22	46.85	47.65	49.15	49.04	58.12	65.06	64.98	65.80	66.38	69.46	73.50	72.23	73.70	73.85	76.31	78.55	80.80	83.04	85.29	87.53	90.19	92.85	95.51	98.17	100.83
10	12	23	46.29	46.74	47.54	44.46	55.92	63.09	63.06	64.28	65.39	66.78	70.86	70.87	71.96	73.15	73.07	75.52	77.97	80.41	82.86	85.31	88.17	91.04	93.90	96.77	99.63
10	12	24	38.49	39.53	43.11	40.73	53.79	59.63	59.77	61.67	62.39	64.92	67.88	68.68	68.30	70.03	71.50	73.65	75.79	77.94	80.08	82.23	84.60	86.98	89.35	91.73	94.10
10	13	1	33.25	35.24	38.41	37.21	58.28	56.99	57.99	57.24	58.83	62.00	62.65	64.88	65.23	66.59	68.64	70.82	72.99	75.17	77.34	79.52	81.64	83.77	85.89	88.02	90.14
10	13	2	32.07	33.59	37.16	33.35	57.65	55.92	56.72	55.62	57.27	59.26	60.56	62.59	62.32	63.21	66.66	68.86	71.06	73.26	75.46	77.66	79.08	80.51	81.93	83.36	84.78
10	13	3	30.09	31.26	35.55	32.70	55.15	55.00	53.56	55.06	55.89	58.66	60.56	61.53	61.33	62.95	65.71	67.68	69.64	71.61	73.57	75.54	77.34	79.13	80.93	82.72	84.52
10	13	4	30.28	31.23	35.36	32.23	55.48	55.40	53.51	55.00	55.59	58.16	61.14	61.32	61.52	62.79	65.38	67.36	69.33	71.31	73.28	75.26	76.99	78.72	80.45	82.18	83.91
10	13	5	32.49	36.07	35.46	32.32	57.91	56.60	57.99	56.97	55.57	58.28	61.52	62.78	64.51	65.21	65.67	67.58	69.49	71.40	73.31	75.22	77.89	80.56	83.23	85.90	88.57
10	13	6	37.61	39.99	37.04	33.22	60.70	59.05	59.56	60.29	57.11	58.88	65.98	67.37	67.67	69.69	66.05	68.24	70.44	72.63	74.83	77.02	79.98	82.94	85.91	88.87	91.83
10	13	7	45.50	46.78	39.29	35.88	64.27	61.25	63.28	62.82	59.58	60.98	69.55	69.99	71.50	71.73	68.51	70.76	73.02	75.27	77.53	79.78	83.51	87.24	90.98	94.71	98.44
10	13	8	47.62	48.19	42.89	38.26	66.34	65.01	66.99	66.88	62.34	63.64	70.86	73.77	74.77	74.23	70.75	72.92	75.08	77.25	79.41	81.58	85.60	89.62	93.64	97.66	101.68
10	13	9	48.31	48.77	46.91	41.90	68.85	66.43	68.03	68.47	65.39	66.43	71.24	74.43	74.83	76.13	72.84	75.40	77.95	80.51	83.06	85.62	89.11	92.60	96.09	99.58	103.07
10	13	10	48.75	49.75	48.44	44.84	76.79	67.16	68.61	70.55	66.82	66.78	72.30	74.43	75.04	76.41	73.17	76.26	79.36	82.45	85.55	88.64	91.77	94.91	98.04	101.18	104.31
10	13	11	49.02	50.30	49.45	46.38	88.85	67.77	68.57	71.73	67.74	67.33	73.74	74.57	75.70	76.53	74.23	77.54	80.84	84.15	87.45	90.76	93.62	96.48	99.35	102.21	105.07
10	13	12	49.03	50.35	49.45	47.61	99.46	68.28	68.32	71.73	67.74	67.71	73.95	74.48	75.78	76.55	74.23	77.47	80.71	83.94	87.18	90.42	93.39	96.37	99.34	102.32	105.29
10	13	13	49.20	50.07	48.82	47.78	97.10	68.27	68.19	68.57	67.54	67.72	73.54	74.43	75.87	76.70	74.39	77.26	80.13	82.99	85.86	88.73	92.01	95.28	98.56	101.83	105.11
10	13	14	49.11	50.27	48.47	47.18	94.49	68.40	68.31	68.36	67.41	67.46	74.10	74.25	76.23	76.53	73.72	76.60	79.48	82.36	85.24	88.12	91.44	94.77	98.09	101.42	104.74
10	13	15	48.52	51.35	48.13	45.81	78.53	68.59	68.06	67.11	67.62	66.78	73.95	74.21	76.05	76.08	73.57	76.36	79.15	81.95	84.74	87.53	90.76	93.99	97.22	100.45	103.68
10	13	16	48.14	50.95	48.26	45.94	66.89	66.56	67.73	67.17	67.63	66.91	73.54	73.67	76.39	76.15	73.46	76.23	79.01	81.78	84.56	87.33	90.78	94.22	97.67	101.11	104.56
10	13	17	48.03	50.35	48.26	46.05	64.99	67.02	67.59	66.65	67.63	67.72	73.69	73.71	76.33	75.91	74.23	76.85	79.47	82.09	84.71	87.33	90.64	93.94	97.25	100.55	103.86
10	13	18	48.42	50.45	48.14	47.67	64.80	67.63	68.17	67.37	67.52	68.63	74.87	73.71	76.33	76.41	75.67	78.04	80.41	82.79	85.16	87.53	91.05	94.56	98.08	101.59	105.11
10	13	19	57.10	60.03	48.82	49.47	69.99	71.73	87.60	74.04	68.69	70.90	76.87	86.54	85.62	78.62	77.78	80.11	82.44	84.77	87.10	89.43	93.26	97.10	100.93	104.77	108.60
10	13	20	54.51	56.72	52.13	54.17	80.96	73.48	88.48	85.85	69.42	77.96	82.63	87.90	81.32	78.02	98.18	96.54	94.90	93.27	91.63	89.99	93.84	97.69	101.53	105.38	109.23
10	13	21	49.62	51.93	49.45	50.85	81.51	70.68	70.77	68.31	67.41	73.12	74.84	74.22	76.22	75.91	81.66	83.03	84.40	85.78	87.15	88.52	92.10	95.68	99.25	102.83	106.41
10	13	22	46.77	48.57	47.08	49.04	62.67	65.01	65.24	64.98	65.39	69.58	71.23	70.44	73.22	73.15	77.42	79.02	80.62	82.22	83.82	85.42	88.77	92.13	95.48	98.84	102.19
10	13	23	45.72	47.90	43.63	45.77	62.27	63.09	64.29	64.17	62.86	66.85	70.23	70.24	72.53	73.05	74.60	75.94	77.27	78.61	79.94	81.28	85.22	89.16	93.10	97.04	100.98
10	13	24	37.60	42.93	39.29	41.56	58.79	59.57	60.28	61.39	60.08	65.20	66.52	67.68	68.69	70.95	72.84	74.13	75.42	76.70	77.99	79.28	83.19	87.11	91.02	94.94	98.85
10	14	1	32.97	36.51	37.52	36.83	56.55	56.88	57.81	59.35	57.29	61.50	62.34	65.12	64.92	67.91	70.19	71.73	73.26	74.80	76.33	77.87	80.79	83.72	86.64	89.57	92.49
10	14	2	32.33	32.72	34.96	35.73	55.45	55.85	54.19	56.41	55.39	60.45	60.70	62.56	62.00	65.84	68.48	69.61	70.73	71.86	72.98	74.11	77.14	80.17	83.19	86.22	89.25
10	14	3	30.22	31.96	33.69	34.19	53.91	53.94	53.83	55.78	54.34	59.35	59.27	61.26	61.81	64.80	67.09	68.13	69.17	70.22	71.26	72.30	75.64	78.99	82.33	85.68	89.02
10	14	4	30.32	32.07	33.53	34.51	55.09	54.16	53.63	55.74	54.02	59.37	59.05	61.32	61.71	64.57	67.24	68.25	69.26	70.27	71.28	72.29	75.51	78.73	81.95	85.17	88.39
10	14	5	32.39	35.77	33.55	36.83	56.32	56.32	56.74	55.79	54.18	61.54	61.49	64.18	63.58	64.22	68.81	69.60	70.39	71.17	71.96	72.75	75.88	79.01	82.13	85.26	88.39
10	14	6	37.48	41.51	34.03	42.56	58.28	59.05	59.74	57.90	54.65	66.52	65.93	66.99	68.34	66.11	73.15	73.21	73.27	73.33	73.39	73.45	76.97	80.49	84.02	87.54	91.06
10	14	7	45.32	47.24	36.25	48.15	60.88	61.48	62.95	59.95	56.24	69.98	69.55	69.78	71.83	68.70	76.80	76.70	76.59	76.49	76.38	76.28	79.47	82.66	85.85	89.04	92.23
10	14	8	47.19	49.44	37.70	50.20	62.92	65.43	66.37	61.22	58.15	71.35	71.15	72.45	75.17	70.69	80.72	80.33	79.94	79.55	79.16	78.77	82.48	86.19	89.91	93.62	97.33
10	14	9	48.18	50.16	40.97	51.10	64.02	67.08	66.58	62.80	61.15	72.04	71.30	72.64	76.37	72.03	82.33	82.20	82.06	81.93	81.79	81.66	85.43	89.20	92.96	96.73	100.50
10	14	10	48.42	50.50	43.69	51.63	65.25	67.45	67.24	65.47	62.58	72.76	72.31	73.56	77.13	74.31	83.00	82.85	82.69	82.54	82.38	82.23	86.32	90.40	94.49	98.57	102.66
10	14	11	48.96	50.50	44.94	51.38	67.02	68.13	68.06	66.88	63.33	76.35	73.54	73.71	78.03	74.67	90.05	88.49	86.92	85.36	83.79	82.23	86.72	91.21	95.71	100.20	104.69
10	14	12	49.17	50.50	45.25	51.37	69.04	68.13	68.06	66.62	64.09	75.72	73.74	74.31	78.84	75.02	94.55	92.10	89.65	87.20	84.75	82.30	86.60	90.90	95.20	99.50	103.80
10	14	13	49.49	50.33	45.59	51.37	73.38	68.46	68.03	66.44	64.22	74.05	73.74	73.83	78.20	75.11	84.36	84.11	83.86	83.61	83.36	83.11	87.02	90.93	94.84	98.75	102.66
10	14	14	49.17	50.16	45.68	51.34	74.79	68.33	67.73	66.03	63.87	73.46	73.74	74.27	76.65	74.27	84.36	84.08	83.80	83.53	83.25	82.97	86.85	90.74	94.62	98.51	102.39
10	14	15	48.54	49.44	45.85	50.66	66.29	67.27	67.17	66.04	63.88	73.31	73.50	74.31	75.83	73.94	82.78	82.89	83.00	83.11	83.22	83.33	87.10	90.87	94.64	98.41	102.18

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	14	16	48.43	49.25	45.99	50.62	65.66	65.51	67.21	66.29	64.08	73.14	73.33	74.43	75.86	73.61	82.39	82.62	82.86	83.09	83.33	83.56	87.27	90.99	94.70	98.42	102.13
10	14	17	48.57	48.39	46.32	50.33	65.53	65.01	67.08	66.29	65.12	73.14	73.32	74.86	75.78	73.47	82.39	82.84	83.29	83.74	84.19	84.64	88.14	91.64	95.13	98.63	102.13
10	14	18	48.64	49.00	46.89	50.36	65.59	65.01	67.04	66.04	66.38	73.06	73.38	74.43	75.93	73.61	82.78	83.48	84.18	84.87	85.57	86.27	89.44	92.61	95.79	98.96	102.13
10	14	19	56.50	53.28	48.12	52.71	68.56	69.73	70.58	66.44	68.73	80.72	75.16	91.95	90.28	74.19	115.10	109.71	104.32	98.93	93.54	88.15	91.05	93.96	96.86	99.77	102.67
10	14	20	52.85	55.91	52.91	52.04	71.09	72.08	75.03	73.46	75.69	78.33	83.18	94.33	97.40	76.50	128.79	121.67	114.55	107.43	100.31	93.19	95.35	97.50	99.66	101.81	103.97
10	14	21	49.49	49.89	50.51	51.36	66.35	67.16	68.29	66.36	69.17	73.86	73.54	74.43	76.22	74.37	94.55	93.93	93.30	92.68	92.05	91.43	93.58	95.73	97.89	100.04	102.19
10	14	22	46.92	47.84	47.09	49.11	63.34	63.67	65.79	63.72	66.04	70.73	70.53	70.59	73.89	72.92	77.44	79.38	81.32	83.25	85.19	87.13	89.63	92.13	94.63	97.13	99.63
10	14	23	45.90	47.62	43.92	48.26	61.71	62.08	63.69	62.09	63.50	69.19	69.78	70.66	74.15	70.96	76.94	78.01	79.08	80.14	81.21	82.28	85.06	87.85	90.63	93.42	96.20
10	14	24	38.55	43.46	39.29	42.05	58.39	59.57	60.32	60.00	60.77	64.56	65.81	67.72	71.33	68.85	72.86	74.26	75.67	77.07	78.48	79.88	82.40	84.92	87.45	89.97	92.49
10	15	1	32.55	38.22	37.61	36.30	56.55	56.46	58.73	57.82	57.68	60.44	62.53	64.93	68.24	66.19	68.89	70.82	72.75	74.68	76.61	78.54	80.96	83.38	85.81	88.23	90.65
10	15	2	30.28	33.80	36.67	35.15	55.42	55.54	55.28	55.10	56.49	59.91	61.02	61.71	64.68	64.05	67.49	69.61	71.72	73.84	75.95	78.07	79.72	81.37	83.02	84.67	86.32
10	15	3	29.58	33.06	34.96	34.62	52.96	53.50	54.51	54.86	55.66	59.65	58.91	61.20	63.64	62.95	67.38	69.13	70.87	72.62	74.36	76.11	77.66	79.21	80.76	82.31	83.86
10	15	4	29.33	32.68	35.20	34.93	53.00	53.16	54.27	54.51	55.63	59.82	59.05	61.12	63.09	62.96	67.57	69.26	70.95	72.65	74.34	76.03	77.61	79.19	80.78	82.36	83.94
10	15	5	31.69	32.82	37.82	36.17	56.15	56.57	54.59	54.92	57.46	60.46	61.49	62.83	63.23	63.12	68.63	70.61	72.59	74.58	76.56	78.54	79.72	80.90	82.09	83.27	84.45
10	15	6	36.47	36.51	40.81	42.07	58.28	59.34	57.06	55.34	62.27	64.86	65.30	66.24	65.25	63.47	72.22	73.97	75.72	77.48	79.23	80.98	81.79	82.59	83.40	84.20	85.01
10	15	7	42.72	40.50	47.46	48.16	60.97	62.08	58.73	57.90	66.00	69.98	69.60	69.57	68.27	65.75	75.59	77.67	79.75	81.82	83.90	85.98	86.79	87.60	88.41	89.22	90.03
10	15	8	47.05	43.97	50.25	50.17	63.09	65.01	60.47	59.75	68.89	71.54	71.16	72.41	70.27	67.94	78.17	80.88	83.58	86.29	88.99	91.70	91.57	91.44	91.32	91.19	91.06
10	15	9	48.19	47.48	50.62	50.62	63.91	66.22	63.14	61.36	69.89	73.45	71.42	73.83	73.34	69.96	79.46	82.12	84.78	87.45	90.11	92.77	92.69	92.62	92.54	92.47	92.39
10	15	10	49.00	48.24	51.09	51.02	64.63	66.90	64.93	61.88	70.66	73.97	72.20	74.43	75.44	71.02	80.72	83.30	85.89	88.47	91.06	93.64	94.35	95.05	95.76	96.46	97.17
10	15	11	49.00	49.60	51.94	51.37	65.25	67.16	66.46	62.51	71.28	74.75	73.43	76.74	76.23	71.30	80.72	85.11	89.49	93.88	98.26	102.65	101.75	100.86	99.96	99.07	98.17
10	15	12	49.03	48.65	51.94	51.02	65.55	67.27	66.47	62.79	71.47	74.75	73.54	76.64	75.86	71.51	80.72	85.13	89.55	93.96	98.38	102.79	101.92	101.05	100.18	99.31	98.44
10	15	13	49.17	48.24	51.51	51.36	65.59	67.87	66.46	63.27	70.93	74.89	73.92	75.53	75.70	71.41	80.86	83.43	86.00	88.56	91.13	93.70	94.45	95.20	95.95	96.70	97.45
10	15	14	49.09	48.16	51.30	51.36	65.66	68.17	65.53	63.34	70.29	74.95	74.17	74.57	74.70	71.20	81.66	84.06	86.45	88.85	91.24	93.64	94.23	94.82	95.41	96.00	96.59
10	15	15	49.17	48.14	50.51	51.08	65.51	68.36	64.96	62.49	70.11	73.87	74.54	73.71	74.29	71.18	80.87	83.37	85.87	88.36	90.86	93.36	94.02	94.69	95.35	96.02	96.68
10	15	16	49.03	47.90	50.51	50.66	64.96	67.64	64.59	62.56	69.89	73.60	75.01	73.71	74.23	71.14	80.82	83.29	85.76	88.24	90.71	93.18	93.98	94.78	95.58	96.38	97.18
10	15	17	48.68	47.90	49.62	51.08	64.99	68.35	64.33	63.06	69.24	73.19	75.61	73.56	73.89	71.20	80.72	83.18	85.64	88.09	90.55	93.01	94.09	95.18	96.26	97.35	98.43
10	15	18	48.68	47.90	49.62	51.41	65.25	68.11	64.18	64.58	69.45	73.77	75.28	73.71	74.51	72.80	80.86	83.31	85.76	88.22	90.67	93.12	94.47	95.81	97.16	98.50	99.85
10	15	19	52.28	48.35	56.09	52.71	70.97	98.45	66.55	65.88	74.55	76.35	87.89	89.02	75.07	74.03	82.08	87.91	93.74	99.56	105.39	111.22	109.45	107.69	105.92	104.16	102.39
10	15	20	57.67	52.27	59.80	53.17	74.13	118.58	69.07	73.40	83.05	77.85	87.89	88.31	76.48	79.86	92.66	96.37	100.08	103.80	107.51	111.22	109.97	108.72	107.48	106.23	104.98
10	15	21	49.17	49.05	51.93	51.80	65.66	74.94	66.55	66.62	70.00	74.05	75.12	73.56	75.04	76.08	79.46	82.66	85.86	89.05	92.25	95.45	97.01	98.57	100.14	101.70	103.26
10	15	22	46.76	47.77	49.26	49.49	62.06	64.66	63.28	63.37	67.73	70.88	71.96	70.49	72.32	73.20	76.35	78.93	81.51	84.08	86.66	89.24	91.61	93.98	96.34	98.71	101.08
10	15	23	46.66	44.97	48.69	49.04	61.09	63.09	60.55	61.99	65.38	69.53	70.60	70.63	69.33	71.51	76.35	78.15	79.94	81.74	83.53	85.33	87.70	90.06	92.43	94.79	97.16
10	15	24	39.54	40.61	40.93	42.23	58.50	59.90	58.73	59.93	61.43	65.43	67.40	68.89	67.64	70.35	72.85	74.34	75.83	77.31	78.80	80.29	82.74	85.19	87.63	90.08	92.53
10	16	1	35.04	36.17	36.90	37.48	56.55	56.60	57.11	57.44	57.30	61.05	62.81	64.95	64.08	68.28	69.11	70.55	71.99	73.43	74.87	76.31	79.26	82.21	85.16	88.11	91.06
10	16	2	30.51	32.26	35.98	36.05	53.72	54.58	54.20	56.27	56.26	60.14	59.31	62.71	62.49	66.48	68.44	69.95	71.47	72.98	74.50	76.01	78.86	81.71	84.55	87.40	90.25
10	16	3	30.09	31.61	35.42	34.62	53.26	54.16	53.68	55.85	56.00	59.33	58.77	62.09	61.23	65.88	66.58	68.42	70.25	72.09	73.92	75.76	78.36	80.96	83.55	86.15	88.75
10	16	4	29.83	31.56	35.58	35.07	53.26	54.16	53.06	56.31	56.08	59.38	58.50	61.79	61.15	66.38	66.96	68.74	70.52	72.31	74.09	75.87	78.79	81.71	84.62	87.54	90.46
10	16	5	30.00	31.73	36.98	38.05	56.18	56.30	53.20	57.20	57.20	62.06	61.13	61.88	61.20	67.25	68.86	70.33	71.79	73.26	74.72	76.19	79.16	82.14	85.11	88.09	91.06
10	16	6	33.09	32.24	41.42	42.69	58.39	58.59	53.88	60.01	61.83	66.52	65.91	63.31	61.59	70.28	72.85	74.37	75.89	77.42	78.94	80.46	83.27	86.08	88.88	91.69	94.50
10	16	7	36.08	36.13	47.50	48.44	60.70	61.29	56.43	62.80	65.71	69.89	69.60	65.25	63.64	73.82	75.68	77.94	80.20	82.47	84.73	86.99	89.91	92.83	95.75	98.67	101.59
10	16	8	38.92	38.69	50.47	51.47	63.09	65.01	58.17	67.28	68.69	71.25	71.59	67.43	66.02	75.24	77.59	80.28	82.97	85.67	88.36	91.05	93.63	96.22	98.80	101.39	103.97
10	16	9	44.62	41.70	51.05	51.47	64.05	66.84	59.19	68.31	69.17	72.12	73.25	69.63	68.24	77.32	79.18	81.71	84.24	86.78	89.31	91.84	94.27	96.69	99.12	101.54	103.97
10	16	10	46.93	46.36	51.60	51.63	64.61	69.29	60.51	68.40	69.64	73.00	73.54	71.35	69.78	78.41	79.28	81.89	84.50	87.10	89.71	92.32	95.17	98.02	100.86	103.71	106.56
10	16	11	47.85	46.74	52.81	51.80	66.16	71.82	60.78	69.70	71.53	74.17	73.74	73.34	70.58	85.96	79.44	82.10	84.77	87.43	90.10	92.76	95.65	98.53	101.42	104.30	107.19
10	16	12	47.55	46.96	51.94	51.79	65.25	69.96	61.30	71.44	71.53	74.68	74.51	73.07	70.80	79.98	79.44	82.08	84.72	87.35	89.99	92.63	95.27	97.91	100.54	103.18	105.82
10	16	13	47.16	47.05	52.52	51.92	64.96	68.14	61.28	68.72	71.53	74.74	74.32	72.45	69.92	77.64	79.28	81.94	84.61	87.27	89.94	92.60	95.14	97.68	100.21	102.75	105.29
10	16	14	47.05	46.73	51.68	51.94	65.13	65.96	60.78	68.72	74.54	74.75	74.36	70.59	69.62	76.41	79.70	82.23	84.77	87.30	89.84	92.37	94.82	97.28	99.73	102.19	104.64
10	16	15	46.71	44.98	51.33	51.91	64.63	65.01	60.78	67.54	74.23	73.77	73.43	70.24	69.68	76.27	79.44	82.02	84.59	87.17	89.74	92.32	94.65	96.98	99.31	101.64	103.97
10	16	16	46.66	44.87	50.96	51.81	64.50	64.94	61.19	67.21	74.06	73.14	73.50	70.21	69.73	76.28	79.75	82.26	84.78	87.29	89.81	92.32	94.65	96.98	99.31	101.64	103.97
10	16	17	46.66	44.99	50.96	51.80	64.96	64.81	61.52	67.17	72.49	73.14	73.43	70.21	70.21	76.41	80.08	82.50	84.91	87.33	89.74	92.16	94.52	96.88	99.25	101.61	103.97
10	16	18	46.66	47.40	51.94	51.81	65.25	64.92	61.86	67.14	71.97	73.81	73.78	70.11	71.92	76.41	80.82	83.13	85.44	87.75	90.06	92.37	94.69	97.01	99.33	101.65	103.97
10	16	19	47.55	48.16	53.82	70.83	89.32	73.36	64.96	74.13	74.12	97.75	78.23	71.29	74.48	89.31	101.59	99.85	98.11	96.37	94.63	92.89	95.46	98.04	100.61	103.19	105.76
10	16	20	49.89	61.84	54.87	64.32	90.57	84.22	70.28	73.92	80.26	88.46	80.96	73.71	76.89	109.58	94.55	96.17	97.79	99.41	101.03	102.65	103.78	104.91	106.05	107.18	108.31
10	16	21	47.16	50.35	53.17	53.58	76.53	67.08	67.45	67.21	70.03	75.70	74.11	72.20	75.07	78.39	80.72	83.04	85.36	87.69	90.01	92.33	94.56	96.80	99.03	101.27	103.50
10	16	22	46.29	47.84	48.79	50.00	64.01	62.55	63.68	65.28	67.09	71.46	71.13	69.31	72.60	74.66	76.76	79.17	81.59	84.00	86.42	88.83	91.50	94.18	96.85	99.53	102.20
10	16	23	39.81	46.12	48.28	49.35	61.39	62.43	60.85	62.79	65.13	69.54	70.15	67.37	69.92	72.83	75.96	77.95	79.94	81.94	83.93	85.92	88.96	92.00	95.05	98.09	101.13
10	16	24	36.30	41.70	41.72	42.78	58.31	59.34	59.35	60.43	61.88	66.04	68.02	65.70	67.98	70.85	72.10	73.74	75.38	77.01	78.65	80.29	83.53	86.78	90.02	93.27	96.51
10	17	1	33.23	37.48	37.23	38.06	56.52	57.55	57.59	57.20	57.62	62.34	63.10	63.94	64.25	67.87	68.29	69.97	71.66	73.34	75.03	76.71	79.18	81.64	84.11	86.57	89.04
10	17	2	29.32	36.37	36.31	36.55	53.11	55.14	55.66	56.23	56.49	60.44	61.01	61.22	62.93	66.41	67.55	69.32	71.09	72.86	74.63	76.40	78.82	81.23	83.65	86.06	88.48

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	17	3	28.91	33.41	35.49	34.62	52.30	54.65	54.45	55.66	55.66	58.88	60.44	59.91	62.53	65.21	65.80	67.75	69.70	71.66	73.61	75.56	77.84	80.12	82.41	84.69	86.97
10	17	4	28.46	35.65	35.90	34.95	52.03	54.58	55.08	55.83	55.82	58.88	60.25	59.62	62.93	65.49	66.05	68.04	70.02	72.01	73.99	75.98	78.23	80.48	82.72	84.97	87.22
10	17	5	28.49	37.55	38.01	37.33	54.62	54.64	56.95	57.23	57.60	61.51	60.21	59.95	63.58	66.99	69.11	71.04	72.97	74.91	76.84	78.77	80.97	83.17	85.36	87.56	89.76
10	17	6	29.09	43.88	42.44	42.22	58.28	56.32	59.35	61.39	60.70	64.37	61.27	60.27	68.34	70.28	72.22	73.91	75.60	77.30	78.99	80.68	83.57	86.47	89.36	92.26	95.15
10	17	7	32.44	48.14	47.78	49.04	60.65	58.19	62.62	63.41	65.13	68.63	63.72	63.15	72.32	73.81	74.77	77.06	79.35	81.64	83.93	86.22	89.37	92.52	95.67	98.82	101.97
10	17	8	34.88	50.16	50.96	51.63	62.44	60.26	66.00	66.49	68.18	70.21	67.18	65.13	75.78	76.08	77.40	80.16	82.93	85.69	88.46	91.22	93.49	95.76	98.04	100.31	102.58
10	17	9	37.82	50.50	51.29	51.81	63.09	62.58	67.10	66.65	68.70	71.76	68.91	66.19	76.65	76.22	79.28	81.89	84.50	87.10	89.71	92.32	94.54	96.76	98.97	101.19	103.41
10	17	10	40.37	50.84	51.30	52.70	64.00	64.06	67.99	67.51	68.73	73.14	70.51	67.04	77.58	76.37	80.03	82.49	84.95	87.40	89.86	92.32	94.65	96.98	99.31	101.64	103.97
10	17	11	41.75	53.11	51.78	52.70	64.46	67.43	68.93	68.75	69.17	74.32	71.26	67.72	78.35	77.46	80.77	83.08	85.39	87.70	90.01	92.32	94.77	97.22	99.66	102.11	104.56
10	17	12	42.75	51.60	51.59	52.08	64.50	66.65	68.18	68.54	69.17	74.17	71.78	68.13	78.18	78.00	80.16	82.59	85.02	87.46	89.89	92.32	94.70	97.09	99.47	101.86	104.24
10	17	13	43.23	50.67	51.80	52.57	64.50	64.43	68.17	69.26	68.89	74.73	72.95	68.80	77.73	78.02	81.66	83.79	85.92	88.06	90.19	92.32	94.77	97.22	99.66	102.11	104.56
10	17	14	43.42	50.64	51.75	53.19	64.70	64.01	68.22	71.63	69.85	75.16	72.54	69.69	77.83	80.37	82.77	84.68	86.59	88.51	90.42	92.33	94.95	97.57	100.20	102.82	105.44
10	17	15	43.59	50.50	51.29	52.26	64.46	63.09	68.06	70.18	70.01	74.96	71.13	68.80	76.29	78.24	82.52	84.48	86.44	88.40	90.36	92.32	94.81	97.30	99.80	102.29	104.78
10	17	16	43.64	50.34	50.51	52.57	64.25	62.58	67.05	70.38	70.13	74.75	70.82	69.05	75.86	78.41	82.77	84.54	86.31	88.09	89.86	91.63	94.33	97.02	99.72	102.41	105.11
10	17	17	44.04	50.12	50.96	51.92	64.22	62.74	67.08	71.63	70.18	75.09	70.82	68.78	75.83	78.38	82.39	84.38	86.37	88.35	90.34	92.33	94.80	97.27	99.75	102.22	104.69
10	17	18	44.25	50.12	51.41	52.04	64.21	63.09	67.07	71.04	70.24	75.04	70.82	69.09	75.86	78.41	84.36	85.95	87.54	89.14	90.73	92.32	95.14	97.96	100.79	103.61	106.43
10	17	19	46.71	51.89	62.81	61.33	69.11	65.34	74.76	73.98	74.65	91.67	73.43	70.31	84.20	99.36	105.81	103.80	101.80	99.79	97.79	95.78	98.43	101.08	103.72	106.37	109.02
10	17	20	57.14	63.89	62.81	86.05	90.46	78.70	77.63	79.02	73.45	122.49	76.17	74.31	82.85	99.95	118.55	116.19	113.82	111.46	109.09	106.73	109.80	112.87	115.94	119.01	122.08
10	17	21	49.08	50.84	53.66	53.27	65.57	64.48	68.47	69.16	69.69	76.35	73.18	73.56	76.23	78.00	82.41	84.41	86.40	88.40	90.39	92.39	94.84	97.29	99.74	102.19	104.64
10	17	22	46.42	48.17	48.79	50.61	63.03	62.43	64.35	65.14	67.18	73.27	70.53	69.58	73.61	74.31	79.17	81.14	83.10	85.07	87.03	89.00	91.63	94.27	96.90	99.54	102.17
10	17	23	40.51	47.84	48.28	49.49	61.71	60.15	63.68	62.82	65.11	70.19	68.42	68.00	71.73	73.72	76.76	78.77	80.79	82.80	84.82	86.83	89.71	92.59	95.48	98.36	101.24
10	17	24	37.10	43.02	42.69	42.87	58.50	58.19	60.05	61.66	61.57	66.58	65.38	66.19	67.99	70.95	72.85	74.40	75.95	77.50	79.05	80.60	83.60	86.59	89.59	92.58	95.58
10	18	1	34.60	37.26	38.16	37.69	56.98	56.60	56.74	57.33	57.73	61.95	61.49	64.08	63.96	68.00	68.65	70.43	72.21	74.00	75.78	77.56	79.96	82.36	84.77	87.17	89.57
10	18	2	32.85	35.55	37.03	34.45	53.26	54.07	55.40	56.60	56.91	58.17	59.62	62.51	62.52	66.98	65.77	67.85	69.94	72.02	74.11	76.19	78.55	80.91	83.26	85.62	87.98
10	18	3	30.54	34.13	35.03	33.44	53.04	53.77	54.74	56.53	55.05	57.64	58.62	61.62	61.96	65.60	64.81	66.69	68.57	70.44	72.32	74.20	77.28	80.36	83.44	86.52	89.60
10	18	4	32.55	34.52	35.28	33.32	52.63	53.20	55.16	56.64	55.04	57.53	58.44	62.16	62.06	66.47	64.93	66.81	68.69	70.56	72.44	74.32	77.67	81.01	84.36	87.70	91.05
10	18	5	34.09	37.24	37.49	36.01	53.13	53.48	58.01	57.61	57.48	60.23	58.54	63.11	63.64	67.09	66.59	68.59	70.59	72.60	74.60	76.60	79.78	82.96	86.13	89.31	92.49
10	18	6	38.24	43.02	40.41	41.56	55.92	53.86	60.47	61.43	60.31	64.52	58.94	66.59	68.00	70.37	70.84	72.78	74.72	76.67	78.61	80.55	83.45	86.35	89.24	92.14	95.04
10	18	7	46.10	47.83	47.50	47.76	57.49	56.42	64.71	63.55	63.83	69.43	61.78	69.57	71.92	73.52	74.23	76.48	78.73	80.99	83.24	85.49	88.52	91.56	94.59	97.63	100.66
10	18	8	47.85	50.16	50.31	50.00	58.62	57.41	68.01	67.31	67.27	70.36	62.81	72.46	74.79	76.19	77.01	79.71	82.42	85.12	87.83	90.53	92.87	95.20	97.54	99.87	102.21
10	18	9	48.76	50.33	51.51	50.61	60.26	58.92	69.21	67.60	68.36	71.54	66.51	73.82	75.85	76.20	79.28	81.67	84.06	86.44	88.83	91.22	93.42	95.62	97.81	100.01	102.21
10	18	10	49.17	50.64	51.89	51.10	61.09	59.90	70.28	67.54	69.17	72.55	68.18	74.64	75.83	76.20	79.70	82.23	84.77	87.30	89.84	92.37	94.34	96.31	98.27	100.24	102.21
10	18	11	51.46	51.16	52.74	51.50	62.10	60.84	71.16	68.88	69.62	73.82	69.32	76.96	76.23	76.31	80.72	83.13	85.54	87.95	90.36	92.77	94.66	96.55	98.43	100.32	102.21
10	18	12	51.11	50.67	52.09	51.47	62.69	60.97	70.70	70.10	69.45	74.00	69.81	77.80	76.23	76.33	80.24	82.77	85.30	87.83	90.36	92.89	94.75	96.62	98.48	100.35	102.21
10	18	13	49.49	50.67	53.08	51.41	63.04	60.97	70.59	70.18	69.59	74.17	70.09	75.88	76.29	76.49	80.02	82.65	85.29	87.92	90.56	93.19	95.02	96.85	98.67	100.50	102.33
10	18	14	49.08	50.95	53.66	51.63	62.84	60.69	70.30	71.73	71.53	73.97	69.60	76.27	76.48	77.15	79.46	82.37	85.28	88.19	91.10	94.01	95.72	97.44	99.15	100.87	102.58
10	18	15	48.52	50.67	51.94	51.36	61.83	60.26	69.30	70.51	71.90	73.97	68.42	77.81	76.23	76.70	79.37	82.30	85.23	88.15	91.08	94.01	95.67	97.33	99.00	100.66	102.32
10	18	16	48.31	50.84	51.80	50.66	61.03	60.18	69.28	69.66	73.44	73.82	68.18	76.64	76.51	76.50	78.59	81.54	84.50	87.45	90.41	93.36	95.21	97.07	98.92	100.78	102.63
10	18	17	48.16	50.67	51.94	50.62	61.03	60.48	69.18	69.66	72.49	73.77	68.42	76.64	76.46	76.51	78.18	81.27	84.36	87.46	90.55	93.64	95.44	97.24	99.04	100.84	102.64
10	18	18	48.16	50.64	52.93	51.02	61.81	61.72	70.87	69.60	72.58	73.87	70.30	76.49	76.48	77.53	77.95	81.28	84.61	87.93	91.26	94.59	96.27	97.94	99.62	101.29	102.97
10	18	19	50.68	52.73	64.26	52.78	64.43	65.02	77.48	94.34	97.72	80.86	71.28	85.49	79.15	107.63	80.86	89.78	98.70	107.63	116.55	125.47	121.46	117.46	113.45	109.45	105.44
10	18	20	51.11	55.20	81.65	61.42	65.66	97.21	85.45	80.76	115.12	87.61	77.54	92.91	84.20	98.07	92.25	98.67	105.08	111.50	117.91	124.33	121.16	117.99	114.83	111.66	108.49
10	18	21	48.76	50.84	53.97	51.80	63.99	68.28	71.53	70.02	72.70	74.75	73.43	77.14	75.83	77.94	79.46	82.57	85.67	88.78	91.88	94.99	96.92	98.85	100.78	102.71	104.64
10	18	22	46.66	47.90	50.76	49.62	61.83	62.77	66.42	65.88	68.70	71.38	70.75	72.20	72.47	74.28	76.83	79.84	82.86	85.87	88.89	91.90	93.96	96.02	98.08	100.14	102.20
10	18	23	45.80	47.90	48.69	48.83	58.84	60.97	64.11	62.86	66.00	69.53	69.06	70.85	71.90	72.68	75.97	78.41	80.86	83.30	85.75	88.19	90.84	93.49	96.13	98.78	101.43
10	18	24	39.31	43.09	41.30	42.69	57.47	59.34	60.72	61.47	62.19	66.24	66.40	68.22	68.34	70.48	72.85	74.67	76.49	78.31	80.13	81.95	84.75	87.55	90.34	93.14	95.94
10	19	1	33.40	37.22	37.26	38.00	55.68	57.18	58.73	57.72	57.79	62.62	62.72	64.93	65.32	68.01	68.86	70.60	72.34	74.08	75.82	77.56	80.18	82.79	85.41	88.02	90.64
10	19	2	32.52	35.65	34.39	35.05	52.63	55.98	57.10	57.09	55.66	58.88	61.49	62.60	62.81	66.63	67.27	68.51	69.75	71.00	72.24	73.48	76.62	79.76	82.90	86.04	89.18
10	19	3	31.80	35.19	33.89	34.34	51.92	54.46	55.69	56.68	54.85	58.30	60.15	61.99	63.50	65.84	66.20	67.64	69.08	70.52	71.96	73.40	76.22	79.03	81.85	84.66	87.48
10	19	4	32.06	36.14	33.80	34.18	51.48	56.11	56.85	56.78	54.74	58.22	61.32	62.28	64.01	65.88	66.06	67.22	68.38	69.54	70.70	71.86	75.11	78.36	81.62	84.87	88.12
10	19	5	33.42	37.82	36.40	34.01	51.49	56.99	58.34	57.44	56.91	58.40	62.78	64.58	65.37	67.09	65.88	67.94	70.00	72.07	74.13	76.19	78.83	81.46	84.10	86.73	89.37
10	19	6	39.09	43.88	39.91	36.82	52.16	60.97	60.78	60.01	59.62	61.85	67.15	68.07	68.29	70.18	68.86	71.03	73.20	75.36	77.53	79.70	82.79	85.88	88.97	92.06	95.15
10	19	7	45.86	47.84	47.31	39.24	54.92	64.66	63.77	62.68	64.20	63.84	70.30	70.53	71.59	73.51	70.36	73.21	76.06	78.91	81.76	84.61	87.85	91.10	94.34	97.59	100.83
10	19	8	47.83	50.50	49.82	43.33	56.52	68.95	67.82	67.31	66.90	66.46	73.43	74.29	74.83	75.97	72.86	76.02	79.17	82.33	85.48	88.64	91.35	94.06	96.78	99.49	102.20
10	19	9	48.31	50.66	50.37	47.80	57.99	68.85	68.50	67.60	67.96	68.41	74.17	75.53	75.70	76.22	74.60	77.71	80.82	83.93	87.04	90.15	92.88	95.61	98.34	101.07	103.80
10	19	10	48.90	50.66	50.96	49.35	58.68	71.03	69.06	68.22	68.45	69.53	73.69	76.48	75.78	76.41	76.54	79.70	82.85	86.01	89.16	92.32	94.94	97.57	100.19	102.82	105.44
10	19	11	49.17	50.67	51.89	49.47	59.18	90.99	70.37	71.67	68.91	70.09	75.94	77.28	76.05	76.41	76.97	80.05	83.13	86.21	89.29	92.37	95.32	98.27	101.23	104.18	107.13
10	19	12	48.99	50.65	52.34	49.47	59.65	79.53	69.37	71.59	68.90	70.19	74.91	77.36	75.86	77.29	76.57	79.72	82.87	86.03	89.18	92.33	94.52	96.70	98.89	101.07	103.26
10	19	13	49.38	50.84	51.94	49.36	59.76	71.23	69.21	71.69	68.90	69.78	75.05	77.80	75.86	77.53	76.21	79.43	82.65	85.88	89.10	92.32	94.65	96.98	99.31	101.64	103.97

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	19	14	50.10	50.84	51.94	49.04	59.66	70.00	69.21	73.70	69.17	69.59	74.45	77.80	76.48	78.24	74.90	78.39	81.89	85.38	88.88	92.37	94.81	97.25	99.68	102.12	104.56
10	19	15	48.95	50.66	51.51	48.83	59.57	68.14	68.81	73.25	69.17	69.53	74.20	76.48	75.86	78.00	74.64	78.18	81.71	85.25	88.78	92.32	94.88	97.44	99.99	102.55	105.11
10	19	16	50.44	50.64	50.51	48.78	59.55	68.08	68.51	71.70	69.17	69.53	73.74	76.58	75.78	78.08	75.07	78.52	81.97	85.42	88.87	92.32	94.88	97.44	99.99	102.55	105.11
10	19	17	50.10	50.64	50.25	48.83	59.70	66.31	68.94	71.58	68.89	69.53	73.54	75.23	75.83	78.04	76.06	79.31	82.56	85.82	89.07	92.32	95.14	97.96	100.77	103.59	106.41
10	19	18	51.46	50.67	50.31	49.03	60.31	66.21	69.13	71.58	69.04	69.58	73.69	76.80	76.65	80.96	76.45	79.63	82.80	85.98	89.15	92.33	94.92	97.51	100.11	102.70	105.29
10	19	19	61.16	74.01	56.80	50.17	62.52	76.27	89.46	90.52	73.26	73.14	76.54	86.74	97.45	130.34	79.17	82.54	85.91	89.28	92.65	96.02	104.44	112.87	121.29	129.72	138.14
10	19	20	65.01	58.25	58.80	50.66	70.97	85.03	89.38	111.81	79.79	73.31	76.54	94.57	91.02	139.60	79.28	83.86	88.44	93.01	97.59	102.17	109.30	116.44	123.57	130.71	137.84
10	19	21	53.42	51.58	51.78	49.83	64.39	68.14	71.77	73.92	69.98	71.67	74.51	79.49	75.87	86.55	78.00	81.44	84.88	88.31	91.75	95.19	97.83	100.48	103.12	105.77	108.41
10	19	22	46.71	47.90	48.49	49.03	62.08	62.74	64.96	66.86	67.57	69.53	71.23	72.46	72.70	75.84	76.22	79.09	81.96	84.84	87.71	90.58	92.91	95.23	97.56	99.88	102.21
10	19	23	46.18	47.62	46.29	44.84	59.42	63.42	64.60	64.26	65.12	67.20	70.15	71.84	71.83	73.20	73.15	76.07	78.99	81.91	84.83	87.75	90.52	93.29	96.07	98.84	101.61
10	19	24	40.54	43.61	40.95	40.28	58.11	60.26	60.47	61.24	62.02	64.65	66.81	68.57	68.24	70.57	71.02	73.05	75.09	77.12	79.16	81.19	84.29	87.38	90.48	93.57	96.67
10	20	1	34.27	37.33	38.21	36.93	55.98	57.18	58.05	57.44	58.73	61.66	62.78	65.55	65.32	67.94	68.75	70.69	72.63	74.58	76.52	78.46	80.71	82.97	85.22	87.48	89.73
10	20	2	33.02	35.74	35.55	34.19	54.15	55.00	56.74	56.56	56.41	58.13	61.16	63.25	64.05	65.15	66.58	68.44	70.30	72.15	74.01	75.87	78.04	80.21	82.38	84.55	86.72
10	20	3	33.03	34.56	34.89	33.22	52.95	54.64	56.40	55.05	56.02	57.88	60.48	62.66	62.53	62.94	65.89	67.75	69.62	71.48	73.35	75.21	76.89	78.57	80.24	81.92	83.60
10	20	4	33.06	35.07	34.96	32.70	53.30	54.64	56.38	55.06	55.73	57.64	60.88	62.60	62.60	63.05	65.22	67.12	69.02	70.93	72.83	74.73	76.52	78.31	80.10	81.89	83.68
10	20	5	34.94	37.22	34.52	32.95	55.33	57.12	57.44	56.77	55.63	57.73	62.49	64.93	64.98	65.73	65.22	67.09	68.95	70.82	72.68	74.55	77.22	79.89	82.57	85.24	87.91
10	20	6	38.99	42.27	36.93	33.71	58.62	60.65	60.47	59.83	57.77	58.27	66.55	69.22	67.99	69.69	65.81	67.85	69.89	71.94	73.98	76.02	79.50	82.98	86.45	89.93	93.41
10	20	7	45.53	47.40	38.69	36.70	61.09	62.39	63.60	62.68	58.98	60.46	70.30	70.52	71.56	72.61	68.86	70.84	72.82	74.80	76.78	78.76	83.01	87.25	91.50	95.74	99.99
10	20	8	47.85	49.60	42.86	38.59	63.16	64.47	67.68	65.22	62.29	63.77	73.18	73.71	74.78	74.19	70.92	73.03	75.14	77.25	79.36	81.47	85.62	89.76	93.91	98.05	102.20
10	20	9	48.31	50.65	46.09	42.10	64.06	67.75	69.07	65.84	64.00	66.57	73.43	74.32	75.70	75.71	72.52	75.21	77.91	80.60	83.30	85.99	89.26	92.53	95.79	99.06	102.33
10	20	10	48.52	50.95	47.58	45.44	64.50	70.36	70.42	66.62	65.80	67.08	73.51	74.61	76.82	76.14	72.86	75.79	78.73	81.66	84.60	87.53	90.54	93.55	96.56	99.57	102.58
10	20	11	48.76	51.89	48.48	47.16	66.16	72.19	71.18	67.54	66.89	68.71	75.14	75.53	77.83	76.41	74.19	76.98	79.77	82.57	85.36	88.15	91.17	94.19	97.22	100.24	103.26
10	20	12	48.76	50.95	48.93	47.78	66.48	70.93	71.26	67.68	66.19	69.19	74.91	74.61	76.46	76.41	74.56	77.28	80.00	82.71	85.43	88.15	91.11	94.08	97.04	100.01	102.97
10	20	13	48.90	51.00	47.34	47.92	65.25	71.60	71.26	67.63	66.02	69.46	75.14	74.32	76.98	76.42	74.82	77.38	79.94	82.51	85.07	87.63	90.80	93.98	97.15	100.33	103.50
10	20	14	48.90	51.88	46.86	47.78	65.21	73.95	79.17	67.63	66.04	69.19	75.15	74.47	80.92	76.50	74.21	76.72	79.23	81.73	84.24	86.75	90.08	93.41	96.75	100.08	103.41
10	20	15	48.31	51.58	46.10	47.45	64.98	70.74	72.34	67.17	66.38	68.60	75.12	73.77	78.62	76.49	73.48	76.06	78.64	81.21	83.79	86.37	89.71	93.05	96.39	99.73	103.07
10	20	16	48.19	50.95	46.19	46.89	64.45	70.17	71.19	66.88	66.52	68.60	75.15	73.77	76.51	76.29	73.18	75.80	78.43	81.05	83.68	86.30	89.63	92.96	96.29	99.62	102.95
10	20	17	48.53	50.84	46.64	48.03	64.21	68.93	70.37	66.88	67.09	69.19	75.14	73.81	76.65	76.28	74.45	77.03	79.61	82.18	84.76	87.34	90.39	93.44	96.48	99.53	102.58
10	20	18	48.76	50.99	46.86	49.03	64.27	69.95	71.64	67.17	67.96	69.58	75.14	74.22	80.92	76.29	75.77	78.46	81.15	83.85	86.54	89.23	92.09	94.94	97.80	100.65	103.51
10	20	19	55.46	58.71	48.82	50.61	67.41	77.26	95.50	70.36	69.47	73.77	79.53	93.09	102.99	77.48	79.18	81.82	84.46	87.09	89.73	92.37	94.87	97.38	99.88	102.39	104.89
10	20	20	55.01	89.75	50.25	57.64	80.93	83.79	115.63	79.21	70.12	81.27	80.97	92.77	130.73	87.94	94.48	94.07	93.66	93.26	92.85	92.44	99.78	107.11	114.45	121.78	129.12
10	20	21	49.62	53.99	48.51	51.46	65.59	70.08	77.02	68.31	68.89	73.77	74.66	78.77	81.61	76.95	79.76	82.01	84.25	86.50	88.74	90.99	94.07	97.16	100.24	103.33	106.41
10	20	22	46.67	48.57	46.06	49.35	62.67	62.97	68.03	65.36	67.41	71.03	71.23	72.23	74.83	74.19	76.57	78.85	81.13	83.42	85.70	87.98	90.83	93.67	96.52	99.36	102.21
10	20	23	46.27	47.90	42.32	47.28	61.49	62.58	65.42	63.07	63.97	69.47	70.51	71.27	73.22	72.72	74.56	76.43	78.31	80.18	82.06	83.93	87.58	91.23	94.87	98.52	102.17
10	20	24	40.54	43.59	38.04	42.36	58.50	59.05	60.59	61.02	61.22	66.30	67.18	68.68	68.79	70.37	73.17	74.61	76.05	77.50	78.94	80.38	83.71	87.04	90.36	93.69	97.02
10	21	1	34.94	36.89	36.11	37.98	56.08	56.91	57.49	57.48	57.78	63.43	63.05	65.66	65.40	68.00	72.06	73.23	74.40	75.56	76.73	77.90	80.62	83.33	86.05	88.76	91.48
10	21	2	33.32	34.51	33.53	36.78	54.41	55.86	56.40	56.52	56.10	60.98	62.22	63.18	62.53	66.59	71.37	72.14	72.91	73.67	74.44	75.21	78.00	80.80	83.59	86.39	89.18
10	21	3	32.61	32.24	33.41	35.36	53.51	54.64	54.04	55.96	55.49	59.04	61.47	62.05	61.58	65.97	69.83	70.74	71.64	72.55	73.45	74.36	77.25	80.13	83.02	85.90	88.79
10	21	4	32.84	32.01	33.41	37.28	53.85	55.10	53.92	55.86	55.08	61.85	62.09	62.20	61.59	65.16	71.51	71.97	72.43	72.89	73.35	73.81	76.72	79.64	82.55	85.47	88.38
10	21	5	34.15	35.24	33.42	38.12	56.04	57.30	56.45	55.92	55.07	63.14	62.92	64.22	63.23	65.84	72.47	72.74	73.00	73.27	73.53	73.80	76.51	79.22	81.93	84.64	87.35
10	21	6	38.43	41.37	33.53	43.45	58.74	60.15	59.88	57.16	55.49	67.30	67.09	68.11	67.69	66.98	75.71	75.45	75.18	74.92	74.65	74.39	77.37	80.35	83.33	86.31	89.29
10	21	7	45.69	46.74	36.37	48.60	61.68	61.41	61.66	59.53	57.20	70.71	70.41	69.94	70.74	69.35	77.92	77.85	77.78	77.70	77.63	77.56	80.60	83.64	86.68	89.72	92.76
10	21	8	47.85	47.90	38.31	50.00	63.89	64.47	64.98	61.24	59.33	71.70	73.39	73.67	74.23	70.75	81.66	81.28	80.91	80.53	80.16	79.78	83.50	87.23	90.95	94.68	98.40
10	21	9	48.90	48.54	40.97	50.61	64.43	64.92	65.77	62.35	62.59	71.70	73.41	74.05	75.05	72.40	82.39	82.26	82.14	82.01	81.89	81.76	85.71	89.66	93.60	97.55	101.50
10	21	10	49.09	49.46	42.83	50.62	65.57	66.32	66.97	63.15	63.42	71.79	73.41	74.92	75.60	73.20	83.03	83.19	83.35	83.50	83.66	83.82	87.50	91.18	94.85	98.53	102.21
10	21	11	50.10	50.12	44.90	51.02	66.48	67.73	69.96	63.85	64.38	72.53	73.54	77.15	76.46	74.66	83.80	84.03	84.26	84.48	84.71	84.94	88.39	91.85	95.30	98.76	102.21
10	21	12	49.47	49.60	45.47	50.85	65.98	67.48	68.90	63.41	65.12	72.47	74.51	78.80	76.35	74.09	83.03	83.52	84.01	84.51	85.00	85.49	88.83	92.18	95.52	98.87	102.21
10	21	13	49.62	49.40	45.63	50.33	66.48	66.89	69.13	63.34	65.12	73.00	74.91	78.77	75.87	73.81	82.15	82.82	83.49	84.15	84.82	85.49	88.83	92.17	95.51	98.85	102.19
10	21	14	49.62	49.40	45.63	50.33	67.44	67.17	69.13	63.34	65.11	73.97	75.01	80.70	75.78	73.51	81.68	82.44	83.20	83.97	84.73	85.49	88.70	91.90	95.11	98.31	101.52
10	21	15	49.02	48.25	45.59	50.44	66.36	65.49	68.51	63.58	64.90	73.82	74.51	78.37	75.78	73.34	81.56	82.29	83.01	83.74	84.46	85.19	88.57	91.95	95.34	98.72	102.10
10	21	16	48.90	48.17	45.63	50.29	66.36	65.61	67.45	63.68	64.78	73.77	74.20	78.92	75.19	73.30	80.86	81.62	82.39	83.15	83.92	84.68	88.14	91.60	95.07	98.53	101.99
10	21	17	48.68	48.14	46.06	50.33	66.36	65.92	66.99	64.23	65.62	73.73	74.36	77.06	74.98	73.73	81.56	82.39	83.22	84.05	84.88	85.71	89.00	92.30	95.59	98.89	102.18
10	21	18	48.90	48.14	46.68	50.36	68.07	66.18	67.06	64.86	67.18	73.81	74.51	79.26	75.14	74.09	81.66	82.83	84.01	85.18	86.36	87.53	90.47	93.41	96.34	99.28	102.22
10	21	19	49.63	51.00	49.82	52.31	91.37	95.86	71.85	66.38	69.70	76.84	93.66	116.17	76.48	75.92	88.43	88.97	89.51	90.06	90.60	91.14	93.97	96.80	99.63	102.46	105.29
10	21	20	53.14	58.24	59.19	53.50	110.10	84.01	87.03	66.88	86.28	78.75	85.19	136.99	83.15	75.91	102.50	100.67	98.84	97.02	95.19	93.36	95.62	97.87	100.13	102.38	104.64
10	21	21	49.62	50.07	49.58	51.32	71.42	71.37	69.13	65.64	69.84	74.68	76.24	80.70	76.22	74.31	82.77	84.69	86.61	88.53	90.45	92.37	94.62	96.87	99.12	101.37	103.62
10	21	22	47.05	47.84	46.86	49.35	63.09	63.56	64.22	63.66	67.41	70.60	71.90	73.56	73.03	72.92	79.45	81.10	82.75	84.41	86.06	87.71	90.61	93.51	96.42	99.32	102.22
10	21	23	45.70	47.48	44.30	48.69	62.67	62.74	62.63	61.83	65.13	69.46	70.09	71.84	71.83	71.78	77.48	79.13	80.78	82.43	84.08	85.73	88.65	91.56	94.48	97.39	100.31
10	21	24	40.01	42.53	40.19	43.09	59.14	59.34	60.30	58.53	61.84	66.75	67.47	68.77	68.00	69.69	74.60	75.89	77.18	78.48	79.77	81.06	83.99	86.92	89.84	92.77	95.70

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	22	1	33.76	37.48	37.59	38.04	56.98	57.12	58.23	56.42	58.87	62.70	63.53	64.29	65.36	66.59	70.23	72.04	73.85	75.66	77.47	79.28	81.84	84.41	86.97	89.54	92.10
10	22	2	32.08	35.39	36.95	36.46	55.22	56.60	56.74	55.19	57.81	61.04	62.34	61.95	64.09	65.24	68.86	70.77	72.69	74.60	76.52	78.43	80.76	83.10	85.43	87.77	90.10
10	22	3	30.05	33.96	36.24	35.99	54.13	55.62	56.38	54.20	57.14	60.48	61.23	60.57	62.95	63.53	68.64	70.28	71.93	73.57	75.22	76.86	79.09	81.32	83.54	85.77	88.00
10	22	4	29.96	33.90	37.32	35.92	54.04	55.90	56.18	53.97	57.68	60.66	61.31	60.28	62.83	63.04	68.78	70.75	72.72	74.68	76.65	78.62	80.45	82.28	84.12	85.95	87.78
10	22	5	32.54	34.10	38.44	37.63	56.70	57.01	56.38	54.09	58.73	61.93	62.49	62.09	62.72	63.02	70.28	72.18	74.08	75.98	77.88	79.78	81.38	82.98	84.58	86.18	87.78
10	22	6	37.54	36.45	43.91	42.89	59.14	59.36	56.86	55.30	63.21	66.33	66.55	67.43	64.54	64.61	74.82	76.59	78.36	80.13	81.90	83.67	84.87	86.07	87.26	88.46	89.66
10	22	7	43.54	39.83	47.06	49.04	61.68	61.58	59.18	56.57	66.90	70.09	70.40	69.58	66.59	66.61	77.30	79.69	82.07	84.46	86.84	89.23	89.85	90.47	91.10	91.72	92.34
10	22	8	46.66	43.89	50.28	50.54	64.08	65.34	60.72	59.04	69.32	71.64	73.41	72.59	68.34	68.42	81.41	83.64	85.87	88.11	90.34	92.57	92.96	93.35	93.75	94.14	94.53
10	22	9	47.05	46.52	50.72	51.32	64.50	67.75	62.26	61.14	69.89	71.81	73.54	73.56	71.50	70.01	81.85	84.03	86.22	88.40	90.59	92.77	94.02	95.26	96.51	97.75	99.00
10	22	10	47.55	47.89	50.92	51.78	65.33	69.91	64.03	61.83	70.38	72.55	74.21	74.31	73.04	70.96	83.45	85.40	87.34	89.29	91.23	93.18	94.61	96.03	97.46	98.88	100.31
10	22	11	48.19	48.17	50.96	52.46	66.51	73.11	65.06	62.58	70.53	74.60	75.06	76.07	73.69	72.40	84.36	86.16	87.96	89.76	91.56	93.36	94.87	96.38	97.90	99.41	100.92
10	22	12	47.55	48.14	50.92	51.91	67.83	70.85	64.98	62.75	70.29	74.95	76.07	76.06	73.22	72.91	83.77	85.65	87.54	89.42	91.31	93.19	94.89	96.59	98.28	99.98	101.68
10	22	13	48.31	47.66	50.98	52.65	69.60	70.85	63.91	63.27	69.60	75.16	76.46	74.43	72.32	73.11	84.36	86.04	87.72	89.41	91.09	92.77	94.55	96.33	98.12	99.90	101.68
10	22	14	48.19	47.62	51.15	53.21	70.02	71.94	63.68	63.27	69.62	75.36	79.21	74.92	71.77	72.68	86.25	87.55	88.86	90.16	91.47	92.77	94.46	96.16	97.85	99.55	101.24
10	22	15	47.83	47.54	50.82	51.32	67.13	71.45	62.32	63.06	69.45	75.09	75.49	74.32	71.73	71.51	84.36	86.00	87.64	89.28	90.92	92.56	94.30	96.03	97.77	99.50	101.24
10	22	16	47.55	47.40	49.14	51.16	65.98	70.36	62.68	62.74	68.70	75.42	75.14	73.77	71.83	71.36	82.77	84.69	86.61	88.53	90.45	92.37	94.12	95.87	97.63	99.38	101.13
10	22	17	47.55	47.40	50.01	51.32	65.98	70.36	63.26	63.72	69.24	75.74	75.14	73.71	72.30	72.61	83.93	85.66	87.38	89.11	90.83	92.56	94.37	96.17	97.98	99.78	101.59
10	22	18	47.72	47.56	49.41	51.78	65.83	70.17	63.71	64.97	69.51	78.74	76.54	73.77	72.92	73.34	84.50	86.12	87.74	89.37	90.99	92.61	94.51	96.41	98.30	100.20	102.10
10	22	19	49.17	48.17	54.23	70.07	86.73	88.69	66.27	66.92	71.75	107.74	108.93	80.70	75.51	76.15	116.13	111.72	107.32	102.91	98.51	94.10	95.98	97.86	99.74	101.62	103.50
10	22	20	58.19	49.40	57.72	65.38	89.09	118.58	68.29	78.65	72.17	100.20	120.72	99.67	75.83	77.54	104.70	102.58	100.46	98.34	96.22	94.10	96.76	99.42	102.07	104.73	107.39
10	22	21	49.17	47.90	51.69	53.17	72.91	74.26	65.53	66.92	69.89	77.45	79.89	75.05	74.27	76.14	88.19	89.12	90.05	90.98	91.91	92.84	95.07	97.29	99.52	101.74	103.97
10	22	22	46.71	47.40	49.03	50.61	62.97	64.92	62.63	64.86	67.63	71.70	73.32	70.74	72.61	73.76	81.15	82.97	84.79	86.62	88.44	90.26	92.65	95.04	97.43	99.82	102.21
10	22	23	45.97	43.18	47.58	49.36	61.81	63.09	60.51	62.62	66.02	69.53	70.68	71.11	69.93	72.29	78.69	80.74	82.79	84.85	86.90	88.95	91.31	93.67	96.02	98.38	100.74
10	22	24	40.53	39.31	42.69	45.63	58.50	59.91	58.74	60.45	61.53	67.63	67.90	68.11	67.92	69.95	75.91	77.38	78.85	80.33	81.80	83.27	86.24	89.22	92.19	95.17	98.14
10	23	1	35.80	35.36	37.34	39.17	56.83	56.99	56.46	58.38	57.79	63.92	63.17	65.52	65.29	68.81	72.46	73.82	75.19	76.55	77.92	79.28	83.63	87.98	92.33	96.68	101.03
10	23	2	33.67	33.77	36.56	37.73	55.45	55.22	55.29	57.48	57.05	62.37	61.49	63.15	63.64	67.99	70.65	72.08	73.51	74.93	76.36	77.79	82.37	86.95	91.53	96.11	100.69
10	23	3	32.69	31.15	36.19	36.43	55.08	54.20	54.03	57.39	56.77	61.33	59.54	61.43	62.53	67.19	68.86	70.60	72.34	74.08	75.82	77.56	82.38	87.21	92.03	96.86	101.68
10	23	4	32.52	30.13	36.19	35.94	55.22	53.15	53.62	57.72	56.77	61.56	58.86	61.13	62.15	67.42	68.86	70.67	72.48	74.28	76.09	77.90	82.72	87.55	92.37	97.20	102.02
10	23	5	32.54	30.88	37.38	37.80	56.59	56.02	53.48	59.83	57.63	62.90	61.90	62.09	62.20	68.77	70.26	71.90	73.55	75.19	76.84	78.48	83.22	87.96	92.71	97.45	102.19
10	23	6	34.36	33.45	42.65	42.98	59.12	58.90	54.74	62.38	62.64	66.84	65.81	64.39	63.15	71.80	74.92	76.64	78.35	80.07	81.78	83.50	87.96	92.42	96.88	101.34	105.80
10	23	7	37.67	35.65	47.29	48.83	61.68	60.98	56.16	66.44	66.59	70.76	69.78	66.55	65.23	74.53	77.26	79.65	82.05	84.44	86.84	89.23	93.10	96.98	100.85	104.73	108.60
10	23	8	40.58	38.72	50.82	50.17	63.16	62.98	57.07	68.31	68.89	71.79	71.23	68.53	67.82	76.09	81.86	84.04	86.22	88.40	90.58	92.76	96.63	100.51	104.38	108.26	112.13
10	23	9	44.67	41.25	51.38	51.02	64.01	63.90	59.19	69.50	70.31	73.13	72.54	70.53	68.83	76.41	82.87	84.86	86.86	88.85	90.85	92.84	96.74	100.64	104.54	108.44	112.34
10	23	10	46.31	43.22	51.51	51.27	64.63	64.56	59.93	69.70	71.75	73.43	73.21	72.20	69.74	76.13	84.15	86.00	87.84	89.69	91.53	93.38	97.31	101.24	105.16	109.09	113.02
10	23	11	46.93	44.08	52.29	51.78	66.15	66.50	60.61	70.11	72.07	73.50	73.50	72.41	71.07	76.41	84.36	86.32	88.28	90.25	92.21	94.17	98.01	101.84	105.68	109.51	113.35
10	23	12	46.93	44.99	52.34	51.70	68.49	66.32	61.09	70.23	71.75	73.38	73.54	72.31	71.50	76.13	83.60	85.56	87.52	89.48	91.44	93.40	97.32	101.25	105.17	109.10	113.02
10	23	13	46.67	45.20	53.57	51.63	69.60	66.32	61.48	69.72	72.50	75.16	73.51	72.20	71.56	76.41	84.63	86.54	88.45	90.35	92.26	94.17	97.77	101.37	104.97	108.57	112.17
10	23	14	46.66	46.64	53.75	51.65	66.51	69.00	61.52	69.95	72.50	75.42	73.92	69.78	71.50	76.61	86.53	88.18	89.83	91.49	93.14	94.79	98.38	101.97	105.57	109.16	112.75
10	23	15	46.49	44.69	52.62	52.69	66.79	65.55	61.52	68.73	71.88	75.52	73.43	69.83	71.37	76.41	84.36	86.31	88.26	90.20	92.15	94.10	97.66	101.22	104.79	108.35	111.91
10	23	16	46.42	44.71	52.76	51.78	66.11	65.17	61.52	68.31	71.75	75.36	73.39	69.83	71.14	76.41	83.94	85.88	87.82	89.76	91.70	93.64	96.90	100.15	103.41	106.66	109.92
10	23	17	46.42	46.64	52.29	51.71	65.98	64.47	62.24	68.72	72.07	75.42	73.43	69.83	71.74	76.61	84.36	86.36	88.36	90.37	92.37	94.37	97.58	100.79	104.01	107.22	110.43
10	23	18	46.93	47.62	52.78	51.78	65.98	64.47	63.60	68.66	72.09	75.71	73.54	71.38	72.53	77.26	85.56	87.54	89.52	91.49	93.47	95.45	98.69	101.93	105.18	108.42	111.66
10	23	19	48.18	49.49	66.02	79.94	68.49	70.78	69.00	70.30	100.17	97.30	75.14	74.19	75.70	81.13	102.64	106.62	110.60	114.57	118.55	122.53	121.10	119.67	118.23	116.80	115.37
10	23	20	48.90	54.91	60.91	60.32	106.65	78.64	90.47	81.33	90.25	90.49	81.44	75.50	89.07	90.37	97.30	100.63	103.96	107.28	110.61	113.94	117.18	120.42	123.67	126.91	130.15
10	23	21	47.21	49.60	54.43	51.78	68.49	70.06	69.96	68.72	73.91	75.42	74.51	72.12	75.78	77.94	84.36	86.76	89.16	91.57	93.97	96.37	99.64	102.91	106.18	109.45	112.72
10	23	22	46.37	47.67	50.96	49.41	64.46	65.01	64.51	64.53	69.65	70.92	71.16	70.80	72.70	75.46	79.06	81.88	84.71	87.53	90.36	93.18	96.20	99.22	102.23	105.25	108.27
10	23	23	42.83	46.45	48.44	48.69	62.68	62.58	61.30	63.86	67.11	69.57	70.26	68.22	71.33	73.18	77.17	79.72	82.27	84.82	87.37	89.92	93.25	96.58	99.90	103.23	106.56
10	23	24	37.87	41.70	45.07	43.55	59.15	59.90	60.28	61.22	63.21	67.52	67.47	66.19	68.59	70.62	74.17	76.40	78.63	80.85	83.08	85.31	88.68	92.06	95.43	98.81	102.18
10	24	1	34.21	37.54	38.41	38.02	56.97	57.02	58.64	58.05	58.98	63.39	63.66	63.18	66.77	68.23	71.12	73.05	74.98	76.91	78.84	80.77	84.14	87.51	90.88	94.25	97.62
10	24	2	32.43	37.26	36.99	36.53	55.22	56.32	57.60	57.13	57.34	62.10	62.58	61.57	66.19	66.47	69.76	71.78	73.81	75.83	77.86	79.88	82.77	85.66	88.55	91.44	94.33
10	24	3	29.37	36.88	36.05	36.19	52.77	55.50	57.21	55.46	56.77	61.33	61.76	61.62	66.26	65.18	68.86	70.81	72.76	74.72	76.67	78.62	81.64	84.66	87.68	90.70	93.72
10	24	4	28.84	37.37	36.03	36.46	52.33	55.41	58.01	55.76	56.77	61.72	61.49	61.42	66.26	65.74	68.70	70.73	72.75	74.78	76.80	78.83	81.89	84.95	88.01	91.07	94.13
10	24	5	29.09	38.59	37.33	37.81	55.48	55.84	58.74	57.71	58.58	62.91	61.19	61.42	67.42	67.91	70.46	72.34	74.23	76.11	78.00	79.88	83.30	86.73	90.15	93.58	97.00
10	24	6	32.08	43.46	41.87	43.18	58.25	56.83	61.24	61.84	62.39	66.75	62.46	62.12	70.58	70.37	74.60	76.39	78.19	79.98	81.78	83.57	87.39	91.21	95.03	98.85	102.67
10	24	7	34.08	48.14	47.50	48.60	60.76	58.17	64.71	63.85	66.64	70.24	64.22	63.48	72.32	74.31	77.32	79.70	82.09	84.47	86.86	89.24	92.89	96.54	100.19	103.84	107.49
10	24	8	36.98	50.16	50.74	50.11	62.44	59.73	68.48	67.63	69.25	71.70	67.47	65.98	75.10	75.97	81.65	83.99	86.33	88.68	91.02	93.36	96.96	100.56	104.16	107.76	111.36
10	24	9	39.73	50.67	51.15	50.38	62.97	61.33	69.01	68.22	70.68	72.47	69.77	68.05	75.83	76.41	82.39	84.59	86.79	88.99	91.19	93.39	97.09	100.80	104.50	108.21	111.91
10	24	10	42.50	50.76	51.12	50.85	63.81	62.58	69.80	68.31	71.28	72.88	70.65	68.81	76.37	77.15	82.99	85.21	87.43	89.66	91.88	94.10	97.88	101.67	105.45	109.24	113.02
10	24	11	45.35	50.97	51.73	51.10	64.39	63.33	70.13	70.54	71.49	73.13	70.83	69.49	76.46	77.94	84.36	86.38	88.39	90.41	92.42	94.44	98.42	102.40	106.37	110.35	114.33

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	24	12	45.75	50.95	51.51	51.32	64.61	63.30	69.80	70.23	71.47	73.46	71.15	69.79	76.39	78.12	86.16	87.80	89.44	91.08	92.72	94.36	98.11	101.86	105.60	109.35	113.10
10	24	13	46.18	50.80	51.51	51.27	65.19	62.86	69.29	70.51	71.75	73.92	70.87	69.89	75.86	78.24	86.86	88.36	89.86	91.37	92.87	94.37	98.37	102.37	106.36	110.36	114.36
10	24	14	46.20	50.66	51.51	51.32	64.97	62.07	68.84	72.96	72.17	74.85	70.53	69.69	76.25	79.43	88.33	89.52	90.71	91.91	93.10	94.29	98.74	103.19	107.65	112.10	116.55
10	24	15	44.62	50.16	51.51	51.14	64.39	61.71	68.64	71.80	72.07	75.16	70.30	69.49	76.35	78.66	85.51	87.24	88.97	90.71	92.44	94.17	98.45	102.73	107.02	111.30	115.58
10	24	16	44.39	50.15	50.16	50.85	64.02	61.23	68.48	70.80	72.29	75.26	70.30	69.48	76.09	78.23	84.12	86.02	87.93	89.83	91.74	93.64	97.78	101.93	106.07	110.22	114.36
10	24	17	46.27	50.16	50.15	51.11	64.01	61.55	68.84	71.59	72.07	75.17	70.65	69.74	76.42	78.44	88.83	89.77	90.70	91.64	92.57	93.51	97.99	102.47	106.96	111.44	115.92
10	24	18	46.93	50.16	50.16	51.27	64.21	62.44	69.36	73.26	72.07	75.16	71.04	70.91	76.39	78.95	89.80	90.67	91.55	92.42	93.30	94.17	98.92	103.68	108.43	113.19	117.94
10	24	19	49.39	52.14	52.41	52.03	67.44	66.26	78.28	87.08	107.29	84.74	73.43	75.53	83.25	95.88	111.03	108.19	105.35	102.50	99.66	96.82	106.32	115.82	125.31	134.81	144.31
10	24	20	74.04	60.88	55.49	61.83	76.53	70.83	88.35	89.13	93.90	91.62	73.74	98.27	91.02	98.07	130.17	123.37	116.56	109.76	102.95	96.15	104.93	113.71	122.49	131.27	140.05
10	24	21	48.31	50.95	51.51	51.91	65.65	65.06	71.17	74.66	72.07	76.42	72.39	76.84	76.39	81.08	95.28	95.10	94.91	94.73	94.54	94.36	100.34	106.32	112.31	118.29	124.27
10	24	22	46.42	49.11	49.26	50.20	62.09	62.55	66.00	67.63	67.30	72.04	70.60	72.51	73.45	76.41	83.97	85.39	86.81	88.22	89.64	91.06	95.19	99.33	103.46	107.60	111.73
10	24	23	45.07	49.01	47.29	49.04	60.52	59.90	64.22	64.65	66.19	70.59	67.45	69.98	71.90	73.13	79.56	81.27	82.97	84.68	86.38	88.09	91.87	95.65	99.43	103.21	106.99
10	24	24	39.89	44.71	42.83	45.51	58.26	58.01	60.74	61.99	61.64	67.77	64.31	67.99	69.45	70.98	77.00	78.19	79.38	80.57	81.76	82.95	87.01	91.07	95.14	99.20	103.26
10	25	1	35.88	38.51	37.33	38.92	57.00	56.32	58.05	58.48	58.34	64.10	62.34	66.11	66.37	68.30	73.57	74.63	75.69	76.74	77.80	78.86	83.04	87.21	91.39	95.56	99.74
10	25	2	34.15	37.26	36.60	37.43	55.92	55.14	56.92	57.39	57.37	62.07	60.86	64.84	64.95	66.96	72.36	73.58	74.79	76.01	77.22	78.44	82.28	86.12	89.96	93.80	97.64
10	25	3	34.36	34.75	35.83	35.10	54.92	54.25	55.46	55.78	57.10	59.33	59.31	64.24	63.97	64.91	70.01	71.52	73.03	74.54	76.05	77.56	80.94	84.31	87.69	91.06	94.44
10	25	4	34.93	34.97	36.17	35.11	54.92	53.80	55.80	55.83	57.05	59.32	58.78	64.49	64.41	65.04	69.97	71.60	73.24	74.87	76.51	78.14	81.38	84.62	87.85	91.09	94.33
10	25	5	36.86	37.96	37.19	37.43	55.34	53.86	57.81	57.62	57.75	62.34	58.84	65.96	66.36	67.90	71.51	73.06	74.62	76.17	77.73	79.28	83.04	86.81	90.57	94.34	98.10
10	25	6	42.44	44.35	41.53	42.22	56.32	55.00	60.78	60.67	62.75	67.16	60.44	69.58	69.52	70.24	74.82	76.38	77.94	79.49	81.05	82.61	86.53	90.45	94.36	98.28	102.20
10	25	7	46.66	48.21	46.86	47.80	57.63	56.34	63.85	63.85	66.04	70.71	61.96	71.72	72.30	74.15	77.64	79.91	82.19	84.46	86.74	89.01	92.86	96.71	100.56	104.41	108.26
10	25	8	48.46	50.16	50.02	49.94	59.12	58.01	68.50	66.84	68.80	73.46	64.08	74.43	74.83	75.55	82.16	84.28	86.40	88.53	90.65	92.77	96.63	100.50	104.36	108.23	112.09
10	25	9	48.56	50.50	50.45	50.20	61.12	59.51	69.10	68.19	70.29	73.77	66.29	75.60	75.76	75.58	82.87	84.93	86.99	89.06	91.12	93.18	97.15	101.12	105.08	109.05	113.02
10	25	10	48.56	51.09	50.37	50.33	62.54	60.05	70.26	68.10	71.27	73.81	66.82	76.92	76.46	75.92	82.77	84.89	87.01	89.14	91.26	93.38	97.57	101.76	105.95	110.14	114.33
10	25	11	48.76	52.02	50.37	50.61	63.16	60.70	71.27	68.32	71.75	73.82	68.18	77.38	77.73	76.33	82.87	85.02	87.18	89.33	91.49	93.64	98.15	102.66	107.18	111.69	116.20
10	25	12	48.61	51.71	50.80	50.22	63.94	61.11	71.23	68.40	71.75	73.69	68.81	77.77	76.51	77.41	82.07	84.51	86.96	89.40	91.85	94.29	98.74	103.20	107.65	112.11	116.56
10	25	13	48.61	52.69	50.92	50.17	63.09	61.49	71.59	69.15	71.75	73.77	68.69	73.83	78.11	78.95	81.40	83.94	86.48	89.02	91.56	94.10	99.27	104.44	109.62	114.79	119.96
10	25	14	48.61	53.16	51.12	50.33	62.66	61.96	73.61	71.19	71.75	73.69	68.42	73.81	79.43	81.08	81.28	83.84	86.41	88.97	91.54	94.10	99.43	104.76	110.10	115.43	120.76
10	25	15	48.57	53.25	51.12	50.17	61.83	61.64	71.23	71.13	71.37	73.55	68.18	73.79	79.13	82.11	80.82	83.38	85.95	88.51	91.08	93.64	98.46	103.27	108.09	112.90	117.72
10	25	16	48.56	51.71	49.34	49.93	61.03	61.38	71.17	69.63	70.84	73.55	67.61	73.70	79.74	82.47	80.49	83.07	85.64	88.22	90.79	93.37	97.77	102.17	106.56	110.96	115.36
10	25	17	48.60	51.99	49.24	49.88	61.05	61.89	71.60	69.15	71.37	73.59	68.96	73.77	81.01	83.89	79.84	82.69	85.54	88.40	91.25	94.10	98.19	102.28	106.36	110.45	114.54
10	25	18	48.90	53.51	49.77	49.90	63.03	62.93	73.71	69.15	71.37	73.69	70.30	74.32	87.00	86.50	79.84	82.71	85.57	88.44	91.30	94.17	98.96	103.75	108.53	113.32	118.11
10	25	19	54.09	62.06	51.51	51.32	64.97	68.27	106.76	79.55	77.49	74.85	73.54	84.50	112.51	95.35	81.65	85.18	88.72	92.25	95.79	99.32	106.81	114.31	121.80	129.30	136.79
10	25	20	55.01	65.17	58.68	53.89	66.27	105.47	96.14	79.94	92.65	81.49	82.06	94.84	99.40	95.27	89.92	94.27	98.62	102.98	107.33	111.68	116.77	121.85	126.94	132.02	137.11
10	25	21	51.51	54.26	52.16	50.92	63.94	69.95	75.88	70.48	72.70	74.68	73.41	75.88	82.72	78.02	80.89	84.53	88.17	91.80	95.44	99.08	102.50	105.93	109.35	112.78	116.20
10	25	22	47.05	50.33	49.14	48.83	62.09	63.09	68.38	66.88	68.62	71.23	70.65	72.59	75.67	75.03	77.88	80.98	84.07	87.17	90.26	93.36	96.39	99.41	102.44	105.46	108.49
10	25	23	45.74	49.56	47.34	47.51	59.55	61.20	65.28	63.90	67.62	69.58	69.23	71.24	72.70	72.15	77.40	80.41	83.42	86.44	89.45	92.46	95.00	97.53	100.07	102.60	105.14
10	25	24	42.11	46.21	43.91	42.04	58.09	59.07	61.35	61.98	63.41	67.38	66.11	68.89	70.13	70.35	74.55	77.15	79.74	82.34	84.93	87.53	90.30	93.08	95.85	98.63	101.40
10	26	1	35.92	39.73	38.48	37.98	56.98	57.63	58.74	58.48	58.72	64.25	64.45	65.35	67.44	68.61	71.45	73.31	75.18	77.04	78.91	80.77	84.14	87.51	90.87	94.24	97.61
10	26	2	34.36	38.31	36.90	36.26	55.57	56.77	57.07	57.37	57.15	62.98	63.78	63.30	66.48	66.97	70.40	72.25	74.09	75.94	77.78	79.63	82.64	85.66	88.67	91.69	94.70
10	26	3	32.06	35.39	35.42	35.64	53.26	56.60	55.80	57.05	56.08	61.54	63.76	62.08	64.71	66.47	69.76	71.41	73.06	74.71	76.36	78.01	81.07	84.14	87.20	90.27	93.33
10	26	4	32.18	35.41	35.35	35.53	52.97	56.97	55.93	57.10	55.94	61.16	64.27	62.18	64.71	66.49	69.31	71.01	72.70	74.40	76.09	77.79	80.99	84.19	87.39	90.59	93.79
10	26	5	35.48	38.59	36.98	35.87	53.21	58.52	58.29	58.24	57.37	61.47	65.25	64.99	66.63	67.47	69.81	71.82	73.84	75.85	77.87	79.88	83.38	86.88	90.38	93.88	97.38
10	26	6	39.82	44.35	40.93	37.54	55.02	61.44	60.95	61.99	61.64	63.22	68.70	68.80	69.20	70.37	71.71	74.27	76.83	79.38	81.94	84.50	88.02	91.54	95.06	98.58	102.10
10	26	7	46.63	48.24	46.64	39.21	56.32	64.08	64.04	63.90	66.71	65.60	70.60	70.52	72.41	73.24	73.16	76.39	79.62	82.84	86.07	89.30	92.87	96.44	100.00	103.57	107.14
10	26	8	48.37	50.76	49.92	44.67	57.83	66.91	68.74	67.92	68.75	68.29	73.18	73.63	75.50	75.13	76.49	79.71	82.94	86.16	89.39	92.61	96.14	99.67	103.19	106.72	110.25
10	26	9	49.22	51.09	51.01	49.08	59.12	67.76	68.50	68.31	70.18	70.71	73.39	74.05	76.39	75.69	78.49	81.36	84.23	87.10	89.97	92.84	96.65	100.47	104.28	108.10	111.91
10	26	10	50.61	52.02	51.01	50.29	60.48	68.66	69.07	68.31	70.18	72.14	73.64	76.06	76.35	75.92	80.85	83.32	85.78	88.25	90.71	93.18	96.97	100.76	104.55	108.34	112.13
10	26	11	50.85	52.83	51.15	50.61	61.03	71.05	69.74	70.11	70.29	72.51	73.69	77.28	76.93	76.14	81.28	83.70	86.11	88.53	90.94	93.36	97.27	101.18	105.08	108.99	112.90
10	26	12	51.19	53.23	50.92	50.22	61.41	71.05	70.68	71.18	70.31	72.74	73.69	74.43	76.93	76.76	80.89	83.26	85.64	88.01	90.39	92.76	97.24	101.72	106.21	110.69	115.17
10	26	13	51.98	54.19	50.92	49.90	61.03	69.87	71.16	72.98	69.89	71.86	73.50	76.66	84.20	77.41	79.84	82.42	85.00	87.59	90.17	92.75	97.03	101.31	105.59	109.87	114.15
10	26	14	52.20	54.65	50.92	49.03	60.90	69.22	73.47	73.66	70.18	71.08	74.07	78.31	84.94	77.90	79.45	82.08	84.71	87.35	89.98	92.61	96.95	101.30	105.64	109.99	114.33
10	26	15	52.00	52.21	50.31	48.61	61.06	68.27	70.83	73.43	69.17	70.49	74.17	78.04	84.42	78.02	77.57	80.53	83.49	86.45	89.41	92.37	96.97	101.57	106.17	110.77	115.37
10	26	16	52.00	51.29	49.85	48.65	61.29	67.80	70.83	71.39	68.89	70.49	74.00	77.67	86.77	77.94	77.65	80.87	84.08	87.30	90.51	93.73	98.04	102.35	106.67	110.98	115.29
10	26	17	52.05	51.71	49.94	49.03	62.16	69.12	70.11	73.46	69.17	71.28	73.69	78.31	87.48	79.08	79.13	82.02	84.92	87.81	90.71	93.60	98.16	102.71	107.27	111.82	116.38
10	26	18	52.05	55.96	49.72	49.62	63.15	69.56	70.48	73.46	69.19	71.99	73.69	79.99	90.34	81.47	79.69	82.51	85.32	88.14	90.95	93.77	98.33	102.88	107.44	111.99	116.55
10	26	19	56.33	70.90	50.96	50.62	66.40	75.10	86.90	84.26	70.96	73.77	81.16	93.09	94.75	117.90	81.40	84.15	86.90	89.65	92.40	95.15	103.48	111.81	120.13	128.46	136.79
10	26	20	56.60	65.17	53.82	51.36	74.36	101.56	86.91	108.39	71.68	74.61	96.76	93.09	93.44	124.46	81.86	86.11	90.37	94.62	98.88	103.13	116.06	129.00	141.93	154.87	167.80
10	26	21	52.20	51.27	51.38	49.85	65.62	70.65	71.51	77.20	69.98	72.14	74.92	79.99	76.53	89.70	80.47	83.49	86.51	89.54	92.56	95.58	104.20	112.83	121.45	130.08	138.70
10	26	22	48.90	49.77	48.79	49.03	62.67	64.64	64.72	70.12	66.64	70.72	71.07	73.99	73.82	75.97	78.49	81.25	84.02	86.78	89.55	92.31	96.27	100.24	104.20	108.17	112.13

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	26	23	47.55	48.63	46.66	46.95	60.45	63.88	64.04	67.54	65.58	69.76	70.09	73.29	71.48	75.81	76.71	79.39	82.07	84.76	87.44	90.12	93.82	97.51	101.21	104.90	108.60
10	26	24	43.64	45.13	42.01	40.82	58.62	59.74	60.64	62.82	62.35	66.47	67.46	69.58	68.79	72.40	74.22	76.29	78.36	80.44	82.51	84.58	88.53	92.48	96.44	100.39	104.34
10	27	1	37.01	39.04	37.33	38.05	57.62	57.21	58.01	60.29	57.94	63.41	64.18	65.96	66.07	69.30	72.38	73.74	75.11	76.47	77.84	79.20	83.35	87.50	91.64	95.79	99.94
10	27	2	35.00	37.48	36.19	36.66	56.73	56.06	56.92	56.82	57.05	61.07	63.21	64.49	64.79	67.19	70.72	72.19	73.66	75.14	76.61	78.08	81.81	85.53	89.26	92.98	96.71
10	27	3	32.89	36.78	35.44	34.22	56.88	54.60	56.68	56.21	56.67	59.17	61.43	62.63	64.25	66.53	67.46	69.31	71.16	73.02	74.87	76.72	80.46	84.20	87.93	91.67	95.41
10	27	4	32.83	36.88	35.44	34.19	57.30	54.83	56.47	56.00	56.08	59.01	61.68	62.67	64.44	66.62	67.90	69.63	71.35	73.08	74.80	76.53	80.29	84.05	87.80	91.56	95.32
10	27	5	35.54	37.64	35.44	34.34	58.24	57.37	58.14	57.67	56.08	59.24	64.27	65.66	65.77	67.34	68.49	70.16	71.83	73.51	75.18	76.85	81.22	85.59	89.97	94.34	98.71
10	27	6	40.62	43.38	36.86	36.52	60.59	60.03	60.78	62.68	57.14	61.67	68.27	69.31	68.67	70.93	69.33	71.25	73.17	75.08	77.00	78.92	83.58	88.23	92.89	97.54	102.20
10	27	7	46.93	48.21	39.16	37.88	63.87	62.26	62.24	65.55	59.72	63.66	70.09	70.59	72.00	74.32	70.99	73.03	75.07	77.11	79.15	81.19	86.50	91.82	97.13	102.45	107.76
10	27	8	49.20	50.33	43.47	40.20	66.27	65.56	66.79	69.14	63.19	64.91	72.80	74.22	74.83	76.14	73.16	75.71	78.26	80.82	83.37	85.92	91.07	96.22	101.36	106.51	111.66
10	27	9	49.20	50.80	46.97	44.46	66.70	66.59	66.95	69.72	66.90	68.60	73.39	76.25	75.67	76.41	76.30	79.00	81.71	84.41	87.12	89.82	94.21	98.59	102.98	107.36	111.75
10	27	10	49.54	50.95	47.71	46.37	67.25	67.66	68.22	69.50	68.29	69.83	74.07	76.92	75.86	76.41	76.57	79.70	82.83	85.95	89.08	92.21	96.11	100.01	103.92	107.82	111.72
10	27	11	51.16	51.17	48.25	47.29	67.33	69.12	69.49	69.50	68.31	70.40	74.99	77.80	76.37	76.13	76.57	79.76	82.95	86.14	89.33	92.52	96.36	100.20	104.05	107.89	111.73
10	27	12	51.74	51.71	48.03	47.07	67.80	70.26	69.49	69.00	68.31	70.48	74.99	78.31	76.47	76.41	76.35	79.62	82.90	86.17	89.45	92.72	96.23	99.73	103.24	106.74	110.25
10	27	13	52.21	51.29	47.34	45.84	67.88	72.25	69.74	68.34	67.12	70.48	76.42	79.99	76.51	76.70	75.94	79.00	82.06	85.13	88.19	91.25	95.05	98.85	102.65	106.45	110.25
10	27	14	52.40	51.35	46.97	45.46	69.48	78.87	71.06	68.72	66.01	69.63	78.06	80.18	76.80	76.50	75.98	78.85	81.72	84.60	87.47	90.34	94.21	98.07	101.94	105.80	109.67
10	27	15	51.16	51.09	46.09	45.39	67.62	71.16	71.60	68.19	65.33	69.38	75.84	79.97	76.51	76.42	75.01	77.81	80.61	83.41	86.21	89.01	92.91	96.80	100.70	104.59	108.49
10	27	16	51.16	50.95	46.06	45.40	67.55	71.36	70.57	67.44	65.37	69.43	75.63	79.52	76.46	76.36	74.93	77.79	80.65	83.51	86.37	89.23	93.08	96.93	100.79	104.64	108.49
10	27	17	51.16	50.97	46.09	46.07	67.79	71.67	70.48	67.06	65.71	70.49	78.11	81.14	76.65	76.36	76.38	79.19	82.00	84.81	87.62	90.43	94.01	97.58	101.16	104.73	108.31
10	27	18	51.16	51.09	46.97	48.83	68.49	74.35	70.57	67.44	66.89	72.66	78.87	86.37	77.96	76.45	79.37	81.86	84.35	86.85	89.34	91.83	95.16	98.49	101.83	105.16	108.49
10	27	19	59.85	52.83	48.06	50.22	76.12	97.14	80.29	70.41	68.53	77.51	90.21	107.20	89.84	79.51	81.73	84.06	86.38	88.71	91.03	93.36	96.80	100.25	103.69	107.14	110.58
10	27	20	59.36	63.93	48.55	50.18	79.59	100.76	88.76	71.29	68.83	75.24	101.75	115.30	98.27	80.86	80.89	83.53	86.17	88.82	91.46	94.10	98.10	102.10	106.09	110.09	114.09
10	27	21	51.16	53.46	47.29	49.36	68.79	75.10	71.85	68.51	68.21	73.44	81.39	82.60	84.26	77.56	79.84	82.33	84.82	87.30	89.79	92.28	95.83	99.38	102.93	106.48	110.03
10	27	22	47.83	50.24	46.16	48.15	64.07	65.60	66.55	65.34	66.24	70.88	73.09	72.81	76.23	74.96	77.30	79.80	82.30	84.80	87.30	89.80	92.98	96.16	99.35	102.53	105.71
10	27	23	45.85	49.11	43.65	43.55	62.04	64.29	65.12	65.22	63.51	69.43	71.15	71.35	73.61	72.55	75.76	77.99	80.22	82.45	84.68	86.91	90.42	93.93	97.45	100.96	104.47
10	27	24	41.89	44.99	40.02	39.85	59.50	60.26	61.27	60.84	61.33	66.96	68.23	69.05	70.92	69.99	73.39	75.61	77.83	80.06	82.28	84.50	87.88	91.26	94.65	98.03	101.41
10	28	1	35.91	39.38	37.32	37.92	57.70	57.65	59.14	57.76	58.74	63.21	64.98	65.63	67.92	68.61	71.18	73.17	75.16	77.15	79.14	81.13	84.04	86.95	89.87	92.78	95.69
10	28	2	34.34	36.07	35.58	36.78	56.58	56.64	57.07	56.52	57.63	61.88	63.66	63.20	66.11	66.53	69.62	71.56	73.51	75.45	77.40	79.34	81.90	84.46	87.01	89.57	92.13
10	28	3	33.60	34.58	33.42	36.39	55.16	54.87	56.52	55.52	55.89	61.58	61.93	62.55	65.20	65.04	69.27	70.71	72.15	73.58	75.02	76.46	78.66	80.87	83.07	85.28	87.48
10	28	4	33.62	34.11	33.41	36.73	55.22	55.10	56.52	55.64	55.66	61.86	61.93	62.63	65.42	64.49	69.67	70.98	72.29	73.59	74.90	76.21	78.62	81.03	83.45	85.86	88.27
10	28	5	35.75	36.97	33.42	38.05	57.58	57.23	58.04	55.96	55.90	63.81	64.56	65.24	66.18	65.90	70.90	72.06	73.22	74.38	75.54	76.70	79.39	82.08	84.76	87.45	90.14
10	28	6	40.62	43.20	35.52	42.17	59.08	59.50	60.78	57.32	56.39	67.19	68.08	69.16	69.18	67.66	74.84	75.51	76.18	76.85	77.52	78.19	81.37	84.54	87.72	90.89	94.07
10	28	7	46.71	48.17	37.15	49.47	61.53	61.70	62.68	59.45	57.82	70.38	70.19	70.63	73.03	69.68	78.19	78.63	79.07	79.50	79.94	80.38	84.26	88.14	92.03	95.91	99.79
10	28	8	49.20	50.48	39.29	51.79	64.13	65.55	66.46	62.50	60.97	73.58	73.39	74.43	75.70	71.04	81.38	81.71	82.04	82.36	82.69	83.02	86.99	90.95	94.92	98.88	102.85
10	28	9	49.91	50.51	43.36	52.06	64.88	65.84	68.75	64.40	63.29	73.87	74.07	75.82	76.20	73.95	82.26	82.96	83.66	84.36	85.06	85.76	89.95	94.14	98.33	102.52	106.71
10	28	10	51.10	50.66	45.28	52.06	65.79	67.00	69.04	66.03	63.98	74.45	74.99	76.64	75.89	75.41	82.40	83.46	84.52	85.59	86.65	87.71	91.83	95.94	100.06	104.17	108.29
10	28	11	51.30	50.67	44.80	52.06	67.25	69.04	69.04	67.92	64.22	75.70	75.63	77.48	76.23	75.81	82.40	83.70	85.01	86.31	87.62	88.92	92.89	96.86	100.84	104.81	108.78
10	28	12	51.33	50.51	44.91	51.82	67.82	70.18	69.01	67.63	64.42	75.36	76.54	78.31	75.87	75.86	82.41	83.61	84.81	86.00	87.20	88.40	92.58	96.76	100.93	105.11	109.29
10	28	13	51.30	50.51	44.97	52.06	67.99	71.13	68.54	65.86	64.71	75.36	79.57	78.77	75.70	75.03	82.41	83.54	84.67	85.81	86.94	88.07	92.09	96.11	100.12	104.14	108.16
10	28	14	51.46	50.51	44.66	52.16	70.71	74.90	67.78	64.98	64.23	75.36	80.89	79.99	75.70	73.94	82.73	83.69	84.65	85.62	86.58	87.54	91.53	95.52	99.50	103.49	107.48
10	28	15	51.16	50.50	43.72	51.83	70.25	74.96	67.52	64.68	63.52	74.45	80.74	79.99	75.06	73.57	81.75	82.86	83.96	85.07	86.17	87.28	91.14	94.99	98.85	102.70	106.56
10	28	16	50.64	50.34	44.29	51.53	70.54	75.35	67.18	64.62	63.74	73.87	76.54	78.77	74.83	73.81	81.75	82.89	84.03	85.18	86.32	87.46	91.06	94.65	98.25	101.84	105.44
10	28	17	50.65	50.33	45.28	51.54	70.47	81.64	67.06	64.48	64.97	73.74	76.54	80.23	74.77	74.05	81.51	82.86	84.22	85.57	86.93	88.28	91.71	95.14	98.58	102.01	105.44
10	28	18	51.16	50.48	46.86	52.71	71.59	80.73	67.10	65.73	66.25	78.52	77.68	83.28	74.83	74.66	91.95	92.02	92.08	92.15	92.21	92.28	95.08	97.88	100.67	103.47	106.27
10	28	19	52.20	52.24	49.64	67.66	95.56	101.44	70.28	67.92	68.73	94.97	103.29	97.93	78.07	76.31	130.20	122.84	115.47	108.11	100.74	93.38	96.51	99.64	102.76	105.89	109.02
10	28	20	57.02	53.25	49.05	90.53	98.43	99.21	73.00	68.55	67.95	105.88	109.38	116.48	78.91	76.41	136.28	127.70	119.12	110.54	101.96	93.38	96.64	99.90	103.15	106.41	109.67
10	28	21	52.02	50.97	47.71	52.71	71.62	75.57	67.62	66.69	66.89	79.75	83.36	89.09	76.23	75.02	83.59	85.33	87.07	88.80	90.54	92.28	95.38	98.47	101.57	104.66	107.76
10	28	22	48.37	49.11	46.28	50.33	64.93	64.86	64.46	63.85	65.13	72.32	72.27	76.64	72.54	73.09	78.77	80.83	82.90	84.96	87.03	89.09	92.37	95.65	98.94	102.22	105.50
10	28	23	47.16	47.77	42.69	49.13	62.19	63.80	62.32	62.35	62.60	69.54	70.85	74.10	72.56	71.67	76.58	78.52	80.47	82.41	84.36	86.30	89.61	92.92	96.23	99.54	102.85
10	28	24	43.02	43.89	39.87	43.47	58.68	59.54	60.33	60.82	60.83	67.19	67.86	72.07	68.29	70.24	74.57	76.22	77.88	79.53	81.19	82.84	86.56	90.29	94.01	97.74	101.46
10	29	1	36.47	38.25	37.16	37.98	57.42	57.51	58.28	58.80	58.90	63.93	64.60	67.47	66.26	68.88	69.81	73.02	76.23	79.44	82.65	85.86	88.50	91.15	93.79	96.44	99.08
10	29	2	33.08	36.86	36.24	36.22	56.48	56.41	56.74	57.58	57.95	62.25	63.14	65.23	64.99	67.72	67.61	70.86	74.10	77.35	80.59	83.84	86.23	88.62	91.01	93.40	95.79
10	29	3	31.76	33.58	36.21	34.49	54.98	55.86	55.05	56.21	57.37	59.79	62.49	64.31	62.24	65.51	64.50	68.23	71.96	75.68	79.41	83.14	85.26	87.37	89.49	91.60	93.72
10	29	4	31.68	33.30	36.24	34.53	54.98	56.04	54.91	56.02	57.36	59.50	62.81	64.09	62.27	65.18	64.53	68.29	72.05	75.81	79.57	83.33	85.35	87.37	89.38	91.40	93.42
10	29	5	34.19	36.14	37.16	36.92	57.36	57.23	56.74	56.31	58.58	62.47	64.43	65.65	64.13	65.74	68.10	71.50	74.90	78.29	81.69	85.09	86.83	88.57	90.32	92.06	93.80
10	29	6	39.27	37.24	41.85	41.65	58.68	60.03	56.92	56.78	62.35	67.17	67.92	68.89	66.00	66.47	73.78	77.48	81.18	84.89	88.59	92.29	92.75	93.22	93.68	94.15	94.61
10	29	7	46.49	39.60	47.38	48.45	61.94	62.02	59.19	57.88	67.01	69.66	70.60	70.99	67.40	67.97	75.83	79.90	83.98	88.05	92.13	96.20	96.13	96.05	95.98	95.90	95.83
10	29	8	48.52	43.38	49.67	50.79	64.64	65.78	60.78	60.23	70.51	72.02	73.26	74.43	70.77	69.96	78.42	82.45	86.48	90.52	94.55	98.58	99.02	99.45	99.89	100.32	100.76
10	29	9	49.00	47.83	50.05	50.96	65.34	65.74	63.33	62.66	72.08	72.32	73.26	75.72	73.98	71.71	78.77	82.98	87.18	91.39	95.59	99.80	100.50	101.20	101.90	102.60	103.30

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	29	10	49.20	48.63	50.09	51.52	66.01	66.84	65.53	63.06	72.08	73.58	73.40	75.59	74.78	72.15	78.60	82.84	87.08	91.32	95.56	99.80	100.71	101.62	102.54	103.45	104.36
10	29	11	49.24	49.44	50.09	51.79	67.19	68.01	65.68	62.68	72.08	73.58	73.55	75.73	74.79	72.36	79.00	83.12	87.25	91.37	95.50	99.62	100.43	101.23	102.04	102.84	103.65
10	29	12	49.20	48.63	49.59	51.50	67.79	68.95	65.12	62.83	70.18	73.58	74.27	74.92	74.78	72.57	78.60	82.58	86.56	90.53	94.51	98.49	99.36	100.24	101.11	101.99	102.86
10	29	13	49.00	48.17	49.56	50.92	69.48	68.15	64.59	62.86	69.95	73.43	74.86	74.32	74.78	72.92	78.52	82.49	86.47	90.44	94.42	98.39	99.28	100.18	101.07	101.97	102.86
10	29	14	49.20	47.62	50.09	50.76	70.91	68.14	62.32	62.62	70.42	73.43	76.54	74.31	74.25	72.93	78.52	82.69	86.86	91.03	95.20	99.37	100.03	100.70	101.36	102.03	102.69
10	29	15	48.51	47.47	51.62	50.46	72.75	68.14	61.81	62.54	69.44	72.74	76.54	73.71	73.79	72.23	78.36	82.27	86.17	90.08	93.98	97.89	98.75	99.61	100.48	101.34	102.20
10	29	16	48.31	47.45	49.56	50.11	73.12	67.66	61.86	62.51	69.37	70.24	76.54	73.30	73.79	71.22	78.11	82.07	86.03	89.99	93.95	97.91	98.86	99.82	100.77	101.73	102.68
10	29	17	48.19	47.47	49.56	50.58	73.70	67.89	62.32	63.06	69.42	70.64	79.87	72.78	73.92	72.93	78.83	82.67	86.51	90.36	94.20	98.04	99.01	99.98	100.95	101.92	102.89
10	29	18	48.31	47.83	50.11	62.73	74.78	68.14	62.67	65.81	71.75	73.77	79.87	72.81	73.95	74.11	82.73	86.76	90.78	94.81	98.83	102.86	103.57	104.28	104.99	105.70	106.41
10	29	19	50.83	48.24	59.98	90.95	97.82	76.10	65.53	69.16	89.76	92.98	115.28	74.32	76.22	76.41	88.49	94.18	99.87	105.55	111.24	116.93	115.37	113.81	112.24	110.68	109.12
10	29	20	51.24	49.46	60.15	62.59	93.73	97.94	65.53	68.72	99.98	80.71	94.22	78.67	76.22	75.80	83.11	88.48	93.85	99.21	104.58	109.95	109.73	109.51	109.28	109.06	108.84
10	29	21	49.20	48.14	52.14	52.27	73.20	72.04	64.59	66.49	71.21	73.87	79.87	72.81	74.10	74.31	80.64	84.39	88.15	91.90	95.66	99.41	100.92	102.43	103.94	105.45	106.96
10	29	22	47.05	46.81	49.78	50.04	64.91	66.88	61.75	64.21	67.14	70.38	73.43	70.31	73.04	72.30	77.61	81.19	84.77	88.35	91.93	95.51	97.37	99.23	101.09	102.95	104.81
10	29	23	45.00	44.17	47.58	49.01	62.98	64.28	60.72	62.68	66.22	69.46	71.48	70.45	71.74	71.04	76.24	79.59	82.94	86.29	89.64	92.99	94.83	96.66	98.50	100.33	102.17
10	29	24	39.46	40.10	41.85	42.23	58.68	60.51	59.19	61.18	62.04	66.71	68.01	67.99	69.44	70.23	73.46	76.52	79.59	82.65	85.72	88.78	90.95	93.12	95.30	97.47	99.64
10	30	1	36.04	36.56	38.05	37.62	56.90	58.68	56.76	60.85	58.09	62.40	64.58	64.70	67.78	68.70	69.09	71.70	74.31	76.92	79.53	82.14	84.47	86.81	89.14	91.48	93.81
10	30	2	34.12	34.18	36.98	36.10	56.17	55.46	56.74	58.39	56.58	61.34	62.65	62.63	66.19	67.38	67.37	70.01	72.65	75.28	77.92	80.56	82.84	85.12	87.41	89.69	91.97
10	30	3	31.61	32.72	34.96	34.19	55.82	54.86	55.69	59.21	55.91	58.18	61.74	61.13	64.47	66.69	64.61	67.27	69.92	72.58	75.23	77.89	80.71	83.52	86.34	89.15	91.97
10	30	4	31.29	32.42	34.96	34.22	55.89	54.91	55.28	59.23	55.93	58.71	61.78	61.13	64.43	67.22	65.67	68.07	70.47	72.88	75.28	77.68	80.43	83.18	85.92	88.67	91.42
10	30	5	33.12	32.81	37.54	36.87	56.48	57.23	55.80	60.03	57.15	62.28	63.44	62.06	64.89	68.75	67.84	70.49	73.13	75.78	78.42	81.07	83.76	86.44	89.13	91.81	94.50
10	30	6	35.29	34.42	41.12	41.95	58.50	60.11	56.74	63.58	61.09	66.94	67.46	63.20	65.03	71.50	73.78	76.72	79.66	82.60	85.54	88.48	91.20	93.92	96.63	99.35	102.07
10	30	7	37.71	36.54	47.12	48.45	62.54	62.17	56.78	68.22	65.42	69.66	70.24	65.97	66.38	73.73	76.77	80.14	83.51	86.89	90.26	93.63	96.00	98.38	100.75	103.13	105.50
10	30	8	41.98	39.39	49.86	50.79	65.22	65.39	58.74	72.37	67.39	73.58	73.19	68.80	68.24	77.03	79.41	82.92	86.43	89.94	93.45	96.96	99.27	101.58	103.88	106.19	108.50
10	30	9	46.66	42.50	49.94	50.99	65.34	65.55	60.32	72.67	67.87	73.58	73.26	70.95	71.54	78.16	80.01	83.59	87.17	90.74	94.32	97.90	100.42	102.94	105.45	107.97	110.49
10	30	10	47.51	45.07	50.45	51.54	65.34	67.91	60.72	73.14	67.87	73.58	73.26	73.52	71.90	78.03	79.58	83.17	86.77	90.36	93.96	97.55	100.14	102.73	105.32	107.91	110.50
10	30	11	48.18	45.22	49.86	51.69	66.14	68.76	60.72	73.27	68.38	73.43	73.19	73.56	71.90	77.95	78.60	82.46	86.32	90.18	94.04	97.90	100.46	103.02	105.58	108.14	110.70
10	30	12	47.51	44.87	49.86	51.55	67.74	68.76	60.72	72.96	68.24	72.90	73.26	73.66	71.78	77.64	78.52	82.18	85.83	89.49	93.14	96.80	99.54	102.28	105.01	107.75	110.49
10	30	13	47.05	44.22	49.54	50.96	68.72	68.76	60.64	73.69	67.87	73.25	72.66	72.64	71.34	77.33	78.52	82.18	85.83	89.49	93.14	96.80	99.42	102.04	104.65	107.27	109.89
10	30	14	46.71	44.13	49.52	50.94	69.13	68.99	60.47	72.48	67.87	73.05	72.66	71.29	71.29	78.03	78.52	82.09	85.66	89.23	92.80	96.37	99.07	101.78	104.48	107.19	109.89
10	30	15	46.37	43.50	49.00	50.63	68.67	68.62	60.23	70.51	67.30	72.12	72.44	70.45	70.97	77.25	78.11	81.68	85.24	88.81	92.37	95.94	98.47	101.00	103.54	106.07	108.60
10	30	16	46.12	43.95	47.59	49.91	67.79	67.56	60.17	70.51	67.16	71.92	72.35	70.31	71.20	77.36	78.11	81.62	85.13	88.63	92.14	95.65	98.22	100.79	103.36	105.93	108.50
10	30	17	46.12	44.55	47.81	50.54	68.60	66.98	60.52	70.51	67.21	72.43	72.35	70.49	71.53	77.64	78.52	82.06	85.60	89.15	92.69	96.23	98.68	101.14	103.59	106.05	108.50
10	30	18	46.66	46.48	54.31	65.80	69.13	66.98	62.26	76.46	73.22	91.72	72.44	72.10	73.95	94.28	91.67	93.28	94.89	96.51	98.12	99.73	101.88	104.03	106.19	108.34	110.49
10	30	19	47.75	50.54	59.09	68.17	80.49	71.69	66.55	94.37	100.48	94.55	75.63	73.56	76.39	109.19	93.65	96.68	99.70	102.73	105.75	108.78	110.92	113.05	115.19	117.32	119.46
10	30	20	48.19	50.24	55.97	67.64	87.00	77.78	66.41	118.06	79.57	95.17	80.29	74.31	76.03	125.93	97.00	97.56	98.13	98.69	99.26	99.82	103.23	106.65	110.06	113.48	116.89
10	30	21	47.05	48.57	51.07	52.53	69.69	69.64	65.06	74.69	68.99	73.87	73.68	72.64	74.77	79.68	80.04	83.75	87.45	91.16	94.86	98.57	101.01	103.46	105.90	108.35	110.79
10	30	22	44.91	46.81	47.73	50.03	64.18	65.49	61.43	66.12	66.91	73.13	70.97	70.59	72.05	75.92	77.65	81.18	84.72	88.25	91.79	95.32	97.75	100.19	102.62	105.06	107.49
10	30	23	43.42	43.46	47.33	49.79	62.09	63.64	60.72	64.92	66.31	69.46	68.25	69.58	70.81	73.40	76.04	79.27	82.50	85.74	88.97	92.20	94.82	97.44	100.06	102.68	105.30
10	30	24	37.97	39.75	41.03	43.46	58.39	60.74	59.35	62.47	61.57	67.20	66.02	67.30	68.24	71.04	74.31	76.81	79.32	81.82	84.33	86.83	89.88	92.93	95.97	99.02	102.07
10	31	1	35.95	35.57	37.59	38.43	56.48	57.65	56.85	59.08	57.94	63.60	63.81	65.65	67.33	68.44	69.89	72.05	74.21	76.36	78.52	80.68	83.40	86.12	88.84	91.56	94.28
10	31	2	34.06	34.34	36.50	36.83	55.07	57.00	56.44	57.62	56.63	61.85	62.08	64.14	66.17	67.20	68.22	70.28	72.35	74.41	76.48	78.54	81.34	84.13	86.93	89.72	92.52
10	31	3	32.01	33.62	34.78	36.03	54.64	54.51	56.44	57.33	55.78	61.07	60.89	62.23	65.53	66.61	67.61	69.47	71.33	73.19	75.05	76.91	79.99	83.07	86.14	89.22	92.30
10	31	4	31.68	34.11	35.07	35.93	54.64	54.66	56.44	57.31	55.58	61.12	60.74	62.12	65.93	66.71	67.61	69.30	70.99	72.68	74.37	76.06	79.34	82.62	85.90	89.18	92.46
10	31	5	31.80	35.34	37.53	37.52	56.48	55.49	56.78	58.51	56.74	62.44	62.18	62.57	66.89	68.19	69.07	71.35	73.63	75.92	78.20	80.48	83.24	85.99	88.75	91.50	94.26
10	31	6	33.42	41.08	41.02	41.43	58.68	57.00	60.66	61.85	60.99	66.89	63.52	63.07	70.09	69.99	73.78	76.41	79.04	81.67	84.30	86.93	89.83	92.73	95.62	98.52	101.42
10	31	7	35.43	46.60	47.02	49.27	61.37	58.87	62.21	63.96	65.38	69.83	65.87	64.93	72.97	72.91	76.42	79.74	83.06	86.37	89.69	93.01	95.26	97.51	99.77	102.02	104.27
10	31	8	37.98	48.82	49.91	50.96	64.02	60.33	66.63	68.31	67.53	73.85	67.87	66.15	76.43	75.97	77.70	81.53	85.36	89.20	93.03	96.86	99.24	101.61	103.99	106.36	108.74
10	31	9	41.63	49.42	50.06	50.96	64.18	63.55	67.03	69.16	68.99	73.85	69.83	69.05	78.07	76.07	78.78	82.53	86.29	90.04	93.80	97.55	99.64	101.73	103.81	105.90	107.99
10	31	10	44.52	49.02	49.86	50.93	64.59	65.07	67.13	69.50	68.69	73.85	70.65	69.58	78.21	76.01	78.58	82.29	85.99	89.70	93.40	97.11	99.20	101.29	103.38	105.47	107.56
10	31	11	44.85	49.02	49.33	50.99	65.34	66.04	67.77	69.61	68.99	73.85	71.13	69.58	78.44	76.11	78.52	82.20	85.88	89.56	93.24	96.92	99.05	101.18	103.30	105.43	107.56
10	31	12	44.91	48.95	49.33	50.99	65.34	65.56	67.75	69.46	68.69	73.70	70.21	69.58	76.58	76.11	77.85	81.56	85.27	88.99	92.70	96.41	98.57	100.73	102.90	105.06	107.22
10	31	13	45.36	48.82	49.28	50.92	65.43	65.00	67.28	68.55	67.98	73.74	70.65	69.05	76.59	75.90	77.65	81.51	85.37	89.24	93.10	96.96	98.95	100.95	102.94	104.94	106.93
10	31	14	42.71	48.96	49.11	50.76	66.01	63.55	69.82	68.37	67.91	73.58	70.71	68.42	77.38	75.25	77.61	81.47	85.33	89.18	93.04	96.90	98.82	100.74	102.65	104.57	106.49
10	31	15	42.68	49.42	49.08	50.17	65.43	61.79	69.33	68.12	67.98	73.53	70.23	67.99	75.76	74.12	77.32	81.14	84.96	88.77	92.59	96.41	98.37	100.33	102.29	104.25	106.21
10	31	16	42.71	48.54	49.08	50.03	65.35	61.43	70.66	67.65	67.60	72.80	70.23	67.99	76.58	73.97	77.24	80.98	84.72	88.45	92.19	95.93	97.94	99.94	101.95	103.95	105.96
10	31	17	45.50	48.82	48.11	50.63	66.01	61.69	68.57	68.31	68.24	73.31	70.85	69.05	76.43	74.27	78.11	81.77	85.43	89.09	92.75	96.41	98.38	100.34	102.31	104.27	106.24
10	31	18	46.48	49.01	58.86	56.97	66.25	63.49	73.16	80.57	90.36	78.82	71.56	71.35	92.52	87.70	80.64	86.76	92.88	99.00	105.12	111.24	111.03	110.82	110.61	110.40	110.19
10	31	19	48.61	50.49	70.33	90.38	72.29	66.41	76.58	118.19	100.18	95.66	73.38	73.81	91.36	117.43	98.31	103.12	107.93	112.74	117.55	122.36	124.76	127.16	129.57	131.97	134.37
10	31	20	48.35	52.35	74.37	55.45	81.15	67.65	76.43	79.64	93.98	82.74	73.43	73.71	96.77	84.05	81.37	88.48	95.59	102.71	109.82	116.93	115.64	114.36	113.07	111.79	110.50

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
10	31	21	47.51	51.12	51.22	52.06	68.20	64.50	71.69	70.51	71.61	74.84	70.37	72.70	79.17	76.83	78.78	82.74	86.70	90.65	94.61	98.57	100.56	102.54	104.53	106.51	108.50
10	31	22	45.19	47.16	48.88	50.38	64.54	62.02	66.13	67.20	68.17	73.85	69.83	70.31	73.32	73.86	77.34	80.98	84.61	88.25	91.88	95.52	97.56	99.60	101.65	103.69	105.73
10	31	23	42.17	47.10	47.71	49.70	63.66	60.03	63.18	64.99	66.91	69.81	67.86	69.32	71.17	72.92	76.19	79.62	83.06	86.49	89.93	93.36	95.50	97.64	99.79	101.93	104.07
10	31	24	38.14	42.31	43.13	42.24	59.86	58.87	61.00	61.74	62.47	66.28	65.95	67.03	69.10	70.37	73.49	76.66	79.84	83.01	86.19	89.36	91.45	93.53	95.62	97.70	99.79
11	1	1	34.80	35.48	38.13	37.13	57.41	57.00	57.99	58.91	59.26	61.97	64.07	65.29	67.05	68.17	68.96	71.61	74.27	76.92	79.58	82.23	84.47	86.72	88.96	91.21	93.45
11	1	2	32.65	34.17	36.93	34.22	55.60	55.49	56.92	57.61	57.63	59.75	61.87	62.64	63.62	65.56	65.69	68.67	71.65	74.62	77.60	80.58	82.91	85.24	87.56	89.89	92.22
11	1	3	32.49	33.02	36.26	33.29	54.84	55.14	55.83	56.42	57.30	58.60	60.21	62.34	63.09	65.13	64.76	67.67	70.57	73.48	76.38	79.29	81.66	84.04	86.41	88.79	91.16
11	1	4	32.65	33.10	36.53	33.16	54.60	54.97	55.48	56.31	57.37	58.18	59.84	62.62	63.09	65.13	64.13	67.23	70.33	73.44	76.54	79.64	81.59	83.55	85.50	87.46	89.41
11	1	5	34.07	34.90	38.03	35.05	54.86	55.46	57.21	57.65	58.55	59.82	60.43	64.51	64.47	67.64	67.10	69.86	72.62	75.38	78.14	80.90	83.48	86.06	88.65	91.23	93.81
11	1	6	38.65	40.02	42.86	39.11	57.28	55.46	59.98	61.16	62.13	63.93	62.00	67.68	68.72	69.99	71.02	74.56	78.09	81.63	85.16	88.70	91.04	93.39	95.73	98.08	100.42
11	1	7	45.41	46.29	47.47	45.36	58.64	57.23	61.33	63.41	66.15	68.51	64.40	70.03	71.38	72.66	74.59	78.34	82.09	85.83	89.58	93.33	95.49	97.65	99.82	101.98	104.14
11	1	8	47.57	49.69	48.25	49.70	60.56	58.87	66.17	67.06	68.24	71.55	66.42	73.22	73.32	75.69	77.65	80.91	84.17	87.42	90.68	93.94	96.75	99.57	102.38	105.20	108.01
11	1	9	48.55	49.77	48.40	49.98	62.92	59.89	66.40	67.42	68.28	72.02	68.98	74.18	73.91	75.93	78.19	81.56	84.92	88.29	91.65	95.02	97.71	100.41	103.10	105.80	108.49
11	1	10	48.30	49.36	48.54	49.93	63.81	60.53	66.40	67.20	70.21	72.10	69.42	74.18	74.05	75.11	78.42	81.73	85.04	88.36	91.67	94.98	97.68	100.38	103.09	105.79	108.49
11	1	11	47.55	48.33	48.65	49.69	63.66	60.48	66.74	67.63	70.18	71.77	68.10	73.99	74.48	75.12	78.13	81.89	85.65	89.40	93.16	96.92	99.14	101.35	103.57	105.78	108.00
11	1	12	46.71	48.54	48.41	49.68	63.66	60.32	66.28	66.69	68.99	70.24	68.41	73.43	74.33	75.25	77.19	81.13	85.06	89.00	92.93	96.87	98.94	101.01	103.08	105.15	107.22
11	1	13	46.96	49.03	48.40	49.55	63.10	60.32	66.16	66.28	68.87	69.83	69.01	73.30	73.88	74.08	77.03	80.98	84.93	88.88	92.83	96.78	98.79	100.80	102.81	104.82	106.83
11	1	14	46.45	48.95	48.39	49.54	62.24	60.03	65.99	66.19	68.80	70.09	69.21	73.66	73.48	73.93	77.03	80.65	84.28	87.90	91.53	95.15	97.38	99.61	101.84	104.07	106.30
11	1	15	46.63	47.40	48.26	49.54	61.53	59.77	65.37	65.64	68.02	70.09	68.99	73.14	73.32	73.86	77.02	80.61	84.20	87.79	91.38	94.97	97.07	99.18	101.28	103.39	105.49
11	1	16	46.96	47.16	48.26	49.50	61.29	59.77	63.85	65.59	67.09	69.98	68.99	73.09	73.33	73.80	77.00	80.52	84.04	87.56	91.08	94.60	96.61	98.62	100.62	102.63	104.64
11	1	17	46.96	47.56	48.41	49.68	61.53	60.36	64.65	66.33	68.02	69.98	69.38	73.09	73.33	74.26	77.02	80.68	84.34	87.99	91.65	95.31	97.61	99.92	102.22	104.53	106.83
11	1	18	46.98	50.75	50.97	51.22	62.18	62.84	69.66	72.04	70.67	72.11	70.41	74.50	77.13	83.99	77.93	81.85	85.78	89.70	93.63	97.55	100.55	103.54	106.54	109.53	112.53
11	1	19	50.22	56.31	59.09	52.96	64.17	65.31	118.02	93.09	76.13	73.13	71.56	90.70	134.26	101.99	78.52	82.80	87.08	91.36	95.64	99.92	108.91	117.90	126.90	135.89	144.88
11	1	20	50.30	50.52	51.75	53.93	63.90	65.32	69.60	71.43	72.41	75.01	71.47	88.28	79.31	80.41	79.89	83.50	87.11	90.73	94.34	97.95	100.97	103.99	107.00	110.02	113.04
11	1	21	47.71	48.99	50.09	50.46	63.07	65.00	67.03	69.46	72.08	71.77	70.21	76.64	75.01	76.48	77.21	81.05	84.90	88.74	92.59	96.43	99.02	101.60	104.19	106.77	109.36
11	1	22	45.80	47.52	48.19	50.03	61.53	62.13	63.68	66.22	66.91	71.66	69.43	72.67	73.13	74.11	77.06	80.53	84.00	87.46	90.93	94.40	96.94	99.48	102.03	104.57	107.11
11	1	23	44.38	46.65	47.81	49.49	59.23	60.15	62.66	64.38	65.80	70.86	68.25	71.24	72.26	73.39	75.03	78.58	82.13	85.69	89.24	92.79	95.11	97.43	99.74	102.06	104.38
11	1	24	39.19	41.21	41.73	43.09	58.11	59.20	60.42	61.74	62.03	67.21	66.70	67.92	68.75	70.83	73.42	76.19	78.97	81.74	84.52	87.29	89.99	92.69	95.38	98.08	100.78
11	2	1	34.39	35.75	37.59	38.20	57.24	56.97	57.15	59.20	57.94	63.41	63.34	64.81	66.70	68.20	69.61	71.61	73.62	75.62	77.63	79.63	83.02	86.42	89.81	93.21	96.60
11	2	2	33.14	34.42	35.00	36.65	54.27	55.46	56.31	57.38	55.58	61.26	61.57	62.75	64.25	66.87	67.81	69.46	71.11	72.76	74.41	76.06	79.68	83.30	86.92	90.54	94.16
11	2	3	32.19	33.97	34.14	34.76	53.82	55.46	55.39	56.65	54.80	60.32	61.27	62.14	63.09	65.73	66.33	68.10	69.87	71.63	73.40	75.17	78.52	81.87	85.22	88.57	91.92
11	2	4	32.24	34.02	33.60	34.66	53.33	55.46	55.43	57.27	54.39	60.05	61.56	62.09	63.06	65.48	65.89	67.64	69.38	71.13	72.87	74.62	78.20	81.79	85.37	88.96	92.54
11	2	5	33.92	35.42	35.79	36.10	53.77	56.99	56.76	57.82	55.83	61.12	63.17	63.25	65.53	67.47	67.61	69.43	71.24	73.06	74.87	76.69	80.30	83.91	87.52	91.13	94.74
11	2	6	38.11	41.19	39.30	38.01	55.55	59.71	59.84	60.94	59.94	63.21	67.13	66.44	68.72	70.37	69.29	72.12	74.95	77.79	80.62	83.45	86.92	90.40	93.87	97.35	100.82
11	2	7	44.88	46.60	46.32	40.09	57.58	64.20	61.70	63.76	63.08	66.30	69.42	69.52	71.24	73.41	72.54	76.37	80.20	84.04	87.87	91.70	94.46	97.23	99.99	102.76	105.52
11	2	8	46.92	49.78	49.27	45.50	58.39	66.34	66.73	67.63	66.22	68.79	72.07	71.24	73.27	76.17	74.49	78.26	82.03	85.79	89.56	93.33	96.35	99.37	102.38	105.40	108.42
11	2	9	46.97	48.95	49.33	49.14	59.14	66.70	66.27	67.63	66.51	71.36	72.34	72.20	73.32	76.23	75.98	79.55	83.12	86.68	90.25	93.82	96.75	99.69	102.62	105.56	108.49
11	2	10	46.52	48.54	49.33	50.03	59.60	66.82	66.94	67.92	66.91	71.77	72.61	72.20	73.33	76.11	76.59	80.08	83.57	87.05	90.54	94.03	96.92	99.81	102.71	105.60	108.49
11	2	11	46.15	48.54	48.53	50.07	60.10	66.31	66.71	68.19	67.01	71.77	72.34	72.20	73.26	76.11	77.32	80.70	84.09	87.47	90.86	94.24	97.09	99.94	102.79	105.64	108.49
11	2	12	45.86	48.60	48.26	49.83	60.54	65.61	66.68	67.92	66.70	69.97	72.20	72.29	73.26	75.87	77.24	80.66	84.09	87.51	90.94	94.36	97.00	99.64	102.28	104.92	107.56
11	2	13	45.80	49.61	48.38	49.36	60.48	65.47	66.53	67.63	66.67	69.85	71.97	72.29	73.26	75.25	77.11	80.56	84.01	87.46	90.91	94.36	96.91	99.46	102.01	104.56	107.11
11	2	14	45.80	49.51	48.38	47.93	60.54	65.55	66.16	66.68	66.52	69.79	72.07	72.25	73.19	75.12	76.53	80.10	83.68	87.25	90.83	94.40	96.97	99.54	102.10	104.67	107.24
11	2	15	45.80	47.56	48.26	47.04	60.65	65.26	64.18	65.59	66.47	69.58	71.36	71.35	72.98	74.11	75.18	79.02	82.85	86.69	90.52	94.36	96.73	99.10	101.47	103.84	106.21
11	2	16	45.80	47.31	48.26	45.86	60.14	65.25	63.91	65.01	66.41	69.54	71.37	71.17	72.88	73.91	74.94	78.83	82.72	86.62	90.51	94.40	96.73	99.06	101.38	103.71	106.04
11	2	17	46.12	47.48	48.38	47.29	59.72	65.16	64.43	66.08	66.52	69.58	71.72	71.11	73.32	74.92	76.48	80.06	83.65	87.23	90.82	94.40	97.03	99.66	102.30	104.93	107.56
11	2	18	48.31	62.57	48.65	49.70	62.01	65.75	84.02	71.13	67.87	70.67	72.44	75.31	97.36	79.09	77.24	80.85	84.47	88.08	91.70	95.31	98.59	101.88	105.16	108.45	111.73
11	2	19	56.52	97.09	49.60	50.93	63.81	72.73	122.18	88.33	68.99	72.12	74.07	133.36	129.53	99.09	77.24	81.21	85.18	89.14	93.11	97.08	105.15	113.21	121.28	129.34	137.41
11	2	20	48.00	52.01	52.72	50.76	63.81	74.89	82.54	75.46	72.45	71.92	75.89	77.48	87.97	79.60	77.11	82.45	87.79	93.12	98.46	103.80	105.78	107.76	109.73	111.71	113.69
11	2	21	46.82	48.94	48.51	50.17	62.27	67.16	68.55	68.76	67.73	71.35	72.34	73.30	75.30	76.01	76.89	80.58	84.26	87.95	91.63	95.32	97.95	100.59	103.22	105.86	108.49
11	2	22	45.80	47.31	47.98	49.70	60.65	64.06	64.51	65.55	66.61	69.53	70.09	70.93	73.39	74.08	75.62	79.28	82.94	86.60	90.26	93.92	96.38	98.84	101.29	103.75	106.21
11	2	23	44.38	46.89	47.41	46.34	59.09	62.13	63.63	64.38	65.82	68.06	69.63	70.03	72.26	72.91	74.40	78.19	81.98	85.78	89.57	93.36	95.73	98.10	100.46	102.83	105.20
11	2	24	39.17	42.65	42.92	40.42	58.11	59.90	60.51	61.13	62.34	65.25	66.77	66.59	68.94	70.34	72.35	75.80	79.25	82.71	86.16	89.61	91.68	93.74	95.81	97.87	99.94
11	3	1	34.68	36.17	38.57	37.98	56.08	57.61	57.61	57.72	58.90	62.16	63.34	64.42	67.09	67.23	69.59	72.15	74.71	77.27	79.83	82.39	84.58	86.77	88.95	91.14	93.33
11	3	2	32.77	34.75	37.79	35.94	54.92	56.54	56.47	57.20	57.60	60.44	61.13	62.55	65.59	64.75	67.97	70.47	72.98	75.48	77.99	80.49	82.48	84.47	86.46	88.45	90.44
11	3	3	32.20	34.04	35.59	35.06	54.54	56.23	56.40	55.07	56.34	58.79	60.87	61.80	64.45	63.19	66.49	68.96	71.43	73.90	76.37	78.84	80.62	82.41	84.19	85.98	87.76
11	3	4	32.65	34.04	35.52	34.65	55.01	55.59	56.39	54.46	56.19	58.44	60.75	61.36	64.60	62.55	66.33	68.79	71.26	73.72	76.19	78.65	80.34	82.03	83.73	85.42	87.11
11	3	5	34.15	35.35	36.98	34.98	56.43	57.00	57.09	57.03	57.37	58.90	61.80	64.03	67.03	64.78	66.20	68.96	71.72	74.48	77.24	80.00	82.02	84.04	86.06	88.08	90.10
11	3	6	38.61	41.58	38.58	35.88	58.78	59.34	60.01	59.49	58.72	60.19	65.49	66.80	68.75	68.86	67.61	70.73	73.85	76.98	80.10	83.22	86.32	89.41	92.51	95.60	98.70
11	3	7	45.51	46.37	41.03	38.03	61.06	63.28	62.26	62.47	60.85	62.16	68.98	69.78	72.06	72.40	69.65	73.20	76.75	80.29	83.84	87.39	90.55	93.71	96.86	100.02	103.18

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	3	8	47.55	48.70	44.37	40.76	64.88	66.77	66.73	64.34	63.60	64.39	71.19	72.19	74.48	73.24	71.85	75.77	79.69	83.61	87.53	91.45	94.20	96.95	99.70	102.45	105.20
11	3	9	47.01	48.74	47.43	44.42	66.68	67.08	66.73	64.57	66.91	67.73	71.65	72.49	74.50	73.84	74.35	78.29	82.23	86.16	90.10	94.04	96.47	98.91	101.34	103.78	106.21
11	3	10	46.96	48.70	47.94	47.49	66.68	67.46	66.74	65.01	67.39	69.30	71.56	72.50	74.48	73.84	75.24	79.19	83.13	87.08	91.02	94.97	97.22	99.48	101.73	103.99	106.24
11	3	11	46.96	48.71	48.11	47.67	66.68	67.20	67.04	65.14	67.39	69.02	71.53	72.50	74.12	73.90	75.82	79.50	83.19	86.87	90.56	94.24	96.76	99.28	101.79	104.31	106.83
11	3	12	47.01	48.53	48.11	47.51	66.27	67.14	66.68	65.14	67.20	68.74	71.26	72.70	73.93	73.90	75.58	79.36	83.14	86.92	90.70	94.48	96.83	99.18	101.54	103.89	106.24
11	3	13	46.85	48.40	47.43	47.10	66.21	67.14	66.53	65.01	66.63	69.14	71.36	72.29	73.39	73.90	75.25	79.01	82.77	86.52	90.28	94.04	96.44	98.84	101.24	103.64	106.04
11	3	14	46.60	48.30	46.57	45.22	66.48	67.04	66.16	64.60	65.40	68.59	71.58	72.04	73.32	73.90	74.56	78.28	82.00	85.71	89.43	93.15	95.63	98.11	100.59	103.07	105.55
11	3	15	45.80	47.56	45.96	44.38	66.48	66.98	64.64	64.45	64.36	68.52	71.56	71.23	73.19	73.90	74.64	78.20	81.76	85.32	88.88	92.44	94.99	97.54	100.10	102.65	105.20
11	3	16	45.50	47.16	44.98	44.68	66.20	66.44	63.68	64.38	64.17	68.54	71.48	71.11	72.81	73.89	74.82	78.32	81.82	85.31	88.81	92.31	94.87	97.42	99.98	102.53	105.09
11	3	17	46.64	47.31	46.48	47.29	66.09	67.13	64.63	64.63	65.38	69.53	71.65	72.20	73.47	74.26	76.41	79.76	83.11	86.45	89.80	93.15	95.73	98.31	100.88	103.46	106.04
11	3	18	62.69	52.46	48.58	50.38	66.57	72.71	75.88	68.74	67.90	72.02	74.44	90.59	80.57	76.07	77.61	81.29	84.96	88.64	92.31	95.99	98.72	101.45	104.18	106.91	109.64
11	3	19	79.87	64.20	49.87	50.47	71.20	121.05	109.37	76.96	71.47	72.24	101.13	103.70	112.40	80.23	77.76	81.62	85.48	89.34	93.20	97.06	99.82	102.58	105.33	108.09	110.85
11	3	20	50.58	50.55	49.33	50.45	74.34	72.31	72.84	69.36	69.02	72.52	74.37	82.60	82.79	76.02	77.94	81.71	85.48	89.24	93.01	96.78	99.15	101.51	103.88	106.24	108.61
11	3	21	47.01	49.42	48.11	50.11	66.93	68.05	67.32	68.26	67.87	72.81	72.34	73.77	74.70	75.97	78.52	81.98	85.45	88.91	92.38	95.84	98.21	100.58	102.94	105.31	107.68
11	3	22	45.80	47.56	47.09	49.14	64.13	66.32	65.76	65.14	66.52	71.31	70.67	71.17	73.03	73.48	75.98	79.46	82.93	86.41	89.88	93.36	95.79	98.21	100.64	103.06	105.49
11	3	23	44.56	47.10	43.34	45.19	61.17	63.28	63.85	64.57	63.67	67.46	70.16	69.91	72.68	72.70	74.40	77.62	80.84	84.05	87.27	90.49	93.20	95.92	98.63	101.35	104.06
11	3	24	39.90	41.82	40.19	41.11	58.60	60.48	60.51	61.85	60.94	64.73	65.95	66.63	68.72	70.94	72.59	75.30	78.02	80.73	83.45	86.16	89.12	92.09	95.05	98.02	100.98
11	4	1	35.63	35.28	37.92	36.44	56.53	57.77	57.15	59.49	58.55	62.39	63.30	64.16	65.35	67.87	69.94	72.40	74.85	77.31	79.76	82.22	85.11	88.01	90.90	93.80	96.69
11	4	2	33.59	32.96	35.93	35.57	55.11	57.19	56.39	57.48	57.10	61.72	62.07	63.09	63.40	65.81	69.14	71.08	73.02	74.96	76.90	78.84	81.84	84.84	87.84	90.84	93.84
11	4	3	32.86	32.23	34.90	35.09	54.60	55.57	54.42	57.08	56.24	60.98	60.55	62.34	61.49	65.31	68.61	70.45	72.28	74.12	75.95	77.79	80.76	83.72	86.69	89.65	92.62
11	4	4	32.88	31.76	34.66	35.52	54.50	54.95	54.05	56.55	56.06	61.37	60.45	62.38	60.77	65.23	69.05	70.75	72.45	74.16	75.86	77.56	80.47	83.37	86.28	89.18	92.09
11	4	5	34.50	32.98	34.84	36.65	55.45	57.32	56.39	57.02	56.13	62.16	63.40	63.94	63.62	65.73	70.53	71.92	73.31	74.71	76.10	77.49	80.68	83.86	87.05	90.23	93.42
11	4	6	39.38	38.01	35.57	40.40	58.66	60.34	58.76	58.37	56.68	66.84	67.04	66.45	67.95	67.74	74.39	75.21	76.03	76.84	77.66	78.48	81.97	85.46	88.94	92.43	95.92
11	4	7	44.96	43.54	37.92	48.04	62.83	62.08	61.00	60.72	58.27	71.53	69.58	69.85	70.77	70.83	77.55	78.18	78.81	79.44	80.07	80.70	84.76	88.82	92.87	96.93	100.99
11	4	8	46.30	47.40	39.06	51.72	65.24	67.07	63.84	62.48	60.85	74.55	72.63	72.20	73.03	71.65	80.05	81.07	82.09	83.10	84.12	85.14	88.75	92.36	95.96	99.57	103.18
11	4	9	46.85	48.04	42.68	51.44	65.34	67.40	64.97	64.45	62.34	75.12	72.80	72.77	73.19	73.30	80.47	82.66	84.85	87.04	89.23	91.42	94.26	97.11	99.95	102.80	105.64
11	4	10	46.85	48.40	44.62	50.81	66.01	67.46	65.30	66.02	63.57	75.12	72.30	72.53	73.32	73.86	80.42	82.79	85.17	87.54	89.92	92.29	95.07	97.86	100.64	103.43	106.21
11	4	11	47.12	48.82	44.55	50.86	66.09	67.56	66.71	66.02	63.69	75.12	71.91	72.77	73.32	73.86	80.04	82.45	84.86	87.27	89.68	92.09	94.91	97.74	100.56	103.39	106.21
11	4	12	46.95	48.70	44.41	50.23	65.83	67.37	65.73	66.02	63.61	74.63	71.91	72.53	73.19	73.90	80.04	82.37	84.70	87.04	89.37	91.70	94.49	97.28	100.06	102.85	105.64
11	4	13	46.96	48.40	44.01	49.75	65.42	67.17	64.95	64.19	63.61	74.43	71.58	71.61	72.81	73.24	79.23	81.73	84.22	86.72	89.21	91.71	94.13	96.55	98.96	101.38	103.80
11	4	14	46.60	47.56	42.83	49.70	65.34	67.12	64.36	62.91	63.57	74.43	71.66	71.23	72.68	72.15	78.83	81.18	83.52	85.87	88.21	90.56	93.13	95.69	98.26	100.82	103.39
11	4	15	46.43	47.13	41.87	49.45	65.34	66.44	63.68	62.48	63.36	74.37	71.48	71.00	72.26	71.65	78.52	80.85	83.18	85.50	87.83	90.16	92.68	95.21	97.73	100.26	102.78
11	4	16	46.20	47.40	42.54	49.14	65.23	65.04	62.59	62.29	63.45	73.91	71.36	70.93	72.04	71.65	78.52	80.89	83.27	85.64	88.02	90.39	92.84	95.30	97.75	100.21	102.66
11	4	17	46.96	47.56	44.81	50.02	65.34	65.04	63.68	62.71	64.04	74.64	71.56	71.61	72.81	72.08	79.63	82.17	84.70	87.24	89.77	92.31	94.53	96.74	98.96	101.17	103.39
11	4	18	50.16	51.00	48.15	53.27	71.76	92.07	67.75	67.41	67.60	76.84	90.28	77.26	75.24	75.55	87.04	88.76	90.48	92.19	93.91	95.63	97.93	100.22	102.52	104.81	107.11
11	4	19	66.69	53.11	49.33	64.20	95.28	117.74	78.30	70.58	69.73	80.75	135.63	93.11	82.07	76.48	92.72	93.54	94.35	95.17	95.98	96.80	99.33	101.86	104.40	106.93	109.46
11	4	20	50.37	49.77	48.67	52.46	70.89	83.52	67.26	68.69	67.90	76.83	86.57	78.32	75.05	76.02	85.50	87.50	89.49	91.49	93.48	95.48	98.07	100.66	103.24	105.83	108.42
11	4	21	47.58	49.42	47.87	50.02	66.52	67.19	66.00	67.05	67.16	75.36	72.72	73.03	73.99	74.67	80.04	82.80	85.55	88.31	91.06	93.82	96.48	99.14	101.79	104.45	107.11
11	4	22	46.78	47.16	47.01	48.89	64.72	64.06	62.98	64.21	65.87	73.62	71.56	70.96	72.68	73.12	78.49	81.35	84.21	87.08	89.94	92.80	95.33	97.86	100.40	102.93	105.46
11	4	23	44.71	47.52	43.70	48.64	62.18	63.85	63.23	62.07	63.08	71.77	69.83	70.42	72.64	71.29	76.55	78.94	81.32	83.71	86.09	88.48	91.22	93.96	96.71	99.45	102.19
11	4	24	38.97	42.15	40.26	42.11	58.66	59.35	60.36	60.41	61.50	67.63	66.82	66.23	68.75	70.11	74.40	76.23	78.06	79.90	81.73	83.56	86.77	89.97	93.18	96.38	99.59
11	5	1	34.70	36.51	38.31	36.84	56.26	57.00	57.94	57.58	59.46	63.48	63.82	63.19	67.66	67.74	70.53	72.00	73.48	74.95	76.43	77.90	81.36	84.81	88.27	91.72	95.18
11	5	2	32.69	34.24	37.33	35.89	54.98	55.94	57.09	55.98	58.51	62.43	62.34	61.36	65.91	65.58	69.21	70.78	72.35	73.93	75.50	77.07	80.05	83.03	86.02	89.00	91.98
11	5	3	31.55	32.91	36.65	35.26	54.33	55.00	57.09	55.19	58.42	61.77	61.27	59.76	64.15	64.32	68.69	70.30	71.91	73.51	75.12	76.73	79.37	82.01	84.64	87.28	89.92
11	5	4	31.18	32.75	37.32	35.32	54.45	55.07	56.99	55.04	58.51	61.73	61.27	59.28	63.60	64.12	68.66	70.35	72.05	73.74	75.44	77.13	79.62	82.10	84.59	87.07	89.56
11	5	5	32.69	33.06	38.37	36.80	55.78	57.00	57.44	55.15	59.51	63.57	63.72	61.36	65.57	64.78	69.86	71.49	73.12	74.75	76.38	78.01	80.41	82.81	85.21	87.61	90.01
11	5	6	37.60	35.75	43.13	41.47	58.46	59.20	58.31	56.40	63.87	67.86	65.62	65.30	67.34	65.13	74.40	76.42	78.44	80.46	82.48	84.50	85.98	87.47	88.95	90.44	91.92
11	5	7	41.87	39.24	49.27	48.30	61.49	62.91	60.42	58.39	67.77	72.31	70.09	67.95	69.44	67.04	78.20	81.02	83.84	86.67	89.49	92.31	92.88	93.45	94.01	94.58	95.15
11	5	8	45.91	43.03	50.85	50.78	64.66	65.56	61.33	60.41	71.47	75.36	72.85	70.26	71.26	69.27	80.48	83.52	86.56	89.61	92.65	95.69	96.36	97.03	97.71	98.38	99.05
11	5	9	46.42	47.11	51.18	50.23	65.41	66.59	63.68	61.24	72.09	75.36	72.14	70.93	73.27	71.64	80.05	83.28	86.51	89.75	92.98	96.21	97.38	98.56	99.73	100.91	102.08
11	5	10	46.88	47.63	50.98	50.23	66.09	66.73	66.00	62.47	70.68	75.23	71.58	71.07	73.91	71.65	79.64	82.95	86.26	89.58	92.89	96.20	97.50	98.80	100.10	101.40	102.70
11	5	11	46.96	48.08	51.15	50.23	66.35	66.96	65.80	62.47	72.08	75.12	71.56	71.07	73.31	71.65	79.56	82.88	86.20	89.52	92.84	96.16	97.47	98.78	100.08	101.39	102.70
11	5	12	46.88	47.56	50.56	49.75	66.09	66.73	64.81	62.38	70.67	74.44	71.22	70.93	73.27	71.65	78.52	82.06	85.59	89.13	92.66	96.20	97.44	98.68	99.91	101.15	102.39
11	5	13	46.20	46.76	50.35	49.70	65.83	65.56	62.59	61.92	68.97	74.37	71.56	70.59	72.50	71.65	78.52	81.88	85.24	88.61	91.97	95.33	96.68	98.03	99.39	100.74	102.09
11	5	14	45.80	46.36	50.35	49.44	65.45	65.47	62.05	61.68	69.37	74.11	71.15	70.42	71.65	71.65	78.52	81.88	85.24	88.61	91.97	95.33	96.68	98.03	99.37	100.72	102.07
11	5	15	45.12	45.33	49.97	49.42	65.30	65.00	61.50	61.68	69.12	73.62	71.13	70.25	71.49	71.64	78.07	81.30	84.54	87.77	91.01	94.24	95.80	97.37	98.93	100.50	102.06
11	5	16	45.07	45.29	49.69	49.13	65.23	63.91	61.18	61.68	68.05	73.42	70.79	70.25	71.38	71.64	78.07	81.30	84.54	87.77	91.01	94.24	95.80	97.37	98.93	100.50	102.06
11	5	17	45.80	45.89	50.55	49.59	65.00	65.00	61.78	62.55	70.06	74.44	71.58	71.00	71.56	71.65	78.61	82.11	85.61	89.12	92.62	96.12	97.44	98.75	100.07	101.38	102.70
11	5	18	46.96	47.10	51.93	55.26	87.38	75.19	65.23	67.00	76.03	78.19	74.00	73.22	74.32	74.92	98.21	98.14	98.06	97.99	97.91	97.84	99.72	101.59	103.47	105.34	107.22

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	5	19	51.41	49.31	53.52	68.67	128.82	118.21	71.58	72.08	88.09	99.70	102.28	81.32	76.03	76.31	144.77	135.89	127.02	118.14	109.27	100.39	102.27	104.16	106.04	107.93	109.81
11	5	20	46.96	47.16	52.14	53.57	75.54	72.36	66.80	69.10	74.98	76.64	78.10	73.03	75.09	75.64	85.72	88.39	91.06	93.72	96.39	99.06	101.14	103.22	105.30	107.38	109.46
11	5	21	47.22	47.10	51.08	50.23	67.25	67.59	65.18	66.02	72.40	75.36	71.65	72.77	73.47	73.92	80.04	83.39	86.74	90.08	93.43	96.78	98.96	101.14	103.32	105.50	107.68
11	5	22	45.87	46.76	49.72	49.14	65.07	65.00	62.52	64.38	68.05	73.93	70.81	70.46	71.60	72.93	78.61	81.67	84.73	87.80	90.86	93.92	96.23	98.55	100.86	103.18	105.49
11	5	23	44.61	43.29	49.03	48.71	63.20	64.06	61.07	62.38	67.87	71.77	68.54	70.26	70.05	70.87	76.26	79.41	82.56	85.70	88.85	92.00	94.14	96.28	98.42	100.56	102.70
11	5	24	38.68	38.65	43.24	42.15	59.46	59.34	59.12	60.41	64.73	67.21	65.48	66.42	68.72	69.72	74.35	76.91	79.47	82.02	84.58	87.14	89.75	92.36	94.97	97.58	100.19
11	6	1	35.37	35.21	38.45	36.89	56.63	57.00	57.42	59.23	60.78	62.82	62.76	64.90	66.79	67.25	70.39	72.48	74.57	76.65	78.74	80.83	83.17	85.50	87.84	90.17	92.51
11	6	2	32.88	32.46	37.41	35.54	55.52	55.42	55.73	57.76	58.55	61.55	60.57	63.30	64.19	66.53	68.99	71.21	73.42	75.64	77.85	80.07	82.13	84.19	86.24	88.30	90.36
11	6	3	32.33	31.55	36.45	34.82	54.31	53.55	54.05	57.37	57.83	60.98	58.96	62.49	62.37	65.74	68.10	70.34	72.58	74.82	77.06	79.30	81.67	84.04	86.42	88.79	91.16
11	6	4	31.66	31.31	36.59	34.94	54.38	53.18	53.80	57.64	57.74	60.98	58.44	62.20	62.00	66.59	68.08	70.23	72.39	74.54	76.70	78.85	81.24	83.63	86.03	88.42	90.81
11	6	5	32.41	31.43	38.47	36.26	56.79	55.42	55.12	59.38	60.15	62.21	60.92	62.77	62.59	67.76	69.46	71.75	74.04	76.32	78.61	80.90	83.32	85.74	88.17	90.59	93.01
11	6	6	34.88	32.25	43.12	39.79	59.23	58.82	56.52	62.38	63.45	66.96	65.24	64.55	63.46	71.65	73.49	76.22	78.95	81.68	84.41	87.14	89.68	92.22	94.77	97.31	99.85
11	6	7	37.29	34.42	49.62	47.64	63.73	60.98	57.43	66.83	67.75	70.19	67.62	66.44	67.00	75.18	77.55	80.94	84.32	87.71	91.09	94.48	96.51	98.54	100.58	102.61	104.64
11	6	8	40.76	37.88	51.62	49.45	66.45	64.81	58.98	70.44	71.47	74.24	69.94	68.30	68.72	78.43	78.92	82.51	86.10	89.68	93.27	96.86	98.75	100.64	102.52	104.41	106.30
11	6	9	45.27	41.40	51.29	49.92	65.44	65.14	60.76	70.39	71.47	74.42	70.37	70.36	69.80	78.81	79.00	82.57	86.14	89.71	93.28	96.85	98.92	100.99	103.07	105.14	107.21
11	6	10	45.80	43.59	51.19	49.64	66.68	65.56	61.07	70.22	72.07	74.42	71.14	71.05	70.52	78.66	78.81	82.39	85.97	89.54	93.12	96.70	98.80	100.90	103.01	105.11	107.21
11	6	11	45.80	42.84	51.15	49.45	66.93	65.70	61.24	70.07	72.09	74.42	71.20	70.93	70.88	78.41	78.76	81.99	85.22	88.46	91.69	94.92	97.38	99.84	102.31	104.77	107.23
11	6	12	45.12	43.00	50.85	49.42	65.81	65.56	61.07	69.71	70.46	74.24	70.60	70.51	70.96	78.58	78.44	81.62	84.81	87.99	91.18	94.36	96.94	99.51	102.09	104.66	107.24
11	6	13	44.51	43.22	50.64	49.13	65.94	65.22	61.07	69.71	70.13	73.85	70.15	69.91	70.99	77.81	78.40	81.65	84.90	88.15	91.40	94.65	97.03	99.41	101.80	104.18	106.56
11	6	14	44.06	42.31	50.55	48.71	65.88	64.96	60.87	68.76	68.97	73.58	69.83	69.52	70.99	77.81	77.92	81.27	84.61	87.96	91.30	94.65	96.98	99.31	101.64	103.97	106.30
11	6	15	43.33	41.76	50.35	48.56	65.25	64.06	60.51	68.19	68.87	72.82	68.33	69.18	70.99	77.70	77.89	81.24	84.59	87.95	91.30	94.65	96.85	99.05	101.24	103.44	105.64
11	6	16	42.76	41.78	50.08	48.55	64.67	63.52	60.51	68.19	68.03	72.80	68.38	68.99	70.99	76.92	77.61	81.02	84.43	87.83	91.24	94.65	96.85	99.05	101.24	103.44	105.64
11	6	17	44.06	43.65	50.64	48.70	65.24	63.91	61.24	68.76	68.11	74.11	69.51	69.52	71.22	78.01	78.21	81.55	84.89	88.23	91.57	94.91	97.38	99.85	102.31	104.78	107.25
11	6	18	45.38	47.16	52.67	61.03	72.70	70.15	67.06	72.53	76.54	93.01	71.88	71.99	74.32	82.30	99.60	99.58	99.56	99.54	99.52	99.50	101.63	103.76	105.90	108.03	110.16
11	6	19	47.07	51.40	61.80	92.19	89.93	79.54	82.84	74.75	94.60	117.22	84.77	73.09	79.43	90.94	143.70	138.63	133.56	128.50	123.43	118.36	117.05	115.73	114.42	113.10	111.79
11	6	20	45.80	50.67	52.46	53.87	68.95	67.78	68.98	74.75	75.02	78.52	71.56	72.49	75.13	84.69	90.04	91.52	92.99	94.47	95.94	97.42	100.11	102.79	105.48	108.16	110.85
11	6	21	45.39	49.42	51.42	50.04	66.57	65.61	66.93	68.92	70.23	75.48	71.47	71.05	74.33	78.07	81.32	83.94	86.55	89.17	91.78	94.40	97.22	100.04	102.85	105.67	108.49
11	6	22	44.61	46.76	50.44	48.55	64.25	65.08	63.92	67.05	68.06	73.74	69.52	69.78	72.81	76.53	78.50	81.56	84.63	87.69	90.76	93.82	96.25	98.69	101.12	103.56	105.99
11	6	23	41.13	44.21	49.56	48.30	61.53	63.28	61.33	65.07	67.16	72.18	68.27	67.27	70.20	73.42	76.90	79.98	83.06	86.13	89.21	92.29	94.51	96.73	98.96	101.18	103.40
11	6	24	36.95	39.42	44.14	41.79	58.85	59.35	59.69	62.30	63.12	68.30	65.48	66.03	68.75	71.65	74.40	76.98	79.56	82.13	84.71	87.29	89.98	92.67	95.35	98.04	100.73
11	7	1	33.64	35.05	38.80	36.95	56.45	57.23	58.12	58.10	59.37	64.19	63.53	64.25	65.79	67.50	71.92	73.63	75.34	77.06	78.77	80.48	83.35	86.21	89.08	91.94	94.81
11	7	2	31.51	33.39	37.18	35.90	53.45	55.66	57.44	57.08	57.67	62.82	62.26	62.28	65.24	66.61	70.74	72.28	73.83	75.37	76.92	78.46	81.32	84.18	87.05	89.91	92.77
11	7	3	30.42	32.86	36.26	35.03	52.77	55.46	57.09	56.52	57.37	62.08	61.33	60.70	64.53	65.85	69.10	70.77	72.44	74.10	75.77	77.44	80.35	83.26	86.18	89.09	92.00
11	7	4	30.03	33.74	36.54	35.25	51.90	55.46	57.42	56.55	57.14	62.69	61.27	60.58	65.08	65.90	69.66	71.30	72.94	74.59	76.23	77.87	80.68	83.49	86.31	89.12	91.93
11	7	5	30.28	35.36	38.35	36.83	53.45	55.46	58.07	57.75	58.11	64.83	62.24	60.93	66.17	67.22	72.30	73.72	75.14	76.57	77.99	79.41	82.34	85.28	88.21	91.15	94.08
11	7	6	31.49	41.02	42.87	41.60	57.67	57.15	61.00	61.72	62.66	69.12	63.48	61.96	68.72	71.63	74.49	76.63	78.76	80.90	83.03	85.17	88.35	91.52	94.70	97.87	101.05
11	7	7	33.36	47.04	49.27	47.97	60.52	58.87	65.62	65.77	66.31	73.36	65.48	63.32	72.58	76.16	78.56	81.41	84.26	87.10	89.95	92.80	95.43	98.06	100.70	103.33	105.96
11	7	8	36.42	49.63	51.71	50.23	63.99	60.48	69.05	69.98	68.27	75.51	67.18	65.25	75.13	79.71	80.05	83.17	86.29	89.41	92.53	95.65	98.22	100.79	103.35	105.92	108.49
11	7	9	39.95	49.75	51.93	50.47	64.87	63.13	69.59	69.61	68.55	75.36	68.64	67.37	75.58	79.70	79.73	82.96	86.19	89.43	92.66	95.89	98.41	100.93	103.45	105.97	108.49
11	7	10	42.50	49.75	51.30	50.27	65.24	65.00	69.95	69.60	68.26	75.22	69.55	68.66	75.58	78.66	79.14	82.49	85.84	89.19	92.54	95.89	98.26	100.63	103.01	105.38	107.75
11	7	11	42.70	49.77	51.29	50.21	65.73	64.47	70.17	69.60	68.11	74.67	69.51	68.82	75.54	77.48	78.82	81.99	85.15	88.32	91.48	94.65	97.27	99.89	102.51	105.13	107.75
11	7	12	42.21	49.02	51.25	49.59	65.25	63.89	70.17	69.59	68.05	74.42	69.27	68.99	75.44	76.48	78.49	81.76	85.02	88.29	91.55	94.82	97.31	99.79	102.28	104.76	107.25
11	7	13	42.22	48.40	50.55	49.45	65.07	62.13	69.39	69.55	67.52	74.12	68.09	68.98	74.76	76.25	78.45	81.74	85.04	88.33	91.63	94.92	97.32	99.72	102.13	104.53	106.93
11	7	14	40.40	48.31	50.54	49.42	64.99	61.41	69.37	68.76	67.52	74.37	68.02	67.99	74.70	76.29	78.44	81.73	85.03	88.32	91.62	94.91	97.19	99.47	101.74	104.02	106.30
11	7	15	39.34	47.63	50.35	49.14	64.13	60.48	68.97	68.76	67.16	74.11	67.92	67.83	73.79	76.13	78.40	81.68	84.97	88.25	91.54	94.82	96.78	98.75	100.71	102.68	104.64
11	7	16	39.65	47.52	50.21	48.57	63.83	59.90	68.17	68.46	67.12	73.32	67.86	67.99	73.39	75.89	77.70	81.12	84.55	87.97	91.40	94.82	96.98	99.15	101.31	103.48	105.64
11	7	17	42.76	48.71	50.44	49.75	65.07	60.53	67.99	69.51	67.59	74.60	67.92	69.17	75.05	76.22	78.55	81.86	85.17	88.47	91.78	95.09	97.49	99.90	102.30	104.71	107.11
11	7	18	46.18	51.54	60.82	54.13	70.85	64.21	73.71	83.57	85.49	80.25	70.82	71.11	77.15	84.69	84.57	87.62	90.66	93.71	96.75	99.80	102.19	104.59	106.98	109.38	111.77
11	7	19	58.39	54.32	89.45	64.30	89.76	70.56	75.49	99.27	128.68	99.59	73.35	72.75	86.73	132.59	102.96	107.68	112.39	117.11	121.82	126.54	127.45	128.36	129.28	130.19	131.10
11	7	20	50.05	51.57	56.03	52.57	67.55	65.56	74.64	80.62	77.01	80.00	71.33	72.49	80.55	90.51	83.47	86.63	89.79	92.94	96.10	99.26	101.77	104.27	106.78	109.28	111.79
11	7	21	46.97	49.02	52.34	49.91	65.98	65.00	69.01	70.51	71.75	74.85	69.94	71.11	75.20	77.69	78.77	82.53	86.29	90.04	93.80	97.56	99.75	101.93	104.12	106.30	108.49
11	7	22	44.61	47.52	50.55	48.57	63.70	61.69	65.67	67.59	68.05	72.31	68.26	69.78	73.26	76.33	77.55	80.83	84.11	87.40	90.68	93.96	96.42	98.87	101.33	103.78	106.24
11	7	23	41.91	46.79	50.40	47.02	62.70	59.90	64.65	66.22	66.91	70.67	66.85	67.46	71.03	73.30	76.72	80.13	83.54	86.94	90.35	93.76	95.56	97.37	99.17	100.98	102.78
11	7	24	37.60	41.10	45.34	40.35	59.23	57.72	61.00	62.48	63.45	67.06	65.04	66.06	68.72	71.03	72.90	76.36	79.82	83.27	86.73	90.19	92.11	94.03	95.95	97.87	99.79
11	8	1	35.27	35.52	40.12	36.10	56.48	56.04	57.95	58.42	59.70	61.93	62.93	64.37	65.76	67.09	69.18	71.90	74.62	77.33	80.05	82.77	85.14	87.52	89.89	92.27	94.64
11	8	2	33.78	33.53	38.67	34.75	54.82	54.81	56.44	56.98	57.87	61.01	61.26	63.20	63.09	65.60	67.38	70.17	72.96	75.74	78.53	81.32	83.30	85.28	87.27	89.25	91.23
11	8	3	33.33	33.02	38.04	34.54	53.26	53.04	56.08	56.01	57.37	59.79	59.48	61.50	63.09	64.12	65.77	68.71	71.66	74.60	77.55	80.49	82.29	84.09	85.89	87.69	89.49
11	8	4	33.76	33.09	38.12	34.64	53.11	52.83	56.22	56.13	57.37	59.46	59.31	62.79	62.86	64.32	64.98	68.17	71.35	74.54	77.72	80.91	82.78	84.65	86.52	88.39	90.26
11	8	5	35.47	34.95	39.70	35.75	54.05	53.55	57.59	57.29	58.51	62.08	59.29	64.42	65.05	66.61	68.66	71.58	74.50	77.41	80.33	83.25	85.14	87.03	88.92	90.81	92.70

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	8	6	40.10	39.99	45.69	38.68	56.54	55.00	60.84	60.73	63.25	66.25	60.88	66.78	68.72	70.75	73.51	76.79	80.06	83.34	86.61	89.89	91.94	93.99	96.03	98.08	100.13
11	8	7	45.85	46.96	50.21	46.94	58.27	55.93	63.85	64.92	67.39	69.69	62.93	70.93	71.84	74.09	76.80	80.54	84.27	88.01	91.74	95.48	97.02	98.56	100.11	101.65	103.19
11	8	8	47.53	50.11	52.35	49.70	59.34	57.69	67.28	68.44	71.37	72.80	64.57	74.10	75.58	75.97	79.22	82.89	86.55	90.22	93.88	97.55	99.25	100.95	102.64	104.34	106.04
11	8	9	48.34	50.11	52.34	49.42	62.09	59.08	67.36	69.50	71.37	74.11	65.48	74.18	75.44	76.16	78.52	82.20	85.88	89.55	93.23	96.91	98.79	100.67	102.54	104.42	106.30
11	8	10	48.42	49.71	52.00	49.45	63.87	59.74	67.34	69.57	70.06	74.37	66.78	74.21	74.83	76.31	78.01	81.78	85.55	89.31	93.08	96.85	98.86	100.88	102.89	104.91	106.92
11	8	11	48.43	49.71	51.93	49.45	64.53	59.90	68.09	69.45	70.06	74.45	66.94	74.10	74.64	76.08	78.13	81.79	85.45	89.11	92.77	96.43	98.40	100.38	102.35	104.33	106.30
11	8	12	48.13	48.70	51.58	49.42	63.20	59.90	67.13	68.76	70.06	74.46	66.82	74.09	73.96	75.92	78.19	81.43	84.66	87.90	91.13	94.37	96.74	99.12	101.49	103.87	106.24
11	8	13	47.58	48.40	51.52	49.14	61.53	59.34	66.69	68.20	69.12	74.42	66.78	73.43	73.95	75.89	78.19	81.65	85.11	88.56	92.02	95.48	97.58	99.68	101.77	103.87	105.97
11	8	14	47.55	48.54	51.30	48.86	61.00	59.11	66.33	68.08	69.12	74.46	65.48	72.97	73.72	75.82	78.19	81.43	84.67	87.92	91.16	94.40	96.71	99.02	101.34	103.65	105.96
11	8	15	47.41	47.63	51.19	48.57	59.72	58.68	66.08	67.05	68.90	74.24	65.48	72.43	73.03	75.71	78.01	81.28	84.55	87.82	91.09	94.36	96.55	98.74	100.93	103.12	105.31
11	8	16	47.22	48.31	50.55	48.56	59.55	58.68	65.61	66.06	67.68	73.85	65.48	72.44	73.34	75.53	77.71	81.04	84.37	87.71	91.04	94.37	96.56	98.75	100.93	103.12	105.31
11	8	17	47.83	48.40	51.93	48.68	60.85	59.40	66.01	67.92	69.37	74.46	66.95	73.47	73.96	75.79	78.77	81.89	85.01	88.12	91.24	94.36	96.70	99.03	101.37	103.70	106.04
11	8	18	57.40	53.29	60.57	53.27	63.66	63.58	77.65	87.52	78.39	87.95	69.54	76.82	87.66	89.50	87.77	90.42	93.06	95.71	98.35	101.00	103.31	105.61	107.92	110.22	112.53
11	8	19	64.47	61.10	87.96	73.72	65.18	73.48	101.05	136.85	92.69	124.76	71.47	81.80	126.52	138.28	119.30	119.01	118.71	118.42	118.12	117.83	123.70	129.56	135.43	141.29	147.16
11	8	20	53.08	53.24	54.86	52.33	63.81	65.69	77.25	86.47	78.08	76.76	70.35	79.57	86.82	81.08	82.23	85.73	89.23	92.72	96.22	99.72	101.81	103.91	106.00	108.10	110.19
11	8	21	48.34	50.15	51.93	49.70	62.52	64.89	70.53	72.08	72.38	75.36	70.05	74.38	75.09	79.38	79.51	82.84	86.17	89.51	92.84	96.17	98.68	101.18	103.69	106.19	108.70
11	8	22	47.01	48.31	50.83	48.57	60.76	62.18	66.00	69.60	67.60	74.36	68.19	72.49	73.41	75.97	78.19	81.29	84.39	87.50	90.60	93.70	95.84	97.98	100.11	102.25	104.39
11	8	23	45.15	47.15	50.35	48.56	59.16	60.34	65.57	67.31	67.39	74.03	67.08	71.11	71.15	73.99	77.97	80.67	83.37	86.06	88.76	91.46	93.85	96.24	98.62	101.01	103.40
11	8	24	39.80	41.28	43.90	41.93	57.67	58.68	61.24	62.94	63.08	69.54	64.68	66.80	68.72	71.63	74.32	76.33	78.34	80.35	82.36	84.37	87.77	91.16	94.56	97.95	101.35
11	9	1	35.07	35.92	38.67	37.67	55.74	57.79	58.07	57.80	58.24	66.24	62.74	64.35	65.90	68.61	70.86	72.26	73.66	75.07	76.47	77.87	81.44	85.01	88.58	92.15	95.72
11	9	2	33.58	34.14	37.32	36.33	52.39	57.33	55.44	56.96	57.67	63.51	62.08	62.18	62.83	66.23	69.96	71.35	72.75	74.14	75.54	76.93	80.36	83.78	87.21	90.63	94.06
11	9	3	32.70	33.10	36.39	35.84	51.41	56.58	55.43	56.26	56.53	62.95	61.27	61.36	62.86	65.48	69.37	70.83	72.29	73.74	75.20	76.66	79.89	83.12	86.35	89.58	92.81
11	9	4	32.74	33.24	36.27	35.80	51.40	57.25	55.39	56.42	56.43	62.06	62.23	61.36	62.71	65.58	68.95	70.38	71.81	73.25	74.68	76.11	79.51	82.91	86.32	89.72	93.12
11	9	5	35.30	35.29	38.28	36.31	51.68	58.05	57.09	58.57	57.94	63.18	62.98	63.30	64.35	68.03	70.51	72.08	73.65	75.21	76.78	78.35	81.87	85.40	88.92	92.45	95.97
11	9	6	40.45	39.88	42.72	37.76	53.25	61.20	60.75	62.89	62.04	65.56	65.92	68.05	68.42	71.65	71.20	73.83	76.46	79.08	81.71	84.34	87.89	91.44	94.98	98.53	102.08
11	9	7	46.24	46.77	50.66	40.84	55.85	65.24	63.68	68.35	65.76	68.14	70.09	71.49	70.15	77.69	73.34	77.23	81.12	85.02	88.91	92.80	95.53	98.27	101.00	103.74	106.47
11	9	8	48.78	48.82	51.99	45.10	57.83	67.48	67.13	71.62	69.16	70.65	73.18	74.32	73.93	78.93	74.91	79.12	83.32	87.53	91.73	95.94	98.45	100.96	103.48	105.99	108.50
11	9	9	48.55	48.82	51.99	48.55	58.58	67.91	67.27	71.00	68.98	72.30	73.38	74.50	73.89	78.43	77.59	81.31	85.03	88.76	92.48	96.20	98.66	101.12	103.57	106.03	108.49
11	9	10	48.34	48.70	52.14	49.14	59.14	67.66	67.88	70.51	69.12	74.12	73.38	74.15	73.47	77.78	78.20	81.80	85.40	89.01	92.61	96.21	98.67	101.12	103.58	106.03	108.49
11	9	11	48.43	48.40	51.99	49.41	59.14	68.91	67.63	70.43	68.97	74.24	73.38	73.54	73.47	77.55	77.65	81.46	85.27	89.08	92.89	96.70	98.98	101.26	103.53	105.81	108.09
11	9	12	47.98	48.40	51.77	48.68	59.08	67.06	67.13	70.21	68.98	73.32	73.19	72.96	71.84	76.91	77.02	80.96	84.89	88.83	92.76	96.70	98.78	100.86	102.95	105.03	107.11
11	9	13	47.57	48.31	51.52	48.04	59.09	66.37	66.99	70.15	69.47	72.12	72.34	72.77	71.26	76.70	76.72	80.77	84.82	88.86	92.91	96.96	98.82	100.67	102.53	104.38	106.24
11	9	14	47.58	47.92	51.29	46.81	59.09	65.85	66.39	70.07	69.47	71.54	72.27	72.54	71.26	76.53	75.31	79.44	83.56	87.69	91.81	95.94	97.96	99.98	102.00	104.02	106.04
11	9	15	46.76	47.52	50.83	44.97	58.82	65.41	65.66	69.56	68.51	70.36	71.79	72.43	70.98	76.37	74.55	78.75	82.96	87.16	91.37	95.57	97.58	99.60	101.61	103.63	105.64
11	9	16	46.43	47.43	50.55	43.36	58.82	64.99	64.71	67.92	67.60	69.88	71.36	72.31	70.82	75.46	74.40	78.62	82.85	87.07	91.30	95.52	97.44	99.35	101.27	103.18	105.10
11	9	17	47.46	47.92	51.12	46.89	59.60	66.48	65.79	69.60	68.51	71.54	73.19	72.78	71.15	76.33	74.84	79.08	83.33	87.57	91.82	96.06	98.14	100.22	102.31	104.39	106.47
11	9	18	57.19	60.40	57.70	49.75	63.90	80.10	85.47	72.88	80.27	73.62	78.85	87.51	85.07	82.11	77.38	82.51	87.64	92.76	97.89	103.02	104.57	106.12	107.66	109.21	110.76
11	9	19	85.38	91.25	84.99	52.80	67.51	92.56	122.75	86.47	120.41	76.84	83.86	108.69	127.90	91.35	79.63	89.94	100.25	110.57	120.88	131.19	127.49	123.79	120.10	116.40	112.70
11	9	20	54.63	53.11	53.62	49.70	64.34	74.60	78.83	71.98	73.60	74.78	79.27	87.13	79.40	78.57	78.45	83.09	87.72	92.36	96.99	101.63	102.82	104.00	105.19	106.37	107.56
11	9	21	48.56	50.11	52.14	48.71	63.41	66.40	69.49	70.43	71.11	73.32	73.32	74.10	74.83	77.07	77.02	81.01	85.00	88.98	92.97	96.96	98.78	100.59	102.41	104.22	106.04
11	9	22	47.12	48.20	51.30	47.76	60.77	64.06	66.06	67.26	68.27	71.47	71.36	72.77	71.14	75.08	75.78	79.96	84.15	88.33	92.52	96.70	98.29	99.88	101.46	103.05	104.64
11	9	23	45.82	46.98	50.95	42.94	59.34	63.37	65.87	65.42	67.60	69.26	71.01	71.11	70.68	73.79	74.39	78.58	82.77	86.95	91.14	95.33	96.94	98.56	100.17	101.79	103.40
11	9	24	39.84	42.17	47.56	38.31	58.22	59.11	62.05	62.39	63.45	65.85	66.78	67.10	68.48	69.80	71.58	75.56	79.54	83.53	87.51	91.49	93.02	94.54	96.07	97.59	99.12
11	10	1	35.29	36.18	41.27	35.80	56.73	57.00	57.98	58.90	60.06	62.23	62.69	64.16	65.68	66.59	68.65	71.63	74.60	77.58	80.55	83.53	85.43	87.33	89.22	91.12	93.02
11	10	2	33.55	33.02	39.74	34.16	56.11	55.46	56.47	54.52	58.87	60.94	61.47	61.11	64.10	63.72	67.82	70.52	73.23	75.93	78.64	81.34	82.79	84.24	85.68	87.13	88.58
11	10	3	32.78	32.44	38.74	33.44	55.11	54.29	56.44	53.84	58.09	58.68	60.89	60.74	63.77	63.06	66.91	69.65	72.38	75.12	77.85	80.59	81.88	83.18	84.47	85.77	87.06
11	10	4	33.03	32.79	38.50	33.16	56.21	54.76	56.45	54.02	57.89	58.30	60.94	60.91	64.10	63.12	66.69	69.29	71.89	74.48	77.08	79.68	81.28	82.88	84.49	86.09	87.69
11	10	5	34.91	35.66	39.22	33.59	57.56	55.91	56.92	57.44	58.51	59.09	64.20	62.60	65.73	65.66	67.56	70.16	72.77	75.37	77.98	80.58	82.78	84.99	87.19	89.40	91.60
11	10	6	39.75	40.51	41.28	35.92	59.41	59.12	61.64	60.64	60.21	61.06	66.21	67.03	68.72	71.47	68.54	71.44	74.33	77.23	80.12	83.02	86.16	89.31	92.45	95.60	98.74
11	10	7	45.76	47.32	45.38	37.92	64.02	63.68	66.31	64.34	62.43	63.18	70.24	70.46	71.65	73.73	70.53	73.78	77.04	80.29	83.55	86.80	89.98	93.16	96.35	99.53	102.71
11	10	8	47.45	49.73	48.89	39.03	66.57	67.41	69.25	69.14	64.41	66.25	73.41	73.77	76.54	76.64	72.43	76.41	80.38	84.36	88.33	92.31	94.91	97.51	100.10	102.70	105.30
11	10	9	47.40	49.71	50.55	42.84	67.25	66.87	69.17	71.12	67.62	69.02	73.38	74.15	76.43	76.95	74.40	78.28	82.17	86.05	89.94	93.82	96.24	98.66	101.09	103.51	105.93
11	10	10	47.41	49.63	51.59	44.97	67.62	66.27	69.64	70.52	68.06	69.69	73.32	73.66	75.99	76.95	74.40	78.63	82.87	87.10	91.34	95.57	97.66	99.76	101.85	103.95	106.04
11	10	11	47.46	49.22	51.52	44.84	67.73	65.76	69.72	70.47	68.06	69.41	72.44	73.43	75.99	77.33	74.77	78.95	83.12	87.30	91.47	95.65	97.77	99.89	102.00	104.12	106.24
11	10	12	47.41	48.70	50.55	44.84	67.62	65.22	69.33	68.76	67.49	69.14	72.07	73.28	74.84	76.53	74.40	78.34	82.28	86.21	90.15	94.09	96.51	98.94	101.36	103.79	106.21
11	10	13	46.76	48.33	49.75	45.12	66.57	65.43	68.71	68.24	66.00	69.22	71.73	72.70	74.48	76.48	74.40	78.18	81.95	85.73	89.50	93.28	95.83	98.38	100.94	103.49	106.04
11	10	14	46.69	48.09	49.27	45.01	66.73	65.49	68.70	68.71	65.21	69.02	71.36	72.54	73.96	76.33	74.40	77.99	81.57	85.16	88.74	92.33	95.07	97.81	100.56	103.30	106.04
11	10	15	46.32	47.66	48.70	43.67	65.84	65.39	67.26	68.03	63.61	68.51	71.36	71.58	73.90	76.05	74.39	77.91	81.43	84.96	88.48	92.00	94.70	97.40	100.09	102.79	105.49
11	10	16	46.12	47.40	48.21	44.40	65.49	64.87	67.04	67.02	63.61	68.52	71.07	71.39	73.32	75.77	74.39	77.84	81.29	84.73	88.18	91.63	94.40	97.17	99.95	102.72	105.49

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	10	17	46.33	48.33	49.27	46.86	67.00	65.19	68.55	68.99	65.42	69.61	71.91	72.20	74.99	76.48	74.45	78.03	81.60	85.18	88.75	92.33	95.07	97.81	100.56	103.30	106.04
11	10	18	56.11	50.72	51.39	50.23	82.97	78.38	81.48	73.24	69.50	73.53	81.28	90.02	79.31	83.58	77.39	81.04	84.69	88.34	91.99	95.64	99.05	102.46	105.88	109.29	112.70
11	10	19	64.62	53.27	53.97	68.63	120.06	113.36	99.26	97.33	72.09	90.49	97.09	106.61	92.83	126.99	80.34	83.63	86.92	90.20	93.49	96.78	103.78	110.79	117.79	124.80	131.80
11	10	20	52.86	49.85	51.71	53.90	76.61	76.01	72.58	71.58	70.18	73.87	86.18	77.51	76.89	80.41	79.46	82.74	86.02	89.29	92.57	95.85	98.66	101.47	104.28	107.09	109.90
11	10	21	48.42	48.71	51.05	49.92	66.57	66.93	70.04	70.22	68.05	72.87	72.80	73.68	76.03	78.56	77.78	80.90	84.01	87.13	90.24	93.36	96.29	99.21	102.14	105.06	107.99
11	10	22	46.32	47.52	49.76	48.56	64.72	64.08	66.39	68.04	66.52	71.19	71.07	71.98	73.33	76.95	76.50	79.67	82.83	86.00	89.16	92.33	95.29	98.24	101.20	104.15	107.11
11	10	23	44.71	45.82	47.70	44.97	63.70	63.57	65.55	66.67	63.68	68.85	70.37	70.69	71.86	75.53	74.40	77.30	80.20	83.10	86.00	88.90	92.25	95.60	98.94	102.29	105.64
11	10	24	40.07	38.80	42.72	40.47	59.55	58.95	61.65	62.79	61.18	65.96	65.48	67.04	67.98	71.80	72.35	74.60	76.85	79.11	81.36	83.61	87.31	91.01	94.72	98.42	102.12
11	11	1	35.47	33.17	38.67	38.58	56.03	56.94	57.68	59.80	58.29	62.98	63.25	64.04	64.92	67.34	69.50	71.56	73.62	75.68	77.74	79.80	83.22	86.65	90.07	93.50	96.92
11	11	2	33.12	32.08	37.92	37.49	54.13	54.85	56.58	57.64	56.13	62.37	60.65	62.88	63.42	66.45	68.94	70.76	72.58	74.39	76.21	78.03	81.17	84.30	87.44	90.57	93.71
11	11	3	32.45	31.40	36.46	36.99	53.81	53.57	55.35	57.12	55.98	61.72	59.97	62.27	62.61	65.67	68.53	70.14	71.75	73.36	74.97	76.58	79.87	83.15	86.44	89.72	93.01
11	11	4	32.56	31.52	36.35	37.42	54.08	53.67	55.39	56.84	55.76	62.19	60.11	62.56	63.09	65.40	68.95	70.43	71.91	73.39	74.87	76.35	79.55	82.75	85.94	89.14	92.34
11	11	5	35.00	32.82	37.12	38.84	55.41	55.14	56.87	57.21	56.13	64.11	61.72	64.03	64.37	66.21	70.81	72.25	73.70	75.14	76.59	78.03	81.08	84.12	87.17	90.21	93.26
11	11	6	39.36	37.01	38.03	43.55	59.06	58.76	60.41	59.57	56.52	68.06	65.48	68.07	68.72	68.99	74.32	75.23	76.14	77.06	77.97	78.88	82.44	86.00	89.55	93.11	96.67
11	11	7	45.60	45.96	39.87	49.50	64.10	62.13	63.68	61.28	58.28	73.36	68.96	72.98	72.81	70.77	78.20	78.90	79.60	80.29	80.99	81.69	85.48	89.27	93.06	96.85	100.64
11	11	8	47.22	48.26	43.34	51.76	66.48	65.46	69.05	63.11	60.83	75.36	71.44	75.23	76.27	72.09	80.24	81.25	82.26	83.27	84.28	85.29	88.91	92.53	96.15	99.77	103.39
11	11	9	47.22	48.31	48.00	51.76	66.25	65.47	67.13	65.19	63.45	75.36	71.36	75.10	76.23	75.18	80.47	82.61	84.75	86.89	89.03	91.17	94.29	97.42	100.54	103.67	106.79
11	11	10	47.29	48.51	48.73	51.76	65.70	65.15	68.55	65.64	65.29	75.26	71.58	74.38	76.27	75.79	80.47	82.79	85.12	87.44	89.77	92.09	95.09	98.10	101.10	104.11	107.11
11	11	11	47.45	48.40	48.91	51.54	65.80	65.78	68.57	65.49	65.21	74.84	72.07	74.10	75.99	75.71	80.64	82.93	85.22	87.51	89.80	92.09	94.73	97.37	100.01	102.65	105.29
11	11	12	47.41	48.33	48.71	51.14	65.83	65.78	68.15	65.16	64.61	74.59	71.36	73.47	74.83	75.14	80.47	82.71	84.95	87.18	89.42	91.66	94.29	96.93	99.56	102.20	104.83
11	11	13	47.22	47.92	48.58	50.63	65.80	65.15	68.09	63.95	64.47	74.35	70.78	74.09	73.96	73.75	79.66	82.07	84.48	86.89	89.30	91.71	94.03	96.35	98.66	100.98	103.30
11	11	14	46.76	47.92	48.02	50.19	65.80	65.07	68.26	63.21	64.61	74.24	70.37	73.43	73.23	73.05	79.40	81.86	84.32	86.79	89.25	91.71	93.90	96.09	98.28	100.47	102.66
11	11	15	46.20	47.66	47.83	50.03	65.42	64.96	68.00	62.67	63.81	73.53	70.24	72.49	73.23	72.30	78.52	81.11	83.71	86.30	88.90	91.49	93.61	95.73	97.84	99.96	102.08
11	11	16	45.90	47.56	47.80	49.51	65.23	64.06	67.12	62.49	63.96	73.17	70.19	72.44	73.03	71.96	78.52	81.11	83.71	86.30	88.90	91.49	93.61	95.73	97.84	99.96	102.08
11	11	17	46.65	48.33	49.03	50.11	65.42	64.08	67.88	63.18	66.15	74.10	70.60	73.47	73.35	73.28	80.04	82.53	85.03	87.52	90.02	92.51	94.63	96.75	98.86	100.98	103.10
11	11	18	49.71	51.18	52.14	52.68	82.97	89.41	82.58	66.28	73.10	87.81	92.66	80.40	89.39	76.05	93.53	93.95	94.38	94.80	95.23	95.65	97.74	99.83	101.93	104.02	106.11
11	11	19	55.70	56.36	70.36	87.55	110.34	142.05	122.76	69.08	97.31	144.13	132.16	100.87	132.49	77.70	110.15	107.66	105.18	102.69	100.21	97.72	100.00	102.28	104.56	106.84	109.12
11	11	20	48.56	50.41	58.36	57.61	75.94	81.05	73.66	66.38	73.22	87.89	81.75	76.70	77.19	76.28	95.39	95.48	95.57	95.67	95.76	95.85	97.94	100.03	102.13	104.22	106.31
11	11	21	47.22	49.71	52.14	51.53	66.57	68.79	70.87	65.49	72.20	75.23	73.69	74.27	75.53	75.17	80.64	83.28	85.92	88.56	91.20	93.84	96.13	98.42	100.71	103.00	105.29
11	11	22	45.76	48.17	49.99	50.03	64.68	65.76	69.42	64.20	67.87	73.58	71.45	72.04	74.48	73.30	78.77	81.47	84.17	86.88	89.58	92.28	94.50	96.72	98.95	101.17	103.39
11	11	23	43.43	46.70	48.57	48.57	62.19	64.47	67.06	62.38	65.09	73.00	70.15	71.13	73.31	71.61	78.46	80.74	83.02	85.29	87.57	89.85	92.29	94.74	97.18	99.63	102.07
11	11	24	38.20	40.59	44.97	43.97	58.98	59.56	63.64	59.15	62.41	69.31	65.48	66.90	69.99	68.20	74.84	77.03	79.22	81.42	83.61	85.80	88.17	90.54	92.91	95.28	97.65
11	12	1	33.49	34.93	41.38	38.91	55.89	56.41	59.46	57.48	59.47	64.11	63.24	62.63	67.24	65.90	72.73	74.44	76.15	77.86	79.57	81.28	83.71	86.14	88.56	90.99	93.42
11	12	2	31.56	33.02	39.93	37.98	54.00	54.92	57.44	54.62	58.70	62.67	60.92	60.77	64.01	63.73	71.04	72.89	74.74	76.58	78.43	80.28	82.16	84.04	85.92	87.80	89.68
11	12	3	30.82	32.55	39.64	37.69	53.72	54.36	57.09	53.43	58.13	62.66	60.25	60.14	63.09	63.05	69.66	71.61	73.56	75.51	77.46	79.41	81.16	82.92	84.67	86.43	88.18
11	12	4	30.98	32.41	39.82	37.98	53.68	54.38	57.09	53.51	58.38	62.82	60.34	60.16	63.20	63.05	70.08	72.14	74.19	76.25	78.30	80.36	81.93	83.51	85.08	86.66	88.23
11	12	5	32.69	33.02	41.92	39.23	54.62	55.71	57.09	53.86	59.68	64.68	62.27	62.01	64.25	63.41	72.82	74.80	76.78	78.77	80.75	82.73	84.06	85.40	86.73	88.07	89.40
11	12	6	37.27	35.08	47.79	45.79	58.58	59.74	59.03	56.51	63.50	70.47	65.56	66.59	66.81	64.24	74.94	77.93	80.92	83.91	86.90	89.89	90.02	90.15	90.27	90.40	90.53
11	12	7	42.77	37.97	51.39	49.95	63.33	63.85	60.83	59.15	69.16	75.36	70.00	70.03	68.72	67.69	80.96	83.83	86.71	89.58	92.46	95.33	95.30	95.26	95.23	95.19	95.16
11	12	8	46.42	41.86	53.50	52.35	66.18	66.73	62.83	61.39	74.60	76.66	72.44	74.15	69.35	70.47	82.47	85.50	88.53	91.55	94.58	97.61	97.94	98.26	98.59	98.91	99.24
11	12	9	46.54	45.89	53.45	52.06	65.82	66.59	65.25	64.19	74.48	76.19	73.32	74.18	71.09	71.65	81.86	85.07	88.28	91.50	94.71	97.92	98.75	99.58	100.40	101.23	102.06
11	12	10	46.76	47.49	53.30	51.53	65.74	65.92	67.03	65.52	73.10	76.40	72.63	74.50	71.30	72.86	80.96	84.32	87.68	91.03	94.39	97.75	98.62	99.50	100.37	101.25	102.12
11	12	11	46.76	47.85	52.91	50.94	65.70	66.25	66.94	65.22	73.09	75.30	72.44	74.76	71.30	72.92	80.04	83.54	87.04	90.55	94.05	97.55	98.49	99.44	100.38	101.33	102.27
11	12	12	46.42	46.76	52.67	50.38	65.80	65.08	66.33	64.73	72.78	74.78	72.07	74.38	71.09	72.91	78.99	82.55	86.11	89.67	93.23	96.79	97.85	98.91	99.98	101.04	102.10
11	12	13	46.33	44.96	52.07	50.08	65.70	65.07	64.58	64.58	74.21	73.70	71.36	74.10	70.54	72.95	78.52	82.05	85.58	89.11	92.64	96.17	97.35	98.54	99.72	100.91	102.09
11	12	14	46.17	43.50	51.99	49.83	65.07	65.00	63.68	64.23	72.73	73.58	71.24	73.47	69.91	72.95	78.45	82.00	85.56	89.11	92.67	96.22	97.39	98.56	99.74	100.91	102.08
11	12	15	45.59	42.37	51.93	49.72	64.72	64.54	62.83	63.41	72.40	73.32	70.85	73.43	68.93	72.62	78.45	82.00	85.55	89.11	92.66	96.21	97.37	98.53	99.70	100.86	102.02
11	12	16	45.16	41.98	51.58	49.50	64.54	64.14	62.21	63.07	72.33	72.83	70.15	72.97	68.72	72.23	78.45	81.95	85.45	88.95	92.45	95.95	97.17	98.40	99.62	100.85	102.07
11	12	17	46.20	43.59	52.14	50.11	64.88	65.00	63.68	64.19	73.10	73.85	71.36	72.43	70.13	73.76	78.52	82.20	85.89	89.57	93.26	96.94	98.11	99.28	100.46	101.63	102.80
11	12	18	48.56	47.85	53.90	59.14	81.34	73.39	68.05	68.70	77.77	78.17	77.16	93.16	72.28	77.70	85.41	89.54	93.67	97.80	101.93	106.06	106.27	106.48	106.69	106.90	107.11
11	12	19	55.18	50.01	68.20	82.76	108.65	88.61	71.80	73.42	96.89	91.99	89.62	155.46	73.96	80.11	96.90	103.21	109.52	115.83	122.14	128.45	124.68	120.90	117.13	113.35	109.58
11	12	20	48.56	49.01	55.61	57.58	80.52	70.09	69.00	70.52	83.34	84.07	73.32	78.15	73.20	78.10	91.26	95.55	99.84	104.12	108.41	112.70	111.67	110.64	109.62	108.59	107.56
11	12	21	47.30	47.56	52.72	51.72	67.34	66.42	66.79	68.62	74.30	75.48	71.58	75.20	71.33	76.88	79.63	83.65	87.67	91.68	95.70	99.72	100.96	102.20	103.44	104.68	105.92
11	12	22	46.33	45.89	51.93	50.38	64.72	63.95	63.85	66.16	72.16	73.85	69.58	74.17	70.64	74.65	78.81	82.14	85.48	88.81	92.15	95.48	97.06	98.64	100.23	101.81	103.39
11	12	23	45.62	41.35	50.83	49.80	62.18	63.09	62.03	64.26	72.14	71.56	69.43	73.22	68.72	72.22	76.36	80.18	84.01	87.83	91.66	95.48	96.77	98.06	99.36	100.65	101.94
11	12	24	40.31	36.85	47.79	43.92	58.74	58.41	59.46	61.63	67.05	67.63	65.48	70.17	67.54	69.99	74.35	77.70	81.04	84.39	87.73	91.08	92.75	94.41	96.08	97.74	99.41
11	13	1	35.66	32.86	41.34	38.58	55.40	55.51	56.92	58.95	60.54	63.07	61.58	66.39	64.41	66.31	70.43	73.22	76.01	78.81	81.60	84.39	86.31	88.23	90.15	92.07	93.99
11	13	2	33.76	31.70	39.06	37.21	54.00	53.91	56.08	56.85	59.79	62.08	59.15	62.19	60.79	65.18	68.99	71.61	74.23	76.85	79.47	82.09	83.89	85.68	87.48	89.27	91.07
11	13	3	33.08	30.88	38.86	36.93	53.81	53.51	55.06	56.53	59.15	61.64	58.37	61.67	60.31	65.04	68.33	71.04	73.75	76.47	79.18	81.89	83.62	85.36	87.09	88.83	90.56

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	13	4	32.81	30.49	39.32	37.03	54.21	53.54	54.90	56.89	59.48	61.88	58.77	61.36	60.44	65.18	68.66	71.42	74.18	76.94	79.70	82.46	84.21	85.96	87.70	89.45	91.20
11	13	5	33.46	30.75	41.61	38.42	55.15	55.46	54.97	59.29	61.38	63.43	60.34	62.38	61.33	67.30	71.38	74.24	77.10	79.96	82.82	85.68	87.45	89.22	91.00	92.77	94.54
11	13	6	35.55	31.76	48.03	44.53	59.44	58.38	56.08	63.54	66.32	68.58	65.48	65.24	62.83	72.23	74.40	77.85	81.29	84.74	88.18	91.63	93.53	95.43	97.33	99.23	101.13
11	13	7	38.31	33.54	51.99	49.51	62.06	62.02	58.03	67.30	72.27	72.80	69.26	67.66	66.15	76.64	79.06	82.94	86.83	90.71	94.60	98.48	99.98	101.48	102.99	104.49	105.99
11	13	8	41.63	36.95	54.54	52.42	66.27	66.94	59.59	71.00	75.05	76.20	70.49	70.01	67.99	79.88	81.32	85.57	89.81	94.06	98.30	102.55	103.72	104.89	106.06	107.23	108.40
11	13	9	44.91	41.68	54.48	52.20	65.83	67.06	62.05	71.31	75.05	75.50	70.49	71.67	69.97	80.61	81.18	85.12	89.07	93.01	96.96	100.90	102.42	103.94	105.46	106.98	108.50
11	13	10	45.90	43.00	53.18	51.71	66.03	65.07	63.35	71.19	75.06	75.36	70.60	73.47	71.06	80.41	81.37	85.19	89.01	92.82	96.64	100.46	101.91	103.36	104.82	106.27	107.72
11	13	11	45.76	43.00	52.67	51.54	65.73	66.98	63.46	70.43	75.50	75.36	70.78	73.30	70.57	79.69	80.96	84.48	88.01	91.53	95.06	98.58	100.29	101.99	103.70	105.40	107.11
11	13	12	44.91	43.04	52.14	51.54	65.73	64.46	63.40	70.60	75.10	74.44	70.85	72.77	70.60	79.38	80.64	84.03	87.41	90.80	94.18	97.57	99.26	100.96	102.65	104.35	106.04
11	13	13	42.77	43.22	51.93	50.94	65.80	64.41	63.46	70.39	72.84	74.11	70.78	71.11	70.82	78.58	79.66	82.82	85.99	89.15	92.32	95.48	97.51	99.54	101.58	103.61	105.64
11	13	14	41.45	42.60	51.99	50.82	65.83	64.08	63.15	70.43	72.73	73.70	71.24	70.46	70.82	78.66	79.39	82.61	85.83	89.04	92.26	95.48	97.48	99.47	101.47	103.46	105.46
11	13	15	40.42	41.31	51.93	50.19	65.30	63.80	62.21	70.15	72.45	72.80	70.60	69.78	70.09	78.02	78.56	81.83	85.10	88.37	91.64	94.91	96.99	99.06	101.14	103.21	105.29
11	13	16	40.61	41.33	51.93	49.77	64.89	63.58	62.05	68.89	72.45	72.74	70.24	69.51	70.79	77.81	78.56	81.81	85.06	88.32	91.57	94.82	96.87	98.92	100.96	103.01	105.06
11	13	17	42.46	43.81	51.93	50.72	65.82	64.06	63.68	70.43	72.83	74.24	71.98	70.51	71.25	79.04	79.63	82.88	86.12	89.37	92.61	95.86	97.88	99.90	101.93	103.95	105.97
11	13	18	47.22	48.33	61.77	58.54	82.14	72.15	70.63	72.53	90.03	79.02	80.73	74.15	74.83	92.43	93.11	94.67	96.23	97.78	99.34	100.90	103.26	105.61	107.97	110.32	112.68
11	13	19	49.04	53.75	89.97	84.11	96.18	114.45	82.21	108.95	99.81	95.12	110.47	76.82	82.73	145.11	123.54	121.98	120.42	118.86	117.30	115.74	121.15	126.57	131.98	137.40	142.81
11	13	20	47.45	49.06	60.82	57.93	72.99	72.31	72.11	72.53	84.66	78.78	74.33	73.47	74.83	88.71	96.39	98.23	100.07	101.92	103.76	105.60	106.41	107.22	108.04	108.85	109.66
11	13	21	46.33	48.68	53.27	53.18	66.52	68.34	69.75	71.83	73.70	76.74	73.35	72.77	73.83	80.12	81.54	84.60	87.66	90.73	93.79	96.85	98.90	100.95	103.01	105.06	107.11
11	13	22	44.88	46.55	51.93	51.54	64.34	66.98	65.78	70.21	72.49	74.37	71.20	70.69	72.04	78.57	80.03	83.22	86.41	89.61	92.80	95.99	97.92	99.84	101.77	103.69	105.62
11	13	23	40.88	42.02	50.94	49.70	62.09	64.32	64.01	68.53	70.71	71.56	71.26	69.09	70.20	76.09	76.97	80.25	83.53	86.80	90.08	93.36	95.73	98.10	100.46	102.83	105.20
11	13	24	37.10	38.58	47.58	45.30	58.87	60.98	61.59	62.68	64.94	68.70	67.18	66.39	68.73	72.96	74.77	77.41	80.05	82.70	85.34	87.98	90.80	93.63	96.45	99.28	102.10
11	14	1	33.40	34.99	40.66	39.74	55.11	58.05	59.03	58.57	60.29	64.01	64.36	62.87	65.83	69.19	72.09	73.99	75.90	77.80	79.71	81.61	84.49	87.37	90.24	93.12	96.00
11	14	2	31.98	33.50	38.81	38.05	53.89	57.00	57.09	56.96	59.47	62.41	61.79	61.16	63.99	67.01	70.37	72.32	74.27	76.23	78.18	80.13	82.90	85.67	88.45	91.22	93.99
11	14	3	30.69	33.12	38.41	37.89	53.75	56.59	56.75	56.66	58.57	62.41	60.66	60.33	63.50	66.35	70.17	72.14	74.11	76.09	78.06	80.03	82.64	85.26	87.87	90.49	93.10
11	14	4	30.34	33.53	38.61	37.96	53.81	56.04	56.90	57.10	58.68	61.74	60.43	60.48	63.90	66.74	69.91	71.96	74.02	76.07	78.13	80.18	83.04	85.90	88.76	91.62	94.48
11	14	5	30.70	35.72	40.84	39.98	54.94	57.00	59.65	60.18	60.44	63.18	61.83	61.21	66.64	69.30	72.30	74.33	76.36	78.40	80.43	82.46	85.33	88.19	91.06	93.92	96.79
11	14	6	32.34	41.16	47.34	45.94	59.38	57.38	64.00	63.48	65.41	69.13	64.36	61.67	70.47	73.20	75.00	78.02	81.03	84.05	87.06	90.08	92.47	94.86	97.24	99.63	102.02
11	14	7	34.48	47.79	51.07	50.96	63.14	59.38	68.98	68.22	70.10	74.37	65.51	63.82	73.27	79.41	80.03	83.02	86.01	88.99	91.98	94.97	97.66	100.34	103.03	105.71	108.40
11	14	8	36.77	50.23	53.83	52.88	66.57	60.98	70.81	71.87	72.92	77.54	67.41	66.39	75.41	80.82	82.42	85.45	88.47	91.50	94.52	97.55	99.99	102.43	104.87	107.31	109.75
11	14	9	39.62	50.37	53.46	53.06	66.63	63.96	70.96	71.80	75.00	77.79	69.94	68.98	76.05	80.66	82.26	85.32	88.38	91.43	94.49	97.55	99.80	102.05	104.30	106.55	108.80
11	14	10	41.53	50.23	53.18	52.71	66.25	65.07	71.60	71.08	73.44	77.60	70.60	69.78	75.14	80.49	81.62	84.88	88.14	91.41	94.67	97.93	100.04	102.15	104.25	106.36	108.47
11	14	11	41.03	50.23	52.67	52.20	65.83	65.00	70.68	70.51	74.19	77.47	71.07	69.78	75.11	80.22	82.27	85.40	88.53	91.66	94.79	97.92	99.85	101.78	103.71	105.64	107.57
11	14	12	41.32	48.90	52.35	51.54	65.67	64.06	70.57	70.44	73.10	75.50	70.24	68.76	75.09	78.81	81.11	84.40	87.69	90.97	94.26	97.55	99.52	101.49	103.47	105.44	107.41
11	14	13	41.45	48.28	52.07	51.10	65.13	62.44	70.34	69.88	72.73	75.36	69.42	69.02	74.73	76.88	80.55	83.83	87.11	90.40	93.68	96.96	98.63	100.29	101.96	103.62	105.29
11	14	14	40.75	48.43	51.99	50.96	64.79	61.74	70.59	70.14	72.74	75.36	68.44	69.13	74.79	76.16	80.41	83.72	87.03	90.34	93.65	96.96	98.61	100.26	101.90	103.55	105.20
11	14	15	39.65	47.57	51.39	50.17	64.37	60.48	69.99	69.55	72.19	74.45	67.28	69.02	74.43	76.30	79.37	82.67	85.96	89.26	92.55	95.85	97.65	99.44	101.24	103.03	104.83
11	14	16	39.65	47.51	51.30	50.04	64.19	60.36	69.18	68.82	72.09	74.38	66.90	69.02	74.09	76.30	79.37	82.63	85.88	89.14	92.39	95.65	97.49	99.32	101.16	102.99	104.83
11	14	17	41.90	48.49	52.11	50.72	65.20	60.72	69.99	70.36	73.23	76.15	68.72	69.31	75.10	77.06	80.68	84.09	87.51	90.92	94.34	97.75	99.26	100.77	102.29	103.80	105.31
11	14	18	47.45	53.29	56.02	54.82	71.36	65.16	79.25	76.26	88.83	88.20	70.85	72.66	89.86	82.40	88.09	90.98	93.87	96.77	99.66	102.55	103.86	105.18	106.49	107.81	109.12
11	14	19	52.22	83.30	69.17	62.38	90.07	67.70	114.91	96.02	126.80	104.76	74.46	80.68	136.98	100.04	103.87	104.30	104.73	105.15	105.58	106.01	112.10	118.18	124.27	130.35	136.44
11	14	20	48.23	53.30	58.65	53.38	69.12	65.84	81.25	73.24	87.17	79.68	71.58	74.38	81.71	81.01	84.04	87.70	91.36	95.01	98.67	102.33	103.80	105.26	106.73	108.19	109.66
11	14	21	47.33	50.37	53.38	52.68	67.62	64.52	70.57	71.62	76.13	76.95	71.13	72.54	76.65	79.42	82.29	85.44	88.59	91.74	94.89	98.04	99.95	101.85	103.76	105.66	107.57
11	14	22	45.12	47.57	52.67	51.54	64.80	62.12	68.60	70.46	72.74	74.37	69.21	70.86	74.50	76.88	79.68	83.03	86.38	89.73	93.08	96.43	98.27	100.11	101.96	103.80	105.64
11	14	23	42.07	46.19	51.30	49.80	63.59	59.90	66.16	68.04	71.82	73.74	66.65	68.17	73.21	75.43	78.72	82.01	85.29	88.58	91.86	95.15	97.05	98.95	100.84	102.74	104.64
11	14	24	37.99	41.12	48.83	44.86	59.62	57.89	63.66	62.79	66.91	68.23	64.58	66.39	70.19	71.62	74.56	77.97	81.39	84.80	88.22	91.63	93.39	95.16	96.92	98.69	100.45
11	15	1	34.29	34.79	41.59	38.83	58.12	57.00	58.68	60.41	61.07	64.03	62.64	62.92	67.07	66.71	71.17	73.75	76.33	78.91	81.49	84.07	86.25	88.43	90.60	92.78	94.96
11	15	2	32.93	33.19	38.84	37.02	55.11	53.91	57.25	56.97	58.94	60.76	59.26	62.05	65.20	65.29	68.10	70.78	73.46	76.15	78.83	81.51	83.50	85.48	87.47	89.45	91.44
11	15	3	32.61	32.92	38.67	36.18	55.11	53.46	56.95	56.13	58.90	59.53	58.86	61.43	65.06	65.04	67.16	69.96	72.75	75.55	78.34	81.14	83.12	85.10	87.09	89.07	91.05
11	15	4	33.03	33.10	38.80	36.08	54.73	53.11	57.09	56.53	58.90	59.40	58.77	61.79	65.48	65.23	66.65	69.55	72.44	75.34	78.23	81.13	83.23	85.33	87.44	89.54	91.64
11	15	5	35.04	34.96	41.89	37.98	55.11	53.29	59.03	58.95	61.40	63.03	59.22	63.42	67.43	67.45	69.48	72.25	75.02	77.80	80.57	83.34	85.62	87.90	90.17	92.45	94.73
11	15	6	39.98	40.89	48.85	42.94	57.35	54.58	62.41	63.15	66.93	67.20	60.05	67.92	70.92	72.29	74.32	77.88	81.43	84.99	88.54	92.10	94.10	96.10	98.11	100.11	102.11
11	15	7	46.12	48.38	53.30	49.36	60.12	56.27	68.58	67.61	73.10	72.72	63.24	71.27	76.13	77.80	78.76	82.38	85.99	89.61	93.22	96.84	98.62	100.40	102.17	103.95	105.73
11	15	8	48.09	51.76	55.90	51.54	61.29	57.64	71.79	72.05	77.83	75.36	65.48	74.18	78.51	79.69	81.40	85.56	89.72	93.88	98.04	102.20	103.52	104.84	106.16	107.48	108.80
11	15	9	48.07	51.08	55.23	51.26	63.87	59.34	70.79	71.86	79.01	76.15	66.72	74.92	77.94	79.69	81.38	85.66	89.93	94.21	98.48	102.76	103.91	105.06	106.20	107.35	108.50
11	15	10	48.38	50.66	54.43	50.99	64.51	59.90	69.57	71.62	76.24	76.19	67.41	74.76	76.60	79.42	81.32	85.61	89.90	94.18	98.47	102.76	103.91	105.06	106.20	107.35	108.50
11	15	11	48.44	50.37	53.93	50.96	64.01	60.13	69.93	71.72	76.24	76.06	67.41	74.10	76.35	78.81	80.83	85.22	89.61	94.00	98.39	102.78	103.92	105.06	106.21	107.35	108.49
11	15	12	47.61	50.19	53.61	50.79	63.33	59.90	69.83	71.58	75.10	75.36	67.18	74.10	75.54	78.46	80.64	84.46	88.28	92.11	95.93	99.75	101.31	102.88	104.44	106.01	107.57
11	15	13	47.22	49.25	53.61	50.19	62.04	59.58	69.59	71.08	73.44	75.09	66.99	74.10	73.98	78.07	79.84	83.48	87.12	90.77	94.41	98.05	99.86	101.67	103.49	105.30	107.11
11	15	14	47.30	48.40	53.47	50.05	60.98	59.34	69.07	70.60	72.89	73.85	66.25	73.47	73.75	77.70	78.82	82.64	86.46	90.27	94.09	97.91	99.75	101.59	103.43	105.27	107.11

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	15	15	46.33	47.85	52.47	49.50	60.51	58.87	68.36	70.36	72.64	72.55	65.51	72.77	73.75	76.77	78.13	81.75	85.36	88.98	92.59	96.21	97.99	99.76	101.54	103.31	105.09
11	15	16	46.12	47.57	52.14	49.47	59.98	58.84	67.13	70.22	72.45	72.74	65.51	72.77	73.75	77.03	78.19	81.79	85.40	89.00	92.61	96.21	97.98	99.75	101.52	103.29	105.06
11	15	17	47.09	48.65	53.49	50.20	60.98	59.77	68.70	70.62	72.82	73.43	67.82	73.54	75.06	78.35	79.23	82.89	86.56	90.22	93.89	97.55	99.23	100.91	102.60	104.28	105.96
11	15	18	49.87	58.16	67.62	52.71	66.27	65.15	83.45	80.59	88.09	77.22	71.02	77.48	87.40	83.58	82.52	86.83	91.14	95.46	99.77	104.08	105.62	107.16	108.69	110.23	111.77
11	15	19	62.96	83.30	100.83	64.41	70.61	74.29	99.69	115.30	103.94	91.47	77.52	97.79	128.90	102.66	105.29	107.61	109.92	112.24	114.55	116.87	117.56	118.25	118.94	119.63	120.32
11	15	20	49.87	55.07	67.08	52.71	66.52	67.26	77.46	87.06	84.48	76.75	73.38	77.48	80.86	82.56	82.32	85.96	89.59	93.23	96.86	100.50	102.60	104.70	106.80	108.90	111.00
11	15	21	48.32	51.22	56.80	52.06	64.72	65.02	70.81	72.60	76.15	75.36	72.27	75.40	76.60	81.01	80.10	83.66	87.23	90.79	94.36	97.92	100.04	102.15	104.27	106.38	108.50
11	15	22	46.97	49.38	54.00	50.79	63.17	61.97	68.70	71.62	72.92	72.02	69.70	72.88	75.13	78.66	78.72	82.22	85.71	89.21	92.70	96.20	98.27	100.34	102.42	104.49	106.56
11	15	23	44.27	46.68	51.98	49.88	60.31	60.36	65.61	68.82	71.36	72.81	67.41	71.17	74.46	76.16	77.39	81.04	84.69	88.34	91.99	95.64	97.48	99.32	101.15	102.99	104.83
11	15	24	41.34	40.59	49.03	43.65	58.50	59.34	62.26	63.85	65.88	67.63	65.13	68.80	70.99	72.63	74.40	77.55	80.69	83.84	86.98	90.13	92.53	94.92	97.32	99.71	102.11
11	16	1	34.93	35.09	41.89	38.77	56.43	57.05	58.63	61.65	60.76	64.00	62.69	65.87	66.19	69.29	71.25	73.38	75.51	77.63	79.76	81.89	84.70	87.51	90.31	93.12	95.93
11	16	2	34.07	33.33	38.41	37.69	53.60	55.42	56.92	59.45	57.67	62.06	60.35	63.42	64.15	67.76	69.68	71.73	73.78	75.84	77.89	79.94	82.93	85.91	88.90	91.88	94.87
11	16	3	33.73	32.93	38.04	36.98	52.91	55.22	56.52	57.90	57.24	60.62	60.00	63.42	63.90	66.90	68.98	70.88	72.78	74.68	76.58	78.48	81.59	84.70	87.81	90.92	94.03
11	16	4	34.15	33.02	38.00	36.63	52.39	55.46	56.78	58.09	57.14	60.44	60.21	63.75	64.12	67.18	68.64	70.74	72.84	74.93	77.03	79.13	82.14	85.14	88.15	91.15	94.16
11	16	5	35.64	35.09	39.77	37.46	52.76	57.09	58.09	60.78	58.97	61.69	63.12	65.74	66.41	69.47	69.76	72.04	74.33	76.61	78.90	81.18	84.30	87.42	90.55	93.67	96.79
11	16	6	41.52	40.95	46.38	38.85	53.81	62.02	61.52	65.28	64.90	63.25	66.02	69.34	70.28	73.90	70.83	74.01	77.20	80.38	83.57	86.75	89.94	93.13	96.33	99.52	102.71
11	16	7	46.65	48.24	50.32	40.71	55.11	66.47	67.98	71.78	70.67	66.40	70.24	74.15	73.39	79.72	74.31	78.69	83.07	87.45	91.83	96.21	98.67	101.12	103.58	106.03	108.49
11	16	8	49.68	51.76	53.93	44.60	59.09	69.46	71.29	73.67	73.62	69.33	73.16	78.23	77.28	82.07	74.40	79.13	83.86	88.58	93.31	98.04	100.79	103.53	106.28	109.02	111.77
11	16	9	49.16	51.36	53.84	48.04	60.61	69.65	70.81	73.52	73.44	72.80	73.86	76.55	77.13	85.77	75.88	80.53	85.18	89.84	94.49	99.14	101.52	103.90	106.27	108.65	111.03
11	16	10	48.56	51.08	53.61	49.70	61.21	68.76	70.52	72.81	73.10	73.53	74.30	75.35	76.44	83.00	77.39	81.75	86.11	90.46	94.82	99.18	101.48	103.78	106.08	108.38	110.68
11	16	11	47.88	51.02	53.47	49.70	60.88	68.76	70.34	72.52	72.89	73.08	74.33	74.43	76.59	82.56	77.39	81.75	86.11	90.46	94.82	99.18	101.48	103.77	106.07	108.36	110.66
11	16	12	47.55	50.61	53.44	49.36	60.64	69.47	69.77	72.24	72.76	73.08	74.00	73.79	76.16	80.37	76.96	81.08	85.20	89.31	93.43	97.55	99.89	102.24	104.58	106.93	109.27
11	16	13	47.44	49.38	52.35	48.04	60.70	66.61	69.08	72.07	72.19	72.34	73.19	72.44	75.50	78.83	75.71	79.81	83.91	88.01	92.11	96.21	98.67	101.13	103.58	106.04	108.50
11	16	14	47.26	49.25	51.99	46.98	60.37	66.61	68.70	71.87	71.11	71.43	73.41	72.43	75.49	79.24	75.18	79.35	83.53	87.70	91.88	96.05	98.54	101.03	103.51	106.00	108.49
11	16	15	46.72	47.91	50.55	45.42	59.08	65.75	68.43	71.72	69.11	71.12	73.18	72.20	74.95	78.07	74.45	78.63	82.80	86.98	91.15	95.33	97.87	100.40	102.94	105.47	108.01
11	16	16	46.43	47.91	50.55	45.42	59.14	65.08	68.57	71.58	69.27	70.79	72.07	72.19	75.01	78.07	74.40	78.62	82.85	87.07	91.30	95.52	98.01	100.51	103.00	105.50	107.99
11	16	17	47.44	48.40	51.99	47.26	60.10	66.70	69.43	72.10	71.82	72.28	73.69	72.43	76.27	79.49	76.12	80.14	84.16	88.17	92.19	96.21	98.67	101.13	103.58	106.04	108.50
11	16	18	56.17	57.80	55.23	49.91	66.09	74.41	77.65	76.02	74.30	75.26	85.77	76.70	81.59	86.26	80.48	84.56	88.64	92.73	96.81	100.89	103.59	106.29	108.98	111.68	114.38
11	16	19	88.59	81.71	67.59	53.86	76.29	123.22	109.36	110.90	93.07	75.84	134.12	91.22	104.96	93.33	81.56	88.99	96.42	103.85	111.28	118.71	119.49	120.28	121.06	121.85	122.63
11	16	20	51.08	54.52	54.77	51.97	68.55	78.48	78.13	76.47	75.02	75.24	83.24	76.06	81.59	84.18	80.55	84.09	87.62	91.16	94.69	98.23	100.94	103.65	106.35	109.06	111.77
11	16	21	48.56	52.12	53.90	49.48	65.77	69.78	71.19	73.06	73.10	73.85	74.44	74.09	77.64	82.47	78.78	82.38	85.98	89.58	93.18	96.78	99.56	102.33	105.11	107.88	110.66
11	16	22	46.95	49.85	52.14	48.04	62.71	65.59	69.25	71.73	71.77	72.80	73.14	72.97	75.50	79.38	76.84	80.60	84.36	88.12	91.88	95.64	97.76	99.88	102.00	104.12	106.24
11	16	23	44.98	47.42	51.05	44.13	60.23	64.29	68.19	71.31	68.99	70.02	71.38	71.17	74.83	76.37	74.40	78.60	82.80	87.00	91.20	95.40	97.74	100.08	102.43	104.77	107.11
11	16	24	40.54	42.32	48.00	40.08	58.51	60.51	65.05	64.21	64.38	66.39	68.30	67.46	71.55	72.86	73.75	76.74	79.73	82.72	85.71	88.70	91.40	94.10	96.79	99.49	102.19
11	17	1	35.47	36.20	41.88	37.91	57.36	56.94	59.03	61.01	60.44	62.99	63.58	64.42	67.99	68.22	70.65	72.98	75.30	77.63	79.95	82.28	85.05	87.83	90.60	93.38	96.15
11	17	2	33.42	34.69	39.54	36.31	55.11	56.54	57.67	57.48	58.84	60.80	61.54	62.18	66.36	66.21	67.84	70.41	72.98	75.54	78.11	80.68	82.97	85.26	87.54	89.83	92.12
11	17	3	32.43	34.18	38.47	35.67	55.05	55.46	57.17	56.18	57.94	59.41	61.03	62.18	65.79	65.40	66.92	69.55	72.18	74.82	77.45	80.08	82.10	84.12	86.14	88.16	90.18
11	17	4	33.13	34.59	38.28	35.11	55.11	55.89	57.37	56.25	57.73	58.94	61.40	62.22	65.90	65.07	66.49	69.20	71.91	74.61	77.32	80.03	82.02	84.01	86.00	87.99	89.98
11	17	5	34.94	36.85	39.29	35.46	57.42	57.00	59.03	57.88	58.35	59.41	63.83	63.62	66.79	66.98	66.92	69.72	72.51	75.31	78.10	80.90	83.40	85.91	88.41	90.92	93.42
11	17	6	40.38	43.31	41.74	37.25	60.59	60.48	64.79	63.11	60.61	61.05	67.15	68.42	71.35	71.64	68.17	71.16	74.16	77.15	80.15	83.14	86.68	90.21	93.75	97.28	100.82
11	17	7	46.29	49.38	46.43	38.42	64.72	65.87	71.60	68.04	63.17	63.63	72.44	72.73	76.58	77.08	71.40	74.33	77.26	80.19	83.12	86.05	90.01	93.98	97.94	101.91	105.87
11	17	8	49.73	52.12	48.14	40.09	67.62	70.33	75.36	72.52	65.68	66.21	75.66	75.91	78.47	81.68	74.40	77.67	80.93	84.20	87.46	90.73	94.41	98.10	101.78	105.47	109.15
11	17	9	48.99	52.12	49.72	44.35	67.62	69.93	75.17	72.45	68.55	68.01	75.37	75.85	80.21	81.31	74.40	78.08	81.76	85.44	89.12	92.80	96.04	99.27	102.51	105.74	108.98
11	17	10	48.56	51.94	51.49	45.79	67.25	69.03	75.33	72.24	69.47	70.04	74.87	74.76	78.47	79.97	74.40	78.63	82.87	87.10	91.34	95.57	98.19	100.81	103.43	106.05	108.67
11	17	11	48.56	51.29	52.23	45.21	67.00	69.76	73.78	72.10	69.12	69.88	74.95	74.92	78.07	79.61	74.40	78.62	82.85	87.07	91.30	95.52	98.15	100.78	103.41	106.04	108.67
11	17	12	47.59	50.79	50.70	45.20	66.57	70.07	71.61	71.90	68.99	69.57	75.33	74.15	76.66	78.81	74.40	78.14	81.87	85.61	89.34	93.08	96.16	99.25	102.33	105.42	108.50
11	17	13	47.55	50.13	50.21	45.20	66.20	68.51	71.69	71.72	68.25	69.46	73.19	74.15	76.27	78.35	74.40	78.12	81.84	85.55	89.27	92.99	96.05	99.11	102.17	105.23	108.29
11	17	14	47.46	50.13	49.40	45.19	65.89	68.25	71.59	70.82	67.39	68.65	72.80	74.09	75.49	76.99	74.40	77.99	81.57	85.16	88.74	92.33	95.38	98.42	101.47	104.51	107.56
11	17	15	46.38	49.27	49.03	44.40	65.07	67.46	69.41	69.25	66.17	67.64	72.62	73.47	74.89	76.05	74.40	77.98	81.56	85.13	88.71	92.29	94.99	97.69	100.38	103.08	105.78
11	17	16	46.12	49.11	49.03	45.19	64.86	67.14	68.83	69.25	66.31	69.12	72.59	73.47	74.86	76.08	74.40	77.98	81.56	85.15	88.73	92.31	95.10	97.88	100.67	103.45	106.24
11	17	17	47.22	50.13	49.62	46.00	65.83	67.76	70.55	71.56	68.11	71.12	73.19	73.68	75.49	78.46	74.46	78.24	82.01	85.79	89.56	93.34	96.28	99.21	102.15	105.08	108.02
11	17	18	50.54	53.69	53.30	48.71	79.84	84.28	86.87	73.24	73.00	75.01	78.74	81.22	79.49	83.58	78.31	82.01	85.71	89.40	93.10	96.80	99.99	103.17	106.36	109.54	112.73
11	17	19	61.33	64.84	54.24	57.03	98.37	120.54	127.52	100.35	76.55	76.76	94.10	110.18	92.52	91.41	81.97	85.13	88.28	91.44	94.59	97.75	102.62	107.49	112.37	117.24	122.11
11	17	20	50.48	54.35	53.61	53.81	71.40	82.70	88.81	74.30	72.73	76.15	76.54	80.07	79.89	82.55	79.98	83.49	87.01	90.52	94.04	97.55	99.91	102.27	104.64	107.00	109.36
11	17	21	49.68	53.00	52.35	49.92	66.16	70.09	75.41	72.53	71.26	74.74	74.43	75.99	76.65	80.66	78.21	81.70	85.18	88.67	92.15	95.64	98.15	100.67	103.18	105.70	108.21
11	17	22	46.97	51.01	50.24	48.30	64.70	67.65	73.04	69.64	68.99	72.81	72.44	74.15	74.11	78.02	76.11	79.56	83.01	86.46	89.91	93.36	95.79	98.21	100.64	103.06	105.49
11	17	23	45.62	48.85	48.26	46.18	61.87	66.22	69.05	68.82	65.40	70.67	70.53	72.77	75.02	76.88	74.61	77.79	80.98	84.16	87.35	90.53	93.62	96.71	99.81	102.90	105.99
11	17	24	41.70	42.63	45.30	42.11	58.74	61.56	63.68	63.01	61.79	67.19	67.18	70.50	71.26	72.97	74.40	76.79	79.18	81.56	83.95	86.34	89.60	92.87	96.13	99.40	102.66
11	18	1	36.25	36.54	40.16	37.94	55.85	58.01	59.03	60.93	58.34	62.65	63.24	66.45	67.48	69.19	70.63	72.83	75.03	77.22	79.42	81.62	84.50	87.38	90.25	93.13	96.01

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	18	2	34.82	34.72	37.21	37.54	54.22	55.59	57.09	58.79	57.11	60.73	60.68	64.37	63.70	67.28	68.22	70.44	72.65	74.87	77.08	79.30	82.12	84.94	87.77	90.59	93.41
11	18	3	33.97	33.40	35.47	37.52	53.92	54.92	56.95	57.12	56.22	60.98	60.45	63.57	62.83	66.87	67.90	69.87	71.83	73.80	75.76	77.73	80.55	83.37	86.18	89.00	91.82
11	18	4	34.07	33.23	35.03	38.36	54.45	55.56	56.90	57.30	55.98	62.08	60.68	64.03	62.48	66.72	69.09	70.68	72.26	73.85	75.43	77.02	79.97	82.92	85.88	88.83	91.78
11	18	5	36.40	34.93	35.45	40.21	55.68	57.00	57.63	57.98	56.16	63.94	62.29	65.68	64.53	67.96	71.71	72.94	74.18	75.41	76.65	77.88	80.96	84.04	87.13	90.21	93.29
11	18	6	42.57	39.83	37.57	45.47	59.23	61.16	62.32	60.70	57.37	69.64	66.57	69.78	70.13	69.66	74.77	75.82	76.87	77.93	78.98	80.03	83.20	86.37	89.55	92.72	95.89
11	18	7	47.46	48.14	40.38	49.70	64.53	66.04	67.36	62.48	60.60	73.08	71.07	75.87	73.60	71.64	79.24	80.06	80.88	81.70	82.52	83.34	86.87	90.40	93.92	97.45	100.98
11	18	8	50.08	50.86	42.86	51.26	67.73	71.15	74.47	63.59	62.34	76.50	75.17	82.57	76.43	73.99	82.31	83.17	84.03	84.88	85.74	86.60	89.91	93.23	96.54	99.86	103.17
11	18	9	50.23	51.22	47.60	51.54	67.55	70.22	73.25	66.96	65.05	76.26	74.95	84.34	76.42	77.08	81.72	83.07	84.42	85.78	87.13	88.48	91.83	95.18	98.53	101.88	105.23
11	18	10	48.96	50.84	48.28	51.59	66.57	69.72	72.28	67.78	65.86	76.12	74.83	80.15	76.58	78.02	81.22	83.08	84.94	86.81	88.67	90.53	93.67	96.81	99.96	103.10	106.24
11	18	11	48.85	50.66	48.24	51.59	65.97	69.72	71.73	67.61	65.55	75.36	74.73	79.16	76.55	78.01	80.60	82.59	84.57	86.56	88.54	90.53	93.62	96.71	99.81	102.90	105.99
11	18	12	47.70	50.52	48.73	50.87	65.97	68.95	71.61	67.15	65.40	73.92	74.43	75.99	76.15	77.07	79.66	81.69	83.72	85.76	87.79	89.82	93.01	96.20	99.40	102.59	105.78
11	18	13	47.46	49.87	48.87	50.46	65.92	67.56	70.61	66.53	65.38	73.92	73.69	75.91	75.13	75.92	79.70	81.72	83.75	85.77	87.80	89.82	92.90	95.99	99.07	102.16	105.24
11	18	14	47.46	49.23	48.05	50.04	65.83	67.05	69.18	65.07	64.61	73.36	73.39	75.82	73.78	75.18	79.23	81.14	83.05	84.96	86.87	88.78	91.70	94.62	97.55	100.47	103.39
11	18	15	46.54	48.85	47.86	49.68	65.33	66.51	68.17	64.21	63.93	73.62	73.15	75.10	72.87	74.26	78.52	80.50	82.48	84.47	86.45	88.43	91.33	94.23	97.12	100.02	102.92
11	18	16	46.42	48.76	47.98	49.59	64.67	66.32	68.18	64.40	64.42	73.71	72.44	74.96	73.45	74.45	78.40	80.50	82.61	84.71	86.82	88.92	91.81	94.70	97.60	100.49	103.38
11	18	17	47.44	49.21	49.16	49.83	65.42	68.33	69.11	65.50	66.31	74.38	74.31	75.91	73.87	75.95	80.03	82.21	84.39	86.58	88.76	90.94	93.74	96.54	99.33	102.13	104.93
11	18	18	51.19	53.36	53.39	52.79	71.72	82.96	85.82	69.59	71.65	76.95	89.10	90.15	77.63	79.44	82.78	84.90	87.02	89.14	91.26	93.38	96.41	99.44	102.46	105.49	108.52
11	18	19	62.58	61.93	56.10	62.53	112.57	132.31	125.46	71.84	73.86	78.25	121.82	133.12	88.80	84.25	85.46	87.88	90.30	92.71	95.13	97.55	99.88	102.21	104.53	106.86	109.19
11	18	20	52.22	53.45	54.20	52.32	73.05	85.73	79.65	69.60	72.75	76.71	77.65	94.64	76.65	79.69	81.21	84.33	87.45	90.56	93.68	96.80	99.14	101.49	103.83	106.18	108.52
11	18	21	50.23	51.72	52.90	51.54	66.93	70.71	73.84	68.76	70.60	75.36	75.66	78.01	74.89	78.41	79.56	82.88	86.20	89.52	92.84	96.16	98.53	100.90	103.27	105.64	108.01
11	18	22	48.75	49.98	50.51	50.19	64.78	67.75	68.90	66.94	68.26	73.58	73.43	75.92	72.83	76.16	78.52	81.38	84.23	87.09	89.94	92.80	95.17	97.54	99.90	102.27	104.64
11	18	23	46.38	48.32	49.06	49.69	62.79	64.87	67.06	63.49	65.82	73.07	71.94	74.08	74.46	73.87	77.32	80.29	83.27	86.24	89.22	92.19	94.29	96.39	98.50	100.60	102.70
11	18	24	41.71	42.13	47.41	45.81	59.19	60.98	63.15	60.81	62.71	69.58	68.72	70.59	69.05	71.62	74.50	77.14	79.78	82.41	85.05	87.69	90.07	92.45	94.83	97.21	99.59
11	19	1	36.21	36.07	39.24	39.91	56.50	57.65	59.74	57.28	58.35	65.02	63.83	66.11	67.05	68.37	72.11	73.83	75.54	77.26	78.97	80.69	83.32	85.94	88.57	91.19	93.82
11	19	2	34.12	34.17	38.14	38.41	55.12	57.00	57.65	56.01	57.30	62.15	61.58	62.60	64.69	67.30	70.45	72.33	74.21	76.09	77.97	79.85	82.29	84.73	87.16	89.60	92.04
11	19	3	32.61	33.15	38.14	38.41	54.81	56.29	57.09	55.44	57.20	62.65	61.39	62.60	63.65	65.56	69.82	71.75	73.68	75.62	77.55	79.48	81.54	83.59	85.65	87.70	89.76
11	19	4	32.56	33.14	38.78	39.07	55.11	56.44	57.12	55.35	58.43	63.20	62.34	62.25	63.46	65.07	70.61	72.64	74.66	76.69	78.71	80.74	82.25	83.75	85.26	86.76	88.27
11	19	5	34.78	34.34	40.73	41.23	55.76	57.40	58.46	55.52	61.21	64.63	63.23	62.95	64.40	65.48	72.90	74.99	77.08	79.16	81.25	83.34	84.65	85.96	87.28	88.59	89.90
11	19	6	40.12	36.07	47.33	48.43	59.60	61.36	60.24	56.26	65.40	69.32	68.06	68.82	67.11	67.34	75.84	78.88	81.93	84.97	88.02	91.06	91.26	91.46	91.67	91.87	92.07
11	19	7	46.12	39.54	49.77	51.36	65.54	68.64	62.01	58.41	69.19	72.71	74.00	73.09	68.72	69.75	79.10	82.23	85.36	88.49	91.62	94.75	94.58	94.41	94.23	94.06	93.89
11	19	8	50.03	44.17	51.74	53.95	68.38	73.52	64.04	61.24	73.58	75.80	77.80	76.35	69.28	72.26	81.32	84.61	87.89	91.18	94.46	97.75	97.71	97.67	97.63	97.59	97.55
11	19	9	49.73	47.32	52.14	52.61	68.96	73.52	65.28	63.46	72.16	75.43	76.54	76.34	72.83	74.64	81.56	84.64	87.72	90.80	93.88	96.96	98.00	99.05	100.09	101.14	102.18
11	19	10	48.85	48.60	52.11	51.76	67.62	72.36	67.13	64.68	71.82	75.36	75.83	75.92	74.74	75.02	80.48	83.62	86.77	89.91	93.06	96.20	97.50	98.80	100.10	101.40	102.70
11	19	11	48.44	48.70	52.11	50.96	66.83	71.15	67.01	63.74	71.82	75.36	75.63	75.82	74.46	73.30	80.45	83.49	86.53	89.56	92.60	95.64	97.05	98.46	99.88	101.29	102.70
11	19	12	48.44	47.32	51.41	50.76	65.92	70.22	66.34	63.15	69.25	74.14	74.44	75.34	73.93	73.24	79.39	82.42	85.45	88.49	91.52	94.55	96.18	97.81	99.44	101.07	102.70
11	19	13	47.57	47.32	51.67	50.46	65.98	69.65	65.04	63.14	69.46	73.73	73.92	74.32	73.03	73.24	78.56	81.76	84.96	88.15	91.35	94.55	96.18	97.81	99.44	101.07	102.70
11	19	14	46.72	46.60	51.30	50.04	65.70	68.64	63.93	62.79	68.87	72.80	74.04	74.15	72.00	72.92	78.07	81.23	84.40	87.56	90.73	93.89	95.65	97.41	99.18	100.94	102.70
11	19	15	46.20	45.75	51.30	49.70	65.57	67.17	63.60	62.48	68.99	72.02	73.26	73.22	71.20	71.72	77.70	80.83	83.96	87.08	90.21	93.34	95.08	96.82	98.55	100.29	102.03
11	19	16	46.04	45.43	51.07	49.50	64.20	66.94	63.45	62.68	68.99	71.75	72.63	73.29	71.20	73.09	77.24	80.42	83.60	86.79	89.97	93.15	95.06	96.97	98.87	100.78	102.69
11	19	17	46.97	47.28	51.41	49.77	64.70	68.64	64.35	63.68	68.99	72.80	74.31	74.81	73.27	73.24	78.21	81.47	84.74	88.00	91.27	94.53	96.16	97.80	99.43	101.07	102.70
11	19	18	50.52	48.92	54.00	54.82	73.93	82.12	69.49	68.22	72.89	75.36	77.67	79.27	75.13	77.69	81.32	84.57	87.81	91.06	94.30	97.55	99.70	101.85	103.99	106.14	108.29
11	19	19	58.83	51.71	62.35	90.53	112.22	114.10	71.95	72.66	84.44	99.44	91.87	110.18	75.54	84.87	103.53	102.53	101.52	100.52	99.51	98.51	100.57	102.64	104.70	106.77	108.83
11	19	20	50.53	49.61	53.68	58.62	72.85	82.86	69.30	71.72	74.70	77.97	77.16	79.09	75.01	80.52	82.23	85.03	87.82	90.62	93.41	96.21	98.67	101.13	103.58	106.04	108.50
11	19	21	48.81	48.70	51.99	52.06	68.38	72.36	67.01	68.82	73.69	75.36	75.66	76.27	73.98	78.48	79.37	82.68	85.99	89.29	92.60	95.91	98.33	100.75	103.18	105.60	108.02
11	19	22	46.97	47.54	50.35	50.29	65.74	68.64	64.72	66.99	68.77	73.47	72.99	74.22	73.03	76.16	79.06	81.92	84.78	87.63	90.49	93.35	95.84	98.32	100.81	103.29	105.78
11	19	23	45.70	43.81	49.62	49.88	63.83	65.51	62.82	64.21	68.24	73.47	71.39	73.43	70.82	74.09	78.01	80.88	83.74	86.61	89.47	92.34	94.55	96.76	98.96	101.17	103.38
11	19	24	40.12	39.33	47.92	45.85	59.72	61.43	60.62	62.67	64.06	69.88	67.86	70.16	68.73	71.62	74.67	77.59	80.51	83.43	86.35	89.27	91.70	94.12	96.55	98.97	101.40
11	20	1	34.91	34.99	41.80	40.21	56.33	58.90	57.55	57.85	60.29	64.91	62.69	66.39	65.84	68.57	71.53	73.69	75.85	78.02	80.18	82.34	84.25	86.15	88.06	89.96	91.87
11	20	2	34.07	33.24	39.72	37.69	55.64	55.61	56.74	57.50	58.83	61.83	60.59	63.91	64.19	67.64	69.30	71.56	73.82	76.08	78.34	80.60	82.71	84.82	86.93	89.04	91.15
11	20	3	33.40	32.11	40.27	37.05	55.11	54.91	55.18	57.50	57.97	60.46	59.68	62.95	62.80	66.62	68.51	71.01	73.52	76.02	78.53	81.03	82.90	84.77	86.63	88.50	90.37
11	20	4	33.14	31.74	41.19	36.63	55.12	55.25	55.02	58.57	58.85	61.54	59.38	62.78	62.00	68.38	67.61	70.46	73.30	76.15	78.99	81.84	83.95	86.06	88.17	90.28	92.39
11	20	5	33.46	32.11	42.69	37.94	55.92	56.26	55.17	60.05	62.14	63.18	60.86	63.87	62.61	70.43	70.39	72.87	75.34	77.82	80.29	82.77	85.01	87.25	89.49	91.73	93.97
11	20	6	35.00	34.00	47.99	43.45	59.72	60.46	56.87	63.41	65.41	67.64	65.51	65.32	64.27	73.81	74.19	77.45	80.72	83.98	87.25	90.51	92.61	94.72	96.82	98.93	101.03
11	20	7	37.98	36.43	51.07	48.45	65.80	65.62	58.53	67.28	69.94	72.02	70.54	66.92	66.42	77.62	78.33	81.63	84.93	88.22	91.52	94.82	96.90	98.98	101.05	103.13	105.21
11	20	8	42.11	39.64	54.43	51.26	70.89	68.76	60.91	71.57	73.54	75.36	74.95	70.11	68.72	79.65	79.31	82.80	86.30	89.79	93.29	96.78	98.72	100.66	102.59	104.53	106.47
11	20	9	45.01	43.00	53.83	51.58	70.86	68.64	62.31	71.57	73.50	76.65	74.89	72.41	69.12	79.27	80.91	83.97	87.03	90.09	93.15	96.21	98.26	100.31	102.35	104.40	106.45
11	20	10	46.16	44.11	53.06	50.94	68.98	68.64	62.87	71.37	71.82	75.48	74.80	74.17	71.26	78.68	79.23	82.62	86.02	89.41	92.81	96.20	98.12	100.04	101.96	103.88	105.80
11	20	11	46.33	43.95	51.61	50.33	67.73	68.76	62.58	70.43	71.58	75.24	74.40	73.68	71.07	78.48	78.82	82.29	85.77	89.24	92.72	96.19	98.14	100.10	102.05	104.01	105.96
11	20	12	45.90	43.97	50.51	49.77	66.09	68.17	62.35	68.63	71.23	73.74	73.69	73.22	71.00	78.09	78.52	81.92	85.32	88.72	92.12	95.52	97.15	98.77	100.40	102.02	103.65

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	20	13	45.37	43.97	50.24	49.50	65.89	66.86	62.26	68.40	68.87	73.74	73.19	72.77	70.15	78.07	78.20	81.35	84.49	87.64	90.78	93.93	95.68	97.44	99.19	100.95	102.70
11	20	14	43.63	43.91	49.84	48.62	65.92	66.28	61.99	67.78	67.87	73.26	72.34	71.24	69.52	77.39	77.61	80.69	83.76	86.84	89.91	92.99	94.91	96.83	98.74	100.66	102.58
11	20	15	41.49	43.01	49.62	47.87	65.07	65.61	61.56	68.03	67.14	72.80	71.45	70.59	69.12	77.69	77.83	80.79	83.75	86.71	89.67	92.63	94.56	96.49	98.42	100.35	102.28
11	20	16	41.49	43.57	49.58	47.67	64.89	65.51	61.99	68.22	67.40	72.28	71.36	70.59	70.92	77.48	77.65	80.59	83.53	86.47	89.41	92.35	94.30	96.25	98.21	100.16	102.11
11	20	17	43.39	45.44	50.50	48.05	65.58	66.22	63.45	68.22	68.97	73.53	72.44	72.40	71.20	78.18	79.23	82.17	85.11	88.05	90.99	93.93	95.69	97.44	99.20	100.95	102.71
11	20	18	46.98	49.11	55.79	51.17	72.69	75.95	70.39	72.41	73.05	77.23	76.53	75.69	74.73	82.00	85.46	87.72	89.99	92.25	94.52	96.78	99.03	101.28	103.52	105.77	108.02
11	20	19	47.57	59.36	85.29	67.47	117.11	101.26	79.65	72.96	93.58	106.08	87.88	75.92	89.80	82.14	122.15	119.49	116.82	114.16	111.49	108.83	108.99	109.15	109.30	109.46	109.62
11	20	20	46.78	56.46	58.11	53.87	80.07	76.04	79.55	81.28	75.32	78.01	75.77	75.23	77.63	91.26	87.40	89.29	91.18	93.07	94.96	96.85	99.02	101.18	103.35	105.51	107.68
11	20	21	46.30	50.33	53.61	51.54	70.89	70.22	69.37	71.34	71.82	76.66	73.72	74.15	74.85	78.38	82.03	84.83	87.64	90.44	93.25	96.05	97.86	99.66	101.47	103.27	105.08
11	20	22	45.53	46.77	51.60	49.91	66.57	67.26	65.67	67.38	69.65	75.24	71.66	73.00	73.22	77.69	79.23	82.33	85.44	88.54	91.65	94.75	96.41	98.07	99.72	101.38	103.04
11	20	23	39.66	45.10	49.72	48.04	64.55	65.51	62.93	67.23	67.73	73.31	71.39	70.46	71.47	76.64	78.78	81.97	85.16	88.34	91.53	94.72	96.10	97.48	98.85	100.23	101.61
11	20	24	36.65	40.12	47.92	43.48	60.29	61.71	60.98	64.80	64.20	68.02	67.57	66.39	68.75	73.09	74.41	77.28	80.15	83.02	85.89	88.76	90.81	92.86	94.91	96.96	99.01
11	21	1	33.14	35.07	42.14	37.69	56.40	57.38	57.42	61.02	59.47	63.22	63.83	65.12	66.75	70.27	71.17	73.38	75.59	77.81	80.02	82.23	84.47	86.70	88.94	91.17	93.41
11	21	2	31.49	34.13	38.97	35.31	54.94	56.42	56.81	59.98	57.77	60.72	61.27	63.32	65.59	68.98	68.01	70.32	72.63	74.94	77.25	79.56	81.94	84.32	86.71	89.09	91.47
11	21	3	30.77	34.11	38.59	33.91	54.00	56.08	56.90	60.26	57.49	59.29	61.26	62.17	65.52	69.21	65.76	68.38	71.00	73.61	76.23	78.85	81.45	84.04	86.64	89.23	91.83
11	21	4	30.46	34.94	38.47	33.10	53.81	56.04	57.50	61.15	57.37	58.07	61.26	61.45	66.50	70.06	65.38	68.29	71.20	74.11	77.02	79.93	82.36	84.80	87.23	89.67	92.10
11	21	5	30.74	36.85	40.28	33.86	55.22	56.43	59.30	62.68	59.01	58.92	61.27	62.19	67.82	71.62	66.40	69.54	72.68	75.82	78.96	82.10	84.47	86.84	89.20	91.57	93.94
11	21	6	31.56	42.01	46.25	35.15	59.00	57.62	62.61	65.60	63.90	61.31	62.84	64.23	71.04	74.02	67.75	72.27	76.79	81.32	85.84	90.36	91.93	93.49	95.06	96.62	98.19
11	21	7	34.36	47.28	49.33	37.66	64.36	59.40	65.62	67.17	68.87	61.72	65.47	66.06	73.79	78.39	69.33	74.37	79.41	84.45	89.49	94.53	96.09	97.64	99.20	100.75	102.31
11	21	8	37.00	50.31	53.04	39.65	67.25	61.85	69.18	76.61	70.35	65.07	68.28	66.39	76.58	82.83	71.25	76.24	81.24	86.23	91.23	96.22	97.94	99.66	101.37	103.09	104.81
11	21	9	39.66	50.23	53.00	42.26	66.93	63.81	69.18	73.91	71.82	67.21	70.60	68.21	76.36	81.01	73.19	77.91	82.63	87.34	92.06	96.78	98.39	99.99	101.60	103.20	104.81
11	21	10	41.12	49.75	52.10	43.67	66.59	65.51	69.18	72.30	71.09	68.62	72.07	71.00	75.91	79.54	74.41	78.76	83.12	87.47	91.83	96.18	97.83	99.48	101.13	102.78	104.43
11	21	11	41.18	49.08	51.10	43.99	66.57	65.51	68.97	71.39	70.35	68.21	71.58	70.71	75.36	78.45	74.57	78.84	83.11	87.37	91.64	95.91	97.39	98.86	100.34	101.81	103.29
11	21	12	41.26	48.60	50.11	41.91	66.35	64.83	67.92	69.65	70.58	67.21	71.39	70.11	74.27	78.37	74.09	78.35	82.60	86.86	91.11	95.37	96.99	98.60	100.22	101.83	103.45
11	21	13	40.74	48.54	49.62	39.78	65.83	63.28	67.19	68.53	68.87	65.19	71.20	68.37	74.87	78.01	72.75	77.09	81.44	85.78	90.13	94.47	96.20	97.93	99.66	101.39	103.12
11	21	14	40.16	48.32	49.58	38.22	65.01	63.22	66.49	67.71	68.25	63.98	70.53	68.10	73.95	77.16	71.43	75.76	80.09	84.43	88.76	93.09	95.01	96.93	98.86	100.78	102.70
11	21	15	39.95	48.04	49.33	37.37	64.36	62.08	65.87	67.37	67.59	62.73	70.36	67.71	73.96	76.64	70.37	74.80	79.23	83.65	88.08	92.51	94.43	96.34	98.26	100.17	102.09
11	21	16	40.55	47.92	49.27	36.99	64.10	62.02	66.24	66.34	67.39	62.19	70.21	68.27	73.47	76.37	69.74	74.29	78.85	83.40	87.96	92.51	94.33	96.14	97.96	99.77	101.59
11	21	17	42.42	48.54	49.58	38.10	65.73	62.13	66.95	67.38	68.55	63.07	70.85	69.49	75.02	76.95	70.74	75.49	80.24	84.98	89.73	94.48	96.12	97.77	99.41	101.06	102.70
11	21	18	47.57	50.54	53.85	43.67	72.27	67.76	72.21	73.18	75.11	68.54	74.87	74.15	78.21	79.92	74.50	79.55	84.59	89.64	94.68	99.73	101.02	102.31	103.59	104.88	106.17
11	21	19	54.38	54.32	62.59	44.42	106.69	70.22	74.74	85.25	103.14	69.25	75.84	82.24	76.59	97.93	74.99	85.20	95.40	105.61	115.81	126.02	122.83	119.64	116.44	113.25	110.06
11	21	20	53.87	54.84	54.14	43.73	72.61	67.27	77.76	75.23	78.00	67.57	74.45	77.08	79.52	81.28	74.98	79.84	84.69	89.55	94.40	99.26	101.09	102.92	104.75	106.58	108.41
11	21	21	47.57	50.19	53.04	41.36	67.62	65.06	70.29	72.41	75.24	67.17	73.50	74.76	74.87	78.60	73.87	78.61	83.34	88.08	92.81	97.55	98.85	100.16	101.46	102.77	104.07
11	21	22	45.89	48.60	51.07	39.85	66.16	63.28	65.62	68.82	69.25	65.58	71.58	73.53	73.74	77.08	72.35	77.06	81.77	86.49	91.20	95.91	97.27	98.63	99.98	101.34	102.70
11	21	23	43.03	47.95	49.72	38.31	64.54	61.56	67.62	68.79	67.90	64.62	69.88	71.07	73.95	75.72	73.34	77.55	81.77	85.98	90.20	94.41	96.07	97.73	99.38	101.04	102.70
11	21	24	38.16	42.02	46.43	37.21	59.37	59.40	62.61	63.75	64.71	62.23	65.49	68.10	71.36	73.20	70.47	74.23	77.98	81.74	85.49	89.25	91.08	92.92	94.75	96.59	98.42
11	22	1	34.16	36.44	39.84	34.73	56.69	56.74	59.04	61.92	59.66	60.44	62.78	64.57	67.46	69.99	68.63	71.08	73.54	75.99	78.45	80.90	83.41	85.91	88.42	90.92	93.43
11	22	2	33.51	35.20	37.19	34.01	54.00	55.58	59.04	58.90	57.30	58.76	61.27	63.77	66.71	69.84	66.40	68.71	71.02	73.33	75.64	77.95	80.66	83.38	86.09	88.81	91.52
11	22	3	33.52	35.09	35.59	33.44	53.47	53.67	59.04	57.90	55.83	58.18	60.00	64.35	67.28	69.64	64.81	66.95	69.09	71.24	73.38	75.52	78.56	81.59	84.63	87.66	90.70
11	22	4	34.18	36.17	34.38	33.84	53.52	53.21	59.54	57.90	54.82	58.28	59.45	65.25	67.91	69.50	64.88	66.83	68.78	70.72	72.67	74.62	77.64	80.66	83.69	86.71	89.73
11	22	5	35.81	38.64	35.90	34.37	53.64	53.69	60.99	59.15	55.56	60.44	59.85	66.43	68.73	70.79	66.80	68.61	70.42	72.22	74.03	75.84	78.80	81.76	84.71	87.67	90.63
11	22	6	40.17	44.36	37.36	36.93	55.97	55.17	62.93	62.88	57.09	62.19	61.22	69.61	71.73	73.03	70.64	72.09	73.53	74.98	76.42	77.87	81.60	85.32	89.05	92.77	96.50
11	22	7	45.87	48.32	38.28	39.88	58.46	56.75	66.83	66.33	59.15	65.14	63.58	73.22	74.30	76.97	72.74	74.33	75.92	77.50	79.09	80.68	85.02	89.36	93.70	98.04	102.38
11	22	8	47.38	51.29	41.25	43.18	59.61	58.18	73.36	68.57	61.64	67.42	65.48	75.92	78.19	78.58	74.41	76.44	78.47	80.50	82.53	84.56	88.61	92.66	96.72	100.77	104.82
11	22	9	47.55	51.15	44.44	45.02	62.15	60.66	73.00	68.82	63.08	68.86	67.63	75.85	76.82	78.60	75.45	77.73	80.02	82.30	84.59	86.87	90.55	94.22	97.90	101.57	105.25
11	22	10	46.76	50.92	46.28	45.57	64.16	61.56	71.61	68.19	63.92	69.58	69.09	75.44	76.03	78.01	76.00	78.95	81.89	84.84	87.78	90.73	93.31	95.89	98.47	101.05	103.63
11	22	11	46.85	50.19	46.46	45.56	64.11	61.43	69.83	68.22	63.75	69.69	69.56	75.29	74.49	78.02	76.66	79.36	82.06	84.76	87.46	90.16	92.82	95.48	98.13	100.79	103.45
11	22	12	46.33	49.01	45.92	44.18	63.59	61.43	68.98	67.61	63.29	69.25	70.09	74.10	73.80	78.01	76.28	78.72	81.15	83.59	86.02	88.46	91.31	94.16	97.00	99.85	102.70
11	22	13	46.12	48.60	42.47	44.00	61.05	61.16	67.36	67.61	62.13	68.02	69.33	74.10	73.39	77.81	75.07	77.12	79.18	81.23	83.29	85.34	88.70	92.05	95.41	98.76	102.12
11	22	14	45.87	48.49	40.17	43.56	59.98	60.91	66.09	66.88	60.91	67.17	68.47	73.22	72.83	77.37	74.57	76.33	78.10	79.86	81.63	83.39	87.13	90.87	94.61	98.35	102.09
11	22	15	45.82	48.10	39.13	41.94	59.34	60.67	65.62	64.70	60.21	66.83	67.65	73.43	72.79	76.65	74.41	75.90	77.38	78.87	80.35	81.84	85.83	89.81	93.80	97.78	101.77
11	22	16	45.44	47.98	38.56	41.81	59.72	60.97	64.87	65.07	59.43	66.74	69.19	73.54	72.58	76.65	74.41	75.77	77.12	78.48	79.83	81.19	85.31	89.42	93.54	97.65	101.77
11	22	17	46.12	48.60	39.62	43.67	61.29	62.43	66.89	66.12	60.21	67.64	71.07	74.10	73.19	77.69	75.45	76.82	78.19	79.56	80.93	82.30	86.28	90.26	94.23	98.21	102.19
11	22	18	48.32	54.52	45.98	48.34	66.02	68.32	75.41	70.67	63.08	72.81	74.96	78.58	78.24	86.55	79.23	81.33	83.44	85.54	87.65	89.75	93.07	96.39	99.71	103.03	106.35
11	22	19	48.37	64.28	47.47	51.39	67.55	81.74	96.29	87.38	63.99	75.95	76.54	91.21	83.67	139.86	83.30	84.79	86.27	87.76	89.24	90.73	97.17	103.61	110.05	116.49	122.93
11	22	20	50.05	59.14	46.02	47.92	66.02	78.28	82.57	74.37	63.98	71.64	75.64	90.79	81.59	87.99	79.23	81.10	82.97	84.84	86.71	88.58	92.34	96.10	99.86	103.62	107.38
11	22	21	46.76	51.39	45.77	46.61	64.88	68.29	72.13	68.83	63.08	69.38	74.00	74.32	76.65	80.85	76.84	78.81	80.78	82.75	84.72	86.69	90.56	94.44	98.31	102.19	106.06
11	22	22	45.87	48.54	42.89	43.99	60.99	66.01	66.66	67.13	62.13	68.43	71.39	72.91	74.48	78.10	75.82	77.62	79.42	81.21	83.01	84.81	88.81	92.82	96.82	100.83	104.83
11	22	23	45.59	47.28	41.76	42.77	58.92	62.31	65.28	65.81	61.40	66.89	69.94	72.43	74.32	76.80	74.56	76.33	78.10	79.87	81.64	83.41	87.27	91.12	94.98	98.83	102.69

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	22	24	40.52	41.68	38.78	38.22	57.29	60.66	62.26	62.68	58.94	62.95	65.53	70.16	71.44	72.85	72.93	74.50	76.06	77.63	79.19	80.76	83.98	87.20	90.43	93.65	96.87
11	23	1	35.13	36.24	36.40	36.36	54.99	57.32	59.31	57.64	57.11	60.88	61.90	66.46	68.17	69.99	69.72	71.39	73.06	74.74	76.41	78.08	80.85	83.62	86.38	89.15	91.92
11	23	2	34.12	34.25	35.08	35.10	53.43	56.54	57.94	56.30	56.08	60.01	61.35	65.64	66.89	65.53	68.57	70.08	71.59	73.11	74.62	76.13	78.62	81.12	83.61	86.11	88.60
11	23	3	34.14	33.86	34.86	34.64	52.40	56.68	57.94	54.89	55.31	59.30	61.31	65.91	66.18	63.41	67.75	69.32	70.89	72.47	74.04	75.61	77.65	79.70	81.74	83.79	85.83
11	23	4	34.93	33.93	34.75	34.90	52.18	56.94	57.94	53.70	55.54	60.07	62.18	66.40	65.68	62.02	68.17	69.64	71.11	72.59	74.06	75.53	77.46	79.39	81.32	83.25	85.18
11	23	5	36.36	35.07	35.47	35.47	52.70	58.63	58.67	54.46	57.14	60.39	63.58	67.15	67.57	63.61	68.99	70.57	72.15	73.73	75.31	76.89	78.70	80.51	82.33	84.14	85.95
11	23	6	42.81	41.26	38.46	36.60	53.73	61.56	62.13	56.31	59.05	61.40	67.51	71.36	68.97	65.67	70.13	72.11	74.09	76.08	78.06	80.04	81.76	83.49	85.21	86.94	88.66
11	23	7	46.33	46.74	42.66	38.14	55.40	66.00	65.96	57.71	63.07	62.08	70.60	75.74	72.79	66.63	71.38	73.86	76.34	78.82	81.30	83.78	85.32	86.86	88.39	89.93	91.47
11	23	8	48.74	49.01	46.80	41.50	56.51	69.72	67.92	59.32	64.52	64.31	73.16	81.82	76.67	69.66	73.46	76.35	79.24	82.14	85.03	87.92	89.17	90.42	91.66	92.91	94.16
11	23	9	48.29	49.01	47.40	43.99	58.46	68.96	68.17	61.29	65.41	66.76	72.70	81.59	76.55	71.77	74.94	78.28	81.62	84.95	88.29	91.63	92.41	93.19	93.97	94.75	95.53
11	23	10	48.12	48.85	47.73	46.25	59.23	68.32	67.92	62.27	66.00	67.64	72.38	76.59	75.41	73.81	76.01	79.27	82.53	85.80	89.06	92.32	93.31	94.30	95.29	96.28	97.27
11	23	11	47.55	48.85	47.54	46.69	59.31	67.55	67.97	62.27	66.00	69.02	72.38	74.47	74.02	73.82	76.90	79.94	82.97	86.01	89.04	92.08	93.39	94.70	96.00	97.31	98.62
11	23	12	46.54	48.57	47.31	45.75	59.34	66.98	67.21	61.33	65.92	67.96	72.08	73.66	73.53	72.47	76.46	79.47	82.48	85.48	88.49	91.50	92.67	93.84	95.01	96.18	97.35
11	23	13	46.12	48.51	46.88	44.89	59.23	66.94	66.62	59.37	65.41	67.21	71.96	73.22	73.39	71.65	75.18	78.12	81.06	84.01	86.95	89.89	90.95	92.01	93.06	94.12	95.18
11	23	14	45.87	48.32	46.47	42.94	59.06	66.03	65.92	58.54	64.23	66.23	71.58	72.44	73.19	68.99	74.42	77.40	80.37	83.35	86.32	89.30	90.22	91.14	92.06	92.98	93.90
11	23	15	45.08	47.32	46.46	41.41	58.80	65.86	65.62	57.80	63.92	65.64	71.55	72.20	72.75	68.22	74.51	77.35	80.19	83.04	85.88	88.72	89.47	90.23	90.98	91.74	92.49
11	23	16	44.73	46.21	46.38	41.72	58.98	65.71	64.90	57.31	63.92	66.72	71.43	71.31	72.79	67.87	74.84	77.61	80.39	83.16	85.94	88.71	89.39	90.07	90.76	91.44	92.12
11	23	17	45.87	48.10	47.11	45.20	60.09	66.94	67.19	58.14	65.41	68.37	72.00	72.91	73.88	68.30	77.24	79.84	82.44	85.04	87.64	90.24	90.75	91.26	91.76	92.27	92.78
11	23	18	48.91	52.36	48.93	51.92	65.92	74.97	73.32	60.26	69.07	73.53	74.31	82.12	81.45	71.29	82.08	84.72	87.35	89.99	92.62	95.26	95.20	95.15	95.09	95.04	94.98
11	23	19	58.85	81.70	50.10	56.98	76.66	106.89	94.20	61.92	72.07	76.01	74.35	99.42	105.57	71.66	84.24	86.89	89.53	92.18	94.82	97.47	97.27	97.07	96.88	96.68	96.48
11	23	20	50.50	52.76	48.82	53.67	72.88	81.91	74.01	61.24	68.35	73.85	75.56	86.25	83.42	71.79	83.74	85.59	87.44	89.29	91.14	92.99	93.61	94.24	94.86	95.49	96.11
11	23	21	48.27	51.15	48.02	48.29	65.92	68.64	69.97	60.76	66.82	71.77	72.72	76.85	76.59	71.79	79.56	82.11	84.67	87.22	89.78	92.33	92.97	93.61	94.24	94.88	95.52
11	23	22	46.52	49.01	47.11	45.83	62.18	66.94	67.97	59.40	65.41	68.97	71.13	74.52	75.41	70.96	77.06	79.75	82.43	85.12	87.80	90.49	91.24	92.00	92.75	93.51	94.26
11	23	23	45.80	48.32	46.47	42.11	59.86	65.05	65.28	59.28	64.71	64.98	70.60	72.91	73.52	71.01	74.44	77.15	79.86	82.56	85.27	87.98	89.20	90.41	91.63	92.84	94.06
11	23	24	41.33	42.12	40.03	38.39	58.51	61.44	62.36	57.31	61.92	61.93	66.19	70.26	69.05	68.17	72.36	74.30	76.24	78.19	80.13	82.07	83.89	85.72	87.54	89.37	91.19
11	24	1	35.37	35.65	37.58	35.71	55.23	59.76	57.66	55.77	58.99	59.12	62.84	66.79	66.76	65.28	68.77	70.85	72.93	75.02	77.10	79.18	80.99	82.80	84.62	86.43	88.24
11	24	2	33.51	33.84	36.91	34.62	53.87	58.33	55.24	54.09	58.19	58.14	62.13	66.03	63.09	63.12	67.26	69.53	71.79	74.06	76.32	78.59	80.17	81.75	83.34	84.92	86.50
11	24	3	33.13	32.25	36.21	34.17	54.27	58.31	54.00	53.28	57.94	58.18	62.01	65.38	61.41	62.30	65.75	68.13	70.51	72.88	75.26	77.64	79.08	80.52	81.97	83.41	84.85
11	24	4	32.39	31.76	36.24	33.97	54.94	58.95	53.24	53.29	58.47	57.28	62.69	65.41	60.48	62.48	65.53	67.84	70.15	72.45	74.76	77.07	78.67	80.27	81.88	83.48	85.08
11	24	5	33.32	32.22	36.91	34.11	57.00	59.88	54.14	55.17	58.51	58.18	64.05	66.28	61.55	63.41	65.53	68.14	70.75	73.37	75.98	78.59	80.33	82.07	83.81	85.55	87.29
11	24	6	41.11	33.40	37.97	35.01	59.11	61.85	55.79	57.25	58.94	59.01	67.41	69.51	64.44	67.65	67.48	69.87	72.25	74.64	77.02	79.41	81.79	84.17	86.56	88.94	91.32
11	24	7	45.62	35.09	39.75	36.65	62.34	68.09	57.09	59.83	61.53	60.21	70.46	74.17	64.66	71.63	68.77	71.31	73.85	76.40	78.94	81.48	84.21	86.93	89.66	92.38	95.11
11	24	8	47.55	39.01	43.12	39.83	64.99	73.52	59.17	62.40	63.45	62.77	73.57	77.17	67.22	72.01	71.59	73.95	76.32	78.68	81.05	83.41	86.06	88.71	91.35	94.00	96.65
11	24	9	47.57	41.68	46.66	43.08	64.96	72.50	61.36	63.14	65.41	64.64	72.44	76.27	68.73	73.47	73.94	77.08	80.22	83.37	86.51	89.65	91.55	93.46	95.36	97.27	99.17
11	24	10	46.99	42.20	48.02	44.16	64.57	70.16	62.21	64.27	67.18	67.21	71.58	74.38	69.28	73.98	75.93	79.15	82.37	85.60	88.82	92.04	93.94	95.84	97.74	99.64	101.54
11	24	11	46.33	42.29	48.24	44.00	64.36	68.11	62.35	64.05	67.18	67.36	71.16	73.67	70.02	74.41	76.22	79.38	82.54	85.70	88.86	92.02	94.15	96.29	98.42	100.56	102.69
11	24	12	45.89	42.01	47.90	42.88	64.01	66.94	61.52	63.25	66.70	67.21	71.40	72.91	68.82	74.29	75.08	78.18	81.29	84.39	87.50	90.60	92.88	95.17	97.45	99.74	102.02
11	24	13	45.80	39.20	46.89	42.69	63.70	66.36	60.56	62.40	65.64	67.21	70.60	72.31	66.83	73.47	75.08	77.93	80.77	83.62	86.46	89.31	91.43	93.55	95.67	97.79	99.91
11	24	14	45.33	37.21	46.09	41.14	63.40	65.67	58.30	62.12	65.05	67.17	70.21	71.49	65.80	73.10	75.00	77.69	80.38	83.08	85.77	88.46	90.58	92.70	94.81	96.93	99.05
11	24	15	44.98	35.09	44.58	40.55	62.71	63.80	57.37	61.24	63.03	66.74	69.42	71.47	64.96	73.04	74.59	77.19	79.79	82.39	84.99	87.59	89.66	91.74	93.81	95.89	97.96
11	24	16	44.89	34.80	45.00	40.58	62.71	63.26	57.09	61.13	63.08	67.17	69.42	71.43	64.71	73.10	74.77	77.56	80.35	83.14	85.93	88.72	90.29	91.86	93.43	95.00	96.57
11	24	17	45.80	35.48	47.41	43.74	63.60	65.04	57.66	62.48	65.41	67.96	70.15	72.91	65.50	74.16	75.93	78.84	81.75	84.67	87.58	90.49	92.11	93.73	95.34	96.96	98.58
11	24	18	47.94	40.97	51.23	46.46	66.57	71.92	61.27	64.92	70.34	72.12	73.69	77.02	67.67	76.37	80.42	84.05	87.68	91.32	94.95	98.58	99.50	100.41	101.33	102.24	103.16
11	24	19	58.95	42.79	53.04	50.12	73.81	85.39	61.78	66.51	74.07	74.44	82.30	99.73	68.42	76.37	81.17	85.82	90.48	95.13	99.79	104.44	104.55	104.66	104.77	104.88	104.99
11	24	20	49.34	42.31	51.23	49.98	74.41	76.47	61.51	66.33	71.07	73.93	77.50	80.15	68.29	76.35	81.17	85.09	89.00	92.92	96.83	100.75	101.50	102.25	103.01	103.76	104.51
11	24	21	48.01	40.95	49.62	48.70	65.07	70.01	61.47	64.65	67.87	72.02	72.70	75.86	68.09	75.56	79.23	82.06	84.88	87.71	90.53	93.36	95.23	97.09	98.96	100.82	102.69
11	24	22	47.04	38.90	47.90	46.37	63.70	67.38	60.30	63.14	65.64	69.45	70.60	74.32	66.79	74.60	77.09	79.82	82.54	85.27	87.99	90.72	92.62	94.52	96.41	98.31	100.21
11	24	23	45.62	37.37	44.66	41.91	61.68	66.73	60.82	62.48	63.44	67.21	70.03	73.22	67.67	72.47	76.01	78.02	80.03	82.05	84.06	86.07	88.33	90.58	92.84	95.09	97.35
11	24	24	40.54	34.25	39.02	38.45	59.09	61.56	57.31	59.57	60.77	64.65	67.15	69.78	65.78	70.27	73.36	74.93	76.50	78.07	79.64	81.21	83.78	86.35	88.93	91.50	94.07
11	25	1	34.51	32.46	36.91	36.39	57.55	58.71	55.37	57.76	57.63	61.86	63.68	65.77	62.56	66.75	70.40	71.98	73.57	75.15	76.74	78.32	80.80	83.27	85.75	88.22	90.70
11	25	2	31.61	31.74	35.13	35.61	56.78	57.35	54.00	57.25	56.71	61.19	62.00	62.62	61.33	65.21	69.51	70.94	72.36	73.79	75.21	76.64	79.26	81.89	84.51	87.14	89.76
11	25	3	30.17	30.92	34.83	35.41	57.21	57.25	53.80	56.60	56.27	61.05	61.27	60.59	60.55	63.83	68.98	70.41	71.85	73.28	74.72	76.15	78.62	81.10	83.57	86.05	88.52
11	25	4	29.17	31.06	34.77	36.50	57.84	57.05	53.79	56.60	56.27	61.54	61.96	59.37	61.51	64.13	70.21	71.39	72.58	73.76	74.95	76.13	78.64	81.14	83.65	86.15	88.66
11	25	5	29.96	31.76	34.77	37.75	58.33	58.20	54.41	57.65	56.47	63.13	63.49	59.80	62.22	65.60	71.40	72.35	73.30	74.25	75.20	76.15	78.96	81.77	84.57	87.38	90.19
11	25	6	31.69	34.18	35.60	42.08	59.23	60.98	57.63	58.57	57.37	66.43	65.85	62.83	65.44	67.53	74.93	75.50	76.07	76.65	77.22	77.79	80.32	82.85	85.38	87.91	90.44
11	25	7	33.00	38.77	37.44	51.65	66.26	64.75	61.23	59.31	58.84	72.95	70.54	65.07	67.33	70.25	82.10	81.58	81.07	80.55	80.04	79.52	82.08	84.64	87.21	89.77	92.33
11	25	8	36.17	42.01	39.72	53.82	71.01	69.80	62.65	62.12	61.50	76.60	71.90	66.54	68.73	71.73	83.47	83.40	83.33	83.27	83.20	83.13	85.46	87.79	90.11	92.44	94.77
11	25	9	37.74	44.04	42.70	53.67	70.62	69.20	63.85	63.14	63.87	76.81	73.20	68.48	70.09	73.30	83.38	84.05	84.72	85.38	86.05	86.72	88.82	90.92	93.01	95.11	97.21
11	25	10	39.61	45.12	45.61	53.52	65.98	67.75	64.14	64.80	63.99	76.43	72.14	70.03	71.29	73.96	82.11	83.67	85.22	86.78	88.33	89.89	91.57	93.25	94.94	96.62	98.30

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	25	11	39.65	45.12	45.61	53.52	64.93	67.06	63.77	64.98	63.61	76.60	71.87	69.57	71.38	74.16	82.11	83.65	85.19	86.72	88.26	89.80	91.52	93.25	94.97	96.70	98.42
11	25	12	38.18	44.44	44.47	51.75	63.96	66.83	63.56	64.80	63.08	75.36	71.13	67.91	71.05	74.09	81.56	82.99	84.42	85.86	87.29	88.72	90.72	92.73	94.73	96.74	98.74
11	25	13	36.08	43.49	44.47	51.37	63.70	65.41	62.86	64.79	63.04	74.59	71.58	66.54	70.40	73.20	80.49	82.14	83.78	85.43	87.07	88.72	90.33	91.95	93.56	95.18	96.79
11	25	14	34.28	42.01	42.72	51.29	63.39	64.05	62.44	64.05	62.69	73.59	70.78	65.83	69.80	71.66	79.86	81.63	83.40	85.16	86.93	88.70	90.28	91.86	93.44	95.02	96.60
11	25	15	33.00	41.54	41.87	51.16	61.53	63.57	62.26	62.54	62.52	73.31	70.60	64.66	69.05	71.65	79.80	81.37	82.95	84.52	86.10	87.67	89.27	90.88	92.48	94.09	95.69
11	25	16	32.48	41.52	42.09	51.22	61.17	63.26	62.24	62.48	62.52	73.36	70.60	64.03	68.85	71.66	79.72	81.30	82.88	84.47	86.05	87.63	89.67	91.71	93.74	95.78	97.82
11	25	17	33.37	43.49	46.46	51.86	62.97	64.95	63.26	63.57	63.61	75.36	71.15	64.32	70.13	74.16	81.56	83.03	84.50	85.98	87.45	88.92	91.16	93.39	95.63	97.86	100.10
11	25	18	36.69	48.28	49.61	56.75	70.69	70.51	65.46	67.61	67.87	77.67	76.18	67.65	72.04	78.46	83.96	85.91	87.86	89.80	91.75	93.70	95.96	98.22	100.49	102.75	105.01
11	25	19	38.82	50.19	50.75	60.39	93.60	103.75	65.92	73.80	69.70	81.49	123.69	68.45	72.79	81.08	89.82	90.89	91.96	93.04	94.11	95.18	97.86	100.54	103.21	105.89	108.57
11	25	20	38.31	48.66	49.62	60.17	70.97	82.24	65.08	68.08	69.90	82.76	83.85	68.21	72.04	78.48	91.23	92.02	92.81	93.60	94.39	95.18	97.30	99.42	101.54	103.66	105.78
11	25	21	37.98	46.10	48.82	56.88	65.82	70.17	64.14	66.28	67.87	77.52	74.90	67.84	71.93	76.16	83.35	85.28	87.21	89.13	91.06	92.99	94.81	96.63	98.45	100.27	102.09
11	25	22	36.35	44.44	47.34	53.52	64.54	67.56	63.04	64.23	65.42	75.36	72.75	66.46	70.75	73.80	82.11	83.99	85.86	87.74	89.61	91.49	93.15	94.81	96.47	98.13	99.79
11	25	23	35.58	41.12	44.66	50.08	61.53	66.27	63.69	62.48	64.38	72.95	71.40	66.53	69.05	71.65	79.97	81.66	83.35	85.05	86.74	88.43	89.86	91.28	92.71	94.13	95.56
11	25	24	33.14	36.61	40.91	41.95	58.98	61.56	59.18	59.21	60.90	66.06	66.73	64.77	67.52	69.80	74.81	76.51	78.21	79.90	81.60	83.30	85.24	87.18	89.13	91.07	93.01
11	26	1	30.77	33.88	38.03	37.54	56.40	59.21	57.10	57.65	58.51	62.06	62.63	62.60	65.12	66.60	69.84	71.55	73.27	74.98	76.70	78.41	80.69	82.97	85.25	87.53	89.81
11	26	2	29.96	33.40	37.13	36.94	55.07	55.60	55.79	56.53	57.73	61.54	60.45	60.48	63.24	64.55	68.96	70.82	72.68	74.54	76.40	78.26	80.23	82.20	84.16	86.13	88.10
11	26	3	29.35	33.27	37.04	36.65	54.72	54.39	55.00	54.69	57.53	61.54	58.60	60.12	63.09	63.20	68.80	70.57	72.34	74.10	75.87	77.64	79.22	80.80	82.37	83.95	85.53
11	26	4	29.37	33.27	37.59	36.97	54.76	54.00	55.24	54.64	58.47	61.54	57.77	60.31	63.09	62.99	68.98	70.94	72.91	74.87	76.84	78.80	80.04	81.29	82.53	83.78	85.02
11	26	5	30.56	33.40	38.80	38.24	55.98	54.67	56.00	54.76	60.57	62.65	58.21	61.67	64.15	63.07	70.87	72.63	74.40	76.16	77.93	79.69	80.81	81.92	83.04	84.15	85.27
11	26	6	33.42	34.75	44.19	45.91	58.58	57.47	57.31	56.31	65.87	67.08	60.62	65.44	66.29	64.75	76.83	77.75	78.68	79.60	80.53	81.45	82.71	83.97	85.24	86.50	87.76
11	26	7	36.30	36.95	51.77	52.44	62.97	56.67	58.71	57.28	72.58	73.42	61.48	66.88	67.64	66.33	83.38	84.56	85.74	86.93	88.11	89.29	89.33	89.37	89.42	89.46	89.50
11	26	8	38.98	40.68	54.98	56.88	68.21	58.29	61.23	59.38	74.58	77.53	65.21	69.21	68.73	69.23	85.30	87.48	89.66	91.84	94.02	96.20	95.55	94.89	94.24	93.58	92.93
11	26	9	40.02	44.21	55.82	56.88	67.73	59.84	62.26	62.14	76.23	77.52	65.78	69.84	70.09	71.67	83.05	85.76	88.47	91.17	93.88	96.59	96.31	96.03	95.76	95.48	95.20
11	26	10	41.23	46.48	55.75	55.86	66.22	61.81	62.93	62.94	74.35	77.09	68.88	70.55	71.41	72.23	82.78	85.46	88.13	90.81	93.48	96.16	96.45	96.75	97.04	97.34	97.63
11	26	11	42.68	46.86	55.16	55.86	65.07	61.00	63.94	63.01	74.35	76.81	67.06	70.69	72.02	73.10	82.17	84.98	87.78	90.59	93.39	96.20	96.70	97.20	97.70	98.20	98.70
11	26	12	42.10	46.48	54.90	53.52	63.81	60.87	63.94	62.43	73.18	76.37	65.76	70.42	71.41	72.92	82.11	84.73	87.35	89.98	92.60	95.22	95.43	95.63	95.84	96.04	96.25
11	26	13	39.72	46.47	53.97	51.94	63.07	60.16	62.61	62.48	72.62	75.11	64.89	69.78	70.51	73.16	82.10	83.82	85.54	87.25	88.97	90.69	91.75	92.80	93.86	94.91	95.97
11	26	14	39.14	42.01	53.03	51.53	61.86	57.31	62.21	62.23	72.58	74.59	63.58	69.17	69.05	72.24	81.81	83.58	85.35	87.12	88.89	90.66	91.67	92.68	93.69	94.70	95.71
11	26	15	38.22	41.37	52.24	50.94	60.99	57.00	61.45	61.67	72.35	73.81	62.18	69.07	68.73	71.72	80.49	82.33	84.17	86.00	87.84	89.68	90.89	92.09	93.30	94.50	95.71
11	26	16	38.01	41.74	52.73	50.90	60.70	56.74	61.78	61.97	72.58	73.81	61.78	68.56	68.73	72.22	79.86	82.03	84.19	86.36	88.52	90.69	91.82	92.94	94.07	95.19	96.32
11	26	17	39.70	45.25	54.59	52.30	61.53	56.98	64.43	63.14	72.90	73.43	62.19	69.78	70.09	74.29	82.10	84.16	86.22	88.28	90.34	92.40	93.62	94.84	96.06	97.28	98.50
11	26	18	48.44	48.70	56.59	59.41	68.06	58.91	69.01	65.99	78.15	79.34	65.44	73.54	74.10	77.29	84.59	87.33	90.08	92.82	95.57	98.31	99.33	100.34	101.36	102.37	103.39
11	26	19	49.41	58.19	59.07	72.04	79.47	60.46	72.02	67.17	89.12	82.08	65.49	73.30	78.00	79.59	89.46	91.48	93.50	95.52	97.54	99.56	100.33	101.09	101.86	102.62	103.39
11	26	20	48.35	52.11	57.85	62.57	68.18	60.53	69.95	66.99	88.34	79.87	65.47	72.31	73.95	78.10	89.20	92.55	95.90	99.26	102.61	105.96	105.75	105.54	105.33	105.12	104.91
11	26	21	44.30	47.60	56.59	59.11	66.57	60.46	66.03	66.34	77.01	78.52	65.42	71.11	71.84	76.05	87.57	89.50	91.42	93.35	95.27	97.20	98.44	99.68	100.91	102.15	103.39
11	26	22	41.46	44.17	54.92	55.86	65.25	59.55	64.69	64.80	74.24	76.81	64.73	70.01	71.29	74.34	82.17	84.58	86.99	89.41	91.82	94.23	95.68	97.13	98.58	100.03	101.48
11	26	23	37.87	40.09	52.07	51.63	61.29	60.05	61.45	62.48	71.42	74.51	63.84	69.51	68.73	72.23	82.04	83.17	84.29	85.42	86.54	87.67	89.69	91.71	93.74	95.76	97.78
11	26	24	34.16	35.64	44.10	47.29	59.36	58.53	57.80	60.41	64.88	71.21	61.58	66.39	67.46	71.22	78.67	79.25	79.83	80.42	81.00	81.58	84.02	86.46	88.89	91.33	93.77
11	27	1	32.95	33.18	38.72	39.54	56.69	55.60	56.08	57.65	58.35	64.10	59.89	63.81	64.25	67.75	72.93	73.95	74.96	75.98	76.99	78.01	80.48	82.96	85.43	87.91	90.38
11	27	2	31.68	31.88	38.07	38.77	52.72	53.55	54.72	57.37	57.71	62.93	58.27	62.78	62.12	66.60	72.31	73.28	74.25	75.23	76.20	77.17	79.65	82.13	84.60	87.08	89.56
11	27	3	31.46	31.25	37.95	38.74	50.79	53.08	54.12	57.31	57.57	63.71	57.74	62.35	61.14	66.39	72.31	73.25	74.19	75.14	76.08	77.02	79.52	82.03	84.53	87.04	89.54
11	27	4	31.55	30.94	38.04	39.32	49.82	53.29	54.08	57.65	57.69	63.89	57.94	62.60	60.73	66.85	73.21	74.00	74.79	75.59	76.38	77.17	79.87	82.57	85.26	87.96	90.66
11	27	5	32.24	31.14	38.78	41.53	50.44	53.88	54.33	59.71	59.85	66.10	58.79	63.34	61.09	68.22	76.03	76.57	77.12	77.66	78.21	78.75	81.43	84.12	86.80	89.49	92.17
11	27	6	32.95	32.22	46.85	50.10	53.52	59.35	55.11	62.38	66.99	73.13	61.11	63.75	62.70	72.12	82.11	82.12	82.14	82.15	82.17	82.18	84.88	87.58	90.29	92.99	95.69
11	27	7	35.00	33.80	54.26	54.25	54.22	58.18	55.86	70.69	73.42	76.92	64.45	66.19	64.10	79.92	86.35	87.36	88.37	89.38	90.39	91.40	93.52	95.64	97.77	99.89	102.01
11	27	8	37.50	36.71	56.59	60.39	55.95	60.62	58.29	73.44	76.61	88.22	65.84	67.45	66.41	82.93	96.89	96.83	96.77	96.70	96.64	96.58	98.65	100.73	102.80	104.88	106.95
11	27	9	40.43	40.16	56.69	61.51	57.06	60.98	60.94	73.44	76.61	82.76	67.15	70.26	68.73	82.61	92.26	93.12	93.99	94.85	95.72	96.58	98.59	100.60	102.60	104.61	106.62
11	27	10	44.35	42.01	56.59	59.40	58.55	61.56	61.53	73.31	76.39	80.93	68.29	71.78	69.05	81.89	89.83	91.10	92.38	93.65	94.93	96.20	97.89	99.58	101.26	102.95	104.64
11	27	11	44.71	42.01	56.21	57.26	58.84	62.02	61.75	73.44	75.79	79.07	68.81	71.48	69.28	82.56	89.79	91.06	92.33	93.59	94.86	96.13	97.93	99.73	101.54	103.34	105.14
11	27	12	44.35	40.83	55.75	56.89	58.55	61.55	61.36	71.17	74.35	77.49	68.33	70.69	68.83	81.40	83.84	85.86	87.88	89.90	91.92	93.94	96.01	98.08	100.14	102.21	104.28
11	27	13	42.49	40.78	54.77	55.91	57.29	61.00	61.63	71.17	72.62	76.72	67.12	69.99	68.83	79.97	83.43	85.09	86.76	88.42	90.09	91.75	94.26	96.76	99.27	101.77	104.28
11	27	14	39.30	40.15	54.52	53.58	55.13	60.71	61.52	70.67	72.58	75.24	66.80	69.51	68.76	79.29	82.93	84.48	86.03	87.59	89.14	90.69	93.36	96.04	98.71	101.39	104.06
11	27	15	37.98	39.60	53.98	53.23	54.88	60.40	59.89	69.29	72.58	74.80	66.74	68.11	68.55	78.75	82.10	83.29	84.49	85.68	86.88	88.07	90.90	93.73	96.56	99.39	102.22
11	27	16	38.33	39.81	53.82	52.23	54.72	59.99	60.74	70.41	72.58	74.80	66.55	69.07	68.73	80.10	82.10	83.22	84.34	85.47	86.59	87.71	90.83	93.95	97.06	100.18	103.30
11	27	17	42.48	42.02	55.75	53.52	55.09	61.00	62.21	71.45	74.15	76.15	67.56	70.59	69.87	81.40	82.93	84.60	86.26	87.93	89.59	91.26	94.02	96.78	99.55	102.31	105.07
11	27	18	46.46	47.26	59.63	60.39	57.00	63.28	66.88	75.94	78.27	82.76	70.36	74.51	73.19	84.92	92.06	93.35	94.64	95.93	97.22	98.51	100.34	102.16	103.99	105.81	107.64
11	27	19	52.29	52.15	60.45	94.75	58.19	64.01	71.07	91.85	83.93	149.04	70.54	76.62	74.02	91.65	154.87	144.25	133.64	123.02	112.41	101.79	103.35	104.90	106.46	108.01	109.57
11	27	20	49.41	51.21	59.41	68.25	58.01	63.17	69.98	79.03	78.75	85.63	70.36	75.55	73.80	86.10	98.99	99.07	99.16	99.24	99.33	99.41	101.49	103.57	105.66	107.74	109.82
11	27	21	45.33	48.70	58.87	60.39	58.19	62.35	66.96	75.38	78.27	80.93	69.56	73.30	73.03	84.70	91.23	92.55	93.88	95.20	96.53	97.85	99.84	101.82	103.81	105.79	107.78

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	27	22	42.41	45.80	56.59	56.91	57.55	61.19	64.50	73.09	76.28	77.35	68.03	70.59	71.38	81.40	86.47	88.40	90.34	92.27	94.21	96.14	97.74	99.34	100.93	102.53	104.13
11	27	23	37.49	40.81	53.52	52.40	58.04	61.56	62.02	70.67	72.86	75.36	65.76	68.23	69.27	78.36	82.10	84.54	86.98	89.42	91.86	94.30	95.49	96.68	97.87	99.06	100.25
11	27	24	33.74	36.85	48.26	47.81	56.53	59.84	59.03	62.79	67.78	69.66	63.84	65.94	67.69	71.69	77.53	79.09	80.65	82.21	83.77	85.33	87.28	89.23	91.19	93.14	95.09
11	28	1	30.41	33.84	40.77	38.33	52.39	57.55	57.01	58.94	62.29	63.24	61.27	63.42	64.17	67.71	70.89	72.90	74.91	76.91	78.92	80.93	82.88	84.84	86.79	88.75	90.70
11	28	2	29.49	33.40	39.42	36.98	51.44	56.11	56.35	58.12	61.13	61.46	60.32	61.72	63.70	66.65	69.82	71.91	74.01	76.10	78.20	80.29	82.16	84.03	85.91	87.78	89.65
11	28	3	28.98	33.27	39.88	35.75	51.09	54.50	56.38	57.89	61.98	59.08	60.10	60.61	64.01	66.13	68.49	71.01	73.52	76.04	78.55	81.07	82.77	84.46	86.16	87.85	89.55
11	28	4	28.93	33.60	40.77	36.01	51.25	54.81	57.09	58.03	62.81	59.08	60.11	60.31	64.25	66.49	68.32	70.93	73.55	76.16	78.78	81.39	83.03	84.66	86.30	87.93	89.57
11	28	5	29.15	35.09	43.53	37.54	52.23	57.00	58.89	59.63	65.44	60.21	60.87	60.38	65.58	68.20	69.29	71.81	74.32	76.84	79.35	81.87	83.85	85.83	87.80	89.78	91.76
11	28	6	30.14	41.26	51.27	40.77	56.28	59.43	63.31	64.38	72.54	64.17	61.95	62.07	71.22	74.03	74.22	76.88	79.54	82.19	84.85	87.51	89.34	91.17	93.00	94.83	96.66
11	28	7	31.69	51.49	56.32	51.51	56.59	60.52	70.00	72.51	77.62	72.95	64.04	63.51	75.70	81.15	82.93	86.14	89.34	92.55	95.75	98.96	99.61	100.26	100.90	101.55	102.20
11	28	8	34.93	56.13	60.26	56.88	58.12	61.79	71.85	75.20	84.30	77.04	64.64	64.82	76.90	82.99	85.67	89.81	93.95	98.10	102.24	106.38	106.88	107.38	107.88	108.38	108.88
11	28	9	37.03	56.31	59.24	56.87	58.79	62.63	72.11	75.31	85.48	76.03	65.76	67.51	77.55	82.72	85.38	89.50	93.61	97.73	101.84	105.96	106.54	107.13	107.71	108.30	108.88
11	28	10	38.31	56.13	58.87	56.89	59.23	63.81	71.41	75.31	80.66	77.00	67.41	69.16	77.62	82.68	83.47	87.11	90.74	94.38	98.01	101.65	103.01	104.36	105.72	107.07	108.43
11	28	11	37.98	56.13	58.28	55.86	59.52	64.12	71.41	75.15	79.98	76.82	68.31	69.21	77.94	82.56	83.63	86.79	89.94	93.10	96.25	99.41	100.84	102.27	103.71	105.14	106.57
11	28	12	37.19	55.48	57.13	53.58	59.09	63.44	70.57	73.45	77.44	75.24	68.02	68.56	77.28	81.42	83.04	85.92	88.81	91.69	94.58	97.46	99.00	100.53	102.07	103.60	105.14
11	28	13	37.18	52.40	56.59	51.81	59.09	62.57	70.57	72.66	76.61	73.75	66.78	68.32	75.71	79.72	82.78	85.51	88.24	90.98	93.71	96.44	98.01	99.57	101.14	102.70	104.27
11	28	14	36.38	50.21	56.32	51.14	58.98	61.56	70.24	72.62	76.39	73.02	65.50	67.03	75.70	78.99	82.10	84.86	87.62	90.37	93.13	95.89	97.47	99.05	100.64	102.22	103.80
11	28	15	36.08	49.61	55.28	50.72	58.37	61.00	69.96	71.17	74.87	72.55	65.19	66.56	75.70	78.45	81.40	83.98	86.56	89.15	91.73	94.31	95.84	97.37	98.90	100.43	101.96
11	28	16	36.30	49.97	54.93	50.40	57.63	61.19	70.16	71.17	74.61	72.59	65.76	66.56	75.95	78.39	81.39	83.97	86.55	89.14	91.72	94.30	95.69	97.08	98.46	99.85	101.24
11	28	17	38.88	53.55	56.21	53.58	58.56	62.57	70.89	73.09	75.69	73.13	69.42	69.52	77.94	80.40	82.93	85.57	88.21	90.86	93.50	96.14	97.54	98.94	100.33	101.73	103.13
11	28	18	45.08	59.37	60.46	61.00	60.49	67.55	73.63	75.95	82.80	79.08	72.62	73.54	80.86	83.94	90.35	92.43	94.51	96.59	98.67	100.75	102.49	104.22	105.96	107.69	109.43
11	28	19	49.32	60.88	116.49	68.25	61.17	76.53	94.55	81.71	131.79	83.21	74.95	75.06	91.00	89.92	98.93	105.97	113.00	120.04	127.07	134.11	130.25	126.39	122.52	118.66	114.80
11	28	20	48.85	59.91	67.63	58.94	60.49	68.88	76.96	80.19	88.09	80.93	73.57	74.54	82.06	84.67	87.98	90.91	93.85	96.78	99.72	102.65	104.32	105.98	107.65	109.31	110.98
11	28	21	46.46	57.22	59.63	57.26	59.60	66.03	73.40	77.41	80.17	77.67	71.56	72.77	80.70	84.67	84.89	87.79	90.70	93.60	96.51	99.41	101.41	103.42	105.42	107.43	109.43
11	28	22	42.48	54.34	56.96	55.86	58.87	63.19	71.76	75.13	76.88	74.55	68.48	70.59	77.55	83.48	83.80	86.28	88.76	91.24	93.72	96.20	98.46	100.73	102.99	105.26	107.52
11	28	23	37.87	50.26	53.72	51.94	59.09	61.43	69.75	72.68	74.91	73.31	65.13	69.51	75.71	82.56	82.00	83.93	85.85	87.78	89.70	91.63	94.36	97.09	99.83	102.56	105.29
11	28	24	34.06	40.67	48.26	42.77	57.67	59.65	63.13	67.43	67.60	66.59	62.63	66.39	71.39	76.95	74.82	76.42	78.02	79.62	81.22	82.82	85.88	88.93	91.99	95.04	98.10
11	29	1	32.08	34.10	39.39	37.58	54.03	57.60	57.44	60.84	59.62	60.97	60.55	63.76	67.39	71.15	70.18	71.85	73.52	75.20	76.87	78.54	81.52	84.50	87.47	90.45	93.43
11	29	2	31.40	33.59	37.87	36.29	53.09	55.46	56.66	60.20	57.61	58.16	58.94	62.77	64.34	69.61	68.07	69.97	71.87	73.76	75.66	77.56	80.47	83.37	86.28	89.18	92.09
11	29	3	31.00	33.43	36.53	34.62	52.95	53.22	56.45	60.35	57.05	57.53	57.97	62.60	64.39	70.46	66.16	68.24	70.32	72.41	74.49	76.57	79.83	83.08	86.34	89.59	92.85
11	29	4	32.11	33.85	36.19	34.56	53.23	53.08	56.64	60.65	56.72	57.28	57.78	63.06	65.52	70.96	65.96	68.18	70.39	72.61	74.82	77.04	80.30	83.56	86.82	90.08	93.34
11	29	5	34.04	35.46	36.86	36.10	53.67	53.16	58.72	62.44	58.00	58.44	57.99	65.06	67.58	73.14	66.92	69.16	71.41	73.65	75.90	78.14	81.46	84.78	88.10	91.42	94.74
11	29	6	38.99	43.26	40.98	39.92	55.13	55.46	66.19	71.00	63.92	63.25	59.51	70.96	71.46	79.26	72.31	73.91	75.51	77.11	78.71	80.31	84.34	88.37	92.39	96.42	100.45
11	29	7	48.28	53.16	52.08	49.95	56.53	56.78	71.64	74.89	72.61	69.50	60.71	74.05	77.66	85.42	79.45	81.17	82.90	84.62	86.35	88.07	92.18	96.28	100.39	104.49	108.60
11	29	8	52.36	57.22	56.16	53.56	58.90	60.54	73.62	80.60	77.41	73.46	63.67	76.72	80.70	102.99	82.69	85.39	88.09	90.80	93.50	96.20	99.34	102.48	105.62	108.76	111.90
11	29	9	52.06	57.46	56.59	54.20	60.10	60.58	74.75	78.66	77.74	75.10	65.43	76.72	80.70	91.05	83.47	86.02	88.57	91.11	93.66	96.21	98.98	101.75	104.53	107.30	110.07
11	29	10	51.89	56.31	56.91	53.82	62.61	61.00	76.40	80.28	77.40	75.36	67.15	76.32	83.08	87.89	83.39	86.05	88.70	91.36	94.01	96.67	99.25	101.83	104.41	106.99	109.57
11	29	11	52.49	56.13	56.59	53.82	61.92	61.16	73.51	79.35	76.52	74.45	67.93	76.20	81.43	85.19	82.78	85.46	88.15	90.83	93.52	96.20	98.80	101.40	104.01	106.61	109.21
11	29	12	51.58	54.69	56.03	52.04	61.17	61.00	72.28	76.52	74.32	73.87	67.23	76.02	80.32	84.67	81.49	84.05	86.61	89.18	91.74	94.30	96.80	99.30	101.81	104.31	106.81
11	29	13	50.76	53.80	55.75	51.00	60.23	60.91	71.92	75.57	73.23	73.31	67.23	75.63	79.91	82.72	81.13	83.69	86.25	88.82	91.38	93.94	96.41	98.87	101.34	103.80	106.27
11	29	14	50.72	53.52	52.59	50.37	59.49	60.66	71.79	75.13	72.57	72.95	66.77	74.96	78.89	82.56	80.24	82.13	84.02	85.90	87.79	89.68	92.99	96.29	99.60	102.90	106.21
11	29	15	50.47	51.96	51.13	49.69	59.36	60.40	71.56	72.66	71.38	72.92	65.49	74.04	77.44	80.95	79.86	81.59	83.32	85.06	86.79	88.52	91.87	95.21	98.56	101.90	105.25
11	29	16	50.47	51.85	50.94	49.14	59.31	60.46	71.56	72.66	71.07	70.40	65.49	75.23	75.71	80.75	78.97	80.85	82.72	84.60	86.47	88.35	91.61	94.87	98.12	101.38	104.64
11	29	17	51.58	54.69	54.75	50.60	60.15	61.56	72.04	74.07	73.21	72.95	68.21	76.14	80.16	82.56	80.24	82.46	84.68	86.89	89.11	91.33	94.18	97.03	99.88	102.73	105.58
11	29	18	53.96	59.65	59.49	57.26	65.12	65.89	80.30	79.69	78.55	76.86	71.90	78.12	84.65	88.05	84.44	87.04	89.65	92.25	94.86	97.46	100.20	102.94	105.69	108.43	111.17
11	29	19	65.04	60.36	59.97	66.01	69.98	67.60	97.26	135.11	87.77	77.53	72.82	94.94	93.48	129.90	84.72	87.98	91.24	94.49	97.75	101.01	108.39	115.77	123.14	130.52	137.90
11	29	20	55.29	59.80	59.47	60.39	66.45	67.29	86.35	83.14	78.92	76.59	72.70	80.58	83.52	88.94	84.44	87.46	90.49	93.51	96.54	99.56	101.70	103.85	105.99	108.14	110.28
11	29	21	53.21	59.37	57.64	56.89	62.18	65.86	78.21	79.83	77.38	75.41	71.40	76.94	83.52	85.78	84.28	86.92	89.55	92.19	94.82	97.46	99.88	102.30	104.71	107.13	109.55
11	29	22	51.88	56.20	56.21	53.51	60.78	63.07	73.71	75.13	75.07	74.45	68.71	75.85	82.47	82.76	82.11	84.90	87.69	90.47	93.26	96.05	98.53	101.01	103.48	105.96	108.44
11	29	23	48.41	53.26	51.89	51.23	58.58	61.53	72.04	72.90	72.58	72.95	66.19	74.13	79.19	80.51	81.13	83.41	85.69	87.98	90.26	92.54	94.52	96.50	98.47	100.45	102.43
11	29	24	38.93	43.86	43.86	45.96	57.67	59.92	68.62	67.05	65.44	65.42	64.04	69.99	74.78	74.10	74.84	76.42	78.00	79.57	81.15	82.73	85.33	87.93	90.52	93.12	95.72
11	30	1	33.46	37.48	38.05	38.67	53.81	58.33	61.26	60.55	58.34	62.01	61.58	64.17	69.80	68.76	70.92	72.50	74.07	75.65	77.22	78.80	81.38	83.96	86.55	89.13	91.71
11	30	2	32.78	35.72	35.59	37.80	52.16	57.38	59.97	57.99	56.56	60.21	61.58	62.60	67.90	66.71	70.17	71.63	73.08	74.54	75.99	77.45	79.94	82.43	84.91	87.40	89.89
11	30	3	32.49	36.15	34.37	37.08	51.42	57.83	60.60	57.48	55.74	58.76	61.26	62.33	69.28	66.12	68.26	69.80	71.33	72.87	74.40	75.94	78.55	81.15	83.76	86.36	88.97
11	30	4	33.14	36.95	34.39	37.01	51.40	57.75	61.47	57.05	55.78	59.32	61.83	62.78	69.87	65.38	68.32	69.80	71.27	72.75	74.22	75.70	78.31	80.92	83.53	86.14	88.75
11	30	5	35.61	40.24	35.59	37.62	51.41	60.05	65.50	57.89	56.81	60.78	62.91	65.52	71.33	66.77	70.46	71.75	73.03	74.32	75.60	76.89	79.47	82.06	84.64	87.23	89.81
11	30	6	42.37	49.38	39.57	39.79	52.20	65.08	70.75	62.38	62.35	63.59	67.33	71.13	75.91	71.02	72.73	74.15	75.57	76.98	78.40	79.82	82.46	85.10	87.73	90.37	93.01
11	30	7	51.19	56.58	47.97	46.65	53.47	69.03	74.96	71.07	69.98	66.89	73.32	77.21	83.08	78.58	75.72	77.70	79.68	81.67	83.65	85.63	88.45	91.27	94.08	96.90	99.72
11	30	8	55.10	65.68	54.38	50.76	55.14	70.22	82.57	75.65	73.86	71.21	75.25	80.23	101.58	83.59	79.85	82.39	84.93	87.47	90.01	92.55	95.29	98.03	100.77	103.51	106.25

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
11	30	9	54.33	65.27	54.90	53.11	58.03	70.22	81.77	75.79	74.35	73.13	74.73	80.02	92.64	82.93	82.78	84.92	87.06	89.20	91.34	93.48	96.07	98.67	101.26	103.86	106.45
11	30	10	53.48	62.33	54.93	53.67	58.27	70.42	79.24	75.52	74.69	74.51	74.27	79.29	88.18	83.14	83.43	85.61	87.78	89.96	92.13	94.31	96.58	98.85	101.12	103.39	105.66
11	30	11	52.85	59.91	54.75	53.67	58.58	70.22	77.03	75.10	74.35	75.22	74.31	79.17	83.52	82.72	83.80	86.08	88.37	90.65	92.94	95.22	97.23	99.25	101.26	103.28	105.29
11	30	12	52.66	58.13	53.59	52.71	58.63	70.22	76.34	73.11	72.90	74.51	74.35	76.82	81.86	81.28	83.04	84.59	86.14	87.70	89.25	90.80	93.33	95.87	98.40	100.94	103.47
11	30	13	52.35	57.22	52.26	51.23	58.58	69.22	74.75	72.48	72.33	73.70	73.28	76.20	81.41	79.95	81.98	84.19	86.39	88.60	90.80	93.01	94.84	96.67	98.51	100.34	102.17
11	30	14	51.58	56.31	51.40	49.95	58.50	68.92	72.80	71.45	71.75	72.98	72.06	76.11	79.93	78.78	80.57	82.71	84.84	86.98	89.11	91.25	92.96	94.68	96.39	98.11	99.82
11	30	15	50.72	54.34	49.62	48.92	58.17	68.54	72.04	71.00	69.32	71.88	72.05	75.67	79.19	78.71	80.14	81.87	83.60	85.33	87.06	88.79	91.18	93.58	95.97	98.37	100.76
11	30	16	50.72	54.15	48.15	48.45	58.17	68.65	71.77	71.00	68.23	71.21	73.25	75.63	79.07	78.71	79.97	81.15	82.34	83.52	84.71	85.89	88.85	91.80	94.76	97.71	100.67
11	30	17	52.49	56.00	51.40	51.23	59.36	69.53	72.73	72.87	71.70	73.87	74.27	76.89	80.04	78.78	82.10	83.24	84.38	85.53	86.67	87.81	91.10	94.39	97.69	100.98	104.27
11	30	18	57.36	61.73	58.35	57.23	62.18	73.34	80.35	80.80	76.33	80.98	78.27	83.11	85.65	85.78	87.99	89.83	91.67	93.52	95.36	97.20	99.65	102.09	104.54	106.98	109.43
11	30	19	83.88	98.90	73.19	64.14	70.71	81.20	115.45	85.15	88.22	81.53	93.46	105.97	128.74	96.87	94.46	95.35	96.24	97.13	98.02	98.91	102.13	105.35	108.56	111.78	115.00
11	30	20	63.09	67.53	58.14	60.90	65.82	75.34	91.15	81.37	76.70	81.33	80.99	91.18	88.98	85.78	87.98	89.70	91.42	93.14	94.86	96.58	99.20	101.81	104.43	107.04	109.66
11	30	21	55.10	59.93	55.92	56.98	62.18	71.69	75.28	75.66	75.14	77.66	77.05	82.60	82.99	83.14	84.53	86.85	89.17	91.50	93.82	96.14	98.22	100.30	102.37	104.45	106.53
11	30	22	52.75	56.58	54.64	53.10	60.98	69.69	73.52	75.13	73.69	73.55	75.04	79.45	80.32	82.21	82.93	84.50	86.08	87.65	89.23	90.80	93.49	96.18	98.86	101.55	104.24
11	30	23	52.38	54.34	52.07	50.29	59.30	68.20	71.46	72.61	72.58	71.19	72.05	78.54	77.55	78.79	79.45	81.75	84.05	86.36	88.66	90.96	93.59	96.22	98.84	101.47	104.10
11	30	24	44.62	44.19	45.95	43.68	56.91	62.95	67.28	63.06	66.17	64.53	68.21	73.96	73.42	72.44	73.83	75.61	77.39	79.17	80.95	82.73	85.33	87.93	90.52	93.12	95.72
12	1	1	36.53	36.17	39.10	37.92	54.99	56.70	58.06	58.03	60.90	59.90	61.01	66.94	67.67	67.14	69.89	71.90	73.91	75.93	77.94	79.95	81.94	83.93	85.91	87.90	89.89
12	1	2	35.49	34.08	38.28	36.10	54.71	55.47	56.92	57.29	59.08	58.60	60.83	65.74	65.59	65.36	67.46	69.72	71.97	74.23	76.48	78.74	80.65	82.55	84.46	86.36	88.27
12	1	3	35.98	33.28	36.24	34.85	54.52	55.56	56.16	56.42	57.81	57.44	60.24	67.18	63.21	64.07	65.67	68.00	70.33	72.67	75.00	77.33	78.99	80.65	82.32	83.98	85.64
12	1	4	36.37	33.25	36.21	34.92	54.91	56.44	55.38	56.33	58.03	57.62	60.66	67.96	63.04	63.91	65.60	68.06	70.51	72.97	75.42	77.88	79.42	80.96	82.51	84.05	85.59
12	1	5	38.01	34.69	38.28	35.01	55.07	57.32	56.92	57.33	59.45	57.75	62.92	69.99	64.19	65.04	65.30	68.03	70.76	73.49	76.22	78.95	80.49	82.03	83.56	85.10	86.64
12	1	6	44.25	40.31	40.38	36.53	60.00	63.02	61.27	61.42	63.00	59.84	67.30	73.94	68.00	68.26	67.57	70.21	72.85	75.48	78.12	80.76	82.85	84.93	87.02	89.10	91.19
12	1	7	50.68	48.86	44.99	38.58	66.75	66.97	68.31	66.88	67.57	61.49	72.04	78.31	74.78	73.93	69.30	72.18	75.07	77.95	80.84	83.72	86.27	88.82	91.38	93.93	96.48
12	1	8	53.48	53.93	49.62	43.81	69.30	69.64	71.46	71.16	70.02	64.59	75.74	83.28	77.46	78.75	72.93	76.04	79.14	82.25	85.35	88.46	90.97	93.49	96.00	98.52	101.03
12	1	9	53.50	54.49	51.16	49.95	69.74	69.64	71.52	71.16	72.21	67.99	76.42	82.60	77.77	78.71	77.49	80.82	84.15	87.47	90.80	94.13	95.75	97.37	98.98	100.60	102.22
12	1	10	53.21	55.45	52.26	49.54	68.66	69.48	71.23	71.16	72.31	68.02	76.00	82.18	77.95	78.77	80.49	83.33	86.17	89.02	91.86	94.70	96.52	98.34	100.16	101.98	103.80
12	1	11	52.86	54.69	52.72	50.10	67.89	69.06	70.08	71.26	72.33	68.00	75.52	80.50	77.94	79.00	77.50	80.86	84.22	87.57	90.93	94.29	96.19	98.09	100.00	101.90	103.80
12	1	12	52.75	54.30	52.07	48.45	67.00	69.00	69.49	70.81	72.19	67.20	74.07	79.45	77.21	78.35	77.07	80.48	83.89	87.29	90.70	94.11	95.71	97.31	98.92	100.52	102.12
12	1	13	52.35	51.31	50.76	46.97	65.70	68.92	69.49	70.67	70.53	66.85	73.80	78.52	75.95	78.71	76.83	79.60	82.37	85.15	87.92	90.69	92.89	95.09	97.28	99.48	101.68
12	1	14	51.54	49.49	49.62	45.91	64.90	68.79	68.22	70.05	68.48	66.76	72.91	77.57	75.70	78.16	76.83	79.08	81.33	83.57	85.82	88.07	90.69	93.31	95.92	98.54	101.16
12	1	15	50.68	48.65	48.14	42.93	63.34	67.48	67.87	68.25	68.01	65.69	72.04	76.18	75.70	76.37	75.84	78.07	80.30	82.53	84.76	86.99	89.61	92.22	94.84	97.45	100.07
12	1	16	50.53	48.65	47.97	43.58	64.66	67.20	67.87	66.06	68.01	65.79	72.01	76.18	75.70	74.37	76.06	78.20	80.35	82.49	84.64	86.78	89.30	91.81	94.33	96.84	99.36
12	1	17	51.58	52.52	50.76	50.10	66.72	69.03	69.49	69.44	69.53	69.23	74.05	76.78	77.44	76.38	78.58	81.00	83.42	85.85	88.27	90.69	92.80	94.91	97.02	99.13	101.24
12	1	18	55.11	59.32	58.02	56.03	69.25	72.14	71.64	77.11	73.94	75.72	77.47	82.18	80.81	84.40	86.39	88.34	90.29	92.24	94.19	96.14	98.15	100.17	102.18	104.20	106.21
12	1	19	78.22	63.89	59.27	63.80	71.36	76.08	77.72	83.57	75.80	79.83	84.22	124.09	85.84	89.31	92.89	93.36	93.82	94.29	94.75	95.22	98.32	101.41	104.51	107.60	110.70
12	1	20	56.74	59.58	56.82	63.15	69.74	75.09	71.64	76.96	78.74	78.38	80.78	82.18	80.03	83.06	93.99	94.24	94.48	94.73	94.97	95.22	97.53	99.84	102.15	104.46	106.77
12	1	21	53.69	56.31	54.59	59.70	67.98	72.14	70.58	73.09	73.69	77.04	77.31	81.22	77.95	79.72	87.38	88.75	90.12	91.49	92.86	94.23	96.61	99.00	101.38	103.77	106.15
12	1	22	52.66	55.17	52.62	55.44	66.75	69.73	70.58	70.73	72.62	73.76	75.83	76.94	76.48	78.68	83.43	85.18	86.93	88.67	90.42	92.17	94.59	97.01	99.42	101.84	104.26
12	1	23	50.53	52.40	49.82	50.40	65.02	69.73	69.47	71.00	69.26	71.70	74.65	76.04	75.70	78.78	81.12	82.20	83.28	84.35	85.43	86.51	89.55	92.60	95.64	98.69	101.73
12	1	24	41.94	42.20	43.42	47.72	59.65	65.06	62.04	63.75	63.67	66.25	69.99	71.49	71.33	72.22	77.35	78.35	79.35	80.34	81.34	82.34	84.98	87.62	90.25	92.89	95.53
12	2	1	35.02	34.79	38.91	37.69	57.41	59.65	56.80	59.07	58.92	61.72	64.70	66.53	66.07	68.11	70.26	72.19	74.12	76.06	77.99	79.92	82.27	84.62	86.96	89.31	91.66
12	2	2	32.75	33.26	37.61	36.89	55.15	57.65	55.99	57.60	57.42	60.22	63.50	63.44	64.33	66.60	69.14	70.94	72.73	74.53	76.32	78.12	80.48	82.84	85.20	87.56	89.92
12	2	3	32.09	32.62	35.44	36.06	54.54	58.44	55.31	57.44	56.05	60.07	64.71	62.06	62.95	65.83	68.67	70.04	71.41	72.78	74.15	75.52	78.29	81.07	83.84	86.62	89.39
12	2	4	31.58	32.88	35.23	36.68	54.89	60.09	55.24	57.59	56.13	60.21	65.07	61.94	63.09	66.29	68.79	70.18	71.57	72.97	74.36	75.75	78.51	81.27	84.03	86.79	89.55
12	2	5	33.19	33.93	35.34	37.49	57.50	62.71	56.07	58.13	56.55	61.49	66.94	62.99	64.18	66.77	70.18	71.31	72.43	73.56	74.68	75.81	78.65	81.50	84.34	87.19	90.03
12	2	6	37.85	38.72	37.47	43.40	61.24	66.64	60.25	61.14	58.18	66.15	72.04	67.82	67.57	69.60	76.58	76.93	77.28	77.63	77.98	78.33	81.20	84.07	86.93	89.80	92.67
12	2	7	45.88	47.67	39.45	52.04	66.97	70.36	64.89	64.80	60.79	71.79	76.01	72.67	71.58	73.85	82.98	82.40	81.82	81.24	80.66	80.08	83.21	86.34	89.46	92.59	95.72
12	2	8	51.16	52.40	43.72	53.67	70.47	79.90	68.69	70.44	64.59	74.31	85.92	76.18	75.70	78.47	84.28	83.76	83.23	82.71	82.18	81.66	85.34	89.02	92.69	96.37	100.05
12	2	9	51.87	52.88	48.15	53.67	69.98	77.92	68.69	72.48	69.05	73.87	85.48	76.00	75.70	78.78	84.54	84.65	84.76	84.86	84.97	85.08	89.07	93.06	97.06	101.05	105.04
12	2	10	52.06	52.88	49.13	52.81	69.30	75.38	68.92	73.10	69.71	73.74	78.62	76.32	75.70	79.92	83.29	83.99	84.69	85.40	86.10	86.80	90.68	94.55	98.43	102.30	106.18
12	2	11	51.88	53.22	48.26	52.26	69.30	72.14	68.92	73.21	69.43	73.43	77.97	76.32	75.70	79.97	82.43	83.54	84.65	85.75	86.86	87.97	91.61	95.26	98.90	102.55	106.19
12	2	12	50.89	51.94	47.97	51.53	67.92	70.65	68.21	72.69	68.87	72.95	77.40	76.04	75.70	80.12	82.18	83.08	83.98	84.87	85.77	86.67	90.46	94.26	98.05	101.85	105.64
12	2	13	50.34	51.11	47.80	50.43	68.76	70.20	67.99	71.18	67.73	69.95	76.42	75.85	75.70	78.77	81.32	82.21	83.11	84.00	84.90	85.79	89.47	93.15	96.82	100.50	104.18
12	2	14	47.75	50.33	46.88	49.95	66.80	69.56	67.21	71.17	67.14	69.46	75.51	74.14	75.01	78.77	81.03	81.87	82.72	83.56	84.41	85.25	88.58	91.91	95.23	98.56	101.89
12	2	15	45.02	47.83	45.11	47.67	65.83	69.03	66.05	69.82	66.39	67.40	74.05	73.43	73.98	78.68	79.61	80.44	81.28	82.11	82.95	83.78	87.04	90.31	93.57	96.84	100.10
12	2	16	44.72	47.67	45.25	48.91	66.07	69.03	64.90	69.81	66.38	67.99	73.47	73.10	73.11	78.15	81.76	82.14	82.51	82.89	83.26	83.64	86.91	90.18	93.45	96.72	99.99
12	2	17	49.07	49.61	48.99	51.25	67.46	69.62	66.83	71.18	68.48	72.95	74.80	76.00	74.11	78.77	82.18	83.34	84.50	85.65	86.81	87.97	91.19	94.42	97.64	100.87	104.09
12	2	18	54.33	54.67	54.00	57.55	70.47	78.10	73.63	77.13	73.17	74.49	79.05	81.90	80.81	85.78	84.59	86.90	89.21	91.52	93.83	96.14	98.80	101.45	104.11	106.76	109.42
12	2	19	57.42	67.23	57.15	76.02	73.05	143.38	77.65	79.16	84.05	78.79	123.66	87.02	85.04	82.90	98.07	100.27	102.47	104.66	106.86	109.06	108.39	107.73	107.06	106.40	105.73

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	2	20	53.54	56.20	57.15	65.42	71.50	84.81	70.60	75.38	82.54	80.48	80.14	79.93	80.04	82.56	89.80	93.26	96.71	100.17	103.62	107.08	106.80	106.51	106.23	105.94	105.66
12	2	21	52.63	54.47	55.99	55.77	70.47	74.99	69.41	73.71	78.48	76.05	76.77	78.63	76.66	82.20	84.38	87.42	90.45	93.49	96.52	99.56	100.71	101.85	103.00	104.14	105.29
12	2	22	51.48	53.30	52.62	52.71	69.30	71.05	68.31	71.82	73.69	72.95	75.78	76.65	75.70	78.77	83.02	85.24	87.46	89.69	91.91	94.13	96.06	98.00	99.93	101.87	103.80
12	2	23	46.59	51.58	49.62	51.53	67.91	69.73	68.14	69.02	71.24	71.21	73.22	75.67	75.70	76.94	81.71	83.32	84.93	86.55	88.16	89.77	91.67	93.58	95.48	97.39	99.29
12	2	24	38.31	42.37	45.72	43.06	63.15	64.87	62.05	63.00	66.61	64.62	67.96	70.55	71.46	71.78	75.70	77.12	78.55	79.97	81.40	82.82	85.23	87.64	90.04	92.45	94.86
12	3	1	32.69	35.64	37.58	37.44	58.28	59.89	57.44	58.76	58.54	60.21	62.75	64.71	67.18	67.97	69.76	71.92	74.08	76.24	78.40	80.56	82.45	84.34	86.23	88.12	90.01
12	3	2	30.74	34.11	36.19	35.98	58.03	57.97	56.68	57.48	57.63	59.08	60.74	62.63	65.65	66.33	68.67	70.88	73.09	75.30	77.51	79.72	81.49	83.26	85.03	86.80	88.57
12	3	3	30.13	33.85	35.83	35.52	58.09	56.10	56.40	57.24	57.30	58.73	59.62	62.23	64.74	65.13	68.21	70.42	72.63	74.83	77.04	79.25	80.84	82.43	84.03	85.62	87.21
12	3	4	30.13	33.82	36.13	35.40	58.50	55.46	56.64	57.39	57.89	58.88	59.43	62.54	64.93	65.13	68.40	70.60	72.80	75.01	77.21	79.41	80.97	82.53	84.08	85.64	87.20
12	3	5	31.51	34.11	37.53	36.92	60.07	56.74	57.01	57.65	60.49	60.43	60.86	62.78	65.60	65.21	70.36	72.35	74.34	76.33	78.32	80.31	81.73	83.14	84.56	85.97	87.39
12	3	6	36.01	37.79	42.63	40.97	63.37	60.98	59.42	58.57	65.37	63.44	64.76	66.12	68.20	66.52	72.81	74.83	76.85	78.86	80.88	82.90	84.08	85.26	86.43	87.61	88.79
12	3	7	43.15	43.26	51.66	50.65	68.92	66.88	62.59	61.06	71.33	69.89	70.59	70.55	71.46	68.72	80.79	82.84	84.90	86.95	89.01	91.06	91.07	91.08	91.10	91.11	91.12
12	3	8	48.58	49.57	54.83	52.81	70.88	69.73	67.73	64.73	73.94	73.03	75.32	73.77	75.37	70.80	83.68	86.26	88.84	91.42	94.00	96.58	95.89	95.20	94.51	93.82	93.13
12	3	9	49.59	52.95	54.93	53.11	71.18	69.68	69.88	68.01	74.35	73.03	74.91	74.98	77.94	74.50	83.39	86.03	88.67	91.31	93.95	96.59	96.58	96.57	96.56	96.55	96.54
12	3	10	50.52	55.81	54.15	53.11	70.76	69.73	69.73	68.76	73.72	72.74	74.58	74.98	79.19	76.48	83.17	85.77	88.37	90.96	93.56	96.16	96.73	97.30	97.88	98.45	99.02
12	3	11	50.53	55.67	53.96	52.81	70.02	69.54	69.82	68.25	72.90	71.19	73.69	75.36	79.19	76.63	82.42	84.72	87.02	89.33	91.63	93.93	94.99	96.05	97.12	98.18	99.24
12	3	12	48.25	53.07	52.07	51.22	69.35	69.06	69.49	66.33	71.96	69.83	72.56	73.69	79.18	75.75	82.10	83.67	85.24	86.80	88.37	89.94	91.72	93.51	95.29	97.08	98.86
12	3	13	47.81	51.47	50.12	50.11	69.30	68.65	68.22	65.80	68.88	67.60	74.05	73.62	77.94	74.73	79.61	81.55	83.50	85.44	87.39	89.33	91.14	92.96	94.77	96.59	98.40
12	3	14	45.14	47.83	48.98	49.77	68.38	67.48	67.81	65.27	67.96	66.76	72.18	72.64	75.69	73.99	79.42	81.29	83.16	85.03	86.90	88.77	90.16	91.55	92.95	94.34	95.73
12	3	15	44.84	46.33	47.98	47.29	67.21	66.86	66.57	64.80	67.43	65.44	72.56	71.72	75.49	73.17	77.88	79.78	81.68	83.57	85.47	87.37	89.04	90.71	92.38	94.05	95.72
12	3	16	44.25	46.10	48.44	47.02	67.21	66.86	66.57	64.94	67.96	65.19	72.06	71.24	75.01	72.80	77.06	79.32	81.58	83.83	86.09	88.35	89.82	91.30	92.77	94.25	95.72
12	3	17	46.21	51.94	51.72	50.12	67.91	69.10	68.31	69.95	72.62	67.60	74.07	72.14	77.44	76.88	79.64	82.12	84.60	87.07	89.55	92.03	93.87	95.71	97.56	99.40	101.24
12	3	18	52.83	59.18	57.71	57.15	72.26	74.32	72.04	73.41	74.69	74.73	80.35	79.53	82.94	80.12	83.83	86.49	89.14	91.80	94.45	97.11	98.82	100.52	102.23	103.93	105.64
12	3	19	61.91	59.91	69.29	60.31	131.91	81.20	73.36	92.79	100.49	79.17	86.49	86.93	80.66	100.77	89.77	92.45	95.13	97.82	100.50	103.18	105.89	108.60	111.30	114.01	116.72
12	3	20	53.21	58.54	60.00	56.99	88.68	74.96	72.28	87.80	78.50	77.45	79.00	76.98	80.03	92.63	87.17	90.20	93.23	96.26	99.29	102.32	104.69	107.06	109.43	111.80	114.17
12	3	21	52.31	56.78	56.23	55.77	71.73	71.53	70.60	80.19	75.00	75.11	76.55	75.77	77.94	85.78	85.57	87.77	89.98	92.18	94.39	96.59	99.16	101.72	104.29	106.85	109.42
12	3	22	49.62	55.41	53.96	51.53	70.86	69.73	69.20	72.92	73.72	71.79	75.51	74.78	75.70	82.13	82.78	84.57	86.36	88.15	89.94	91.73	94.44	97.15	99.87	102.58	105.29
12	3	23	46.88	49.57	50.48	51.36	68.11	69.03	65.90	70.99	71.53	71.21	72.63	75.23	73.98	78.77	81.76	83.16	84.56	85.97	87.37	88.77	91.64	94.51	97.38	100.25	103.12
12	3	24	39.30	41.86	42.37	42.42	64.40	62.94	61.78	64.80	64.16	64.92	65.22	71.11	69.69	73.70	75.82	77.16	78.49	79.83	81.16	82.50	85.44	88.39	91.33	94.28	97.22
12	4	1	34.06	35.65	37.09	37.01	58.39	58.26	57.27	57.89	58.73	61.33	60.49	66.06	66.79	67.34	70.46	72.15	73.85	75.54	77.24	78.93	81.81	84.69	87.57	90.45	93.33
12	4	2	32.65	34.11	35.78	35.54	55.92	57.40	56.16	57.30	57.67	60.60	59.57	64.06	64.93	66.77	70.36	71.87	73.38	74.88	76.39	77.90	80.83	83.75	86.68	89.60	92.53
12	4	3	32.18	33.70	35.39	35.38	53.92	55.51	55.71	57.12	57.49	60.57	58.94	62.78	64.19	66.71	70.15	71.57	72.99	74.42	75.84	77.26	80.28	83.29	86.31	89.32	92.34
12	4	4	32.18	33.64	35.47	36.04	53.23	56.19	55.71	57.47	57.57	60.77	58.99	63.06	64.17	67.57	70.56	71.81	73.06	74.32	75.57	76.82	80.00	83.18	86.37	89.55	92.73
12	4	5	33.12	33.85	36.69	37.83	54.62	57.38	56.00	59.03	58.62	61.72	60.21	64.03	64.34	68.25	71.40	72.70	74.00	75.30	76.60	77.90	81.00	84.11	87.21	90.32	93.42
12	4	6	35.98	34.34	41.07	45.91	59.14	60.98	57.01	63.66	64.29	64.91	63.37	66.47	65.82	72.59	77.00	77.70	78.41	79.11	79.82	80.52	83.61	86.70	89.79	92.88	95.97
12	4	7	40.25	36.86	50.62	51.98	65.20	64.91	58.95	69.44	71.24	72.86	68.47	70.55	67.40	78.76	84.42	85.08	85.74	86.39	87.05	87.71	91.23	94.74	98.26	101.77	105.29
12	4	8	45.15	42.02	52.73	54.40	68.66	68.63	62.18	72.48	73.94	75.36	72.86	73.43	69.48	80.33	86.57	88.28	89.98	91.69	93.39	95.10	97.52	99.94	102.36	104.78	107.20
12	4	9	48.56	48.02	53.32	54.30	68.80	69.46	65.05	72.90	74.15	75.36	74.05	76.00	71.55	79.92	85.79	87.40	89.01	90.62	92.23	93.84	96.54	99.23	101.93	104.62	107.32
12	4	10	49.62	48.81	52.63	53.82	68.80	69.10	65.70	72.48	73.77	75.11	74.38	76.73	73.37	79.49	84.75	86.14	87.53	88.92	90.31	91.70	94.60	97.50	100.41	103.31	106.21
12	4	11	50.53	48.40	51.85	53.51	68.80	69.06	65.12	71.00	73.31	74.49	74.47	77.73	73.29	78.78	82.78	84.48	86.17	87.87	89.56	91.26	93.70	96.14	98.59	101.03	103.47
12	4	12	49.19	46.41	50.12	51.72	68.66	67.82	63.97	69.69	71.70	73.87	72.06	77.24	71.46	76.98	82.76	83.90	85.04	86.18	87.32	88.46	91.33	94.20	97.06	99.93	102.80
12	4	13	47.42	44.81	48.15	51.10	67.89	67.17	63.57	66.83	69.63	73.13	72.06	76.04	71.46	74.74	82.09	83.17	84.24	85.32	86.39	87.47	89.99	92.51	95.03	97.55	100.07
12	4	14	44.76	43.26	47.80	50.84	67.32	66.29	63.31	66.29	67.72	72.95	71.71	75.23	71.20	74.68	82.09	82.94	83.79	84.64	85.49	86.34	89.00	91.66	94.31	96.97	99.63
12	4	15	42.64	41.35	46.54	50.12	66.86	64.32	62.25	65.22	66.41	71.89	69.90	74.04	70.99	74.03	82.09	82.64	83.19	83.75	84.30	84.85	87.73	90.62	93.50	96.39	99.27
12	4	16	42.64	41.75	46.47	50.17	66.80	64.05	62.51	66.18	66.39	72.30	68.10	73.90	70.82	74.68	82.09	82.66	83.23	83.79	84.36	84.93	87.75	90.57	93.38	96.20	99.02
12	4	17	46.18	48.65	49.35	51.75	68.13	65.10	66.93	69.86	69.32	72.95	70.27	76.04	73.57	78.57	82.09	83.23	84.38	85.52	86.67	87.81	90.94	94.08	97.21	100.35	103.48
12	4	18	53.96	55.10	55.90	57.57	71.52	73.80	71.52	74.62	73.94	77.35	78.34	79.93	79.93	80.58	88.54	89.88	91.22	92.55	93.89	95.23	98.13	101.04	103.94	106.85	109.75
12	4	19	60.64	67.68	58.42	72.52	73.14	84.42	78.63	92.97	78.55	94.48	81.94	81.36	95.31	104.80	108.04	106.51	104.98	103.45	101.92	100.39	105.16	109.94	114.71	119.49	124.26
12	4	20	52.67	64.03	58.22	61.51	72.29	70.99	76.47	75.10	76.96	80.26	76.42	79.39	90.14	81.75	91.08	92.61	94.14	95.67	97.20	98.73	101.28	103.83	106.37	108.92	111.47
12	4	21	51.68	60.37	56.56	56.89	70.86	69.27	74.68	72.70	73.32	77.46	75.32	77.32	81.05	80.22	87.97	89.42	90.87	92.33	93.78	95.23	97.46	99.69	101.92	104.15	106.38
12	4	22	48.75	56.16	52.85	53.67	68.80	68.14	70.60	71.00	72.62	74.51	72.06	75.36	77.76	78.71	83.84	85.89	87.95	90.00	92.06	94.11	96.05	97.99	99.94	101.88	103.82
12	4	23	45.22	51.58	51.13	52.85	67.84	68.86	67.87	68.95	70.70	74.80	72.06	74.04	75.54	77.15	83.68	84.56	85.44	86.33	87.21	88.09	91.13	94.16	97.20	100.23	103.27
12	4	24	38.02	43.90	42.69	48.45	61.68	62.95	62.99	62.68	63.97	70.22	65.13	69.23	71.46	70.35	79.70	80.31	80.91	81.52	82.12	82.73	85.13	87.53	89.94	92.34	94.74
12	5	1	33.27	35.09	37.52	38.47	56.73	57.38	57.17	57.47	59.47	62.19	61.35	64.71	67.30	67.99	71.70	72.98	74.26	75.53	76.81	78.09	80.77	83.44	86.12	88.79	91.47
12	5	2	32.33	33.98	36.19	37.66	55.07	56.74	56.52	56.84	58.35	60.44	60.40	63.34	66.38	66.77	70.95	72.23	73.51	74.78	76.06	77.34	79.75	82.16	84.58	86.99	89.40
12	5	3	31.61	33.87	35.75	37.43	53.25	56.46	56.22	56.61	58.44	60.98	59.78	62.89	66.09	66.62	69.28	70.95	72.62	74.28	75.95	77.62	79.90	82.19	84.47	86.76	89.04
12	5	4	31.54	33.98	36.33	37.68	52.99	56.42	56.44	56.69	59.23	60.54	60.21	62.78	66.71	66.69	69.34	71.10	72.86	74.62	76.38	78.14	80.28	82.42	84.57	86.71	88.85
12	5	5	31.55	34.35	38.34	39.57	54.85	56.71	57.37	57.39	61.11	62.68	61.22	62.89	67.33	67.78	71.32	72.74	74.17	75.59	77.02	78.44	80.61	82.78	84.95	87.12	89.29
12	5	6	32.34	40.60	45.36	47.72	58.66	59.42	62.59	62.28	66.04	68.60	64.23	64.29	71.46	70.93	78.59	79.13	79.67	80.20	80.74	81.28	83.63	85.97	88.32	90.66	93.01

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	5	7	34.94	50.85	52.40	52.73	63.17	62.67	67.09	68.76	73.49	74.86	67.17	65.91	75.91	75.96	85.30	86.40	87.49	88.59	89.68	90.78	92.30	93.82	95.35	96.87	98.39
12	5	8	38.70	55.70	55.90	56.69	67.97	66.66	70.57	71.97	76.19	77.15	72.02	70.41	81.53	79.92	88.33	89.71	91.09	92.48	93.86	95.24	96.97	98.70	100.44	102.17	103.90
12	5	9	44.70	55.70	55.90	56.88	68.49	69.70	71.60	71.91	75.91	78.61	73.86	71.82	82.80	79.95	89.79	90.62	91.45	92.27	93.10	93.93	95.92	97.92	99.91	101.91	103.90
12	5	10	45.66	55.48	54.93	55.77	68.80	70.22	70.59	72.04	75.65	77.66	74.27	73.90	80.02	79.44	88.18	89.65	91.12	92.59	94.06	95.53	97.20	98.88	100.55	102.23	103.90
12	5	11	45.29	54.81	54.43	55.50	68.80	69.73	70.41	71.40	73.72	77.09	74.30	72.44	79.19	78.77	86.67	88.38	90.10	91.81	93.53	95.24	96.89	98.54	100.19	101.84	103.49
12	5	12	44.30	52.55	54.00	52.78	68.20	69.40	70.11	69.92	72.90	75.27	74.27	71.82	77.53	78.77	86.41	87.40	88.39	89.39	90.38	91.37	93.65	95.94	98.22	100.51	102.79
12	5	13	41.83	49.65	52.23	51.94	67.14	68.48	67.87	67.51	72.62	74.27	72.63	71.01	75.95	77.21	84.36	85.63	86.89	88.16	89.42	90.69	92.75	94.81	96.86	98.92	100.98
12	5	14	39.84	49.12	52.07	51.75	66.40	67.13	67.73	66.18	72.57	73.74	72.05	70.10	75.70	76.99	82.09	83.98	85.87	87.75	89.64	91.53	93.17	94.80	96.44	98.07	99.71
12	5	15	38.71	46.26	49.62	51.14	66.15	66.00	65.90	64.98	70.43	73.43	71.76	68.61	73.98	74.78	82.09	83.33	84.57	85.81	87.05	88.29	90.01	91.73	93.46	95.18	96.90
12	5	16	38.98	47.83	49.62	51.14	65.33	65.54	65.90	64.95	70.43	73.18	71.30	68.39	74.59	74.50	82.09	83.36	84.63	85.89	87.16	88.43	90.11	91.78	93.46	95.13	96.81
12	5	17	45.14	51.90	53.97	52.73	67.40	68.86	68.36	67.45	72.58	73.87	72.63	72.02	76.01	76.38	86.42	87.50	88.58	89.66	90.74	91.82	93.69	95.56	97.42	99.29	101.16
12	5	18	53.05	56.35	59.71	63.92	72.24	71.37	74.45	73.71	76.74	81.44	77.63	77.95	82.80	83.98	90.97	92.47	93.98	95.48	96.99	98.49	100.12	101.76	103.39	105.03	106.66
12	5	19	63.09	88.13	68.56	101.27	91.89	72.14	96.20	78.91	92.16	142.97	75.38	99.17	106.95	86.41	170.43	157.00	143.57	130.13	116.70	103.27	104.57	105.87	107.17	108.47	109.77
12	5	20	60.95	56.31	62.84	73.84	71.40	71.53	74.37	76.96	77.38	86.42	75.34	93.83	83.75	84.26	109.23	107.01	104.80	102.58	100.37	98.15	100.43	102.70	104.98	107.25	109.53
12	5	21	56.74	55.67	57.65	60.19	70.85	70.22	72.05	73.44	76.66	80.92	75.24	85.26	80.32	82.20	91.08	92.25	93.41	94.58	95.74	96.91	98.78	100.64	102.51	104.37	106.24
12	5	22	52.47	52.55	56.21	55.83	69.74	69.03	70.41	70.05	75.68	77.29	72.99	76.73	76.93	79.92	88.50	89.85	91.20	92.55	93.90	95.25	96.84	98.42	100.01	101.59	103.18
12	5	23	48.39	49.57	54.00	53.53	67.38	65.29	70.41	68.19	74.35	75.23	69.89	74.04	77.04	78.71	87.74	88.94	90.14	91.35	92.55	93.75	95.36	96.96	98.57	100.17	101.78
12	5	24	41.78	40.58	47.22	47.29	63.75	62.02	64.90	62.38	69.81	69.88	64.59	71.17	71.84	73.88	82.03	82.77	83.51	84.26	85.00	85.74	87.41	89.08	90.76	92.43	94.10
12	6	1	31.00	34.25	38.72	38.48	58.17	57.66	57.10	57.54	61.01	62.93	60.76	64.35	66.79	68.46	72.40	74.01	75.62	77.23	78.84	80.45	82.29	84.14	85.98	87.83	89.67
12	6	2	30.51	33.80	37.64	37.70	57.07	56.94	56.22	57.24	59.95	61.43	59.99	63.06	65.78	67.59	70.75	72.52	74.29	76.07	77.84	79.61	81.50	83.39	85.28	87.17	89.06
12	6	3	30.32	33.24	37.28	37.23	56.74	56.44	56.16	57.24	59.47	60.88	59.53	63.43	64.47	67.50	69.37	71.32	73.26	75.21	77.15	79.10	81.04	82.98	84.92	86.86	88.80
12	6	4	30.42	33.40	37.53	36.46	56.88	56.05	56.18	57.63	59.39	60.30	59.42	64.00	64.53	67.55	68.96	70.99	73.02	75.04	77.07	79.10	81.11	83.13	85.14	87.16	89.17
12	6	5	31.53	34.25	39.20	37.96	57.57	56.42	56.97	59.23	61.84	61.31	59.53	64.66	66.41	68.85	70.30	72.37	74.43	76.50	78.56	80.63	82.49	84.35	86.20	88.06	89.92
12	6	6	36.06	38.64	46.93	41.50	58.82	57.22	60.60	64.23	69.31	65.16	60.42	67.96	70.27	73.03	74.95	76.63	78.31	79.99	81.67	83.35	85.56	87.76	89.97	92.17	94.38
12	6	7	46.30	48.86	54.29	50.38	61.24	59.42	65.95	71.00	74.50	72.08	62.55	72.97	73.88	78.99	82.03	84.29	86.54	88.80	91.05	93.31	95.29	97.27	99.24	101.22	103.20
12	6	8	47.85	54.42	57.13	53.81	65.22	62.86	67.88	74.62	77.62	75.11	64.95	76.10	78.33	83.15	86.15	88.62	91.09	93.55	96.02	98.49	99.92	101.36	102.79	104.23	105.66
12	6	9	48.57	55.48	57.05	53.81	67.74	64.87	68.19	74.01	77.46	75.22	68.03	75.93	78.33	82.15	86.43	88.96	91.49	94.02	96.55	99.08	100.40	101.71	103.03	104.34	105.66
12	6	10	47.85	54.70	56.55	53.81	68.95	65.27	67.96	73.60	76.42	75.27	70.13	74.97	77.44	81.12	86.43	88.47	90.51	92.54	94.58	96.62	98.02	99.41	100.81	102.20	103.60
12	6	11	47.72	54.42	56.21	52.95	68.04	64.87	67.73	72.87	75.85	75.22	69.71	74.03	75.71	79.95	86.43	88.40	90.37	92.35	94.32	96.29	97.73	99.18	100.62	102.07	103.51
12	6	12	46.39	52.55	54.39	52.23	67.40	64.12	66.18	71.45	74.78	73.87	68.10	74.03	75.67	78.79	85.69	87.30	88.91	90.53	92.14	93.75	95.64	97.52	99.41	101.29	103.18
12	6	13	45.55	49.12	53.01	51.36	66.34	63.50	65.90	70.89	74.09	73.31	67.29	73.35	73.44	78.79	84.46	86.00	87.54	89.09	90.63	92.17	94.44	96.70	98.97	101.23	103.50
12	6	14	44.69	47.68	52.45	50.11	64.84	62.95	65.40	70.67	73.95	72.92	67.02	72.61	73.43	78.78	84.26	85.68	87.10	88.53	89.95	91.37	93.73	96.09	98.45	100.81	103.17
12	6	15	42.36	44.43	52.07	49.03	64.39	62.00	62.59	69.02	73.72	71.21	65.90	71.81	71.74	78.31	82.04	83.70	85.35	87.01	88.66	90.32	92.82	95.31	97.81	100.30	102.80
12	6	16	43.09	44.74	52.07	48.36	64.27	61.49	62.46	69.13	73.72	70.77	65.62	71.81	71.74	78.39	82.03	83.62	85.21	86.80	88.39	89.98	92.54	95.11	97.67	100.24	102.80
12	6	17	47.72	50.04	54.39	51.14	66.72	64.87	65.90	70.67	74.35	73.13	70.53	74.03	74.02	78.79	84.26	85.84	87.42	89.01	90.59	92.17	94.44	96.70	98.97	101.23	103.50
12	6	18	51.86	56.20	60.66	56.84	71.58	70.11	73.77	75.45	81.49	80.78	75.19	78.05	81.50	83.83	89.77	91.96	94.15	96.33	98.52	100.71	102.53	104.35	106.17	107.99	109.81
12	6	19	77.81	60.94	88.55	67.00	72.57	85.90	75.83	105.52	153.61	88.28	89.19	102.96	84.20	110.92	95.18	101.17	107.16	113.16	119.15	125.14	125.77	126.39	127.02	127.64	128.27
12	6	20	51.92	56.46	66.88	55.79	72.29	83.18	74.41	78.07	93.08	78.99	86.83	79.39	81.05	87.57	87.69	90.70	93.71	96.73	99.74	102.75	104.84	106.93	109.03	111.12	113.21
12	6	21	51.11	55.86	60.34	55.50	71.40	78.38	72.04	75.38	81.75	76.86	75.96	75.63	79.26	83.04	85.68	88.47	91.26	94.04	96.83	99.62	101.54	103.47	105.39	107.32	109.24
12	6	22	47.85	54.94	56.84	53.23	69.42	69.76	70.41	74.42	77.46	75.36	75.24	74.03	76.93	82.20	84.36	86.81	89.26	91.71	94.16	96.61	98.53	100.45	102.37	104.29	106.21
12	6	23	45.55	53.29	54.69	52.81	66.50	67.48	69.66	73.09	75.15	73.99	72.06	73.20	75.71	79.60	82.09	84.82	87.54	90.27	92.99	95.72	97.82	99.92	102.02	104.12	106.22
12	6	24	37.19	41.14	47.50	46.09	60.73	63.60	63.60	68.21	70.67	66.56	66.34	68.70	70.93	77.51	76.75	78.50	80.26	82.01	83.77	85.52	88.45	91.38	94.30	97.23	100.16
12	7	1	31.49	35.23	38.67	38.11	57.91	58.20	57.93	59.76	62.94	63.18	62.24	64.17	66.94	69.48	70.30	72.51	74.73	76.94	79.16	81.37	83.52	85.67	87.82	89.97	92.12
12	7	2	30.54	34.18	36.48	36.89	56.77	57.18	57.10	58.24	60.60	61.67	60.77	63.04	65.93	68.60	68.67	70.99	73.31	75.64	77.96	80.28	82.46	84.64	86.83	89.01	91.19
12	7	3	30.32	34.04	35.83	36.05	55.72	57.05	56.80	57.90	59.53	61.27	60.21	62.70	65.08	67.76	68.26	70.50	72.74	74.97	77.21	79.45	81.80	84.15	86.49	88.84	91.19
12	7	4	30.80	34.74	36.11	35.97	55.64	57.09	56.90	58.17	59.26	61.61	60.57	63.04	65.49	67.85	68.79	70.78	72.78	74.77	76.77	78.76	81.25	83.73	86.22	88.70	91.19
12	7	5	31.69	36.42	37.49	36.60	55.71	58.92	58.41	60.54	60.41	61.80	61.58	64.30	67.35	69.91	69.11	71.29	73.46	75.64	77.81	79.99	82.42	84.84	87.27	89.69	92.12
12	7	6	36.04	42.62	41.76	38.14	56.75	62.95	63.94	67.63	65.76	63.18	65.42	66.88	71.46	75.91	70.65	72.99	75.34	77.68	80.03	82.37	85.02	87.66	90.31	92.95	95.60
12	7	7	45.29	51.94	49.88	43.57	59.33	68.36	68.31	72.48	72.61	65.00	70.91	71.36	76.31	81.42	74.11	77.54	80.97	84.41	87.84	91.27	93.97	96.67	99.38	102.08	104.78
12	7	8	49.62	56.20	54.14	49.50	61.23	69.62	71.31	75.88	75.65	68.67	74.73	75.23	79.48	85.76	80.66	83.05	85.43	87.82	90.20	92.59	96.03	99.47	102.90	106.34	109.78
12	7	9	50.52	56.20	54.66	51.00	63.77	69.68	71.31	75.95	75.86	72.65	75.21	74.03	79.27	85.18	82.55	84.79	87.03	89.27	91.51	93.75	96.85	99.95	103.04	106.14	109.24
12	7	10	50.04	55.86	54.59	51.89	66.78	69.06	70.70	75.95	75.84	72.95	73.69	74.03	79.23	84.38	82.09	84.42	86.75	89.09	91.42	93.75	96.66	99.57	102.47	105.38	108.29
12	7	11	48.44	55.67	54.22	52.54	65.58	69.03	70.41	75.38	75.09	72.95	72.06	74.03	78.14	83.14	82.06	84.40	86.74	89.07	91.41	93.75	96.42	99.08	101.75	104.41	107.08
12	7	12	47.03	54.49	53.99	50.88	63.81	67.48	69.86	74.69	74.11	71.21	70.96	73.74	76.93	82.29	79.60	82.22	84.84	87.45	90.07	92.69	95.40	98.11	100.81	103.52	106.23
12	7	13	45.14	53.23	52.45	47.67	62.88	66.44	68.79	72.70	73.72	69.66	69.89	72.01	75.71	81.32	76.83	79.77	82.71	85.64	88.58	91.52	94.34	97.17	99.99	102.82	105.64
12	7	14	43.36	53.06	50.56	44.36	62.60	65.91	68.50	72.93	72.62	66.57	69.16	71.46	75.71	81.26	74.90	77.98	81.07	84.15	87.24	90.32	93.14	95.96	98.78	101.60	104.42
12	7	15	41.14	49.12	49.62	42.69	62.02	64.88	67.00	72.48	71.70	65.19	67.31	69.78	75.42	79.92	74.05	76.78	79.51	82.23	84.96	87.69	90.98	94.28	97.57	100.87	104.16
12	7	16	41.03	49.86	48.22	42.89	61.90	64.87	67.73	72.48	70.95	65.08	67.48	69.05	75.42	79.92	73.87	76.63	79.38	82.14	84.89	87.65	90.82	93.99	97.16	100.33	103.50
12	7	17	45.29	54.49	52.37	48.90	65.68	67.22	70.08	73.99	73.86	68.20	70.97	72.19	75.71	82.56	78.48	81.09	83.70	86.30	88.91	91.52	94.42	97.32	100.21	103.11	106.01

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	7	18	51.90	59.27	56.40	55.89	71.42	70.42	73.55	80.28	78.61	73.87	76.54	77.57	80.02	89.71	83.03	86.31	89.59	92.87	96.15	99.43	102.36	105.30	108.23	111.17	114.10
12	7	19	53.50	70.79	64.33	60.76	85.14	92.49	101.94	130.78	86.35	75.06	90.83	80.56	108.60	163.67	82.93	86.58	90.23	93.89	97.54	101.19	111.13	121.07	131.02	140.96	150.90
12	7	20	51.92	61.97	56.32	59.42	80.55	73.56	78.16	93.34	77.07	73.87	76.93	78.12	85.32	110.13	82.78	86.06	89.34	92.62	95.90	99.18	104.51	109.83	115.16	120.48	125.81
12	7	21	51.84	58.04	55.62	52.69	75.61	69.75	73.36	80.27	76.29	73.13	75.51	75.85	80.70	89.45	82.09	84.55	87.01	89.46	91.92	94.38	97.47	100.56	103.64	106.73	109.82
12	7	22	49.02	55.97	54.68	50.12	71.40	67.91	71.60	75.95	75.40	71.21	72.05	74.06	77.66	86.03	81.76	84.08	86.40	88.72	91.04	93.36	96.34	99.33	102.31	105.30	108.28
12	7	23	46.05	54.49	53.05	47.29	67.46	65.59	70.60	73.90	74.30	67.08	70.78	73.13	77.95	82.15	77.10	80.04	82.99	85.93	88.88	91.82	94.80	97.78	100.77	103.75	106.73
12	7	24	38.14	43.97	46.48	40.42	64.86	62.95	65.90	69.35	68.49	63.53	65.19	68.69	73.44	78.71	71.23	74.23	77.24	80.24	83.25	86.25	88.88	91.51	94.14	96.77	99.40
12	8	1	32.69	36.46	39.32	35.99	57.76	58.33	58.65	59.76	62.23	61.34	62.24	64.83	67.69	71.14	68.67	70.94	73.20	75.47	77.73	80.00	82.50	85.00	87.49	89.99	92.49
12	8	2	32.23	35.09	37.52	34.64	56.39	56.98	57.97	57.73	59.98	60.01	60.58	64.61	67.01	69.06	66.71	69.05	71.38	73.72	76.05	78.39	80.95	83.51	86.07	88.63	91.19
12	8	3	32.06	34.97	36.60	33.94	56.08	56.67	57.21	57.60	59.32	59.40	60.54	63.72	65.61	67.97	65.69	68.17	70.65	73.12	75.60	78.08	80.57	83.07	85.56	88.06	90.55
12	8	4	32.36	35.24	36.56	33.90	56.16	57.16	57.31	57.33	59.22	59.30	60.57	63.75	65.73	67.01	65.50	68.06	70.63	73.19	75.76	78.32	80.64	82.96	85.29	87.61	89.93
12	8	5	34.51	37.61	37.24	33.96	57.49	57.76	58.93	58.61	59.57	59.30	61.78	65.24	67.59	68.34	65.69	68.27	70.85	73.43	76.01	78.59	81.14	83.69	86.23	88.78	91.33
12	8	6	40.32	43.62	39.17	34.87	60.64	61.91	65.39	63.71	62.02	59.80	65.42	69.05	72.61	73.18	67.12	69.69	72.27	74.84	77.42	79.99	82.81	85.63	88.46	91.28	94.10
12	8	7	48.54	54.34	42.92	36.47	65.02	65.66	70.70	71.17	64.86	60.55	69.89	74.03	77.13	78.78	68.67	71.41	74.16	76.90	79.65	82.39	86.10	89.80	93.51	97.21	100.92
12	8	8	51.64	56.74	48.15	39.14	67.00	69.06	73.40	74.86	70.67	63.25	73.69	77.26	82.16	83.63	70.90	74.45	77.99	81.54	85.08	88.63	92.13	95.63	99.13	102.63	106.13
12	8	9	51.64	56.93	52.21	44.05	67.89	69.06	73.29	74.64	73.39	66.51	73.69	76.82	83.45	83.63	74.10	77.64	81.18	84.71	88.25	91.79	94.67	97.55	100.44	103.32	106.20
12	8	10	51.57	56.58	52.73	45.86	68.13	69.03	72.73	74.62	74.35	67.20	73.42	75.84	80.31	83.63	75.14	79.03	82.92	86.81	90.70	94.59	96.91	99.23	101.56	103.88	106.20
12	8	11	51.34	56.35	51.72	43.29	67.97	69.03	72.28	73.92	72.58	66.53	72.06	74.37	79.43	83.44	74.10	77.76	81.42	85.09	88.75	92.41	95.17	97.93	100.68	103.44	106.20
12	8	12	48.44	55.86	50.62	42.07	67.51	67.22	71.46	73.00	70.82	65.47	70.78	74.03	77.94	82.56	73.60	77.02	80.44	83.85	87.27	90.69	93.75	96.80	99.86	102.91	105.97
12	8	13	48.92	55.48	47.78	41.33	66.86	66.22	70.84	72.91	66.99	64.46	70.60	74.03	76.93	79.92	73.34	76.21	79.09	81.96	84.84	87.71	91.00	94.29	97.58	100.87	104.16
12	8	14	48.66	54.18	44.46	40.42	66.48	65.23	70.70	71.91	65.38	64.28	69.16	74.03	76.30	79.29	72.94	75.05	77.17	79.28	81.40	83.51	87.20	90.89	94.58	98.27	101.96
12	8	15	46.67	52.40	42.36	38.88	65.25	63.80	70.29	70.05	64.08	63.77	67.71	72.74	76.26	78.78	72.11	74.25	76.39	78.53	80.67	82.81	86.10	89.38	92.67	95.95	99.24
12	8	16	46.39	52.10	42.37	40.42	65.25	63.55	70.29	69.02	64.24	63.74	67.00	72.05	76.03	78.66	72.08	74.23	76.37	78.52	80.66	82.81	86.03	89.25	92.47	95.69	98.91
12	8	17	49.25	56.00	48.41	46.61	67.89	65.27	71.61	72.72	68.34	66.76	68.51	74.03	77.94	78.78	75.96	78.30	80.64	82.97	85.31	87.65	90.68	93.71	96.74	99.77	102.80
12	8	18	53.38	61.09	56.26	57.30	71.18	73.09	77.48	76.83	74.95	74.56	76.36	76.98	84.19	85.00	82.93	85.38	87.82	90.27	92.71	95.16	98.41	101.66	104.91	108.16	111.41
12	8	19	80.46	112.32	61.58	66.52	85.99	74.97	134.72	90.44	75.85	81.99	78.66	105.98	150.87	90.94	86.43	88.60	90.77	92.93	95.10	97.27	99.77	102.28	104.78	107.29	109.79
12	8	20	55.34	69.23	56.54	62.94	73.50	73.87	86.75	75.53	74.76	77.96	77.17	82.23	105.57	82.90	83.84	86.13	88.41	90.70	92.98	95.27	97.96	100.66	103.35	106.05	108.74
12	8	21	52.74	60.54	53.02	60.72	71.18	71.37	75.92	75.38	74.05	76.46	75.51	76.83	84.19	82.56	83.43	85.41	87.38	89.36	91.33	93.31	95.89	98.47	101.06	103.64	106.22
12	8	22	51.84	56.74	51.58	55.26	68.44	69.03	73.52	74.65	71.70	73.13	72.06	75.76	80.30	80.95	82.09	83.94	85.79	87.64	89.49	91.34	93.93	96.52	99.12	101.71	104.30
12	8	23	49.18	55.70	46.88	50.08	64.88	66.84	73.30	72.98	66.61	71.19	71.16	75.60	79.00	79.71	80.04	81.53	83.03	84.52	86.02	87.51	90.77	94.03	97.28	100.54	103.80
12	8	24	41.51	45.84	39.75	42.48	60.67	63.55	66.83	65.77	61.96	66.08	66.50	70.55	75.13	74.69	74.28	75.76	77.23	78.71	80.18	81.66	85.02	88.37	91.73	95.08	98.44
12	9	1	34.36	36.97	36.29	36.03	56.64	58.97	57.97	60.33	57.89	62.08	63.16	65.68	68.76	68.99	68.91	70.79	72.67	74.56	76.44	78.32	81.08	83.84	86.60	89.36	92.12
12	9	2	33.14	34.60	34.88	35.41	54.94	57.38	56.55	58.28	57.05	61.77	61.65	64.03	66.58	67.83	68.67	70.49	72.32	74.14	75.97	77.79	80.36	82.93	85.51	88.08	90.65
12	9	3	32.65	33.90	34.16	35.58	54.15	56.99	56.00	58.01	56.75	62.12	60.97	63.20	64.93	67.37	68.96	70.46	71.96	73.47	74.97	76.47	79.21	81.94	84.68	87.41	90.15
12	9	4	33.37	33.88	34.05	36.04	54.41	57.22	55.84	58.09	57.08	63.22	61.57	63.67	64.46	67.14	70.15	71.37	72.58	73.80	75.01	76.23	78.97	81.71	84.45	87.19	89.93
12	9	5	35.37	35.09	34.17	37.13	55.66	59.34	56.95	58.57	57.09	63.97	63.24	64.87	66.19	67.74	71.18	72.27	73.37	74.46	75.56	76.65	79.44	82.22	85.01	87.79	90.58
12	9	6	41.64	40.72	35.34	40.99	60.53	64.59	62.11	60.99	58.06	67.46	67.58	70.52	71.23	68.62	74.57	75.28	76.00	76.71	77.43	78.14	80.98	83.82	86.66	89.50	92.34
12	9	7	49.40	51.00	37.34	49.53	65.73	68.66	68.19	64.23	59.18	72.92	72.05	75.28	75.71	71.76	81.82	81.45	81.08	80.71	80.34	79.97	83.04	86.11	89.17	92.24	95.31
12	9	8	51.92	54.85	39.82	54.21	69.29	70.13	71.99	69.15	62.23	75.41	75.52	79.06	80.26	76.43	83.97	83.39	82.81	82.23	81.65	81.07	84.64	88.21	91.77	95.34	98.91
12	9	9	52.28	55.90	44.99	52.86	70.45	69.77	71.99	71.87	65.37	76.60	75.37	79.06	80.70	78.85	84.36	84.23	84.10	83.98	83.85	83.72	87.57	91.41	95.26	99.10	102.95
12	9	10	51.90	55.71	47.30	52.63	70.47	69.73	71.92	72.76	66.39	76.82	74.47	77.13	81.12	79.50	84.46	84.72	84.98	85.23	85.49	85.75	89.65	93.55	97.45	101.35	105.25
12	9	11	51.84	55.48	45.41	51.75	70.01	69.48	71.61	71.32	65.98	74.27	73.80	76.78	79.93	78.77	84.36	84.31	84.26	84.22	84.17	84.12	88.39	92.67	96.94	101.22	105.49
12	9	12	50.69	55.04	43.22	50.07	68.80	69.03	71.60	69.92	64.69	73.02	72.92	75.55	78.14	78.57	82.10	82.36	82.63	82.89	83.16	83.42	87.35	91.28	95.22	99.15	103.08
12	9	13	50.32	52.40	42.53	48.36	67.46	68.40	70.69	66.34	63.97	72.95	72.06	74.04	77.06	74.77	81.49	81.82	82.14	82.47	82.79	83.12	86.42	89.72	93.02	96.32	99.62
12	9	14	49.96	51.08	40.76	46.68	66.74	67.48	69.37	64.94	63.17	72.04	72.06	74.04	76.20	73.24	79.73	80.29	80.85	81.42	81.98	82.54	85.39	88.24	91.10	93.95	96.80
12	9	15	48.37	48.83	39.58	44.46	66.21	65.86	67.91	63.64	62.34	70.88	70.37	74.04	75.70	72.36	78.59	79.26	79.93	80.61	81.28	81.95	84.92	87.89	90.86	93.83	96.80
12	9	16	48.48	48.46	40.38	44.24	64.37	66.14	67.87	63.64	62.85	70.88	70.76	74.04	75.70	72.18	78.78	79.49	80.20	80.92	81.63	82.34	85.20	88.07	90.93	93.80	96.66
12	9	17	51.34	52.40	47.89	48.74	66.21	68.41	71.10	68.53	67.03	73.11	72.99	75.59	77.55	76.23	81.46	82.27	83.08	83.90	84.71	85.52	88.37	91.22	94.07	96.92	99.77
12	9	18	55.10	56.74	56.24	57.01	71.57	74.79	74.07	74.39	76.28	78.40	77.31	82.31	83.25	81.84	87.47	88.72	89.97	91.22	92.47	93.72	96.11	98.50	100.88	103.27	105.66
12	9	19	90.30	65.48	64.40	60.81	82.77	97.87	89.36	77.50	82.62	87.08	100.34	142.14	96.81	82.20	93.16	94.16	95.16	96.17	97.17	98.17	99.86	101.54	103.23	104.91	106.60
12	9	20	62.19	56.74	63.14	60.24	72.86	77.78	73.15	73.96	81.67	79.85	78.83	95.09	81.30	82.02	89.07	90.72	92.38	94.03	95.69	97.34	99.11	100.88	102.66	104.43	106.20
12	9	21	54.76	56.32	60.10	57.76	71.40	74.79	72.49	73.11	79.31	78.04	76.57	82.19	80.32	80.66	87.90	89.64	91.39	93.13	94.88	96.62	98.35	100.09	101.82	103.56	105.29
12	9	22	51.90	55.50	55.63	53.11	69.86	71.05	71.56	71.16	74.69	74.59	75.71	79.23	79.19	78.57	84.54	86.11	87.68	89.26	90.83	92.40	94.46	96.53	98.59	100.66	102.72
12	9	23	49.04	54.49	48.26	52.27	66.12	70.22	70.70	65.67	72.35	75.21	74.16	76.59	79.74	73.87	82.10	83.10	84.11	85.11	86.12	87.12	89.51	91.90	94.30	96.69	99.08
12	9	24	41.24	43.27	42.03	45.79	62.73	65.52	64.69	61.48	63.71	70.77	69.75	71.17	74.28	69.47	78.78	79.48	80.18	80.88	81.58	82.28	84.63	86.98	89.33	91.68	94.03
12	10	1	34.19	37.28	36.06	38.89	57.53	60.02	58.90	57.30	58.47	64.62	62.89	65.60	67.69	66.72	72.74	74.19	75.64	77.09	78.54	79.99	82.04	84.09	86.14	88.19	90.24
12	10	2	32.69	35.10	35.59	38.67	55.42	58.47	57.47	57.25	58.19	63.81	62.09	63.84	66.41	65.21	71.69	73.31	74.93	76.54	78.16	79.78	81.48	83.18	84.87	86.57	88.27
12	10	3	32.18	34.45	35.91	38.99	54.92	56.74	57.27	56.67	58.30	64.18	61.44	62.95	65.84	64.07	71.38	73.08	74.79	76.49	78.20	79.90	81.31	82.71	84.12	85.52	86.93
12	10	4	32.08	34.50	36.35	39.42	55.10	57.18	57.33	56.50	58.47	65.77	61.55	62.71	66.00	63.77	72.30	73.97	75.65	77.32	79.00	80.67	81.86	83.06	84.25	85.45	86.64

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	10	5	32.94	35.09	37.21	40.97	56.97	59.55	57.92	56.52	60.10	68.25	63.59	64.03	66.78	63.93	74.45	75.77	77.10	78.42	79.75	81.07	82.26	83.46	84.65	85.85	87.04
12	10	6	37.61	37.29	41.60	48.95	62.70	65.13	59.59	56.79	64.57	72.84	69.11	68.25	68.48	65.19	80.68	81.68	82.69	83.69	84.70	85.70	86.31	86.92	87.53	88.14	88.75
12	10	7	46.08	41.49	50.56	52.49	67.22	70.20	62.78	58.31	72.51	76.51	74.68	73.96	71.39	67.30	85.81	87.57	89.33	91.08	92.84	94.60	93.93	93.26	92.60	91.93	91.26
12	10	8	50.52	47.68	53.02	58.17	71.50	72.14	67.73	61.55	74.93	81.06	76.73	76.25	75.66	68.85	92.67	93.99	95.30	96.62	97.93	99.25	98.00	96.76	95.51	94.27	93.02
12	10	9	50.75	53.10	53.65	58.17	71.50	71.72	68.79	64.79	75.26	81.98	76.66	76.18	77.44	71.60	90.63	92.39	94.15	95.90	97.66	99.42	98.68	97.94	97.21	96.47	95.73
12	10	10	51.11	54.69	52.73	57.27	70.54	71.15	69.99	65.80	74.57	81.44	76.54	75.71	78.34	72.49	89.75	91.68	93.62	95.55	97.49	99.42	98.88	98.34	97.81	97.27	96.73
12	10	11	50.75	54.09	51.70	56.61	70.45	70.42	68.79	64.81	73.95	79.71	75.32	75.59	77.99	72.02	88.59	90.45	92.31	94.16	96.02	97.88	97.45	97.02	96.59	96.16	95.73
12	10	12	51.07	50.37	49.75	53.21	69.74	69.76	67.87	63.74	72.62	75.23	74.16	74.82	75.78	71.95	82.55	85.34	88.13	90.93	93.72	96.51	96.35	96.19	96.04	95.88	95.72
12	10	13	48.88	46.28	48.15	51.54	69.18	69.27	65.62	63.06	71.38	73.74	73.30	74.04	75.13	71.75	82.10	84.35	86.60	88.86	91.11	93.36	93.82	94.27	94.73	95.18	95.64
12	10	14	46.09	42.31	46.84	51.14	67.28	69.03	63.57	62.09	69.94	73.43	72.63	74.04	73.50	71.18	82.10	84.04	85.99	87.93	89.88	91.82	92.34	92.86	93.37	93.89	94.41
12	10	15	44.30	41.37	45.11	50.44	66.47	68.57	62.77	60.76	68.01	73.13	72.05	72.03	72.28	69.86	82.03	83.81	85.59	87.38	89.16	90.94	91.53	92.12	92.72	93.31	93.90
12	10	16	42.79	41.47	45.38	48.95	65.88	68.54	62.99	61.39	68.20	72.95	72.05	71.73	71.93	70.63	81.84	83.69	85.55	87.40	89.26	91.11	91.78	92.45	93.13	93.80	94.47
12	10	17	47.63	47.68	48.26	51.14	67.68	69.73	66.90	66.28	72.57	73.65	73.77	74.04	75.56	74.03	82.10	84.73	87.36	89.98	92.61	95.24	95.68	96.13	96.57	97.02	97.46
12	10	18	51.90	63.18	56.64	60.51	73.14	76.00	72.56	74.72	75.17	81.44	81.89	77.12	81.60	82.56	90.67	92.76	94.85	96.94	99.03	101.12	101.69	102.27	102.84	103.42	103.99
12	10	19	56.73	67.56	59.58	64.51	130.85	146.47	75.89	85.95	81.98	97.17	157.92	84.13	81.68	85.99	105.79	105.48	105.16	104.85	104.53	104.22	104.84	105.46	106.08	106.70	107.32
12	10	20	51.92	63.73	58.93	61.40	77.20	92.45	72.75	81.53	78.45	82.82	93.28	77.95	80.24	82.56	92.70	94.35	96.00	97.65	99.30	100.95	102.06	103.17	104.29	105.40	106.51
12	10	21	51.90	55.25	56.04	58.67	72.87	75.34	70.64	80.05	77.81	81.53	78.07	77.25	79.19	82.56	89.79	91.91	94.03	96.15	98.27	100.39	101.55	102.71	103.86	105.02	106.18
12	10	22	51.07	53.29	52.40	55.77	71.18	71.82	68.19	73.09	74.05	79.71	75.76	75.68	77.04	80.74	85.30	88.12	90.93	93.75	96.56	99.38	100.54	101.70	102.85	104.01	105.17
12	10	23	48.57	46.41	51.90	52.69	66.77	70.22	63.75	69.44	73.18	75.97	74.73	74.16	74.00	78.27	82.10	85.32	88.54	91.76	94.98	98.20	98.62	99.04	99.45	99.87	100.29
12	10	24	39.91	39.70	43.61	47.49	62.82	65.46	60.43	63.00	69.26	71.21	70.21	69.93	68.74	72.89	78.76	81.31	83.87	86.42	88.98	91.53	92.06	92.58	93.11	93.63	94.16
12	11	1	34.28	35.07	38.48	39.98	57.27	58.95	56.90	57.37	61.38	66.59	64.58	64.61	66.13	67.71	72.94	75.41	77.89	80.36	82.84	85.31	86.75	88.18	89.62	91.05	92.49
12	11	2	32.69	33.23	38.44	38.08	55.60	56.88	55.38	57.28	61.70	64.02	62.46	63.19	64.13	66.77	71.20	73.51	75.81	78.12	80.42	82.73	84.59	86.45	88.32	90.18	92.04
12	11	3	32.49	32.39	38.71	38.29	54.63	56.42	55.06	57.31	61.76	63.63	61.57	62.80	62.67	67.35	70.46	72.80	75.15	77.49	79.84	82.18	84.17	86.16	88.15	90.14	92.13
12	11	4	32.16	32.15	39.67	38.13	54.82	56.36	54.94	57.44	63.05	64.01	61.28	62.97	62.27	68.07	70.63	73.28	75.94	78.59	81.25	83.90	85.73	87.57	89.40	91.24	93.07
12	11	5	32.58	32.47	41.47	40.00	57.39	57.51	55.24	58.16	65.50	65.60	62.51	63.68	62.71	69.20	72.93	75.75	78.58	81.40	84.23	87.05	88.47	89.90	91.32	92.75	94.17
12	11	6	34.87	33.44	48.17	48.57	61.97	63.44	56.12	63.14	71.23	70.37	66.94	65.12	63.47	73.01	78.18	81.80	85.42	89.04	92.66	96.28	96.86	97.45	98.03	98.62	99.20
12	11	7	38.15	35.09	52.13	52.60	67.40	68.36	57.74	69.74	74.58	75.39	72.05	68.50	66.27	77.69	83.93	87.05	90.18	93.30	96.43	99.55	100.88	102.22	103.55	104.89	106.22
12	11	8	44.32	38.31	58.39	57.51	72.57	70.09	60.78	73.44	80.17	81.50	74.72	73.26	67.79	81.12	89.23	92.46	95.68	98.91	102.13	105.36	106.24	107.12	108.01	108.89	109.77
12	11	9	47.45	43.03	57.11	60.38	72.41	69.81	62.99	74.01	78.41	82.89	75.24	74.04	69.66	82.02	86.99	90.17	93.35	96.52	99.70	102.88	104.08	105.28	106.47	107.67	108.87
12	11	10	48.39	45.05	56.16	55.96	71.92	69.76	63.83	74.01	77.44	78.78	74.81	74.56	70.98	81.06	85.74	88.78	91.82	94.87	97.91	100.95	102.61	104.26	105.92	107.57	109.23
12	11	11	48.48	43.37	55.55	54.30	71.30	70.22	63.37	73.44	76.88	78.30	74.32	73.98	71.14	79.72	83.30	86.83	90.35	93.88	97.40	100.93	102.42	103.91	105.41	106.90	108.39
12	11	12	45.26	41.37	54.00	51.79	70.07	69.73	62.99	72.51	74.77	75.98	73.22	72.15	71.14	78.52	82.39	85.84	89.28	92.73	96.17	99.62	101.16	102.70	104.24	105.78	107.32
12	11	13	41.14	40.60	51.40	50.84	69.30	69.05	62.33	69.08	73.72	74.51	72.15	69.74	69.28	77.24	82.10	85.54	88.98	92.42	95.86	99.30	100.57	101.84	103.10	104.37	105.64
12	11	14	38.22	38.76	50.69	49.95	68.80	68.20	61.23	68.19	72.62	73.74	71.98	68.42	68.67	76.64	82.09	84.99	87.90	90.80	93.71	96.61	98.12	99.62	101.13	102.63	104.14
12	11	15	37.13	37.28	49.62	49.65	67.89	67.02	60.43	65.69	71.45	73.29	70.60	67.46	68.29	76.06	81.76	84.61	87.46	90.31	93.16	96.01	97.44	98.87	100.31	101.74	103.17
12	11	16	37.15	38.08	48.65	49.56	67.40	66.68	60.90	65.61	71.40	73.13	70.24	67.45	68.84	76.06	81.32	83.88	86.44	89.00	91.56	94.12	96.00	97.87	99.75	101.62	103.50
12	11	17	42.64	44.25	51.24	50.94	69.26	68.79	64.05	70.67	73.72	74.54	72.16	70.55	72.97	78.20	82.09	85.30	88.51	91.73	94.94	98.15	99.63	101.11	102.58	104.06	105.54
12	11	18	49.60	55.63	56.02	61.40	72.41	71.33	71.60	78.99	81.02	81.99	76.12	76.10	80.14	84.63	91.27	94.30	97.33	100.37	103.40	106.43	107.38	108.33	109.27	110.22	111.17
12	11	19	54.43	63.50	65.51	99.14	102.62	85.82	79.23	83.85	93.04	150.85	84.74	77.00	84.37	87.31	131.82	127.27	122.71	118.16	113.60	109.05	109.86	110.66	111.47	112.27	113.08
12	11	20	49.83	60.90	60.26	68.75	76.51	72.14	73.71	80.28	83.23	88.74	76.54	76.41	80.24	87.30	94.67	97.23	99.79	102.35	104.91	107.47	108.59	109.71	110.84	111.96	113.08
12	11	21	48.51	59.91	56.66	60.90	73.14	70.42	73.48	76.83	79.16	79.71	75.64	75.35	79.93	82.61	87.47	90.41	93.36	96.30	99.25	102.19	104.07	105.95	107.84	109.72	111.60
12	11	22	45.77	52.29	54.00	52.71	71.52	69.50	70.76	74.63	76.82	75.98	74.24	73.63	78.99	79.92	84.47	87.72	90.96	94.21	97.45	100.70	102.31	103.92	105.52	107.13	108.74
12	11	23	41.76	46.41	52.73	51.53	69.30	69.05	67.90	71.17	74.58	75.06	72.81	69.36	75.71	79.49	82.09	85.75	89.41	93.07	96.73	100.39	101.75	103.11	104.47	105.83	107.19
12	11	24	36.04	39.97	46.82	45.64	63.24	64.87	62.05	66.34	69.73	69.54	68.39	66.42	71.46	75.56	74.98	78.70	82.41	86.13	89.84	93.56	95.48	97.40	99.32	101.24	103.16
12	12	1	32.10	33.22	39.48	37.53	57.41	58.86	56.07	60.36	62.08	64.97	62.98	63.45	66.41	70.46	71.30	73.94	76.59	79.23	81.88	84.52	86.76	89.00	91.24	93.48	95.72
12	12	2	30.74	32.73	38.58	35.95	55.87	57.31	55.78	59.76	60.70	63.24	61.63	62.09	66.49	69.61	70.19	72.65	75.11	77.58	80.04	82.50	84.99	87.49	89.98	92.48	94.97
12	12	3	30.28	32.53	38.06	35.05	53.70	57.05	56.08	60.50	60.92	62.80	61.01	61.05	66.75	69.41	69.72	72.24	74.77	77.29	79.82	82.34	84.82	87.30	89.77	92.25	94.73
12	12	4	29.48	33.23	38.05	34.97	53.44	57.05	56.71	61.85	61.74	63.18	61.20	60.38	67.33	70.70	69.63	72.17	74.71	77.26	79.80	82.34	84.87	87.39	89.92	92.44	94.97
12	12	5	30.14	34.11	39.47	36.47	56.04	57.37	57.99	63.92	63.67	63.77	61.84	60.60	67.66	72.51	70.50	73.30	76.11	78.91	81.72	84.52	87.02	89.53	92.03	94.54	97.04
12	12	6	30.54	38.51	46.75	40.15	58.63	59.65	62.04	70.67	69.71	67.46	63.48	61.66	70.92	78.47	74.56	78.01	81.46	84.92	88.37	91.82	94.51	97.21	99.90	102.60	105.29
12	12	7	32.39	48.39	51.59	49.46	64.76	62.95	67.64	73.82	73.44	71.88	66.22	63.47	75.71	82.56	78.96	83.05	87.14	91.24	95.33	99.42	101.28	103.15	105.01	106.88	108.74
12	12	8	35.71	54.32	54.82	52.08	68.20	66.14	69.99	79.34	77.81	74.54	70.65	65.84	80.09	86.40	82.68	86.92	91.16	95.39	99.63	103.87	105.22	106.57	107.93	109.28	110.63
12	12	9	38.32	53.51	56.66	51.92	68.44	68.84	70.07	77.52	78.59	74.45	72.86	68.04	79.93	85.69	82.10	86.44	90.77	95.11	99.44	103.78	105.13	106.48	107.84	109.19	110.54
12	12	10	40.23	53.51	54.64	51.57	68.44	69.46	69.96	76.83	77.30	74.33	73.80	68.90	78.14	85.30	82.10	86.29	90.48	94.67	98.86	103.05	104.57	106.08	107.60	109.11	110.63
12	12	11	38.31	53.23	54.00	51.24	67.46	69.00	69.28	76.83	76.39	74.54	72.31	68.43	77.13	84.92	82.10	86.12	90.14	94.16	98.18	102.20	103.72	105.24	106.77	108.29	109.81
12	12	12	37.47	49.57	52.40	50.37	67.00	67.48	67.73	74.20	74.58	73.74	70.91	68.41	75.71	82.56	82.10	85.82	89.54	93.26	96.98	100.70	102.51	104.33	106.14	107.96	109.77
12	12	13	36.37	46.32	50.23	49.68	66.51	65.80	66.05	72.88	72.69	73.20	69.88	67.90	75.42	80.75	81.76	85.29	88.82	92.34	95.87	99.40	100.77	102.13	103.50	104.86	106.23
12	12	14	36.06	43.94	49.44	48.36	65.83	63.02	65.70	72.63	71.84	72.63	66.99	67.48	74.28	79.72	80.31	83.85	87.39	90.94	94.48	98.02	99.51	101.01	102.50	104.00	105.49
12	12	15	34.93	42.52	49.13	46.49	65.32	62.54	63.78	70.67	71.75	71.85	66.04	66.87	73.74	78.72	79.42	83.11	86.80	90.50	94.19	97.88	99.36	100.84	102.33	103.81	105.29

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	12	16	35.88	42.35	49.13	46.40	64.79	62.54	63.78	70.67	71.47	70.98	65.78	66.59	74.11	78.20	79.06	82.82	86.59	90.35	94.12	97.88	99.00	100.13	101.25	102.38	103.50
12	12	17	40.16	47.03	50.56	50.21	66.51	66.04	66.56	72.63	72.90	73.17	70.53	69.23	75.42	79.72	80.04	83.91	87.77	91.64	95.50	99.37	100.70	102.03	103.35	104.68	106.01
12	12	18	49.25	57.47	59.97	55.86	71.19	70.22	74.59	80.05	78.99	77.17	75.77	77.24	81.90	87.30	83.29	87.48	91.66	95.85	100.03	104.22	106.78	109.34	111.90	114.46	117.02
12	12	19	57.57	59.27	102.48	67.41	86.64	70.99	78.10	88.56	151.38	94.46	75.96	81.61	84.01	92.79	98.79	107.55	116.31	125.08	133.84	142.60	138.02	133.44	128.86	124.28	119.70
12	12	20	56.89	58.96	63.83	59.67	72.61	70.22	77.48	83.41	88.81	82.30	75.47	77.91	84.01	88.38	85.83	89.95	94.07	98.19	102.31	106.43	108.95	111.47	113.98	116.50	119.02
12	12	21	54.31	55.85	59.00	54.43	71.97	69.66	70.57	78.00	79.06	77.58	74.15	77.88	80.24	86.93	83.29	87.13	90.97	94.80	98.64	102.48	105.31	108.15	110.98	113.82	116.65
12	12	22	47.95	53.43	53.97	52.01	69.74	68.15	69.48	75.08	74.87	74.34	72.01	75.93	77.73	83.84	82.10	85.59	89.08	92.56	96.05	99.54	101.59	103.63	105.68	107.72	109.77
12	12	23	45.03	51.31	51.59	50.43	69.30	64.52	68.69	73.45	73.72	73.13	68.19	72.65	77.95	83.06	79.48	83.21	86.95	90.68	94.42	98.15	100.39	102.63	104.87	107.11	109.35
12	12	24	37.76	41.36	45.00	40.86	63.10	60.15	63.72	68.53	66.76	67.08	63.43	68.21	73.79	76.81	72.90	76.05	79.19	82.34	85.48	88.63	91.71	94.78	97.86	100.93	104.01
12	13	1	31.69	35.66	37.61	36.64	57.39	56.68	58.93	61.55	60.70	63.18	60.21	64.03	70.56	70.79	70.06	72.50	74.93	77.37	79.80	82.24	85.11	87.98	90.85	93.72	96.59
12	13	2	31.43	35.09	35.95	35.08	55.87	55.15	58.97	60.17	58.36	61.54	59.10	63.52	69.01	68.20	68.17	70.63	73.09	75.54	78.00	80.46	83.32	86.17	89.03	91.88	94.74
12	13	3	31.44	35.42	35.59	35.11	55.45	54.53	59.42	61.12	57.96	60.21	58.94	64.03	68.65	68.35	67.16	69.68	72.20	74.71	77.23	79.75	82.63	85.52	88.40	91.29	94.17
12	13	4	32.10	36.61	35.48	35.49	55.60	54.43	60.74	62.18	58.06	60.48	58.81	64.73	69.72	68.83	67.14	69.65	72.16	74.67	77.18	79.69	82.79	85.89	89.00	92.10	95.20
12	13	5	33.02	38.71	37.04	36.47	55.68	54.63	62.11	64.46	60.89	62.75	58.93	65.72	71.32	70.98	68.55	71.08	73.61	76.13	78.66	81.19	84.60	88.02	91.43	94.85	98.26
12	13	6	36.48	44.05	41.37	39.72	56.86	55.45	67.70	68.80	64.48	64.88	59.94	68.72	75.67	75.80	71.88	74.84	77.80	80.76	83.72	86.68	90.10	93.53	96.95	100.38	103.80
12	13	7	45.14	51.85	48.91	49.82	60.00	57.20	70.57	72.87	70.57	70.54	61.34	73.92	80.32	80.78	77.53	81.26	85.00	88.73	92.47	96.20	98.71	101.22	103.72	106.23	108.74
12	13	8	51.39	57.04	52.21	51.94	63.05	59.69	74.01	77.93	74.30	74.45	63.79	76.39	85.44	86.06	82.10	85.56	89.02	92.48	95.94	99.40	102.46	105.52	108.58	111.64	114.70
12	13	9	51.42	56.31	51.90	51.94	66.81	63.81	73.32	83.41	74.15	73.31	66.66	77.23	83.51	87.66	82.10	85.57	89.03	92.50	95.96	99.43	102.65	105.88	109.10	112.33	115.55
12	13	10	49.56	55.73	51.90	51.54	67.47	64.54	72.43	80.79	73.72	73.13	67.29	77.51	83.38	85.83	82.04	85.51	88.98	92.46	95.93	99.40	102.46	105.52	108.58	111.64	114.70
12	13	11	48.98	54.99	51.90	50.90	67.91	63.07	71.88	77.87	72.90	72.95	66.38	76.04	83.22	83.80	79.42	83.35	87.28	91.22	95.15	99.08	102.00	104.92	107.83	110.75	113.67
12	13	12	47.70	52.55	50.15	49.95	66.81	62.74	71.35	73.64	71.85	71.21	65.70	74.04	80.61	81.59	77.39	81.49	85.59	89.68	93.78	97.88	100.26	102.64	105.02	107.40	109.78
12	13	13	44.62	51.10	49.44	49.44	63.40	61.35	69.99	72.68	71.70	70.39	65.42	72.28	78.03	79.72	76.83	80.82	84.82	88.81	92.81	96.80	99.29	101.78	104.27	106.76	109.25
12	13	14	41.44	49.82	48.98	47.89	62.82	60.30	69.63	72.66	69.85	70.07	64.53	71.71	76.70	78.78	77.28	81.08	84.89	88.69	92.50	96.30	98.76	101.22	103.68	106.14	108.60
12	13	15	39.60	47.78	46.88	46.76	60.22	59.14	68.15	71.00	68.29	69.74	63.87	70.55	76.30	78.78	76.83	80.17	83.51	86.86	90.20	93.54	96.33	99.12	101.92	104.71	107.50
12	13	16	40.11	46.10	46.88	46.15	60.09	59.77	67.87	70.93	68.29	68.33	64.28	70.55	75.49	78.78	75.61	79.16	82.71	86.26	89.81	93.36	96.19	99.02	101.84	104.67	107.50
12	13	17	45.01	50.85	49.62	50.10	64.50	63.28	70.07	72.90	71.84	71.21	69.16	74.03	78.02	80.12	77.88	81.77	85.66	89.55	93.44	97.33	99.77	102.21	104.65	107.09	109.53
12	13	18	51.35	59.37	55.77	56.98	70.03	69.57	73.36	80.38	75.17	75.06	75.24	81.43	84.19	87.82	83.29	86.82	90.35	93.89	97.42	100.95	104.57	108.19	111.80	115.42	119.04
12	13	19	53.65	62.92	64.71	73.80	71.50	73.00	83.01	130.60	89.48	92.29	76.12	84.30	88.45	154.11	105.57	106.25	106.93	107.60	108.28	108.96	116.93	124.90	132.86	140.83	148.80
12	13	20	52.69	60.31	57.58	63.61	70.86	71.89	80.56	93.40	75.51	75.38	76.18	83.00	85.84	95.62	83.84	87.55	91.27	94.98	98.70	102.41	106.11	109.81	113.52	117.22	120.92
12	13	21	51.58	57.18	54.77	56.98	69.15	71.58	74.68	83.41	75.15	74.89	76.12	78.58	83.67	89.62	82.93	86.35	89.77	93.19	96.61	100.03	103.26	106.49	109.72	112.95	116.18
12	13	22	48.31	54.65	52.07	51.97	66.21	69.19	71.79	74.01	72.58	73.62	73.83	76.78	80.38	82.70	82.09	85.55	89.00	92.46	95.91	99.37	101.57	103.77	105.98	108.18	110.38
12	13	23	47.65	52.95	50.23	50.10	63.33	66.32	71.46	72.40	71.70	72.95	70.85	75.59	79.26	79.46	80.24	83.58	86.93	90.27	93.62	96.96	99.32	101.69	104.05	106.42	108.78
12	13	24	39.11	43.28	41.67	41.80	58.69	62.94	65.92	65.80	65.15	66.85	66.38	71.62	75.42	73.99	74.06	76.57	79.08	81.59	84.10	86.61	89.92	93.23	96.54	99.85	103.16
12	14	1	34.62	36.84	37.02	37.70	55.60	56.74	60.43	59.76	58.35	61.88	60.90	66.80	69.08	67.64	70.10	72.28	74.46	76.63	78.81	80.99	83.68	86.37	89.06	91.75	94.44
12	14	2	33.56	35.63	35.96	35.85	53.49	56.52	59.35	58.13	57.34	60.93	60.63	66.34	67.57	66.59	68.32	70.59	72.87	75.14	77.42	79.69	82.35	85.02	87.68	90.35	93.01
12	14	3	33.92	35.37	35.59	34.96	52.79	56.67	60.01	57.28	56.80	60.17	60.62	66.41	67.34	65.86	67.28	69.53	71.78	74.04	76.29	78.54	81.26	83.97	86.69	89.40	92.12
12	14	4	35.55	35.23	35.88	34.81	52.40	56.98	60.33	57.73	57.05	59.99	61.37	67.57	67.66	65.86	66.58	69.12	71.67	74.21	76.76	79.30	81.82	84.34	86.86	89.38	91.90
12	14	5	36.58	37.27	36.48	35.20	52.65	57.70	62.02	59.15	58.17	60.21	62.43	69.24	68.72	67.29	67.16	69.66	72.16	74.65	77.15	79.65	82.48	85.31	88.15	90.98	93.81
12	14	6	43.75	43.95	39.87	36.57	53.11	62.13	66.49	63.14	63.55	61.88	65.47	74.00	73.43	72.58	68.54	71.49	74.45	77.40	80.36	83.31	86.81	90.30	93.80	97.29	100.79
12	14	7	48.56	51.30	47.62	38.82	54.99	66.14	69.28	69.27	69.63	63.84	70.84	78.31	78.87	76.73	71.35	75.44	79.52	83.61	87.69	91.78	94.80	97.81	100.83	103.84	106.86
12	14	8	52.73	56.19	51.72	45.33	57.40	69.03	73.95	72.96	73.72	66.56	74.47	84.62	84.53	82.00	74.56	79.17	83.79	88.40	93.02	97.63	100.06	102.48	104.91	107.33	109.76
12	14	9	53.07	56.68	51.90	49.24	60.22	69.46	75.87	72.88	73.72	70.30	75.74	81.74	88.45	79.77	77.94	81.98	86.02	90.07	94.11	98.15	100.47	102.79	105.12	107.44	109.76
12	14	10	52.49	54.49	51.87	50.76	60.53	69.06	74.28	72.10	72.58	71.21	75.78	78.75	86.61	79.49	79.31	82.71	86.10	89.50	92.89	96.29	98.88	101.47	104.07	106.66	109.25
12	14	11	51.58	53.40	50.62	50.43	60.09	69.03	72.11	71.45	71.33	71.87	75.04	78.42	82.73	79.04	79.09	81.94	84.80	87.65	90.51	93.36	96.54	99.72	102.89	106.07	109.25
12	14	12	50.52	51.60	48.98	49.03	59.11	67.22	71.33	70.61	69.63	70.62	72.05	76.78	80.76	78.77	78.76	81.23	83.70	86.17	88.64	91.11	94.39	97.67	100.96	104.24	107.52
12	14	13	48.86	48.81	47.33	45.31	58.86	66.32	69.71	69.15	67.97	68.71	72.05	74.95	77.77	78.75	76.00	78.94	81.88	84.81	87.75	90.69	93.94	97.19	100.45	103.70	106.95
12	14	14	47.48	47.83	46.77	40.47	58.85	65.16	68.14	68.32	67.69	66.59	70.76	74.28	76.92	78.36	73.85	77.14	80.44	83.73	87.03	90.32	93.36	96.41	99.45	102.50	105.54
12	14	15	46.85	47.68	45.68	39.15	58.69	63.26	67.87	67.36	66.81	64.97	69.34	74.00	76.81	77.12	72.54	75.92	79.30	82.68	86.06	89.44	92.45	95.46	98.47	101.48	104.49
12	14	16	46.12	47.68	44.99	38.68	58.79	63.51	67.81	66.90	66.41	64.63	69.68	73.09	76.81	76.48	72.06	75.19	78.32	81.45	84.58	87.71	91.00	94.28	97.57	100.85	104.14
12	14	17	49.40	49.82	48.98	43.40	61.83	66.85	70.07	69.94	69.32	67.27	71.40	74.82	77.95	78.68	75.92	79.04	82.16	85.28	88.40	91.52	94.49	97.46	100.43	103.40	106.37
12	14	18	53.82	59.93	54.90	51.29	67.68	71.37	73.55	75.63	74.61	74.79	77.98	83.80	87.11	84.41	82.09	85.64	89.19	92.75	96.30	99.85	102.59	105.33	108.08	110.82	113.56
12	14	19	55.77	101.79	71.45	61.62	71.33	75.83	123.32	88.64	96.00	76.43	84.74	87.72	145.30	103.05	85.10	89.49	93.88	98.28	102.67	107.06	108.92	110.78	112.65	114.51	116.37
12	14	20	54.72	63.16	59.66	55.30	71.33	74.73	81.28	78.33	75.57	75.70	83.68	87.02	104.17	87.41	84.55	87.65	90.74	93.84	96.93	100.03	102.85	105.68	108.50	111.33	114.15
12	14	21	53.09	55.95	53.97	51.46	69.74	69.76	79.47	75.19	74.38	75.09	77.05	81.39	88.45	83.80	82.09	85.55	89.00	92.46	95.91	99.37	102.01	104.65	107.28	109.92	112.56
12	14	22	51.58	52.16	52.37	50.90	67.99	68.41	71.64	71.00	72.58	73.13	74.00	78.31	81.04	79.77	80.24	83.51	86.79	90.06	93.34	96.61	99.14	101.66	104.19	106.71	109.24
12	14	23	50.47	50.88	49.26	47.60	63.90	67.45	69.71	69.37	71.75	70.28	72.91	78.24	77.73	78.77	77.75	81.46	85.16	88.87	92.57	96.28	98.36	100.43	102.51	104.58	106.66
12	14	24	42.62	41.49	42.09	39.17	59.23	63.55	63.83	63.14	63.97	64.74	70.15	72.65	73.44	74.03	73.31	76.09	78.87	81.65	84.43	87.21	89.73	92.25	94.78	97.30	99.82
12	15	1	36.08	34.76	37.61	36.10	56.45	57.83	59.51	57.48	58.33	61.86	65.30	65.96	67.57	67.76	69.51	71.82	74.12	76.43	78.73	81.04	83.43	85.83	88.22	90.62	93.01
12	15	2	34.83	33.64	35.94	34.90	56.50	57.32	57.99	56.78	56.99	60.34	64.65	65.77	66.59	66.66	67.60	70.05	72.49	74.94	77.38	79.83	82.29	84.75	87.20	89.66	92.12

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	15	3	34.47	33.06	35.44	34.54	56.65	57.72	57.42	56.41	56.16	59.94	64.95	65.40	65.23	66.00	66.59	68.96	71.34	73.71	76.09	78.46	81.08	83.71	86.33	88.96	91.58
12	15	4	35.79	32.95	35.36	34.54	57.70	60.05	57.81	56.65	56.16	59.49	66.21	65.87	65.12	66.21	66.18	68.57	70.96	73.34	75.73	78.12	80.88	83.63	86.39	89.14	91.90
12	15	5	36.69	34.11	35.51	35.05	58.46	61.62	59.02	58.14	56.56	59.90	67.72	67.29	66.73	67.14	66.09	68.59	71.09	73.59	76.09	78.59	81.38	84.17	86.95	89.74	92.53
12	15	6	44.90	39.02	36.34	35.52	61.23	65.11	63.59	62.71	57.65	60.28	71.86	71.30	70.27	71.21	67.53	69.84	72.16	74.47	76.79	79.10	82.43	85.76	89.09	92.42	95.75
12	15	7	49.40	47.31	39.16	37.41	66.51	69.64	67.53	68.12	61.21	62.95	76.32	75.28	74.52	78.25	70.43	72.66	74.88	77.11	79.33	81.56	86.16	90.76	95.37	99.97	104.57
12	15	8	54.29	51.31	44.47	39.42	70.45	71.72	69.99	71.81	65.19	64.90	80.97	81.32	79.97	82.11	72.54	75.30	78.06	80.81	83.57	86.33	90.48	94.63	98.78	102.93	107.08
12	15	9	55.10	51.12	47.84	43.58	70.24	71.60	69.79	72.34	68.34	67.63	79.67	83.96	80.16	80.08	75.33	78.29	81.25	84.22	87.18	90.14	93.82	97.50	101.17	104.85	108.53
12	15	10	53.82	51.08	49.78	46.28	69.15	70.71	69.79	71.00	71.24	68.27	78.06	80.87	77.53	79.29	76.39	79.78	83.18	86.57	89.97	93.36	96.15	98.94	101.74	104.53	107.32
12	15	11	53.33	50.88	49.49	43.58	68.04	70.22	69.48	70.08	71.01	67.62	78.06	79.23	76.92	78.77	75.73	79.51	83.30	87.08	90.87	94.65	96.82	98.99	101.15	103.32	105.49
12	15	12	52.74	48.65	47.65	39.81	67.40	69.21	67.87	68.05	68.22	66.01	75.61	77.44	75.80	76.38	73.18	77.21	81.23	85.26	89.28	93.31	95.35	97.38	99.42	101.45	103.49
12	15	13	49.32	47.83	43.29	39.27	66.80	68.49	67.73	67.39	66.17	64.97	73.18	74.85	75.49	76.23	72.63	75.71	78.80	81.88	84.97	88.05	90.96	93.87	96.78	99.69	102.60
12	15	14	48.35	46.10	40.44	38.83	66.15	68.12	67.27	66.60	63.48	64.62	72.06	74.00	74.76	76.11	72.06	74.83	77.60	80.38	83.15	85.92	89.16	92.40	95.64	98.88	102.12
12	15	15	47.34	43.62	39.18	38.27	65.25	67.09	65.67	66.18	62.03	64.30	72.02	73.90	74.02	75.43	71.89	74.36	76.83	79.29	81.76	84.23	87.78	91.32	94.87	98.41	101.96
12	15	16	46.52	43.57	39.05	38.41	65.25	66.68	65.66	66.18	61.76	64.39	70.57	72.69	73.98	73.99	71.88	74.25	76.63	79.00	81.38	83.75	87.23	90.71	94.18	97.66	101.14
12	15	17	49.35	48.23	43.31	42.77	66.51	68.32	67.73	68.19	66.10	67.40	72.69	75.55	75.71	76.38	74.05	76.93	79.81	82.70	85.58	88.46	91.33	94.21	97.08	99.96	102.83
12	15	18	55.11	55.89	50.42	52.44	71.12	73.26	72.55	72.92	73.41	73.13	81.09	81.40	80.96	80.12	81.57	84.76	87.95	91.15	94.34	97.53	99.89	102.26	104.62	106.99	109.35
12	15	19	102.83	65.14	59.51	62.23	75.07	77.70	88.17	90.92	77.55	77.24	84.22	118.47	93.35	93.08	83.80	86.88	89.95	93.03	96.10	99.18	103.53	107.88	112.23	116.58	120.93
12	15	20	65.99	56.06	55.84	62.23	72.78	76.08	77.63	74.44	76.59	77.30	84.22	85.01	85.53	83.77	86.00	88.44	90.88	93.33	95.77	98.21	100.57	102.93	105.28	107.64	110.00
12	15	21	55.17	54.12	52.13	62.17	70.76	71.14	71.66	72.87	73.78	79.43	79.59	84.86	80.04	82.55	85.79	88.21	90.64	93.06	95.49	97.91	100.26	102.61	104.96	107.31	109.66
12	15	22	53.07	51.00	49.83	51.57	69.12	69.70	69.99	71.00	71.45	74.78	76.24	77.44	77.33	78.78	82.08	84.97	87.85	90.74	93.62	96.51	98.89	101.26	103.64	106.01	108.39
12	15	23	49.84	48.64	47.02	49.65	68.04	69.14	67.87	69.52	67.69	72.94	74.27	74.87	75.66	78.66	79.60	82.16	84.72	87.29	89.85	92.41	95.23	98.05	100.87	103.69	106.51
12	15	24	42.58	39.02	39.71	43.31	62.91	64.10	62.59	64.27	62.29	69.95	70.71	68.60	70.98	73.18	74.94	76.72	78.50	80.27	82.05	83.83	87.11	90.39	93.66	96.94	100.22
12	16	1	34.06	33.86	36.36	38.77	58.82	59.42	58.13	58.45	58.11	64.97	64.49	65.25	65.93	67.74	71.70	73.50	75.30	77.10	78.90	80.70	83.38	86.06	88.74	91.42	94.10
12	16	2	32.49	33.16	35.59	38.26	58.33	58.30	57.01	57.02	56.68	64.28	63.09	64.11	64.52	65.96	71.21	72.72	74.23	75.74	77.25	78.76	81.51	84.27	87.02	89.78	92.53
12	16	3	32.21	32.77	35.36	39.24	58.26	58.36	56.72	56.41	56.47	64.43	63.05	63.69	63.58	65.13	72.22	73.40	74.59	75.77	76.96	78.14	80.69	83.24	85.80	88.35	90.90
12	16	4	32.14	33.11	35.19	40.24	58.95	59.50	56.86	56.41	56.55	66.55	63.81	63.50	63.82	64.84	73.35	74.31	75.27	76.22	77.18	78.14	80.54	82.95	85.35	87.76	90.16
12	16	5	32.49	34.30	35.35	44.27	59.90	61.54	58.63	56.84	57.03	68.20	66.05	64.66	64.52	65.38	75.70	76.21	76.72	77.22	77.73	78.24	80.62	82.99	85.37	87.74	90.12
12	16	6	38.15	38.11	35.83	50.80	63.12	65.24	62.05	58.41	58.35	72.95	69.83	68.41	68.42	65.84	81.59	81.07	80.54	80.02	79.49	78.97	81.51	84.05	86.60	89.14	91.68
12	16	7	46.38	45.86	37.73	55.16	66.35	68.83	66.82	60.94	60.29	76.50	73.69	72.99	74.34	68.85	85.74	84.83	83.93	83.02	82.12	81.21	83.92	86.63	89.35	92.06	94.77
12	16	8	52.13	51.12	39.75	64.67	70.45	71.73	69.51	64.48	63.57	81.70	79.21	75.54	77.73	72.27	90.80	89.37	87.94	86.52	85.09	83.66	86.54	89.42	92.31	95.19	98.07
12	16	9	51.58	50.86	43.93	61.51	70.45	73.45	69.28	68.62	66.75	81.00	82.38	75.54	77.13	76.45	88.15	88.03	87.90	87.78	87.65	87.53	90.72	93.91	97.11	100.30	103.49
12	16	10	51.54	50.35	46.47	57.66	69.57	71.27	68.31	70.28	67.69	79.80	77.90	75.54	76.92	78.35	87.17	87.60	88.02	88.45	88.87	89.30	92.50	95.70	98.89	102.09	105.29
12	16	11	49.83	48.65	43.98	54.85	68.97	70.22	67.86	69.29	66.41	79.62	76.40	75.80	75.71	78.52	86.47	86.77	87.07	87.37	87.67	87.97	91.58	95.18	98.79	102.39	106.00
12	16	12	49.02	46.33	40.95	53.39	67.99	68.96	66.66	67.85	63.89	77.44	73.86	74.03	75.66	76.15	84.56	85.00	85.45	85.89	86.34	86.78	90.48	94.18	97.89	101.59	105.29
12	16	13	46.96	43.71	39.78	51.29	67.89	67.45	65.73	66.38	62.34	74.17	72.26	73.83	75.26	74.03	83.11	83.51	83.90	84.30	84.69	85.09	88.57	92.06	95.54	99.03	102.51
12	16	14	45.62	42.51	38.99	50.94	67.32	66.85	65.40	62.99	61.55	73.74	72.05	71.82	75.03	73.24	82.11	82.48	82.85	83.22	83.59	83.96	86.95	89.94	92.93	95.92	98.91
12	16	15	43.45	41.34	38.74	50.72	67.32	66.66	64.46	61.48	61.70	73.10	72.05	70.95	74.17	72.09	82.04	82.54	83.04	83.54	84.04	84.54	87.03	89.51	92.00	94.48	96.97
12	16	16	42.61	41.37	38.81	50.37	66.93	66.80	64.46	61.37	61.75	72.95	72.05	70.55	73.89	71.70	81.94	82.41	82.89	83.36	83.84	84.31	86.82	89.33	91.85	94.36	96.87
12	16	17	47.42	45.71	42.04	51.53	68.56	67.87	66.56	65.47	65.53	73.77	73.16	74.00	75.71	73.30	82.11	83.19	84.28	85.36	86.45	87.53	90.25	92.97	95.70	98.42	101.14
12	16	18	52.99	53.02	51.59	68.59	71.97	71.67	71.00	71.13	73.55	83.56	79.67	81.32	78.65	80.12	94.70	94.65	94.61	94.56	94.52	94.47	97.23	99.99	102.76	105.52	108.28
12	16	19	66.72	69.27	62.89	73.44	83.46	115.82	81.11	75.94	75.08	146.10	143.21	87.30	95.47	82.20	153.83	142.64	131.45	120.26	109.07	97.88	100.20	102.53	104.85	107.18	109.50
12	16	20	54.53	57.71	60.32	67.35	74.43	74.07	71.41	71.82	76.92	95.60	89.72	84.22	81.05	81.28	103.46	102.63	101.80	100.98	100.15	99.32	101.33	103.33	105.34	107.34	109.35
12	16	21	53.07	52.53	59.33	63.12	71.97	74.07	71.17	71.13	75.97	82.23	81.56	79.33	78.37	80.94	88.22	90.31	92.41	94.50	96.60	98.69	100.68	102.67	104.65	106.64	108.63
12	16	22	51.20	49.61	51.59	55.52	69.03	69.06	68.92	70.13	72.57	78.23	75.51	75.81	77.73	78.78	85.74	87.91	90.07	92.24	94.40	96.57	98.61	100.65	102.69	104.73	106.77
12	16	23	47.12	47.68	49.36	53.11	68.18	68.36	67.86	66.81	68.90	74.55	73.48	73.63	77.73	76.14	82.11	83.83	85.55	87.27	88.99	90.71	93.63	96.54	99.46	102.37	105.29
12	16	24	37.81	39.64	43.32	48.16	66.07	63.09	62.59	62.14	65.93	71.21	68.03	67.47	71.84	71.65	76.73	78.69	80.65	82.60	84.56	86.52	88.64	90.76	92.89	95.01	97.13
12	17	1	32.69	33.82	38.59	38.77	59.87	58.05	58.25	57.65	61.22	64.98	62.75	64.06	67.01	67.60	71.21	73.36	75.51	77.65	79.80	81.95	84.16	86.37	88.59	90.80	93.01
12	17	2	32.17	32.61	38.47	37.82	59.55	56.56	56.93	56.51	61.14	63.76	61.22	62.77	64.27	65.75	70.30	72.72	75.14	77.55	79.97	82.39	84.23	86.07	87.90	89.74	91.58
12	17	3	32.09	32.15	39.03	37.25	58.85	56.20	56.44	56.41	61.99	63.42	60.57	62.54	63.15	64.79	69.81	72.70	75.59	78.49	81.38	84.27	85.51	86.75	87.99	89.23	90.47
12	17	4	32.10	31.96	39.85	37.49	58.85	56.44	56.44	56.51	63.37	63.62	60.84	62.43	62.80	64.52	70.21	73.63	77.04	80.46	83.87	87.29	87.77	88.25	88.72	89.20	89.68
12	17	5	32.79	32.20	43.21	39.08	60.53	58.70	56.90	56.97	66.15	64.39	63.35	63.09	62.85	64.69	71.51	75.15	78.79	82.42	86.06	89.70	89.67	89.64	89.61	89.58	89.55
12	17	6	36.59	33.53	50.71	45.98	64.78	62.60	57.92	57.82	70.38	68.71	67.40	66.55	64.32	65.82	75.39	79.57	83.75	87.93	92.11	96.29	95.24	94.19	93.13	92.08	91.03
12	17	7	45.29	35.03	54.45	51.61	67.40	65.38	60.09	59.15	75.69	72.90	71.40	71.63	67.39	68.30	80.04	84.02	88.00	91.97	95.95	99.93	98.76	97.60	96.43	95.27	94.10
12	17	8	50.29	39.86	57.71	53.90	81.69	68.78	63.37	62.38	79.16	77.52	74.05	75.80	70.83	70.31	84.46	88.73	93.00	97.27	101.54	105.81	103.80	101.80	99.79	97.79	95.78
12	17	9	50.52	44.36	56.06	53.69	76.06	68.72	65.86	64.76	78.75	77.66	73.83	75.75	74.17	73.10	84.36	88.29	92.23	96.16	100.10	104.03	102.98	101.93	100.87	99.82	98.77
12	17	10	50.29	46.70	55.82	52.29	72.87	68.41	67.52	66.37	78.40	77.67	74.07	75.54	75.68	73.83	85.57	88.88	92.19	95.50	98.81	102.12	101.61	101.10	100.59	100.08	99.57
12	17	11	49.40	46.05	55.75	51.97	71.38	68.40	67.70	65.34	76.88	76.38	74.24	73.83	76.67	73.37	84.55	87.82	91.09	94.37	97.64	100.91	100.58	100.24	99.91	99.57	99.24
12	17	12	45.64	42.76	54.00	51.54	70.23	67.20	66.32	63.00	76.39	74.06	72.73	71.35	75.71	71.90	82.11	85.77	89.42	93.08	96.73	100.39	99.69	98.98	98.28	97.57	96.87
12	17	13	44.62	40.22	51.90	50.94	68.44	66.85	64.40	61.77	73.94	73.48	72.05	70.75	73.44	70.50	82.11	85.58	89.04	92.51	95.97	99.44	98.70	97.95	97.21	96.46	95.72

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	17	14	42.39	36.84	50.62	50.72	67.91	65.74	61.89	60.81	73.48	72.94	72.01	70.55	71.65	69.75	81.95	85.43	88.92	92.40	95.89	99.37	98.62	97.87	97.11	96.36	95.61
12	17	15	41.34	35.31	50.23	48.05	67.46	64.41	60.87	60.33	72.69	72.37	70.84	69.63	70.80	71.00	81.49	84.59	87.68	90.78	93.87	96.97	96.72	96.47	96.22	95.97	95.72
12	17	16	41.14	35.09	49.99	49.48	67.89	64.09	60.78	60.71	72.31	72.15	70.59	69.34	69.96	70.94	81.12	84.24	87.36	90.48	93.60	96.72	96.52	96.32	96.12	95.92	95.72
12	17	17	45.29	39.88	52.21	51.10	68.80	66.68	64.05	64.67	73.55	73.73	72.95	71.62	73.43	73.11	82.11	85.57	89.03	92.48	95.94	99.40	99.20	99.00	98.80	98.60	98.40
12	17	18	53.07	49.17	59.59	60.76	74.60	71.09	68.36	72.37	85.06	80.07	76.47	77.96	78.98	78.77	89.66	93.77	97.89	102.00	106.12	110.23	109.43	108.62	107.82	107.01	106.21
12	17	19	66.32	53.47	95.44	73.44	140.96	84.93	70.40	76.10	144.90	84.77	85.53	88.31	79.65	82.41	97.51	108.90	120.28	131.67	143.05	154.44	145.50	136.57	127.63	118.70	109.76
12	17	20	54.80	50.32	66.46	63.39	95.55	73.63	69.52	80.22	90.93	82.16	81.50	78.99	79.26	87.23	93.99	99.57	105.14	110.72	116.29	121.87	119.45	117.03	114.60	112.18	109.76
12	17	21	51.99	49.57	59.53	57.69	74.31	70.94	68.79	75.89	81.14	78.53	78.52	78.16	78.70	82.09	87.90	91.36	94.82	98.28	101.74	105.20	105.94	106.69	107.43	108.18	108.92
12	17	22	49.26	46.99	54.82	51.98	71.40	68.37	67.86	71.27	76.86	75.22	74.69	75.66	76.81	79.21	84.48	87.61	90.74	93.88	97.01	100.14	101.36	102.57	103.79	105.00	106.22
12	17	23	46.96	42.35	54.08	50.90	69.20	65.76	65.66	68.95	73.55	73.75	72.68	74.03	74.30	78.35	81.81	85.33	88.86	92.38	95.91	99.43	100.68	101.92	103.17	104.41	105.66
12	17	24	38.90	36.34	47.41	45.51	64.10	61.15	61.45	65.31	67.79	69.66	68.07	68.97	70.72	72.64	75.58	78.43	81.29	84.14	87.00	89.85	91.75	93.65	95.55	97.45	99.35
12	18	1	32.78	33.06	38.70	37.91	58.28	56.67	57.39	61.06	61.50	64.00	62.35	64.06	66.70	69.25	70.53	73.03	75.53	78.02	80.52	83.02	85.38	87.73	90.09	92.44	94.80
12	18	2	31.69	32.05	37.73	36.66	57.49	55.73	56.44	60.23	59.53	62.65	61.55	62.71	64.25	69.35	69.91	72.26	74.61	76.95	79.30	81.65	84.33	87.01	89.68	92.36	95.04
12	18	3	30.59	31.82	37.42	36.47	56.39	55.31	56.19	61.60	58.87	62.17	60.98	62.07	63.48	70.00	69.29	71.66	74.04	76.41	78.79	81.16	84.12	87.08	90.04	93.00	95.96
12	18	4	30.14	31.73	37.70	36.53	56.16	55.82	56.31	62.89	59.15	62.65	61.11	61.70	62.87	71.90	69.11	71.53	73.94	76.36	78.77	81.19	84.72	88.26	91.79	95.33	98.86
12	18	5	30.47	31.88	38.60	38.12	57.49	56.67	56.54	66.38	61.20	63.62	62.15	62.17	63.00	74.03	71.09	73.41	75.73	78.04	80.36	82.68	86.37	90.06	93.75	97.44	101.13
12	18	6	32.49	32.95	43.32	44.77	60.64	60.53	57.28	69.71	65.97	68.57	66.53	62.97	64.11	78.57	75.51	78.14	80.77	83.40	86.03	88.66	92.18	95.70	99.23	102.75	106.27
12	18	7	35.99	34.11	50.89	51.05	66.35	64.85	58.85	74.95	70.86	75.09	71.59	65.48	66.46	82.40	81.44	84.39	87.34	90.30	93.25	96.20	98.92	101.63	104.35	107.06	109.78
12	18	8	39.33	35.95	52.73	53.25	71.38	67.43	61.35	76.92	75.79	78.75	75.66	68.60	68.79	87.91	85.18	88.03	90.88	93.74	96.59	99.44	102.35	105.26	108.18	111.09	114.00
12	18	9	44.72	39.74	53.56	53.54	70.72	67.21	64.05	76.17	76.39	77.50	74.87	72.04	70.92	87.05	85.83	88.55	91.27	94.00	96.72	99.44	102.18	104.92	107.66	110.40	113.14
12	18	10	45.55	40.95	52.73	52.90	70.23	66.95	65.05	75.38	76.61	78.75	74.30	73.63	71.46	84.36	84.10	87.19	90.28	93.38	96.47	99.56	102.24	104.91	107.59	110.26	112.94
12	18	11	45.09	40.54	52.73	51.89	68.50	65.54	64.05	74.16	76.42	76.84	72.28	74.00	72.09	83.23	82.11	85.57	89.04	92.50	95.97	99.43	102.08	104.73	107.38	110.03	112.68
12	18	12	43.44	38.22	50.61	51.84	67.40	64.50	62.03	72.66	74.90	74.54	71.30	72.40	71.26	82.56	82.10	85.31	88.52	91.73	94.94	98.15	100.48	102.81	105.13	107.46	109.79
12	18	13	38.88	37.23	49.93	50.11	66.75	63.91	60.79	71.00	74.16	73.13	70.09	70.95	69.96	81.06	80.49	83.51	86.53	89.56	92.58	95.60	98.44	101.27	104.11	106.94	109.78
12	18	14	37.36	36.21	49.62	49.54	65.12	63.80	60.27	70.93	72.57	72.94	69.64	68.03	69.51	79.81	79.70	82.49	85.28	88.06	90.85	93.64	96.78	99.92	103.06	106.20	109.34
12	18	15	36.27	35.53	49.10	47.67	64.43	62.95	59.88	69.94	69.85	71.21	69.16	67.14	69.07	78.78	78.76	81.67	84.59	87.50	90.42	93.33	96.26	99.18	102.11	105.03	107.96
12	18	16	36.60	35.53	48.99	47.67	63.66	62.23	60.13	69.01	68.45	71.21	68.85	66.81	69.16	78.78	78.21	81.23	84.26	87.28	90.31	93.33	96.08	98.83	101.58	104.33	107.08
12	18	17	39.33	40.31	50.58	50.10	65.12	64.72	63.37	72.34	72.44	73.13	70.84	70.55	71.93	79.81	79.44	82.71	85.98	89.24	92.51	95.78	98.47	101.17	103.86	106.56	109.25
12	18	18	48.45	49.57	58.11	57.45	71.40	69.10	68.79	77.23	79.18	78.54	75.96	75.54	77.44	89.71	87.77	91.09	94.41	97.74	101.06	104.38	106.53	108.69	110.84	113.00	115.15
12	18	19	51.48	55.85	68.67	67.36	89.37	81.14	72.01	129.71	86.75	93.20	84.22	78.65	81.09	153.57	94.55	96.87	99.19	101.50	103.82	106.14	117.05	127.97	138.88	149.80	160.71
12	18	20	50.01	56.78	62.57	58.94	76.00	70.32	72.01	81.27	83.05	81.34	78.04	76.59	80.49	89.88	89.30	92.67	96.04	99.40	102.77	106.14	109.49	112.84	116.19	119.54	122.89
12	18	21	48.98	56.78	56.40	55.52	71.73	69.06	70.40	77.68	78.95	79.71	76.54	76.00	80.16	86.64	88.57	91.35	94.13	96.92	99.70	102.48	105.12	107.77	110.41	113.06	115.70
12	18	22	47.59	49.57	54.00	52.23	70.47	67.48	68.01	74.00	73.63	75.23	74.24	74.03	77.95	83.14	82.11	85.60	89.09	92.58	96.07	99.56	101.61	103.66	105.71	107.76	109.81
12	18	23	42.11	44.36	51.72	50.57	66.17	65.76	65.89	71.26	72.33	73.75	72.05	71.17	75.68	80.54	79.70	83.37	87.04	90.70	94.37	98.04	100.37	102.70	105.03	107.36	109.69
12	18	24	36.35	38.08	45.74	43.07	62.35	60.70	63.78	66.38	66.18	67.49	68.06	67.37	70.81	76.15	73.18	76.43	79.68	82.94	86.19	89.44	92.58	95.72	98.86	102.00	105.14
12	19	1	32.09	34.95	38.60	37.49	57.70	56.56	59.35	59.78	59.93	63.13	62.63	63.84	67.24	69.57	68.96	71.68	74.39	77.11	79.82	82.54	85.05	87.57	90.08	92.60	95.11
12	19	2	30.40	34.82	37.41	36.15	56.30	55.55	59.42	58.12	58.30	62.17	60.85	62.07	67.29	68.16	67.89	70.65	73.41	76.17	78.93	81.69	84.10	86.51	88.93	91.34	93.75
12	19	3	29.88	35.04	36.92	35.37	55.02	54.83	60.11	57.77	57.97	61.41	59.88	61.61	68.13	67.60	67.27	70.07	72.86	75.66	78.45	81.25	83.67	86.09	88.51	90.93	93.35
12	19	4	29.82	36.32	36.77	36.16	55.02	54.84	61.32	58.03	58.15	61.40	59.62	61.25	69.67	68.30	67.95	70.64	73.32	76.01	78.69	81.38	83.83	86.28	88.73	91.18	93.63
12	19	5	30.00	38.46	38.29	37.21	56.69	55.38	63.24	59.66	60.79	63.43	60.28	61.35	71.55	69.68	70.12	72.65	75.18	77.72	80.25	82.78	85.20	87.62	90.03	92.45	94.87
12	19	6	31.15	45.82	43.98	40.86	60.63	56.44	67.64	64.48	66.04	67.57	61.58	62.26	74.45	73.15	74.12	77.31	80.51	83.70	86.90	90.09	92.04	93.98	95.93	97.87	99.82
12	19	7	33.08	51.84	50.56	49.03	65.99	59.38	71.23	69.91	72.57	72.74	64.36	64.93	79.48	78.78	78.89	82.96	87.03	91.10	95.17	99.24	100.52	101.81	103.09	104.38	105.66
12	19	8	35.97	54.42	53.92	52.32	68.80	62.07	74.21	73.60	76.87	76.14	67.60	67.23	86.18	82.56	82.54	86.61	90.68	94.74	98.81	102.88	104.06	105.25	106.43	107.62	108.80
12	19	9	38.20	54.49	54.55	51.98	68.80	64.79	72.90	73.45	77.62	76.09	70.84	69.05	84.42	83.00	84.36	88.00	91.63	95.27	98.90	102.54	103.79	105.03	106.28	107.52	108.77
12	19	10	39.91	54.36	54.23	51.86	68.63	64.90	72.28	72.78	76.61	75.80	72.01	69.59	81.66	83.14	84.01	87.75	91.48	95.22	98.95	102.69	104.07	105.45	106.83	108.21	109.59
12	19	11	38.26	52.75	52.61	51.37	68.70	65.16	71.60	71.00	74.95	76.05	71.85	69.23	80.68	82.29	83.87	86.98	90.08	93.19	96.29	99.40	100.85	102.30	103.75	105.20	106.65
12	19	12	36.37	51.00	51.24	50.37	67.99	63.91	70.59	70.93	72.03	73.11	69.80	68.02	80.13	80.17	82.04	85.03	88.02	91.00	93.99	96.98	98.83	100.68	102.54	104.39	106.24
12	19	13	36.01	49.23	49.88	49.03	67.03	62.08	69.56	70.37	71.31	72.74	68.80	67.49	79.00	79.41	79.18	82.10	85.01	87.93	90.84	93.76	96.25	98.74	101.24	103.73	106.22
12	19	14	34.85	48.65	49.16	46.70	66.78	60.88	68.19	69.61	69.99	70.72	67.11	66.31	77.73	78.77	78.28	80.93	83.59	86.24	88.90	91.55	94.27	96.99	99.70	102.42	105.14
12	19	15	33.96	47.63	48.55	44.85	66.16	59.14	67.77	68.01	68.29	69.66	65.66	65.85	76.55	78.36	77.22	80.08	82.95	85.81	88.68	91.54	93.94	96.33	98.73	101.12	103.52
12	19	16	34.07	47.26	48.22	44.24	65.32	59.02	67.32	67.01	67.46	69.52	65.48	65.74	76.22	78.02	76.34	79.38	82.42	85.46	88.50	91.54	93.93	96.33	98.72	101.12	103.51
12	19	17	38.22	49.11	50.24	49.14	67.46	61.73	69.47	70.51	71.70	71.99	68.27	67.64	77.95	80.02	79.39	82.26	85.13	88.01	90.88	93.75	96.11	98.46	100.82	103.17	105.53
12	19	18	46.66	59.11	57.49	55.17	72.33	66.85	76.65	74.55	75.91	76.59	72.27	74.03	89.07	85.30	85.26	88.90	92.53	96.17	99.80	103.44	104.86	106.28	107.70	109.12	110.54
12	19	19	50.45	109.55	71.22	64.88	92.19	70.22	146.60	78.39	88.24	82.16	74.00	77.41	164.64	101.40	97.57	100.13	102.69	105.24	107.80	110.36	111.00	111.64	112.28	112.92	113.56
12	19	20	50.43	61.21	57.98	59.23	81.32	69.53	87.54	77.66	78.47	79.56	73.33	78.65	89.68	89.14	92.05	94.36	96.66	98.97	101.27	103.58	104.99	106.40	107.82	109.23	110.64
12	19	21	49.43	56.58	55.75	55.20	71.38	68.33	73.70	73.16	75.48	77.22	72.05	79.39	84.90	85.62	85.79	89.86	93.93	98.00	102.07	106.14	106.87	107.60	108.32	109.05	109.78
12	19	22	46.73	53.06	53.54	51.85	68.40	66.00	71.31	70.96	72.69	75.10	70.65	75.59	80.32	83.23	83.83	87.05	90.27	93.50	96.72	99.94	101.20	102.46	103.72	104.98	106.24
12	19	23	42.19	50.37	51.77	50.40	67.47	64.01	69.59	70.29	71.70	73.13	69.29	73.90	77.94	80.12	82.11	85.01	87.91	90.81	93.71	96.61	98.42	100.22	102.03	103.83	105.64
12	19	24	36.12	42.35	43.61	42.42	61.55	59.91	64.60	65.11	64.08	67.19	65.42	68.62	73.64	76.13	75.01	77.47	79.94	82.40	84.87	87.33	89.67	92.01	94.35	96.69	99.03

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	20	1	32.49	35.01	37.76	37.75	57.70	56.04	58.90	59.52	58.47	62.95	62.15	66.75	67.47	69.06	70.47	72.53	74.59	76.64	78.70	80.76	83.33	85.91	88.48	91.06	93.63
12	20	2	32.36	33.88	36.55	36.10	56.08	55.33	58.14	58.47	57.64	60.49	60.54	66.30	66.80	68.03	68.48	70.74	72.99	75.25	77.50	79.76	82.31	84.87	87.42	89.98	92.53
12	20	3	32.69	33.56	36.21	35.37	55.68	54.94	57.88	58.38	57.64	60.24	59.83	67.33	66.75	67.34	67.82	70.18	72.54	74.89	77.25	79.61	82.18	84.76	87.33	89.91	92.48
12	20	4	34.06	33.79	36.36	35.49	54.22	54.94	58.15	58.57	58.13	60.50	59.61	68.13	66.80	66.87	68.03	70.42	72.81	75.21	77.60	79.99	82.42	84.84	87.27	89.69	92.12
12	20	5	36.06	34.84	37.98	36.68	54.68	55.25	59.17	59.42	59.47	62.44	59.95	69.53	67.82	69.56	69.47	71.91	74.35	76.79	79.23	81.67	84.04	86.40	88.77	91.13	93.50
12	20	6	43.49	40.16	41.92	39.81	55.60	55.87	62.67	64.21	63.59	66.33	60.86	73.77	70.82	74.62	73.31	76.20	79.10	81.99	84.89	87.78	89.84	91.90	93.97	96.03	98.09
12	20	7	48.56	47.78	49.26	47.87	58.22	57.68	67.73	69.81	68.57	70.72	63.24	78.11	74.77	80.33	78.97	82.24	85.51	88.79	92.06	95.33	97.50	99.68	101.85	104.03	106.20
12	20	8	52.08	51.50	52.71	52.04	60.37	59.87	70.22	73.39	72.58	75.10	65.09	83.28	80.23	82.56	82.54	86.04	89.54	93.05	96.55	100.05	101.89	103.73	105.56	107.40	109.24
12	20	9	52.20	51.50	52.73	51.98	63.36	62.08	70.04	72.48	72.62	75.10	67.34	81.06	80.13	82.56	82.66	86.14	89.62	93.09	96.57	100.05	101.55	103.05	104.56	106.06	107.56
12	20	10	51.92	51.33	52.54	51.98	65.83	62.53	69.96	72.48	73.35	74.60	68.06	78.53	79.72	82.51	82.11	85.57	89.04	92.50	95.97	99.43	100.81	102.20	103.58	104.97	106.35
12	20	11	51.66	51.66	52.25	51.61	65.70	62.08	69.88	71.00	72.58	74.49	68.06	78.35	79.03	79.92	81.56	85.08	88.59	92.11	95.62	99.14	100.56	101.97	103.39	104.80	106.22
12	20	12	51.46	49.57	50.81	50.84	63.33	60.83	68.19	70.67	70.11	72.95	66.09	77.93	77.79	78.78	80.04	83.18	86.31	89.45	92.58	95.72	97.82	99.92	102.02	104.12	106.22
12	20	13	49.02	48.65	49.10	49.54	60.61	60.15	67.02	68.29	67.75	71.21	65.39	77.04	75.72	78.78	79.37	81.80	84.23	86.66	89.09	91.52	94.07	96.61	99.16	101.70	104.25
12	20	14	46.73	46.56	48.15	48.94	58.85	59.06	65.90	67.63	66.39	70.40	64.70	76.26	75.72	78.66	79.18	81.61	84.04	86.48	88.91	91.34	93.77	96.20	98.64	101.07	103.50
12	20	15	45.61	45.96	47.04	46.48	58.14	58.52	65.67	66.63	66.17	69.83	64.37	75.34	75.22	77.69	77.13	79.66	82.20	84.73	87.27	89.80	92.23	94.67	97.10	99.54	101.97
12	20	16	44.85	46.05	46.62	46.48	58.53	58.97	65.54	66.45	66.04	69.63	64.43	74.69	75.31	77.12	77.02	79.35	81.68	84.01	86.34	88.67	91.20	93.73	96.27	98.80	101.33
12	20	17	47.96	48.40	49.11	50.65	62.05	60.88	67.35	68.39	69.01	72.75	66.68	76.81	75.72	78.78	78.92	81.84	84.76	87.67	90.59	93.51	95.59	97.67	99.75	101.83	103.91
12	20	18	58.41	57.25	55.76	56.85	65.09	66.25	72.73	73.15	76.87	76.90	72.05	88.75	79.04	83.71	84.79	87.95	91.10	94.26	97.41	100.57	102.54	104.51	106.49	108.46	110.43
12	20	19	93.99	63.23	70.62	66.66	68.91	68.37	76.65	89.47	83.49	84.13	73.89	163.02	82.72	99.05	96.60	98.95	101.30	103.66	106.01	108.36	109.86	111.36	112.85	114.35	115.85
12	20	20	59.32	59.76	58.59	58.30	67.46	70.20	74.90	74.62	79.53	77.94	75.57	91.21	80.86	87.51	85.67	89.52	93.38	97.23	101.09	104.94	105.93	106.92	107.92	108.91	109.90
12	20	21	52.98	55.64	55.65	52.90	65.40	69.10	72.28	74.61	76.70	76.52	74.00	81.25	80.24	84.08	83.81	87.44	91.07	94.70	98.33	101.96	103.29	104.62	105.94	107.27	108.60
12	20	22	51.54	51.49	52.25	52.23	64.58	66.32	69.60	71.45	73.72	75.63	71.93	78.31	77.90	80.08	82.54	85.87	89.19	92.52	95.84	99.17	100.58	101.99	103.40	104.81	106.22
12	20	23	46.86	48.65	50.64	51.94	62.59	64.79	67.87	70.37	72.57	73.13	70.22	76.70	75.72	78.78	81.81	84.77	87.73	90.69	93.65	96.61	97.99	99.37	100.75	102.13	103.51
12	20	24	39.54	40.58	43.27	46.90	58.14	61.69	63.37	64.35	63.87	69.88	67.11	71.24	71.90	73.02	76.89	78.79	80.68	82.58	84.47	86.37	88.19	90.00	91.82	93.63	95.45
12	21	1	33.46	34.11	38.09	38.47	56.11	58.97	58.44	57.97	59.24	63.81	64.43	65.74	66.51	67.21	71.43	73.39	75.35	77.32	79.28	81.24	83.14	85.04	86.93	88.83	90.73
12	21	2	32.36	33.24	36.45	37.62	53.52	58.81	57.37	57.30	57.89	63.23	64.22	65.19	66.02	65.20	70.48	72.30	74.11	75.93	77.74	79.56	81.54	83.52	85.51	87.49	89.47
12	21	3	32.14	33.39	36.20	37.03	53.12	59.34	57.08	57.04	57.68	63.04	65.01	64.96	65.17	65.07	70.14	71.96	73.77	75.59	77.40	79.22	81.20	83.18	85.17	87.15	89.13
12	21	4	32.26	33.42	36.21	37.28	53.19	61.20	57.12	57.46	57.94	62.88	66.14	64.96	64.90	65.76	70.14	72.07	73.99	75.92	77.84	79.77	81.73	83.69	85.64	87.60	89.56
12	21	5	33.27	34.35	37.22	37.89	54.09	62.64	58.39	58.84	58.99	63.29	68.25	66.20	66.81	67.87	70.30	72.37	74.44	76.51	78.58	80.65	82.86	85.07	87.27	89.48	91.69
12	21	6	37.51	39.21	40.13	39.20	54.84	65.54	62.26	63.26	62.54	64.40	70.90	69.18	70.81	72.52	71.33	74.19	77.05	79.92	82.78	85.64	87.88	90.11	92.35	94.58	96.82
12	21	7	47.01	46.36	47.61	42.14	57.26	69.62	67.67	68.80	68.20	67.20	75.36	73.98	75.72	76.81	74.02	78.20	82.38	86.56	90.74	94.92	96.42	97.92	99.43	100.93	102.43
12	21	8	49.62	51.66	51.02	47.33	59.22	71.74	70.28	72.41	72.56	70.03	81.07	77.65	79.19	80.08	77.37	81.81	86.24	90.68	95.11	99.55	101.09	102.63	104.18	105.72	107.26
12	21	9	50.52	51.50	51.33	49.91	61.09	71.73	70.18	72.48	72.58	72.77	78.91	77.47	79.03	80.08	79.94	83.84	87.74	91.63	95.53	99.43	101.00	102.56	104.13	105.69	107.26
12	21	10	50.52	50.72	51.40	50.40	61.06	70.42	70.04	72.48	72.58	72.90	76.54	77.70	79.03	80.07	79.62	83.52	87.43	91.33	95.24	99.14	100.55	101.97	103.38	104.80	106.21
12	21	11	48.44	49.95	50.87	47.98	60.64	70.22	68.54	72.48	72.58	69.81	76.01	77.44	77.44	79.85	78.28	82.27	86.27	90.26	94.26	98.25	99.84	101.43	103.02	104.61	106.20
12	21	12	46.68	49.11	50.24	45.86	60.43	69.06	67.77	69.66	71.28	69.66	75.66	76.39	76.28	78.48	78.72	81.98	85.24	88.50	91.76	95.02	96.72	98.41	100.11	101.80	103.50
12	21	13	45.88	46.28	48.99	40.20	59.57	68.37	66.56	67.81	69.14	66.85	73.69	74.69	75.72	76.38	74.91	78.59	82.28	85.96	89.65	93.33	94.88	96.43	97.98	99.53	101.08
12	21	14	44.62	44.47	47.99	38.26	58.78	67.77	65.89	67.12	68.44	64.39	72.85	74.03	75.47	75.89	72.26	75.95	79.63	83.32	87.00	90.69	92.63	94.57	96.50	98.44	100.38
12	21	15	42.68	42.79	46.48	37.29	58.28	66.32	64.92	65.35	66.53	63.25	72.05	73.93	75.01	74.76	71.38	74.95	78.53	82.10	85.68	89.25	91.24	93.22	95.21	97.19	99.18
12	21	16	42.85	42.42	45.93	36.94	58.46	65.27	64.60	64.95	66.49	63.03	72.02	73.36	74.84	74.68	70.89	74.53	78.16	81.80	85.43	89.07	90.95	92.83	94.72	96.60	98.48
12	21	17	45.96	48.23	49.13	38.77	60.78	67.48	66.72	68.53	70.01	64.30	73.14	74.92	75.71	76.38	72.36	76.58	80.81	85.03	89.26	93.48	95.02	96.55	98.09	99.62	101.16
12	21	18	51.81	55.19	54.55	48.77	67.40	74.07	72.04	74.90	75.64	70.98	82.27	80.87	80.70	80.52	79.64	83.60	87.55	91.51	95.46	99.42	101.26	103.09	104.93	106.76	108.60
12	21	19	59.32	61.92	62.08	50.11	70.24	135.01	88.13	93.07	82.12	73.13	132.83	91.29	89.83	97.85	81.81	86.36	90.90	95.45	99.99	104.54	106.62	108.71	110.79	112.88	114.96
12	21	20	54.78	56.26	55.12	50.10	70.23	83.61	72.75	77.54	76.75	72.95	82.58	80.99	80.81	82.78	81.49	85.22	88.94	92.67	96.39	100.12	102.10	104.07	106.05	108.02	110.00
12	21	21	52.28	54.49	52.73	49.95	70.23	73.34	72.04	75.47	74.66	71.36	78.13	79.17	80.32	82.09	80.49	84.28	88.07	91.85	95.64	99.43	101.27	103.11	104.95	106.79	108.63
12	21	22	49.90	50.85	51.56	47.89	67.68	69.27	69.38	71.46	74.15	69.81	75.27	77.65	77.44	80.08	79.37	83.15	86.93	90.70	94.48	98.26	99.85	101.44	103.02	104.61	106.20
12	21	23	46.13	49.11	50.40	42.76	66.05	67.77	67.81	71.00	72.62	67.46	73.69	74.04	75.72	78.78	74.77	79.41	84.05	88.70	93.34	97.98	99.52	101.05	102.59	104.12	105.66
12	21	24	38.16	40.09	46.48	38.05	60.73	62.64	61.83	64.59	66.17	63.74	68.50	69.66	69.78	74.02	71.02	74.57	78.12	81.66	85.21	88.76	90.21	91.66	93.10	94.55	96.00
12	22	1	33.23	33.85	39.29	35.39	57.76	58.22	56.93	59.50	61.81	62.29	64.06	65.20	64.86	68.52	68.88	71.57	74.26	76.94	79.63	82.32	84.24	86.15	88.07	89.98	91.90
12	22	2	32.08	32.93	37.92	34.05	56.86	56.70	56.18	57.47	59.53	60.44	63.11	64.45	63.55	66.04	67.78	70.50	73.22	75.95	78.67	81.39	83.07	84.76	86.44	88.13	89.81
12	22	3	31.69	32.54	37.35	33.30	57.98	56.56	56.00	56.93	59.28	60.01	62.66	63.75	62.56	65.67	66.97	69.73	72.49	75.25	78.01	80.77	82.42	84.08	85.73	87.39	89.04
12	22	4	32.14	33.18	37.35	33.12	59.95	56.70	56.15	57.19	59.48	59.53	63.13	63.54	63.10	65.93	66.80	69.59	72.38	75.18	77.97	80.76	82.52	84.27	86.03	87.78	89.54
12	22	5	33.50	34.35	37.78	33.17	60.85	58.33	57.60	58.35	60.68	59.57	64.26	65.41	64.71	66.66	66.86	69.76	72.67	75.57	78.48	81.38	83.31	85.24	87.17	89.10	91.03
12	22	6	37.83	37.98	39.17	34.31	63.07	62.26	61.67	62.83	61.97	60.10	67.57	69.63	69.09	71.97	67.28	70.37	73.46	76.55	79.64	82.73	85.38	88.02	90.67	93.31	95.96
12	22	7	46.83	45.38	40.90	35.88	67.11	65.58	66.66	68.77	64.16	61.43	71.30	74.04	73.45	76.63	68.32	71.98	75.65	79.31	82.98	86.64	89.99	93.34	96.68	100.03	103.38
12	22	8	50.52	51.49	46.37	38.58	82.29	69.12	69.88	72.48	68.04	63.79	74.87	78.31	76.70	80.96	70.55	74.68	78.82	82.95	87.09	91.22	94.43	97.64	100.84	104.05	107.26
12	22	9	50.34	51.50	48.78	40.45	75.82	69.02	69.57	72.76	70.02	66.20	74.63	77.52	76.70	80.89	72.78	76.99	81.21	85.42	89.64	93.85	96.32	98.79	101.26	103.73	106.20
12	22	10	49.02	50.44	49.62	41.87	71.53	68.78	69.09	72.70	69.98	66.53	76.53	77.52	76.35	79.97	73.13	77.18	81.22	85.27	89.31	93.36	95.93	98.49	101.06	103.62	106.19
12	22	11	47.47	49.89	48.03	39.89	70.07	68.78	68.52	72.48	67.92	65.57	74.47	76.18	75.72	78.78	72.88	76.44	80.00	83.57	87.13	90.69	93.79	96.89	99.99	103.09	106.19

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	22	12	45.20	48.65	46.65	38.78	68.50	67.48	67.73	70.67	66.42	64.69	73.14	75.55	75.35	78.77	73.09	76.44	79.78	83.13	86.47	89.82	92.78	95.75	98.71	101.68	104.64
12	22	13	43.80	46.10	40.95	37.92	67.00	67.17	66.39	68.64	63.70	63.81	72.62	74.04	73.44	78.38	71.69	74.46	77.22	79.99	82.75	85.52	88.98	92.43	95.89	99.34	102.80
12	22	14	41.98	43.95	39.12	36.68	66.75	66.68	64.60	68.32	61.03	63.43	72.05	74.00	73.29	78.36	70.58	73.15	75.72	78.28	80.85	83.42	87.04	90.65	94.27	97.88	101.50
12	22	15	39.88	42.07	37.58	35.80	66.16	65.69	63.89	67.36	59.46	62.65	72.01	72.64	73.00	76.02	69.41	72.03	74.65	77.26	79.88	82.50	86.05	89.60	93.15	96.70	100.25
12	22	16	39.76	41.98	37.54	35.80	65.13	65.27	63.88	67.36	59.11	62.39	72.01	72.20	72.38	76.25	69.44	71.99	74.54	77.08	79.63	82.18	85.83	89.49	93.14	96.80	100.45
12	22	17	44.94	46.78	39.15	37.92	66.75	67.39	66.88	70.67	61.72	63.14	73.11	74.04	74.00	78.68	71.47	73.68	75.90	78.11	80.33	82.54	86.59	90.64	94.70	98.75	102.80
12	22	18	51.84	54.69	47.40	44.85	72.34	71.78	71.46	75.39	68.68	69.14	80.07	79.59	78.80	81.83	78.20	80.86	83.52	86.18	88.84	91.50	94.86	98.21	101.57	104.92	108.28
12	22	19	56.22	66.75	49.73	49.62	120.77	87.92	85.77	88.43	72.51	72.34	83.56	95.20	92.96	87.27	80.15	82.78	85.41	88.05	90.68	93.31	97.05	100.79	104.54	108.28	112.02
12	22	20	51.92	58.49	49.44	49.95	78.59	75.70	73.28	78.53	72.35	72.53	79.90	79.78	79.82	82.29	80.31	82.91	85.51	88.11	90.71	93.31	96.11	98.91	101.72	104.52	107.32
12	22	21	51.07	52.93	48.22	49.14	71.53	70.99	71.46	74.31	69.54	72.55	77.05	78.35	79.19	81.63	80.31	82.79	85.26	87.74	90.21	92.69	95.40	98.10	100.81	103.51	106.22
12	22	22	48.55	49.89	47.02	46.33	69.61	69.03	69.94	72.94	66.82	71.21	75.15	76.26	76.92	79.56	78.76	81.31	83.86	86.41	88.96	91.51	94.59	97.67	100.75	103.83	106.91
12	22	23	46.53	48.23	41.74	39.85	68.04	67.21	68.45	72.40	63.97	66.56	73.01	74.04	75.01	78.74	74.45	76.83	79.21	81.58	83.96	86.34	90.31	94.27	98.24	102.20	106.17
12	22	24	36.97	40.30	38.28	37.03	62.82	61.62	62.94	67.40	59.93	63.74	68.20	68.44	70.99	75.12	70.26	72.69	75.11	77.54	79.96	82.39	85.74	89.10	92.45	95.81	99.16
12	23	1	32.22	34.75	35.41	35.80	58.85	58.52	58.80	61.34	56.80	61.72	63.30	63.25	65.73	69.64	68.96	71.23	73.50	75.77	78.04	80.31	83.21	86.11	89.01	91.91	94.81
12	23	2	31.28	33.47	34.91	34.62	56.82	57.54	56.41	60.33	55.90	59.89	62.49	61.98	63.10	67.89	67.22	69.67	72.11	74.56	77.00	79.45	82.16	84.88	87.59	90.31	93.02
12	23	3	30.95	33.17	33.55	33.86	56.63	57.02	55.90	59.49	55.49	59.07	62.03	61.13	62.88	67.00	65.96	68.47	70.99	73.50	76.02	78.53	81.30	84.08	86.85	89.63	92.40
12	23	4	31.33	33.23	33.52	33.86	56.69	57.12	56.04	59.92	55.41	58.97	62.00	61.55	63.17	66.90	65.75	68.22	70.70	73.17	75.65	78.12	81.03	83.93	86.84	89.74	92.65
12	23	5	32.72	34.04	33.81	34.84	58.33	58.52	56.95	60.48	55.75	59.41	63.35	63.14	64.27	67.34	66.70	69.00	71.30	73.59	75.89	78.19	81.21	84.23	87.24	90.26	93.28
12	23	6	36.35	37.07	34.53	36.71	60.71	62.46	61.02	62.18	56.48	61.64	67.57	68.04	68.94	69.67	68.98	71.01	73.04	75.07	77.10	79.13	82.26	85.39	88.51	91.64	94.77
12	23	7	44.34	43.92	35.67	39.10	64.58	65.90	66.24	64.95	57.98	63.74	72.01	71.85	73.79	72.56	71.93	73.68	75.44	77.19	78.95	80.70	83.93	87.15	90.38	93.60	96.83
12	23	8	48.39	50.77	37.54	41.43	69.30	69.84	68.14	67.85	60.33	66.64	76.37	75.74	77.93	75.80	74.25	75.77	77.29	78.81	80.33	81.85	85.76	89.67	93.57	97.48	101.39
12	23	9	48.29	50.77	39.57	41.99	69.74	69.84	69.23	70.67	62.90	68.65	76.30	75.87	77.93	78.22	76.14	77.82	79.50	81.18	82.86	84.54	88.45	92.36	96.27	100.18	104.09
12	23	10	47.85	50.63	40.26	43.46	69.30	69.48	68.31	70.83	63.57	69.02	75.37	75.59	77.53	76.78	77.13	78.56	79.99	81.42	82.85	84.28	88.18	92.09	95.99	99.90	103.80
12	23	11	47.99	49.49	39.58	42.14	68.19	67.91	68.14	69.42	62.67	68.02	74.11	75.66	77.53	76.15	76.83	78.15	79.47	80.78	82.10	83.42	87.14	90.86	94.59	98.31	102.03
12	23	12	46.12	48.65	38.71	40.96	67.00	67.21	67.73	68.24	61.53	66.65	72.05	74.01	76.03	75.68	75.19	76.84	78.48	80.13	81.77	83.42	86.85	90.29	93.72	97.16	100.59
12	23	13	42.13	46.10	37.59	39.85	66.75	65.91	65.95	63.91	59.47	66.37	72.01	72.02	75.49	73.39	73.67	75.48	77.29	79.11	80.92	82.73	85.66	88.60	91.53	94.47	97.40
12	23	14	40.93	43.89	36.98	39.08	66.16	65.05	65.06	61.24	58.07	65.96	71.95	71.35	75.67	71.11	71.88	73.80	75.72	77.65	79.57	81.49	84.34	87.18	90.03	92.87	95.72
12	23	15	39.36	42.32	36.08	38.39	65.24	64.09	64.26	59.57	57.60	64.47	70.21	70.62	74.27	69.99	71.07	73.01	74.95	76.89	78.83	80.77	83.54	86.32	89.09	91.87	94.64
12	23	16	39.31	42.28	36.08	38.25	65.02	63.83	64.25	59.36	57.52	64.05	69.80	70.34	74.22	69.67	71.43	73.30	75.17	77.03	78.90	80.77	83.45	86.13	88.81	91.49	94.17
12	23	17	43.45	46.77	37.00	39.72	66.64	67.21	66.66	61.74	59.23	65.94	72.05	72.55	75.71	71.31	73.67	75.38	77.08	78.79	80.49	82.20	84.88	87.57	90.25	92.94	95.62
12	23	18	51.57	55.72	43.74	46.43	71.53	70.42	70.55	68.72	64.94	73.33	78.17	77.62	79.24	75.88	81.96	83.07	84.19	85.30	86.42	87.53	90.78	94.04	97.29	100.55	103.80
12	23	19	55.29	68.69	48.78	51.05	90.28	88.37	80.15	71.13	68.67	76.51	92.12	91.45	88.45	78.71	86.67	87.64	88.61	89.57	90.54	91.51	94.31	97.10	99.90	102.69	105.49
12	23	20	53.06	56.22	48.78	49.11	74.22	71.22	71.38	70.08	68.57	74.20	78.13	79.80	80.35	78.71	83.27	84.92	86.57	88.21	89.86	91.51	94.31	97.10	99.90	102.69	105.49
12	23	21	51.49	52.75	48.17	46.73	71.34	70.22	70.08	69.59	67.67	71.26	76.56	77.97	79.46	78.63	79.63	81.98	84.32	86.67	89.01	91.36	94.02	96.67	99.33	101.98	104.64
12	23	22	48.57	50.44	46.21	43.56	69.46	68.57	69.48	68.20	66.18	68.65	74.47	76.24	78.54	76.02	77.32	79.41	81.50	83.58	85.67	87.76	90.61	93.47	96.32	99.18	102.03
12	23	23	46.21	49.05	40.28	40.97	67.47	66.81	68.21	64.40	62.41	67.96	72.05	74.42	75.96	74.03	77.90	79.59	81.29	82.98	84.68	86.37	88.68	90.99	93.30	95.61	97.92
12	23	24	37.99	41.86	37.70	37.84	62.91	61.30	63.42	59.78	58.06	64.97	65.87	69.42	72.89	69.47	72.60	74.45	76.30	78.14	79.99	81.84	84.42	87.00	89.58	92.16	94.74
12	24	1	33.14	35.25	35.83	35.05	57.49	57.78	59.07	56.66	58.15	62.02	62.09	64.33	67.56	66.23	68.88	71.10	73.32	75.55	77.77	79.99	82.37	84.75	87.14	89.52	91.90
12	24	2	31.85	34.69	35.00	34.24	56.40	56.24	58.17	55.66	57.13	60.56	60.52	61.82	66.37	64.77	67.55	69.60	71.65	73.71	75.76	77.81	80.29	82.76	85.24	87.71	90.19
12	24	3	31.17	34.18	34.09	33.81	54.93	55.36	57.78	55.04	56.14	60.22	59.60	61.32	65.51	64.14	67.14	69.02	70.90	72.78	74.66	76.54	79.17	81.80	84.42	87.05	89.68
12	24	4	31.22	34.25	33.95	34.05	55.25	55.51	57.82	55.00	55.97	60.21	60.00	61.61	65.99	64.17	67.40	69.20	71.00	72.80	74.60	76.40	79.06	81.71	84.37	87.02	89.68
12	24	5	32.39	34.65	35.04	34.65	57.42	56.35	58.24	55.37	56.87	61.31	61.77	62.59	66.52	64.35	68.52	70.25	71.98	73.70	75.43	77.16	79.67	82.18	84.69	87.20	89.71
12	24	6	36.06	35.09	36.29	36.47	60.33	60.77	59.63	56.01	58.28	63.74	66.20	67.90	68.37	64.37	70.30	72.12	73.94	75.76	77.58	79.40	81.46	83.51	85.57	87.62	89.68
12	24	7	43.01	37.80	38.80	39.41	64.50	64.79	61.52	57.34	61.42	66.26	70.17	71.91	71.20	65.66	73.18	75.07	76.96	78.85	80.74	82.63	84.34	86.05	87.77	89.48	91.19
12	24	8	48.10	42.65	40.97	45.07	66.80	68.09	65.10	60.39	64.74	69.66	72.63	75.54	74.30	68.97	78.58	80.22	81.86	83.49	85.13	86.77	88.20	89.62	91.05	92.47	93.90
12	24	9	47.84	46.93	40.97	45.77	66.78	67.63	66.35	62.95	65.66	70.77	72.63	76.18	75.71	70.98	80.14	82.01	83.88	85.75	87.62	89.49	90.86	92.22	93.59	94.95	96.32
12	24	10	47.84	48.47	41.56	46.98	66.75	67.06	66.35	63.76	66.18	72.37	72.80	76.82	75.71	71.60	80.39	82.41	84.44	86.46	88.49	90.51	91.81	93.11	94.41	95.71	97.01
12	24	11	47.14	45.53	41.40	46.71	66.70	67.14	65.31	62.74	65.42	71.73	72.05	76.24	75.66	71.11	80.71	82.52	84.33	86.13	87.94	89.75	90.94	92.14	93.33	94.53	95.72
12	24	12	45.85	42.63	40.85	45.33	66.16	65.39	63.78	61.19	64.62	70.60	70.74	74.05	74.47	71.06	79.63	81.39	83.15	84.90	86.66	88.42	89.88	91.34	92.80	94.26	95.72
12	24	13	41.87	38.71	39.87	40.86	65.03	64.19	61.16	59.32	62.97	68.86	69.55	73.17	71.55	69.66	77.50	79.15	80.80	82.44	84.09	85.74	87.45	89.16	90.86	92.57	94.28
12	24	14	39.66	35.64	38.60	39.56	64.21	63.91	58.44	57.58	61.53	66.85	68.80	72.21	69.44	68.22	76.34	77.79	79.25	80.70	82.16	83.61	85.56	87.50	89.45	91.39	93.34
12	24	15	38.99	34.03	37.80	39.20	60.78	62.23	56.95	57.02	60.60	66.24	68.43	70.96	68.11	67.32	74.16	75.93	77.70	79.46	81.23	83.00	84.93	86.87	88.80	90.74	92.67
12	24	16	39.27	33.92	37.97	38.87	60.65	61.99	56.92	57.05	60.17	65.13	68.15	70.72	67.66	67.54	75.11	76.77	78.43	80.10	81.76	83.42	85.30	87.18	89.05	90.93	92.81
12	24	17	42.39	36.24	39.58	40.23	65.02	64.95	58.99	59.15	62.75	68.29	70.29	74.01	68.83	70.01	78.31	79.92	81.53	83.15	84.76	86.37	88.07	89.77	91.47	93.17	94.87
12	24	18	51.37	43.95	45.70	48.51	69.74	69.69	64.60	67.41	67.72	75.56	75.93	77.88	74.52	75.43	85.30	86.38	87.46	88.53	89.61	90.69	92.49	94.29	96.08	97.88	99.68
12	24	19	58.74	48.84	49.44	53.48	83.96	82.51	67.44	70.87	73.08	80.96	89.68	84.45	76.20	78.50	93.16	93.61	94.06	94.52	94.97	95.42	96.60	97.78	98.97	100.15	101.33
12	24	20	52.49	48.65	48.24	48.53	70.97	70.85	67.44	70.63	69.68	76.09	77.09	78.51	75.94	78.50	82.53	84.45	86.37	88.29	90.21	92.13	94.06	95.99	97.92	99.85	101.78
12	24	21	50.60	46.68	43.99	45.55	69.74	69.47	65.34	69.82	67.72	73.74	76.38	77.88	75.68	78.02	80.14	82.27	84.40	86.52	88.65	90.78	92.96	95.14	97.32	99.50	101.68
12	24	22	47.84	44.15	41.71	43.73	66.81	67.48	63.94	67.74	65.49	70.78	74.20	76.25	74.10	76.48	79.29	81.26	83.23	85.20	87.17	89.14	91.53	93.92	96.31	98.70	101.09

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	24	23	46.67	40.25	40.88	41.99	66.78	66.52	62.06	62.79	64.13	70.77	72.05	75.12	71.46	72.04	77.10	79.22	81.33	83.45	85.56	87.68	89.39	91.10	92.81	94.52	96.23
12	24	24	38.98	34.72	38.16	37.78	60.64	60.93	58.29	58.10	59.38	64.97	67.29	70.79	68.06	67.83	71.97	74.05	76.13	78.20	80.28	82.36	84.56	86.75	88.95	91.14	93.34
12	25	1	34.57	32.73	34.96	35.06	56.56	57.84	55.51	57.72	57.73	61.93	62.94	65.82	65.01	67.64	68.67	70.94	73.21	75.49	77.76	80.03	82.50	84.97	87.45	89.92	92.39
12	25	2	32.69	31.79	34.24	34.25	53.78	55.36	54.61	56.54	57.13	60.54	60.29	64.09	63.87	65.38	67.62	69.86	72.11	74.35	76.60	78.84	80.96	83.09	85.21	87.34	89.46
12	25	3	32.23	31.15	33.82	33.74	53.62	55.04	54.20	55.70	56.95	60.07	59.75	63.18	62.07	64.02	66.92	69.10	71.28	73.45	75.63	77.81	79.80	81.80	83.79	85.79	87.78
12	25	4	32.29	31.02	34.17	33.86	54.14	55.45	54.05	55.64	57.09	59.99	60.31	63.42	62.16	64.02	66.77	68.99	71.21	73.44	75.66	77.88	79.82	81.76	83.71	85.65	87.59
12	25	5	32.50	31.22	35.00	34.96	55.26	56.11	54.33	55.86	57.37	60.48	61.28	64.37	62.34	64.84	67.87	70.14	72.41	74.69	76.96	79.23	81.10	82.97	84.85	86.72	88.59
12	25	6	34.04	31.82	36.17	36.29	60.00	60.98	54.66	58.94	58.39	63.27	66.14	65.86	62.20	67.24	69.29	71.59	73.88	76.18	78.47	80.77	82.96	85.15	87.33	89.52	91.71
12	25	7	36.02	33.24	39.20	38.88	62.50	64.85	56.09	61.47	61.70	64.74	70.57	68.05	63.70	70.41	72.73	75.27	77.82	80.36	82.91	85.45	87.22	88.99	90.77	92.54	94.31
12	25	8	40.03	34.79	42.91	42.87	65.70	67.59	58.65	64.70	64.86	67.60	73.83	71.17	66.79	73.30	76.59	78.96	81.34	83.71	86.09	88.46	90.39	92.31	94.24	96.16	98.09
12	25	9	45.08	36.68	43.73	45.42	65.26	67.48	60.50	65.77	65.30	68.65	74.21	73.98	68.85	75.12	76.83	79.43	82.03	84.62	87.22	89.82	91.57	93.31	95.06	96.80	98.55
12	25	10	46.45	38.72	45.64	45.91	65.24	67.48	61.47	66.18	67.22	70.02	73.83	74.04	69.89	76.15	78.28	80.99	83.70	86.40	89.11	91.82	93.28	94.74	96.21	97.67	99.13
12	25	11	42.03	37.47	44.64	46.14	65.12	67.20	60.42	65.80	66.16	70.41	72.05	72.71	69.74	75.50	80.39	82.61	84.83	87.06	89.28	91.50	93.05	94.61	96.16	97.72	99.27
12	25	12	39.65	36.41	43.74	43.72	63.45	66.86	59.14	64.34	65.37	68.25	72.05	70.95	70.47	74.53	76.77	79.35	81.92	84.50	87.07	89.65	91.51	93.37	95.23	97.09	98.95
12	25	13	36.38	34.34	41.08	40.34	61.65	64.90	57.37	62.27	63.97	66.07	72.01	68.80	68.06	71.68	73.32	76.16	79.00	81.85	84.69	87.53	89.50	91.47	93.44	95.41	97.38
12	25	14	34.23	33.85	39.85	39.85	60.65	64.12	56.22	60.56	62.70	64.68	71.02	66.19	66.75	69.68	72.70	75.42	78.14	80.86	83.58	86.30	88.04	89.79	91.53	93.28	95.02
12	25	15	33.23	33.40	39.32	39.13	60.48	62.94	55.90	59.40	61.82	63.84	69.89	64.99	66.02	69.26	71.68	74.36	77.04	79.73	82.41	85.09	86.92	88.76	90.59	92.43	94.26
12	25	16	32.79	33.40	39.38	38.99	60.29	63.02	55.83	59.38	62.00	63.66	69.36	64.61	66.09	69.30	71.73	74.30	76.87	79.44	82.01	84.58	86.59	88.60	90.62	92.63	94.64
12	25	17	34.38	34.72	41.19	40.47	62.54	65.76	57.01	62.49	63.51	65.94	71.98	66.46	67.94	71.87	73.34	76.18	79.01	81.85	84.68	87.52	89.16	90.80	92.45	94.09	95.73
12	25	18	41.94	41.17	47.41	47.74	66.80	70.22	63.31	67.81	71.38	73.73	76.73	72.01	72.75	78.46	81.85	84.36	86.87	89.37	91.88	94.39	95.92	97.44	98.97	100.49	102.02
12	25	19	46.38	47.57	49.23	58.20	78.33	80.78	67.73	68.65	74.94	87.95	84.22	74.05	75.35	79.13	97.55	97.54	97.52	97.51	97.49	97.48	99.29	101.10	102.91	104.72	106.53
12	25	20	46.34	47.83	46.97	47.74	67.40	70.22	67.70	68.27	73.23	73.14	77.44	74.04	75.46	79.13	81.19	83.80	86.41	89.02	91.63	94.24	96.44	98.64	100.85	103.05	105.25
12	25	21	45.41	46.10	45.63	47.08	66.81	69.06	66.90	67.60	68.02	71.16	76.30	73.14	75.46	78.70	80.39	82.26	84.13	86.01	87.88	89.75	92.56	95.37	98.18	100.99	103.80
12	25	22	42.11	43.95	43.87	44.05	66.51	68.51	64.48	66.65	64.90	67.21	74.53	71.17	74.84	76.42	76.06	78.38	80.70	83.01	85.33	87.65	90.30	92.95	95.60	98.25	100.90
12	25	23	37.02	39.87	42.79	40.97	66.51	68.37	61.27	66.28	67.00	68.09	72.86	67.88	71.45	76.52	73.40	75.92	78.44	80.97	83.49	86.01	88.77	91.53	94.30	97.06	99.82
12	25	24	33.51	34.40	38.09	37.89	60.15	62.99	56.95	61.24	60.78	64.81	69.35	63.96	66.38	71.42	70.63	72.96	75.29	77.62	79.95	82.28	84.86	87.43	90.01	92.58	95.16
12	26	1	30.87	36.06	35.12	35.53	56.74	59.42	57.77	57.29	57.63	61.61	64.28	62.60	68.15	67.84	68.10	70.41	72.72	75.03	77.34	79.65	82.20	84.75	87.30	89.85	92.40
12	26	2	30.03	34.96	34.75	34.73	54.46	57.84	56.38	56.54	57.08	59.96	62.89	62.12	65.19	66.05	66.02	68.63	71.25	73.86	76.48	79.09	81.31	83.53	85.76	87.98	90.20
12	26	3	29.42	34.10	33.94	34.49	54.25	57.39	55.16	56.02	56.52	59.10	61.76	60.87	64.12	65.09	65.30	67.90	70.51	73.11	75.72	78.32	80.46	82.61	84.75	86.90	89.04
12	26	4	29.32	33.94	34.03	34.64	54.31	57.75	55.03	55.75	56.08	59.27	62.12	60.59	63.89	65.15	65.45	67.98	70.52	73.05	75.59	78.12	80.36	82.59	84.83	87.06	89.30
12	26	5	29.38	34.85	35.04	35.80	54.99	58.52	55.67	56.04	57.17	60.16	62.85	60.44	64.31	66.21	67.33	69.65	71.97	74.30	76.62	78.94	81.39	83.83	86.28	88.72	91.17
12	26	6	29.86	36.49	36.29	38.02	58.95	59.91	58.03	58.84	58.85	64.05	64.30	60.29	66.60	68.07	70.18	72.08	73.98	75.87	77.77	79.67	82.56	85.44	88.33	91.21	94.10
12	26	7	31.33	38.17	39.24	42.69	62.04	62.08	59.78	61.94	61.58	67.60	66.14	61.45	70.48	72.58	74.78	76.48	78.18	79.88	81.58	83.28	85.99	88.70	91.41	94.12	96.83
12	26	8	33.48	40.03	43.66	46.93	65.58	65.48	63.64	66.12	65.11	72.06	69.20	64.82	72.69	77.73	78.63	79.91	81.19	82.47	83.75	85.03	88.45	91.87	95.29	98.71	102.13
12	26	9	35.88	41.07	44.81	47.08	65.02	66.83	64.44	66.99	65.61	72.48	70.49	67.26	74.73	77.80	80.96	81.79	82.61	83.44	84.26	85.09	88.51	91.93	95.35	98.77	102.19
12	26	10	36.35	41.34	45.07	47.74	63.99	66.83	64.70	67.39	66.19	72.99	70.65	67.37	75.66	78.61	79.64	81.22	82.79	84.37	85.94	87.52	91.05	94.58	98.11	101.64	105.17
12	26	11	35.90	42.17	44.82	46.77	63.05	65.10	64.50	66.87	66.86	72.80	69.38	67.29	75.38	78.66	78.42	80.43	82.44	84.44	86.45	88.46	91.82	95.18	98.53	101.89	105.25
12	26	12	35.41	40.84	43.57	45.34	62.39	63.70	63.13	66.38	64.85	71.53	69.12	67.25	73.82	77.24	76.90	78.66	80.42	82.19	83.95	85.71	89.33	92.95	96.56	100.18	103.80
12	26	13	33.89	39.65	40.44	42.80	61.09	60.85	61.28	65.49	63.27	69.85	66.21	65.28	71.75	75.95	74.89	76.75	78.61	80.48	82.34	84.20	87.57	90.93	94.30	97.66	101.03
12	26	14	32.61	38.69	39.41	41.14	60.64	59.19	59.45	63.14	62.11	67.20	64.60	64.20	69.64	74.67	73.79	75.58	77.37	79.15	80.94	82.73	86.12	89.51	92.91	96.30	99.69
12	26	15	32.02	37.97	38.80	40.37	60.15	57.66	59.10	62.38	61.22	66.23	63.81	63.86	69.25	73.18	73.40	75.16	76.91	78.67	80.42	82.18	85.60	89.02	92.43	95.85	99.27
12	26	16	32.02	37.97	38.79	40.20	60.15	57.32	59.12	62.74	61.17	64.97	63.24	63.51	69.37	73.89	73.40	75.09	76.78	78.46	80.15	81.84	85.22	88.60	91.98	95.36	98.74
12	26	17	33.40	39.20	40.09	45.09	60.95	59.42	61.48	65.41	63.15	67.52	64.65	65.04	72.53	75.87	76.82	78.14	79.46	80.77	82.09	83.41	86.96	90.50	94.05	97.59	101.14
12	26	18	39.40	46.84	46.90	50.94	65.55	64.88	65.85	69.44	69.58	75.22	70.21	72.03	78.47	80.74	82.84	84.54	86.24	87.94	89.64	91.34	94.74	98.14	101.54	104.94	108.34
12	26	19	46.34	49.64	55.48	75.49	71.50	67.48	66.49	70.01	81.06	109.11	71.93	73.83	80.13	91.59	111.39	107.77	104.16	100.54	96.93	93.31	96.40	99.49	102.58	105.67	108.76
12	26	20	46.31	46.84	47.10	55.24	66.75	67.33	66.47	68.46	69.27	79.54	71.40	73.74	79.11	78.52	91.68	91.65	91.62	91.58	91.55	91.52	94.36	97.20	100.05	102.89	105.73
12	26	21	44.32	46.14	46.58	50.37	65.99	66.32	65.96	67.43	67.73	74.72	70.85	73.49	76.95	77.47	85.19	86.06	86.94	87.81	88.69	89.56	92.63	95.71	98.78	101.86	104.93
12	26	22	39.98	43.01	43.30	47.15	65.09	64.09	64.70	66.55	65.39	70.78	69.16	72.03	76.82	76.88	81.24	82.21	83.18	84.16	85.13	86.10	89.28	92.47	95.65	98.84	102.02
12	26	23	36.35	41.41	40.83	47.39	64.99	61.35	63.96	65.34	62.81	72.15	65.95	68.05	75.46	75.35	80.67	81.38	82.09	82.80	83.51	84.22	87.44	90.66	93.87	97.09	100.31
12	26	24	32.85	38.61	37.59	39.42	60.34	58.03	60.37	60.50	59.71	64.46	62.79	63.86	70.92	70.43	73.67	75.04	76.41	77.78	79.15	80.52	83.39	86.27	89.14	92.02	94.89
12	27	1	33.64	35.81	35.32	36.43	57.82	55.45	56.78	56.93	57.48	61.43	60.71	65.01	67.70	67.63	69.85	71.48	73.11	74.73	76.36	77.99	80.74	83.50	86.25	89.01	91.76
12	27	2	32.77	34.83	34.83	35.30	56.86	54.39	56.21	56.01	57.09	59.32	59.83	63.10	65.47	65.24	67.68	69.43	71.18	72.93	74.68	76.43	79.09	81.75	84.42	87.08	89.74
12	27	3	31.50	34.31	34.57	34.67	55.60	53.90	55.01	55.23	55.98	58.92	58.94	61.71	65.13	64.39	67.22	69.02	70.82	72.61	74.41	76.21	78.69	81.17	83.65	86.13	88.61
12	27	4	31.46	34.26	34.68	34.38	55.79	53.79	55.02	55.15	56.33	58.91	59.27	61.59	65.13	64.14	66.63	68.62	70.61	72.60	74.59	76.58	78.88	81.19	83.49	85.80	88.10
12	27	5	32.02	35.01	35.45	35.06	56.82	54.08	55.64	55.89	57.51	59.49	59.16	62.35	65.84	65.09	67.33	69.66	71.99	74.32	76.65	78.98	81.09	83.21	85.32	87.44	89.55
12	27	6	33.67	36.34	37.58	36.68	58.27	54.35	58.08	57.35	60.20	63.51	58.94	64.63	67.65	66.62	70.43	72.40	74.37	76.33	78.30	80.27	82.68	85.10	87.51	89.93	92.34
12	27	7	34.80	39.20	41.71	38.99	60.00	55.42	61.28	61.09	63.29	65.49	60.31	67.27	71.11	70.79	73.68	76.11	78.54	80.96	83.39	85.82	87.80	89.78	91.77	93.75	95.73
12	27	8	38.40	43.74	45.76	40.61	60.92	58.98	64.66	64.86	67.73	68.82	63.34	70.15	74.69	74.86	76.17	78.80	81.43	84.07	86.70	89.33	91.47	93.61	95.75	97.89	100.03
12	27	9	39.31	44.85	45.78	42.28	62.07	60.69	64.98	66.29	67.88	69.75	65.56	71.52	76.82	74.86	76.73	79.46	82.18	84.91	87.63	90.36	92.13	93.90	95.66	97.43	99.20

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	27	10	39.90	46.36	46.38	43.55	62.27	60.74	65.96	66.99	68.29	69.47	65.78	71.75	78.24	75.72	76.63	79.41	82.18	84.96	87.73	90.51	92.40	94.30	96.19	98.09	99.98
12	27	11	39.65	46.37	47.02	42.55	61.76	60.17	65.14	66.83	68.63	69.04	65.28	71.66	77.84	76.23	76.37	78.91	81.46	84.00	86.55	89.09	91.32	93.55	95.79	98.02	100.25
12	27	12	38.25	44.66	45.55	40.20	59.74	58.97	64.97	66.19	67.60	68.27	64.36	70.83	76.88	74.28	75.02	77.41	79.80	82.18	84.57	86.96	89.51	92.06	94.62	97.17	99.72
12	27	13	36.22	41.69	42.46	39.85	57.41	57.89	64.12	63.53	64.48	66.25	63.72	68.90	76.08	71.60	73.67	75.92	78.17	80.41	82.66	84.91	87.39	89.88	92.36	94.85	97.33
12	27	14	34.84	40.45	41.01	38.82	56.55	57.19	62.99	62.01	63.90	65.40	62.89	67.13	74.41	70.36	72.54	74.73	76.92	79.10	81.29	83.48	85.81	88.15	90.48	92.82	95.15
12	27	15	34.26	39.71	40.31	37.89	55.85	56.94	61.55	60.74	63.62	65.03	61.58	66.61	72.94	69.67	72.26	74.49	76.72	78.96	81.19	83.42	85.62	87.82	90.01	92.21	94.41
12	27	16	34.27	39.20	40.04	37.70	55.60	56.94	62.23	60.76	63.51	64.77	61.58	66.87	73.24	69.67	72.02	74.30	76.58	78.86	81.14	83.42	85.57	87.73	89.88	92.04	94.19
12	27	17	36.17	41.11	43.72	39.25	56.41	57.55	64.12	63.66	66.18	64.41	63.24	69.29	74.70	71.11	73.67	76.30	78.93	81.57	84.20	86.83	88.68	90.53	92.39	94.24	96.09
12	27	18	43.88	49.00	49.20	45.20	60.48	63.28	67.65	68.22	73.64	70.17	69.16	75.17	78.99	76.48	79.42	82.20	84.97	87.75	90.52	93.30	95.03	96.77	98.50	100.24	101.97
12	27	19	44.76	55.15	101.51	53.20	61.73	67.48	67.65	68.93	112.35	77.32	70.96	75.75	80.47	78.74	88.51	95.79	103.08	110.36	117.65	124.93	120.57	116.21	111.86	107.50	103.14
12	27	20	43.52	49.84	54.00	45.09	61.09	67.48	66.85	68.27	78.95	72.41	70.77	75.18	76.88	77.47	77.52	80.94	84.35	87.77	91.18	94.60	96.31	98.01	99.72	101.42	103.13
12	27	21	42.67	47.84	48.00	42.79	60.74	67.22	66.28	67.92	69.55	70.36	70.27	74.12	76.37	77.80	76.17	79.61	83.06	86.50	89.95	93.39	95.26	97.12	98.99	100.85	102.72
12	27	22	39.90	44.03	45.95	42.09	60.40	66.54	65.04	66.18	67.91	68.01	69.16	72.35	76.35	74.00	74.91	78.07	81.22	84.38	87.53	90.69	92.47	94.26	96.04	97.83	99.61
12	27	23	39.11	43.47	46.38	40.68	58.80	62.69	63.72	64.95	67.00	69.45	65.63	71.94	74.35	73.11	74.12	77.04	79.97	82.89	85.82	88.74	90.49	92.25	94.00	95.76	97.51
12	27	24	34.77	38.50	39.22	38.34	55.92	58.05	59.86	60.93	62.85	66.16	63.47	68.58	71.02	68.99	72.06	74.32	76.59	78.85	81.12	83.38	85.48	87.59	89.69	91.80	93.90
12	28	1	32.88	35.34	35.85	38.79	53.23	57.32	56.53	57.61	58.63	65.49	64.35	65.56	67.14	65.68	71.88	73.54	75.20	76.85	78.51	80.17	82.25	84.33	86.41	88.49	90.57
12	28	2	32.20	35.13	35.19	37.53	52.57	55.44	56.05	55.76	57.42	63.68	61.88	63.40	65.13	63.69	70.75	72.26	73.78	75.29	76.81	78.32	80.23	82.14	84.04	85.95	87.86
12	28	3	31.23	34.22	34.90	36.60	52.07	54.48	55.01	55.65	57.16	62.70	60.12	62.95	64.57	63.27	69.67	71.30	72.93	74.55	76.18	77.81	79.75	81.69	83.63	85.57	87.51
12	28	4	31.25	34.19	34.66	36.68	52.01	54.41	55.04	56.17	57.09	62.70	60.12	62.83	64.32	63.69	69.43	71.09	72.76	74.42	76.09	77.75	79.78	81.82	83.85	85.89	87.92
12	28	5	31.77	34.91	35.11	37.26	52.54	54.95	55.75	57.21	57.44	63.28	60.65	63.70	64.80	64.74	69.91	71.69	73.47	75.24	77.02	78.80	80.95	83.10	85.26	87.41	89.56
12	28	6	33.40	36.24	36.35	38.80	52.78	57.44	57.20	61.09	59.71	64.18	62.78	65.21	66.47	67.87	71.40	73.27	75.14	77.02	78.89	80.76	83.38	86.00	88.61	91.23	93.85
12	28	7	35.64	38.89	38.99	41.55	53.72	60.51	60.95	65.25	61.91	66.85	65.67	69.49	70.53	73.37	73.72	75.66	77.60	79.53	81.47	83.41	86.34	89.27	92.21	95.14	98.07
12	28	8	39.96	43.73	40.91	45.86	56.86	63.50	64.32	68.62	64.30	69.28	68.50	73.88	73.18	76.79	75.74	77.91	80.09	82.26	84.44	86.61	89.82	93.03	96.23	99.44	102.65
12	28	9	41.95	44.85	42.91	46.97	58.75	64.76	65.96	68.59	65.39	71.96	69.57	75.13	73.99	78.48	77.08	79.30	81.53	83.75	85.98	88.20	91.61	95.02	98.43	101.84	105.25
12	28	10	42.71	44.85	43.65	48.67	60.00	64.91	65.85	67.86	66.27	74.80	69.84	75.18	74.44	78.46	78.27	80.23	82.19	84.15	86.11	88.07	90.88	93.69	96.50	99.31	102.12
12	28	11	42.51	45.47	43.26	47.26	58.29	64.58	65.65	67.92	65.91	74.66	69.85	75.17	76.13	77.16	79.70	81.00	82.30	83.61	84.91	86.21	89.41	92.61	95.82	99.02	102.22
12	28	12	41.22	42.93	40.95	45.86	56.65	63.60	64.70	66.86	63.97	72.72	69.33	74.99	73.48	76.35	77.71	79.14	80.57	81.99	83.42	84.85	88.13	91.41	94.68	97.96	101.24
12	28	13	39.40	40.51	40.48	40.63	56.15	62.14	62.78	66.18	63.45	69.99	67.52	73.28	71.75	74.29	75.25	76.84	78.43	80.03	81.62	83.21	86.30	89.39	92.48	95.57	98.66
12	28	14	38.38	39.41	39.45	39.60	55.63	60.26	61.62	64.39	62.23	67.61	65.85	71.80	70.41	73.08	73.42	75.17	76.92	78.66	80.41	82.16	85.21	88.26	91.32	94.37	97.42
12	28	15	36.56	38.29	38.40	38.24	54.92	59.42	60.32	63.26	60.77	66.43	65.14	69.87	69.73	73.08	72.17	74.08	76.00	77.91	79.83	81.74	84.89	88.05	91.20	94.36	97.51
12	28	16	36.89	38.16	38.04	38.22	54.38	59.08	60.14	63.20	60.56	66.41	64.98	71.26	69.92	72.83	72.12	74.03	75.94	77.84	79.75	81.66	84.81	87.96	91.12	94.27	97.42
12	28	17	39.81	40.01	39.91	40.22	55.92	61.33	62.92	66.18	62.90	67.74	67.17	73.23	71.69	76.06	73.85	75.72	77.59	79.47	81.34	83.21	86.61	90.01	93.41	96.81	100.21
12	28	18	45.54	47.62	46.35	49.95	59.55	69.60	66.86	72.22	68.39	80.33	73.13	77.16	76.70	81.01	82.39	83.58	84.77	85.95	87.14	88.33	91.99	95.65	99.31	102.97	106.63
12	28	19	49.92	49.57	52.30	62.92	60.76	70.44	67.24	126.79	77.36	90.59	75.10	80.80	76.87	131.78	96.52	95.56	94.60	93.64	92.68	91.72	99.14	106.56	113.99	121.41	128.83
12	28	20	44.11	47.40	43.69	62.60	60.70	70.22	66.83	77.01	68.29	91.12	73.46	75.78	76.58	83.90	98.01	96.45	94.89	93.32	91.76	90.20	94.34	98.49	102.63	106.78	110.92
12	28	21	42.11	46.82	43.40	56.57	60.84	66.70	66.37	68.93	66.42	84.98	73.12	74.88	76.88	80.43	92.30	91.46	90.62	89.77	88.93	88.09	92.11	96.14	100.16	104.19	108.21
12	28	22	40.72	41.78	41.36	48.69	60.65	65.29	64.59	67.88	65.10	77.37	72.82	74.39	74.28	78.02	80.78	81.74	82.70	83.67	84.63	85.59	89.62	93.65	97.67	101.70	105.73
12	28	23	40.52	41.11	41.74	43.58	57.78	62.34	63.26	66.81	63.69	72.75	71.21	72.25	73.06	76.95	76.06	77.91	79.76	81.62	83.47	85.32	89.08	92.84	96.61	100.37	104.13
12	28	24	35.18	37.38	38.26	39.86	55.85	59.69	59.60	62.16	61.30	67.27	67.63	68.29	69.70	72.80	72.78	74.49	76.20	77.91	79.62	81.33	84.52	87.71	90.89	94.08	97.27
12	29	1	33.12	35.21	38.98	32.98	56.26	57.10	56.57	58.30	62.67	59.88	63.57	65.07	65.34	68.04	66.09	69.26	72.43	75.61	78.78	81.95	83.95	85.96	87.96	89.97	91.97
12	29	2	31.88	34.12	37.51	32.16	54.10	54.72	55.57	56.75	60.70	58.88	61.88	63.16	63.79	66.33	65.18	68.17	71.16	74.16	77.15	80.14	82.14	84.14	86.13	88.13	90.13
12	29	3	31.30	33.90	36.43	32.01	53.16	54.48	55.31	55.76	59.82	58.39	61.22	62.45	63.41	65.07	64.95	67.97	71.00	74.02	77.05	80.07	81.80	83.52	85.25	86.97	88.70
12	29	4	31.35	33.97	36.36	32.01	52.84	54.54	55.42	55.64	59.72	58.20	60.87	62.07	63.77	64.65	65.14	68.09	71.05	74.00	76.96	79.91	81.57	83.23	84.90	86.56	88.22
12	29	5	31.95	35.10	36.92	32.11	53.88	55.25	56.39	57.01	60.25	58.44	61.95	62.93	65.03	65.56	65.53	68.45	71.37	74.30	77.22	80.14	82.03	83.91	85.80	87.68	89.57
12	29	6	33.28	37.12	38.97	32.62	55.69	57.04	59.13	58.99	62.14	58.53	63.75	64.15	67.76	68.14	65.45	68.78	72.12	75.45	78.79	82.12	84.51	86.91	89.30	91.70	94.09
12	29	7	35.64	40.78	41.30	33.95	59.20	60.60	63.21	60.14	63.43	59.38	67.99	68.46	73.18	71.15	66.40	70.17	73.94	77.71	81.48	85.25	87.52	89.79	92.06	94.33	96.60
12	29	8	41.56	45.96	46.15	35.01	60.21	63.61	66.86	63.94	65.55	61.50	72.03	71.44	76.64	73.75	68.98	72.73	76.47	80.22	83.96	87.71	90.16	92.61	95.07	97.52	99.97
12	29	9	42.28	46.98	46.70	36.62	61.26	63.99	66.87	64.91	68.79	63.67	73.11	71.80	76.87	73.94	71.17	74.88	78.59	82.29	86.00	89.71	91.80	93.89	95.99	98.08	100.17
12	29	10	42.35	46.28	47.51	37.96	61.52	65.71	66.86	65.91	69.25	65.15	73.16	73.10	76.58	74.77	72.93	76.48	80.03	83.59	87.14	90.69	92.80	94.91	97.01	99.12	101.23
12	29	11	42.73	44.81	47.47	37.89	61.58	65.71	66.20	64.98	68.89	64.91	73.13	73.75	76.38	75.13	73.42	76.84	80.26	83.69	87.11	90.53	92.54	94.55	96.57	98.58	100.59
12	29	12	41.22	42.79	45.19	37.82	60.48	65.19	65.68	64.05	68.44	64.39	72.82	72.00	75.45	73.08	73.68	76.69	79.70	82.72	85.73	88.74	90.74	92.74	94.74	96.74	98.74
12	29	13	37.75	41.34	41.25	37.92	59.54	63.84	64.57	61.83	65.14	64.46	70.99	69.63	74.27	71.03	73.42	75.65	77.88	80.12	82.35	84.58	86.86	89.14	91.41	93.69	95.97
12	29	14	36.43	40.65	39.26	37.79	58.64	62.22	63.72	60.61	63.48	64.81	69.52	67.85	72.93	69.72	72.36	74.56	76.75	78.95	81.14	83.34	85.64	87.94	90.24	92.54	94.84
12	29	15	35.09	39.93	38.47	36.94	57.78	61.03	63.26	60.01	62.37	64.13	67.83	67.11	72.93	69.26	71.38	73.51	75.64	77.76	79.89	82.02	84.45	86.88	89.32	91.75	94.18
12	29	16	35.08	39.66	38.63	36.89	57.65	61.47	63.11	59.66	62.75	64.12	68.35	67.29	72.53	68.99	70.58	72.76	74.94	77.11	79.29	81.47	84.01	86.55	89.08	91.62	94.16
12	29	17	37.53	41.94	40.95	37.98	59.34	63.64	65.02	62.20	63.97	64.97	71.52	69.08	75.45	70.70	74.02	75.82	77.62	79.42	81.22	83.02	85.66	88.31	90.95	93.60	96.24
12	29	18	44.32	49.84	49.88	47.11	63.18	74.00	68.41	68.05	73.88	73.59	76.73	74.14	80.71	75.12	81.84	83.77	85.71	87.64	89.58	91.51	93.81	96.11	98.41	100.71	103.01
12	29	19	46.79	89.44	56.86	53.58	63.37	87.91	126.00	68.53	83.01	86.69	112.56	75.18	118.55	74.35	86.33	88.32	90.32	92.31	94.31	96.30	98.30	100.30	102.30	104.30	106.30
12	29	20	43.95	56.09	55.95	51.97	63.37	69.39	74.91	66.28	82.58	84.64	75.09	75.14	85.38	73.98	82.59	85.07	87.54	90.02	92.49	94.97	96.64	98.30	99.97	101.63	103.30

M	D	Hr	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
12	29	21	44.25	49.14	51.22	46.76	63.18	69.10	68.13	67.92	74.31	74.61	73.13	75.17	79.95	77.69	81.70	84.02	86.34	88.67	90.99	93.31	95.41	97.51	99.60	101.70	103.80
12	29	22	40.95	44.19	47.51	40.08	61.64	63.84	67.43	65.82	73.47	69.32	72.12	71.51	76.88	73.49	77.88	80.44	83.00	85.57	88.13	90.69	92.66	94.63	96.60	98.57	100.54
12	29	23	39.00	45.11	43.93	38.02	60.07	62.59	65.65	64.27	67.73	64.62	70.65	71.19	75.45	73.58	73.34	76.10	78.85	81.61	84.36	87.12	89.55	91.98	94.41	96.84	99.27
12	29	24	34.93	38.92	39.91	35.41	57.65	59.79	61.87	61.92	63.51	63.24	66.67	67.05	71.37	70.64	69.84	72.53	75.21	77.90	80.58	83.27	85.44	87.61	89.79	91.96	94.13
12	30	1	32.88	36.19	33.42	33.60	55.68	56.44	58.12	62.38	56.71	60.99	63.28	63.37	67.34	70.30	66.80	68.85	70.89	72.94	74.98	77.03	80.62	84.20	87.79	91.37	94.96
12	30	2	31.76	35.30	32.38	33.24	53.88	54.74	56.78	59.87	55.98	60.21	61.51	61.72	65.13	68.07	65.41	67.45	69.49	71.53	73.57	75.61	79.17	82.73	86.30	89.86	93.42
12	30	3	31.46	34.87	32.01	33.66	53.70	54.43	55.93	58.76	55.51	58.31	60.72	61.41	64.47	66.50	63.89	66.13	68.37	70.61	72.85	75.09	78.38	81.67	84.95	88.24	91.53
12	30	4	31.46	34.08	32.10	33.56	53.90	54.43	55.97	58.57	55.36	58.11	60.44	61.60	64.31	66.25	63.85	66.18	68.51	70.85	73.18	75.51	78.46	81.41	84.37	87.32	90.27
12	30	5	32.10	35.04	32.49	33.87	54.51	55.28	56.76	58.88	55.58	58.51	61.21	62.83	65.03	66.45	64.57	66.86	69.15	71.44	73.73	76.02	79.01	82.00	85.00	87.99	90.98
12	30	6	34.07	36.21	33.13	36.00	56.59	56.93	58.99	59.19	55.48	61.50	62.60	65.43	67.69	68.52	67.60	69.38	71.16	72.95	74.73	76.51	79.83	83.15	86.47	89.79	93.11
12	30	7	38.71	38.13	34.08	39.95	60.07	60.41	61.92	60.56	56.52	66.15	67.09	70.50	70.79	70.70	73.01	74.07	75.13	76.20	77.26	78.32	81.85	85.38	88.90	92.43	95.96
12	30	8	42.66	39.96	34.97	45.60	61.48	64.50	65.22	65.32	57.99	70.23	69.90	74.50	73.30	73.10	76.61	77.27	77.93	78.58	79.24	79.90	84.11	88.32	92.52	96.73	100.94
12	30	9	42.51	40.52	36.12	43.55	62.08	65.19	66.49	68.51	59.90	69.52	70.30	75.17	73.71	76.09	75.97	77.02	78.07	79.11	80.16	81.21	85.83	90.45	95.06	99.68	104.30
12	30	10	42.87	40.85	37.78	44.41	63.37	65.59	66.47	69.27	61.31	69.56	71.49	75.17	73.39	78.60	76.82	78.11	79.40	80.70	81.99	83.28	87.43	91.59	95.74	99.90	104.05
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12	30	16	38.28	37.35	36.52	40.14	59.39	60.39	59.87	61.24	59.95	68.47	65.48	70.25	69.08	71.68	76.77	77.66	78.55	79.44	80.33	81.22	83.98	86.75	89.51	92.28	95.04
12	30	17	40.79	38.27	38.99	41.73	61.38	62.15	62.89	63.47	61.95	70.74	67.87	72.67	71.07	73.31	78.16	79.16	80.15	81.15	82.14	83.14	86.15	89.16	92.17	95.18	98.19
12	30	18	49.36	43.24	46.16	48.84	65.06	65.11	66.86	70.10	70.36	73.90	72.13	76.25	74.35	78.48	80.17	82.05	83.92	85.80	87.67	89.55	92.74	95.93	99.11	102.30	105.49
12	30	19	85.02	44.14	55.76	52.29	66.00	65.71	69.86	76.54	81.16	83.76	73.13	116.93	75.60	87.77	83.97	85.79	87.60	89.42	91.23	93.05	96.75	100.46	104.16	107.87	111.57
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Energy Market Perspective: Midwest Baseline

Fall 2009

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Executive Summary

ES.1 About the Energy Market Perspective

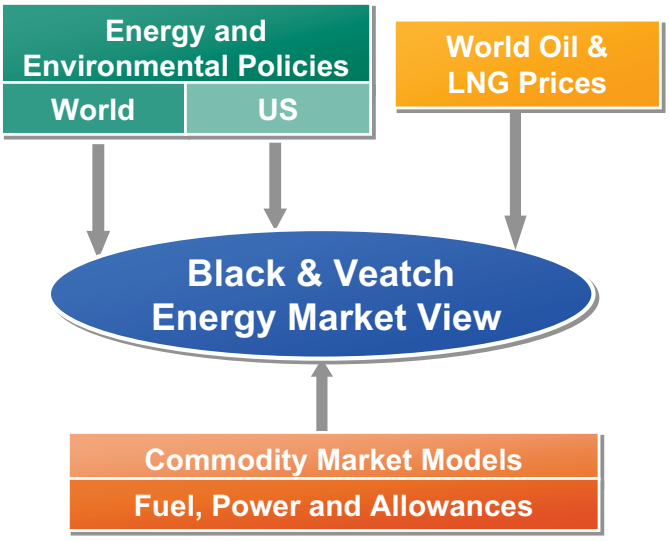
Overview of the Energy Market Perspective

- The Black & Veatch **Energy Market Perspective** is prepared every six months to provide B&V clients with a fresh and insightful assessment of the current state of North American energy markets, and a Base Case long term view of how those markets may function. Critical elements of the Energy Market Perspective include:
  - A thoughtful, transparent and internally consistent approach to analysis of the energy markets and the government policies that influence them.
  - A view of the markets for generation fuel sources.
  - A view of the electric power markets.
  - An Integrated Market Modeling process designed to capture both the broad policy level assumptions and detailed structural market representations to arrive at a consistent market view.
- Key Report Deliverables
  - Energy (power, coal, oil and natural gas) price forecasts at both granular and aggregate levels for a 25-year study period, 2010 – 2034. **All results are in constant beginning of year 2009 US Dollars.**
  - A framework for thinking about a plausible and viable future state of energy industry regulation and infrastructure.
  - Insights on the key value drivers that form value creation opportunities for B&V clients.

Energy Market Price Forecasting

- Black & Veatch's **Energy Market Perspective** is anchored by its **Integrated Market Modeling (IMM)** process, which is used to prepare its integrated long term view on energy markets. In order to arrive at this market view, B&V draws on a number of commercial data sources and supplements them with its own view on a number of key market drivers, for example, power plant capital costs, environmental and regulatory policy, fuel basin exploration and development costs, and gas pipeline expansion.
- B&V uses this data in a series of vendor-supplied and internally-developed energy market models to arrive at its proprietary market perspective; vendor-supplied models include PROMOD (part of the PowerBase Suite).

B&V Energy Market Perspective

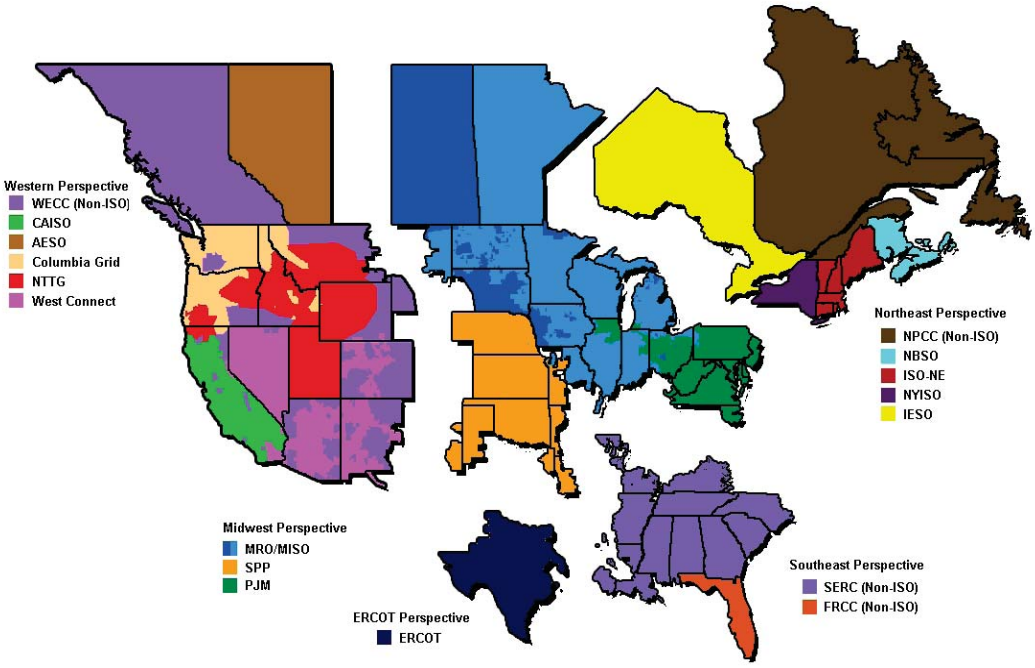


Key Issues (Assumptions) that Influence the Baseline Perspective

- GHG legislation and costs
- RPS requirements and (in)ability to meet
- Power demand
- Future generation construction costs
  - Fossil (gas, coal)
  - Nuclear
  - Renewables (wind, solar, etc.)
- Transmission infrastructure
- Unit retirements
- Gas demand
- Supply F&D costs
- LNG imports
- Oil prices

- Essential criteria for input assumptions
  - **Neutrality:** neither "conservative" nor "aggressive."
  - Chosen to provide a base line or "expected value" forecast around which clients can build their own scenarios.
  - Clearly documented to provide transparency so clients can readily compare input and results to their own world views—**no "black box."**

Power Market Regional Coverage



The B&V Energy Market Perspective is available as a National Service or as one or more Regional Services: Western, Texas (ERCOT), Northeast, Midwest and Southeast.

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ES.2 Discussion of the Fall 2009 EMP Baseline View

The Energy Industry—Heading Towards a "New Normal"

- As the world economy begins its recovery from the worst economic downturn since WWII, corporate leaders are all asking the same question--"what does the future hold for my business?" This is never a simple question to answer, particularly this early in any recovery phase, but the range of uncertainties faced by businesses now may never have been greater than they are today. In the past, economic recovery meant returning to some sort of "normal" conditions. In this recovery, the only widespread consensus one can find is that the recovery will not be a return to what was considered to be normal just a couple of years ago; rather, we are headed towards a "New Normal" of uncertain dimensions, risks and opportunities.
- What will be the North American energy industry's "New Normal"? Our industry is caught in the middle of the world's uncertainty, surrounded by currents of market, regulatory and technology forces that all await resolution. Our New Normal will likely include technology changes that simplify communication between energy provider and customer and provide for end use efficiency gains, although the magnitude of the change and the customers' ultimate response is largely unknown at this point. Our New Normal will require the ability to finance new infrastructure investments that today appear greater than our ability to securitize. The New Normal has uncertain government environmental regulations and mandated generation technology choices. The New Normal will require use of technology that today is unproven. At times, our New Normal will seem to be beyond our control.

The Energy Industry—Getting to Where We Are

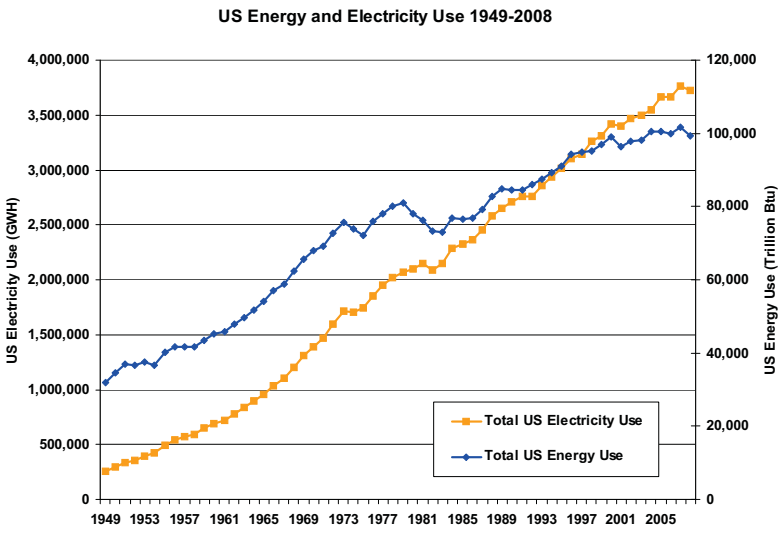
- The dust of this recession has only begun to settle, but it is clear that the energy industry's New Normal faces a series of fundamental risks:
  - Uncertainty in the growth of power demand
  - Uncertainty in input prices, particularly natural gas
  - Uncertainty in GHG control legislation
  - Uncertainty in technological innovation in power, fuel supply and transpiration
- If we are entering a New Normal, what was the Old Normal and what were its key drivers? The Old Normal was based on a nation (and world) of robust growth, and in the US in particular it was driven by consumer spending. In the past 2 decades consumer spending grew rapidly, fueled by a wealth effect emanating from growing stock portfolios, easy credit, and the ability to fund increased spending by borrowing against rapidly inflating real estate values. Ultimately US consumers were highly leveraged, essentially realizing "negative" savings rates. The arrangement was intrinsically unsustainable, and when it collapsed, consumers were hit with plummeting wealth, tighter credit and, as the economy contracted, increased unemployment.
- As the recession deepened, consumers not only cut spending in response to lower income expectations and reduced wealth, they "de-leveraged" themselves, paying down debt, becoming savers again, and thereby amplifying the impact of the recession.

The Energy Industry—Signposts to Watch

- The recovery of the energy industry is tied to the recovery of the overall economy and is thereby dependent upon increased consumer spending. There will be many signposts to watch for in this recovery:
  - Increased stock prices—already in progress
  - GDP growth—early measures of the 3Q09 US GDP indicates a 3% annualized growth rate—when we look back, this could be the point at which the recession ended.
  - Unemployment—has now topped 10% as of October 09 early estimates. The "good news" is that the rate of job loss for the past 3 months has been much less than the previous year.
  - World consumption. Consumers in much of the rest of the world are net savers, in some countries very aggressively so. Reduction in net savings in other countries will mean that their economies are becoming more important in providing a demand pull for the economy, reducing the importance of US consumers "spending" us into a recovery.
- This broad perspective is important because it is clear that the "tide" of the world economy does to some extent "float all boats" including the North American energy industry. The economic events of the past few years has seen the tide go out, with energy sector demand down across the board.

Energy and Electricity Use

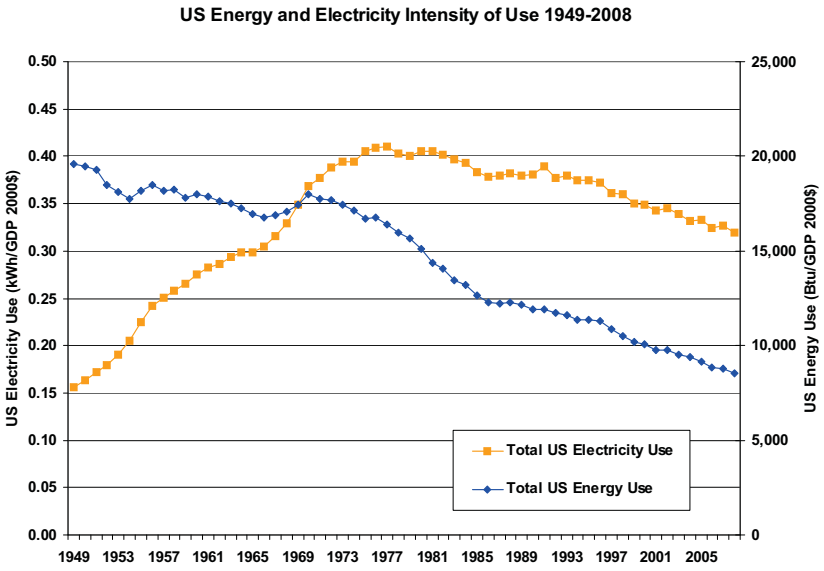
- It is probably not surprising to most in the energy industry to observe that electricity use in the US has been growing faster than overall energy use since the 1970s. The real cost of energy commodities have growth since the first OPEC embargo in 1973, and the shift to a services driven economy has made electricity the more convenient and economical energy source behind much of our economic growth.
- What is probably less well known is that the total consumption of energy in the US has been relatively flat in the past decade. US GDP growth from 1999-2008 averaged 2.5% per year, while total energy demand growth was only 0.4% per year and electricity demand growth was 1.3% per year. Clearly:
  - US economy has become very energy efficient, and
  - Electricity is gaining "market share" relative to all other energy end uses.



Source: B&V Analysis

Energy and the Economy

- The energy efficiency of the US economy (or "intensity of use") is even more dramatic when viewed in terms of consumption per dollar of GDP. In this measure it becomes clear that the energy efficiency of the US economy has improved continually since WWII, and electricity efficiency has been improving since 1970.
  - Overall energy use in the economy per unit of GDP was declining slowly prior to the 1970s, and the rate of decline has increased significantly since then.
- Since 2000, growth in electricity use has been 1.1% lower than GDP growth.



Source: B&V Analysis

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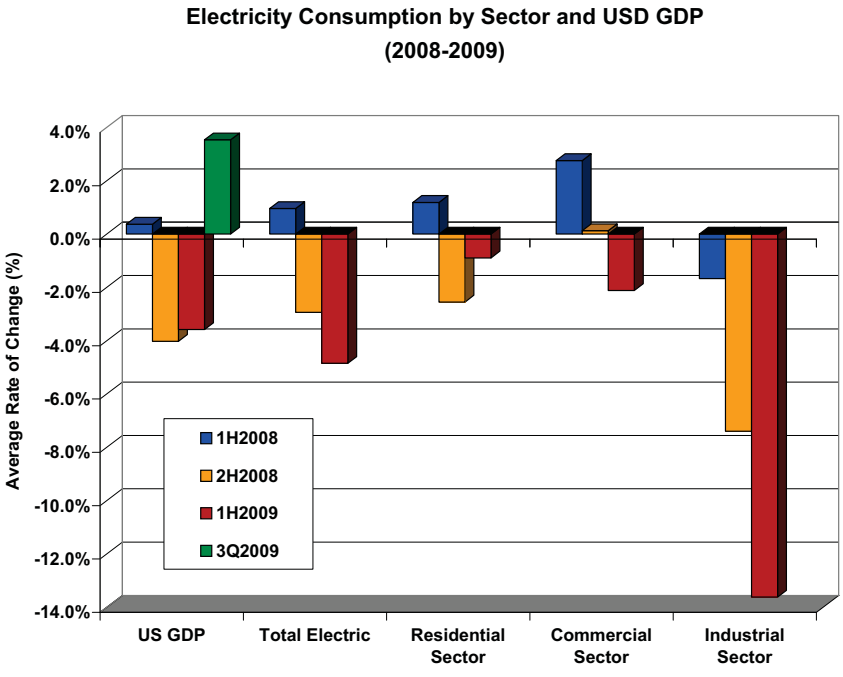
Recent Decrease in Electricity Demand

- The preceding discussion provides a backdrop on the impact of the recession on the electric power industry.
- The drop in US electricity demand (using energy, not peak MW) began in August 2008.
- Year over year average growth rates:
  - Jan-Jul 08 = +1.0%
  - Aug-Dec 08 = -3.9%
  - Jan-Jun 09 = -4.9%
- The residential and commercial sectors have seen significant hits, but the biggest decease has been in the industrial sector.
- The industrial sector decline started earlier and has been deeper.
- Combined with increased account delinquencies and defaults, this has constrained revenue and earnings for most electric utilities
- US DOE EIA expects the rate of decline to lessen in the second half of the year, especially in the Southwest, where higher summer temperatures led to higher air conditioning load. The total year decline is expected to be 3.3%.

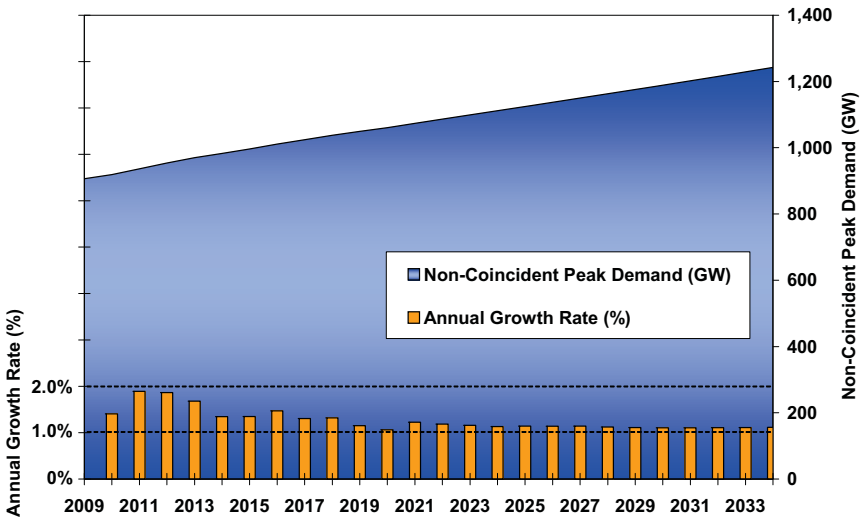


Source: B&V Analysis

Forecast for Power Demand

- The apparent start of the US economic recovery in 3Q09 with a 3% annualized growth rate portends a recovery in overall electricity demand in 2010. Expectations are for about 2.5% GDP growth in the US in 2010 (*The Economist, 3 Oct 09, p. 109*).
- Black & Veatch's survey of regional long term forecasts reveals a large amount of regional variation in recovery expectations on all measures: timing, magnitude and long term trend.
- So while averages will mask the important regional variations captured in the EMP analysis, the aggregate impact is an expectation of a moderate economic rebound in 2010-2013 with "1990's style" growth before reverting to a long term growth trend of about 1.1% per year.

Forecasted Peak Demand-North America



Source: B&V Analysis

Long-term natural gas prices are projected to rise with growing demand and new higher cost supply sources.

Short-term (2009 - 2011)

- Demand weakens with global economic climate
- North American natural gas production decreases with lower prices, credit constraints, and reduced drilling activity

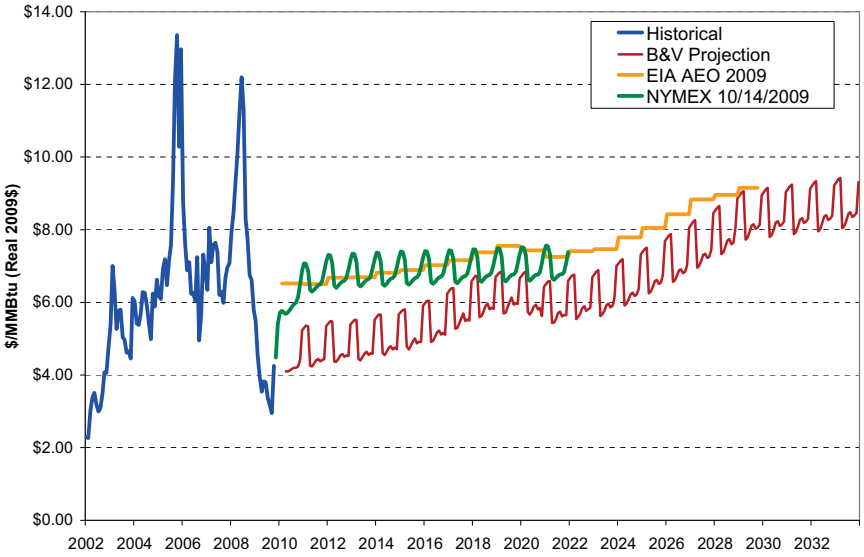
Medium-term (2011 – 2019)

- Natural gas prices track upward to an average of $5.50
- Unconventional gas and LNG imports keep pace with demand

Long-term (2019 – 2034)

- Power sector demand pushes new consumption
- Alaskan gas enters market in 2020 softening prices for a few years
- Prices then rise as WCSB decline accelerates and current unconventional gas plateaus

Historical and Projected Henry Hub Natural Gas Prices

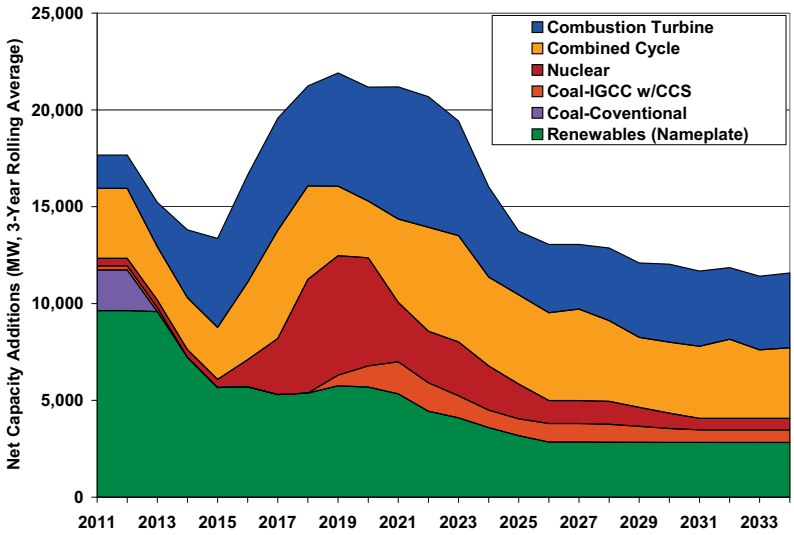


Source: EIA, B&V Analysis, NYMEX.com

Resource Implications of the Energy Market Perspective

- Electric power resource additions are driven by:
  - The expectation of a modest near term rebound in power demand.
  - Followed by a sustained longer term growth of about 1.1% per year
  - Continued interest in developing renewable energy to obtain federal tax credits and state RECs.
- Near-term resource additions are dominated by renewable energy due to the incentives, and natural gas resources due to the short development lead time.
- Wind resource additions decline over time as many state RPS standards and guidelines are largely met, with some expectation of extensions.
- Longer-term resource needs are met by natural gas resources, with growing role for nuclear and possibly IGCC w/ CCS for meeting base load growth.

Annual Resource Additions, Trended (MW)



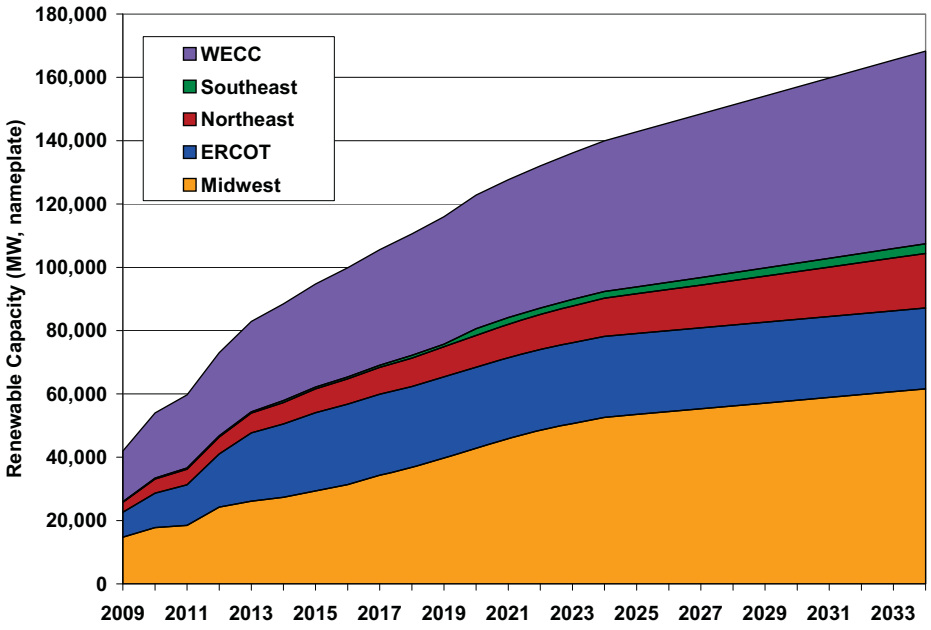
Source: B&V Analysis

Trajectory of Renewables Growth

Issues for Renewables

- Prospects for a Federal RPS.
- Regulation, Spinning Reserve and quick-start requirements.
- Will the transmission be built?
- Improvements in weather forecasting and system operating protocols.
- Modification of Planning Reserve Margin Targets.

Cumulative Renewable Resource Additions (MW)



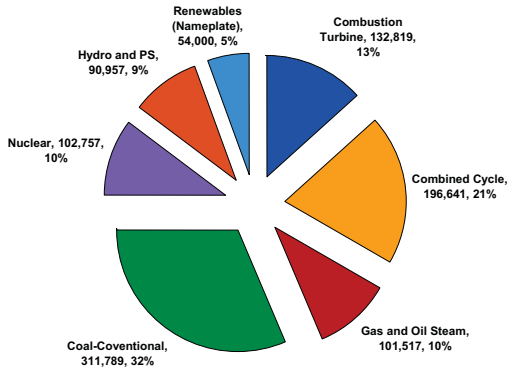
Source: B&V Analysis

The Changing Resource Mix-US

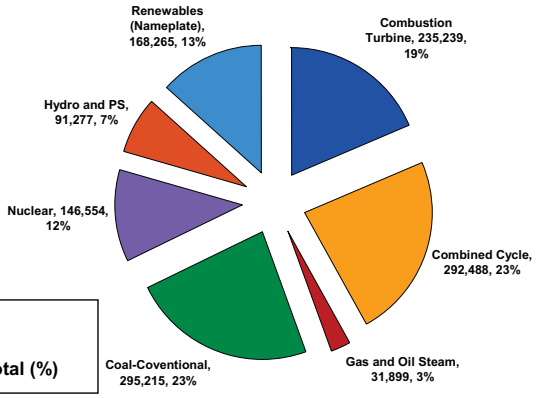
- Over the next 25 years the future mix of electric generation resources will have a notable shift to new gas-fire technologies, as part of a multi-prong power industry strategy that also includes wind, solar, nuclear and some IGCC w/ CCS.
- Combustion turbine and combined cycle capacity gains about 100,000 MW each, while about 70% of gas and oil steam assets are retired for a variety of reasons, such as age, inefficiency, and, on the west coast, limitations on use of ocean water for once-through cooling.
- Renewable capacity more that triples, much of this being wind, with some solar.
- Conventional coal capacity realizes another 8,000 MW of gains in the next few years as projects in advanced development are completed, followed by 25,000 MW of retirements of older, smaller, less efficient resources.

Source: B&V Analysis

Resource Mix—2010



Resource Mix—2034



Data Label Legend:
Technology,
Capacity (MW), Share of Total (%)

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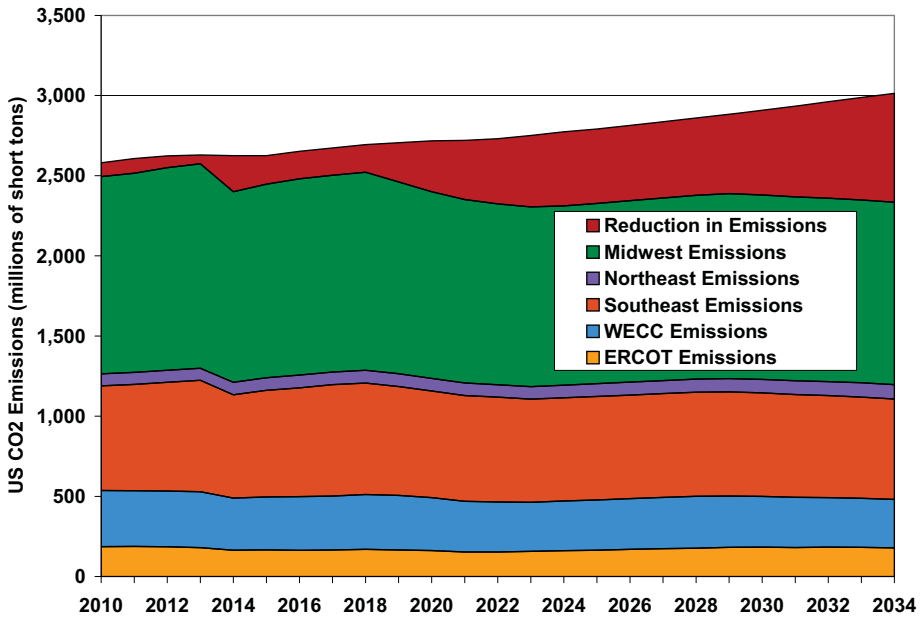
Trajectory for CO_2 Emissions

- Compared to a "Business as Usual" case with no GHG legislation, the B&V Base Case has moderate declines in electric power sector CO_2 emissions for 15 years, followed by a period of smaller reductions.
- The reduction in emissions shown in the chart on the chart on this page is the results of increased renewable energy, retirement of less efficient coal units, some re-dispatch of gas ahead of coal, lower demand growth, and utilization of allowances.

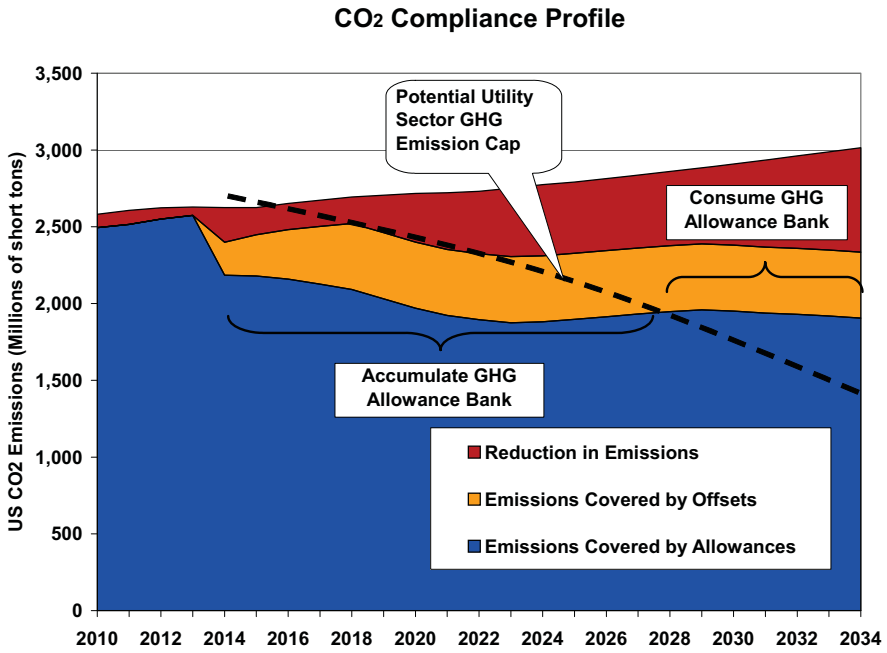
Annual CO_2 Emissions



Source: USDOE Annual Energy Outlook (for Business as Usual case) and B&V Analysis

Compliance with a CO_2 Emission Cap

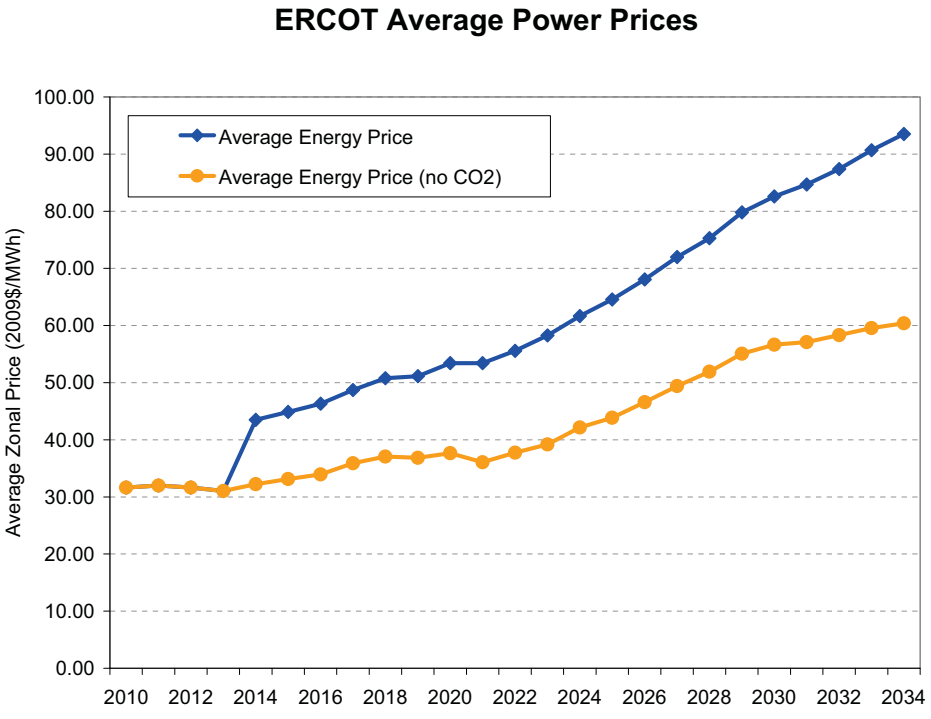
- The electric power sector accounts for about 39% of US carbon emissions. A typical presumption is that electric power's GHG compliance costs will be lower than that of many other sectors, so offsets may be used more in other sectors. If so, then the electric power sector may use less than a pro rata share of the 2 billion tpy of offsets allowed under proposed legislation.
- Assuming use of only half of its pro rata share of the 2 billion tpy of offsets, the electric power sector can bank offsets through the late 2020's and consume that bank well into the late 2030's.
- However, as 2040 approaches, additional compliance actions would be needed.



Source: B&V Analysis

Impact of Carbon Allowances on Wholesale Energy Prices

- In markets where natural gas is often the "marginal" fuel, the impact of carbon costs is typically on the order of $0.50/MWh for every $1.00/ton of Carbon Allowance, as illustrated by this comparison from the ERCOT EMP analysis results.



Source: Black & Veatch

Fall 2009 EMP—Major Assumptions and Findings

- Environmental assumptions:
  - A Green House Gas (GHG) cap and trade system will be implemented in the US in 2014. CO_2 allowance prices will start at $20/ton in 2014 (2009 $'s) and steadily increase to just over $60/ton by 2034.
  - Electricity generation carbon emissions decline throughout the study period, but GHG compliance depends upon offsets.
  - Renewable Portfolio Standards will continue to be managed at the state level.
  - Many states meet existing RPS goals, although often with significant delays in achieving RPS in most states.
- Power demand will rebound somewhat over the next four years, and the 25-year average grow rate will be about 1.2% per year, with wide variation among regions of the US and Canada. The average long term growth rate will be much lower than the historical long term growth rates, reflecting success in energy efficiency programs (including smart grid impacts) and a demand response to higher real energy prices.
- Natural gas prices will trade in the $4 to $6/MMBtu range (2009 $'s) through the early 2020's, after which increased gas demand (motivated by the GHG legislation) will provide steady upward pressure on gas prices, increasing to $8-9/MMBtu by 2030.
- Crude oil prices will increase from a $65-75/BBl (2009 $'s) level in the next three years to about $100/bbl by 2030.
- Cost of new construction of electric generation resources will revert to somewhat lower, sustainable long term levels in the next few years, stabilizing at levels about 10-15% lower than the peak costs realized in 2008.

Midwest Major Findings

- Significant new wind generation is planned and expected to come online in the Midwest. Additional new generation in the next decade will be mostly simple-cycle and combined-cycle natural gas fueled combustion turbines, with some nuclear unit additions starting near the end of the next decade.
- Wind generation has potential to significantly alter market dynamics, but depends on the extent of transmission expansion that can be successfully developed and brought online.
- New resources are needed in MISO in the 2013-2014 timeframe, in the 2015-2016 time frame in PJM, and 2021-2022 time frame in SPP.
- A national GHG cap and trade program will be implemented in 2014, with CO_2 allowance prices forecasted to start at $20/ton, increasing to about $62/ton by 2034. Implementation of the GHG allowance pricing causes a jump in energy prices, and will likely lead to retirement of less efficient coal generation
- Natural gas combined-cycle units will continue to set market clearing prices in the region in on-peak hours of the year. Off-peak prices are frequently set by coal-fueled steam turbines.

ES.3 Discussion of Changes From the Spring 2009 EMP Baseline View

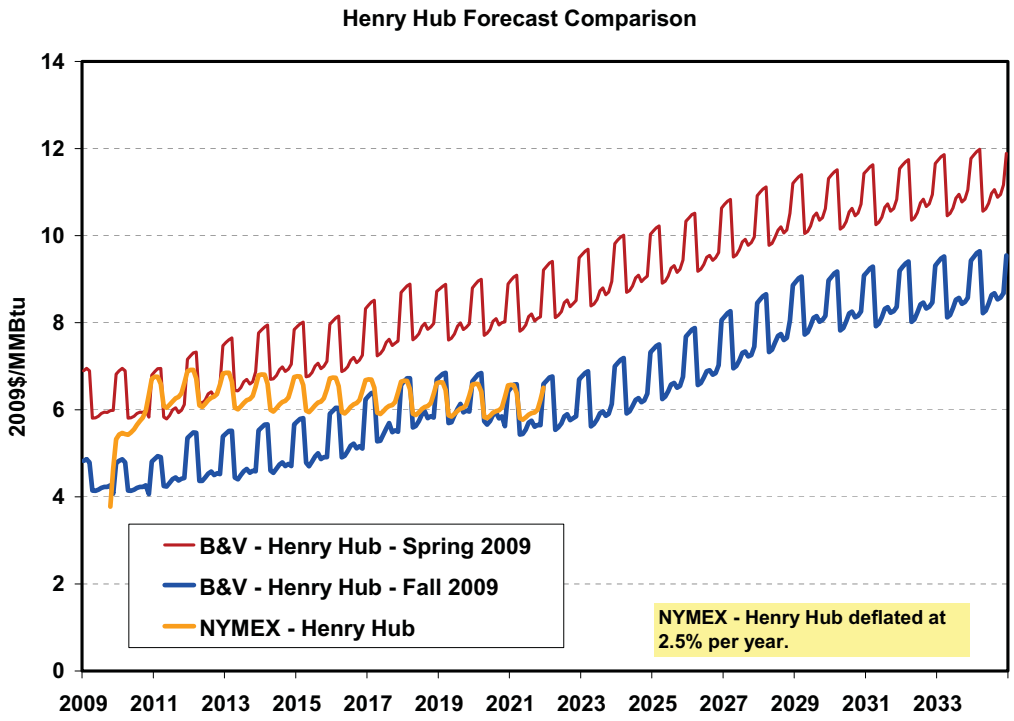
Major Changes from the Spring 2009 Baseline Forecast

- Every edition of the Black & Veatch EMP includes a major input review as a matter of course, updating literally thousand of data points on unit characteristics, retirements, new resources, fuel, power demand, transmission, etc. As the world was particularly volatile in 2009, it seems appropriate to highlight three major changes in the Fall 2009 EMP.

1. GHG assumptions:
   - Implementation of a carbon cap and trade system is delayed from 2012 to 2014 due to likely legislative delays.
   - CO_2 allowance price trajectory starts at a higher point, but rises slower in real terms, and does not hit a "safety valve."
   - GHG emission allowance offsets become a major compliance strategy.
2. Long term power demand growth has declined from about 1.5% to 1.2% per year, reflecting the perspectives of load serving entities on the impact of the recession, long term economic activity, population trends, success in energy efficiency programs and a demand response to higher real energy prices.
3. Natural gas prices rise more slowly and reach about $8/MMBtu by the end of the study period, versus $11/MMBtu in Spring 2009 view, reflecting rapidly expanding evidence on unconventional gas resource development costs, specifically the "gas shales."

Major Changes from the Spring 2009 Baseline Forecast

- The long term gas price forecast has been lowered in response to recent announcements on shale gas life cycle costs.



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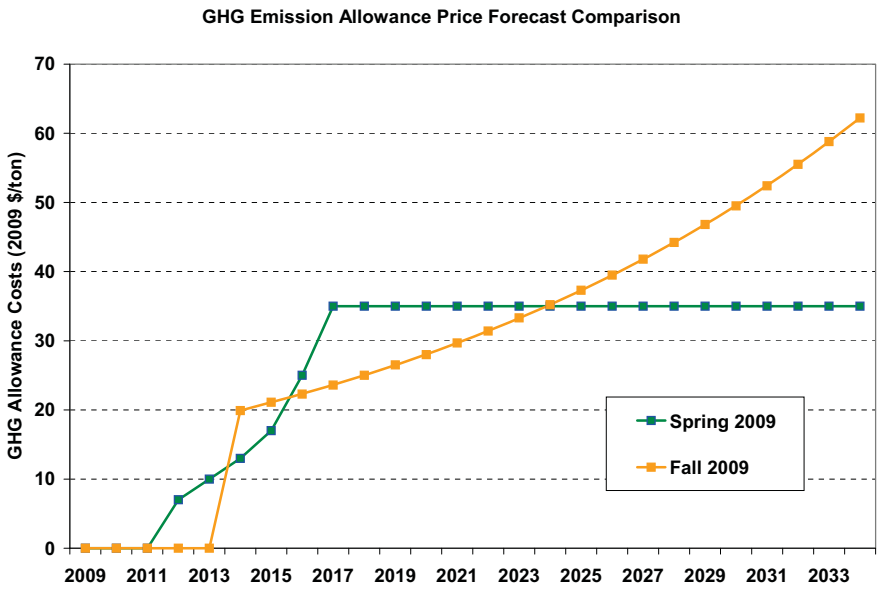
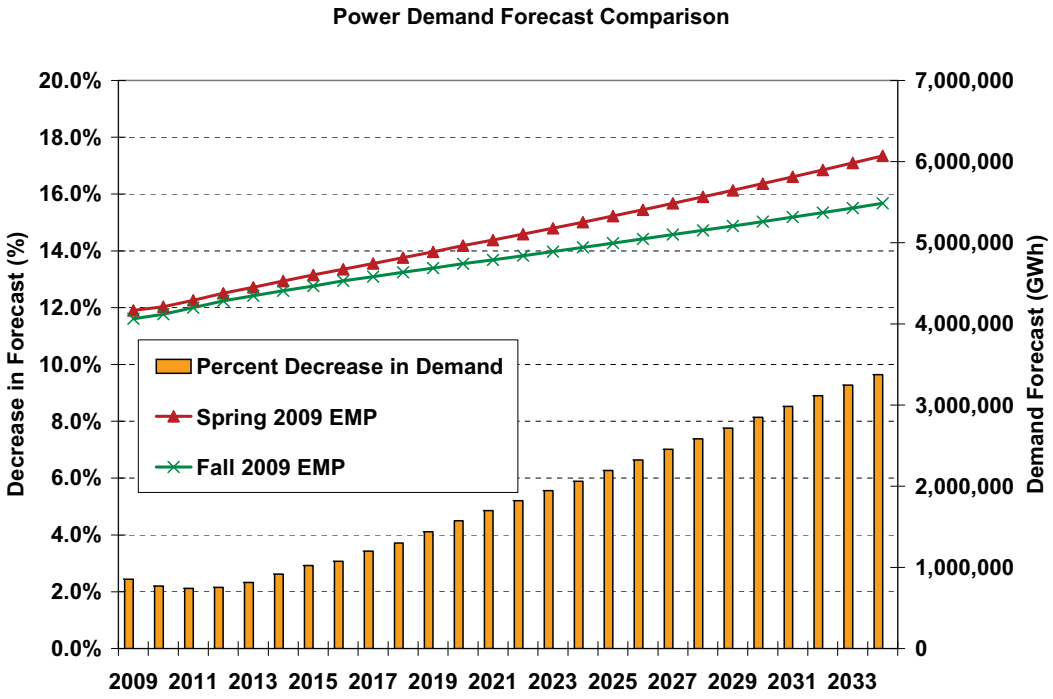
Major Changes from the Spring 2009 Baseline Forecast

- The GHG emission allowance price forecast assumes the first year of compliance is 2014, and US policy allows compliance strategies to include offsets to control the net cost of compliance, removing the need for an explicit "safety valve" or other price ceiling.



Major Changes from the Spring 2009 Baseline Forecast

- The long term energy demand growth rate has been decreased from 1.5% to 1.2%.



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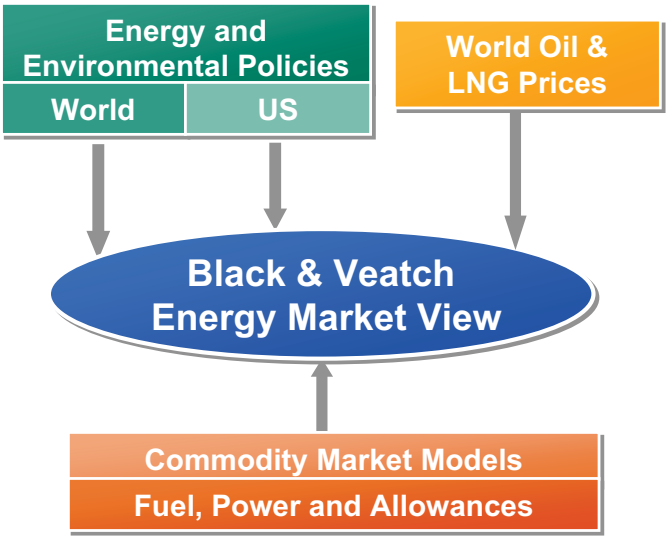
Section 1.
Energy Market Framework

Energy Market Price Forecasting

- Black & Veatch's **Energy Market Perspective** is anchored by its **Integrated Market Modeling (IMM)** process, which is used to prepare its integrated long term view on energy markets. In order to arrive at this market view, B&V draws on a number of commercial data sources and supplements them with its own view on a number of key market drivers, for example, power plant capital costs, environmental and regulatory policy, fuel basin exploration and development costs, and gas pipeline expansion.
- B&V uses this data in a series of vendor-supplied and internally-developed energy market models to arrive at its proprietary market perspective; vendor-supplied models include PROMOD (part of the PowerBase Suite).

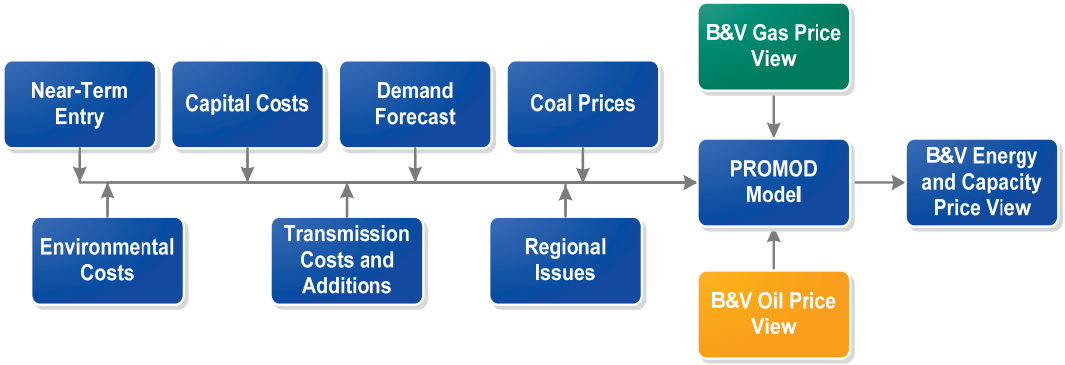
B&V Energy Market Perspective



Electricity Market Price Forecasting

- The electricity price forecasting portion of the IMM process uses the PROMOD structural model to emulate asset-owner market behavior.
  - Execution of this forecasting process requires inputs on various key market drivers, including generation assets, fuel market conditions, electric transmission system operation and improvements and global, national and regional policy issues. The specific inputs assumptions are documented in detail in Sections 2 and 3 of this report.
- The results of the electricity market portion of the IMM process provide long term (25-year) detailed forecasts of **energy and capacity prices** for 71 defined North American market zones. These forecasts are suitable the forecasting merchant assets operations and market revenues, which can in turn drive transactional due diligence, asset portfolio optimization, environmental compliance, risk management and the analysis of business expansion and exit strategies.

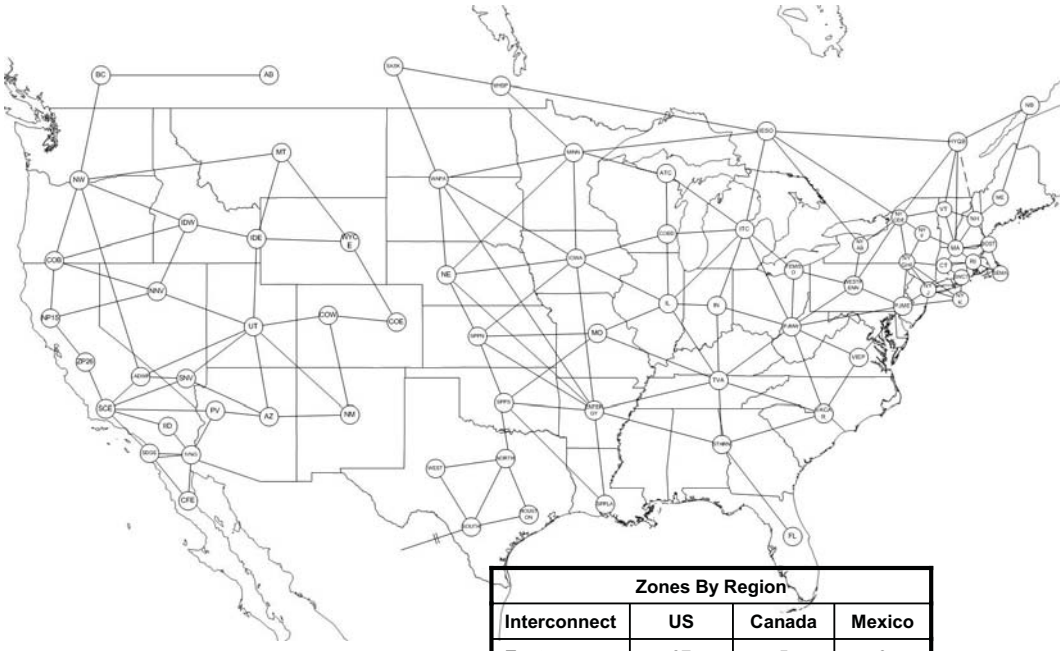
Electricity Market Analytical Structure



Geographic Scope of Energy Market Perspective

EMP North American Market Topology

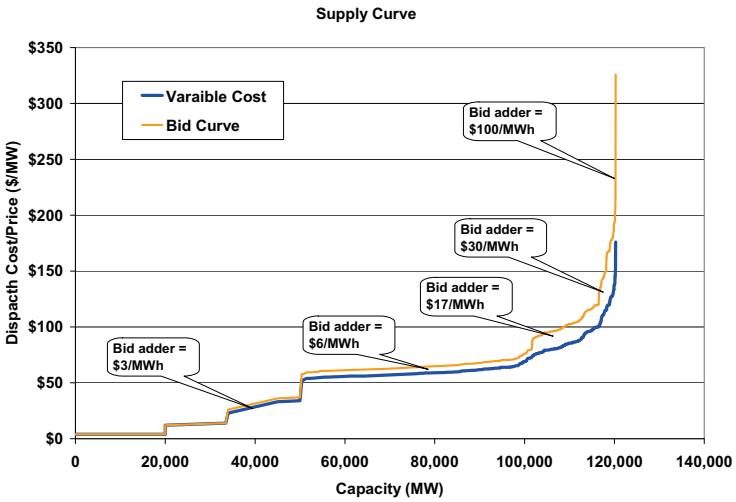
- The B&V Energy Market Perspective covers all of the lower 48 United States, the neighboring provinces in Canada, and northern Baja California in Mexico.
- A total of 71 regional market zones are used to segregate demand and resources so that all principal transmission interfaces and limitations are recognized in the market simulations.



Zones By Region			
Interconnect	**US**	**Canada**	**Mexico**
Eastern	37	5	0
ERCOT	4	0	0
WECC	21	2	1

Energy Price Forecasting—Approach

- An essential element of the energy price forecasting process is the use of a structural market model (sometimes called a "fundamental model") to simulate electric energy market behavior.
- In general there are two competing approaches used to create market price forecasts from structural models.
  - Variable cost dispatch. In this approach, each asset is assumed to offer its output to the market at its variable costs, typically the cost of fuel plus variable O&M.
  - Dispatch based on "bid adders" or "scarcity premiums." This second approach recognizes that asset owners will behave in a profit maximizing manner, and when possible will bid prices higher that their variable costs in order to maximize the value of their investment. While organized markets will monitor bidding behavior to restrict this behavior to some "acceptable level," it is clear from market prices observed in both bilateral and RTO-administered markets that such pricing behavior is common and is considered an acceptable practice.
- B&V's energy market analysis emulates this profit maximizing behavior in the price forecasting process.

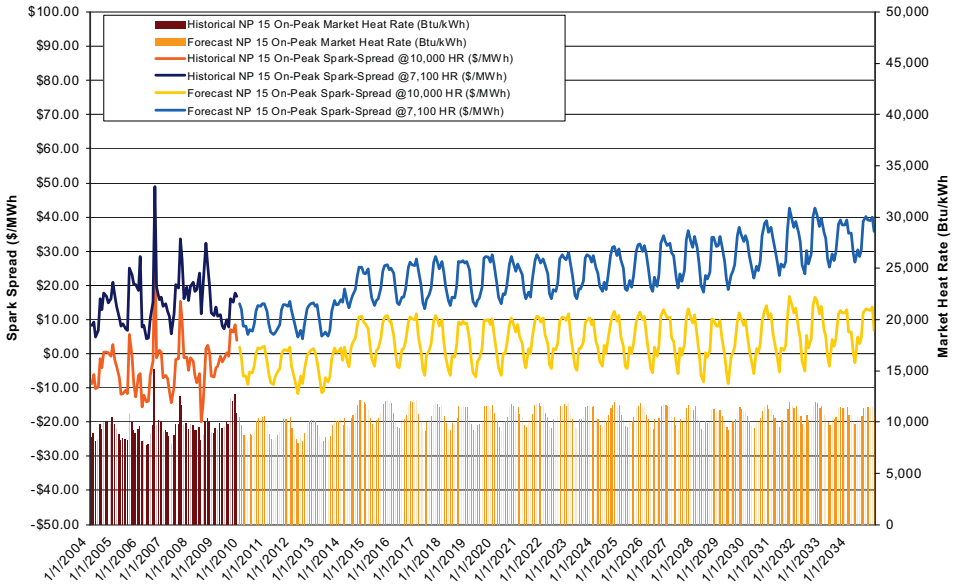


- The cumulative impact of this profit maximizing behavior is illustrated in the figure above. In essence, assets with a relatively low variable cost have little or no capability to bid prices higher than their variable operating costs. However, assets with higher variable operating costs will have opportunities to successfully bid prices above their operating costs.
- The result is that the supply curve seen by the market is "shifted upward" so that at any given demand level, energy market prices are higher than they would otherwise be with a variable cost bid approach.

Resulting Electricity Market Forecasts Are Rational Compared to History

- Near term forecasts are consistent with recent historical observations.
  - This serves to validate B&V's approach to energy price forecasting.
- This comparison is made in terms of spark spreads and market heat rates, which normalizes volatility in natural gas prices.

Northern California (NP-15): Historical and Forecast



Source: Black & Veatch

Interpreting Energy Price Forecast Results (part 1)

- The sample results on the previous page introduced two energy price metrics that are widely used in the power industry:
  - Spark Spread. This is a shorthand calculation of implied profitability for a gas-fired generator given a certain heat rate, such as 7,100 or 10,000 Btu/kWh.
    - Spark Spread ($/MWh) = Power Price ($/MWh) – [Gas Price ($/MMBtu) x Assumed Heat Rate (Btu/kWh) / 1,000]
  - Market Heat Rate ("MHR"). This calculation identifies the "break-even" heat rate of the marginal generator to yield the given energy price, presuming that the generator is gas-fired.
    - Market Heat Rate (Btu/kWh = Power Price ($/MWh) / Gas Price ($/MMBtu) x 1,000
  - Sample calculations follow.

Power Price ($/MWh) = 50
Gas Price ($/MMBtu) = 4.00
Spark Spread @ 10,000 = 50 - [4 x 10,000 / 1,000] = $10/MWh
Market Heat Rate = 50 / 4 / x 1,000 = 12,500 Btu/kWh

- Both Approaches live and die by their simplicity.
  - Spark spreads were created by power traders who needed a quick short hand to identify possible arbitrage opportunities. Asset owners can use spark spreads in the context of knowing, for example, that the Spark Spread @ 10,000 needs to be greater than $4/MWh to cover its variable O&M costs.
  - MHRs can be used in a similar way, in that an asset owner may know for example that the MHR needs to be greater than 8,500Btu/kWh for his asset to cover its fuel and VOM costs.

Interpreting Energy Price Forecast Results (page 2)

- Both metrics have drawbacks when applied to long term forecasts.
  - Spark Spreads are dollar values and are sensitive to assumptions regarding constant versus current dollars. This makes comparisons among differing forecast vintages difficult.
  - Market Heat Rates are not in expressed in dollars, but in a physical unit (Btu/kWh). This makes comparison among forecast vintages easier. But since market heat rates are ratios, differences in the rate of change of the numerator and denominator can give misleading indications. This is particularly noticeable when gas prices are changing rapidly within a forecast, or among vintages of forecasts. An increasing gas price will yield a decreasing market heat rate, even though the spark spread remains constant.
- Sample calculations are in the table at right. While this example was designed to yield a completely unchanging spark spread (which is unlikely), it does illustrate how an increasing gas price creates a decreasing MHR, creating a mistaken impression that asset profitability is dropping in the forecast.
- These metrics have much less meaning for all non-gas-fired assets. Coal-fired assets can look at similar metrics using power and coal prices, but they are asset-specific due to the wide range of efficiencies among these plants and coal's inherent non-fungibility. Assets like hydro, nuclear, wind and solar are focused on the power prices and their own operating costs.

	Natural Gas Price ($/MMBtu)	Power Price ($/MWh)	Spark Spread @ 10,000 ($/MWh)	MHR (Btu/kWh)
2010	4.39	68.94	25.00	15,690
2011	4.58	70.80	25.00	15,459
2012	4.80	73.02	25.00	15,207
2013	4.86	73.61	25.00	15,143
2014	5.01	75.08	25.00	14,992
2015	5.18	76.80	25.00	14,826
2016	5.42	79.16	25.00	14,616
2017	5.79	82.87	25.00	14,320
2018	6.09	85.92	25.00	14,104
2019	6.20	87.01	25.00	14,032
2020	6.09	85.87	25.00	14,107

Source: Black & Veatch

The Impact of GHG prices on the Interpretation of Energy Price Forecast Results (part 1)

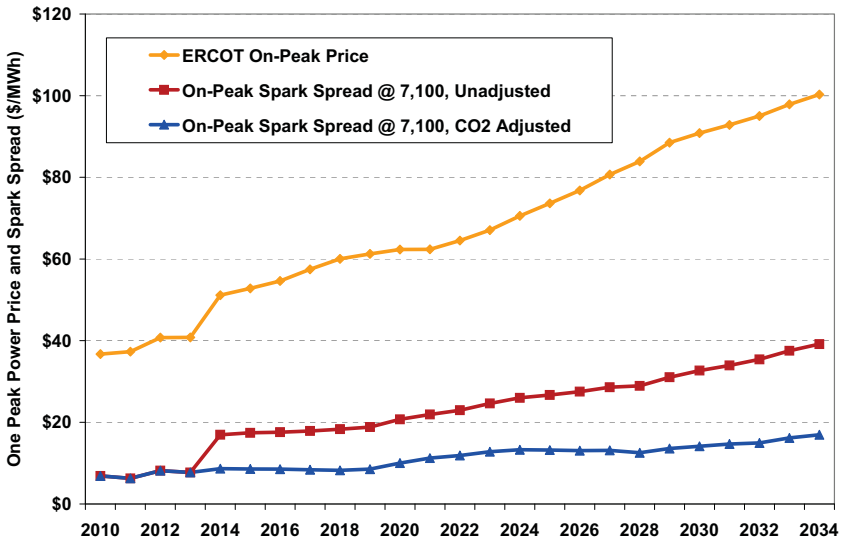
- The inclusion of GHG allowance prices introduces a major distortion to both spark spreads and MHRs.
- When other environmental assessments were made, such a SO_2 allowance prices and in some regions NOx allowance prices, the total impact on asset operating costs were small enough that they could be lumped in with other variable O&M costs, and there was no need to re-thing spark spreads and MHRs.
- But GHG allowance prices are forecasted to range in the $20 to $60/ton range. Assuming an average CO_2 content in today's power of roughly 0.75 tons/MWh, this is like adding $15 to $45/MWh to VOM costs. In this dramatic a situation, are the traditional metrics still valid?
- The answer is a clear "maybe." It would be possible to adjust spark spread and MHR calculations by the forecasted mix of CO_2 emissions of marginal (price setting) units each hour each year in an attempt to normalize the metrics for CO_2. This would help somewhat in making forecast comparisons simpler, but would yield a CO_2 adjustment that changes each year in the study period. This does little to help an individual asset owner, with a constant CO_2 emission rate, in quickly relating the meaning of a forecast in terms of asset profitability.
  - Also, the GHG allowance allocation mechanism is still under debate. It is likely that the amount of GHG allowances held by individual asset owners will vary in terms of the proportion of allocated (non-cash cost) versus purchased (cash cost) GHG allowances, and this will vary over time. And allocated GHG allowances will become monetized when assets are sold, so the second owner after allocation will view allocated GHG allowances as a cash cost. Clearly, there is no workable short hand for adjusting forecast prices for GHG impacts.
- For now, Black & Vetch's approach to this issue is to continue to calculate forecast spark spreads and MHRs in the traditional manner. But asset owners need to understand that over time the GHG allowance price is becoming a growing factor in the power price forecast and its impact on assets will vary widely.

Source: Black & Veatch

The Impact of GHG prices on the Interpretation of Energy Price Forecast Results (part 2)

- In this example of on-peak power prices in ERCOT, it is clear to see the impact of the GHG allowance prices in 2014. The overall price trajectory after that is influenced by increases in both the GHG allowance price and natural gas price.
- The unadjusted spark spread increases by a step function in 2014, and tends to rise over time in sympathy with the continued increases in GHG allowance prices.
- Adjusting for the increases in GHG allowance prices (by making a correction based on modeled hourly carbon emissions), the adjusted spark spread rises slowly over time form about $8.00 to $17.00 per MWh.

Adjusting for GHG Allowance Prices



Source: Black & Veatch

Capacity Price Forecasting—Approach

- In the context of long-term price forecasting, capacity prices create an asset revenue stream that supplements the margins received from energy markets.
  - Energy is the output from a power plant (measured in kWh or MWh).
  - Capacity is the ability to generate energy (measured in kW or MW).
- The value of capacity is a function of the value of the energy associated with it.
  - **Reliability capacity** (also called regulatory capacity or naked capacity) entitles the owner of the capacity to receive energy at a market price.
  - Capacity obtained in a **purchased power agreement** (PPA) usually gives the capacity owner the right to obtain energy at the asset's actual cost of production.
    - In effect, it is a physical option.
- PJM, New York and New England have administrative capacity markets, often called ICAP (**I**nstalled **CAP**acity) markets. ICAP is a form of reliability capacity, so the power plant owner can sell ICAP to the ISO and still retain the right to sell energy, although there typically is an obligation to preferentially sell the energy to the ISO.
- In the B&V Energy Market Perspective, we forecast the value of **reliability capacity**, and link it to ICAP in administrative markets
- See "Capacity Markets Demystified," *Public Utility Fortnightly*, March 2008.

Power Plant Owner's Revenue from Capacity Prices

Installed Capacity (ICAP) Markets

- ICAP prices are typically set through an administrative auction process. Rules vary widely by jurisdiction and are discussed in more detail in Section 4 of the Reports covering PJM, NY-ISO and ISO-NE.
- ICAP prices typically are regulated relative to the Cost of New Entry (CONE) for a proxy unit, usually a combustion turbine (CT). CONE will be adjusted by the proxy CT's energy and ancillary serves margins, resulting in a "Net CONE."
- The ISO sets rules for accrediting capacity to assure some level of reliability of service.
- All participating capacity resources receive the ICAP price if they clear in the auction process, regardless of their actual capital costs.
- Assets selling ICAP to an ISO will have to first offer their capability in day ahead energy and/or ancillary services markets sponsored by the ISO, thereby limiting other energy sales opportunities.

Bilateral Capacity Markets

- Bilateral capacity prices are typically set through private negotiation.
- In a PPA type of transaction, all energy and ancillary services (AS) margins are realized by the buyer of the capacity, so from an asset owner's perspective all the revenue comes from the capacity sale.
  - This is a simplification, as some PPAs are structured so that the asset owner realizes additional margin from the structure of the PPA's variable cost pass-throughs.
- In a reliability capacity sale, the capacity revenue would be lower than the revenue stream seen in a PPA under otherwise identical circumstances, and the asset owner would realize energy (and possibly AS) margins.
- This revenue stream will be risky due to the need to contract bilaterally with LSEs (to fulfill resource adequacy requirements) or other potential buyers. It is likely there will be winners and losers in such an activity.

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Capacity Prices and Revenue in Non-ICAP Markets

- There are no formal capacity markets in the outside of ISO-NE, NYISO and PJM, and no standard definition of the "capacity" product. At the same time, there are substantial numbers of negotiated power purchase agreements that split revenue for power sales between an energy and a capacity component.
- The forecast energy prices in B&V's Energy Market Perspective Base Case, and in virtually all simulation-based structural electricity price forecasts, are generally below a level that would fully compensate generic new entry for investment costs over their expected operating lives. This is particularly true for new simple-cycle entry included in the forecast process to maintain resource adequacy (minimum planning reserve margin) requirements.
- More efficient generators, likely to earn profit margins from energy sales, may still obtain capacity revenue through bilateral transactions, but it is common for there to be a negotiated trade-off between energy margins and negotiated capacity prices, so that total revenue available to owners is not expected to produce excess investment returns.

B&V Approach to Forecasting Capacity Prices in Non-ICAP Markets

- B&V has implemented an approach to forecasting capacity prices based on a long-run capacity planning algorithm.
- Given the bilateral nature of capacity transactions in non-ICAP markets, there is not a single price of capacity, and not all suppliers are likely to receive capacity revenue. As such, the capacity price forecast developed by B&V should be viewed as "indicative," and provides a reasonable measure of capacity price/revenue that marginal generators could expect to receive, provided that they are successful bidders in competitive procurement proceedings, and that they are able to negotiate a power sales agreement with a load-serving entity in need of capacity to meet load obligations (including planning reserves).
- In the B&V capacity market analysis, the capacity market "clears" when supply equals annual peak demand, plus planning reserve margins.
- In years and markets where new capacity is not yet needed, the capacity price is determined as shortfall revenue needed for the marginal generator to just recover its variable and fixed operating costs in the upcoming year. Under these conditions, there is no capacity revenue targeted to cover investment-related cost.
- In years and markets where new capacity is needed, and supply is expanding, the capacity price is calculated based on the cost of new entry (net of expected energy market operating revenue) in the upcoming year for two proxy technologies: a simple cycle gas turbine and a combined cycle asset.
- This in turn creates two alternative forecasts for capacity prices, as discussed further on the next page.

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Interpretation of Capacity Price Forecasts

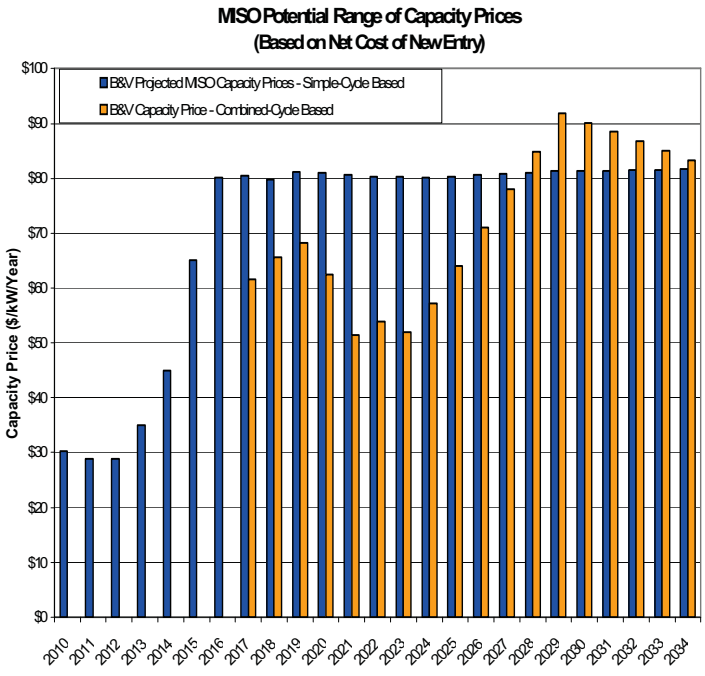
- In this example, which is based on a Fall 2009 forecast result in MISO, there are three capacity price levels to note.

1. When no new capacity is needed to provide adequate planning reserve margins, capacity prices are based upon the revenue shortfall of the region's marginal existing asset which would be needed to provide the regional reserve margin. In this example that value is in the $30-$40/kW/year range. Depending upon the shape of the supply curve this value can be much lower, and in some instances may be zero, indicating that energy revenues do not need to be supplemented by a capacity payment.

- Beginning in 2016-2017, capacity market prices reflect the cost of adding CT or CC capacity. Broadly speaking, the price (or value) of capacity will tend to be competed down to the lower value.

2. The CC-based capacity prices trend lower than the CT-based prices in most of the study period, indicating that CC revenue economics will tend to set capacity prices.
3. If a CT is needed by a specific load serving entity, its energy revenue will need to be supplemented by a capacity price higher than that for the CC asset. This may come from a direct capacity payment to the CT asset, or it may come from sale of ancillary services.

- Later in the study period the CT assets have the lower capacity value. Such changes are driven by changes in the shape of the regional supply curve.



- In ERCOT, the CC and CT net CONE values are very close and only a single capacity price is reported.

Source: B&V analysis

Section 2.
Environmental, Energy Policy and Power Market Assumptions

2.1 Policy Overview

Environmental and Energy Policy and Market Assumptions

- The US electric power industry is again in a state of rapid change and great uncertainty. The following is a discussion (admittedly not exhaustive) of the key policy issues that impact the B&V Market Perspective and influence the value of client investments.
- Key policy issues covered include
  - The 2005 Energy Policy Act
  - The 2009 Economic Stimulus Bill
  - Environmental regulations related to SO2 and NOx emissions
  - Potential green house gas regulations
  - State level renewable portfolio standards (RPS)
- Key electricity market assumptions include
  - Forecasted electricity demand
  - Cost of new generation
  - Resurgence of nuclear power
  - Current resource picture
  - Generation retirements
  - Major transmission projects

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Energy Policy Act of 2005

- EP Act 2005 provided for a series of incentives and subsidies to encourage fuel diversity, energy independence, increased efficiency and reduce green house gas emissions. Most initiatives are widely viewed as incremental changes only, and the Act has been criticized (on one hand) for its emphasis on nuclear and fossil fuels, and (on the other hand) for not allowing drilling in the Arctic National Wildlife Refuge.

Topic	Summary of Major Provisions
Coal	•Authorized $200 million per year in clean coal initiatives. •Repeal 160 acre ceiling on federal coal leases.
Network	•Requires DOE to designate National Interest Electric Transmission Corridors where congestion adversely affects the public, and gives FERC federal permitting authority in these corridors. •Sets federal reliability standards
Oil and Gas	•Incentives for development in the Gulf of Mexico •Exempt producers from certain provisions of the Safe Drinking Water Act. •Prohibits drilling in the Great Lakes.
Biofuels	•Increases targets for biofuel blending in gasoline •Authorized $50 million per year biomass grant program
Retail Electricity	•Requires all public utilities to offer net metering to customers. •Tax breaks for home and commercial building efficiency improvements. •Extending daylight savings by 4 to 5 weeks to decrease energy demand.
Renewable Energy	•Expands definition of renewable energy to include wave and tidal power •Authorizes US Department of the Interior to grant leases on Outer Continental Shelf for energy development other than oil and gas.
Green House Gases	•Loan Guarantees for a wide range of innovative technologies to reduce GHG emissions, including clean coal and nuclear

Note: Nuclear industry impact covered later in this section.

2009 Economic Stimulus Bill Contain Significant Energy Industry Provisions

- The American Recovery and Reinvestment Act of 2009 (the "2009 Stimulus Bill") was signed into law on February 17, 2009. It included nearly $50 Billion in energy-related provisions (or more, depending on how you classify some of the programs), including major changes to renewable energy incentives.

Topic	Summary of Major Provisions
Production Tax Credits (PTCs)	•Wind—PTC extended for facilities in service by January 1, 2013. •Biomass, geothermal, solar, landfill gas, municipal solid waste, hydroelectric and marine and hydrokinetic renewable energy facilities—PTC extended for facilities in service by January 1, 2014.
Energy Tax Credits (ETCs)	•For facilities listed above that are placed in service in 2009 or 2010, taxpayers may make an irrevocable election to claim a 30% energy tax credit (ETC) in lieu of the PTC. •ETC now available for assets financed in part or whole by tax exempt bonds or certain other government financing programs
Cash Grants	•Some ETC eligible assets may apply for a cash grant equal to 30% of the tax basis of the asset in lieu of the ETC. Grants will not be taxable income and the depreciation basis will be reduced by 50% of the grant. • Applies to assets (1) placed in service in 2009 or 2010 although construction began earlier, or (2) for which construction began in 2009 or 2010 and are placed in service by the PTC dates listed above, except solar and fuel cells (and technology previously eligible for ETCs) must be in service by January 1, 2017.
Smart Grid and Transmission	•$18.75 billion funding in various programs.
Energy Efficiency	•$22 billion funding in various programs.
Loan Guarantees	•$6 billion funding for guaranteeing $60 billion in loans for renewable energy and transmission projects.
Fossil Energy R&D	•$3.4 billion funding for what is perceived as a re-start of the FutureGen IGCC w/CCS demonstration project.

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2.2 Environmental Regulations For Other Than Green House Gas Emissions

Background on SO2 and NOX Emission Regulations

- The Acid Rain Program under the Clean Air Act Amendments of 1990 (CAAA 90)–This was the original "cap and trade" program, designed to reduce the environmental and human health impacts associated with the release of sulfur emissions from coal power plants. Its success is often cited in the debate over future regulation of carbon emissions.
- The Acid Rain Program incorporated a sulfur dioxide (SO_2) emission allowance trading system that employed a tradable permit mechanism. The program allowed market forces to efficiently allocate mitigation resources so that the national emission reduction goal was achieved.
- The Acid Rain Program was implemented through the following steps:
  - Set overall emission limits, subdividing that limit by setting specific limits for each emission source.
  - Assign tradable allowances to each emitter in an amount equal to their specific emission history.
  - Allow trading and track transfers of emission allowances.
- CAAA 90 NOx reductions were set in a two-phased strategy
  - The first phase, finalized in a rulemaking in 1995, was designed to reduce NOx emissions by over 400,000 tons per year between 1996 and 1999.
  - The second phase, which began in 2000, was designed to reduce NOx emissions by over 2 million tons per year. The second phase reduction goal has been surpassed, in part due to additional state-initiated NOx reductions in the Northeast.

Further Regulation of SO2 and NOX Under the Clean Air Interstate Rule (CAIR)

- Clean Air Interstate Rule (CAIR) – In 2005 the EPA announced CAIR, a rule designed to achieve the largest reduction in air pollution in more than a decade.
- Through the use of the proven cap-and-trade approach, CAIR was designed to achieve substantial reductions of sulfur dioxide (SO_2) and nitrogen oxides (NO_x)
- CAIR included a two-phase program with declining power plant emission caps:
  - SO_2 annual caps: 3.6 million tons in 2010 and 2.5 million in 2015
  - NO_x annual caps: 1.5 million tons in 2009 and 1.3 million in 2015
  - NO_x ozone season caps: 580,000 tons in 2009 and 480,000 in 2015
  - Emission caps were divided into State SO_2 and NO_x budgets
- Use of Acid Rain allocations for compliance with CAIR
  - 1:1 ratio for allocations before 2010
  - 2:1 ratio for allocation 2010-2014 (one allowance for Acid Rain and one allowance for CAIR)
  - 2.86:1 ratio for allocation 2015 and after (one allowance for Acid Rain and 1.86 allowance for CAIR)

CAIR's Legal Journey

- The Clean Air Interstate Rule (CAIR) rulemaking prompted utilities in the eastern United States to order billions of dollars of equipment to reduce SO_2 and NOx emissions, or purchase emission allowances, in anticipation of the annual NOx trading market scheduled to begin on January 1, 2009, seasonal NOx trading in May 2009, and SO_2 market in January 2010. The first phase of CAIR was designed to reduce annual SO_2 and NOx emissions by 45% and 53% respectively, with even greater reductions to begin under a subsequent phase in 2015.
- The rule was challenged by several states and other petitioners, most of whom sought to have only certain provisions of the rule revised or set aside. After ruling in July 2008 that CAIR had "more than several fatal flaws" and vacating the rule altogether, the U.S. Court of Appeals for the District of Columbia Circuit instructed all litigants to file responses to EPA's petition for rehearing in October 2008.
- Based on these responses, the court issued a four-page order on December 23, 2008, that temporarily restored CAIR and essentially reversed its previous decision to vacate the rule while the U.S. Environmental Protection Agency drafts a new rulemaking that addresses the legal problems the court previously identified when it vacated the CAIR rule in July 2008. In its decision, the Court concluded "notwithstanding the relative flaws of CAIR, allowing CAIR to remain in effect until it is replaced by a rule consistent with our opinion would at least temporarily preserve the environmental values covered by CAIR."

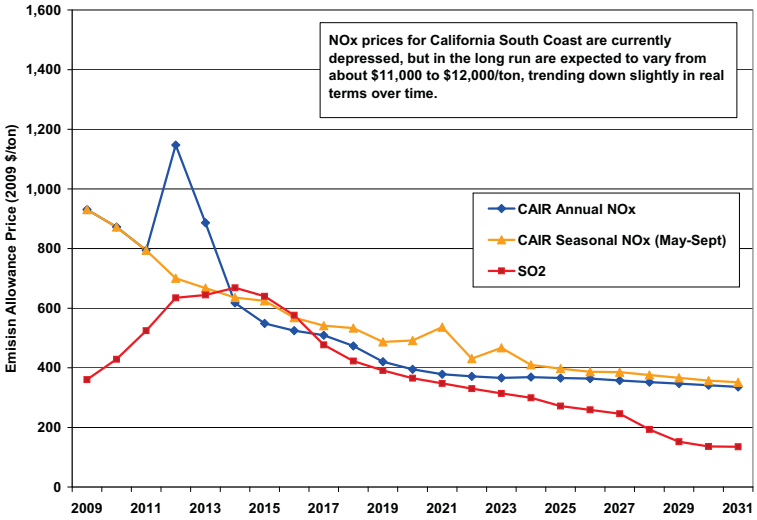
CAIR's Next Steps

- EPA must now promulgate a new CAIR that addresses all the flaws and concerns identified in the court's July 2008 ruling, which realistically could take years to finalize.
  - A Proposed Rule is expected in May 2010, with finalization in 2011. It may or may not include emissions trading as part of allowable compliance strategies.
- Alternatively, Congress could enact legislation that implements CAIR's proposed SO_2 and NOx emission reduction programs, but EPA would still likely have to develop rules to implement the new legislative program. Bills to accomplish this have been introduced in 2009, but none have passed so far.
- In the meantime, both states and utilities must scramble to distribute allowances and manage emissions to meet the initial phase of CAIR's emission reduction requirements.

SO2 and NOX Emission Allowance Price Assumptions

- In 2008, seasonal NOx Emission Allowances (EAs) varied between $600 - $1,400 per ton, and SO2 EAs varied in a range of about $100 to $500 per ton.
- In the near term significant deviation between actual prices and forecasts is possible because the current market prices are based largely on speculation in the face of regulatory uncertainty, not fundamentals. Once caps are re-established and confirmed, there will be a re-alignment between pricing and fundamentals.
- In the long run, SOx and NOx EA prices will likely decrease due to various GHG regulation impacts:
  - Gas substitution,
  - Few new coal additions,
  - Increased the rate of renewable additions, and
  - Higher power prices pushing demand down.

Forecasted Emission Allowance Prices



Source: PowerBase and B&V Analysis

SO_2 & NO_X Emissions – Other EPA Regulations

- **Fine Particulate Matter ($PM_{2.5}$)** - forms from precursor pollutants such as SO_2 and NO_X
  - EPA designated 225 counties as non-attainment areas for annual standard in 2005 and 120 counties for new 24-hour standard in October 2009.
  - NSR implementation rule issued in May 2008 imposes BACT requirements on new and modified sources, requires SO_2 and presumes NO_X to be treated as a precursor pollutant
  - States have 3 years from each rulemaking to develop State Implementation Plan (SIP) requirements
- **8-hour Ozone** – forms from precursor pollutants NO_X and VOCs
  - EPA stays 2008 standard for attainment designations in September 2009 to reconsider stringency, expects to complete accelerated designation process in August 2011.
  - 2008 standard will continue to be implemented for permitting, and 1997 standard for non-attainment designations

Regional Haze Program

Regulates emissions of $PM_{2.5}$, SO_2 and NO_X from older (1962-1977) plants that contribute to reduced visibility

- Original 1999 Regional Haze rule vacated by courts in May 2002
- Final rule and guidance for Best Available Retrofit Technology (BART) determinations issued in June 2005
- EPA issues finding in January 2009 that 37 states have failed to submit complete State Implementation Plans (SIPs) with BART determinations and long term "reasonable progress" strategies
  - AL, AR, DE, IA, KY, LA, MS, MO, NC, SC, TN, UT, WV and Albuquerque/Bernalillo County New Mexico have submitted complete SIPs
- EPA to issue Federal Implementation Plan (FIP) by January 2011, which will establish basic requirements for each state that has not by then completed an approved SIP

Mercury (Hg) Emissions

- Final Clean Air Mercury Rule **(CAMR)** published May 2005
  - Nationwide cap-and-trade program regulating Hg emission from coal-fired units >25 MW
  - Reduction goals of 38 tons beginning in 2010 (AQC co-benefits) and 15 tons beginning in 2018 (~70%)
  - Performance standards by category of fuel/technology (bituminous, subbituminous, lignite, coal refuse & lignite) for units built or modified after January 30, 2004.
- States asked to adopt federal CAMR - Multiple states adopt more stringent Hg requirements (which remain in effect today)
- CAMR vacated by DC Circuit Court in February 2008 due to unlawful delisting of EGUs from regulation under Clean Air Act §112. Supreme Court denies petition for certiorari (review) in February 2009.
- March 2008 state agencies begin regulating Hg emissions on a case-by-case basis
- October 22, 2009: consent decree issued as settlement of December 2008 lawsuit brought by the Natural Resources Defense Council and others to compel EPA to regulate Power plant air toxics emissions under the Clean Air Act. In this consent decree EPA is to finalize Maximum Available Control Technology (MACT) standard for Hg and other hazardous air pollutant emissions from new and existing coal and oil fired units (likely 90% reduction or greater) by November 2011.

New Source Review

Modifications to existing sources that result in emission increases may trigger requirement to install state-of-the-art air pollution control equipment

- **Reform Rules**
  - Only two of ten proposed by Bush administration in effect today – past actual to future projected actual calculation test; and plant-wide 10 year cap
- **Enforcement Actions**
  - 16 federal cases settled over past decade, lawsuits against Cinergy, Duke and Alabama Power still active
  - Supreme Court upheld EPA's annual (vs. hourly) emission increase trigger in April 2007
  - New lawsuits filed by Obama administration against Westar, Louisiana Energy and Midwest Generation in 2009
  - New 114 letters requesting information on past modifications mailed out

Non-Air Regulatory Actions Affecting Utilities

- **Combustion Waste Management**
  - December 2008 spill from TVA ash pond prompts new EPA Administrator to announce agency will propose coal-ash regulations and determine whether to reclassify coal combustion byproducts as hazardous waste by end of 2009
- **Wastewater Discharges**
  - EPA to propose revised rule including limits on toxic metal discharges in mid-2012
- **Cooling System Intake Structures**
  - EPA promulgates Phase I rule for new facilities in 2001 and Phase II rule for existing facilities in 2004
  - EPA suspended its Phase II rule for existing facilities in 2007 after Second Circuit Court of Appeals vacates provisions
  - April 2009 US Supreme Court upholds EPA authority to use cost-benefit analysis to determine "best technology available for minimizing environmental impact" in Phase II rule

2.3 Green House Gas Regulations

Green House Gas (GHG) Regulations

- According to the World Resources Council, baseline (uncontrolled) carbon emissions are expected to grow at 2.5% per year. Seven Bills in the 110th Congress addressed Federal Greenhouse Gas (GHG) Legislation all targeting significant decreases in total emissions by 2050. None were passed.
- During the campaign, now-President Obama proposing to target the 1990 emissions level by 2020 and an additional 80% reduction by 2050.
- The Obama administration has pledged to establish a national CO_2 cap & trade program which will include an economy-wide cap on CO_2 emissions.
- In the summer of 2009, much attention was focused on HR 2454, the American Clean Energy and Security Act of 2009 (ACESA), drafted by Reps. Henry Waxman and Ed Markey. The US House of Representatives passed the bill on June 26, 2009. The Senate has not yet passed a companion bill, although bills have been introduced.
- Intended to reduce domestic emissions of greenhouse gases, ACESA contains four main mechanisms for reducing greenhouse gas emissions in the economy:
  - A cap and trade emissions trading system geared at the electric utility sector and large emitters of greenhouse gases;
  - EPA enforced equipment performance standards for all other CO_2 emitters;
  - A mandatory federal renewable electricity standard requiring electric utilities to generate 20 percent of their power from renewable sources and through efficiency gains by 2020;
  - Various energy efficiency standards for buildings, equipment, and appliances.

Main Provisions of ACES (Waxman-Markey)

- Reduce greenhouse gas (GHG) emissions by 17% in 2020 compared to 2005 levels; 42% by 2030, and 83% by 2050.
- 85% of the GHG allowances will be allocated to retail electric companies and generation owners; 15% will be auctioned.
- Combines DSM/EE and RPS in a single program called Combined Efficiency and Renewable Electricity Standard (CERES). Sets a combined target of 6% in 2012 rising to 20% in 2020.
  - Up to 25% of target can be met with DSM/EE:
    - In that case 15% of electricity to come from renewable energy sources and there is a 5% demand reduction from energy efficiency measures.
  - Generation from new nuclear, new CCS and existing hydro are deducted from retail sales for calculating the CERES requirement.
  - Creates RECs which can be banked for 3 years after generation.
  - REC prices capped by an Alternative Compliance Payment (ACP) of $25/MWh.
  - Retailers selling less than 4,000,000 MWh/yr are exempt.

The Boxer-Kerry Bill (S. 1733)

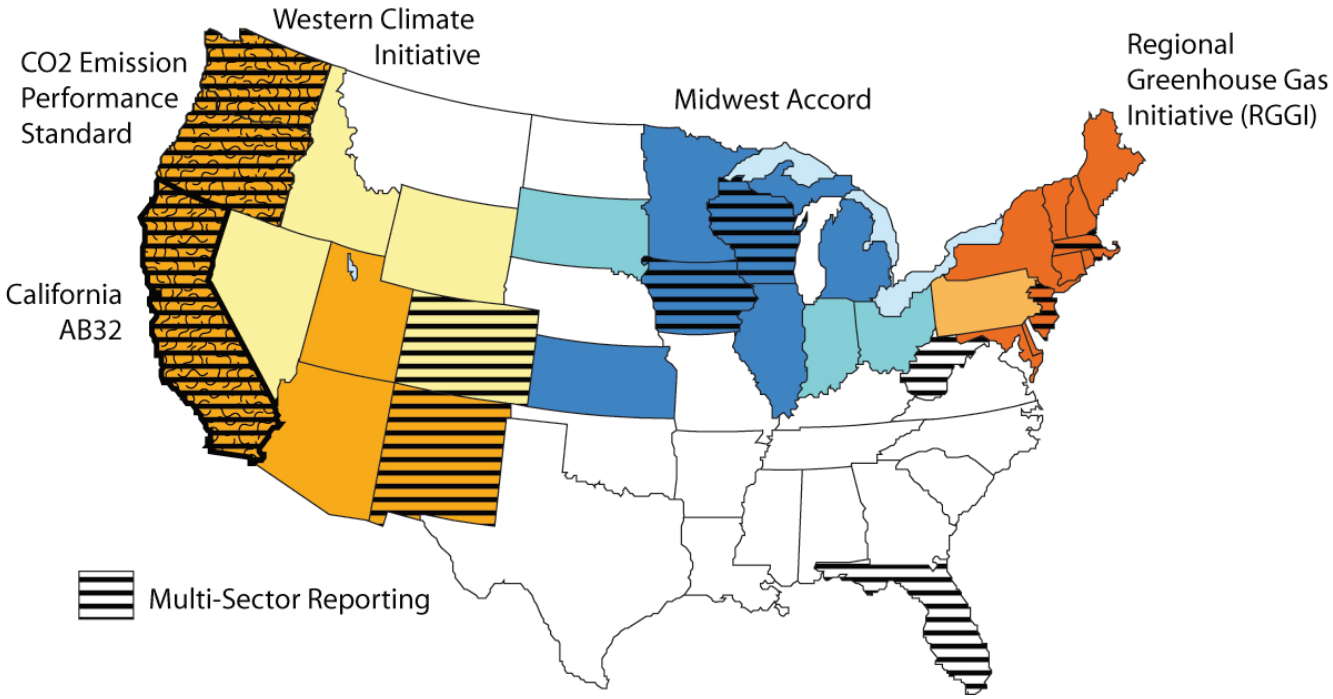
- As the Fall 2009 EMP approached completion, another new bill, the Clean Energy Jobs and American Power Act (S. 1733) was introduced on September 30 by Senators Barbara Boxer and John Kerry. It is likely that various additional bills will be introduced in the Senate, and all will need to go through the committee process before they ever get to a floor vote. Once a Senate bill is passed, then the bill will need to go to conference committee before having a chance at becoming law.

Waxman-Markey "American Clean Energy & Security Act" (Passed by House June 2009)	**Kerry-Boxer "Clean Energy Jobs & American Power Act"** (Introduced to Senate September 2009)
• Reduction Goals – 17% by 2020, 42% by 2030, 83% by 2050 • Economy-wide cap-and-trade with unlimited banking, borrowing with interest, detail distribution scheme • Offsets - 2 billion tons annually, 1 billion domestic & 1 billion international (international can be increased to 1.5 billion by EPA Administrator) • National RPS 20% by 2020 • New coal plant CO_2 performance standards • Prohibits EPA regulation under Clean Air Act provisions	• Reduction Goals – 20% by 2020, 83% by 2050 • Economy-wide "pollution reduction & investment" with unlimited banking, borrowing with interest, distribution details yet to be negotiated • Offsets - 2 billion tons annually, 1.5 billion domestic & 0.5 international (international can be increased to 1.25 billion by EPA Administrator) • New coal plant CO_2 performance standards • Silent on EPA regulation under Clean Air Act provisions

GHG Regulations – EPA Actions

- **Endangerment Finding** – proposed April 2009 that GHG emissions from motor vehicles "cause or contribute to pollution that endangers public health & welfare" (in response to 2007 Supreme Court ruling)
  - Finding would give EPA authority to regulate GHG emissions from mobile and stationary sources under the Clean Air Act
  - Expected to be finalized by end of 2009
- **GHG Mandatory Reporting Rule** – final issued September 2009 for sources emitting 25,000 tons CO_{2e} annually
  - Specifies industrial categories, defers others to 2011
  - Begins January 1, 2010 with first report due March 31, 2011.
- **GHG Tailoring Rule** – proposed September 2009, would subject new sources (and modification of existing sources) emitting 25,000 tons per year or more to Best Available Control Technology (BACT) requirements under Clean Air Act PSD program

Regional & State GHG Programs (in effect by 2012)



Baseline GHG Regulation Assumptions for EMP

- Based on Waxman-Markey bill, assuming compliance is centered on a cap and trade program.
- Covers electric generation, transportation and other fossil fuels used by residential, commercial and industrial sectors.
- CO_2 emission caps are:
  - 6.5% of 2005 GHG emission levels by 2014 (2.7 billion short tons – 2.5 billion metric tons)
  - 17% by 2020 (2.4 billion short tons – 2.2 billion metric tons)
  - 42% by 2030 (1.7 billion short tons – 1.5 billion metric tons)
  - 83% by 2050 (0.5 billion short tons – 0.45 billion metric tons)
- Allowances can be banked for future use.
- Technical assumptions inherent in B&V Baseline Forecast
  - A CO_2 cap & trade program will induce the application of the most cost-effective avoidance and abatement measures first and additional measures in order of increasing cost until total emissions are under the targeted cap – Allowance prices are determined by the marginal cost of control of the last measure required to meet the cap.
  - The cost of control in the industrial, transportation and domestic sectors are sufficiently similar to the costs for the electric industry such that the trading of allowances between the electric and other sectors is minimal. Therefore, electric industry caps and use of offsets are in proportion to economy-wide caps. [Currently electric generation contributes 39% of covered emissions.]
- *Offsets* are permanent greenhouse gas emission reductions or avoidance (including sequestration) not required by any law or regulation or commenced prior to 2009. According to Waxman-Markey, the offset project developer is issued one credit for each CO_2e that the project reduces, avoids or sequesters.
- Allows for 2 billion metric tons (2,204,623 short tons) in offsets.
- Electric power industry uses only 50% of it "pro-rata share" of offsets, on the presumption that other sectors will have more difficulty in compliance and therefore need more than their share.
- Legislative delays make 2014 the first year of implementation.

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GHG Regulation Compliance Measures

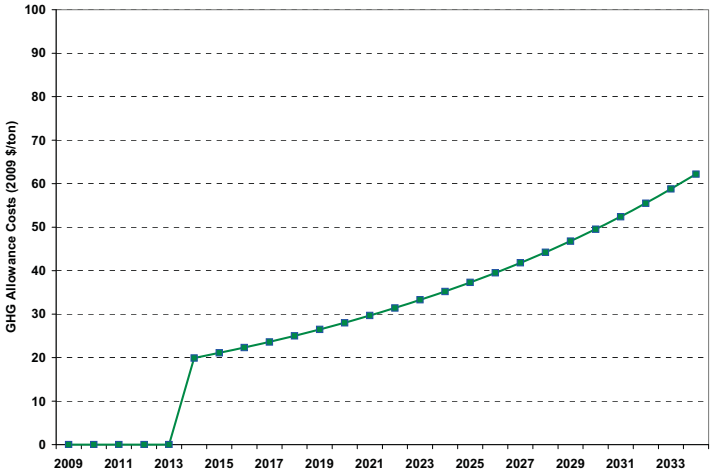
- Compliance with GHG regulations can be met from a variety of measures. The current avoidance and abatement measures applicable to the electric industry include the following:

Compliance Measure	Advantage(s)	Disadvantage(s)
Offsets	Allows for compliance with less reduction in carbon-based fuel use	Uncertain Availability and Costs
Nuclear	Cost effective based on today's costs	Siting and permitting difficult; ability to raise adequate capital
Coal IGCC w/ CCS	Abundant domestic energy source	Expensive and still in demonstration stage; uncertain environmental impacts
Retrofitted Carbon Capture and Sequestration	Reduces carbon emissions of existing carbon-based generation assets.	Existing assets were not designed for CCS, so retrofitting casts are relatively high and technology is uncertain
Wind	Zero Carbon, abundant resource, favorable economics	Needs PTC/ITC and/or RPS/REC; Intermittency
Solar	Zero Carbon, abundant resource	Cost; Regional resource; intermittency
Natural Gas	Proven technologies, short development lead time; less carbon than conventional coal	Exposure to volatile commodity pricing
DSMEE	Uses proven technology	Regulatory risk related to revenue de-coupling and proof of negawatts

Implications of the B&V Baseline GHG Assumptions

- GHG allowance prices will lead to retirement of some of the smaller, older, less efficient coal fired units. The development of nuclear power, wind, solar and natural gas resources will also all be part of the compliance stew.
- Wind energy offers a very large opportunity to further reduce CO_2 emissions in the US. However, the cost of transmission to tap that opportunity is currently unknown.
- International Offsets are vital for compliance at reasonable costs.
- Available CO_2 allowances will be distributed with a combination of auction and allocation processes to current and future producers. Over time, more will be auction and fewer will be allocated. **The implication is that over time the cost of CO_2 emission allowances becomes a cash operating cost for all carbon-emitting entities.** This is in sharp contrast to the SO_2 cap and trade system in the 1990 Acid Rain Program, in which SO_2 emission allowances were allocated at zero cost to existing emitters.

Forecasted CO_2 Emission Allowance Prices

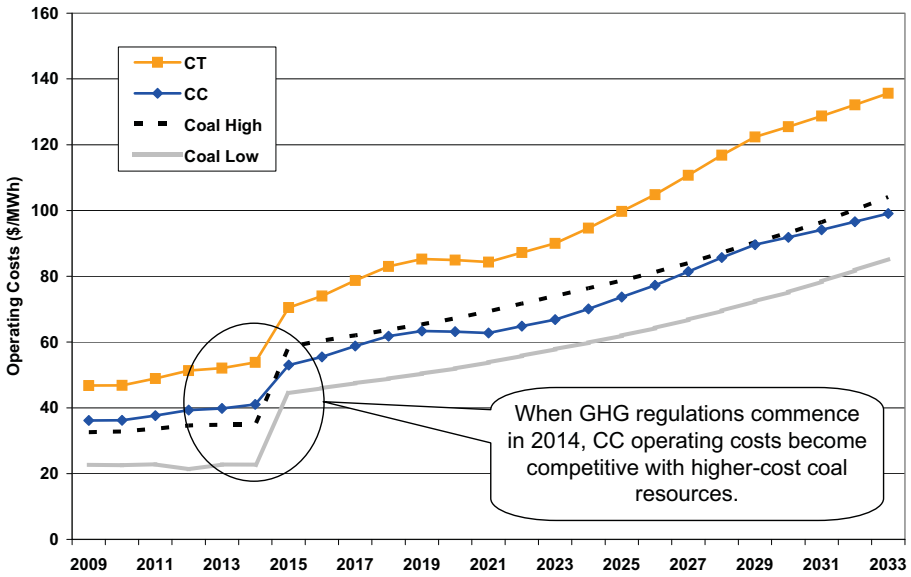


Source: B&V Analysis

Carbon Forecast Likely to Marginally Change Dispatch

- The level of GHG emission allowance costs assumed in this forecast lead to some dispatch substitution from coal to natural gas, depending upon regional delivered fuel costs and the shape of the supply curve.
- Regional average coal capacity factors drop up to 20% during study period.

Average Total Production Cost

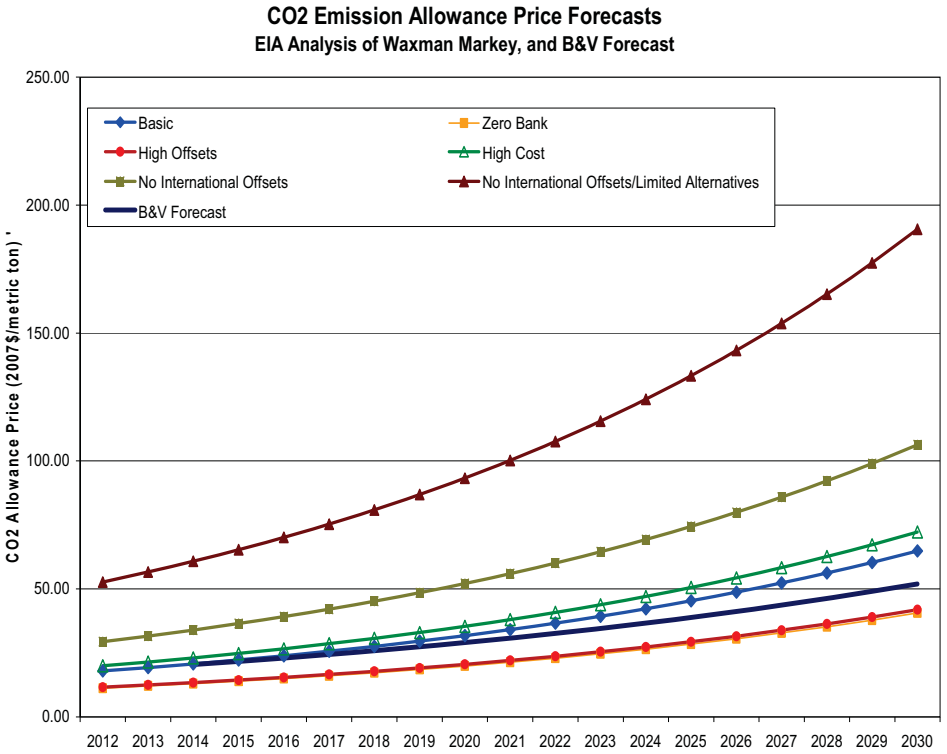


Assumptions:
Natural Gas prices are national average delivered prices in Baseline Forecast.
CC and CT heat rates are 7,200 and 10,300 Btu/kWh, respectively.
"Coal Low" has a heat rate of 9.200 Btu/kWh and an average delivered price of $2.28/MMBtu.
"Coal High" has a heat rate of 11,500 Btu/kWh and an average delivered price of $2.90/MMBtu.

Source: B&V Analysis

Offsets Are Essential for Cost-Effective Compliance

- International Offsets are vital for compliance at reasonable costs.
- Studies by both the US EPA and US DOE-EIA clearly demonstrated that GHG allowance prices would be much higher if the availability of international offsets is limited. This seems to be the key risk driver for GHG allowance prices.



Source: B&V Analysis

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2.4 Renewable Portfolio Standards

Renewable Portfolio Standards (RPS)

- Majority of State RPS targets typically include:
  - A percentage (usually 15% to 25%) of annual retail sales to be met by renewable resources.
  - Phased implementation, typically 1% per year.
  - Allow Renewable Energy Credit (REC) trading to meet RPS targets and most allow those RECs to come from out-of-state.
  - A penalty for non-compliance with the RPS (or Alternative Compliance Payment).
    - Most States' penalty is around $50/MWh.
    - This is a barrier to achieving the RPS targets.
- Many States include in their RPS a cost cap of a certain percentage of retail revenue. If a utility determines that the cost of meeting the RPS target is more than a certain percentage of retail revenue (e.g., 2%), then the utility is not required to spend more on additional renewables.
  - For the States where a cost cap or cost test is applicable, the methodology for determining the comparative cost of meeting RPS standards is largely untested. This issue could become a large one for regulated investor-owned utilities evaluating investment in renewable generation to meet the RPS targets.

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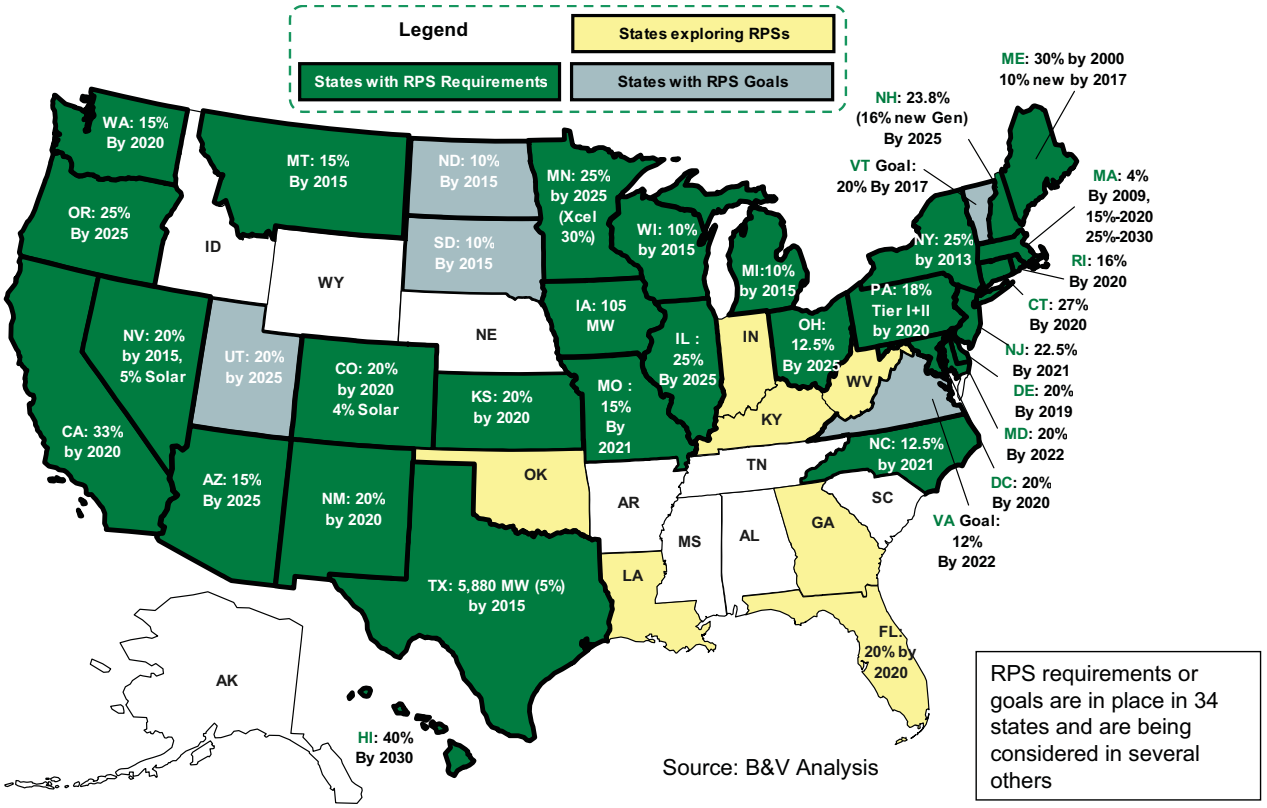
Potential Barriers to Achieving RPS targets: Cost Caps and Alternative Compliance Payments

- Most states with an RPS target have either an explicit alternative compliance payment provision, or some form of cost effectiveness consideration in enabling legislation.

State	Penalty	ACP ($/MWh)	Cost Cap (% annual retail sales or rev req)	Notes
Arizona	Yes			
California	Yes	$50		Annual Penalty Cap of $25m.
Colorado	Yes		2%	
Connecticut	Yes	$55		
Delaware	Yes	$80*		* Ramp up from $25/MWh in 2009 to $80/MWh in 2011
District of Columbia	Yes	$50		
Illinois	No		2%	Ramp up of cost cap to 2.015% in 2011 as compared to 2007.
Kansas	Yes			Penalties not specified.
Maine	Yes	$57		
Maryland	Yes	$40	10%	
Massachusetts	Yes	$59		
Michigan	No			Cost Caps are Customer Class Specific.
Minnesota	Yes			ACP not set. Rate impact language included but not explicitly defined.
Missouri	Yes		1%	Penalty is 2x cost of RECs.
Nevada	Yes			$1000 per day with $100k cap.
New Hampshire	Yes			ACP not set.
New Jersey	Yes	$50		$300/MWh Solar ACP.
New Mexico	Yes		2%	
North Carolina	No			Cost Caps are Customer Class Specific.
North Dakota	No			Cost Effective Test in Bill Language.
Ohio	Yes	$45	3%*	*3% above 'market rates'
Oregon	Yes	TBD	4%	ACP to be set by PUC.
Pennsylvania	Yes	$45		
Rhode Island	Yes	$50		
South Dakota	No			Cost Effective Test in Bill Language.
Texas	Yes	$50		
Washington	Yes	$50	4%	
Wisconsin	No			Compliance exceptions for rate impacts.

Source: B&V Analysis

Renewable Portfolio Standards by State



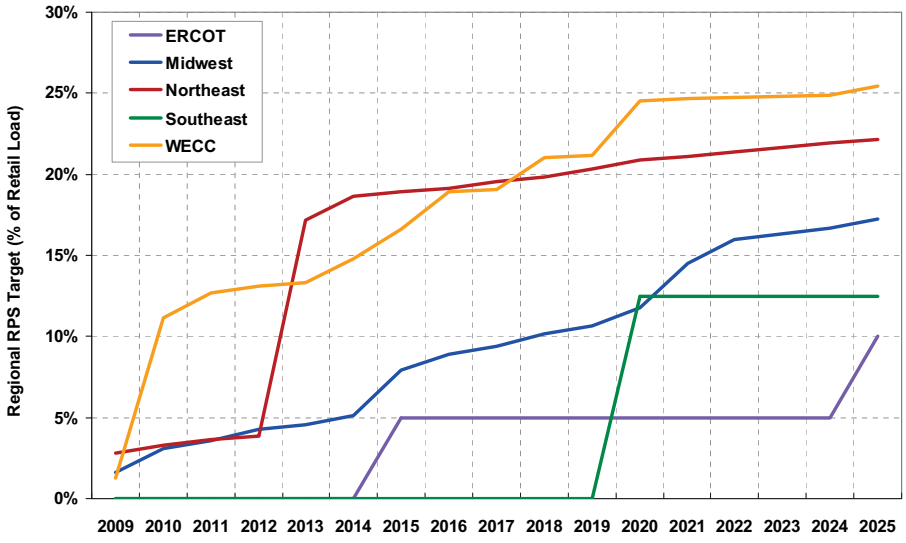
Source: B&V Analysis

RPS requirements or goals are in place in 34 states and are being considered in several others

RPS Targets by Region

- Analysis of RPS targets by regions illustrates the persistent upward migration of targets through 2025.
- Northeast and Western States have most aggressive short term and long term RPS targets.
- Most Southeast states do not have an RPS.
- Regional averages based on State RPS targets, weighed by historical (2007) retail sales for each State. Only states shaded in green on previous page are included in averages: states with no RPS targets are excluded from the averages.

Regional Average RPS Targets



Notes: Midwest includes MISO, MRO, PJM, SPP States. Southeast consists of NC and VA.

Source: B&V Analysis

Transmission expansion and access are an inhibitor to quickly ramping up renewable generation

- Significant investment in transmission upgrades and additions are needed across the country to make RPS goals a reality.
  - These investments are costly, and the siting and permitting process is time-consuming.
- 'Not In My Back Yard' (NIMBY) is another issue that delays both transmission investment and new renewable additions. Several wind projects nationwide have been delayed due to local push-back on project siting.
- Billions of dollars of transmission investment will be needed to facilitate the integration of the large amount of renewables required to meet the various State RPS targets.
  - In today's uncertain credit markets, access to this type of capital is constrained, which will slow down the growth in renewable additions.

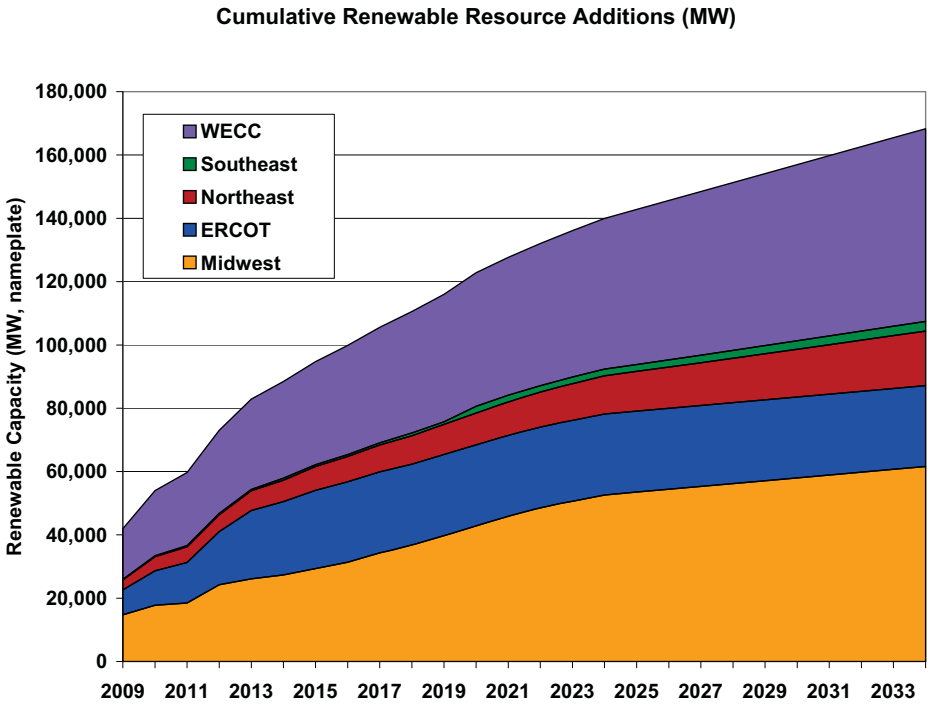
Potential for a Federal RPS could spur additional renewable generation development

- Congress, the public, and the Obama administration are discussing the development of a Federal Renewable Portfolio Standard in 2009-10.
  - A Federal RPS would have a large effect on Southern States, many of whom do not have an RPS law or goal in place. At issue is the fact that Southern states do not have great resources of wind like some regions of the country do. REC markets will play a significant role in meeting these States' targets and would likely lead to significantly more investment in wind additions in resource-rich areas such as the Midwest and Texas.
  - This would lead to a ripple-effect of impacting states that already have an RPS in place, by putting greater demand on available renewable resources through ownership and trading of RECs.
    - A Federal RPS requirement would impact the States' existing RPS targets – in some cases additional renewables would be required, and the timing of meeting those targets shifted.

Trajectory of Renewables Growth

Issues for Renewables

- Prospects for a Federal RPS.
- Regulation, Spinning Reserve and quick-start requirements.
- Will the transmission be built?
- Improvements in weather forecasting and system operating protocols.
- Modification of Planning Reserve Margin Targets.



Source: B&V Analysis

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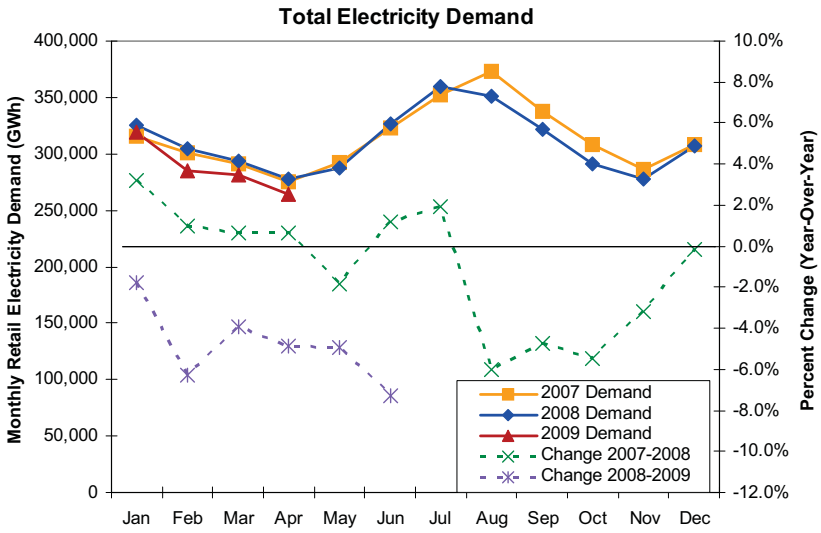
2.5 Electricity Market Assumptions

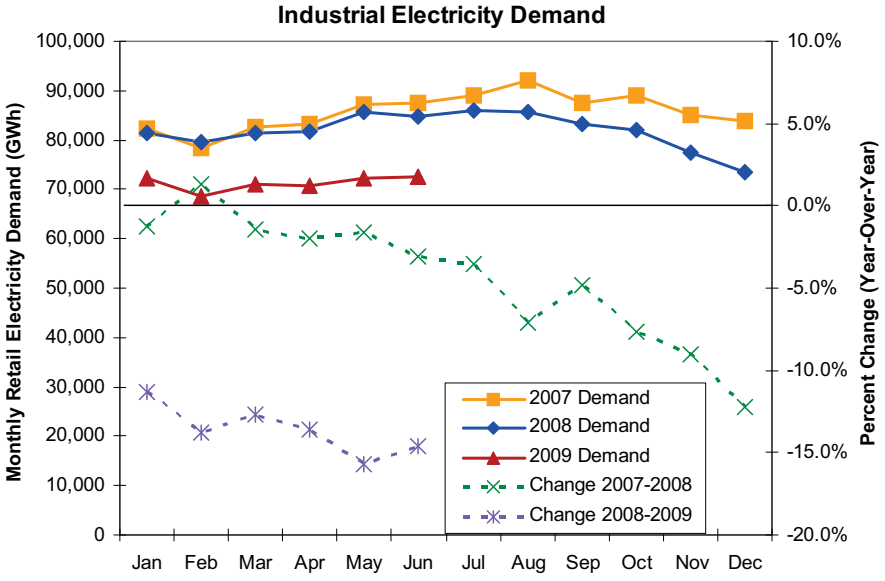
Recent Decrease in Electricity Demand

- The drop in US electricity demand (using energy, not peak MW) began in August 2008.
- Year over year average growth rates:
  - Jan-Jul 08 = +1.0%
  - Aug-Dec 08 = -3.9%
  - Jan-Jun 09 = -4.9%
- Combined with increased account delinquencies and defaults, this has constrained revenue and earnings for most electric utilities.
- US DOE EIA expects the rate of decline to lessen in the second half of the year, especially in the Southwest, where higher summer temperatures led to higher air conditioning load. The total year decline is expected to be 3.3%.



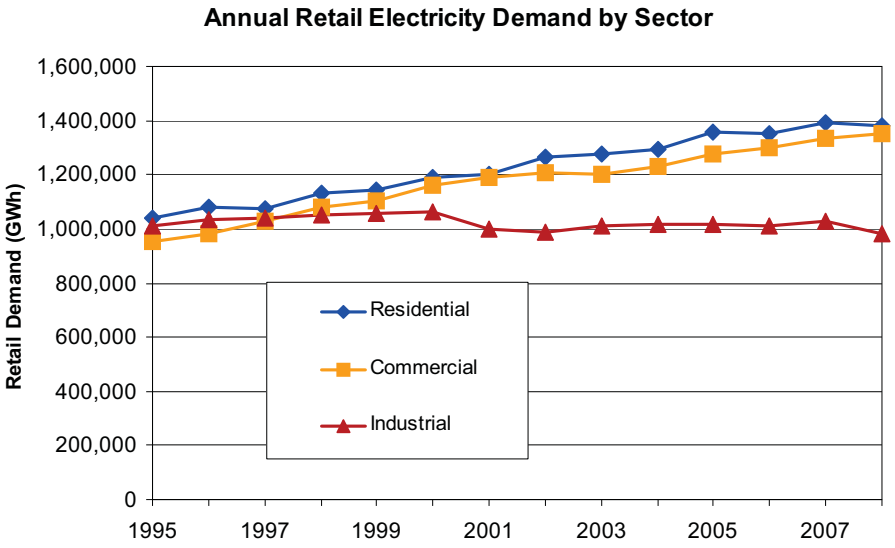
Industrial Electricity Demand is Getting Hit Hardest

- The residential and commercial sectors have seen significant hits, but the biggest decease has been in the industrial sector.
- Industrial year over year average growth rates:
  - Jan-Jul 08 = -1.7%
  - Aug-Dec 08 = -8.2%
  - Jan-Jun 09 = -13.6%
- The industrial sector decline started earlier and has been deeper. Utilities dependent upon industrial revenue have been hit the hardest.



Will Industrial Recover?

- The industrial sector took the hardest hit from the 2001 energy market downturn.
- This is consistent with the idea that industrial facilities recover slowly or not at all after a down turn—the capacity is permanently lost or is at least is exported.
  - Example: aluminum smelters in the Pacific Northwest shut down in 2001 and mostly were never re-started.



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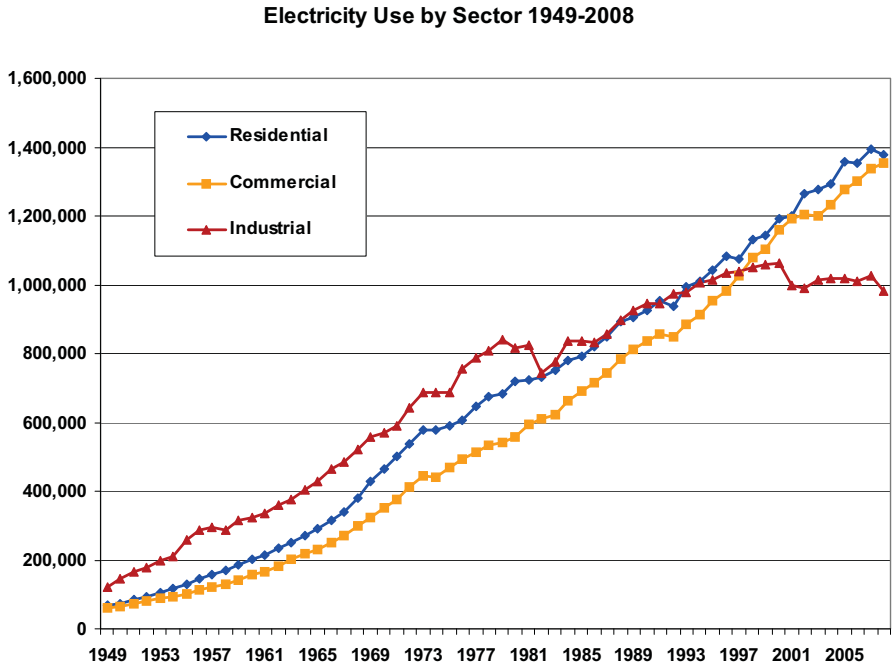
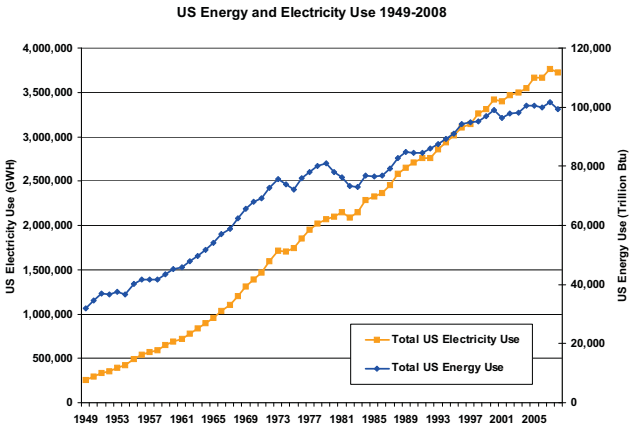
Will Industrial Recover?

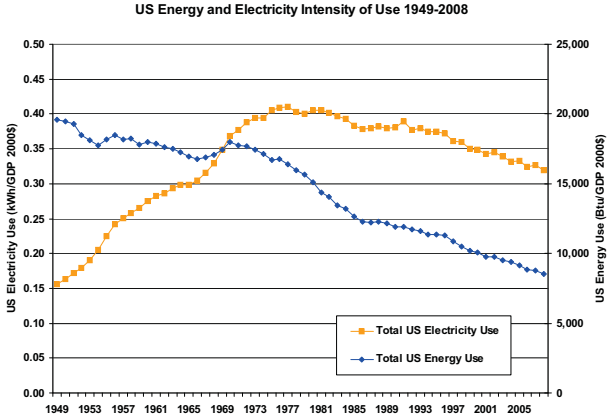
- In a long term view it becomes clearer that industrial electricity demand is diminishing in importance relative to the other sectors.
- The industrial sector was hit hard by the general increases in energy prices after OPEC I and II in the 1970s, and growth has been sluggish since then.



Energy and Electricity Use

- Electricity use in the US has been growing faster than overall energy use since the 1970s.
- Overall energy use in the economy per unit of GDP was declining slowly prior to the 1970s, and the rate of decline has increased significantly since then.
- Electricity use per GDP$ was rising until the 1970s but has declined since then.
- Since 2000, growth in electricity has been 1.1% lower than GDP growth.





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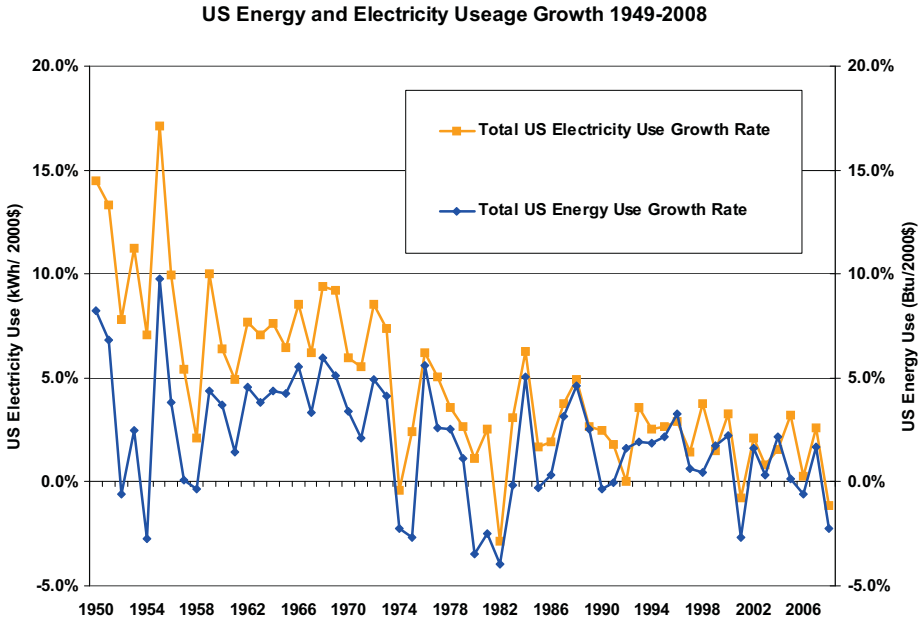
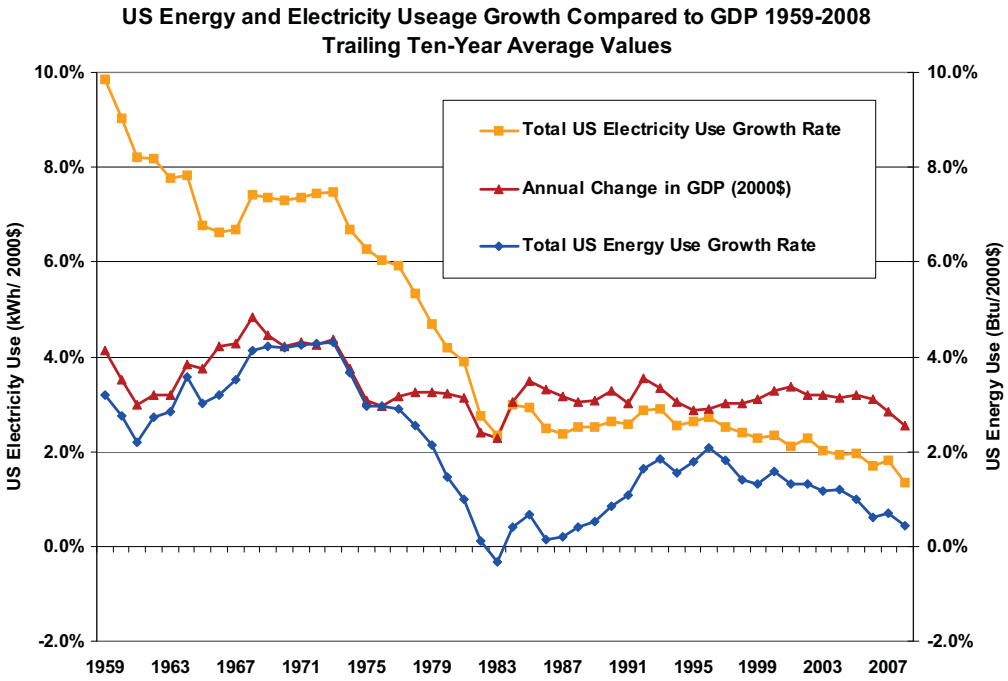
Energy and Electricity Use

- Annual changes in energy and electricity use vary due to both economic and weather conditions.
- In the current decade there are clearly two years (2001 and 2008) with noticeable negative electricity use growth.



Energy and Electricity Use

- Trends are more clearly seen when looking at 10-year trended growth rate data.
- Clearly, both energy and electricity use growth rates have sharply declined over time.
- The biggest decline occurred in the 1970s—more fallout from OPEC I and II.



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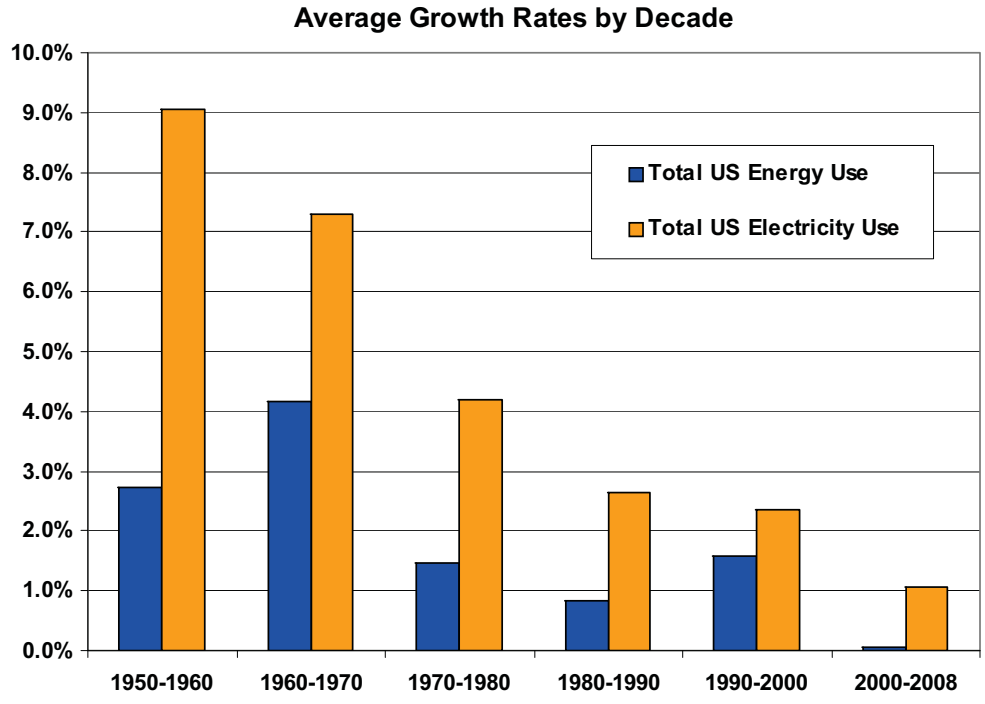
Energy and Electricity Use

- The relationship between economic activity and electricity consumption has been slowly changing over the past 60 years, with electricity becoming a proportionately smaller part of overall economic activity.
- In the 1950s, average annual growth in electricity demand was about 9% per year. In the current decade the growth has been only 1.1% per year.



Power Demand Forecast Methodology

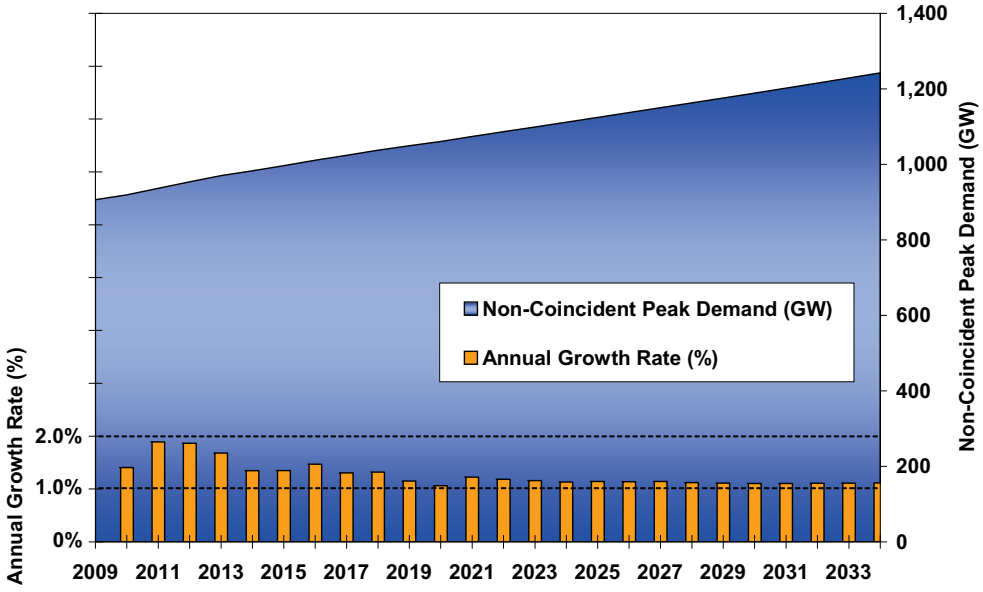
- The first approximately ten years of forecasted energy and peak demand data is developed from a combination of:
  - FERC 714 filings,
  - ISO and RTO publications and data,
  - Intelligence gathered directly from contacts at NERC regions and ISOs,
  - Modifications to reflect recessionary impacts not included in public sources due to reporting lags.
- Some agencies report more than 10 years of data and that is used when available.
- Data is reviewed for consistency and to eliminate possible double counting of demand reports.
- Extrapolation beyond the reporting periods assumes that peak demand and energy grow at 80% of the average energy growth rate over the last several years of the forecast reporting period.
  - Acknowledges long term economic trends, including increased social and political emphasis on DSM, and real dollar increases in retail electricity prices due to natural gas prices and GHG emission costs.
- Regional trends vary widely (see next page) but the aggregate impact is an expectation of a moderate economic rebound in 2010-2013 before reverting to a long term growth trend of about 1.1% per year.

Source: B&V Analysis

Forecast for Power Demand

- That background on long term trends provides context for the Energy Market Perspective power demand forecast.
- Regional trends vary widely (see next page) but the aggregate impact is an expectation of a moderate economic rebound in 2010-2013 with "1990's style" growth before reverting to a long term growth trend of about 1.1% per year.

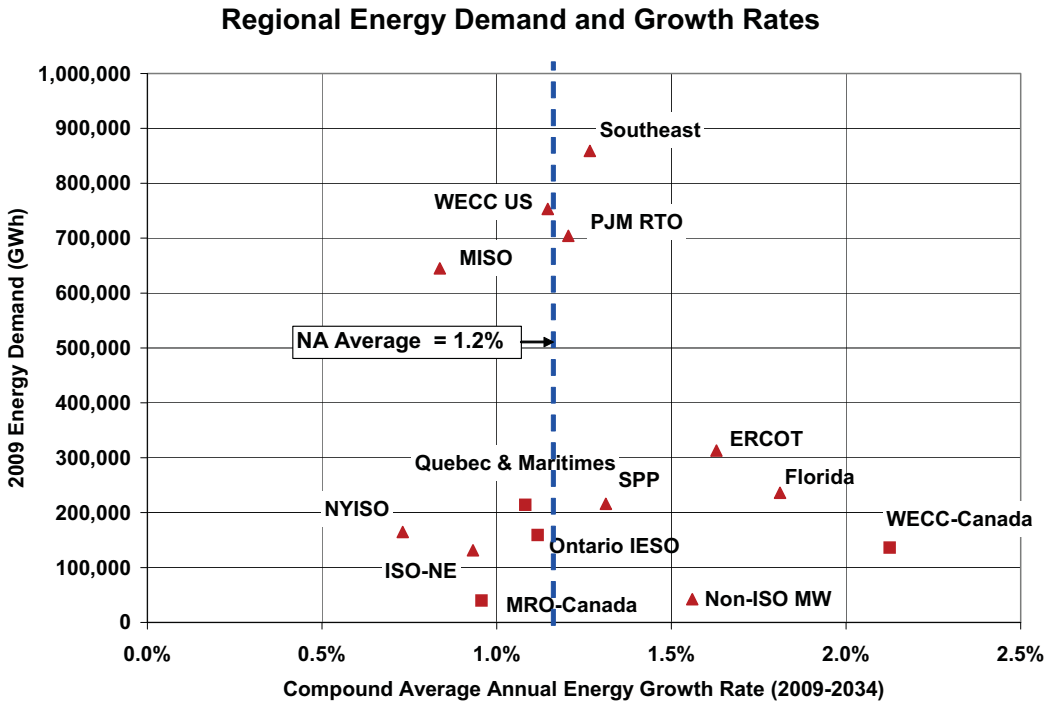
Forecasted Peak Demand-North America



Source: B&V Analysis

Dramatic Regional Variations in Power Demand Growth

- Regional growth rates vary widely based upon long term expectations of:
  - Population migration (from Snow Belt to Sun Belt), and
  - Regional industrial growth (such as energy production development in western Canada).



Source: B&V Analysis

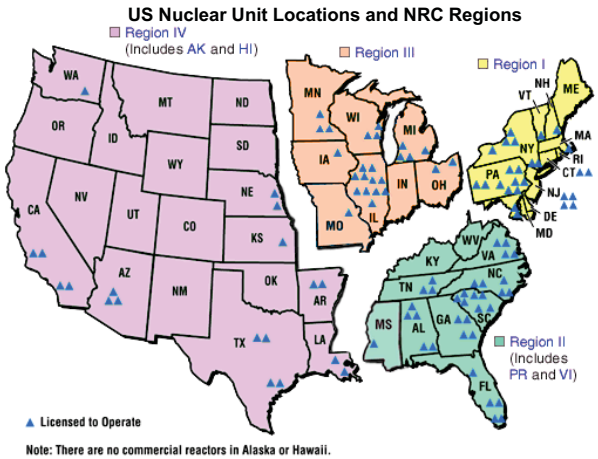
Outlook for Nuclear Power

The First Nuclear Build-Out

- The first commercial nuclear power unit in the US was the Shippingport Atomic Power Station located outside Pittsburgh Pennsylvania. It went on line in December 1957, was dedicated in May 1958, and ceased operations in October 1982. This 60 MW unit was a prototype for both commercial electric generation units and for nuclear aircraft carrier units. Notable is that the unit was built in 32 months.
- US nuclear generation expanded rapidly in the 1960s and 1970s but was ultimately stopped due to public anxiety over technology safety and ultimate fuel disposal.
- Currently there are 104 licensed operating nuclear generating units in the US, accounting for about 97,000 MW of generation capacity and about 20% of the energy generated. In addition, there are 16 fully-operating units in Canada with a total capacity of about 11,300 MW (there are several other inactive units that are planned for re-starting).

Nuclear Resurgence

- Nuclear power in the US is now entering a period of resurgence, prompted by growing concerns over green house gas emissions from fossil fueled technologies and the difficulty experienced by industry in the permitting of new coal-fired capacity.
- The US federal government is facilitating nuclear development through two major policy initiatives:
  - Nuclear Power 2010 Program, and
  - Energy Policy Act of 2005.



Sources: US Nuclear Regulatory Commission and the OECD Nuclear Energy Agency.

Nuclear Power 2010 Program

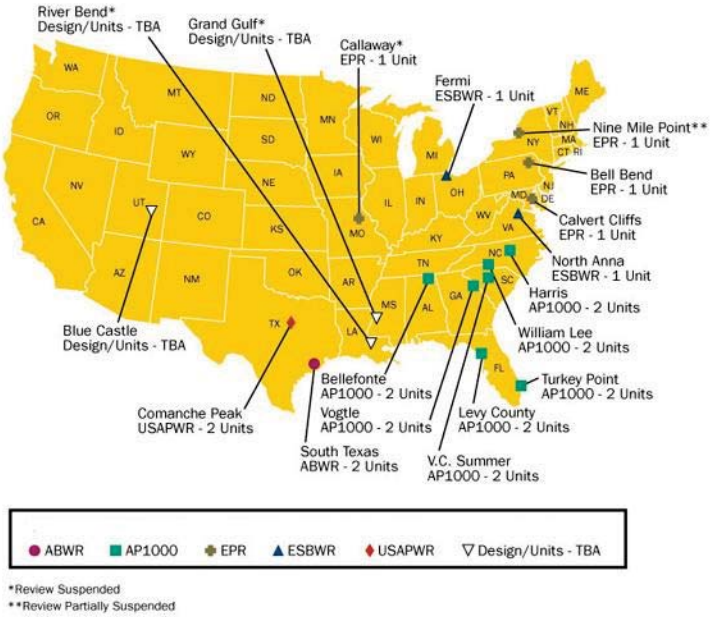
- The Nuclear Power 2010 Program (NP-2010), proposed by the US Department of Energy in February 2002, was designed to reduce technical, regulatory and institutional barriers to the development of new nuclear power plants.
- NP-2010 is focused on demonstrating an advanced light water nuclear generation technology denoted as "Generation III+," to denote that it is an advancement over the "Generation III" technology certified by the NRC in the 1990s. To achieve this goal with NP-2010, the DOE has:
  - Initiated a program with industry to obtain NRC approval of three sites under the Early Site Permit (ESP) process, and
  - Developed application guidance and resolve regulatory issues related to filing combined Construction and Operating Licenses (COL).
- To achieve these goals, DOE has entered into three separate government/industry cost-sharing consortia to identify, permit and develop new nuclear power plant sites.

Energy Policy Act of 2005—Nuclear Provisions

- The EP Act of 2005 contains a number of provisions related to facilitating the development of nuclear power.
- The Price Anderson Nuclear Industries Indemnity Act was extended to apply to all non-military units built before 2026. This act was created to provide a mechanism for insuring against the event of a major nuclear catastrophe, and is still considered a necessity for the development of new units.
- Authorized coverage for cost overruns due to regulatory delays of up to $500 million for the first two units and half the cost of overruns (up to a payout of $250 million) for the next four units.
- Authorized a production tax credit of 1.8 cents/kWh for 6,000 MW of new nuclear units during their first 8 years of operation.
- Authorized $1.25 billion for the USDOE to fund construction of a Next Generation Nuclear Plant at Idaho National Laboratory that produces both electricity and hydrogen.
- Mandated the USDOE to report in one year on how to dispose of high-level nuclear waste.
- Load guarantees for up to 80% of the cost of new "innovative technologies" to reduce green house gas emissions, which could include new advanced design power plants.
- Updated tax treatment of decommissioning fund payments to allow regulated and merchant owned nuclear plants similar tax impacts.
- Updating nuclear power plant security provisions.

Policy Changes and GHG Issues Have Led to a Nuclear Resurgence

- Over the last few years, interest in developing new nuclear power plants has grown substantially. In part this is driven by the need for new base load generation capacity to meet demand growth and replace retiring assets, and in part by the re-characterization of nuclear energy as a green technology due to its lack of green house gas emissions.
- The provisions of the Nuclear Power 2010 program set events in motion as development consortia were pulled together and COLs were prepared. Furthermore, the nuclear provision of the EP Act 2005, in particular the production tax credits for the first 6,000 MW completed, created a "land rush" mentality for the filing of COLs and the beginning of campaigns to design and build the new generation of nuclear plants.
- In 2009 a few plants have at least temporarily left the development queue, including Amarillo and Victoria County in Texas and Hammett in Idaho, and others are reconsidering their technology choice.



Source: US Nuclear Regulatory Commission

- Within the nuclear power and financial industries there is a widely-shared belief that financing a major nuclear resurgence will require more financing capability than sponsors currently have, necessitating greater government support in the form of loan guarantees. Supporters see additional financial support for nuclear power may come from amendments to any Green House Gas legislation that is ultimately passed by Congress.

Modeling Transmission Aspects

- This forecast utilizes a zonal representation of the electric power network or grid. Within this zonal representation, each market zone is connected to a series of other market zones with transmission interfaces that have been assigned bi-directional energy and capacity limits, wheeling charges (when applicable) and losses.
- Within the boundary of an independent system operator (ISO), transmission system charges are typically "socialized," meaning that the cost of the transmission system (including return of and on capital) are recovered through ISO assessments paid by the retail electric customers in their monthly bills. In such a case, there are no wheeling charges (just an allowance for losses) and energy flows within the ISO subject only to the capacity rating in the zonal transmission representation.
  - ISOs may have wheeling charges applied to energy that crosses the ISO's borders.
- Transmission system changes are typically modeled for one of two reasons.
  - **New Announced Projects.** B&V adds new projects based upon an assessment of their likelihood of completion, which will be drawn from a review of permitting status, funding, regulatory approval and political momentum.
  - **Modeled System Congestion.** This forecast uses the addition of new generation resources relatively near load centers as the primary methodology for meeting demand growth and replacing retiring generation assets. However, there are conditions under which the location of generation assets may be remote from the load centers, such as when environmental limitations make local siting very difficult, or when a specific type of resource (such as wind generation) needs to be sited near its prime mover. When transmission system congestion is encountered in the modeling process, B&V considers addition of new transmission based on the magnitude of the congestion and an assessment of the viability of developing new transmission capacity.

New Generation Assets

- New generation data is formulated to be representative for the entire 25-year study period.
- Installed costs include allowances for owner's costs and interest accrued during construction.
- Most technologies include a 10-15% decrease in capital costs from 2008 peak levels to levels considered to be more representative for use in a long term forecast.

Summary of New Entry Assumptions - National Averages

Asset Type	Designation	Installed Costs (2009$/kW, US Typical Value, includes IDC and Owners Costs)	Summer Ratings	
			Capacity (MW)	Full Load Average Heat Rate (Btu/kWh, HHV)
Combustion Turbine	GE 7 FA	680	185	11,000
	LM 6000	1,310	40	10,250
	LMS 100	1,080	86	9,350
Combined Cycle	2 x 1 GE 7FA	1,260	550	6,870
Nuclear	Generic	5,900	1,500	10,000
Coal Steam	Supercritical PC	3,500	800	9,200
Coal IGCC	Without CCS	5,000	720	9,600
	With CCS (@ 90% control)	7,800	510	12,350
Wind	Generic	2,400	1.5	n/a
Solar Thermal	without Storage	5,200	250	n/a

Source: B&V Analysis

Renewable Resource Cost Vary Widely Depending on Critical Assumptions

- Solar and Wind technologies are very capital cost intensive, making energy production assumptions (expressed as capacity factor) key. **Higher capacity factors (CFs) dramatically lower levelized busbar costs.**
- For wind technology typical capacity factors are 25-35%. With current technology, a 40% CF is achieved at only the very best sites. Manufacturers claim that + 40% CFs will be achieved more frequently with the next generating of technology.
- Production tax credits (PTC) for wind and investment tax credits (ITC) for solar significantly improve economics.
  - The current wind PTC is $21/MWh for the first ten years of asset operation, equating to about $12/MWh when levelized over a 20-year life cycle cost.
  - The wind PTC is available for assets completed by the end of 2012.
  - Due to very favorable depreciation allowances, many wind developers do not have a enough near term taxable income to be able to use the PTC. The 2009 Stimulus Bill allows them to substitute a form of ITC instead, called the Energy Tax Credit (ETC). The ETC is also the better economic choice than PTC for lower capacity factor wind regimes (e.g., 25%)
- Due to their generating profiles, solar and wind technology only provide a small contribution to peak capacity, so one way to place them on a level playing field is to "firm" the capacity with a compensating amount of CT gas-fired capacity.
  - For illustration in this report, wind is assumed to be able to contribute 10% to peak capacity and solar contributes 20%. In application, this factor will vary by region and by site.

Technology Cost Impacts of Carbon Allowance Prices

Wind

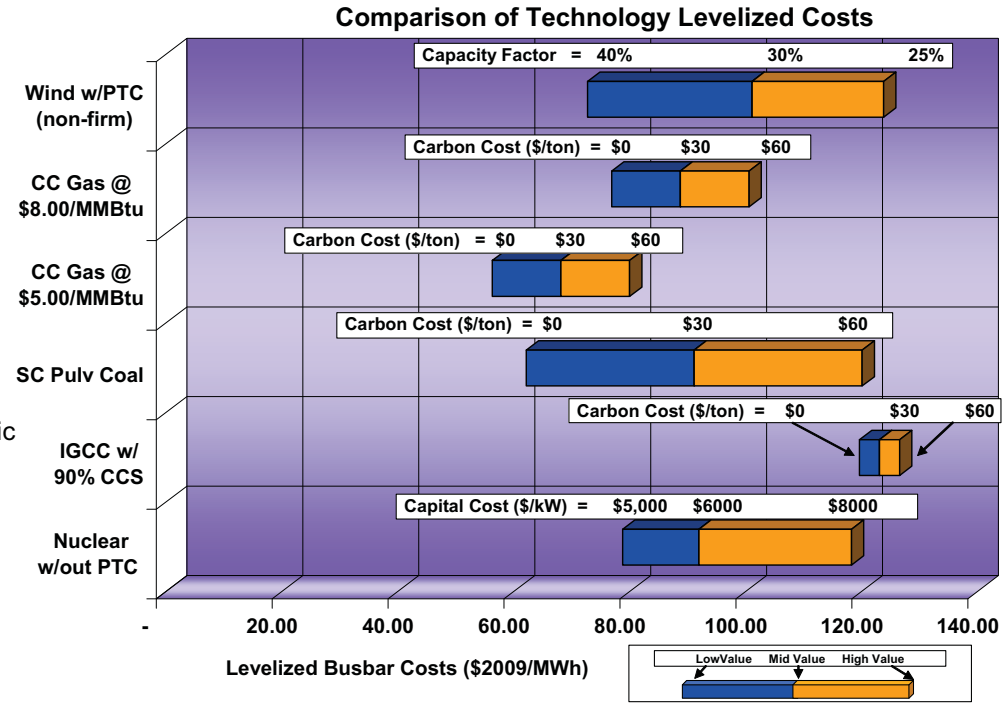
- Highly dependent on site economics (e.g., capacity factor) and availability of RECs (none included here). ITC will improve low CF economics.

Coal and Nuclear Generation

- Conventional coal technology can become less economic than nuclear technology.
- Coal with carbon sequestration is even more expensive.

Natural Gas

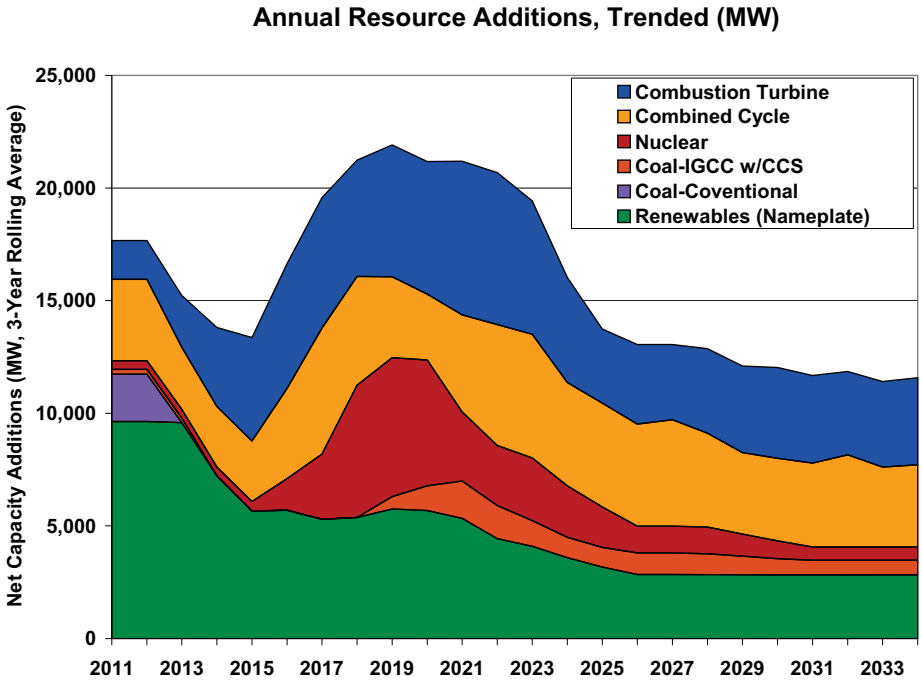
- Competitiveness of combined cycle generation depends on gas prices.



Assumptions:
Capital costs are national average values and will vary widely by region and site.
Coal assumes an average delivered price of $1.50/MMBtu. Source: B&V Analysis

Resource Implications of the Energy Market Perspective

- Near-term resource additions dominated by renewable energy and natural gas resources.
- Wind resource additions decline over time as many state RPS standards and guidelines are largely (but not totally) met.
- Longer-term resource needs are met by natural gas resources, with growing role for nuclear and possibly IGCC w/ CCS for meeting base load growth.



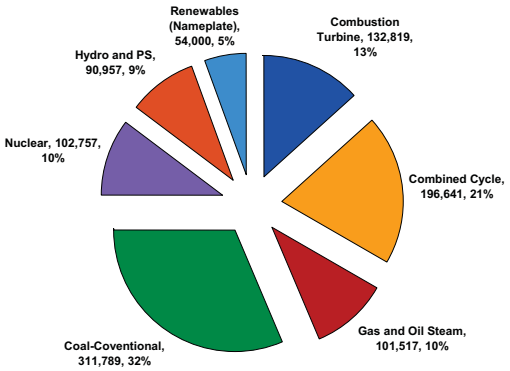
Source: B&V Analysis

The Changing Resource Mix-US

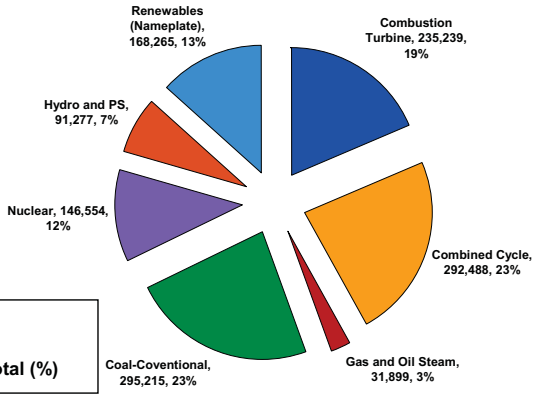
- Over the next 25 years the future mix of electric generation resources will have a notable shift to new gas-fire technologies, as part of a multi-prong power industry strategy that also includes wind, solar, nuclear and some IGCC w/ CCS.
- Combustion turbine and combined cycle capacity gains about 100,000 MW each, while about 70% of gas and oil steam assets are retired for a variety of reasons, such as age, inefficiency, and, on the west coast, limitations on use of ocean water for once-through cooling.
- Renewable capacity more that triples, much of this being wind, with some solar.
- Conventional coal capacity realizes another 8,000 MW of gains in the next few years as projects in advanced development are completed, followed by 25,000 MW of retirements of older, smaller, less efficient resources.

Source: B&V Analysis

Resource Mix—2010



Resource Mix—2034



Data Label Legend:
Technology,
Capacity (MW), Share of Total (%)

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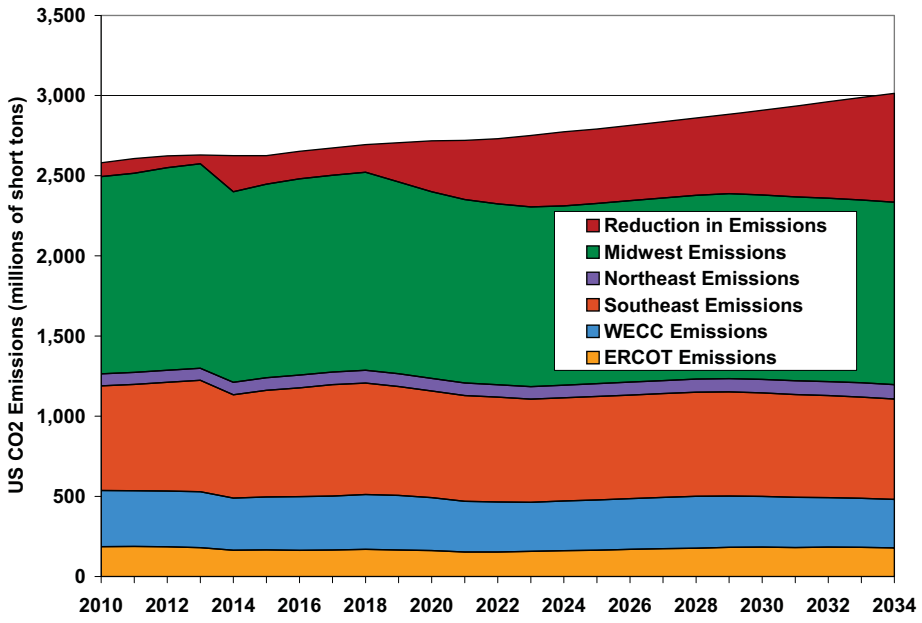
Trajectory for CO_2 Emissions

- Compared to a "Business as Usual" case with no GHG legislation, the B&V Base Case has moderate declines in electric power sector CO_2 emissions for 15 years, followed by a period of smaller reductions.
- The reduction in emissions shown in the chart on the chart on this page is the results of increased renewable energy, retirement of less efficient coal units, lower demand growth and utilization of allowances.

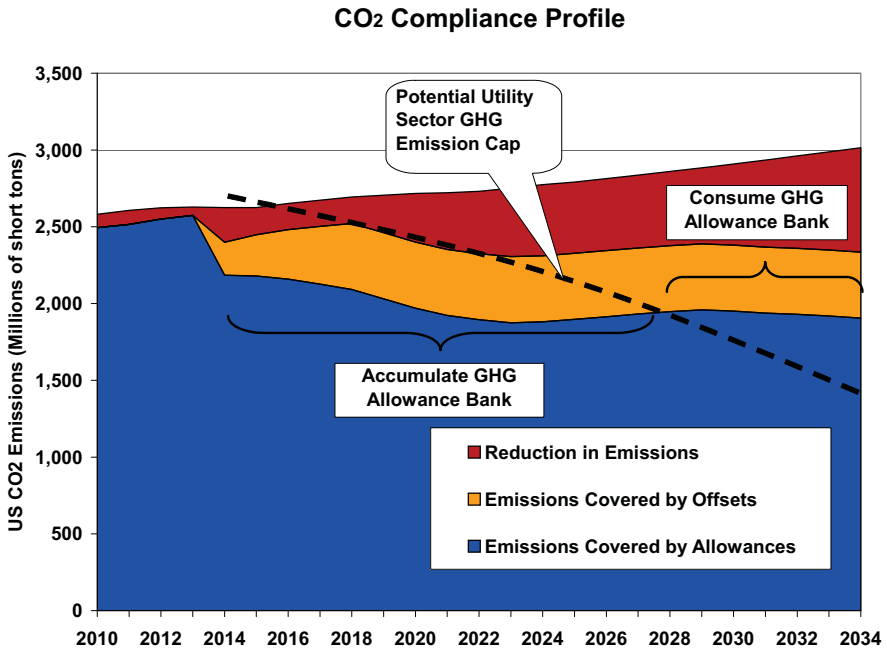
Annual CO_2 Emissions



Source: USDOE Annual Energy Outlook (for Business as Usual case) and B&V Analysis

Compliance with a CO_2 Emission Cap

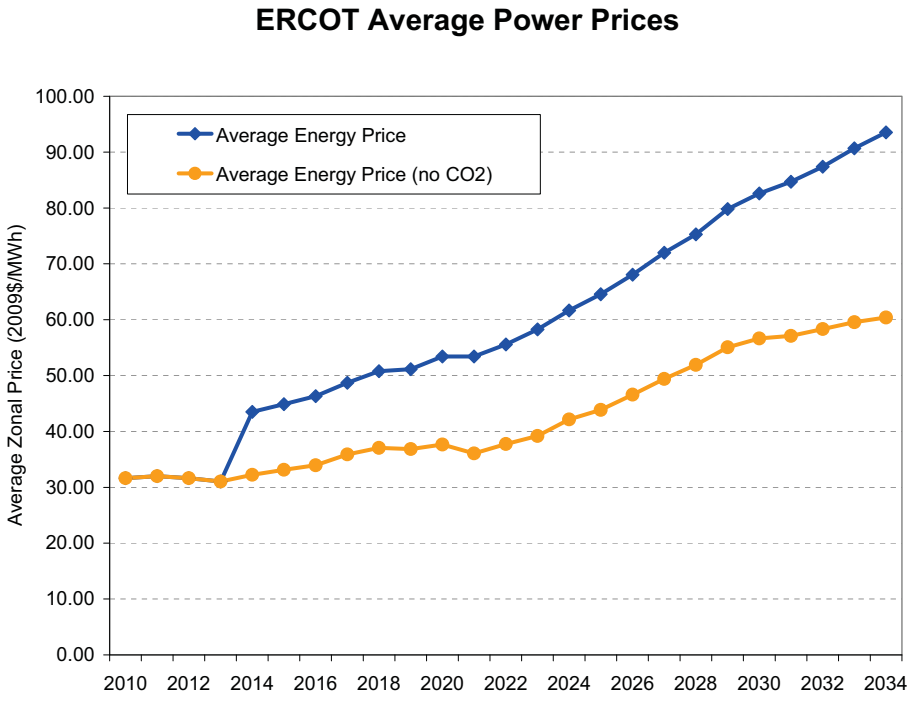
- The electric power sector accounts for about 39% of US carbon emissions. A typical presumption is that electric power's GHG compliance costs will be lower than that of many other sectors, so offsets may be used more in other sectors. If so, then the electric power sector may use less than a pro rata share of the 2 billion tpy of offsets allowed under proposed legislation.
- Assuming use of only half of its pro rata share of the 2 billion tpy of offsets, the electric power sector can bank offsets through the late 2020's and consume that bank well into the late 2030's.
- However, as 2040 approaches, additional compliance actions would be needed.



Source: B&V Analysis

Impact of Carbon Allowances on Wholesale Energy Prices

- In markets where natural gas is often the "marginal" fuel, the impact of carbon costs is typically on the order of $0.50/MWh for every $1.00/ton of Carbon Allowance.
- In regions with more coal the impact is closer to $0.75/MWh per $1.00/ton CO_2.
- In this ERCOT example, increasing CO_2 allowance costs add $12/MWh to the wholesale price of electricity beginning in 2014, increasing to $34/MWh in 2034, just a bit more than $0.50/MWH for every $1.00/ton CO_2.



Source: Black & Veatch

Section 3.
Fuel Market Assumptions

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3.1 North American Fuel Overview

Fossil fuel prices, specifically natural gas, will reflect national effects of clean air and renewable energy policies.

- More than seventy percent of US power generation assets use fossil fuels: oil, coal and natural gas
- CO_2 initiatives signal a shift to a lower GHG emissions generating portfolio that drives increases in natural gas demand
- New sources of natural gas will be available to meet rising demand needs in North American regional markets
- Oil prices will increase to $100/bbl by 2030 as demand growth requires more expensive resources to be exploited.
- Natural gas prices (real $2009) rise steadily from $5.00 to $9.00/MMBtu through 2034
- Coal prices nearly flat, with only slight increases, reflecting cost of resource development even as demand is about flat.

Key Assumptions for Fuels Markets

- US and global economy is expected to recover starting in the second half of 2009, remaining flat for 2010 and growing at about 2 percent annually thereafter
- World oil prices will respond to global economic signals and stabilize at lower than levels reached in early 2008
- North American coal-fired generation development remains sharply lower than historical and recent development
- US nuclear and renewables development remains feasible, and contributes to new power capacity and energy needs
- Unconventional gas production remains economic to produce at $5-$6/MMBtu (basin dependent); production levels respond more quickly market price signals than historical production
- Global LNG capacity continues to outpace global demand, particularly in Northern hemisphere summer seasons; drives imports to US markets

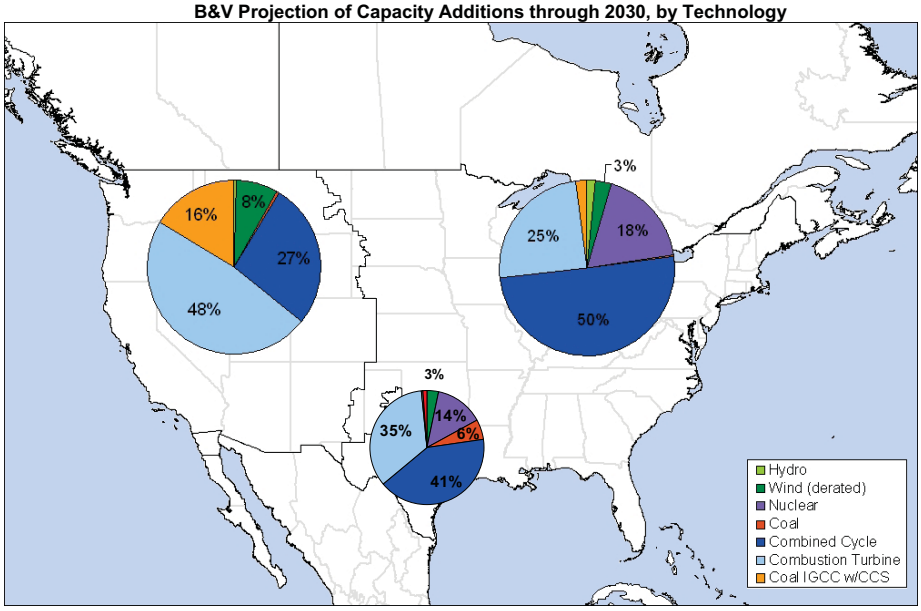
Key Uncertainties in the Fuels Market

- Timing and pace of economic recovery will affect the demand for all fuels. Delayed or slow demand rebound will keep fuel prices relatively low.
- Implementation and format of CO_2 regulation will affect the industries' choice of fuel and their prices. Prolonged debate creates the option of gas as a "filler".
- The production potential and cost of unconventional natural gas resources of North America determines the sufficiency of supply to meet potential demand growth for natural gas.
- LNG import volumes and price are determined by the balance between liquefaction capacity, global demand growth for natural gas and storage capacity.

B&V's fuels outlook is based on expectations for a diversified generation portfolio and increasing gas demand.

- B&V expects general compliance with Renewable Portfolio Standards
- Renewables (wind), nuclear, and IGCC with CCS will play a key role long term in a diversified portfolio
- More than half of new generation capacities will be from natural gas – both for mid-merit and peaking needs
- New gas supply sources will realign to meet demand needs in the East as WCSB production declines

B&V Projection of Capacity Additions through 2030, by Technology

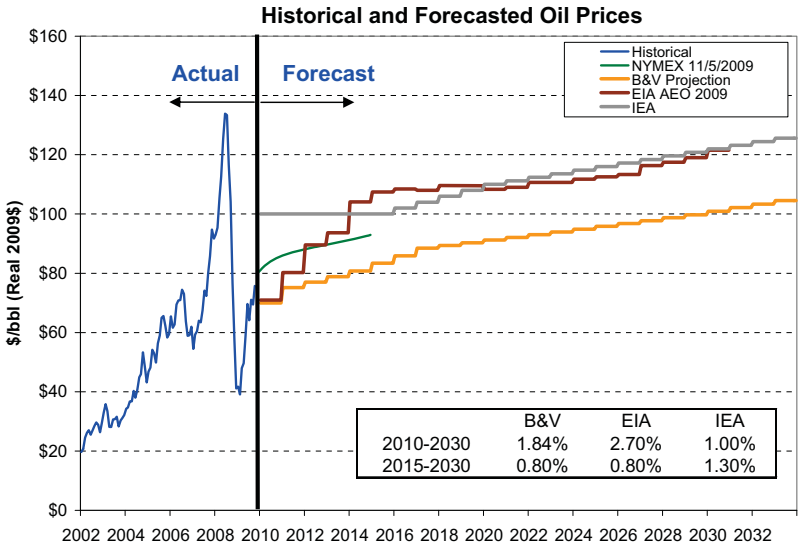


Source: B&V Analysis

3.2 Global Oil Outlook

B&V Expects Continued Oil Price Recovery in the near term

- Short-term oil prices will stabilize at $60-$70/bbl as global economy continues to recover
- Long-term prices will grow to $90-$100/bbl as more expensive production sources meet demand growth
- Low oil prices generally favor increased US LNG imports as Asian and European prices are more closely linked to oil
- Increasing LNG trade creates pressure, but not requirement, on the oil to gas linkage.



	B&V	EIA	IEA
2010-2030	2.7%	2.7%	1.0%
2015-2030	1.5%	0.8%	1.3%

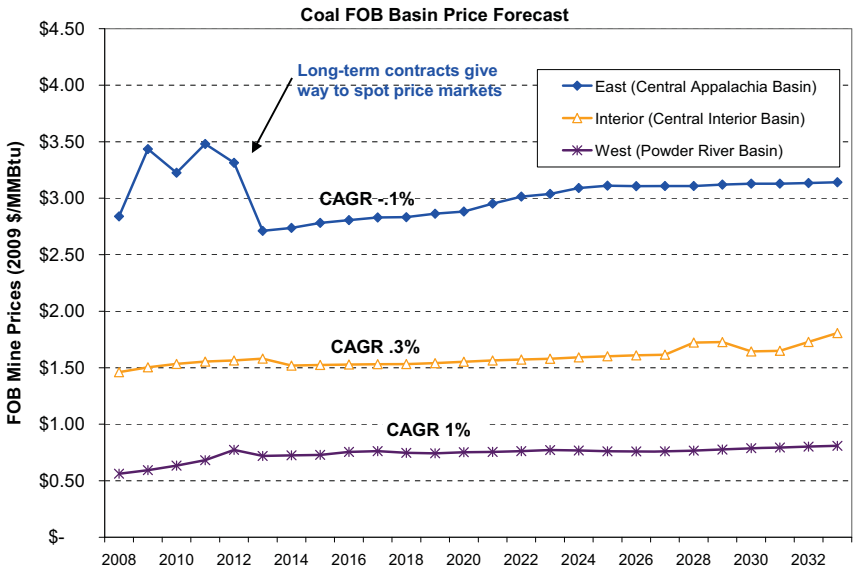
Source: B&V Analysis, EIA, IEA, NYMEX

3.3 North American Coal Outlook

Coal prices are expected to rise gradually through 2030, with lower-sulphur PRB prices outpacing other basins on a CAGR basis.

Although new coal generation development is stagnant, prices at flat to slightly increasing due to:

- Rising mining and labor costs with more stringent mine safety standards
- Tougher geological conditions, especially in the more mature Eastern region
- Slower productivity gains
- Price linkages with oil and gas prices
- Rising oil prices that increase transportation costs
- Demand weakens with global economic climate

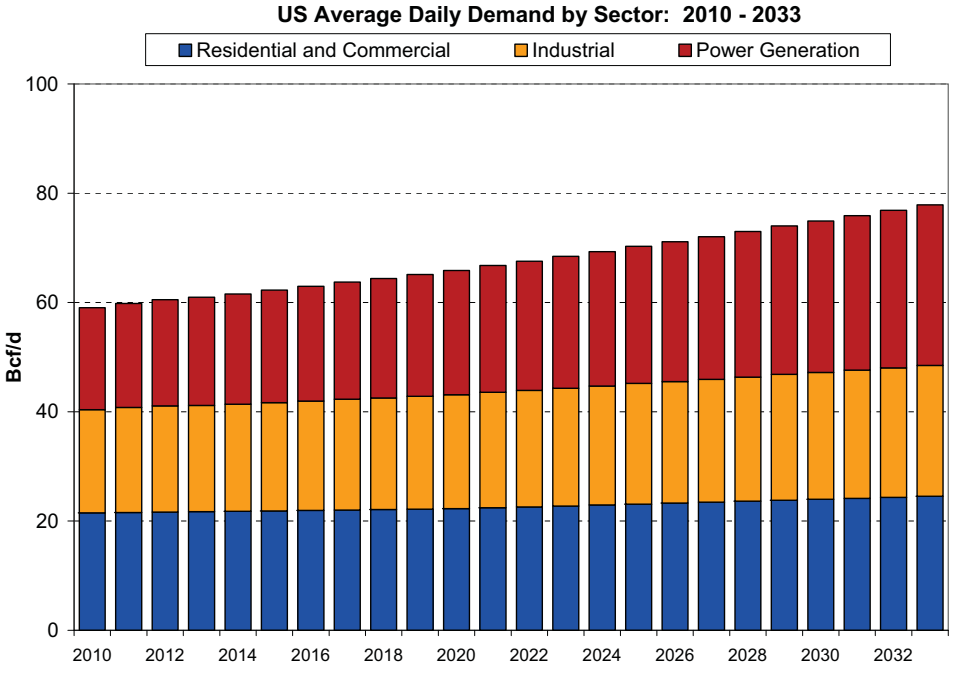


Source: Energy Velocity

3.4 North American Natural Gas Outlook

Power Generation Demand Drives Natural Gas Growth and Offsets More Modest Growth in Traditional Sectors.

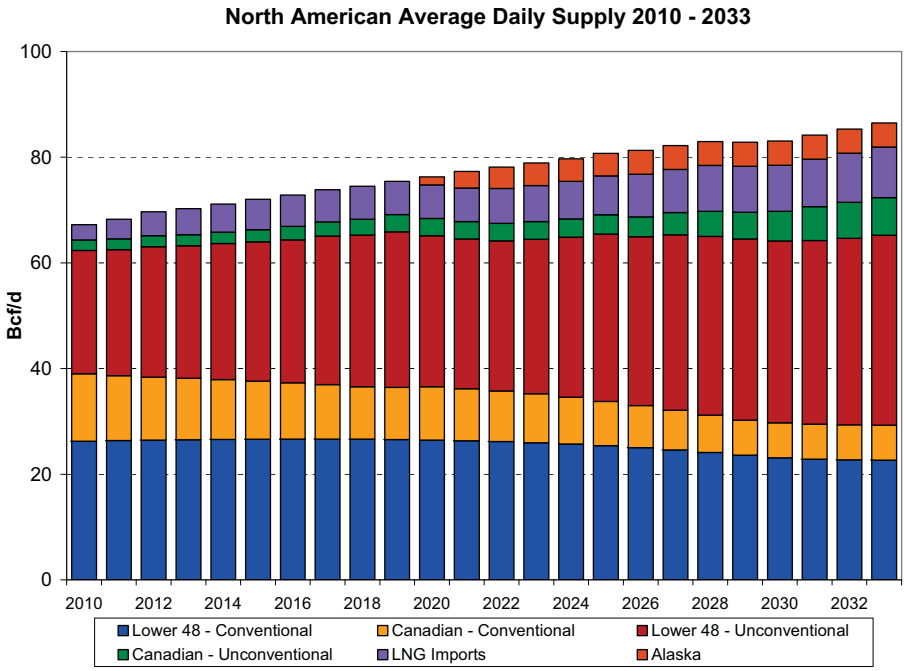
- Demand from the power generation sector is expected to grow at 2.1% per annum through 2030.
- Core (residential/ commercial) and industrial sector growth flattens with increasing efficiencies (CAGR = 0.5%).
- Industrial remains stable due to demand restoration.



Source: EIA, B&V Analysis

Unconventional production, Alaskan gas, and LNG imports will offset declines from conventional North America gas supplies.

- US/Canadian demand will draw from a common North America resource base.
- Price signals bring new supplies to market: volatility is different than availability.
- LNG and unconventional supply (shale, tight sands and CBM) growth is expected to be adequate for growing demand



Source: B&V Analysis, National Energy Board

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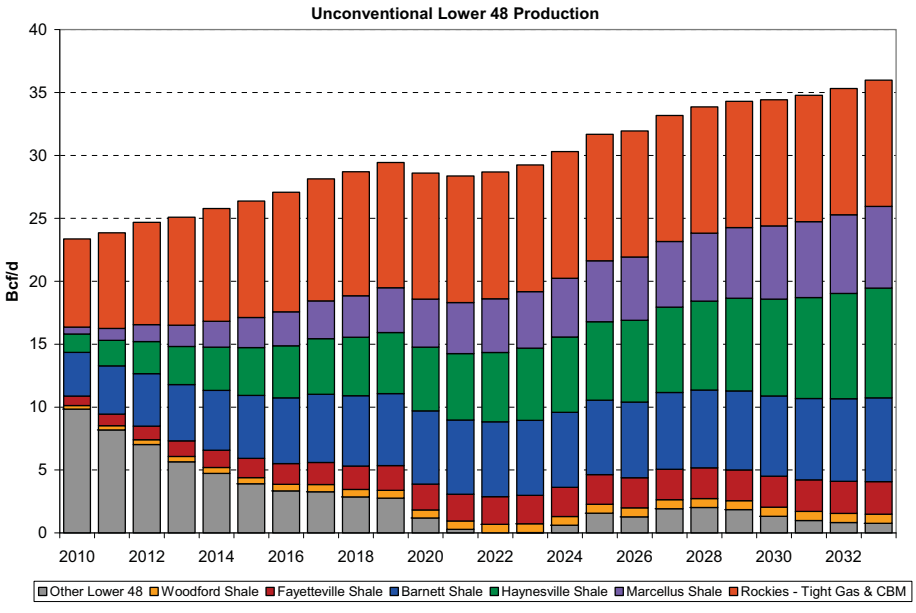
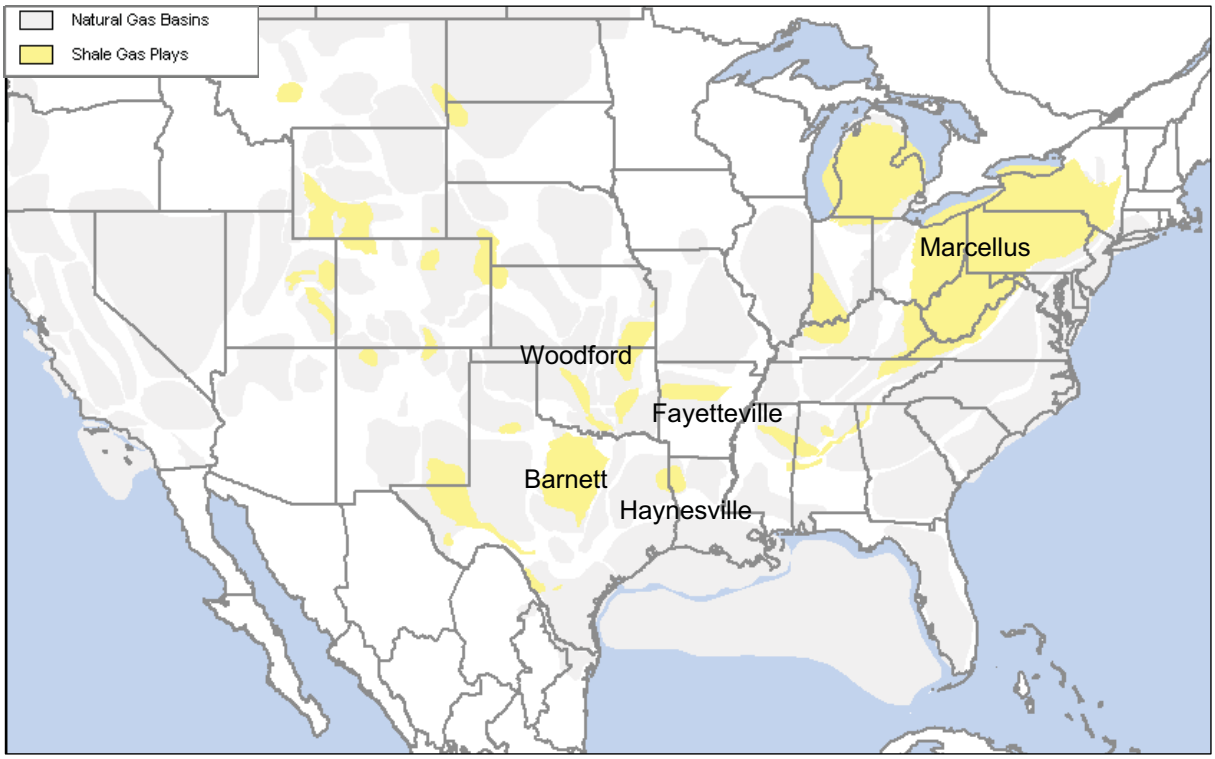
Shales, Rockies Tight Gas and Coal Bed Methane Production Grow to Offset Declining Conventional Supplies

- Gulf Coast Shale production is expected to exceed 17 Bcf/d by 2030; mostly from Barnett and Haynesville Shale
- Rockies TG and CBM production will be mainly from Green River and Powder River basins
- Technical Recoverable Reserve estimates for Marcellus Shale potential to exceed 262 Tcf



Major Natural Gas Shale Plays in the Lower 48



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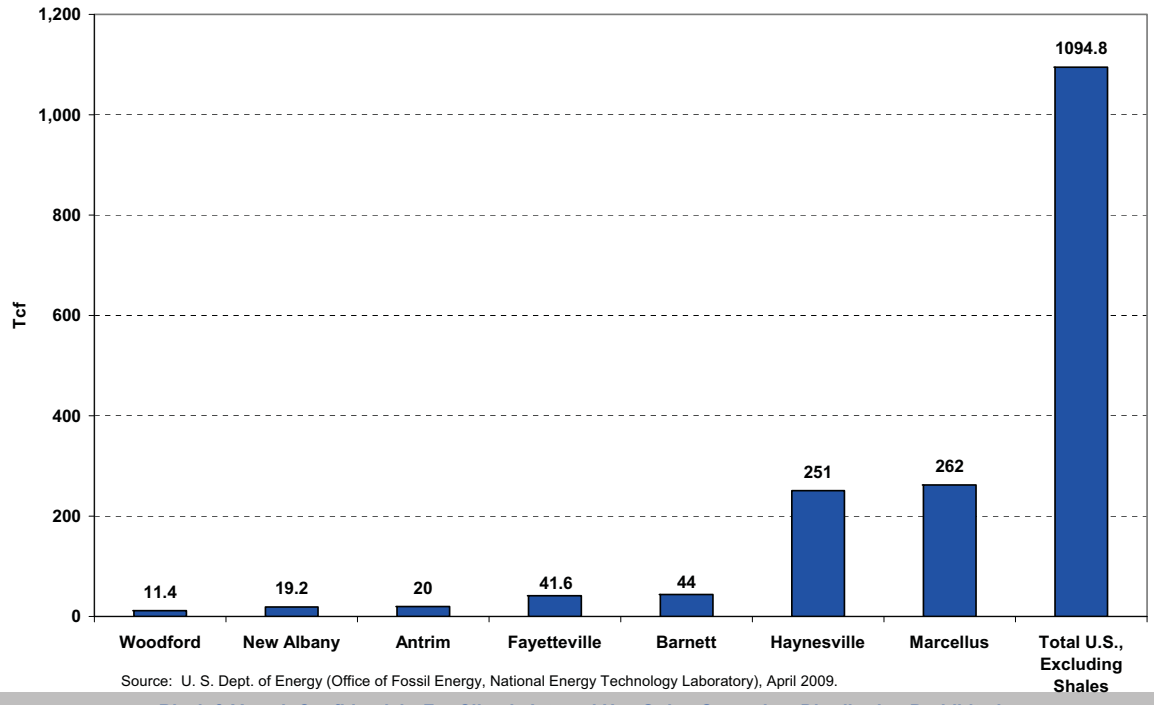
Technically Recoverable U.S. Shale Reserves Account for Nearly 40% of Total U.S. Reserves

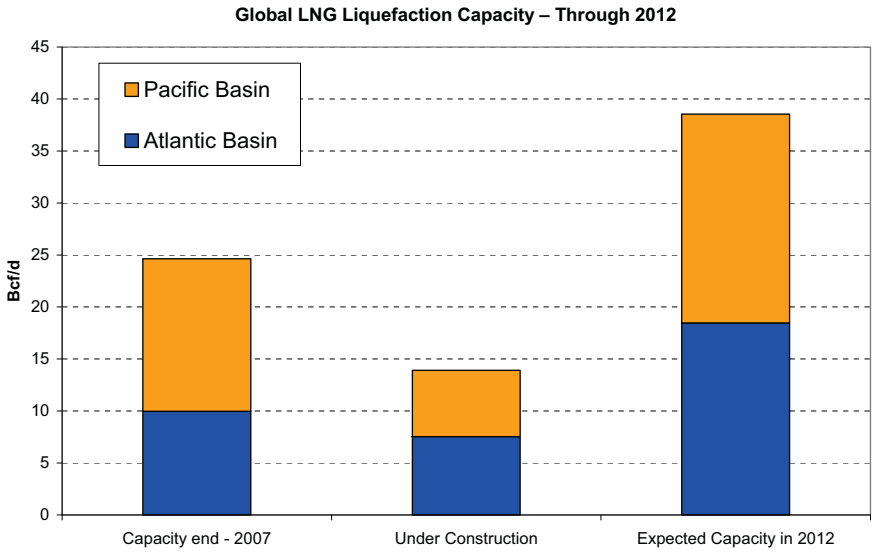
Technically Recoverable Natural Gas Resources in the United States: Shales vs. All other Reserves



Source: U. S. Dept. of Energy (Office of Fossil Energy, National Energy Technology Laboratory), April 2009.

Global liquefaction capacity increases will create new Atlantic Basin supplies that will seek US markets.

- Global liquefaction capacity increases will ease recent supply constraints in all LNG markets
- US power generation demand peaks in summer when LNG supply is least needed in Asia and Europe
- LNG merchants are expected to ship to US markets through new import terminals when prices and demand are stronger than Europe
- Additional liquefaction capacity in Nigeria, Algeria, and Australia are under development post 2012



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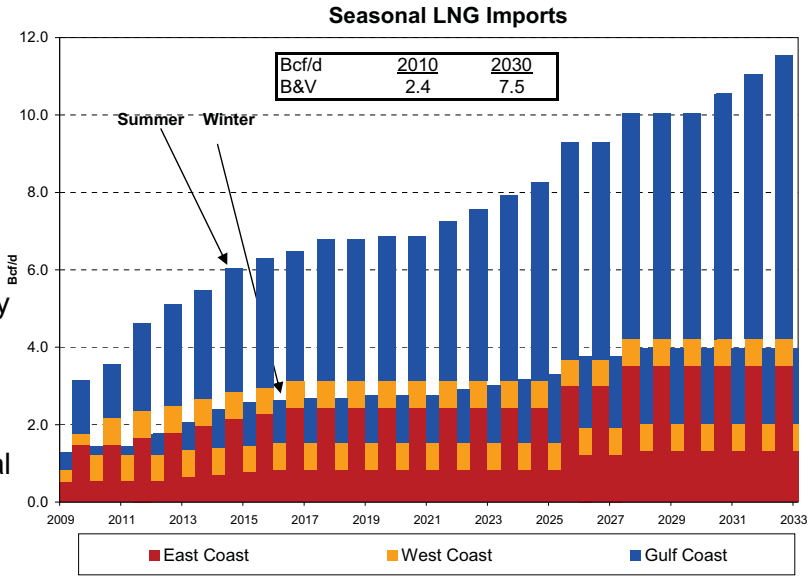
LNG imports are expected to approach 10 Bcf/d by 2030, but remain highly seasonal with summer peak imports.

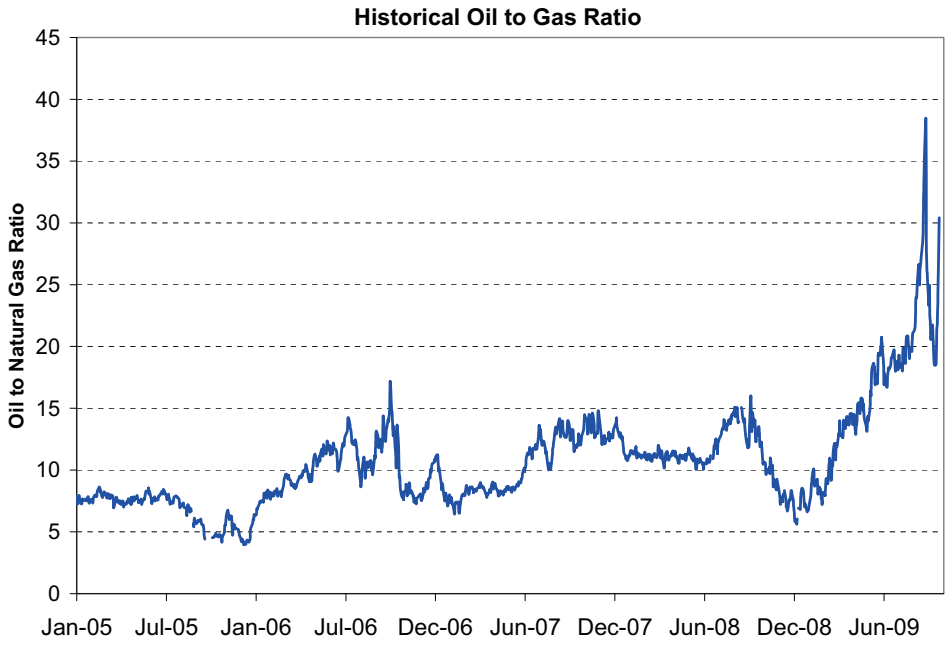
- LNG world market dynamics:
  - Strategic Fuel in Europe and Japan
  - Opportunistic Fuel in US in Summer: Monetization
- Europe:
  - Storage use is smaller in comparison to the US
  - Storage utilized for seasonal demand and to mitigate supply disruptions (e.g. – Russia).
- US LNG
  - East and West Coast LNG terminals rely more on bilateral contracts.
  - Gulf coast terminals expect to be the "swing" importers, with higher summer utilization to monetize LNG cargo.



Source: B&V Analysis

LNG destinations decisions based on Oil to Gas ratio will determine import volumes to Lower 48

- Supply overhang in 2009 contributed historically high oil to gas ratios
- B&V projects oil to gas ratio to moderate between 10 to 15 in the near term
- Market area LNG terminals may receive incremental cargos during peak demand months



Long-term natural gas prices are projected to rise with growing demand and new higher cost supply sources.

Short-term (2009 - 2011)

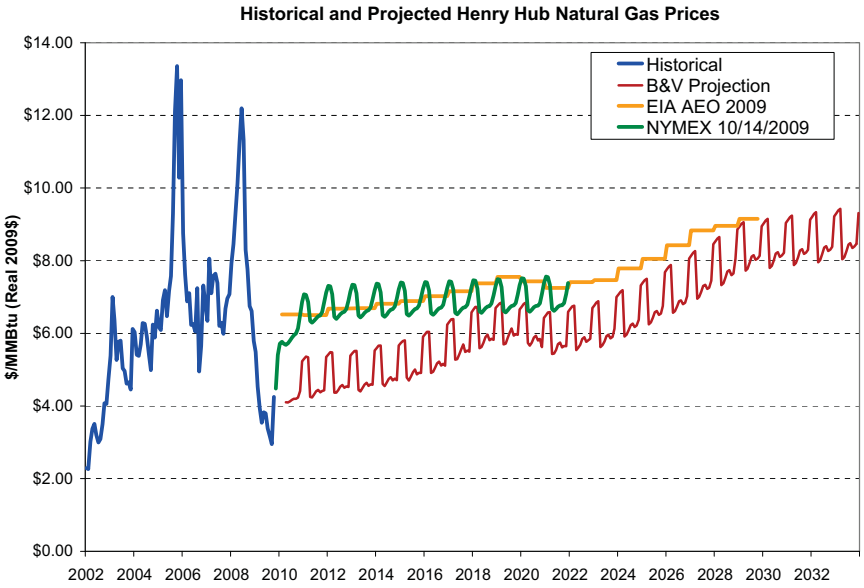
- Demand weakens with global economic climate
- North American natural gas production decreases with lower prices, credit constraints, and reduced drilling activity

Medium-term (2011 – 2019)

- Natural gas prices track upward to an average of $5.50
- Unconventional gas and LNG imports keep pace with demand

Long-term (2019 – 2030)

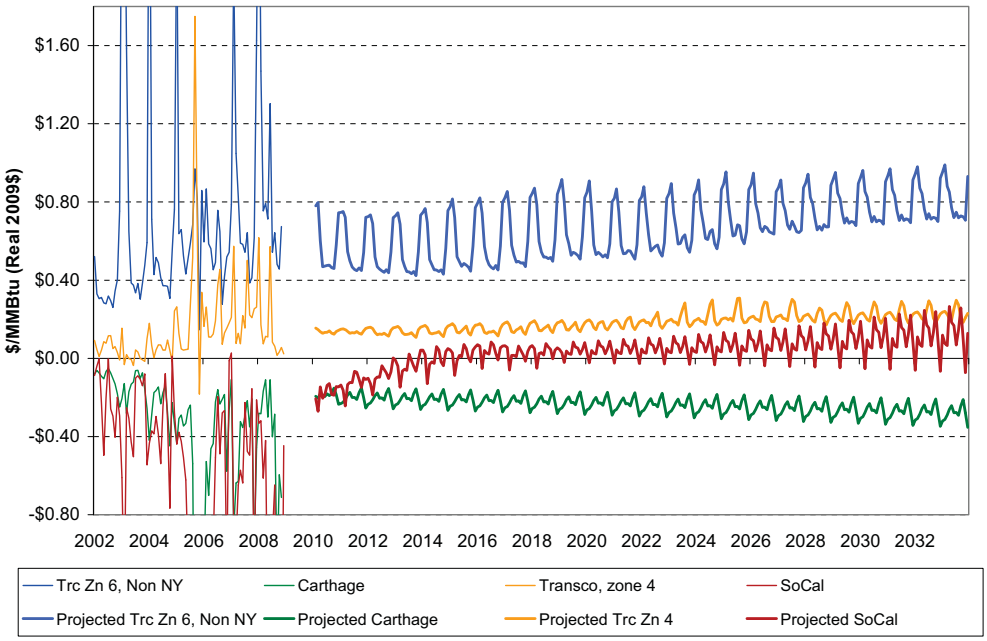
- Power sector demand pushes new consumption
- Alaskan gas enters market in 2020 softening prices for a few years
- Prices then rise as WCSB decline accelerates and current unconventional gas plateaus



Source: EIA, B&V Analysis, NYMEX.com

Selected Regional Basis Price Forecasts Reflect Growing Demand (Basis ↑) and Increased Supply (Basis ↓)

- The Energy Market Perspective incorporates detailed structural modeling of the North American gas industry.
- The result is basis differentials are represented as changing over time in response to shifting regional supply and demand balances.



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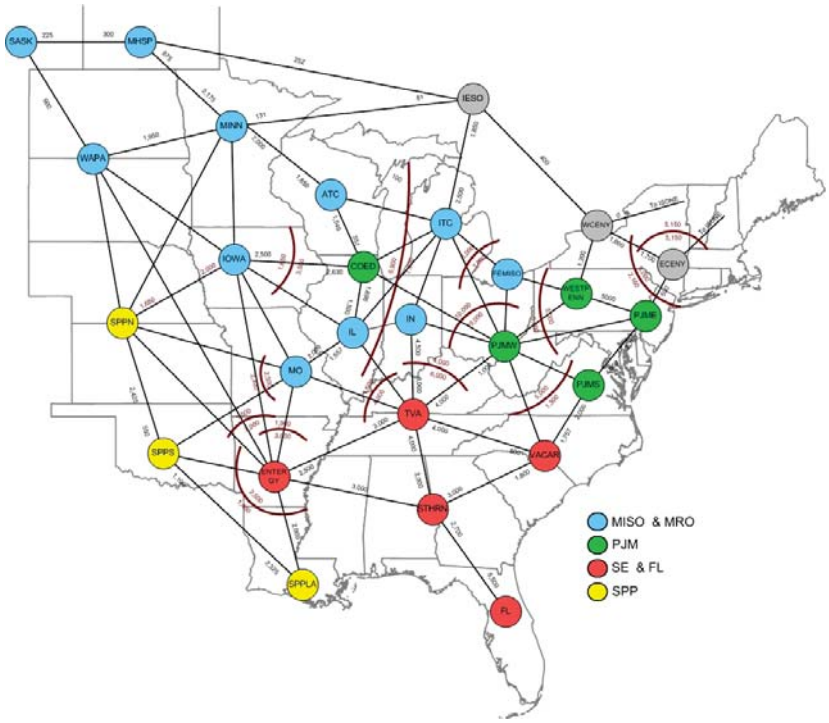
Section 4.
Midwest Regional Market Analysis

4.1 Overview and Key Issues

Midwest/Southeast Energy Market Simulation Topology

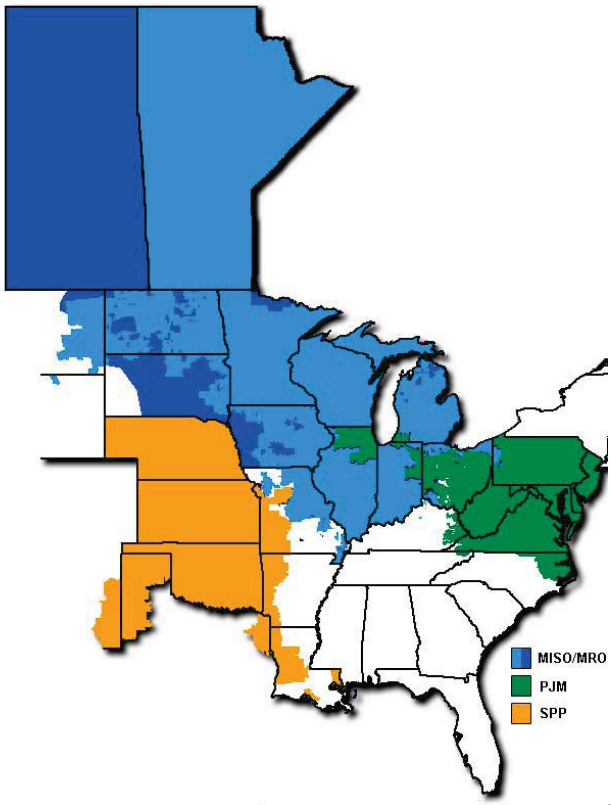
- The Midwest and Southeast market perspectives use a combined model with a topology developed to capture all the key transmission constraints between market areas
- Power flows between market areas are limited by either a link and/or an interface flow constraint
- Links and interfaces are assigned a maximum transfer rating which is the maximum amount of power (MW) that can flow (import/export) from one market area to another
- An interface limit is the cumulative transfer limit across more than one link
- NYISO and IESO footprint were also modeled to capture the power flow interactions between control areas
- 24 Market Areas Modeled



Source: Black & Veatch

The Midwest Energy Market Perspective

- The Black & Veatch Midwest Energy Market Perspective covers MISO and MRO, PJM, and SPP
- 376,000 MW Firm Installed Capacity
- 311,000 MW Frcst Peak Load
- 21 % Reserve Margin

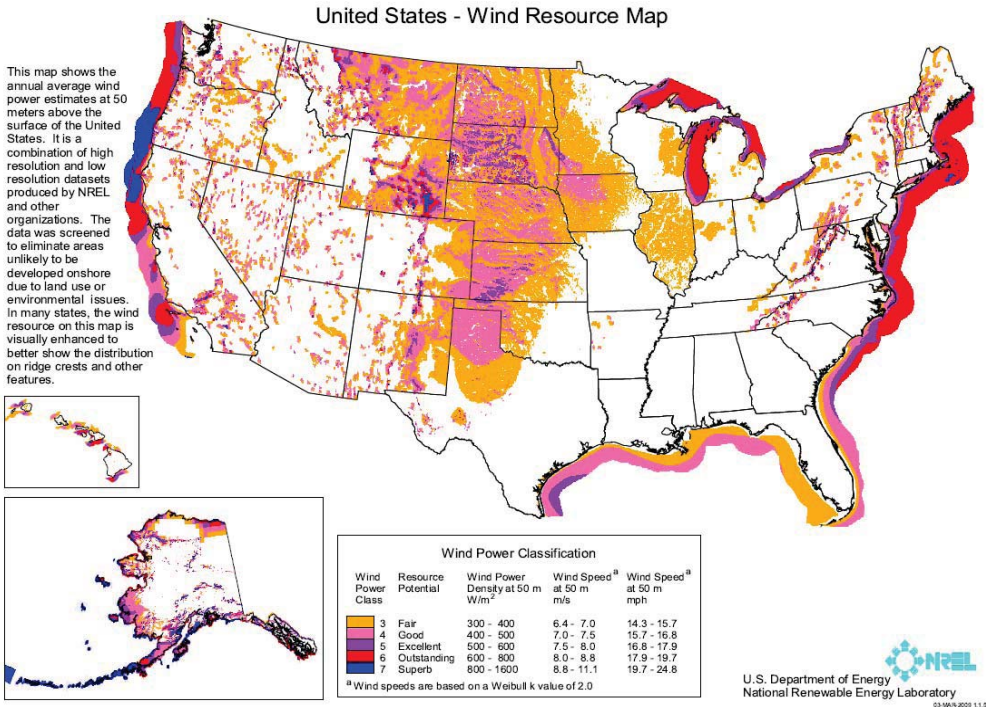


Key Issues Affecting Midwest Power Markets – Focus on Wind Penetration

- Each market region in the Midwest has focused significant planning resources on wind generation development, and the economic and operational impacts of large-scale wind penetration across the region
- Wind interconnection requests have overwhelmed Midwest independent system operators and planning entities:
  - MISO – 60,000 MW
  - PJM – 36,000 MW
  - SPP – 20,000 MW
- A number of projections, driven by higher quality wind resources and lower all-in costs, have significant wind penetration levels in the Upper Midwest Great Plains Area, some of which would be targeted to serve the demand for renewable energy in markets to the south and east
- DOE national wind study and similar studies project 5,000 -10,000 MW of wind in many of the upper midwest states, with concentration in the areas with the most favorable wind regimes
- Midwest entities have completed or are completing wind integration studies, and transmission overlay studies examining transmission infrastructure needs to accommodate large-scale wind penetration

Most Favorable Midwest On-Shore Wind Resources are in Upper Great Plains Region (MISO, MRO, SPP)

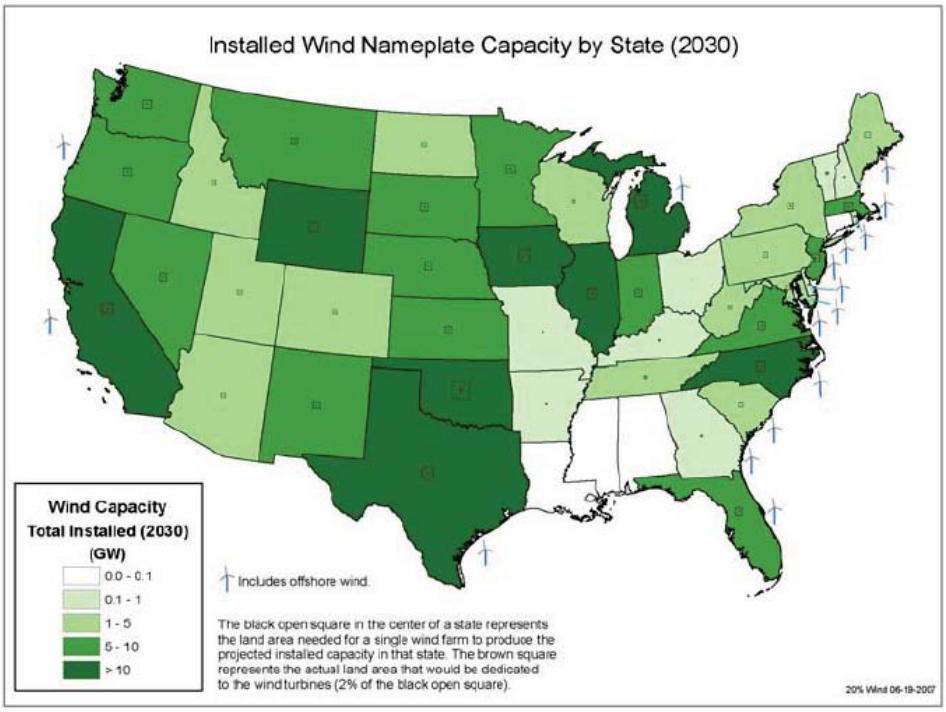
- Highest quality wind regimes in the Midwest are in the Upper Great Plains Region, with concentrations of Class 4 and Class 5 Wind
- Black & Veatch's technical work underlying the DOE 20% Wind Study shows construction and operating cost advantages of locating wind generation in the Upper Great Plains Region
- Transmission upgrades would be required to accommodate large-scale wind penetration



Source: NREL

Achieving High Wind Penetration Levels Could Lead to Significant Wind Generation in Midwest Markets

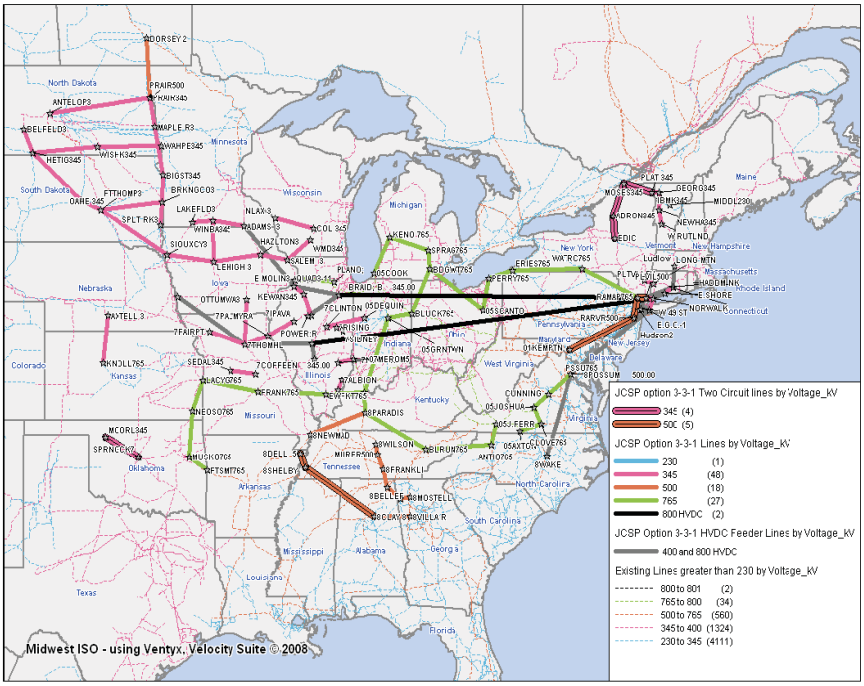
- Consistent with favorable wind regimes, higher concentration of wind resources is likely in the Upper Great Plains Region
- Northeastern, Mid-Atlantic and Southeastern states likely to import a portion of renewable energy supply, and potentially would develop off-shore wind projects



Source: DOE 20% Wind Study

Achieving High Wind Penetration Levels Will Require Significant Transmission System Investment

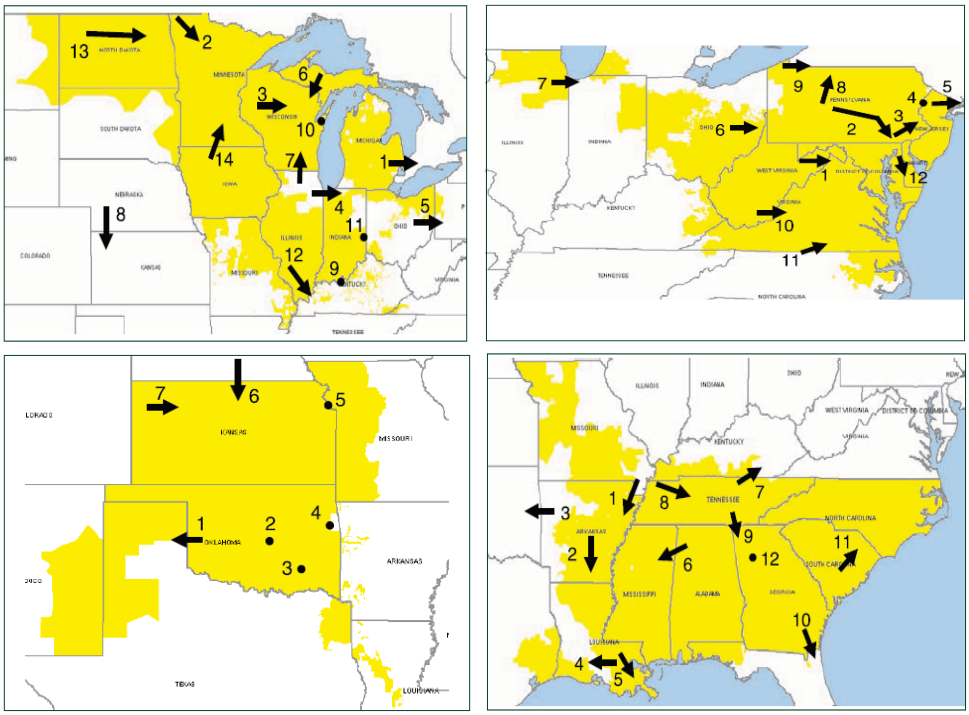
- Joint-Coordinated System Plan (JCSP) study recently completed analysis of high voltage transmission system overlay facilities needed to accommodate facilitate high levels of wind penetration in Midwest and other Eastern Interconnect markets
- JCSP projects $50 billion in transmission investment by 2024 in its reference case scenario, and $80 billion under a 20% wind penetration scenario
- JCSP study was a collaborative planning effort between MISO, PJM, SPP, TVA, MAPP, and several members of SERC



Source: JCSP Reference Case Scenario

Midwest and Southeast Markets Have Areas of Meaningful Transmission Congestion Under Current Conditions

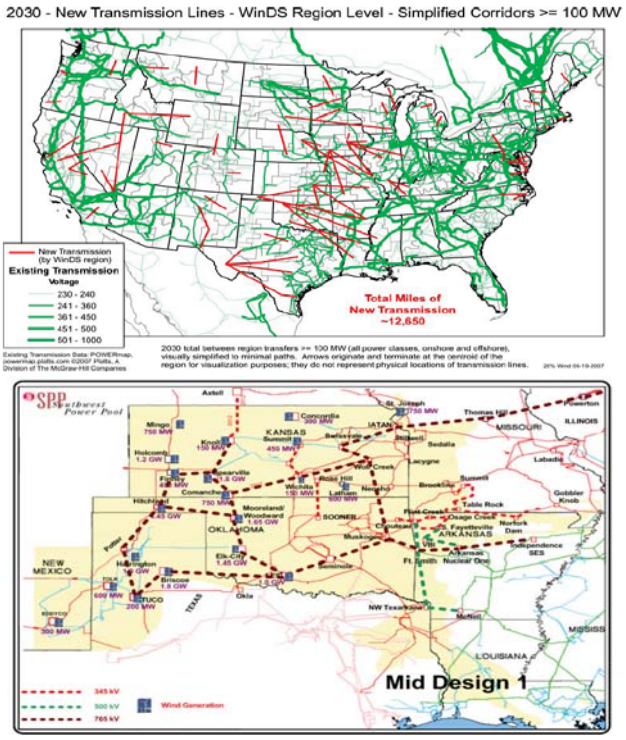
- Significant interaction occurs between Midwest and Southeast markets, and transmission bottlenecks lead to price separation under current market conditions
- Transmission congestion may become significantly more frequent, depending on wind penetration levels in the Midwest, and geographical dispersion of new wind generation



Source: DOE National Congestion Study
* Number show frequency of congestion, 1 is highest

DOE and SPP Transmission Studies Similarly Identify Need for Transmission Investment to Facilitate Wind Penetration

- The Department of Energy 20% Wind Study also developed projected transmission overlay projects needed to accommodate large scale wind development
- SPP completed its EHV Overlay study and identified potential high voltage transmission projects needed to facilitate 20,000 MW of wind development in the SPP region
- Given the history of transmission system expansion, and difficulty in gaining siting approval for high voltage regional projects, building sufficient new transmission facilities to facilitate wind generation will encounter a number of regulatory approval challenges



Source: DOE 20% Wind Study; SPP EHV Overlay Study

Midwest Major Transmission Expansion Projects

The anticipated impact of announced transmission system upgrades on area to area transfer limits were incorporated in the Fall 2009 electric price forecasting model (ProMod). These major projects are summarized below.

- PJM
  - Project Mountaineer
    - AEP Interstate Project : 550 miles, WVa to NJ
    - Trans-Allegheny Interstate Line (TrAIL) : 330 miles, SW PA, across West VA and into Northern VA
    - Potomac-Appalachian Transmission Highline (PATH) : 290 miles, from AEP's John Amos plant in southern West VA to the Kemptown substation in central Maryland
    - Mid-Atlantic Power Pathway (MAPP) : 220 miles, From VA, across Chesapeake Bay, up Delmarva Peninsula to NJ
    - In aggregate the impacts of Project Mountaineer were modeled as a 2000 MW increase in transfer capability between West Penn and PJM East beginning in 2013; a 3000 MW increase in transfer capability between Dominion and PJM East beginning in 2016; and, a 3000 MW increase in transfer capability between West PJM and Dominion beginning in 2016.

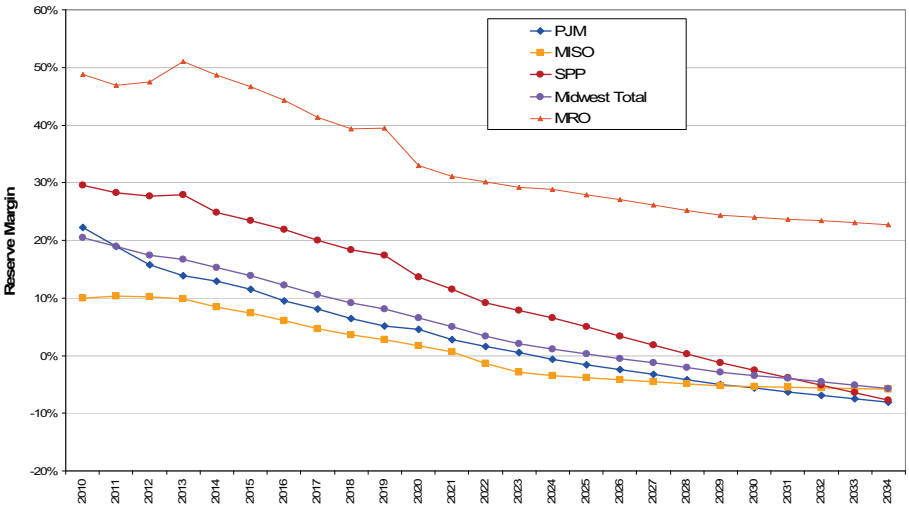
Midwest Market Areas

- The Midwest Energy Market Perspective is comprised of 20 distinct zonal pricing points for electricity
- Locations within each market area are assigned to a corresponding natural gas delivery basin
- Market Area assumptions and results are aggregated to the region level and entire Midwest level.

Region	Abbrev	Market Area	Gas Basin
Midwest ISO (MISO)	ILLINOIS	Illinois	Chicago
	INDIANA	Indiana	Dominion South
			Lebanon
	MISSOU	Missouri	Chicago
	FEMISO	FirstEnergy (MISO)	Lebanon
	ITC	Michigan	Dawn
			Lebanon
	ATC	American Transmission Company - Wisconsin	Ventura
			Chicago
			Dawn
	MINN	Minnesota	Ventura
			AECO
MRO	IOWA	Iowa	Ventura
	MHSP	Manitoba Hydro	AECO
	SASK	SaskPower	AECO
	WAPA	WAPA Control Area	Ventura
PJM Interconnect (PJM)	COED	Commonwealth Edison	Chicago
	EASTPJM	East PJM	Transco Z6 (NNY)
	PJMWEST	PJM West	Dominion South
			Lebanon
	WESTPENN	Western Pennsylvania	Transco Z6 (NNY)
	VIEP	Dominion	Transco Z5
Southwest Power Pool (SPP)	SPPLOUIS	SPP Louisiana	Henry Hub
	SPPN	SPP North	Chicago
			ANR SW
			Ventura
	SPPSOUTH	SPP South	ANR SW

Reserve Margin with No Generic Resource Expansion

- Overall, the Midwest will have healthy reserve margins for the next few years due to excess capacity and lower demand growth
- The chart on the right shows when new capacity maybe needed to come online in order to maintain reliability
- The NERC reliability standard of "1 day in 10 years" translates to about a 15% reserve margin.



Source: Black & Veatch

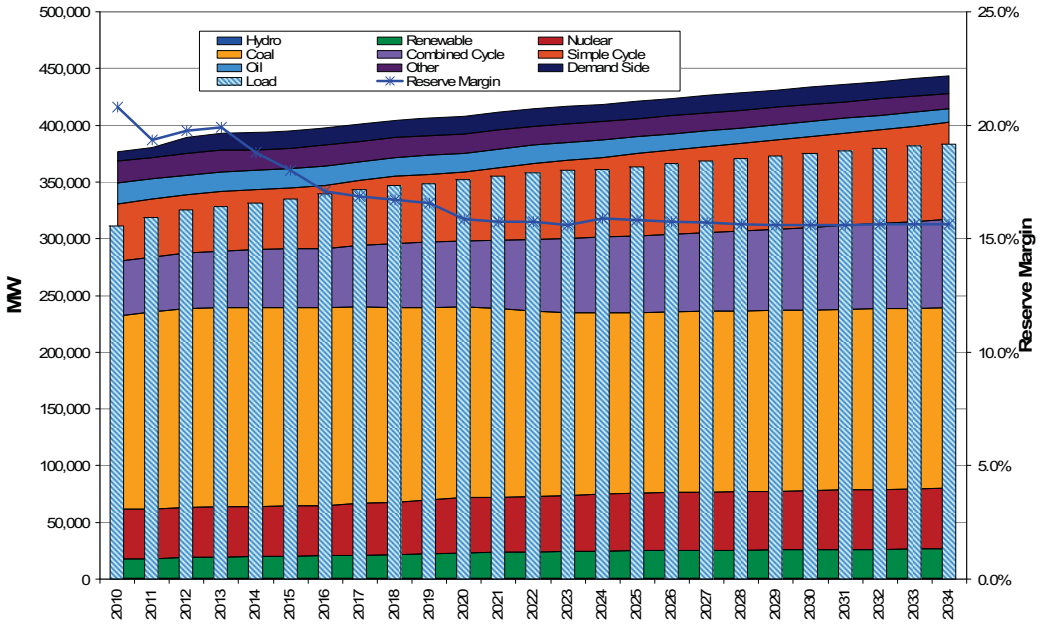
1 Assumes only the plants that are under construction or far enough along in the development process are built. The interconnection queues are much larger.

2. All resources are nameplate capacity except for wind (renewable) which has been de-rated to 20% of nameplate capacity

3. Based on coincident peak demand

4.2 Modeling Input Assumptions

Midwest Loads & Resource Outlook



Source: Black & Veatch

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2 Loads are shown for August peak load
3 Other units include Steam Oil and Gas, and Combustion Turbine Other.
4 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.
5 Renewable category includes all wind units, and all hydro units except for those excluded from being counted towards RPS compliance by state regulation.

Midwest 2010 Capacity Resource Summary

Midwest Resource Summary								
	MISO		MRO		PJM		SPP	
Unit Type	Capacity (MW)	% of Total	Capacity (MW)	% of Total	Capacity (MW)	% of Total	Capacity (MW)	% of Total
Hydro	379	0.3%	0	0.0%	0	0.0%	0	0.0%
Renewable	2,135	1.8%	9,253	34.8%	2,922	1.8%	2,941	4.7%
Nuclear	9,717	8.0%	576	2.2%	31,480	19.0%	2,421	3.9%
Coal	66,732	55.1%	10,623	39.9%	69,168	41.7%	23,596	38.1%
Combined Cycle	11,817	9.7%	1,833	6.9%	23,787	14.3%	10,781	17.4%
Simple Cycle	19,935	16.4%	2,106	7.9%	21,123	12.7%	7,596	12.3%
Oil	4,029	3.3%	800	3.0%	11,484	6.9%	1,604	2.6%
Other	3,295	2.7%	322	1.2%	3,691	2.2%	12,080	19.5%
Demand Side	3,175	2.6%	1,086	4.1%	2,157	1.3%	923	1.5%
Total Capacity	121,214		26,598		165,812		61,943	
Summer Peak Load	110,281		17,881		135,653		47,814	
Reserve Margin	9.9%		48.8%		22.2%		29.5%	

Source: Black & Veatch

•Wind in Renewable Unit Type is de-rated to 20% of nameplate for peak capacity accounting purposes

Midwest Coincident Peak and Energy Load Forecast

- **Demand Side Management is included in Annual Average Growth Rate**

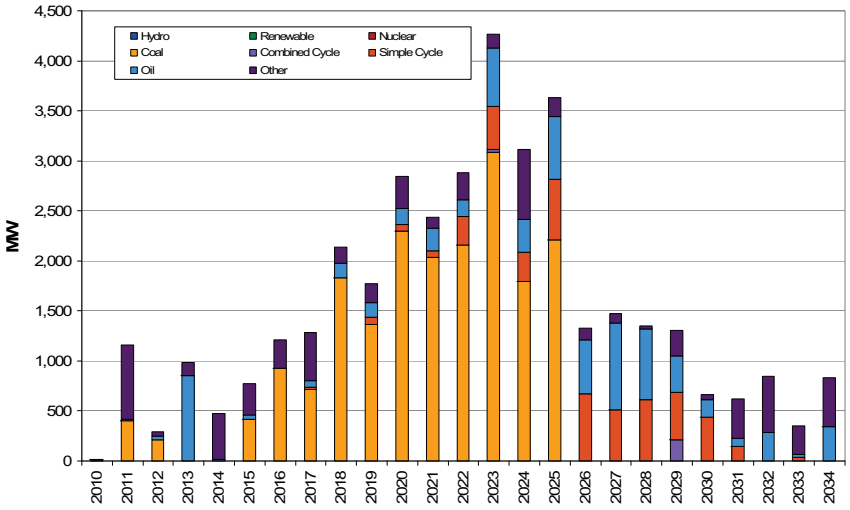
	PJM Interconnect		Midwest ISO		MRO		Southwest Power Pool	
	Peak (MW)	Energy (GWh)	Peak (MW)	Energy (GWh)	Peak (MW)	Energy (GWh)	Peak (MW)	Energy (GWh)
2010	129,850	713,364	110,281	564,848	17,881	110,152	47,814	221,816
2011	134,649	734,203	111,792	573,807	18,102	111,401	48,746	227,060
2012	139,924	759,755	112,539	580,399	18,354	112,521	49,405	231,431
2013	141,934	772,418	112,966	584,805	18,352	113,521	49,339	234,681
2014	141,939	784,242	113,979	586,031	18,656	114,497	50,537	237,698
2015	143,327	794,383	114,890	591,033	18,836	115,703	51,099	240,558
2016	146,879	806,740	115,927	597,131	19,030	116,770	51,634	243,839
2017	148,929	814,315	116,937	602,146	19,212	117,844	52,165	245,485
2018	151,230	824,024	117,612	608,164	19,464	118,944	52,660	249,825
2019	152,342	832,559	118,041	613,047	19,467	119,855	52,523	252,569
2020	151,884	844,518	119,262	616,999	19,728	120,638	53,760	255,357
2021	154,602	850,906	119,760	620,189	19,849	121,324	54,309	258,190
2022	156,621	859,345	120,158	622,763	19,955	121,926	54,858	261,061
2023	158,187	866,917	120,486	624,834	20,040	122,470	55,414	263,981
2024	159,454	876,765	120,127	626,499	20,011	122,957	55,230	266,949
2025	160,674	884,271	120,334	627,401	20,110	123,355	55,951	270,053
2026	161,894	891,777	120,541	628,303	20,209	123,753	56,673	273,158
2027	163,113	899,284	120,747	629,206	20,309	124,151	57,394	276,262
2028	164,333	906,790	120,954	630,108	20,408	124,549	58,116	279,367
2029	165,553	914,296	121,161	631,010	20,507	124,947	58,837	282,471
2030	166,845	922,206	121,277	631,310	20,548	125,276	59,461	285,821
2031	168,136	930,116	121,392	631,609	20,589	125,606	60,086	289,171
2032	169,428	938,027	121,508	631,909	20,629	125,935	60,710	292,522
2033	170,719	945,937	121,623	632,208	20,670	126,264	61,335	295,872
2034	172,011	953,847	121,739	632,508	20,711	126,593	61,959	299,222
Annual Average Growth Rate	1.18%	1.22%	0.41%	0.47%	0.61%	0.58%	1.09%	1.26%

Source: Black & Veatch

* Assumptions are an aggregate of each EMP Area.

Midwest Retirements by Year

- Nuclear units are assumed to get license extensions and have a life span of 75 years
- Coal units over 100 MW are assumed to have a life span of 75 years.
- All relatively inefficient coal units were retired between 2014 and 2024. Total retirements is 19 GW. Assumption based on expectations for future carbon legislation.

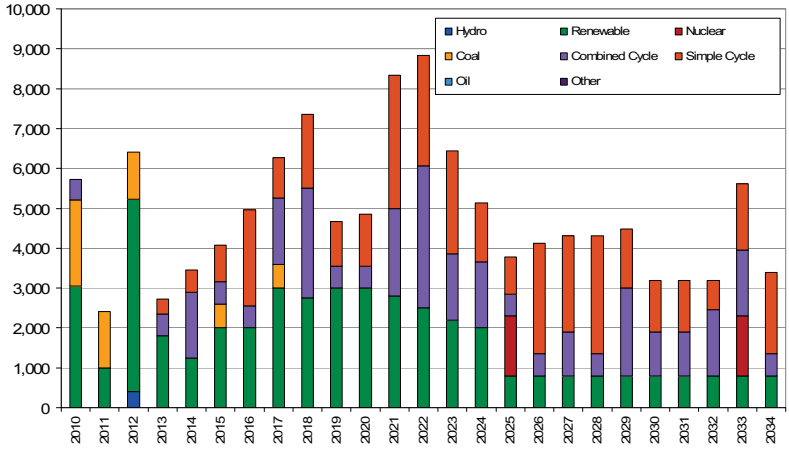


Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Assumptions are an aggregate of each EMP Area.

- Large CT over 50 MW, and large CC over 100 MW are assumed to have a life span of 65 years.
- Small CT under 50 MW, CC generators under 100 MW, Diesel generators, and all other fossil fueled units are assumed to retire at 55 years.
- Renewable Generation assumed to not retire or be replaced with like generation.

Midwest Expansion by Year

- For the Midwest generic expansion, in general, generic units were added to maintain an overall 15 percent reserve margin in the Midwest footprint.
- However, the MISO and PJM regions were getting low on capacity in 2013 so units were added to these regions before the broader Midwest reserve margin decreased to 15 percent.
- Resources were added to the ISO areas with the lowest reserve margins first. Within a ISO, resources were added to the Market Areas with the lowest reserve margin first.
- Significant renewable additions to meet RPS.



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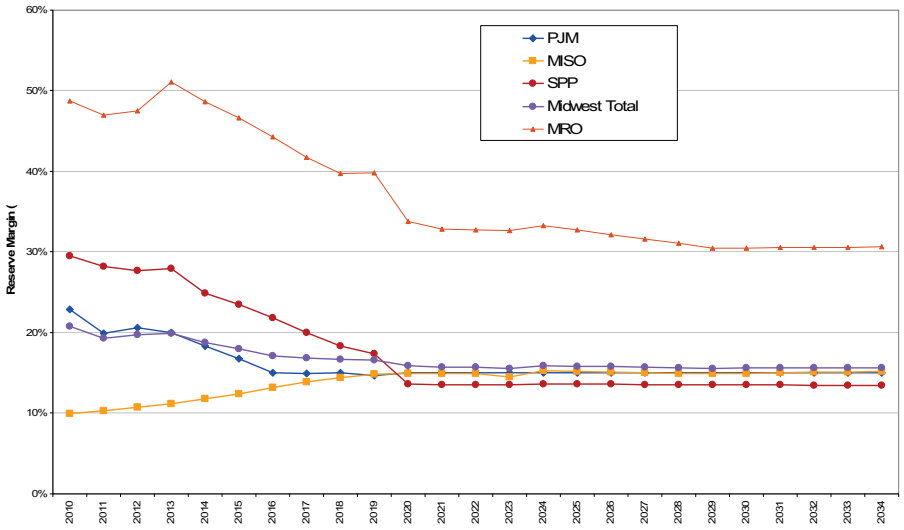
4. All resources are reported as name plate capacity.

Reserve Margin with Resource Expansion

- Overall, the Midwest will have healthy reserve margins for the next few years due to excess capacity and lower demand growth
- The chart on the right shows when new capacity maybe needed to come online in order to maintain reliability
- The NERC reliability standard of "1 day in 10 years" translates to about a 15% reserve margin.

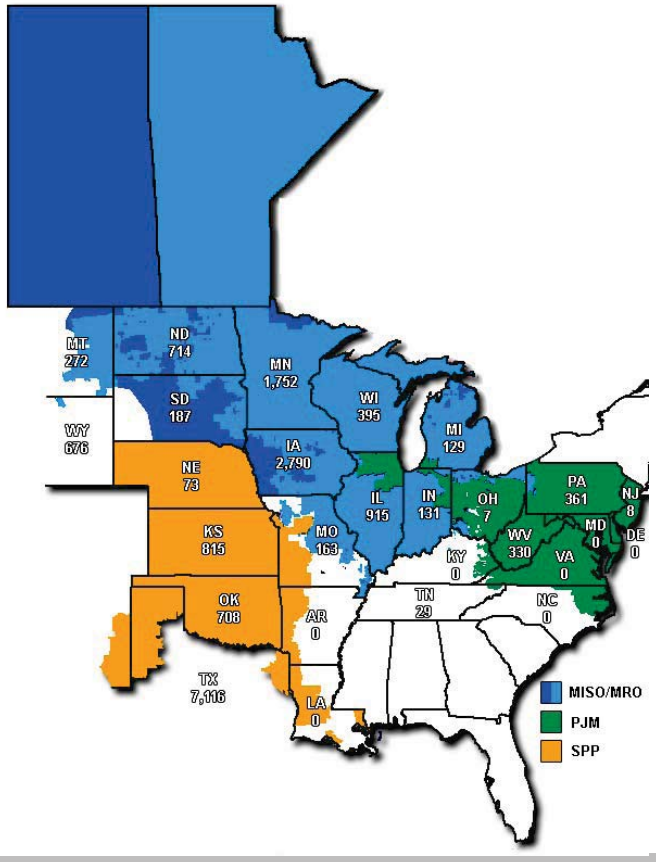


Source: Black & Veatch

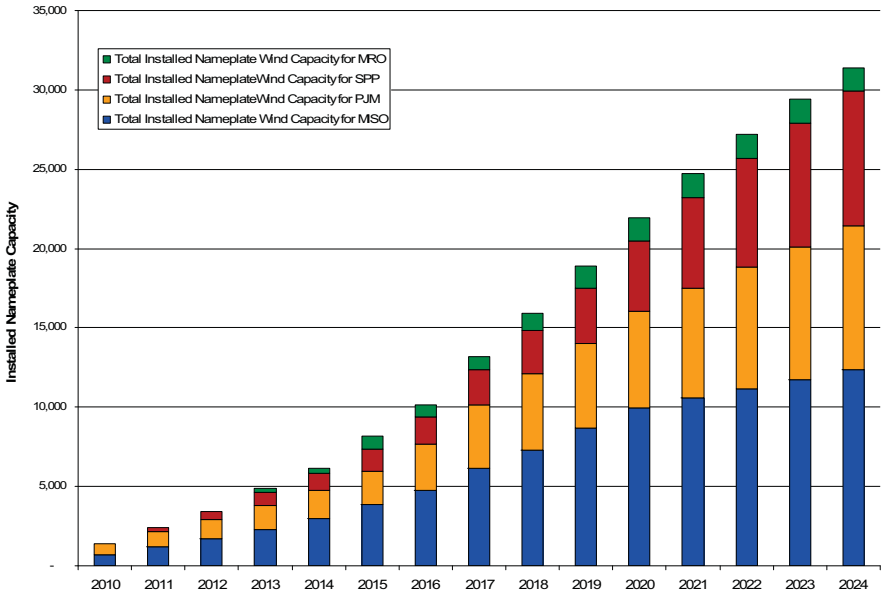
* All resources are nameplate capacity except for wind (renewable) which has been de-rated to 20% of nameplate capacity

Existing Wind Resources

- In the Midwest, Minnesota and Iowa have more than 1000 MW of nameplate wind capacity installed.
- Other states such as Kansas, Illinois, Oklahoma and North Dakota also have significant wind capacities.
- Most of the wind capacity additions were done during the last few years.



Renewable Resources Added in the Last 10 Years (Nameplate Capacity in MW)



Source: Energy Velocity

Wind Potential

- MISO and SPP have the most potential for development of new wind capacity.
- States that have limited potential for in-state renewable resources sites are expected to purchase renewable generation or credits from resources located outside their state to meet RPS.
- Significant transmission infrastructure upgrades would be needed to meet the full wind energy potentials to transfer the energy to the demand areas.

States With Maximum Potential (MW)

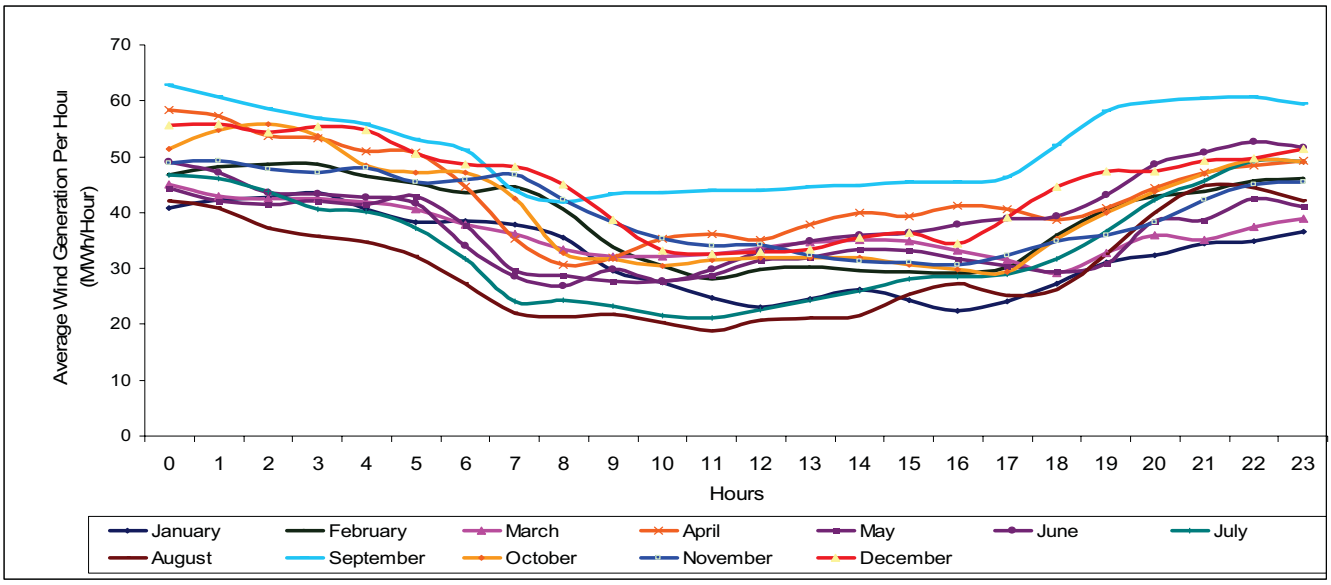
Iowa	62,900
Minnesota	75,000
Illinois	7,000
Kansas	122,000
North Dakota	138,000
Oklahoma	82,700
Wisconsin	6,500
Michigan	7,500

Source: www.awea.org

Assumptions for MW for Meeting the RPS Requirements

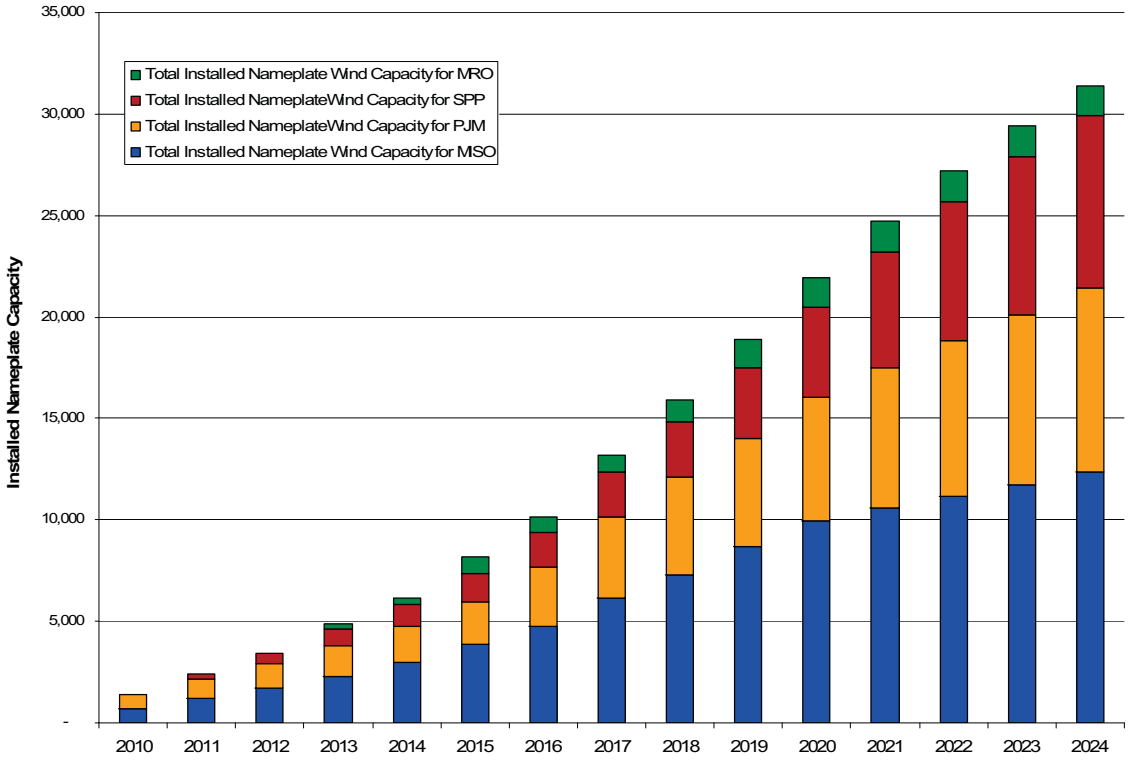
- In 2007 and 2008, the total wind resources added in the MISO region was around 700 MW and 2,400 MW respectively. It is assumed that MISO would be able to add, on average, 2,000 MW of wind energy resources every year for 2014 and onwards.
- Based on historical trends, it is assumed that on average 700 MW and 1000 MW of wind resources can be added in SPP and PJM every year respectively.
- Wind farm additions would be lumpy in regions with most potential; trading of RECs and development of new transmission corridors would enable transfer of energy within regions.
- Average wind capacity factor for the MW/SE region is 35%.
- Operating fixed cost (FOM) excluding capital cost is assumed to be $51/kw-year (2009 dollars) or $17/MWh (approx) at 35% CF.
- Based on the RPS requirements and goals for the different states, it is assumed that the MW region would try to achieve at least 10% generation by 2015 and 15% by 2020 from renewable resources.

Typical Wind Profile for MW



Wind is typically counter cyclic to electricity demand as wind generation tends to be higher in off-peak hours.

Renewable Resources Additions (Nameplate Capacity, MW)



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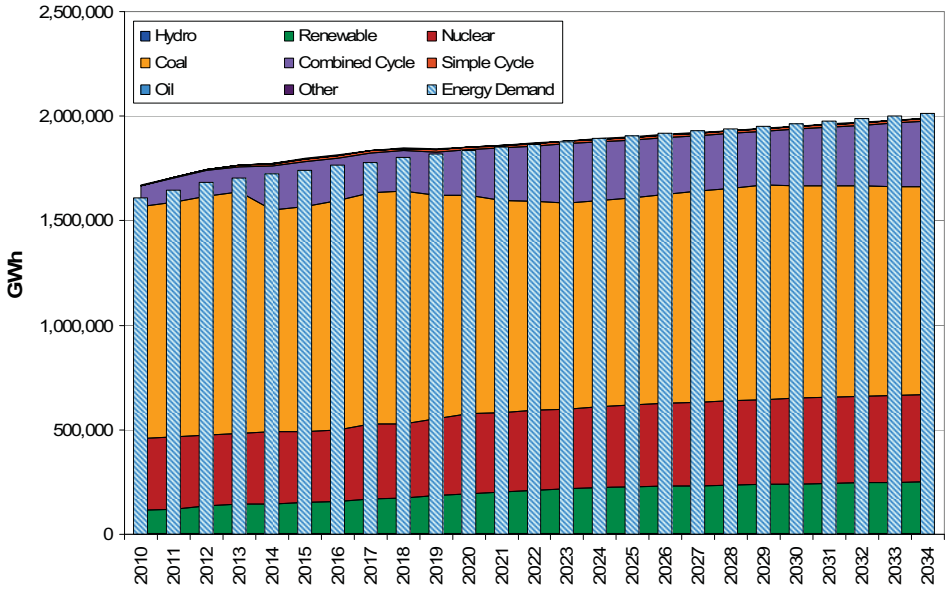
4.3 Modeling Results and Analysis

Midwest Energy Demand and Generation by Unit Type

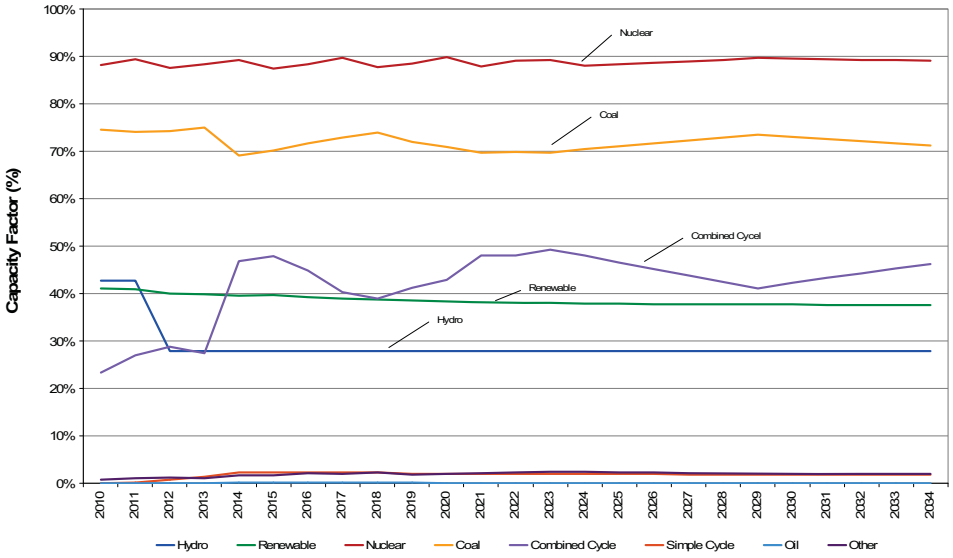
- Coal generation remains the predominant source generation in the Midwest.
- Increase in CC generation in 2014, same year as CO_2 legislation is implemented
- Renewable energy use in the form of wind generation increases to about 12% of the total generation.



Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Results are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034
4 Renewable category includes all wind units, and all hydro units except for those excluded from being counted towards RPS compliance by state regulation.

Midwest Fleet Average Capacity Factor

- Combined Cycle CF utilization increases over time caused by demand growth.
- Minor drop in CF% for Coal in 2014 caused by CO_2 allowance cost increase to $20/short ton, however coal-fired generation will still be dispatched before natural gas-fired generation
- Combustion turbines run at 2% CF or less and only operate during the peak hours.
- Wind plants are assumed to produce energy at a 35% capacity factor.



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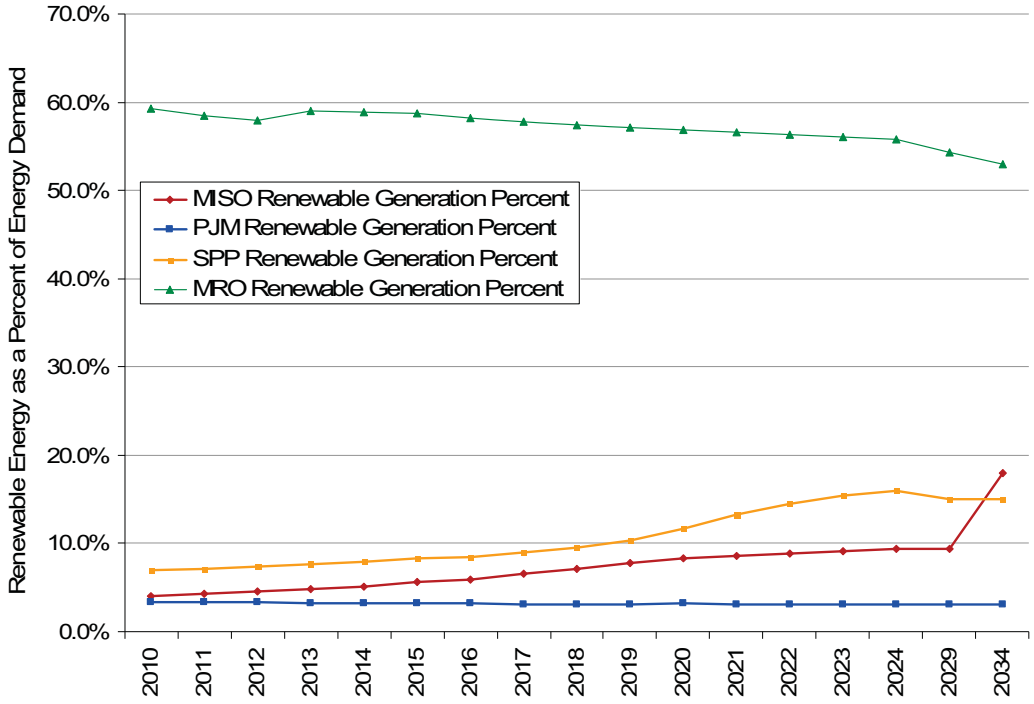
4. Renewable category includes all wind units and hydro units which can be counted towards RPS credits

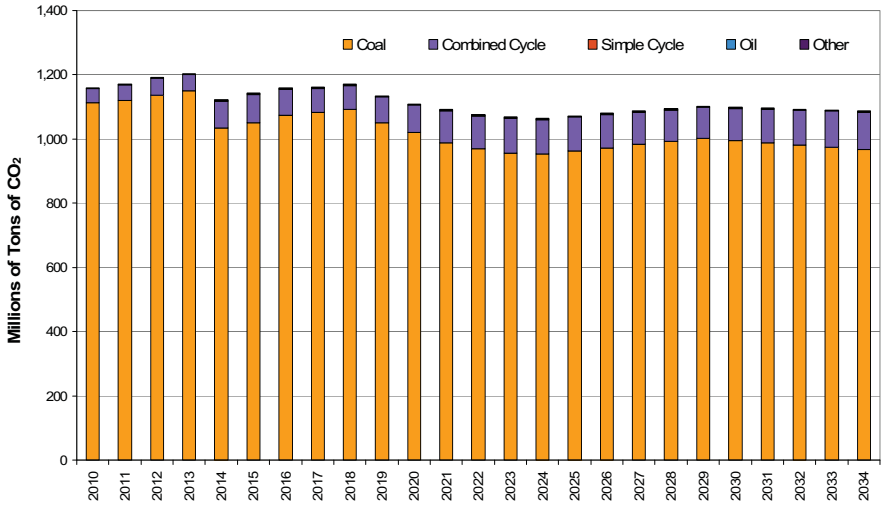
Renewable Energy Generation As a Percent of Energy Demand



Will MW Fulfill RPS Requirements?

- MW/SE region will partially fulfill RPS requirements by 2020.
- Overall the MISO Region is projected to achieve 20% RPS target by 2020. During this time period, SPP will achieve 15%; PJM - 6%.
- To achieve these RPS levels, installed nameplate wind capacity will need to more than tripled from 21,000 MW in 2008 to about 68,000 MW in 2020. (Additional 47,000 MW)
- Adding an additional 47,000 MW of wind resources will only account for 9,400 MW of firm capacity based on a twenty percent firm criteria. Capacity additions through conventional resources would still be required to meet the reliability standards.
- Turbine manufacturing capacity may need to increase to support the build assumed.
- Transmission facilities would also need to be permitted and constructed

Midwest CO2 Emissions by Unit Type



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- Carbon allowance cost has impact on CO2 for the Midwest
- Most of the drop comes from MISO, MRO and SPP
- PJM CO2 stays about constant

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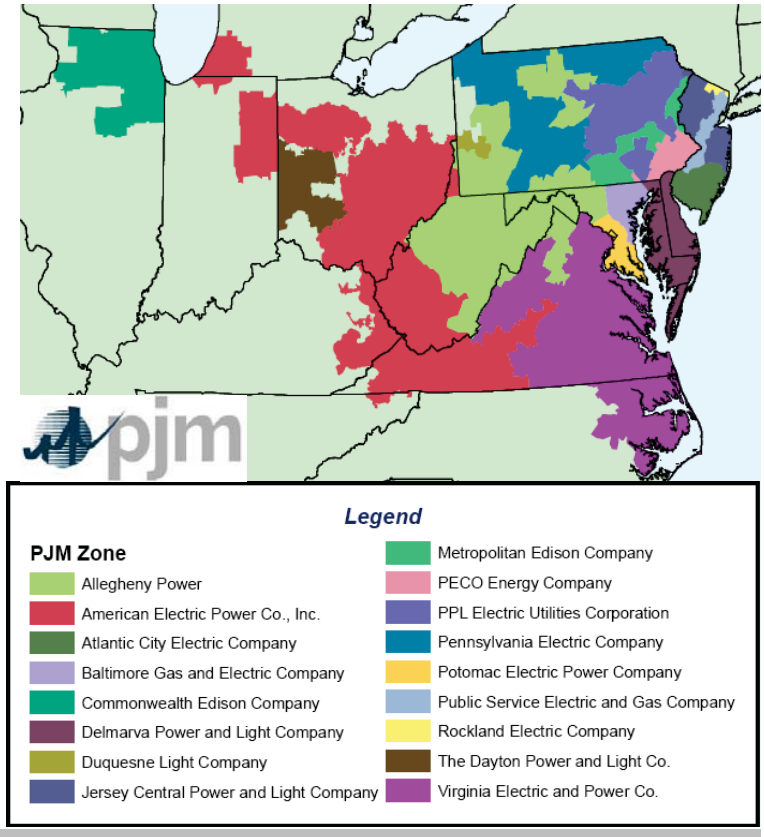
4.4 PJM Interconnect Results

PJM At a Glance

- Regional Transmission Organization (RTO) for 13 states and DC
  - Balances: Generation, Transmission and Demand
  - Functions as data clearinghouse and decision maker
- 163,500 MW of Firm Capacity
- ~1,200 Generation Units
- 56,350 miles of transmission
- 168,500 Sq Miles of Territory



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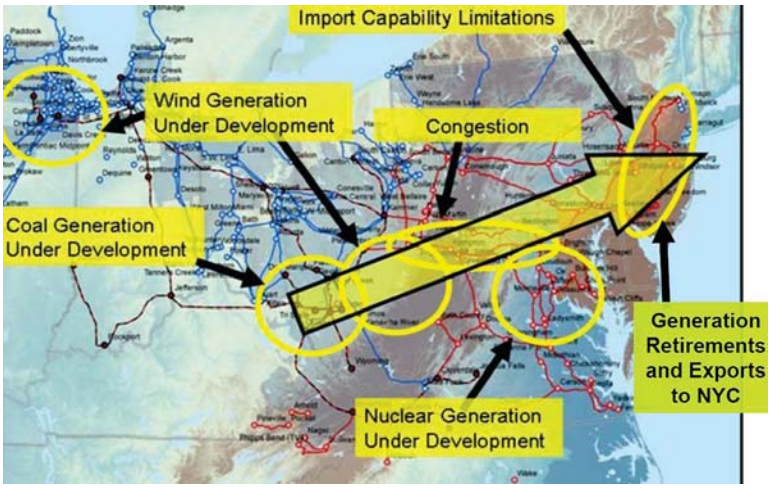
PJM Current Events

- Jan 2009: PJM evaluates the potential impact of climate control legislation and, among many scenarios, considers 15,000 MW of wind by 2013 (1/3 of generation in the interconnection queue)



- Currently about 40% of all projects proposed in PJM involve wind generation
- In Dec 2008 PJM approved $1.6 Billion for Transmission system additions and upgrades including:
  - 500-kV lines in NJ by 2013 (Somerset county to Hudson county, passing through Essex county)
  - HVDC for part of the Mid-Atlantic Power Pathway. (between Clavert Cliffs in Maryland to the Delmarva Peninsula)
- Conduct first long-term FTR Auction in October 2008

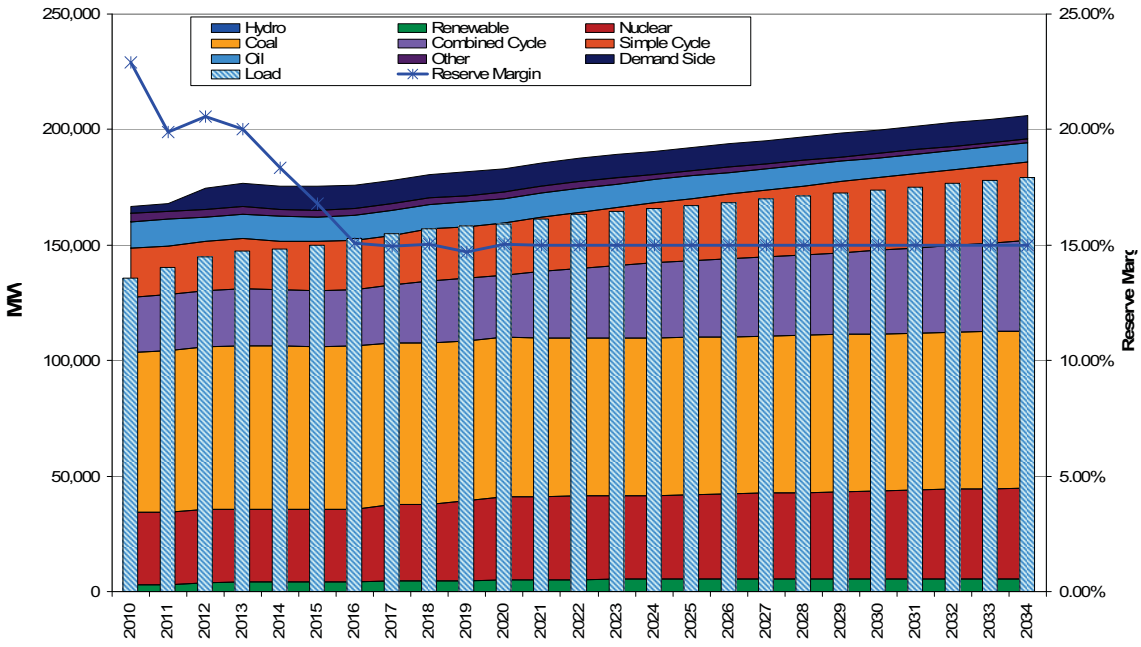
PJM Current Trends

- Demand is expected to grow more than 22,000 MW (16%) in the next decade
- Already shows reliability violations (NJ, PA, Delaware, Maryland, Virginia, and DC)
- PJM supports a Reliability Pricing Model - RPM (3 years forward look for capacity, with locational pricing to attract capacity development)
- Demand Response is being seen as a viable alternative in the area
- PJM is co-sponsoring research into Vehicle to Grid (V2G) connections to use hybrid cars as "batteries on the grid" to supplement the system during peaks in the region. (MAGIC- the Mid-Atlantic Grid Interactive Car)

PJM Markets Features

- RTO/ISO since December 2002
- Nodal Pricing since April 1998
- Real-time and Day-Ahead Energy Markets
- Capacity Credit Market-RPM Since June 2007
- Ancillary Services Markets for Regulation and Spinning Reserves
- Transmission Congestion hedged through FTRs
  - entitle holder to revenues or charges based on the hourly congestion price differences across a transmission path in the Day-Ahead Energy Market

PJM Interconnect Loads & Resource Outlook



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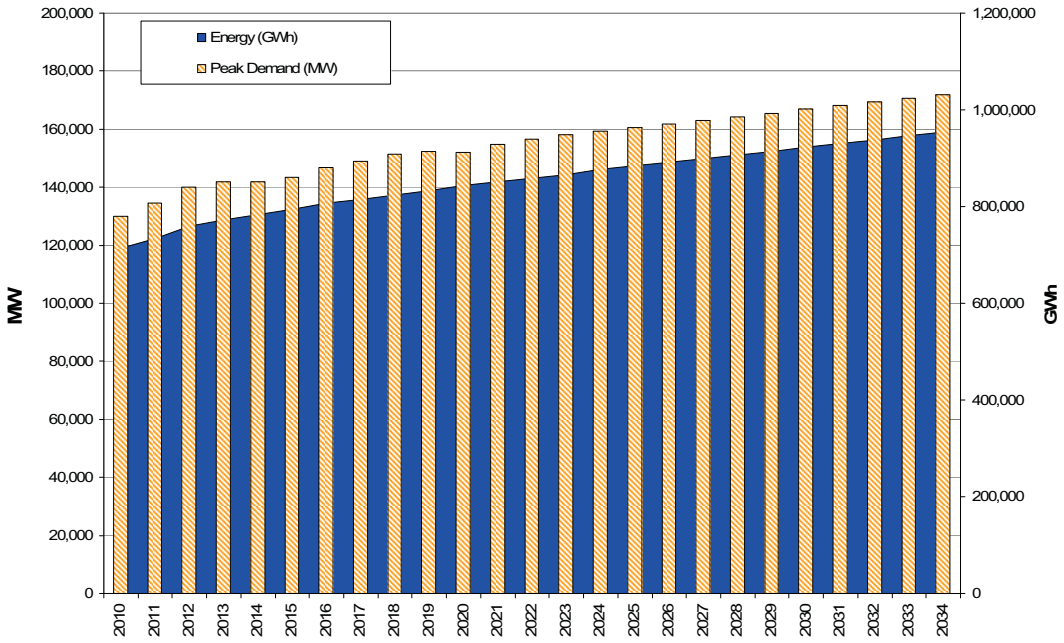
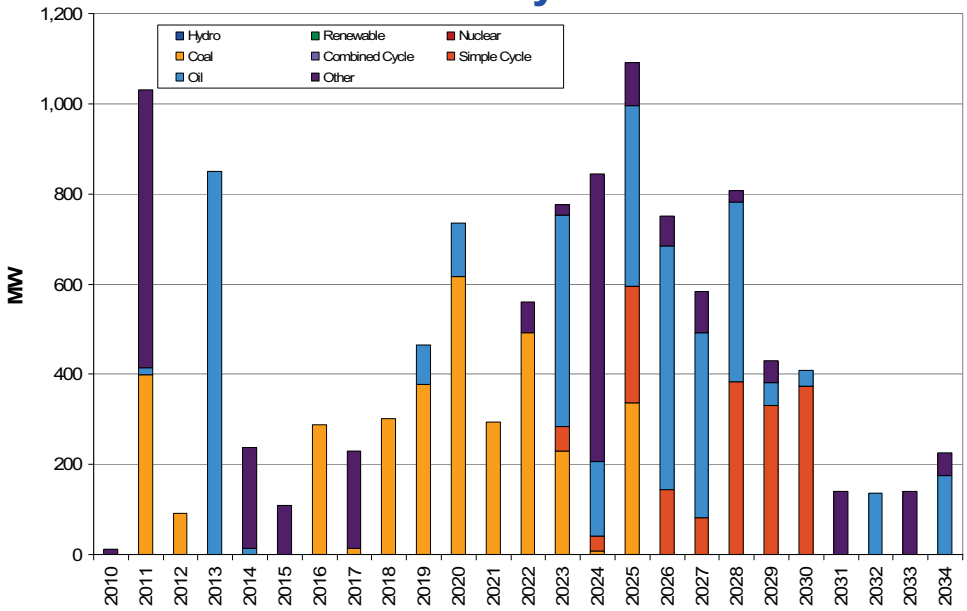
PJM Peak and Energy Load Forecast



Source: Black & Veatch
* Assumptions are an aggregate of each EMP Area.

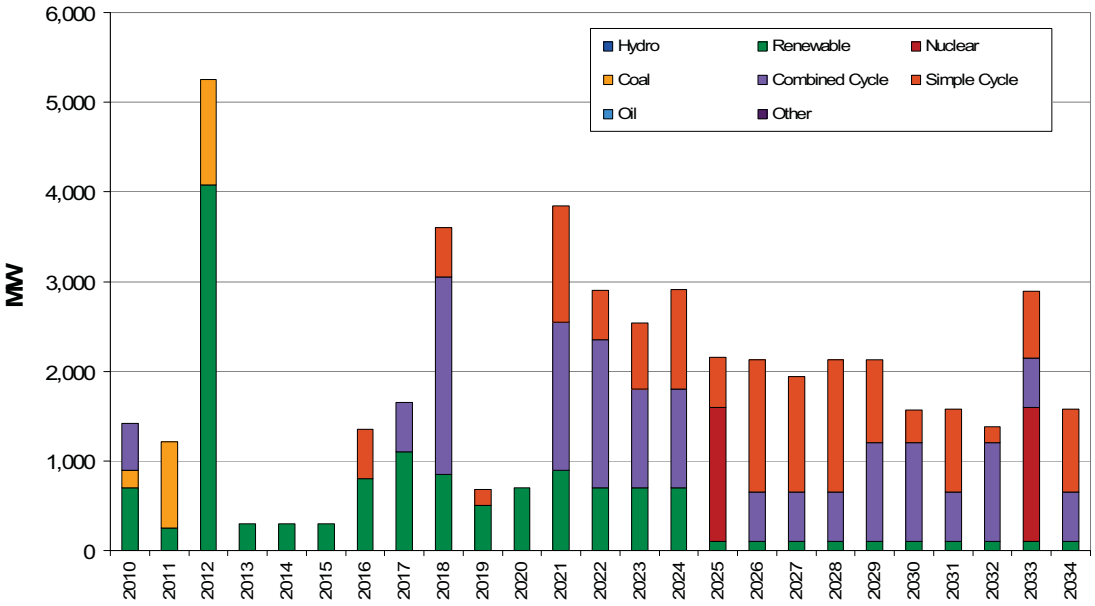
PJM Interconnect Retirements by Year



Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other.
2 Results are an aggregate of each EMP Area.

- Over 11,500 MW of cumulative capacity is retired by 2034
  Coal – 3,500 MWCT – 1,700 MW
  Oil - 3,900 MW Other –2,500 MW

PJM Expansion by Year



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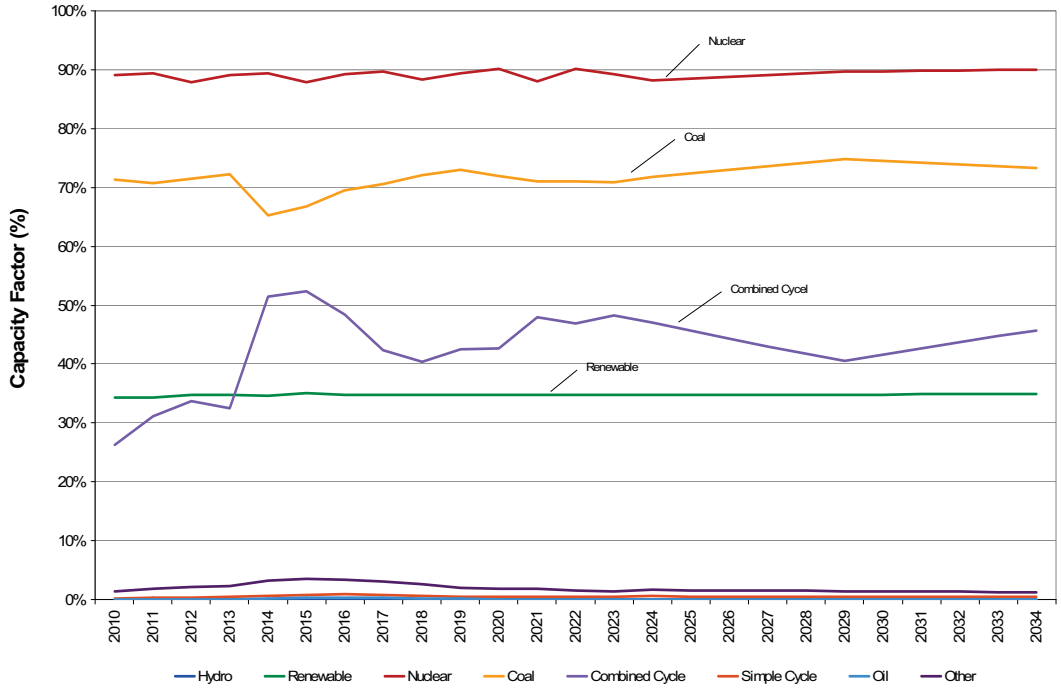
PJM Interconnect Fleet Average Capacity Factor



Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Results are an aggregate of each EMP Area.
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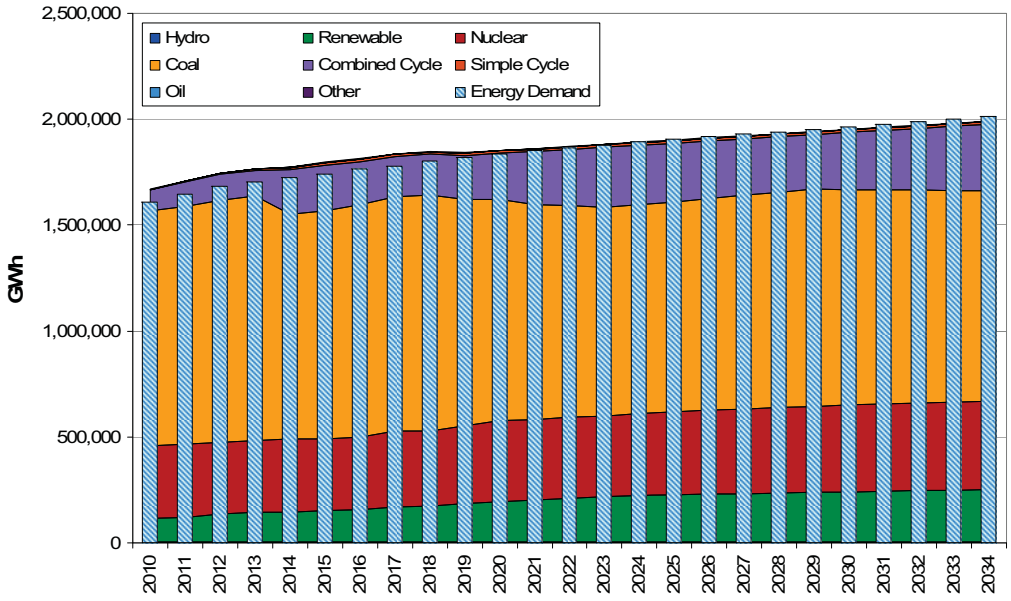
PJM Energy Demand and Generation by Unit Type

- Steady Increase in renewable generation
- Nuclear generation increases after 2018
- Minor reduction in coal generation in 2014. Later reductions driven by increased nuclear capacity and higher carbon allowance prices
- CC replaces some coal after 2014



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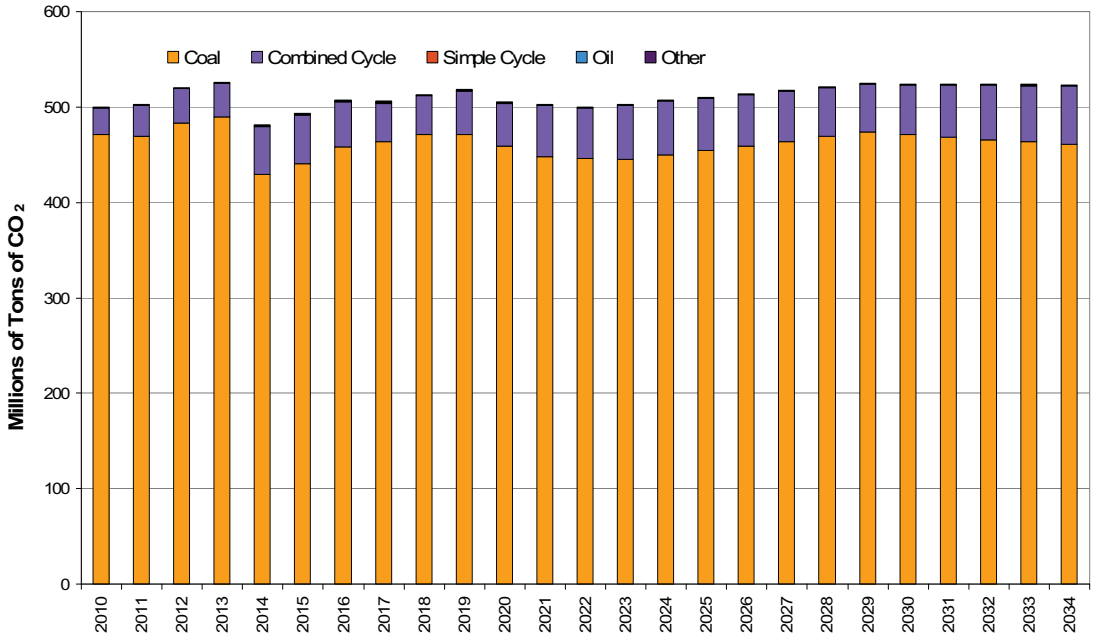
PJM Interconnect CO2 Emissions by Unit Type



Source: Black & Veatch
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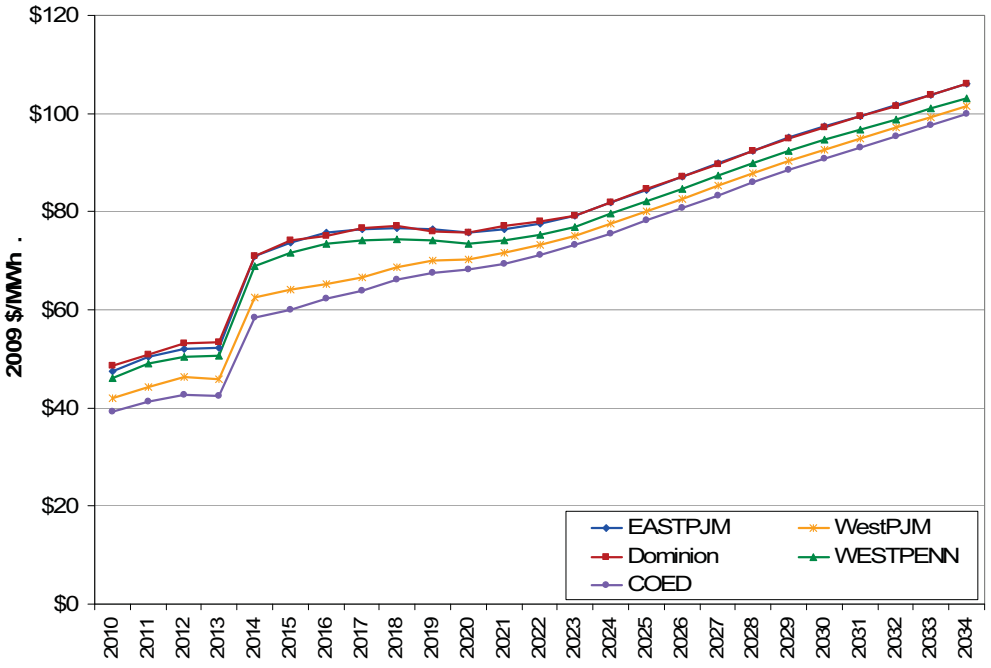
2 Results are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

PJM Annual Average Prices

- PJM Prices increase by a step function in 2014 due to the impact of the CO2 allowance prices.
- Prices climb steadily thereafter due to the combined effect of increasing CO2 allowance prices and gas prices.
- Price separation between eastern and western market zones is driven by transmission congestion.

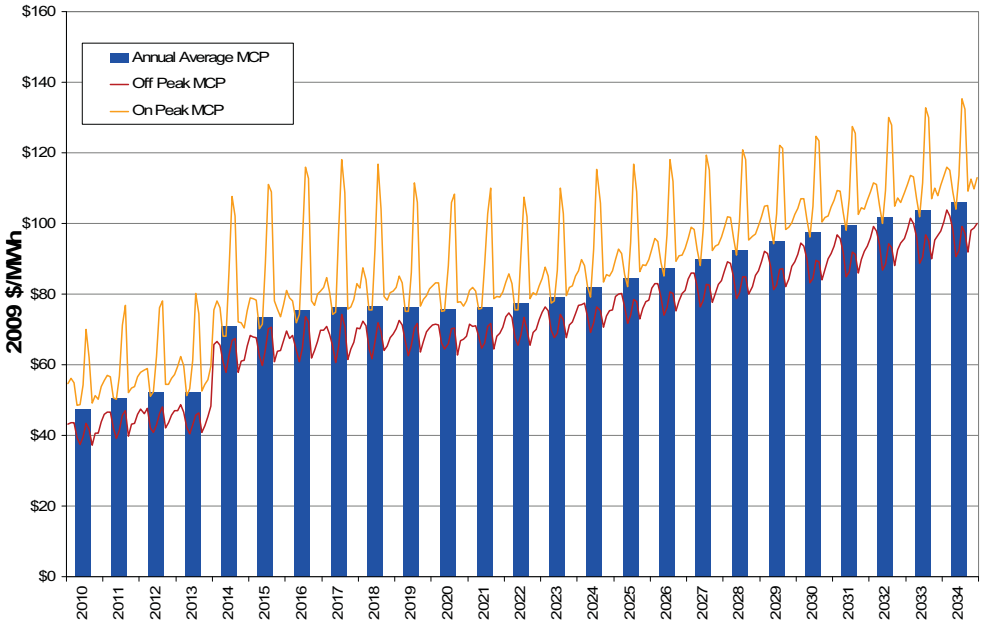


Source: Black & Veatch

* After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

East PJM On and Off Peak Energy Prices

- PJM East prices have a typical pattern of monthly variation and on-peak to off-peak spreads seen in eastern PJM.
- The summer peak prices are elevated relative to markets further west, as transmission congestion compels a greater reliance on local peaking assets.

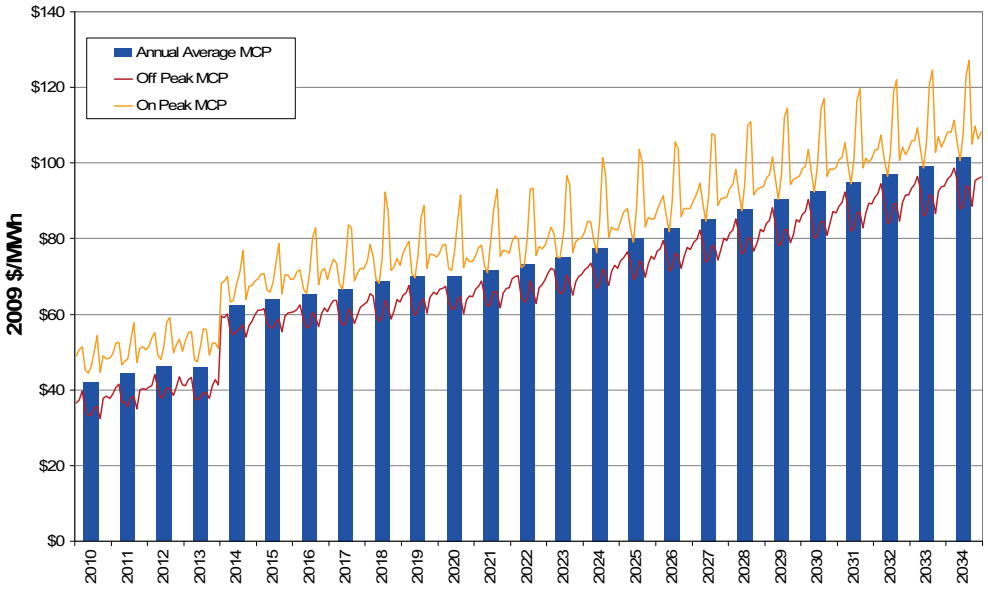


Source: Black & Veatch

* After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

West PJM On and Off Peak Energy Prices

- PJM West prices have a typical pattern of monthly variation and on-peak to off-peak spreads seen in western PJM including ComEd.



Source: Black & Veatch

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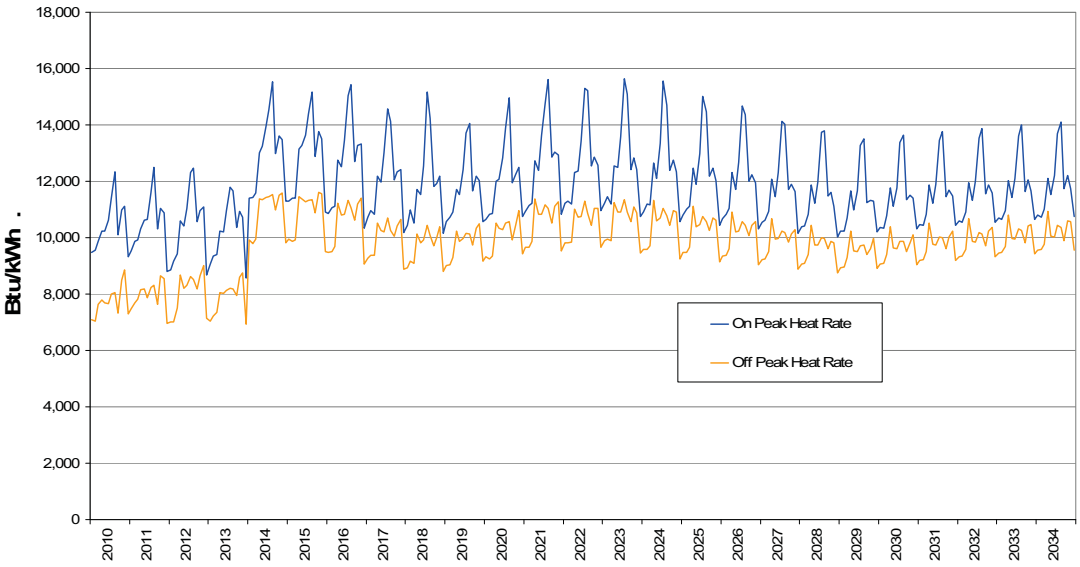
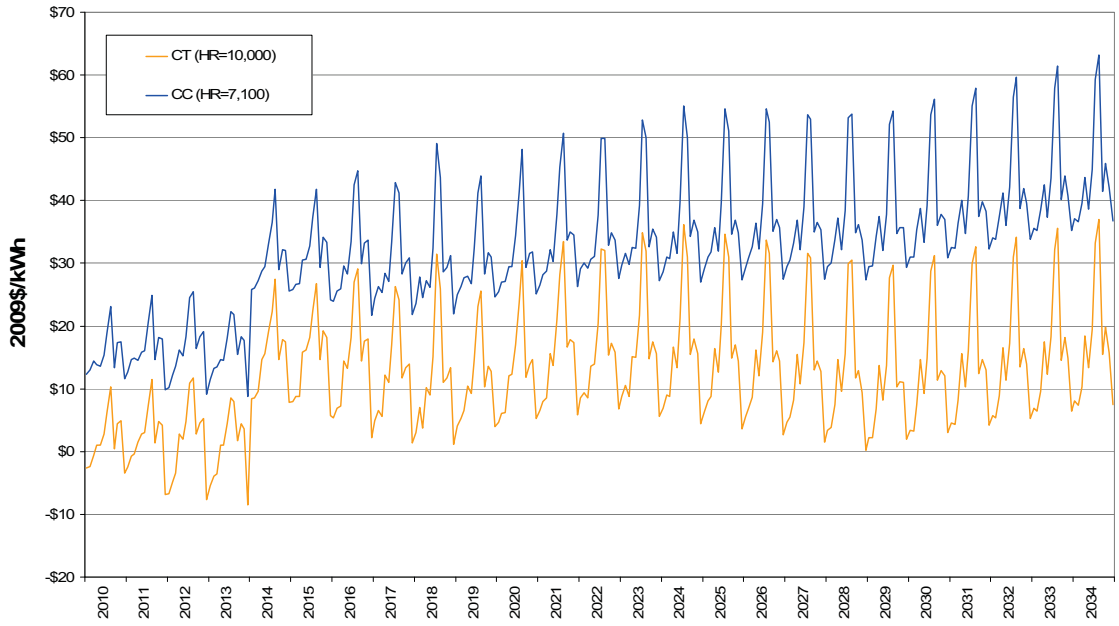
PJM West Heat Rate



Source: Black & Veatch

PJM West Spark Spreads



Source: Black & Veatch

PJM RPM Capacity Market Overview

- PJM conducts annual auctions for a 3-year forward capacity obligation and price
- Residual auctions are held to address changing conditions and to procure replacement capacity
- PJM employs downward sloping demand curves in clearing the capacity market, where the curve is adjusted for different levels of required reserves
- The auction is held on an RTO-wide basis, and locational adjustments are made with separate clearing prices in import-constrained sub-markets
- Capacity prices are capped at the Net Cost of New Entry, which is administratively determined
- Explicit market power rules are in place, including must-offer rules for existing supply

PJM RPM Auction Results

- PJM's Most Recent RPM Auction let to capacity prices that are significantly lower than those cleared in previous auctions
- The 2012/2013 RPM auction saw significant increases in generating capacity and demand response capacity bid into the market, which created downward pressure on capacity prices

PJM RTO Cleared Capacity Prices

	2009/2010	2009/2010	2010/2011	2011/2012	2012/2013
Capacity Clearing Price ($/MW/Day)	$111.92	$102.40	$174.29	$110.00	$16.46
Capacity Clearing Price ($/kW/Year)	$40.85	$37.38	$63.62	$40.15	$6.01
Cleared Capacity (MW)	129,598	132,232	132,190	132,221	136,143
Reserve Margin	17.50%	17.80%	16.50%	18.10%	20.90%

Total Cleared Capacity in PJM RPM Market

	RTO*				
Auction Results (all values in UCAP**)	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Generation Offered	131,164.8	132,814.2	132,124.8	136,067.9	134,873.0
DR Offered	715.8	936.8	967.9	1,652.4	9,847.6
EE Offered	-	-	-	-	652.7
Total Offered	131,880.6	133,551.0	133,092.7	137,720.3	145,373.3
Generation Cleared	129,061.4	131,338.9	131,251.5	130,856.6	128,527.4
DR Cleared	536.2	892.9	939.0	1,364.9	7,047.3
EE Cleared	0.0	0.0	0.0	0.0	568.9
Total Cleared	129,597.6	132,231.8	132,190.5	132,221.5	136,143.6
Uncleared	2,283.0	1,319.2	902.2	5,498.8	9,229.7

* RTO numbers include all LDAs

** UCAP calculated using sell offer EFORd for Generation Resources. DR and EE UCAP values include appropriate FPR and DR Factor.

Source: PJM

- In 2012/2013 auction, 9,850 MW of Demand Response was offered, and 7,060 MW cleared the market
- 1,050 MW of the market clearing Demand Response capacity was in the ComEd sub-market area
- The increased demand bidding contributed to lower RPM capacity prices
- There may be some performance risk in PJM relying on this amount of Demand Response in clearing the capacity market

Incremental Cleared Capacity in PJM RPM Market

Capacity Changes (in ICAP)	RTO* 2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	Total
Increase in Generation Capacity	802.0	724.2	1,272.3	1,776.2	3,576.3	1,893.5	9,844.5
Decrease in Generation Capacity	-674.6	-375.4	-550.2	-301.8	-264.7	-3,253.9	-5,420.6
Net Increase in Demand Resource Capacity**	555.0	574.7	215.0	28.7	661.7	7,938.1	9,973.2
Net Increase in Energy Efficiency Capacity**	0.0	0.0	0.0	0.0	0.0	632.3	632.3
Net Increase in Installed Capacity	482.4	923.5	937.1	1,503.1	3,973.3	7,210.0	15,029.4

* RTO numbers include all LDAs

** Values are with respect to the quantity offered in the previous year's Base Residual Auction.

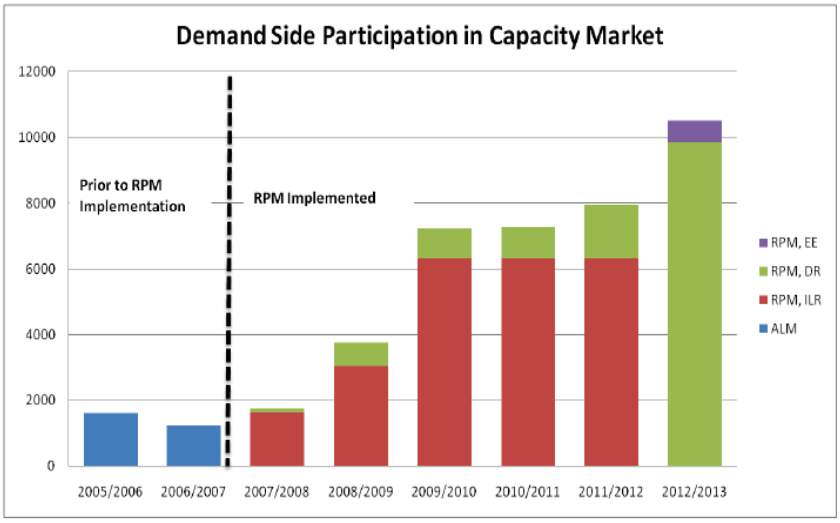
^ Values include 2007/2008 values not posted in this report but available on PJM.com.

Source: PJM

- In addition to the increase in Demand Response, there was also a significant increase in the amount of supply capacity bid into the 2012/2013 RPM auction
- In 2012/2013 auction, there was an increase of 9,844.5 MW of generation capacity bid into the RPM market. This consisted of new power plants being built, and projected upgrades to existing generators
- In combination with the increase in Demand Response, the PJM market saw a net increase in supply of 15,029.4 MW

Demand Response Has Played Increasing Role in RPM

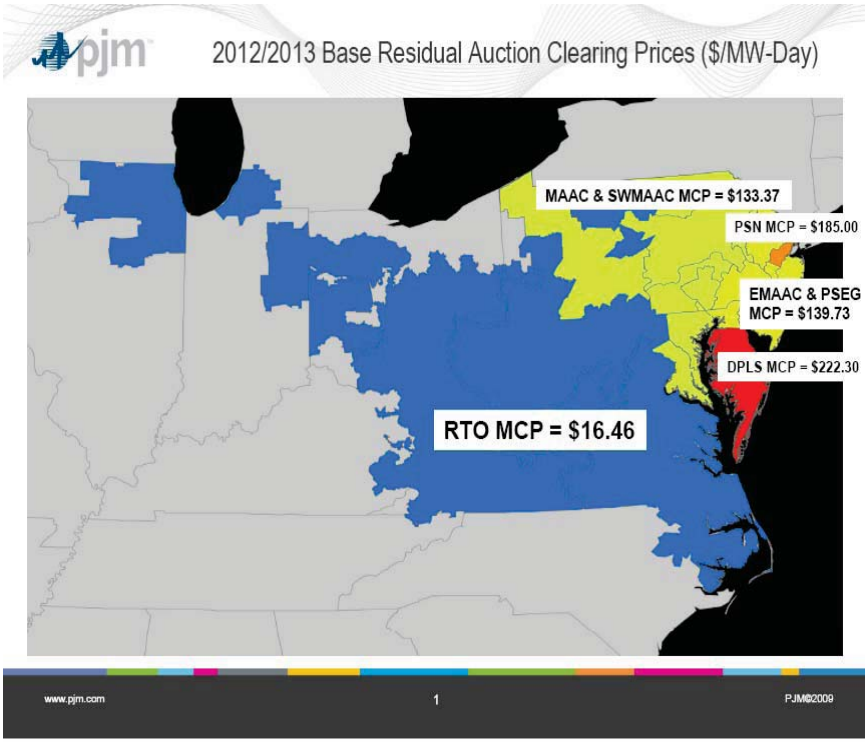
- Demand response bid into the RPM market has increased each year
- In 2012/2013 auction, 9,850 MW of Demand Response was offered, and 7,060 MW cleared the market
- 1,050 MW of the market clearing Demand Response capacity was in the ComEd sub-market area
- The increased demand bidding contributed to lower RPM capacity prices
- There may be some performance risk in PJM relying on this amount of Demand Response in clearing the capacity market



Source: PJM

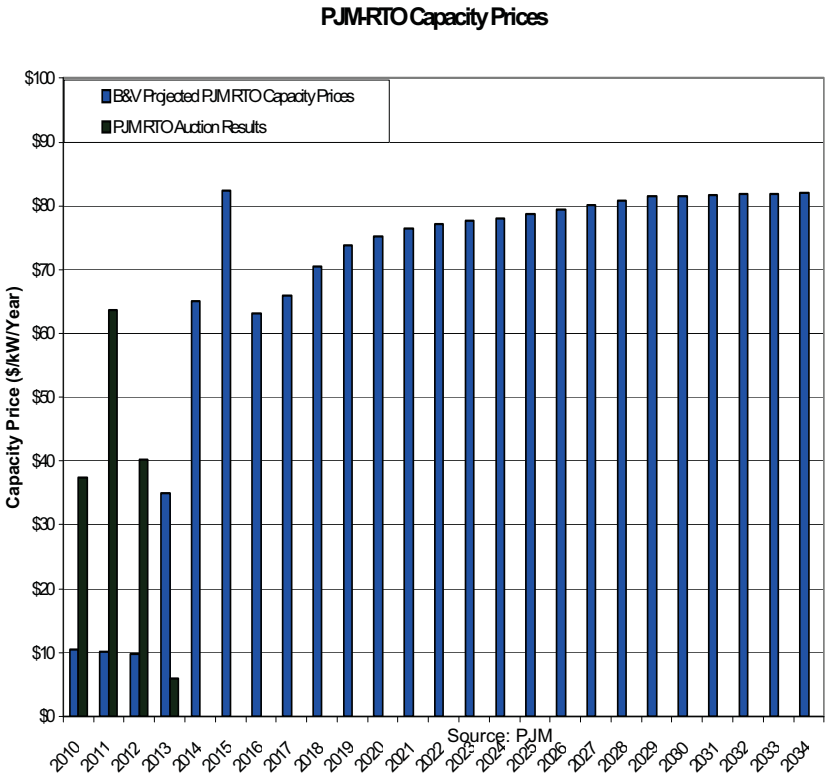
PJM Locational Capacity Markets

- The RPM market results in locational capacity prices, in cases where transmission constraints between sub-markets prevent capacity transfers of a magnitude that would clear the demand requirement in the constrained sub-market
- In sub-markets not constrained by transmission limits, a single clearing capacity price applies across all of those sub-markets
- The Illinois sub-market is not constrained under current conditions, so in recent RPM auctions it has seen the RTO-wide capacity price
- Capacity prices in the RTO-wide region are significantly lower than in the constrained sub-markets



B&V PJM Capacity Price Forecast

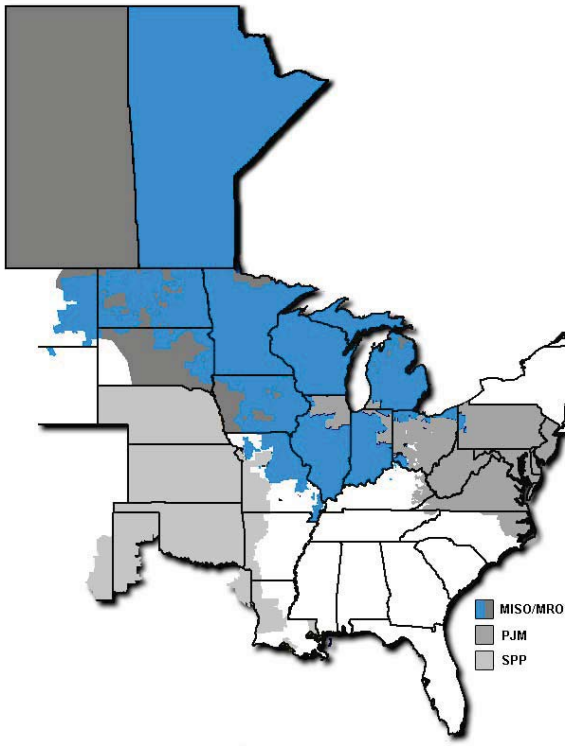
- B&V has prepared a capacity price forecast for the PJM RTO wide region, consistent with the PJM auction
- Capacity offer prices for each generator are based on the amount needed to offset net operating losses for existing generators, and based on the Net Cost of New Entry (CONE) for new generators
- While the B&V capacity price forecast is reflective of our specific supply and demand assumptions, prices generally track those seen in the PJM RPM auctions
- B&V expects equilibrium capacity pricing levels in the PJM RTO in the 2015-2016 timeframe



4.5 MISO Results

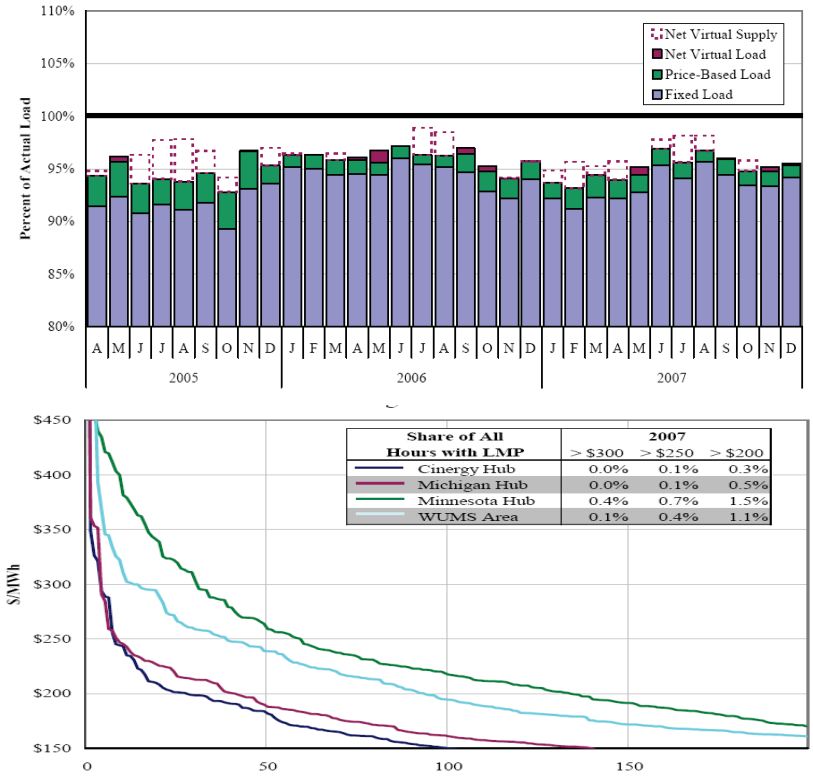
Midwest ISO (MISO) Overview

- States covered: All or most of Minnesota, Wisconsin, Illinois, Indiana, Michigan, Missouri, Kentucky, and Ohio.
- Reliability regions: Midwest Reliability Organization (MRO), Southeastern Electric Reliability Council (SERC) and ReliabilityFirst Corporation (RFC)
- Market Hubs: Cinergy, First Energy, Illinois, Michigan, Minnesota
- RTO/ISO: Midwest ISO (MISO) (established 2002) administers a two-settlement (day ahead and real-time) energy market known as the Day-2 market. It produces hourly locational marginal prices that are rolled up into 5 regional hub prices.
- MISO also administers a monthly financial transmission rights (FTR) allocation and auction.
- In 2009, MISO implemented Ancillary Services Markets for regulating, supplemental and spinning reserves
- Midwest bilateral trading is active on the Intercontinental Exchange (ICE) at the Cinergy Hub and Northern Illinois Hub



MISO Market Performance

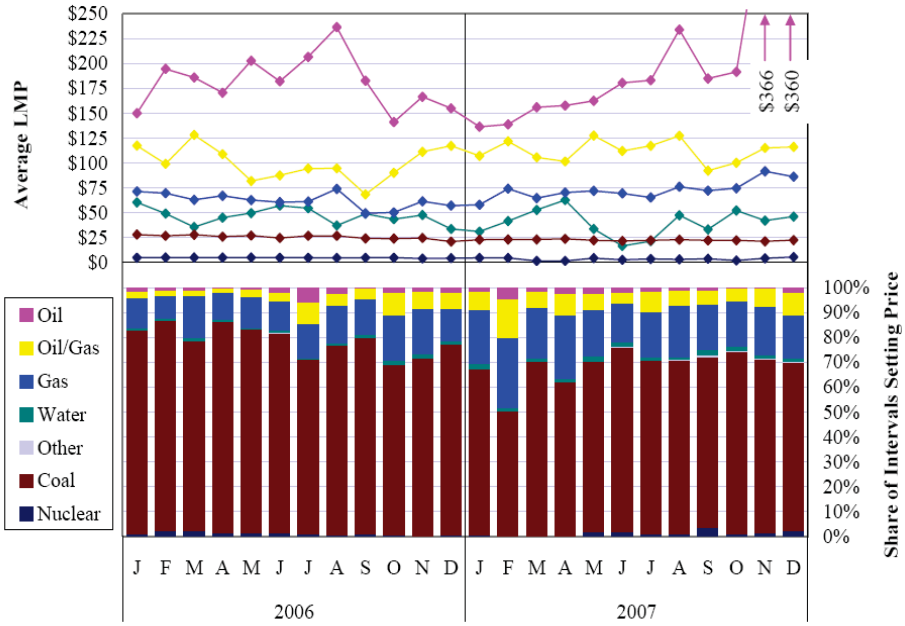
- A significant portion of MISO load is scheduled through the Day Ahead market (90 to 96% of peak daily load)
- Locational Marginal Prices have been higher in markets affected by transmission import constraints, including the Southeastern Wisconsin WUMS region, and the Minnesota region
- MISO Real-Time Market is a residual demand market, with significantly lower volume than the Day Ahead Market



Source: MISO 2007 State of Market Report

MISO Price Setting Resources

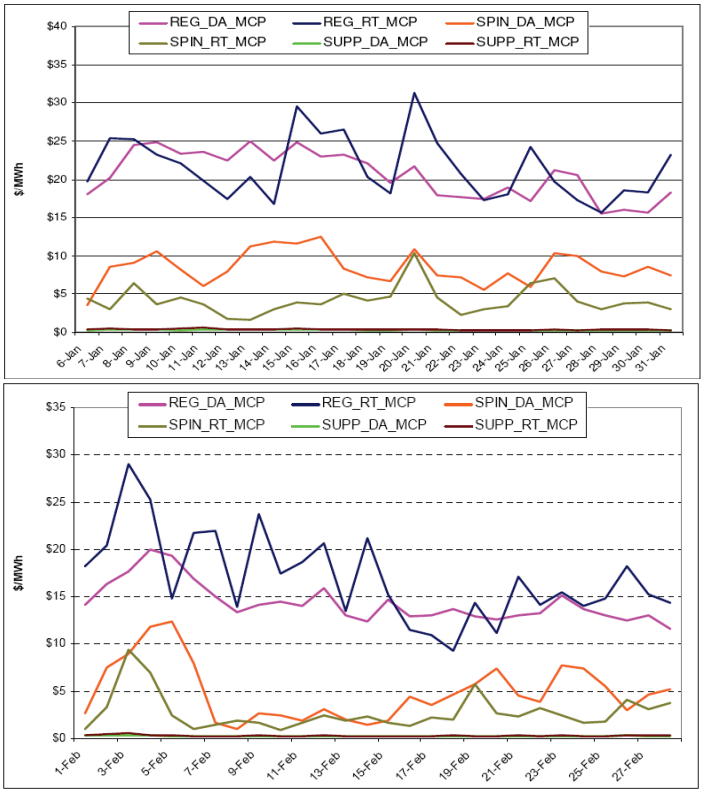
- The MISO region remains dominated by coal-fired generation. Coal-fired resources are typically price-setting 70 to 80 percent of the time
- Natural gas-fired resources are price-setting with the next highest frequency, in the range of 10 to 20 percent of the time
- Oil-fired resources are price setting for a smaller portion of the time, in the range of 1 to 5 percent



Source: MISO 2007 State of the Market Report

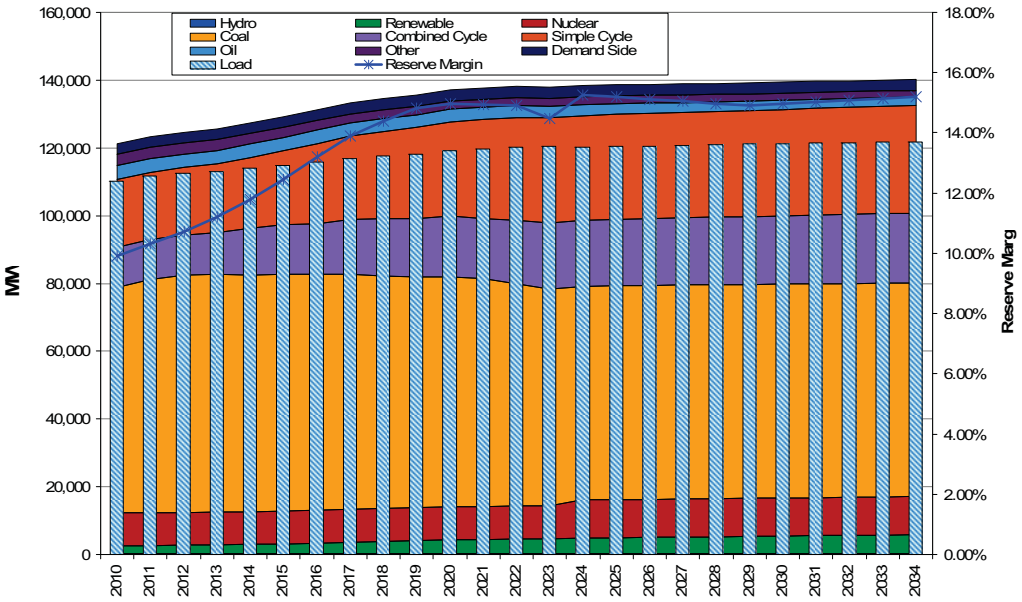
Midwest ISO Ancillary Services Markets

- In January 2009, MISO implemented Ancillary Services Markets for regulating, supplemental and spinning reserves
- MISO reflects seven reserve zones in administering its Ancillary Services market
- Across MISO zones, prices for regulating reserves have generally traded in the $3 to $10 per MWh range.
- Prices for spinning reserve have traded in the $10 to $30 per MWh range, with an apparent downward trend in late February
- Daily demand for spinning and regulating reserves clearing the market have been modest, in the 450 to 600 MW range
- MISO entities are still able to self-provide regulating and spinning reserve services



Source: MISO

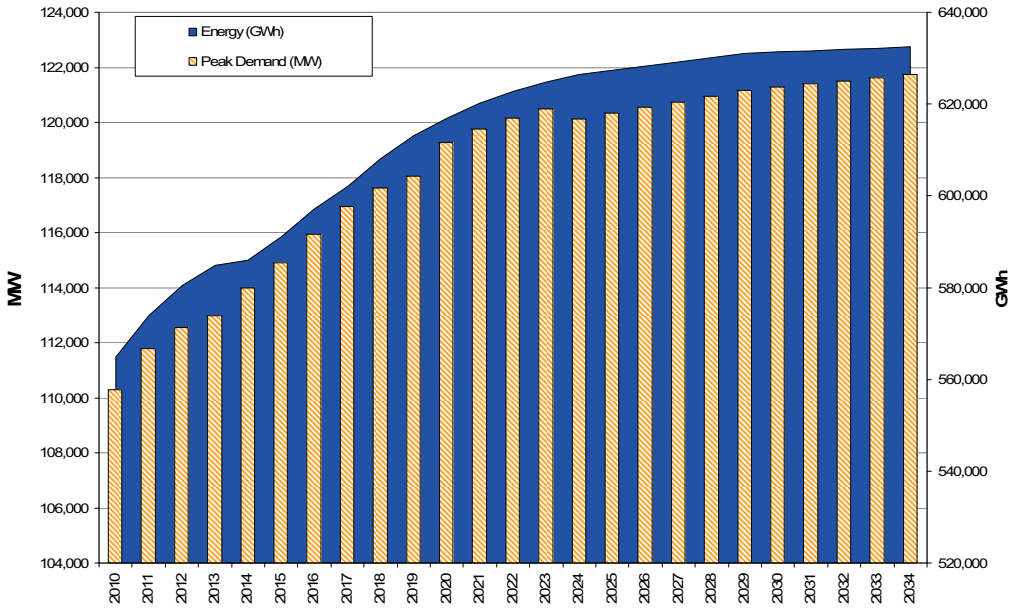
MISO Loads & Resource Outlook



Source: Black & Veatch

1 All resources are nameplate capacity except for wind (renewable) which has been de-rated to 20% of nameplate capacity
2 Loads are shown for August peak load
3 Other units include Steam Oil and Gas, and Combustion Turbine Other
4 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.
5 Renewable category includes all wind units, and all hydro units except for those excluded from being counted towards RPS compliance by state regulation.

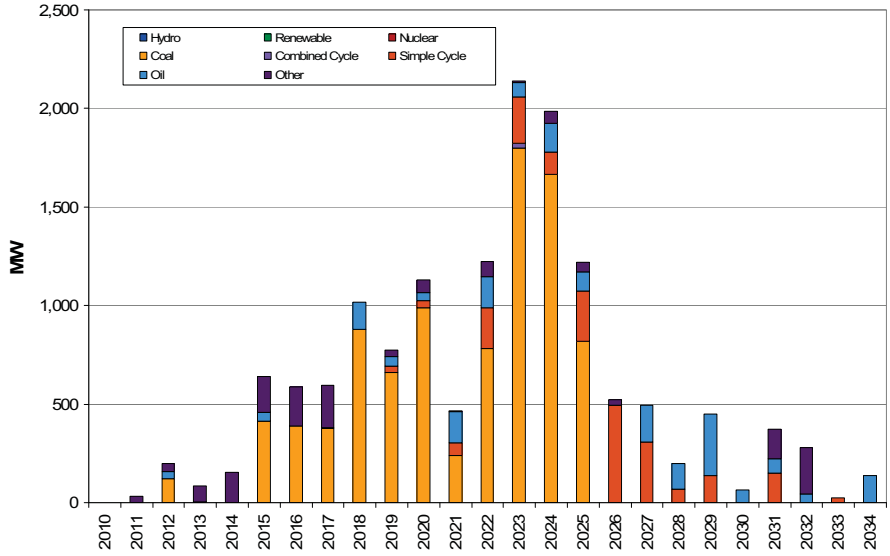
MISO Peak and Energy Load Forecast



Source: Black & Veatch

* Assumptions are an aggregate of each EMP Area.

MISO Retirements by Year



Source: Black & Veatch

*Other units include Steam Oil and Gas, and Combustion Turbine Other

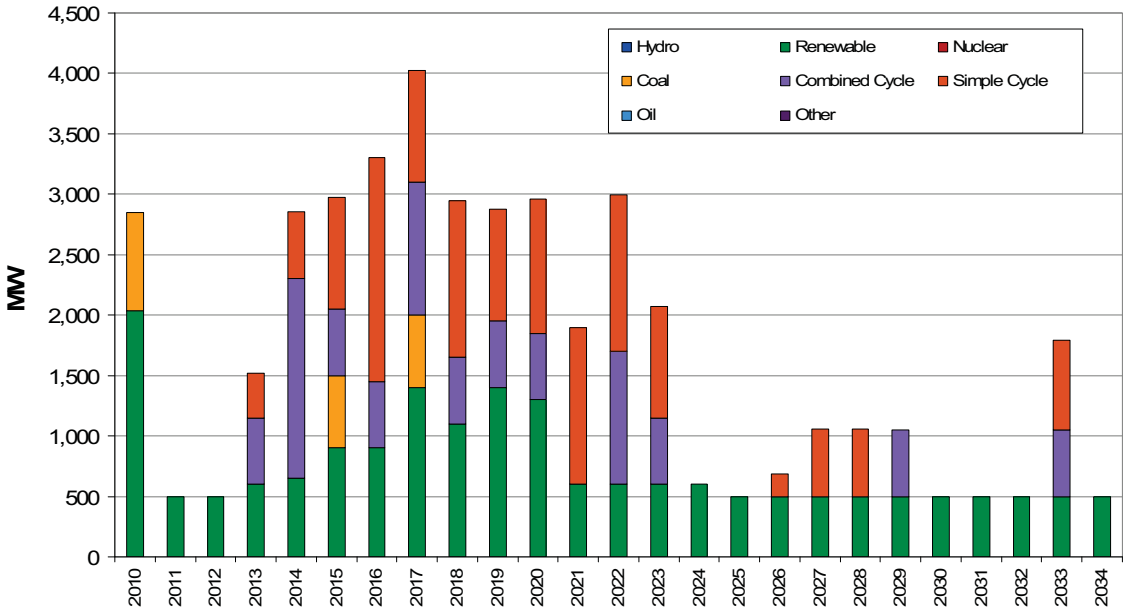
** Assumptions are an aggregate of each EMP Area.

- Approximately 14,800 MW of cumulative capacity is retired by 2034

  Other – 1,600 MW; Oil – 1,900 MW

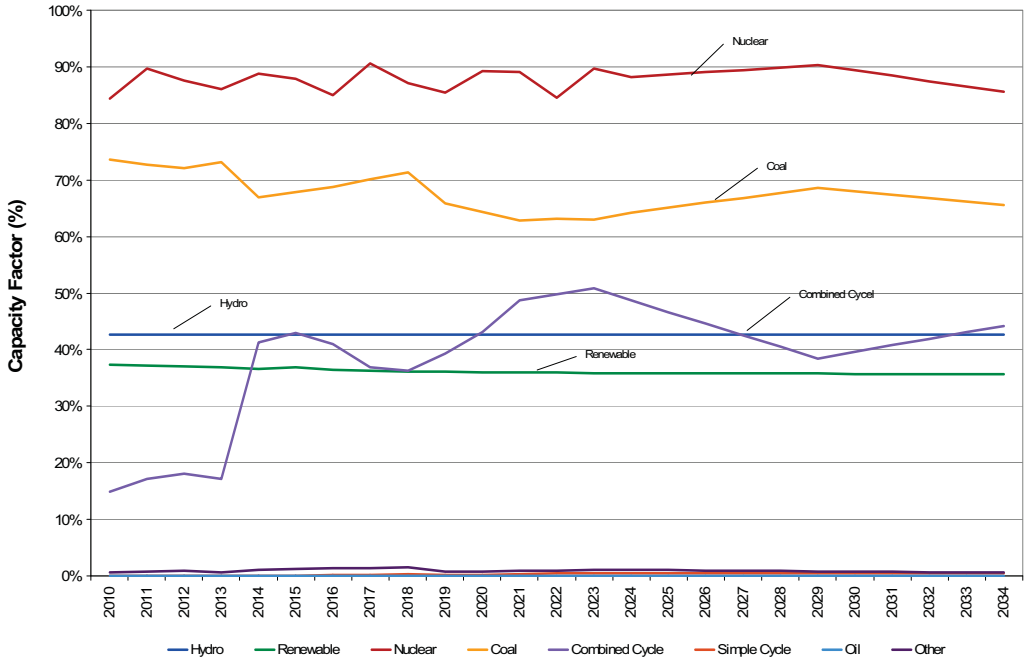
  Coal – 9,100 MW; CT – 2,100 MW

MISO Expansion by Year



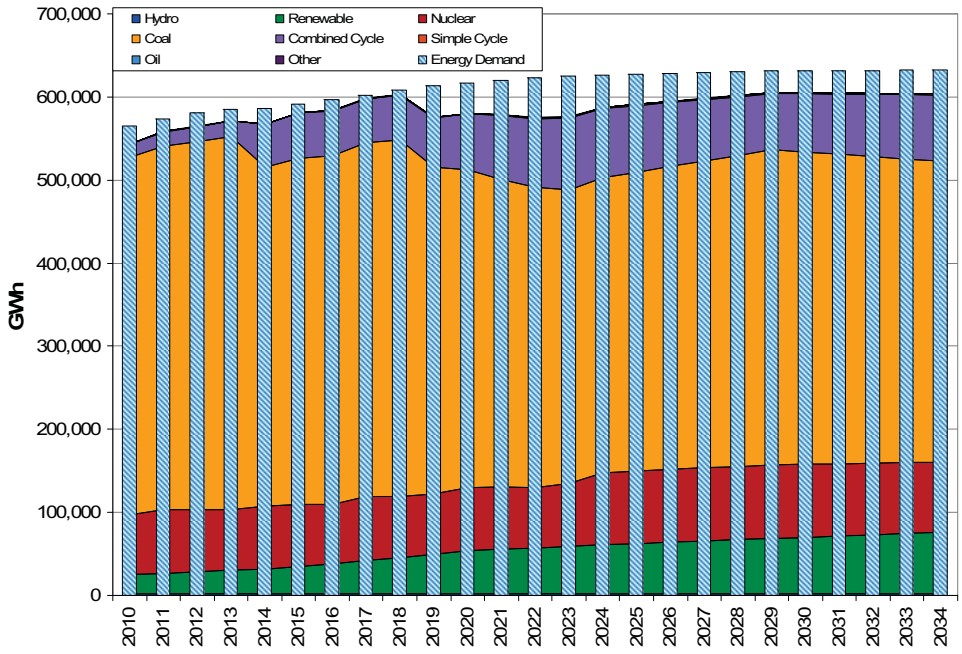
Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Assumptions are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.
4. All resources are reported as name plate capacity

MISO Fleet Average Capacity Factor



Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Results are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

MISO Energy Demand and Generation by Unit Type



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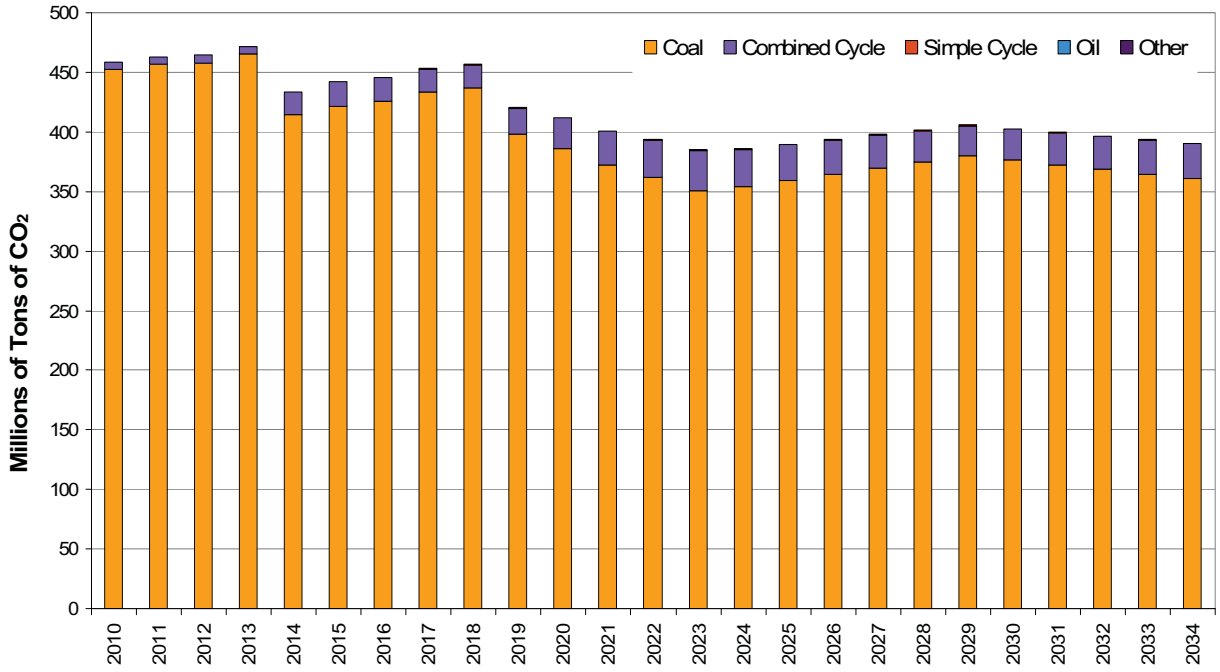
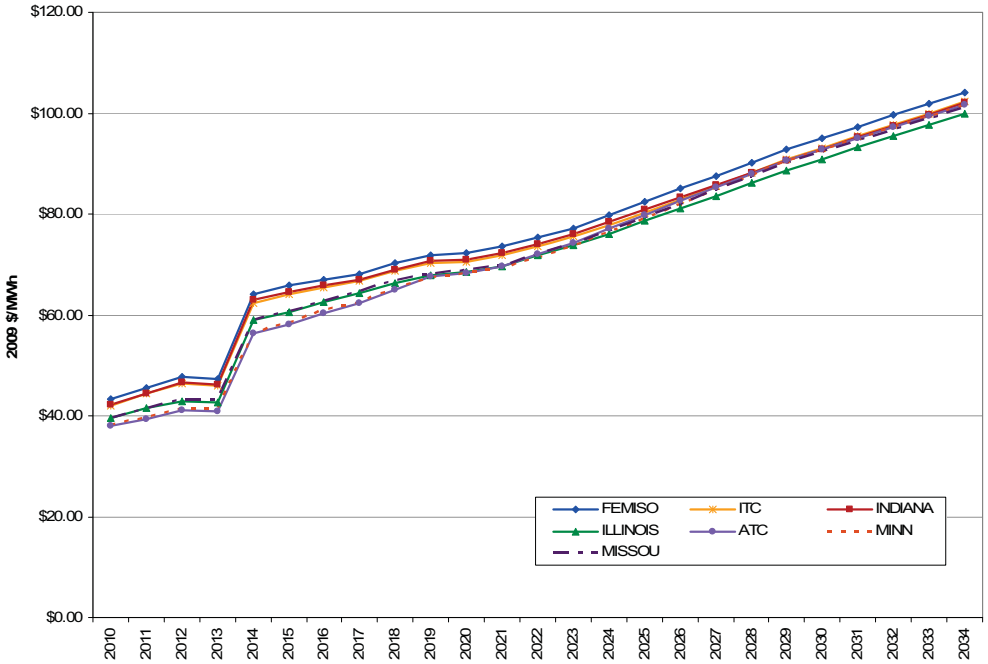
MISO CO2 Emissions by Unit Type



Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Results are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

MISO Annual Average Prices

- MISO Prices increase by a step function in 2014 due to the impact of the CO2 allowance prices.
- Prices climb steadily thereafter due to the combined effect of increasing CO2 allowance prices and gas prices.



Source: Black & Veatch

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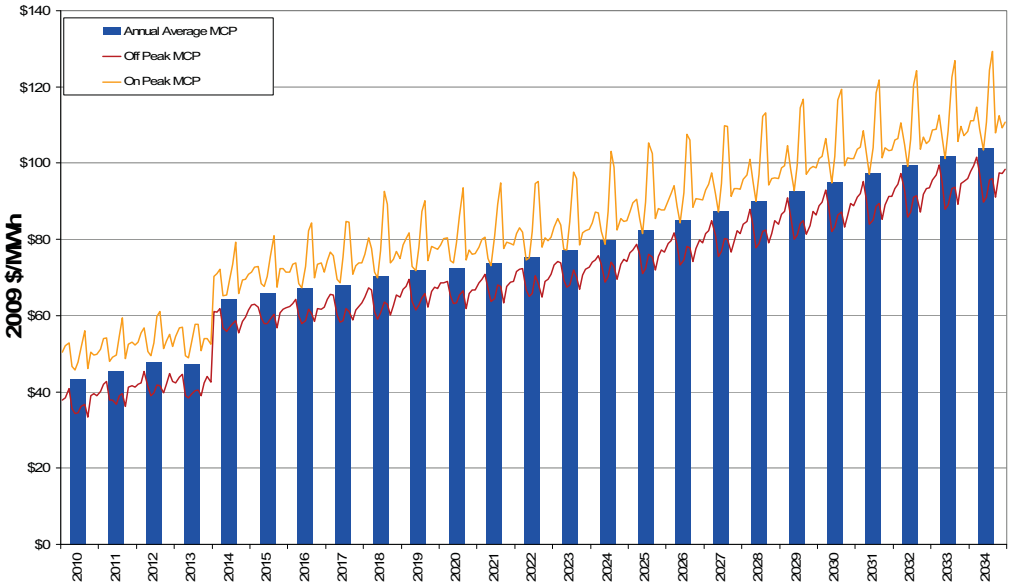
FirstEnergy (MISO) On and Off Peak Energy Prices

- FirstEnergy prices have a typical pattern of monthly variation and on-peak to off-peak spreads seen throughout MISO.



Source: Black & Veatch

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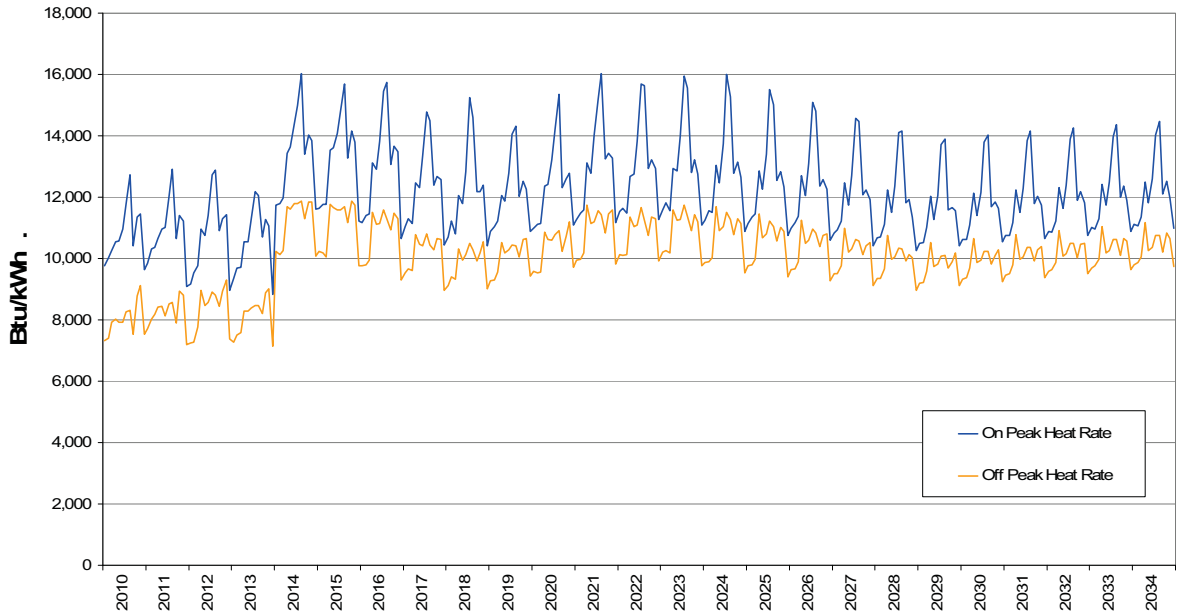
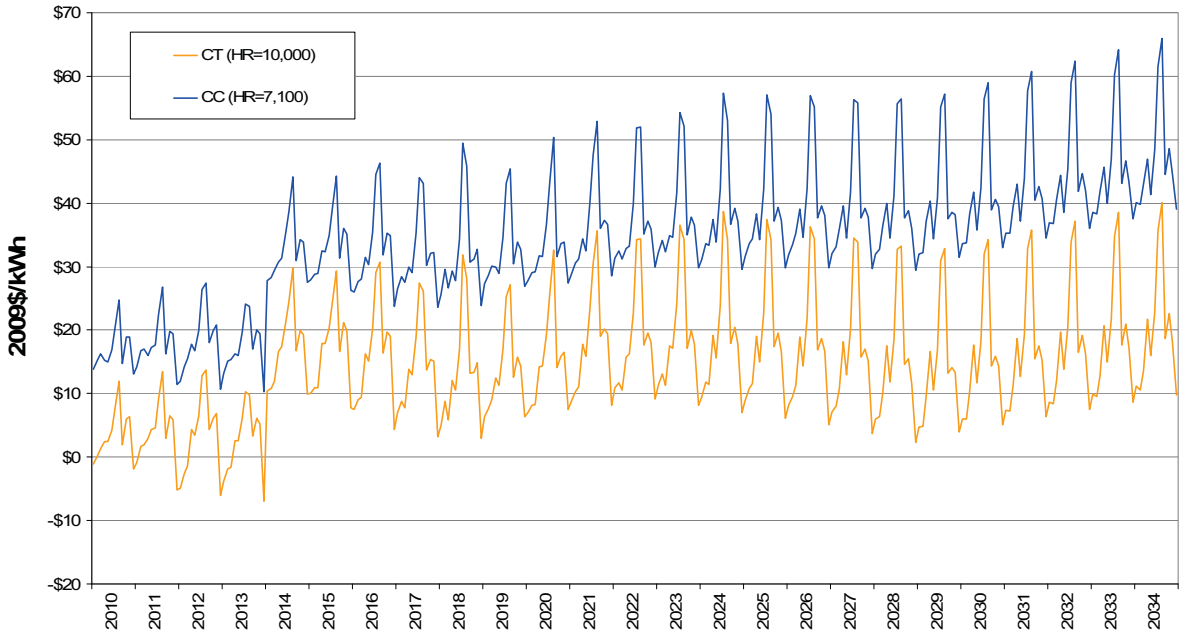
FirstEnergy (MISO) Heat Rate



Source: Black & Veatch

FirstEnergy (MISO) Spark Spreads

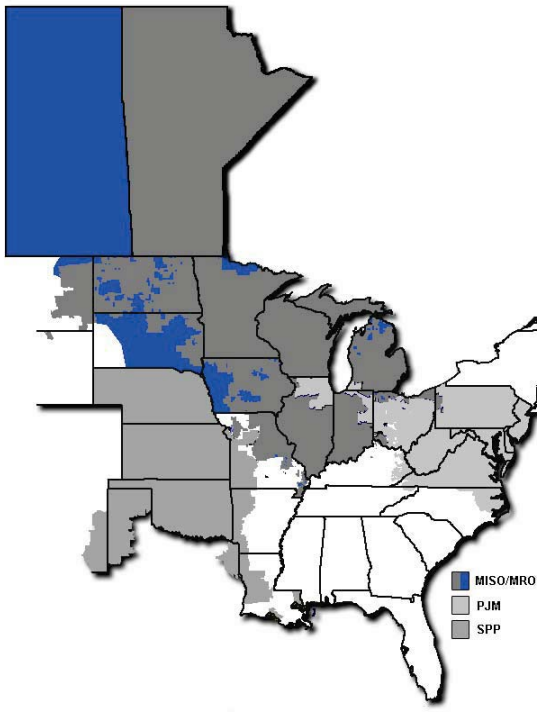


Source: Black & Veatch

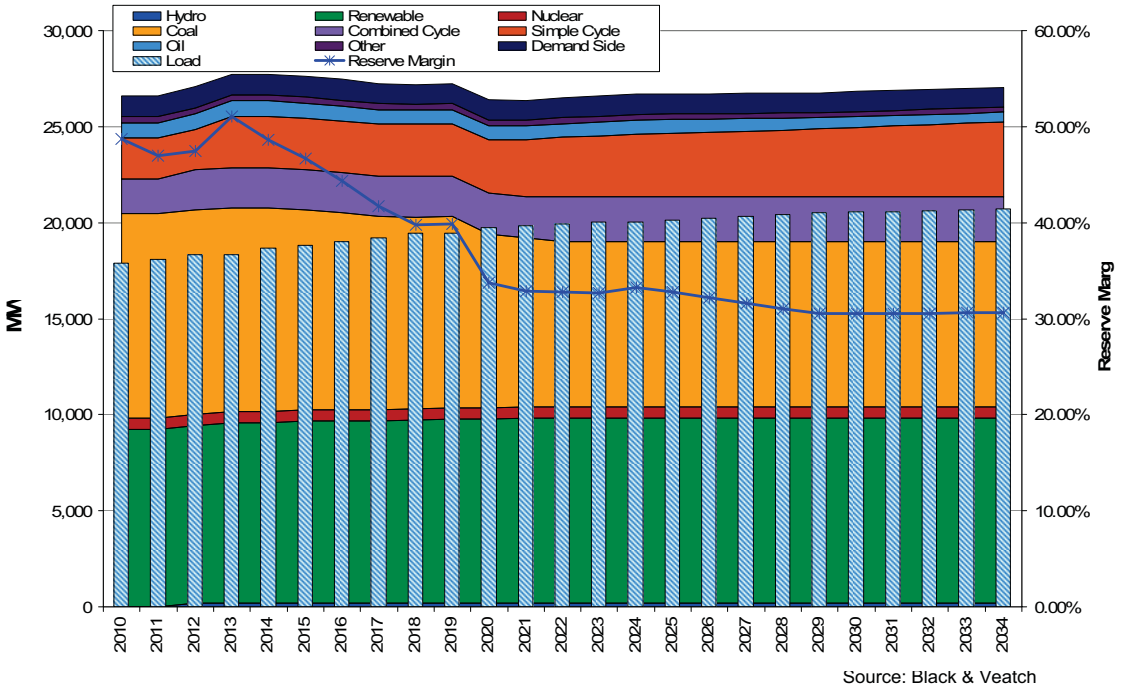
4.6 MRO Results

Midwest Reliability Organization (MRO) Overview

- Area covered: Includes areas of the Midwest Reliability Organization that are not members of MISO
- Includes portions of North Dakota, South Dakota, Montana, Manitoba Hydro, and Saskatchewan



MRO Loads & Resource Outlook



Source: Black & Veatch

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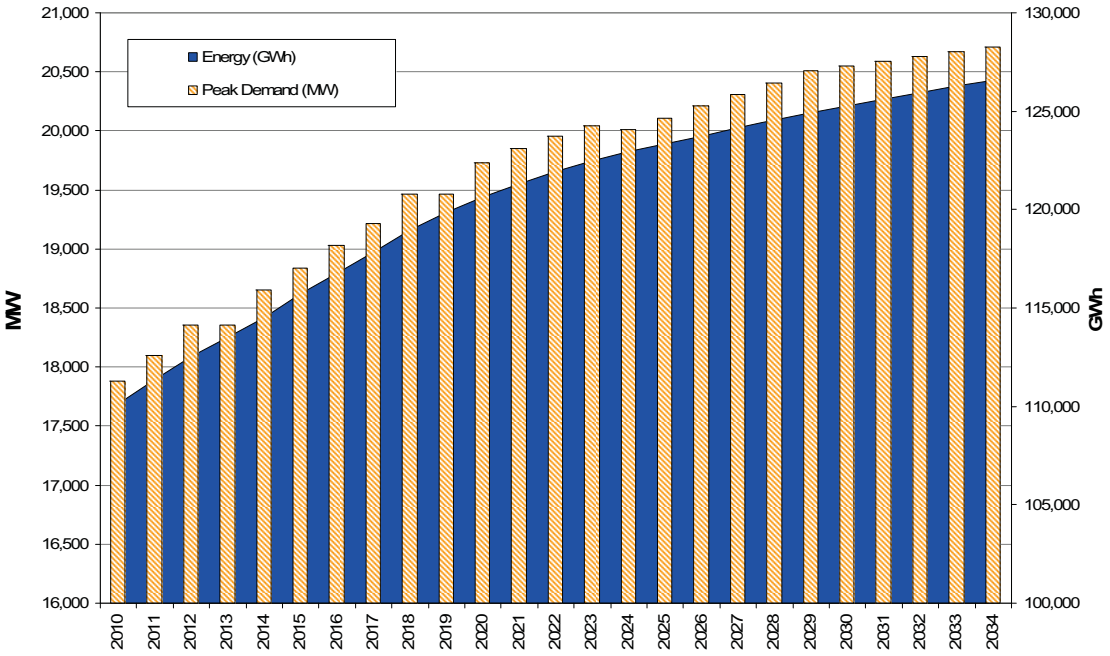
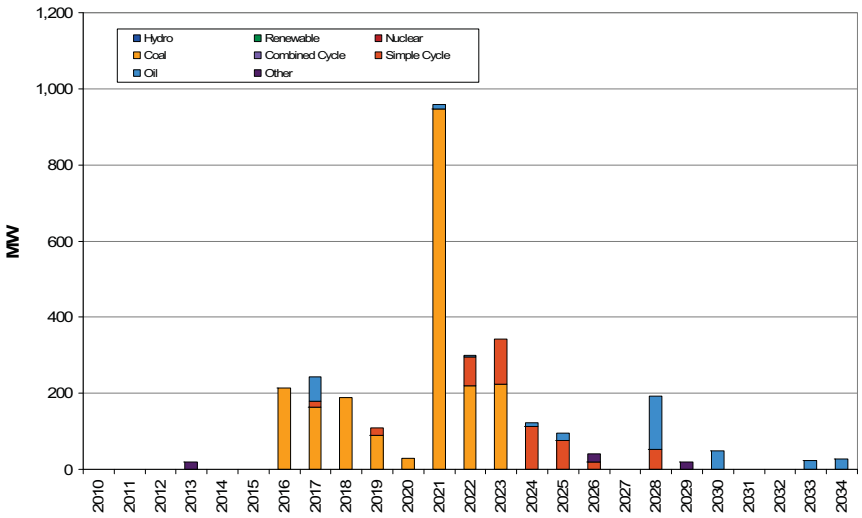
MRO Peak and Energy Load Forecast



Source: Black & Veatch

* Assumptions are an aggregate of each EMP Area.

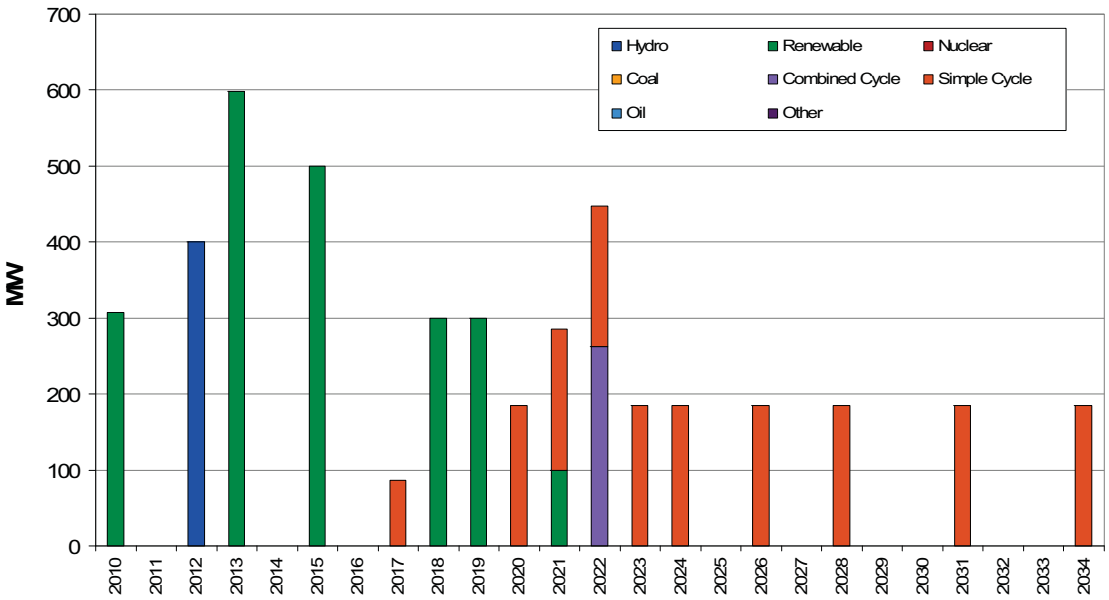
MRO Retirements by Year



Source: Black & Veatch
*Other units include Steam Oil and Gas, and Combustion Turbine Other
** Assumptions are an aggregate of each EMP Area.

- Over 3,000 MW of cumulative capacity is retired by 2034, of which 2,000 MW is coal.

MRO Expansion by Year



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2 Assumptions are an aggregate of each EMP Area.
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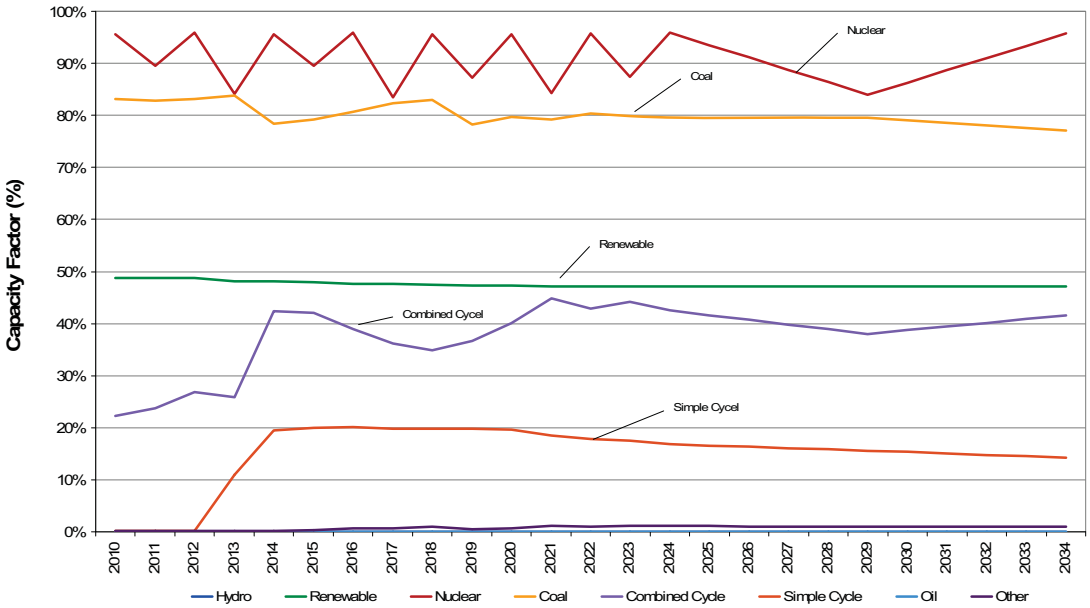
MRO Fleet Average Capacity Factor



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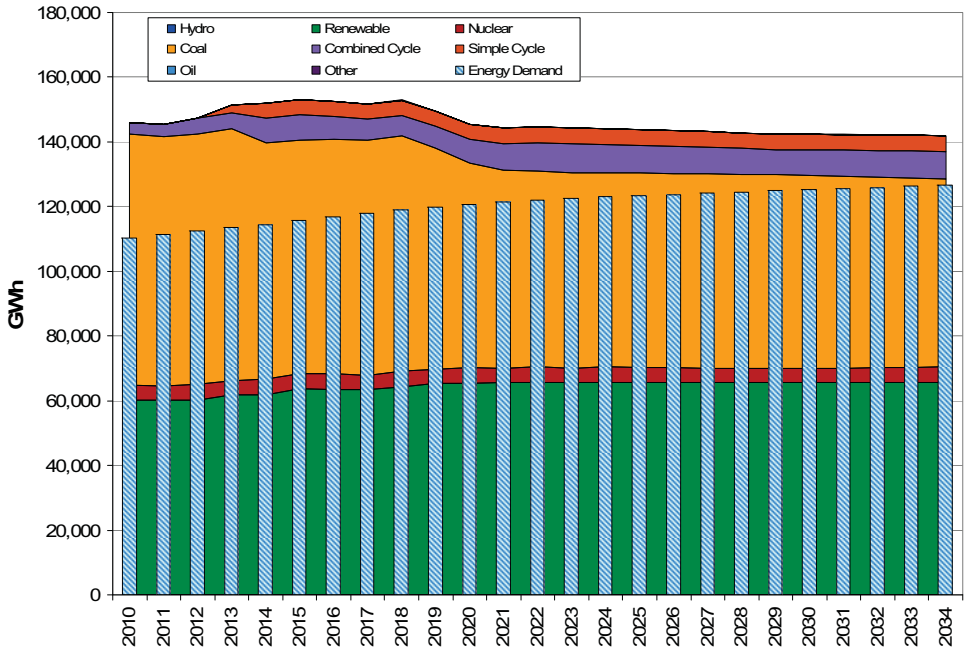
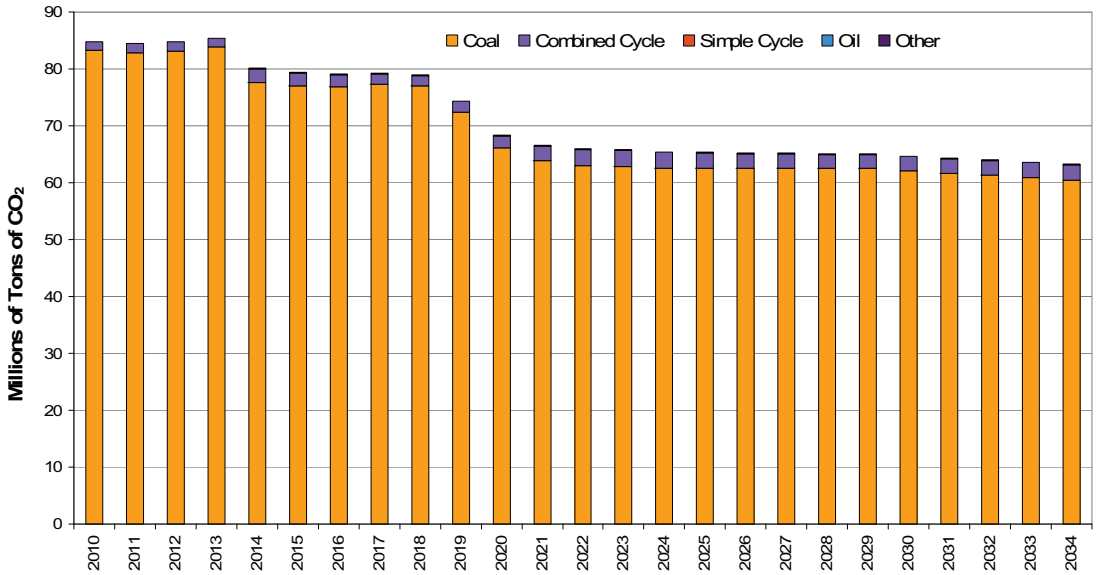
MRO Energy Demand and Generation by Unit Type



Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Results are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.
4 Renewable category includes all wind units, and all hydro units except for those excluded from being counted towards RPS compliance by state regulation.

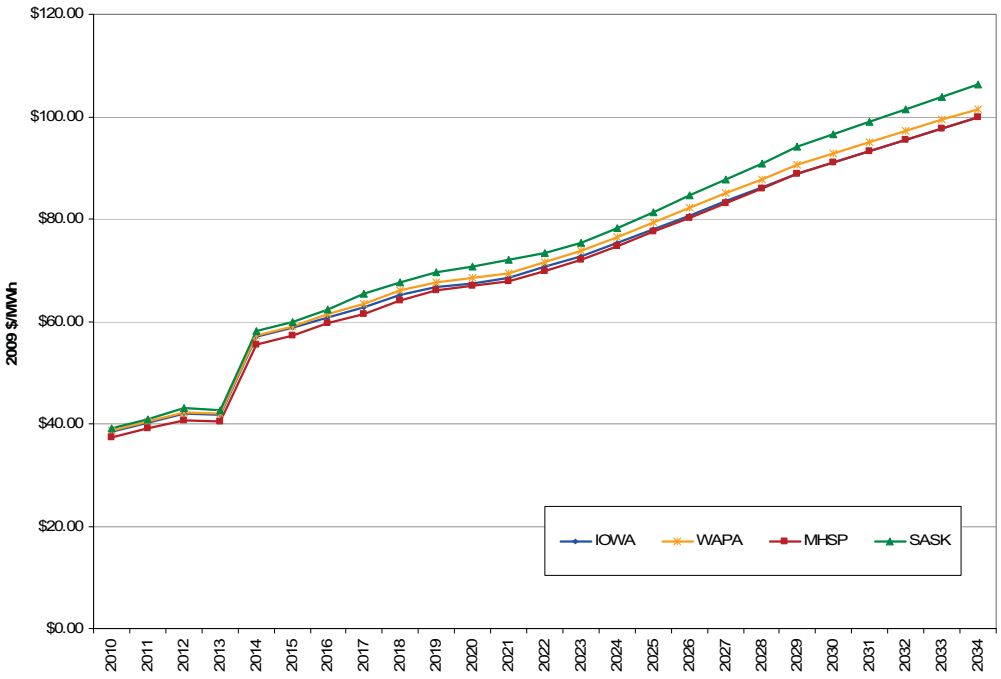
MRO CO2 Emissions by Unit Type



Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Results are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

MRO Annual Average Prices

- MRO Prices increase by a step function in 2014 due to the impact of the CO2 allowance prices.
- Prices climb steadily thereafter due to the combined effect of increasing CO2 allowance prices and gas prices.

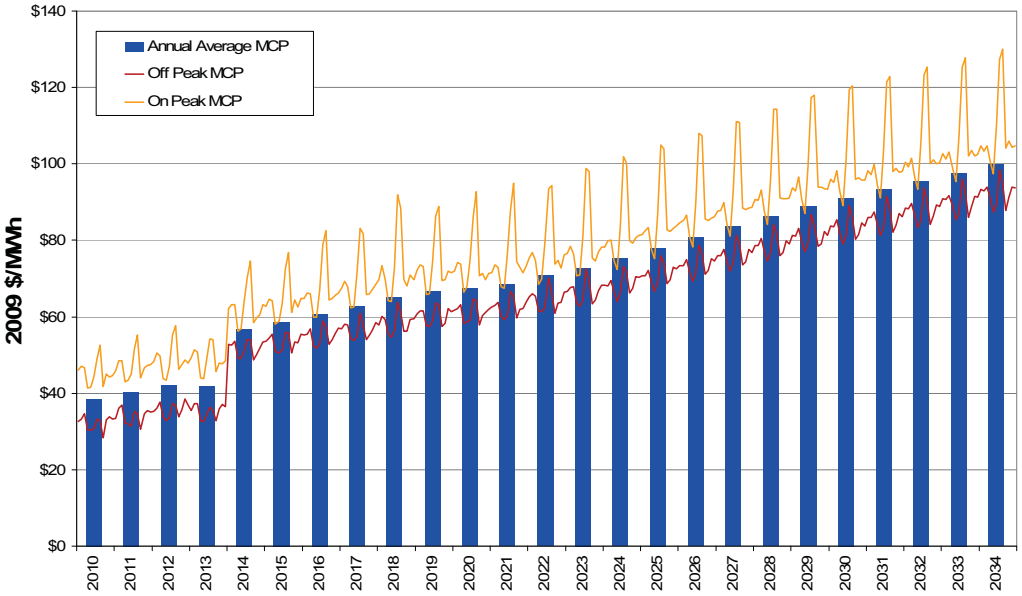


Source: Black & Veatch

* After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

Iowa On and Off Peak Energy Prices

- Iowa prices have a typical pattern of monthly variation and on-peak to off-peak spreads seen throughout MRO.



Source: Black & Veatch

* After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

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4.7 SPP Results

SPP Market Structure

SPP Southwest Power Pool

- RTO/ISO since February 2004
- Nodal Pricing Since February 2007
- Real-time (LIPs)
- Ancillary Services Markets being phased-in.
- Working Group formed to address market based congestion management
- Currently no Capacity Markets (LSE required to have 13.6% reserve margin)
- Multi-Control Area Structure

Source: SPP website

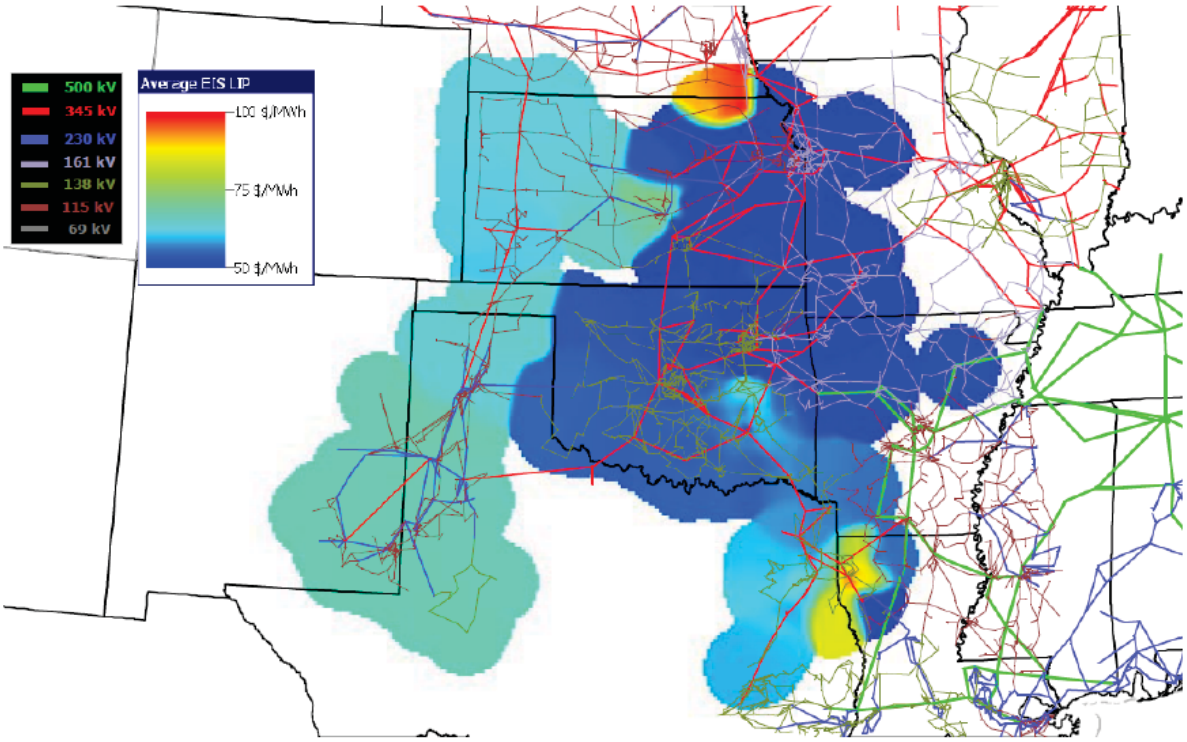
SPP Highlights and Market Structure

SPP Southwest Power Pool

- 2009 System Peak (non-coincident): 47,365 MW
- Net Energy for Load: 210,074 GWh
- Generating Plants: 451
- Capacity/Generation by Fuel Type
  - Coal 39% / 64%
  - Gas/Oil 42% / 26%
  - Nuclear 2% / 6%
  - Wind 1% / 3%
  - Other 11% / 1%
  - Hydro 4% / 1%
- Three Nebraska Utilities (NPPD, OPPD, LES) joined SPP in 2009
- 2008 SPP Transmission Expansion Plan Approved in February 2009

Source: SPP website

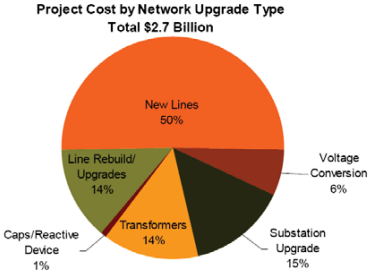
SPP Transmission Expansion Plan (Congestion Topology)

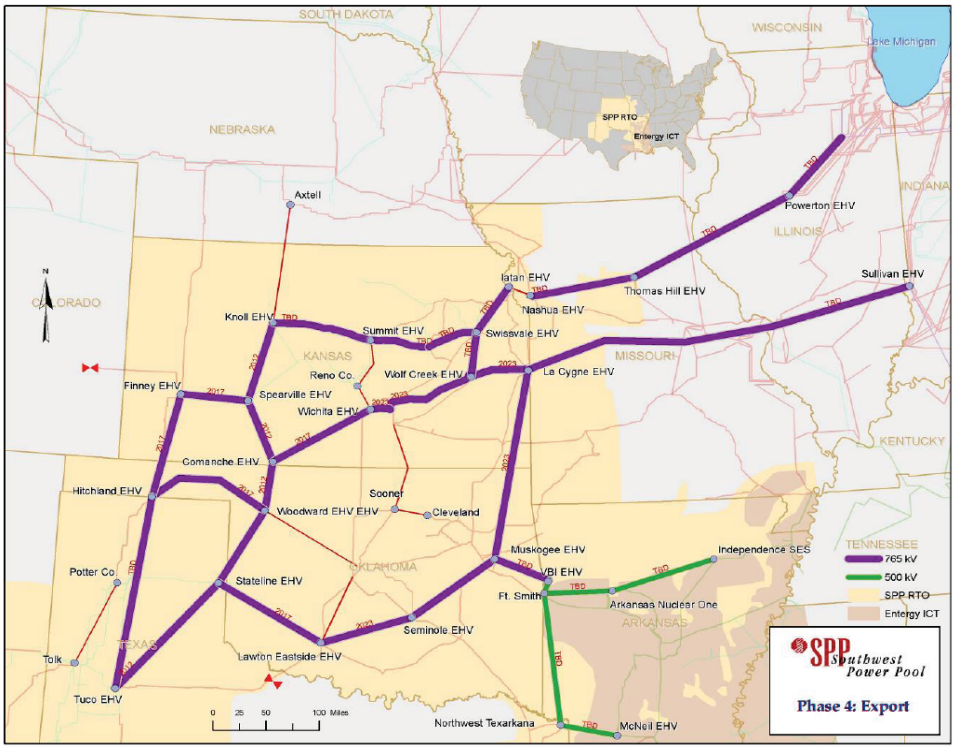


Source: www.spp.org website

SPP Transmission Expansion Plan

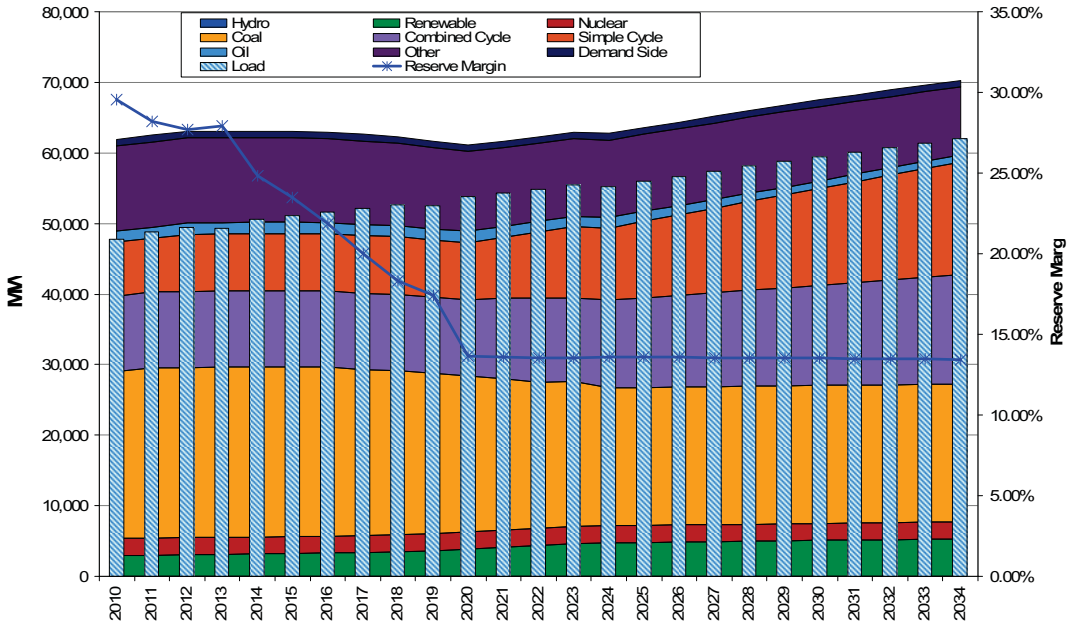
- Recommend improvements for 8 state region
- 1753 miles of new transmission
- 80 new or upgraded transmission





Source: www.spp.org website

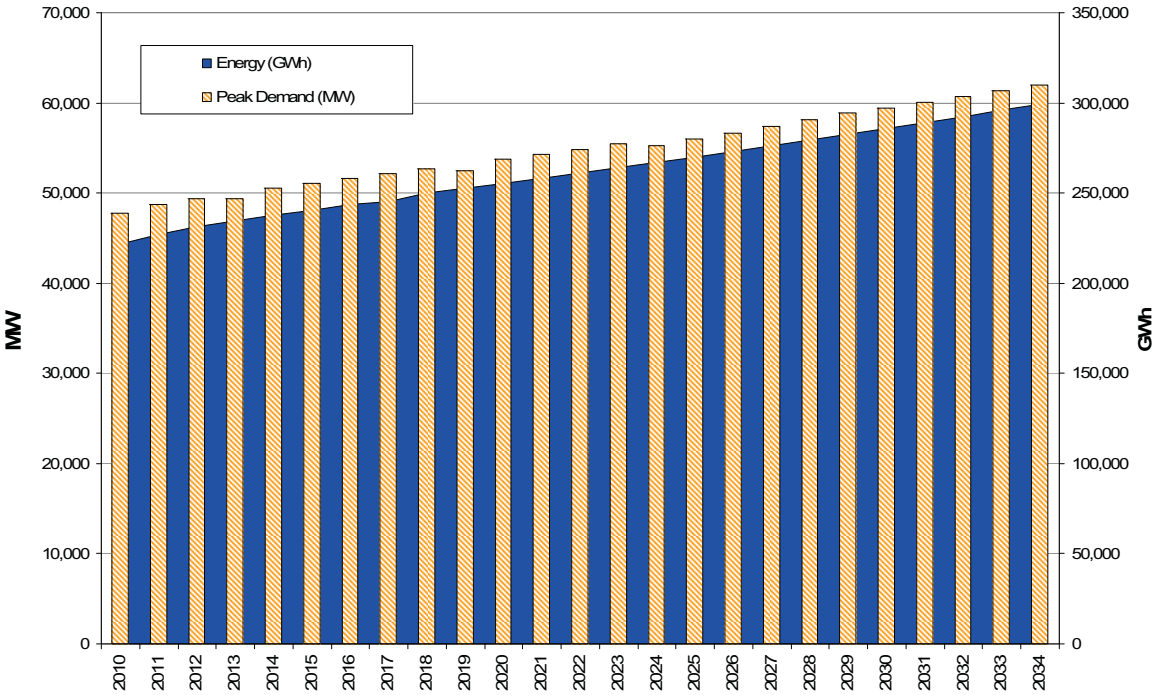
Southwest Power Pool Loads & Resource Outlook



Source: Black & Veatch

1 All resources are nameplate capacity except for wind (renewable) which has been de-rated to 20% of nameplate capacity
2 Loads are shown for August peak load
3 Other units include Steam Oil and Gas, and Combustion Turbine Other
4 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.
5 Renewable category includes all wind units, and all hydro units except for those excluded from being counted towards RPS compliance by state regulation.

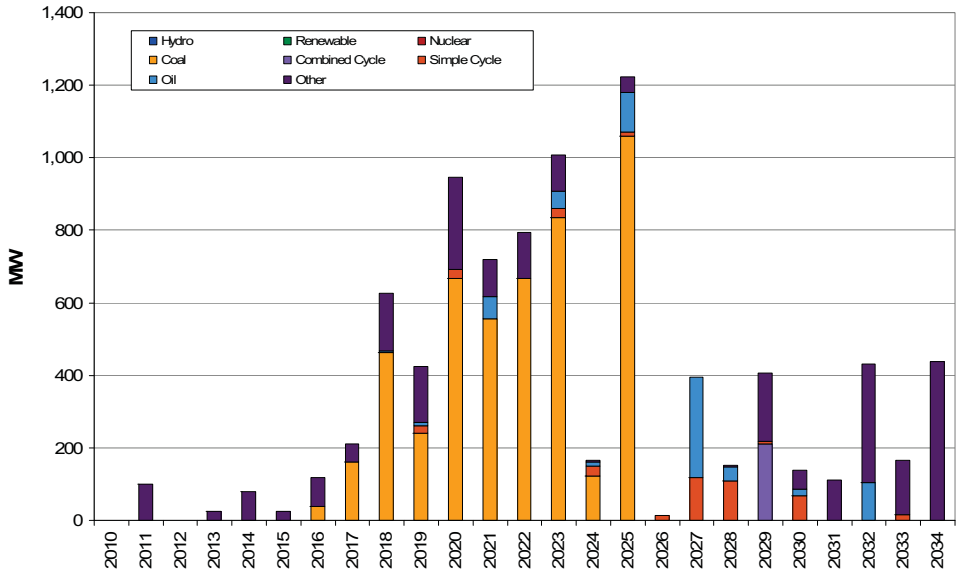
SPP Peak and Energy Load Forecast



Source: Black & Veatch

* Assumptions are an aggregate of each EMP Area.

Southwest Power Pool Retirements by Year

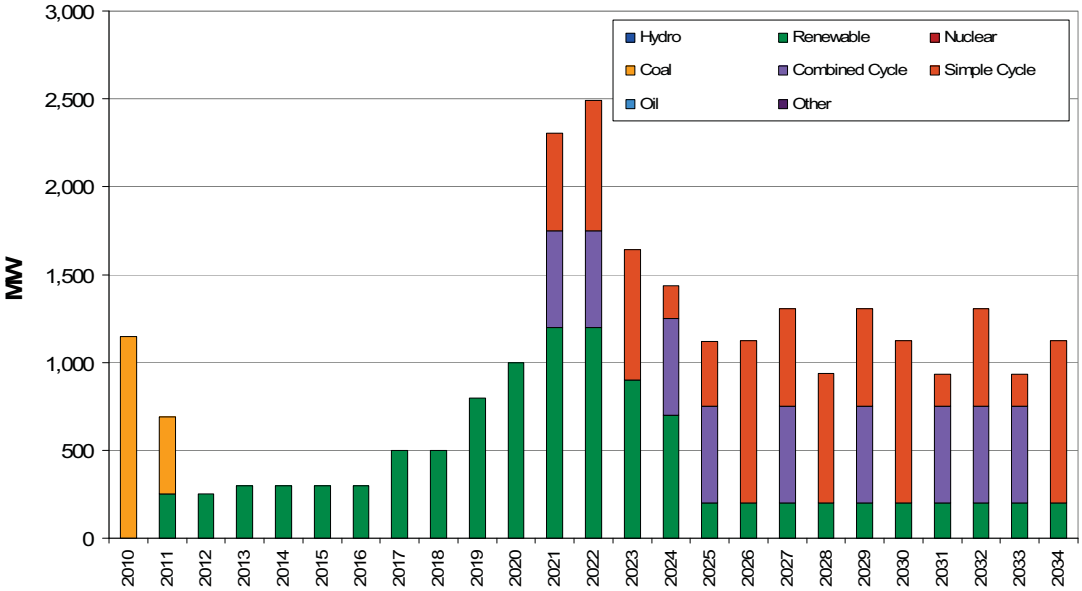


Source: Black & Veatch
*Other units include Steam Oil and Gas, and Combustion Turbine Other
** Assumptions are an aggregate of each EMP Area.

- Over 8,700 MW of cumulative capacity is retired by 2034

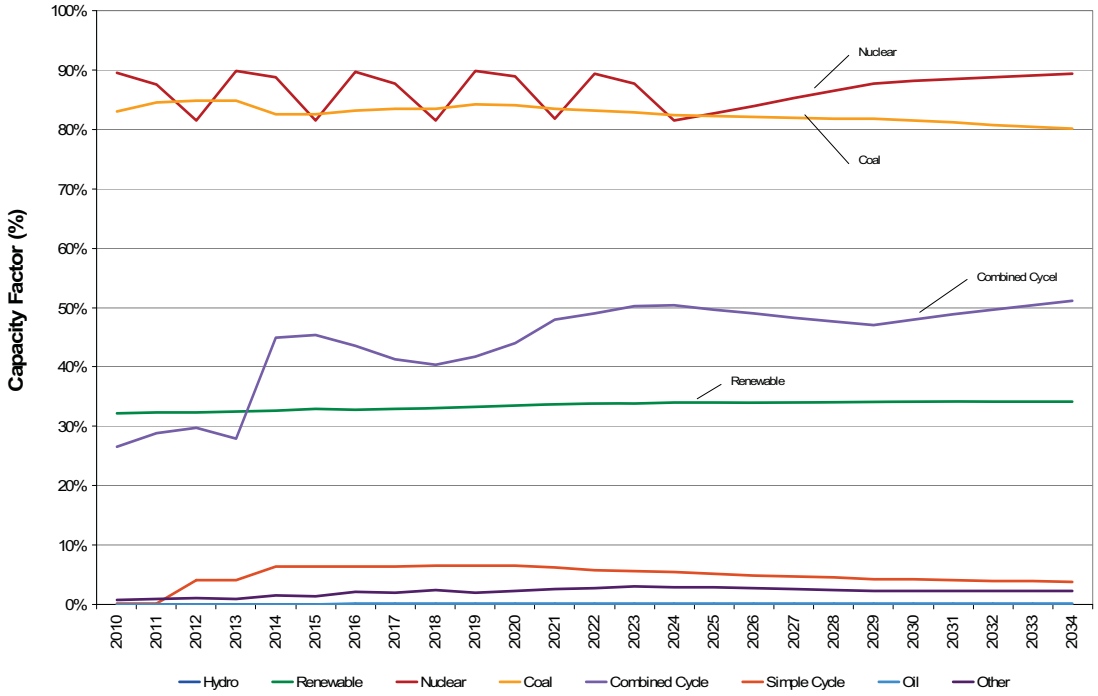
  Coal – 4,800 MWCT – 450 MW Oil – 700 MW
  CC – 200 MW Other – 2,600 MW

SPP Expansion by Year



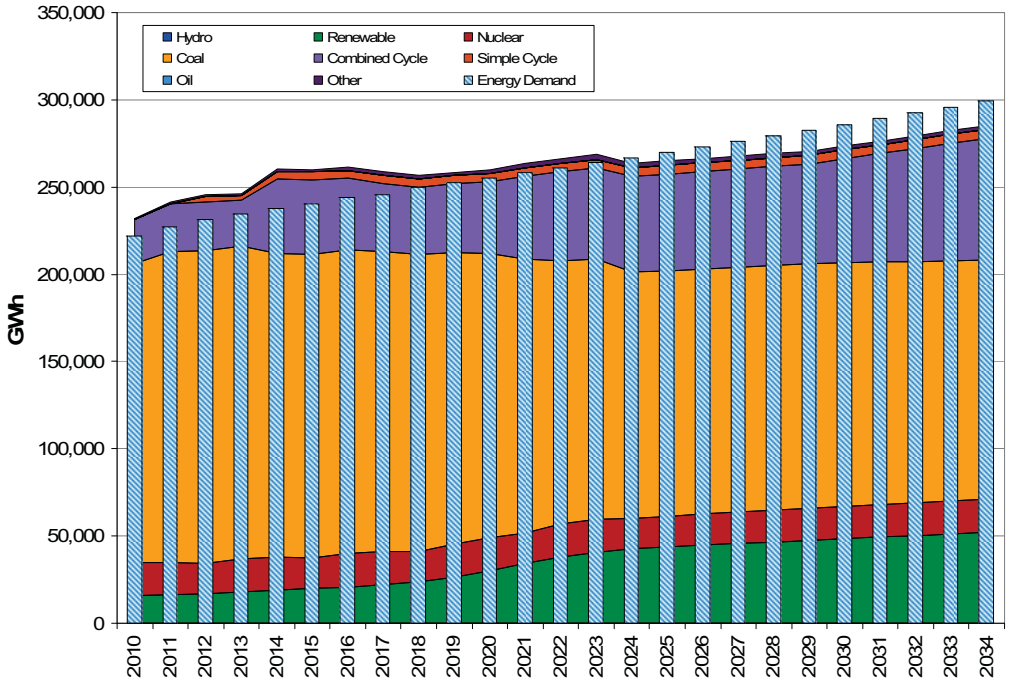
Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Assumptions are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.
4. All resources are reported as name plate capacity

Southwest Power Pool Fleet Average Capacity Factor



Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Results are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

SPP Energy Demand and Generation by Unit Type



Source: Black & Veatch
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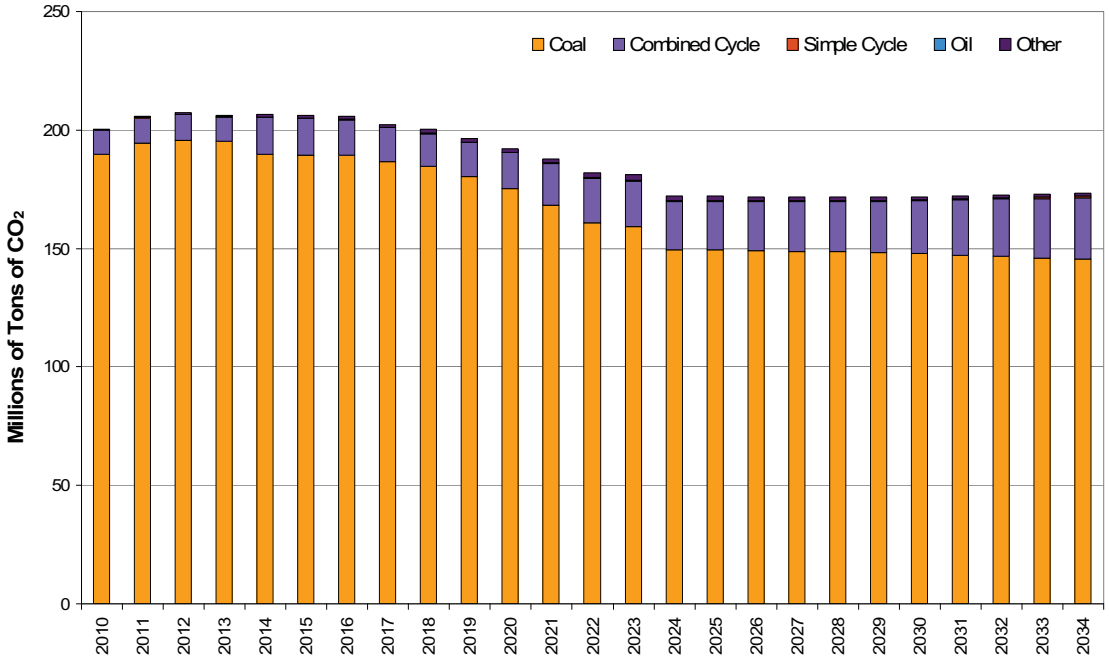
SPP CO2 Emissions by Unit Type



Source: Black & Veatch
1 Other units include Steam Oil and Gas, and Combustion Turbine Other
2 Results are an aggregate of each EMP Area.
3 After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

SPP Annual Average Prices

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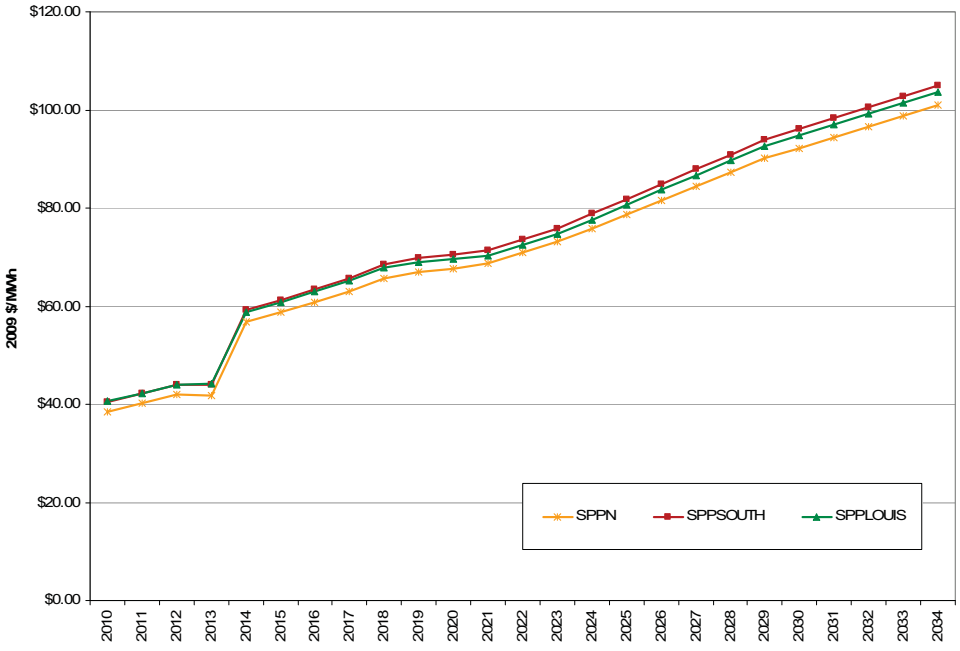
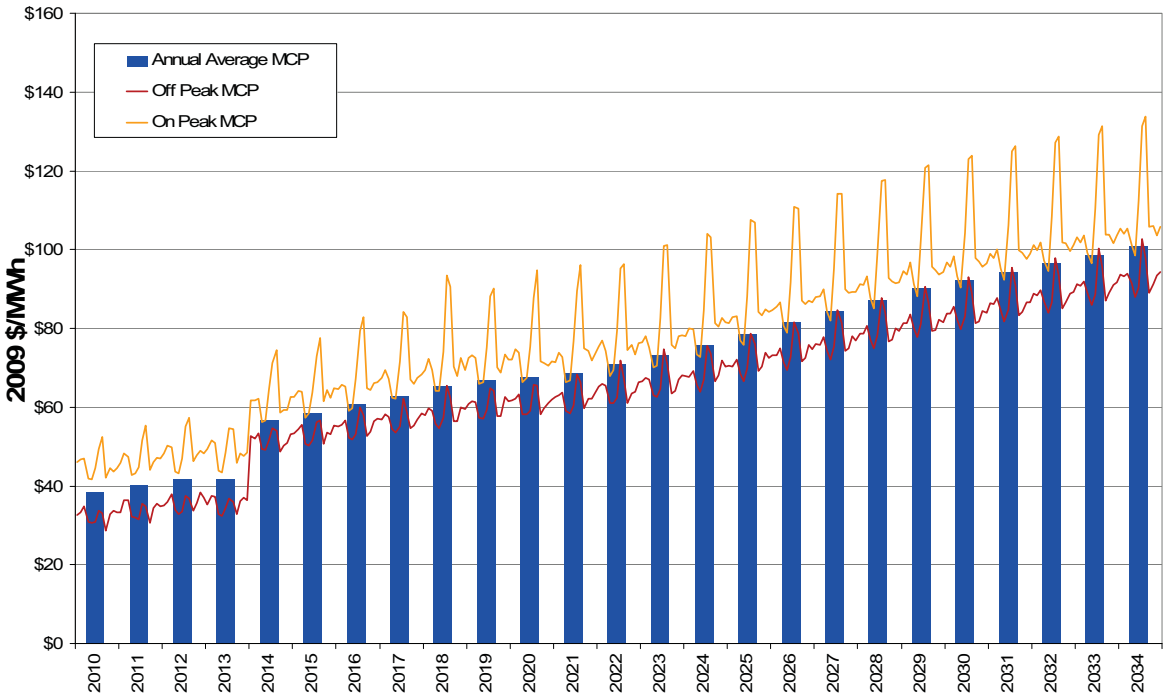
- Prices climb steadily thereafter due to the combined effect of increasing CO2 allowance prices and gas prices.



Source: Black & Veatch

* After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

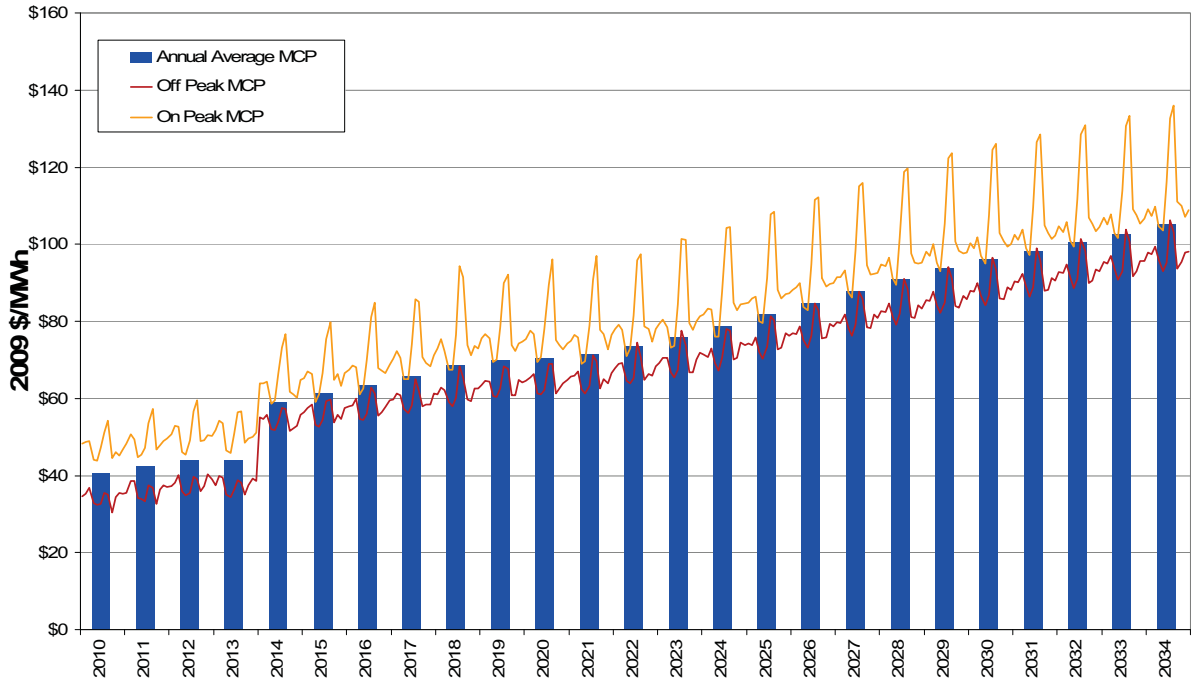
SPP North On and Off Peak Energy Prices



Source: Black & Veatch

* After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

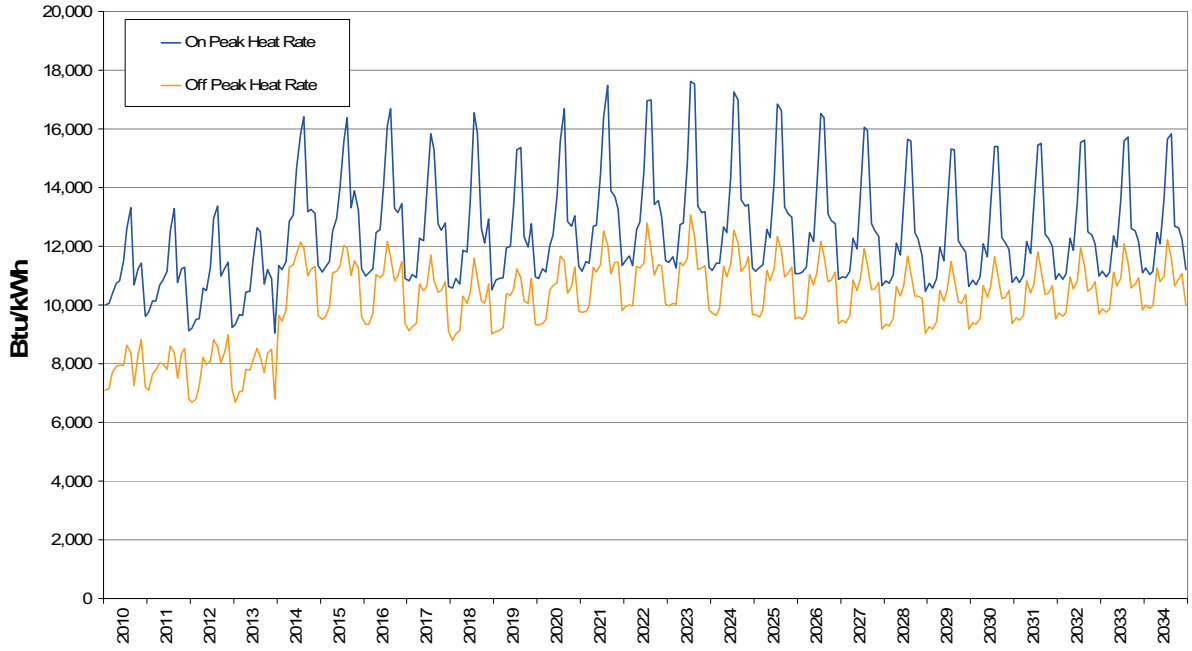
SPP South On and Off Peak Energy Prices



Source: Black & Veatch

* After 2024 every 5th year was modeled. Used linear interpolation between 2024 and 2029 and then 2029 and 2034.

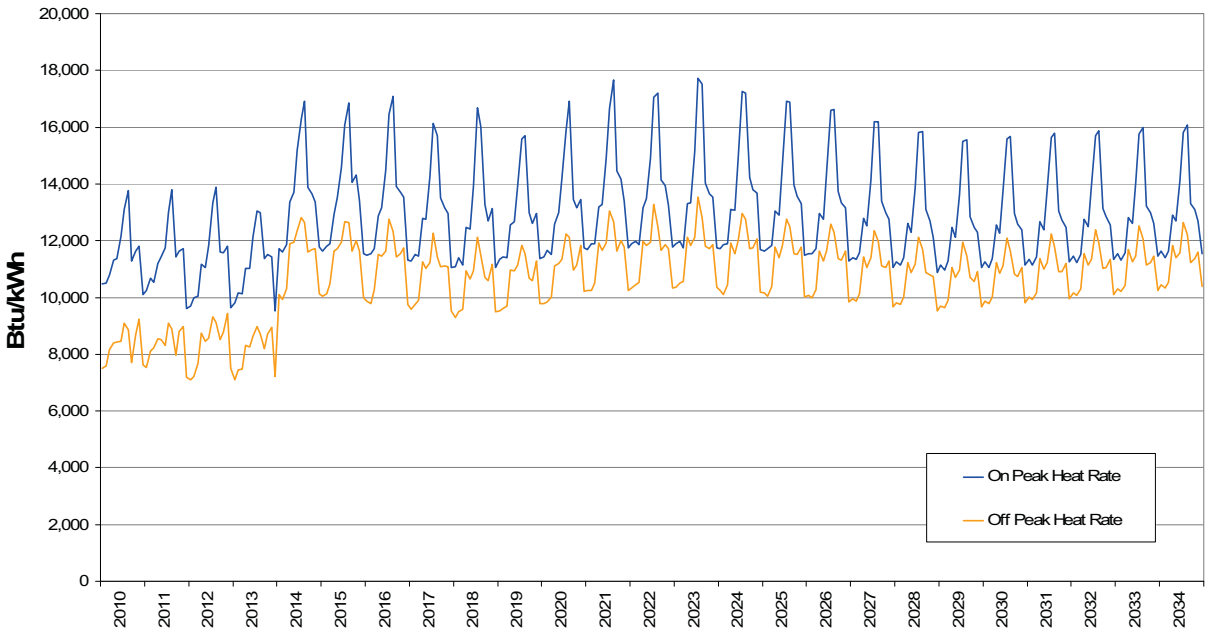
SPP North Heat Rate



Source: Black & Veatch

* No Historical Data Available

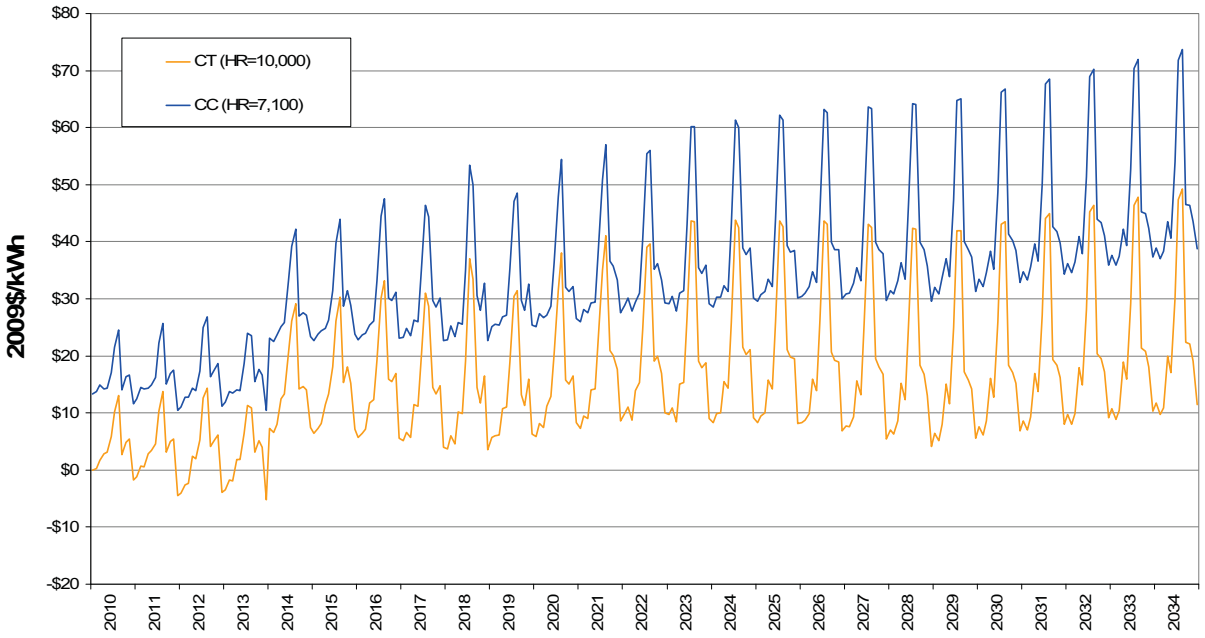
SPP South Heat Rate



Source: Black & Veatch

*No Historical Data Available

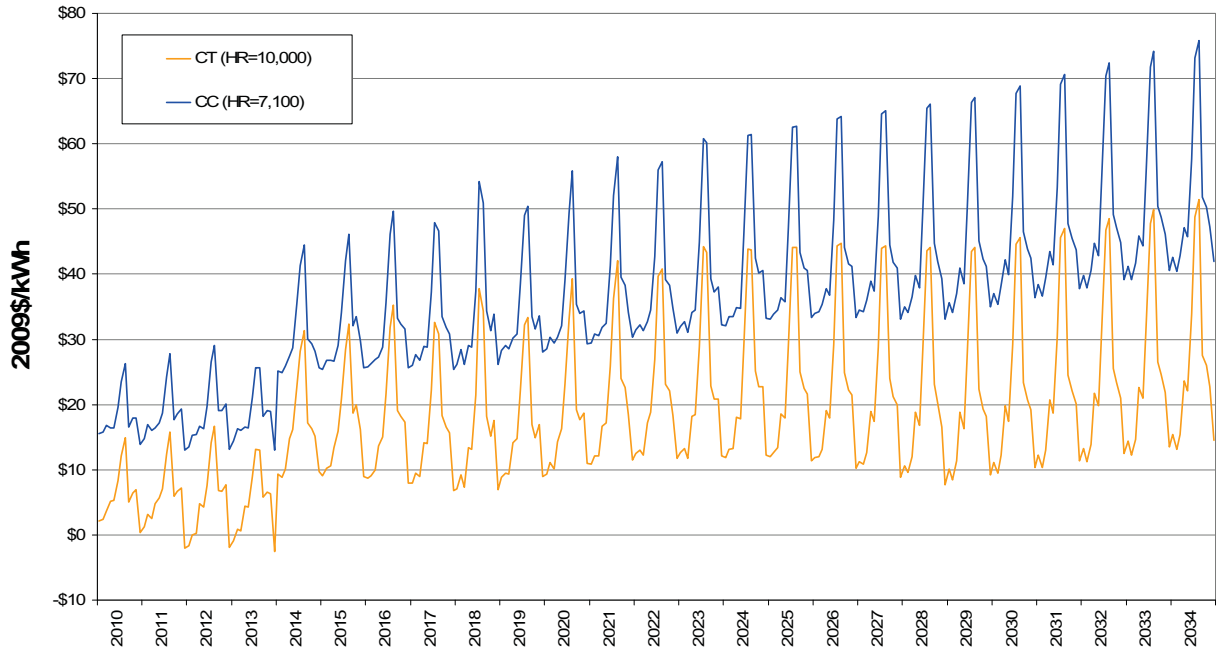
SPP North Spark Spreads



Source: Black & Veatch

*No Historical Data Available

SPP South Spark Spreads



Source: Black & Veatch

*No Historical Data Available

4.8 Capacity Price Forecast

Capacity Prices and Revenue in Southeast/Florida Markets

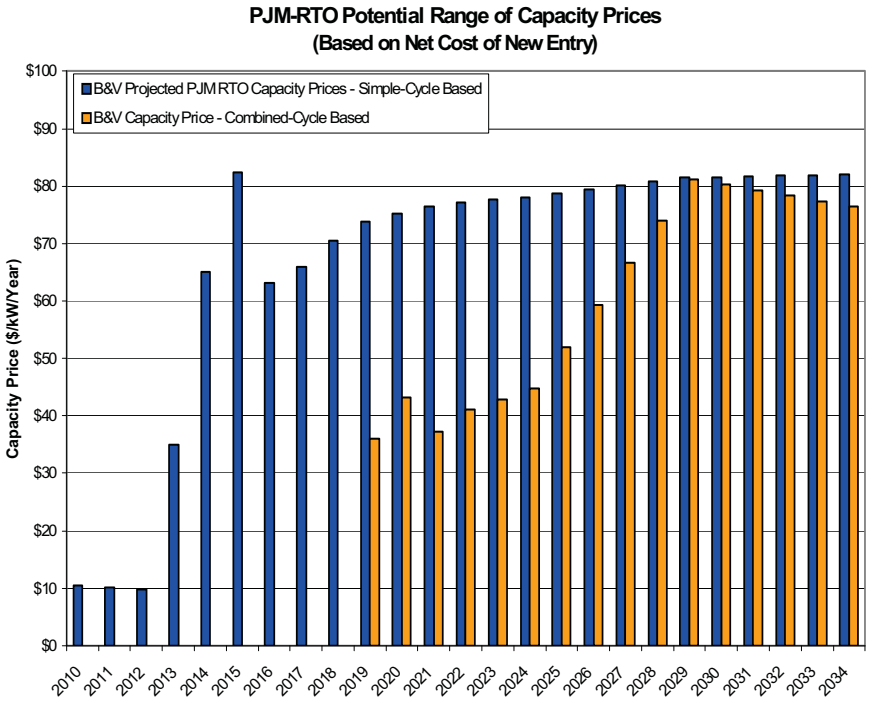
- With the exception of PJM, there are no formal capacity markets in the Midwest market regions, and no standard definition of the "capacity" product. At the same time, there are substantial numbers of negotiated power purchase agreements that split revenue for power sales between an energy and a capacity component.
- The forecast energy prices in B&V's base line forecast, and in virtually all simulation-based electricity price forecasts, are generally below a level that would fully compensate generic new entry for investment costs over expected operating life timeframes. This is particularly true for new simple-cycle entry included in the forecast process to maintain resource adequacy (minimum planning reserve margin) requirements.
- More efficient generators, likely to earn profit margins from energy sales, may still obtain capacity revenue through bilateral transactions, but it is common for there to be a negotiated trade-off between energy margins and negotiated capacity prices, so that total revenue available to owners is not expected to produce excess investment returns.

B&V Approach to Forecasting Capacity Prices

- B&V has implemented an approach to forecast capacity prices based on a capacity planning algorithm.
- Given the bilateral nature of capacity transactions in non-PJM Midwest markets, there is not a single price of capacity, and not all suppliers are likely to receive capacity revenue. As such, the capacity price forecast developed by B&V should be viewed as "indicative," and provides a reasonable measure of capacity price/revenue that marginal generators could expect to receive, provided that they are successful bidders in competitive procurement proceedings, and that they are able to negotiate a power sales agreement with a load-serving entity in need of capacity.
- The capacity market clears when supply equals annual peak demand, plus planning reserve margins.
- In years and markets where new capacity is not yet needed, the capacity price is determined as shortfall revenue needed for the marginal generator to just recover its variable and fixed operating costs in the upcoming year. Under these conditions, there is no capacity revenue targeted to cover investment-related cost.
- In years and markets where new capacity is needed, and supply is expanding, the capacity price is generally based on the cost of new entry in the upcoming year for a simple cycle gas turbine, net of expected energy market operating revenue.

PJM Capacity prices

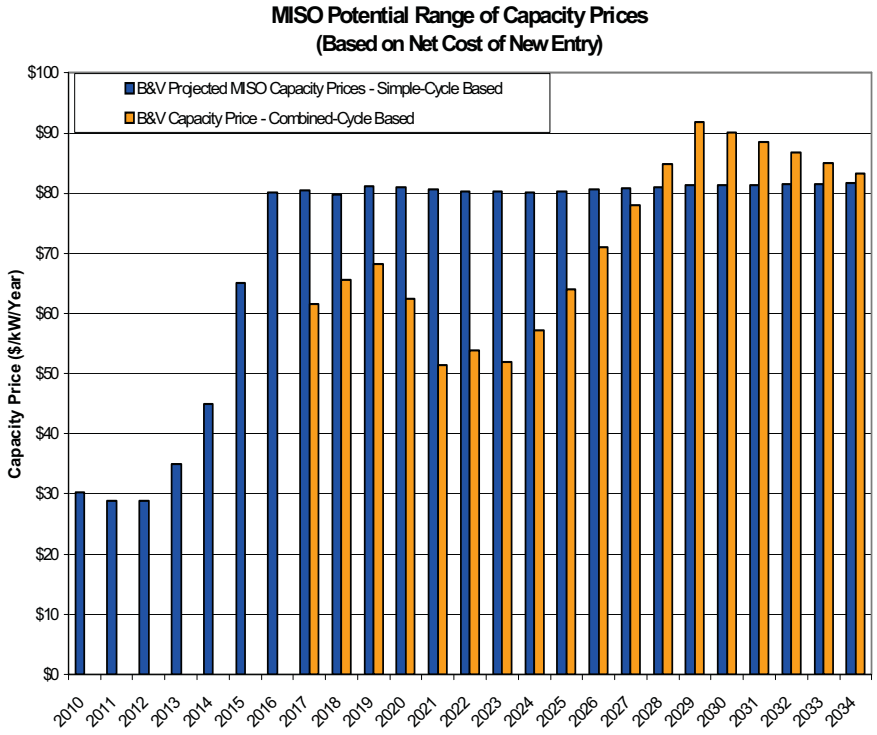
- Based on near-term supply/demand conditions there are no economic signals to add new reliability capacity until 2013-2015
- Prior to that period, projected capacity prices begin in the $10/kW/Year to $25/kW/Year range, reflecting levels needed to cover net operating losses on existing generators
- Beginning 2013, capacity prices increase toward the cost of adding CT capacity in 2013 - 2014.
- Discounting of capacity prices is possible if suppliers choose to build combined-cycle units and offer capacity based on net energy margins
- This model-based result is compared to PJM RMP auction results on page 182.



Source: B&V analysis

MISO Capacity prices

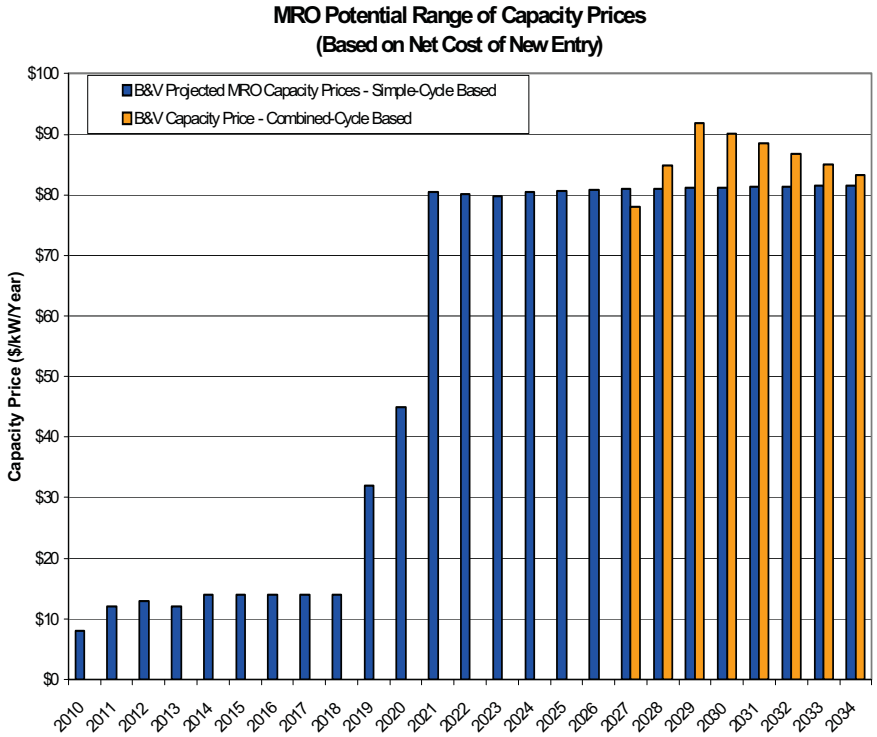
- Based on near-term supply/demand conditions there are no economic signals to add new reliability capacity until the 2015-2017 time frame
- Prior to that period, projected capacity prices begin in the $30/kW/Year range, reflecting levels needed to cover net operating losses on existing generators
- Beginning 2014, capacity prices increase toward the cost of adding CT capacity in 2016.
- Discounting of capacity prices is possible if suppliers choose to build combined-cycle units and offer capacity based on net energy margins



Source: B&V analysis

MRO Capacity prices

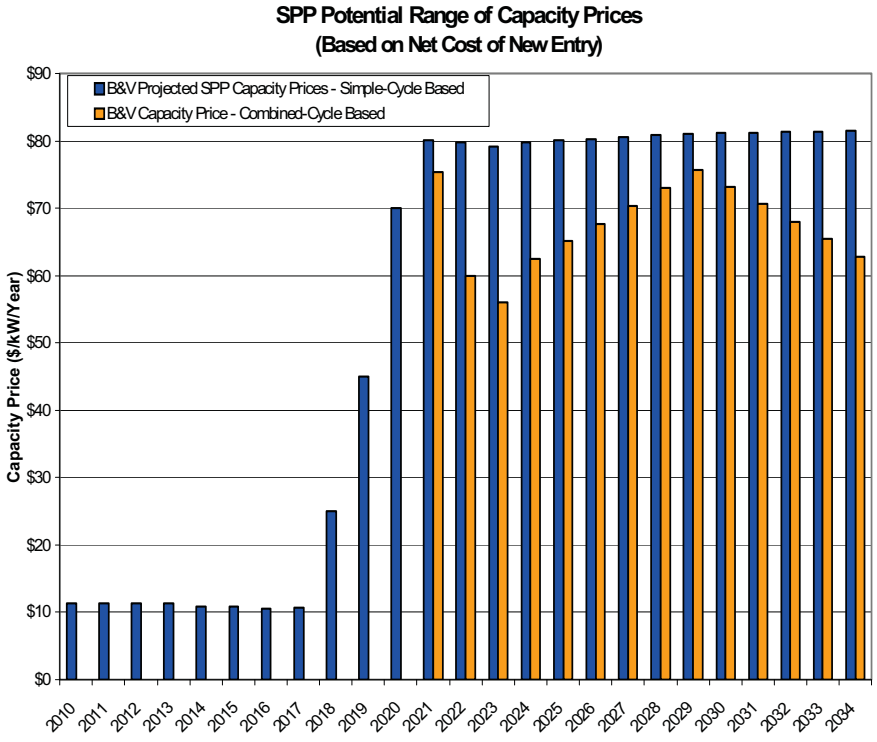
- Based on near-term supply/demand conditions there are no economic signals to add new reliability capacity until the 2020-2021 time frame
- Prior to that period, projected capacity prices begin in the $10-$15/kW/Year range, reflecting levels needed to cover net operating losses on existing generators
- Beginning 2019, capacity prices increase toward the cost of adding CT capacity in 2021.
- Discounting of capacity prices is possible if suppliers choose to build combined-cycle units and offer capacity based on net energy margins



Source: B&V analysis

SPP Capacity prices

- Based on near-term supply/demand conditions there are no economic signals to add new reliability capacity until 2020-2022
- Prior to that period, projected capacity prices begin in the $10-$12/kW/Year range, reflecting levels needed to cover net operating losses on existing generators
- Beginning 2016, capacity prices increase toward the cost of adding CT capacity in 2021.
- Discounting of capacity prices is possible if suppliers choose to build combined-cycle units and offer capacity based on net energy margins



Source: B&V analysis

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Appendix D
Site Photographs

Appendix D

Jasper Municipal Electric Utilities Power Plant Site Photographs

01-View from South

02-View from Southeast

03-View South from Roof

04-View Southwest from Ash Silo

05-View from East

06-Cooling Tower View Southeast

07-Stack Opacity and Sampling Platform

08-Electrostatic Precipitator

09-Exhaust to Stack

10-ID Fan Damper

11-Ash Hopper

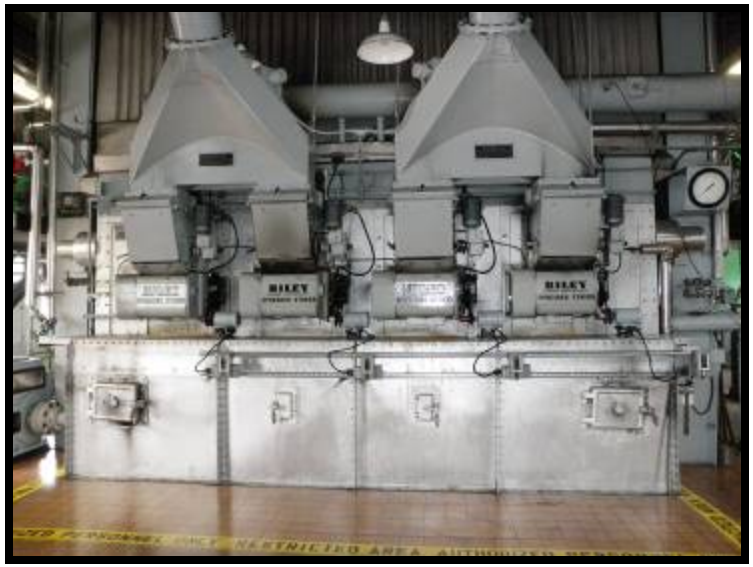
12-ID Fan Motor

13-Cooling Tower

14-Cooling Tower Deck

15-Cooling Tower Fill Material

16-Cooling Tower Fill Material



17-Variable Speed Coal Spreaders

18-Variable Speed Coal Spreaders

19-Mud Drum

20-Bottom Ash Hopper

21-Economizer

22-Ash Puddle Mixer

23-Electrostatic Precipitator

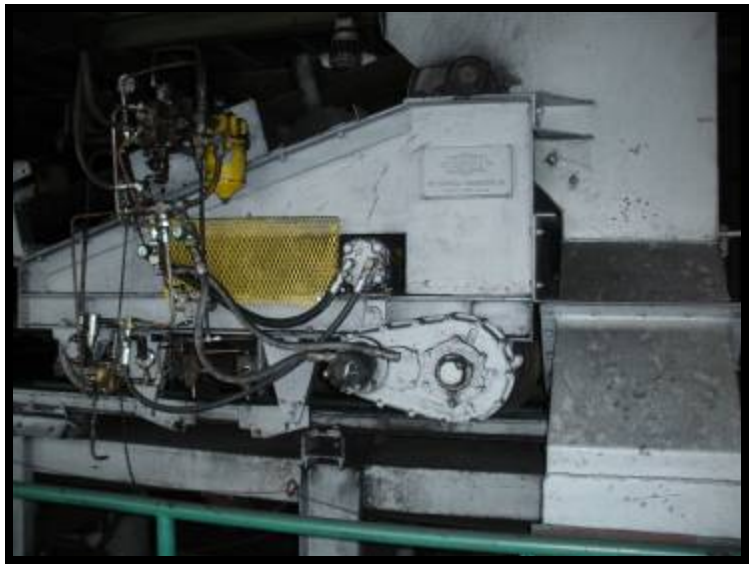
24-Electrostatic Precipitator

25-Forced Draft Fan

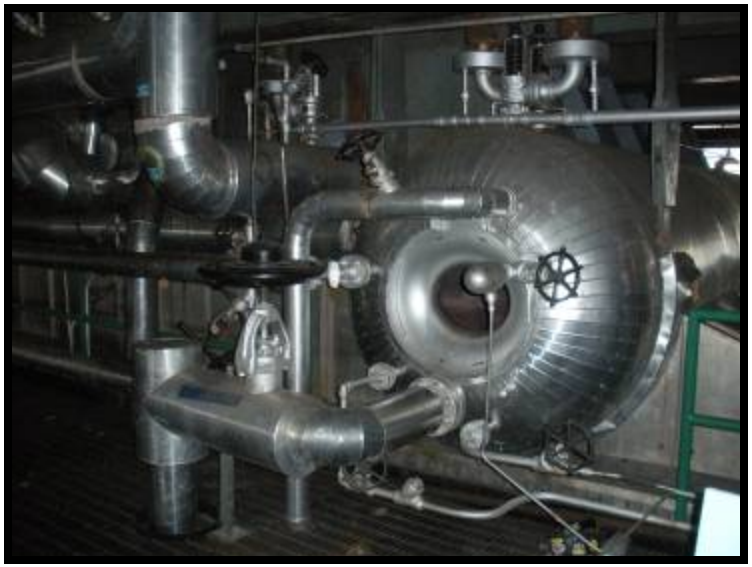
26-Forced Draft Fan

27-FD Fan Nameplate

28-Roots Blower



29-Hydraulic Controller for Traveling Tripper



30-Steam Drum

31-Steam from Superheater

32-Steam Sootblower

33-Boiler Dust Collector Reinjection Modification

34-Boiler Grate Drive

35-Boiler Nameplate

36-Trottle Steam Flow Meter

37-Turbine Driven Boiler Feed Pump

38-Turbine Front Standard

39-TWI Bed Demineralizer

40-Batteries and Charger

41-Battery Charger Nameplate

42-Battery Charger

43-Battey Bank

44-Condensate Pump Nameplate

45-Condensate Pumps

46-Condenser Circ Water Outlet

47-Condenser Circ Water Outlet

48-Overhead Crane

49-Main 15kV Switchgear

50-Plant Turbine Generator and Switchgear

51-Steam Turbine and Generator

52-New Electronic Transmitter

53-Condensate Flow Meter-Contains Mercury

54-ID Fan Variable Speed Control Panel

55-Life Safety Emergency Generator

56-UPS Cabinet

57-Interior of Boiler Pneumatic Panel

58-Precipitator Control Panel

59-Ash Handling System Panel

60-Precipitator and ID Fan Control Panel

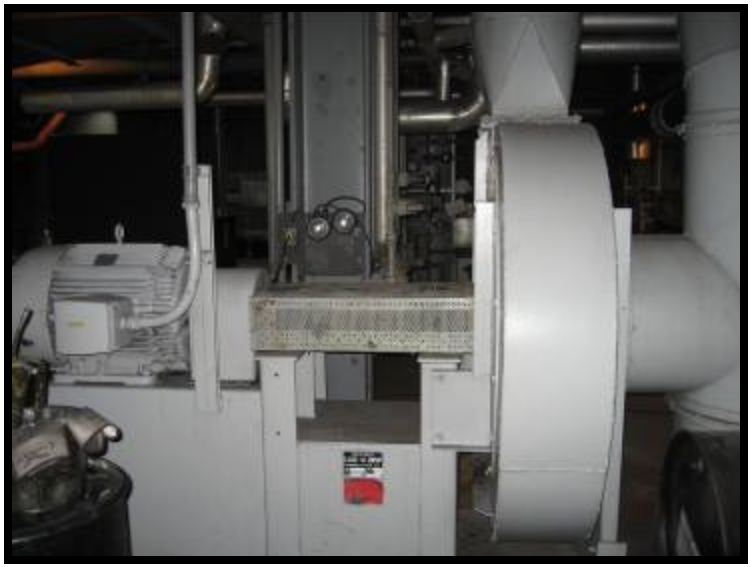
61-In House 480V Substation

62-Out House 480V Substation

63-Net 90 Boiler Cabinet

64-Net 90 Boiler

65-Coal Feeders Variable Speed Controllers



66-Overfire Fan

67-Boiler Control Panel-Net 90 Controllers

68-Boiler Pneumatic Indicators
and Reloaders Panel

69-Main Floor Motor Control Center

70-Generator Switchboard in Control Room

71-Cation Demineralizer

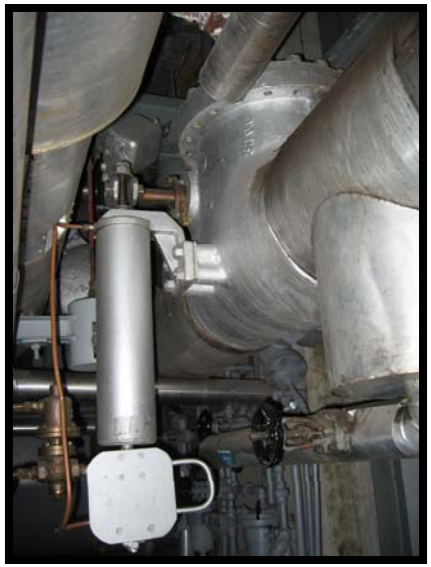
72-Compressed Air Receiver Tanks

73-Circulating Water Pumps

74-Feedwater Master Control

75-Steam Header Supply for Steam Seal Oil - Oil Pump - Air Ejector - Vacuum Bagger

76-Steam Jet Air Ejector



77-Extraction Non-return Valve

78-Anion Demineralizer

79-Main Stop Valve

80-Emergency Feedwater Suction

81-Motor Driven Boiler Feed Pump

82-Generator CW Booster Pumps

83-Coal Conveyor Elevator to Transfer Chute

84-Bottom Ash Hopper

85-Bucket Elevator

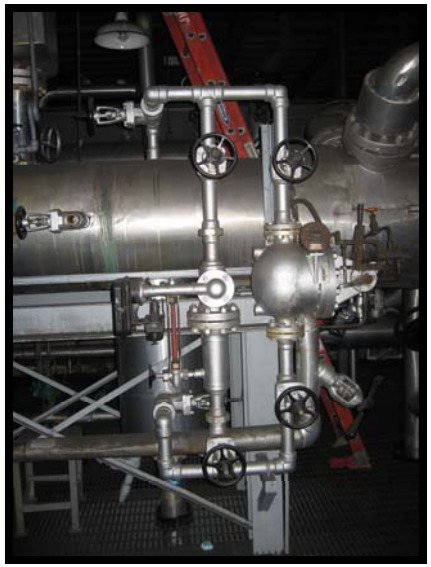
86-Deaerator Level Control

87-Surge Tank

88-Drains Receiver Tank

89-Economizer Sootblowers

90-HP FWH Nameplate



91-HP Heater

92-HP Heater

93-HP Steam Extraction Level Controller

94-Coal Conveyor

95-Coal Transfer Chute to Traveling Tripper

96-Bucket Elevator

97-Traveling Tripper Coal Conveyor

98-Lower Condensate Storage Tank Level Controller

99-LP FWH Nameplate

100-LP Heater Level Control

101-HP Steam Extraction Level Controller

102-ESP Fly Ash Outlet

103-Inside ESP

104-Level Controller

105-Solid State Relays

106-Electro Mechanical Relays

Appendix E
Data from City of Jasper

Source Emissions Test Report

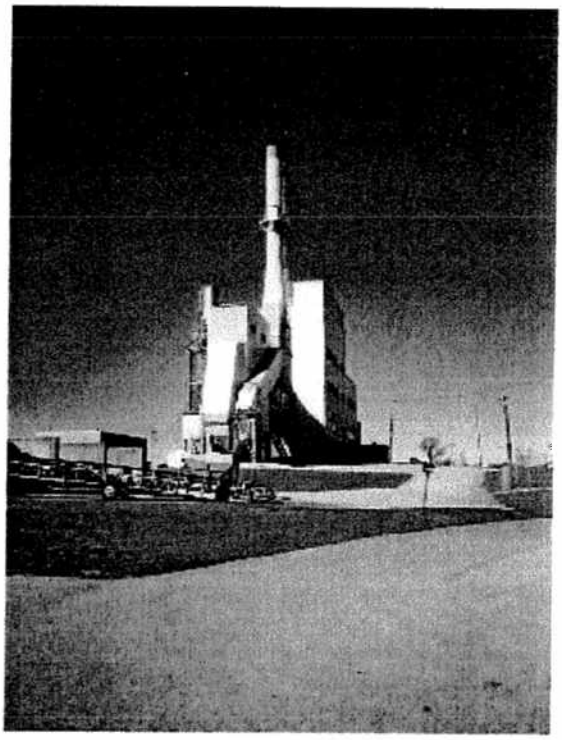
Jasper Municipal Utilities Jasper, Indiana

Boiler No. 1ESP Exhaust

Compliance Emissions Test

June 09, 2009

GSA Job 09-T-617



GSA , Inc.

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ACKNOWLEDGMENTS

I would like to thank Mr. Windell Toby and his associates for their cooperation, patience and input in the coordination of the testing program conducted at Jasper Municipal Electric Utility. Their knowledge and experience in project development, and process control and operation proved invaluable toward the completion of this project.

Fred H. Guenther
Project Manager

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PREFACE

I, Fred H. Guenther, do hereby certify that the source emissions testing conducted at Jasper Municipal Electric Utility in Jasper, Indiana was performed in accordance with the procedures set forth by the United States Environmental Protection Agency, and that the data and results submitted within this report are an exact representation of the testing.

Fred H. Guenther
Project Manager

I, Fred H. Guenther, do hereby attest that all work on this project was performed under my direct supervision, and that this report accurately and authentically presents the source emissions testing conducted at Jasper Municipal Electric Utility in Jasper, Indiana.

Fred H. Guenther
Project Manager

SOURCE EMISSIONS COMPLIANCE TESTING
EPA Methods 1, 2, 3, 5 and 8
Performed on the
Boiler No. 1
Electrostatic Precipitator Exhaust
for
Jasper Municipal Electric Utility
Jasper, Indiana

June 9, 2009

Project No. 09-T-617

1.0 INTRODUCTION

This report presents the results of the source emissions compliance testing conducted by GSA, Inc. (GSA) for Jasper Municipal Electric Utility's (Jasper Electric) on Boiler No. 1 in Jasper, Indiana.

The primary purpose of this testing program was to obtain Particulate Matter (PM) and Sulfur Dioxide samples from the outlet gas stream of the Boiler No. 1 Electrostatic Precipitator (ESP) Exhaust in order to determine compliance with the applicable Indiana Air Permit for this plant.

GSA's responsibility was to collect the samples, and perform laboratory analyses for PM and Sulfur Dioxide emissions evaluations. Jasper Electric's responsibility was to maintain process operating parameters and provide process operating data per compliance test requirements.

The following report provides information pertaining to the actual ESP Exhaust PM and Sulfur Dioxide sampling and the analytical results.

The emissions testing on the ESP Exhaust was performed on Tuesday, June 9, 2009.

The following requirements were specific for the testing program:

1. All pertinent equipment calibrations performed and calibration data provided.
2. Three (3), consecutive, one (1) hour, minimum, PM and Sulfur Dioxide test runs performed at the outlet of the ESP Exhaust serving the Boiler No. 1 pursuant to USEPA, Title 40, Code of Federal Regulations, Part 60 (40 CFR 60), "Standards of Performance for Stationary Sources," Appendix A,
3. PM Emissions are limited by Permit No. T037-6695-00002 to 0.35 Lbs/MMBtu.
4. Sulfur Dioxide Emissions are limited by Permit No. T037-6695-00002 to 6.0 Lbs/MMBtu.
5. Multi-point integrated gas sampling performed during each PM and Sulfur Dioxide emissions testing repetition.
6. Process and control device operating parameters maintained at required operating conditions and monitored during the PM and Sulfur Dioxide testing periods.
7. All testing and analyses performed in accordance with current USEPA test methodologies and analytical procedures for PM and Sulfur Dioxide.

The emissions testing program was supervised by GSA, whose headquarters is in Crown Point, Indiana. GSA also performed the pretest and post-test equipment calibrations, PM and Sulfur Dioxide emissions testing at the sampling location, the data reduction and the final report preparation. The PM and Sulfur Dioxide analysis was subcontracted through GSA's analytical broker Keika Ventures, whose headquarters is located in Chapel Hill, North Carolina, to Element One Laboratories, Inc. whose headquarters is in Wilmington, North Carolina.

The emissions testing and analyses were performed in accordance with USEPA Reference Methods 1, 2, 3, 5 (PM) and 6/8 (Sulfur Dioxide), 40 CFR 60, Appendix A.

The testing program was approved by and/or coordinated with the following personnel:

Windell Toby, Plant Manager, Jasper Electric

The emissions testing was performed by the following personnel:

Fred H. Guenther, Project Manager, GSA

John Wilson, Field Engineer, GSA

David Guenther, Field Engineer, GSA

The emissions testing was observed by the following Indiana Department of Environmental Management personnel:

2.0 TEST RESULTS SUMMARY

The source emissions testing was performed utilizing USEPA Methods 1, 2, 3, 5 and 8 at the ESP Exhaust (exhaust stack) sampling location. A summary of the test results is given below:

Jasper Municipal Electric Utility Boiler No. 1 -PM and Sulfur Dioxide Emissions Tests Results		
Run No.	PM Emissions (Lbs/MMBTU)	Sulfur Dioxide Emissions (Lbs/MMBTU)
1	0.0307	2.36
2	.0313	2.44
3	0.263	2.19
Average	0.0294	2.33
Emission Limit	0.35	6.0

Emissions calculations were based on the assumption that bituminous coal is the primary source of fuel used during the emissions testing program. A complete list of test parameters for each Method 5 and 6/8 (PM and Sulfur Dioxide) test run performed at the ESP Exhaust sampling location can be found in Tables 1 and 2.

Sample calculations and examples of the equations used to generate the test results can be found in Appendix F.

G/SA, Inc. ..... ENVIRONMENTAL TESTING CONSULTANTS
P.O. Box 807, Crown Point, IN 46307 TEL (219) 663-5394 / FAX (219) 662-7037

TABLE 1
EPA METHOD 5
PARTICULATE EMISSIONS TEST RESULTS (FRONT-HALF)

CLIENT/CLIENT: JASPER | PROJECT NO.: 08-T-617
SOURCE TESTED: BOILER NO. 1 | DATA INPUT BY: ACF

INPUT DATA

Run Number	1	2	3
Date	09-Jun-09	09-Jun-09	09-Jun-09
Sampling Location	***OUTLET***	***OUTLET***	***OUTLET***
Run Start Time (12 Hour)	07:07 AM	08:59 AM	10:33 AM
Run Stop Time (12 Hour)	08:11 AM	10:03 AM	11:36 AM
Sampling Time (Minutes)	60	60	60
Average Process Weight Rate --- Tons/Hr.	***NA***	***NA***	***NA***
Stack Area (Ft^2)	42.210	42.210	42.210
Pitot Tube Coefficient (Dimensionless)	0.84	0.84	0.84
Dry Gas Meter Correction Factor (Dimensionless)	0.977	0.977	0.977
Nozzle Area (Ft^2)	0.000501	0.000501	0.000501
Barometric Pressure (In. Hg)	29.33	29.33	29.33
Static Pressure (In. H2O)	-0.350	-0.350	-0.350
Dry Gas Meter Sample Volume (DCF)	43.345	43.968	44.222
Leak Rate Corrected Dry Gas Meter Sample Volume (DCF)	43.345	43.968	44.222
Average Dry Gas Meter Temperature (°F)	90.3	93.8	98.1
Average Orifice Meter Delta H (In. H2O)	1.808	1.778	1.764
Volume Condensate Collected (Ml)	79.0	103.0	87.0
Average CO2 Concentration (%)	13.9	12.6	13.0
Average O2 Concentration (%)	7.6	8.4	7.9
Average Square Root of Delta P (In. H2O½)	0.544	0.536	0.529
Average Stack Gas Temperature (°F)	373.5	376.5	375.5
Total Particulate Matter (Grams, G)	**0.0363**	**0.0350**	**0.0305**

CALCULATED DATA

Absolute Pressure (In. Hg)	29.30	29.30	29.30
Dry Gas Meter Sample Volume at Standard Conditions (DSCF)	40.022	40.334	40.254
Water Vapor Volume at Standard Conditions (SCF)	3.719	4.848	4.095
Moisture Fraction (Dimensionless)	0.085	0.107	0.092
Dry Molecular Weight of Stack Gas (Lb/Lb-Mole)	30.53	30.35	30.40
Wet Molecular Weight of Stack Gas (Lb/Lb-Mole)	29.46	29.03	29.25
Stack Gas Velocity (FPS)	38.4	38.2	37.5
Stack Gas Flow Rate at Actual Conditions (ACFM)	97,264	96,724	94,940
Stack Gas Flow Rate at Dry Standard Conditions (DSCFM)	55,222	53,389	53,346
Isokinetic Sampling (%)	101.9	106.2	106.1
PM Emission Concentration (Gr/DSCF)	0.014	0.013	0.012
PM Emission Concentration (Lb/DSCF)	2.00E-006	1.91E-006	1.67E-006
PM Emission Rate (Lb/Hr)	6.63	6.13	5.35
PM Emission Concentration (Lb/ MMBTU)	0.0307	0.0313	0.0263

Average Stack Gas Flow Rate at Actual Conditions (ACFM)	**96,310**
Average Stack Gas Flow Rate at Dry Standard Conditions (DSCFM)	**53,986**
Average PM Emission Concentration (Gr/DSCF)	**0.013**
Average PM Emission Concentration (Lb/DSCF)	**1.86E-006**
Average PM Emission Rate (Lb/Hr)	**6.03**
Average PM Emission Concentration (Lb/MMBTU)	**0.0294**

Signature of Reviewer: Fred H Stroud

GSA ..... **ENVIRONMENTAL TESTING CONSULTANTS**

P.O. Box 807, Crown Point, IN 46307 Tel (219) 661-9900 / Fax (219) 661-9902

TABLE 2
EPA METHOD 6/8
SULFUR DIOXIDE (SO2) EMISSIONS TEST RESULTS

CLIENT: JASPER UTILITIES
SOURCE TESTED: BOILER BITUMINOUS COAL "F" FACTOR

PROJECT NO.: 07-T-466
DATA INPUT BY: ACF

INPUT DATA

Run Number	1	2	3
Date	09-Jun-09	09-Jun-09	09-Jun-09
Sampling Location	**Exhaust Duct**	**Exhaust Duct**	**Exhaust Duct**
Test Time, Start-Stop (24 Hour)	07:07-08:11	08:59-10:03	10:33-11:36
Sampling Time (Minutes)	60	60	60
Process Weight Rate	**NA**	**NA**	**NA**
Stack Area (Ft²)	42.240	42.240	42.240
Pitot Tube Coefficient (Unitless)	0.84	0.84	0.84
Dry Gas Meter Correction Factor (Unitless)	0.977	0.977	0.977
Nozzle Area (Ft²)	0.000501	0.000501	0.000501
Barometric Pressure (In. Hg)	29.33	29.33	29.33
Static Pressure (In. H2O)	-0.350	-0.350	-0.350
Dry Gas Meter Sample Volume (DCF)	43.345	43.968	44.222
Average Dry Gas Meter Temperature (°F)	90.3	93.8	98.1
Average Orifice Meter Delta H (In. H2O)	1.729	1.777	1.753
Volume Condensate Collected (Ml)	79.0	103.0	87.0
Average CO2 Concentration (%)	13.9	12.6	13.0
Average O2 Concentration (%)	7.6	8.4	7.9
Average Square Root of Delta P (In. H2O½)	0.544	0.536	0.529
Average Stack Gas Temperature (°F)	373.5	376.5	375.4
SO2 Mass Concentration (Milligrams, mg)	**2790.00**	**2730.00**	**2540.00**

CALCULATED DATA

Absolute Pressure (In. Hg)	29.30	29.30	29.30
Dry Gas Meter Sample Volume at Standard Conditions (DSCF)	40.014	40.334	40.253
Water Vapor Volume at Standard Conditions (SCF)	3.719	4.848	4.095
Moisture Fraction (Unitless)	0.085	0.107	0.092
Dry Molecular Weight of Stack Gas (Lb/Lb-Mole)	30.53	30.35	30.40
Wet Molecular Weight of Stack Gas (Lb/Lb-Mole)	29.46	29.03	29.25
Stack Gas Velocity (FPS)	38.4	38.1	37.5
Stack Gas Flow Rate at Actual Conditions (ACFM)	97,333	96,651	95,003
Stack Gas Flow Rate at Dry Standard Conditions (DSCFM)	55,261	53,348	53,387
Isokinetic Sampling (%)	101.9	106.4	106.1
SO2 Emission Concentration (Gr/DSCF)	1.0760	1.0445	0.9738
SO2 Emission Concentration (Lb/DSCF)	1.54E-004	1.49E-004	1.39E-004
SO2 Emission Rate (Lb/Hr)	509.67	477.62	445.60
SO2 Emission Concentration (Lb/ MMBTU)	2.36	2.44	2.19

Average Stack Gas Flow Rate (ACFM)	**96,329**
Average Stack Gas Flow Rate at Dry Standard Conditions (DSCFM)	**53,999**
Average SO2 Emission Concentration (Gr/DSCF)	**1.0314**
Average SO2 Emission Concentration (Lb/DSCF)	**1.47E-004**
Average SO2 Emission Rate (Lb/Hr)	**477.63**
Average SO2 Emission Concentration (Lb/ MMBTU)	**2.33**

Signature of Reviewer: Fred H Gruenther

3.0 FACILITY DESCRIPTION

Jasper Municipal Electric Utility operates an electric generating station ~~at Integrated Steel Mill described~~ as Indiana Harbor East in Jasper, Indiana and is located at 15th & Kunst Street. The plant is located in Dubois County.

Boiler No. 1 is of a spreader stoker design with a capacity of 192 MMBtu/Hr heat input. The boiler was constructed in 1967. Particulate emissions are controlled by an electrostatic precipitator which exhausts through a 176 foot stack.

Process operating data recorded during the emissions testing can be found in Appendix B of this report.

FIGURES

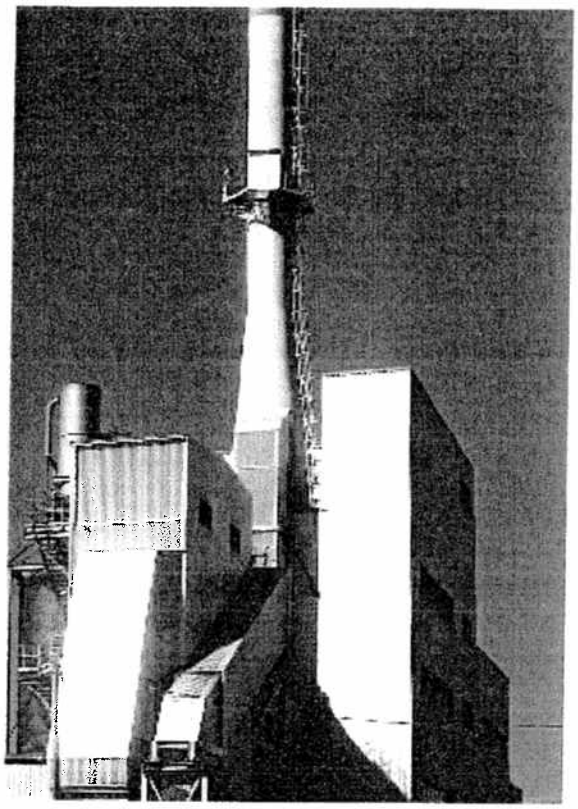


Figure 1. Boiler No. 1 - ESP / Exhaust Stack Configuration

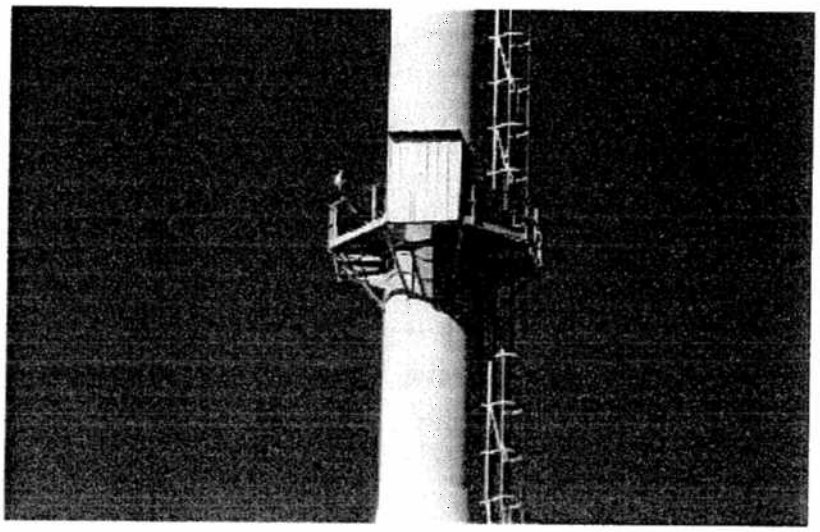


Figure 2. Boiler No. 1 - Stack Sampling Location

4.0 TEST PROCEDURES

GSA, and GSA's affiliates and subcontractors use all current EPA accepted testing methodologies in their Air Quality Programs as listed in the U.S. Code of Federal Regulations, Title 40, Part 60, Appendix A. For this testing program, the following specific methodologies were utilized:

USEPA Method 1 - Sample and Velocity Traverses for Stationary Sources

USEPA Method 2 - Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)

USEPA Method 3 - Gas Analysis for the Determination of Dry Molecular Weight

USEPA Method 5 - Determination of Particulate Matter Emissions from Stationary Sources

USEPA Method 6/8 - Determination of Sulfuric Acid and Sulfur Dioxide Emissions from Stationary Sources

USEPA Methods 1, 2, 5 and 6/8 were performed at the ESP Exhaust sampling location on the same sampling train with the front half analyses for PM emissions and back half analysis for Sulfur Dioxide emissions. The testing was conducted using an Apex Instruments, Model 522, control unit and sampling train incorporating an 8', effective length, stainless-steel probe with a heated, borosilicate glass liner, a borosilicate glass nozzle and Type S, stainless-steel pitot tube, ¼" O.D., stainless-steel static pressure/gas sampling tube and Type K (Chromel/Alumel) thermocouples; an aluminum filter oven and borosilicate glass filter

holders with Teflon filter supports with Viton-O-Rings and 0.3 micron (99.9% retention), Pallflex, Type TX40H120WW, 85 mm, Teflon microfiber filters; foam insulated, impinger container units with two (2) Greenburg-Smith and three (3) modified Greenburg-Smith impinger bottles, and stainless-steel umbilical adapters with Type K (Chromel/Alumel) gas exit thermocouples; and a 90′ umbilical with various interconnecting fittings and plugs.

Calibration data, including an on-site dry gas meter calibration check, of the aforementioned instrumentation can be found in Appendix E.

USEPA Method 3 was performed at the sampling location to determine exhaust gas concentrations of carbon dioxide (CO_2) and oxygen (O_2) using a Bacharach Orsat Gas Analyzer (Orsat) to extract and measure integrated gas samples collected in Calibrated Instruments, Inc. 10 liter, pillow type, Tedlar bags at the outlet of the stainless-steel probe's gas sampling tube.

A cyclonic flow check was omitted at the ESP Exhaust sampling location due to the acceptable stack and test port configurations based on Method 1 requirements, and relatively laminar flows noted during the preliminary traverse procedures conducted prior to the emissions testing.

No testing or sample recovery procedure deviations or errors occurred during the onsite sampling phase of the testing program.

Certifications and material safety data for the chemical reagents used in performing the PM and Sulfur Dioxide testing and sample recovery procedures are included in Appendix D.

No significant process deviations or upsets occurred during any of the testing periods.

The emissions test data and supporting data collected during the field sampling can be found in Appendix A of this report. The PM and Sulfur Dioxide emissions values and pertinent data are presented in the "Test Results Summary."

5.0 ANALYTICAL PROCEDURES

GSA, and GSA's affiliates and subcontractors utilize all current analytical procedures outlined in the following reference methods as listed in the U.S. Code of Federal Regulations, Title 40, Part 60, Appendix A:

USEPA Method 1 - Sample and Velocity Traverses for Stationary Sources

USEPA Method 2 - Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)

USEPA Method 3 - Gas Analysis for the Determination of Dry Molecular Weight

USEPA Method 5 - Determination of Particulate Matter Emissions from Stationary Sources

USEPA Method 6/8 - Determination of Sulfuric Acid and Sulfur Dioxide Emissions from Stationary Sources

An A*N*D, Model EK-1200A, Electronic Toploading Balance was used to weigh spent silica gel from the USEPA Method 5/8 (PM and Sulfur Dioxide) testing to determine, in part, stack gas moisture content. The Method 8 (Sulfur Dioxide) ion chromatography analysis was performed with a Dionex, Model 4000I, Ion Chromatograph.

No analytical procedure errors occurred during the analysis phase of the testing program.

All pertinent analysis and analytical data can be found in Appendix C of this report.

6.0 QUALITY ASSURANCE PROCEDURES

Each reference method presented in the Code of Federal Regulations details the instrument calibration requirements, sample turnover and analysis, data reduction and verification, types of equipment required and the appropriate sampling and analytical procedures to assure maximum performance and accuracy. GSA, and GSA's affiliates and subcontractors adhere to the guidelines for quality control set forth by the United States Environmental Protection Agency. These procedures are outlined in the following documents:

Code of Federal Regulations, Title 40, Part 60

Code of Federal Regulations, Title 40, Part 63

Quality Assurance Handbook, Volume 1, EPA 600/9-76-005

Quality Assurance Handbook, Volume 2, EPA 600/4-77-027a

Quality Assurance Handbook, Volume 3, EPA 600/4-77-027b

7.0 CONCLUSIONS

An emissions study was conducted for Jasper Municipal Electric Utility's Eligibility Demonstration Document to demonstrate compliance with the MACT health-based standards. Based on the emissions testing, the Boiler No. 1, Electrostatic Precipitator Exhaust demonstrated an average PM emission rate of 0.0294 lbs/MMBtu and an average Sulfur Dioxide emission rate of 2.33 lbs/MMBtu.

The usefulness and/or significance of the PM and Sulfur Dioxide emissions values presented in this document as they relate to the compliance status of the Boiler No. 1 based on process operating conditions shall be determined by others.

For additional information pertaining to the testing program see Appendix G at the end of this report.

S.A.I., LLC Rt. 2, Box 2165, Wheatland, MO 65779 TEL/FAX (417) 282-6140

EPA METHOD 1 – SITE DETERMINATION FIELD DATA SHEET

Client: Jasper Electric Project No.: 06-T-350
Source: Boiler No. 1 Date: 8/10/06

Flue Data:

Distance from far inside wall to outside of port	94	in.
Port length	6"	in.
I.D. or depth of flue	89	in.
Width of flue (rect.)	N/A	in.
Area of flue	43.24	sq. ft.
Equivalent dia., De =	2LW / (L+W)	

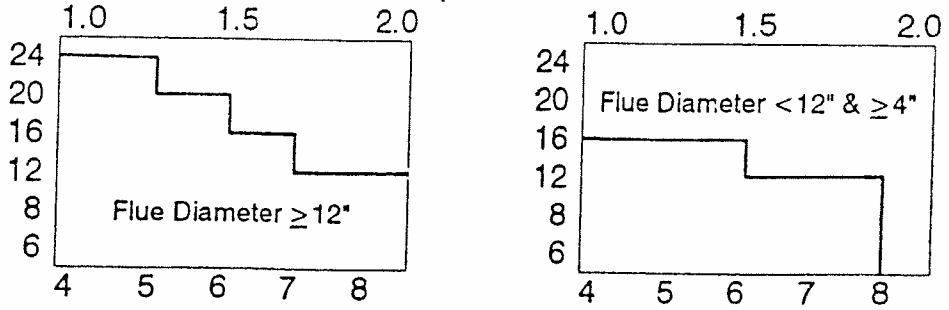
De = 98 in.

Distance from the nearest flow disturbance to the center line of the test ports:

Upstream (A)	Downstream (B)
____ in.	____ in.
Number of diameters 7.2 unitless	Number of diameters <2 unitless

Traverse Points Determination:

Diameters upstream from disturbance



Minimum number of traverse points

Diameters downstream from disturbance

Traverse Points Measurements:

Circular flue (Percentage of flue diameter) / Rectangular flue (Percentage of flue depth)

Point No.	2	4	6	8	10	(12)
1	14.6 / 25.0	6.7 / 12.5	4.4 / 8.3	3.2 / 6.3	2.6 / 5.0	2.1 / 4.2
2	85.4 / 75.0	25.0 / 37.5	14.6 / 25.0	10.5 / 18.8	8.2 / 15.0	6.7 / 12.5
3		75.0 / 62.5	29.6 / 41.7	19.4 / 31.3	14.6 / 25.0	11.8 / 20.8
4		93.3 / 87.5	70.4 / 58.3	32.3 / 43.8	22.6 / 35.0	17.7 / 29.2
5			85.4 / 75.0	67.7 / 56.3	34.2 / 45.0	25.0 / 37.5
6			95.6 / 91.7	80.6 / 68.8	65.8 / 55.0	35.6 / 45.8
7				89.5 / 81.3	77.4 / 65.0	64.4 / 54.2
8				96.8 / 93.8	85.4 / 75.0	75.0 / 62.5
9					91.8 / 85.0	82.3 / 70.8
10					97.4 / 95.0	88.2 / 79.2
11						93.3 / 87.5
12						97.9 / 95.8

Traverse Points Dimensions:

1	1.8 in.	7	56.67 in.
2	5.90 in.	8	66.00 in.
3	10.38 in.	9	72.42 in.
4	15.53 in.	10	77.62 in.
5	22.00 in.	11	82.10 in.
6	31.23 in.	12	86.15 in.

Sketch Of Flue

GSA, *INC.*

EPA Method 3 - Gas Analysis Field Data Sheet

Client	[illegible]	Project # 09-T-617	Fo = 20.9-%O2 / %CO2
Process	Plant 1	Unit 1	
Date	6/9/09	Fuel Type Coal	Fo = 1.083 to 1.230
IGS Analyzer I.D. #	GSA 1	Leak Check? No	(for bitum. coal)
Analyst	T. H. Gwaltney		

Run Number	Location	Bag I.D. Number	Trial	Percent CO2	Percent CO2 + O2	Percent O2	Analytical Time
1	Stack	IGW #1	1	7.6	21.5	13.9	9:50
			2	7.7	21.6	13.5	
			3	7.6	21.5	13.9	
			Average	7.6	21.5	13.9	
2	Stack	IGW #2	1	12.4	20.8	8.6	10:30
			2	12.7	21.1	8.4	
			3	12.7	21.0	8.3	
			Average	12.6	20.9	8.4	
3	Stack	IGW #3	1	12.9	20.7	7.8	12:05
			2	13.1	21.0	7.9	
			3	13.1	21.2	7.9	
			Average	13.0		7.9	
			1				
			2				
			3				
			Average				
			1				
			2				
			3				
			Average				
			1				
			2				
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			2				
			3				
			Average				
			1				
			2				
			3				
			Average				
			1				
			2				
			3				
			Average				

COMMENTS:

G/SA, *INC.*

PO Box 807, Crown Point, IN 46307 Tel / Fax (219) 661-9900 / 9902

EPA METHOD 5 Testing - Field Data Sheet

Run #	1	Sampling Location	OUTLET		
Client	JASPER	Project No.	08-1-017	Schematic of Stack Cross Section	
Plant	JASPER, IN	Unit	BOILER NO 1		
Date	06/09/2009	Project Site	JASPER, IN		
Meter Operator	D.GUENTHER				
Probe Operator	J.WILSON				

Ambient Temp. (F)	80	Baro. Press. (in. Hg)	29.33		
Assumed Moisture (%)	5	Stack Area (Sq. Ft.)	42.21		
Nozzle No.	0.303	Probe Length (ft.)	8		
Nozzle Diameter (in.)	0.303	Probe Liner Material	SS		
Nozzle Material	SS	Probe Heater Setting (°F)	250		
Probe No.	8-1	Oven Heater Setting (°F)	250		

Control Unit #	90432	Meter Y (C Factor)	0.977		
Filter Oven #	1019	Meter Delta H@	1.773		
Impinger Unit #	1	Meter K / Orifice Factor	3.198		
Pitot #	8-1	Pitot Cp	0.84		
Pitot Leak Check: Initial	ok	Final	ok		
DGM Leak Rate Before:	0	CFM@ in Hg	15		
DGM Leak Rate After:	0	CFM@ in Hg	4.0		
Static Pressure (± in. H2O)			-0.35		

First traverse point all the way	In	Out			
Inside Dimension(s) (in.)	Port Dimen. (in.)	Gas Flow Direction			
Diameter ____	Dia. ____	In ____			
L W	L	Out			
Filter #(s)	08-159				
Front-half #(s)	0				
Back-half #(s)	0				

%CO2	13.9	%O2	7.6		
Condensate (g/ml)	79	Silica Gel (g)	0		
Total Vlc (ml)	79				
Total Test Run Sampling Time	60 Minutes				
Start Time	07.07 AM	Stop Time	08:11 AM		

Traverse Point Number	Stop-watch Time Minutes / Sample Point	Stack Gas Temp. Ts (°F)	Velocity Head Delta Ps (in. H2O)	Sq. Root Velocity Head Delta Ps (in. H2O)	Dry Gas Meter Sample Volume Vm (Ft³)	Orifice Meter Pressure Differential Delta H (in. H2O)	Dry Gas Meter Temp Tm (°F)			Various Testing Procedures		Notes
	2.5				Initial Volume 727.942							
1	2.5	369	0.35	0.592		2.05	88					
2	5	369	0.37	0.608		2.29	88			Imp. pH =	N.A.	
3	7.5	369	0.38	0.616		2.29	88					
4	10	371	0.37	0.608		2.17	88			Start Purge	N.A.	
5	12.5	371	0.35	0.592		2.05	88			Stop Purge	N.A.	
6	15	371	0.34	0.583		2.00	89					
7	17.5	374	0.28	0.529		1.69	89			Pretest Nozzle Cal:		
8	20	374	0.34	0.583		1.69	88			A = "	0.305	
9	22.5	375	0.34	0.583		1.99	89			B = "	0.302	
10	25	375	0.3	0.548		1.75	89			C = "	0.302	
11	27.5	374	0.26	0.510		1.52	89			Avg. = "	0.303	
12	30	374	0.29	0.539		1.70	90					
1	32.5	374	0.31	0.557		1.83	91			Post Test Nozzle Cal:		
2	35	374	0.3	0.548		1.77	91			A = "	0.302	
3	37.5	374	0.22	0.469		1.30	92			B = "	0.303	
4	40	374	0.08	0.283		0.47	92			C = "	0.303	
5	42.5	374	0.07	0.265		0.41	92			Avg. = "	0.303	
6	45	374	0.1	0.316		0.59	92					
7	47.5	375	0.39	0.624		2.31	92					
8	50	376	0.45	0.671		2.66	92					
9	52.5	376	0.42	0.648		2.48	92					
10	55	376	0.45	0.671		2.66	92					
11	57.5	376	0.35	0.592		2.07	92					
12	60	376	0.28	0.529		1.65	93					
FINAL VOLUME					771.287							
Average / Total		373.5		0.544	43.345	1.81	90.3					

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EPA METHOD 5 Testing - Field Data Sheet

Run # 1 **Sampling Location** OUTLET

Client	JASPER	Project No.	08-1-617
Plant	JASPER, IN	Unit	BOILER NO 1
Date	06/09/2009	Project Site	JASPER, IN
Meter Operator	D.GUENTHER		
Probe Operator	J.WILSON		

Schematic of Stack Cross Section

Ambient Temp. (°F)	80	Baro. Press. (in. Hg)	29.33		
Assumed Moisture (%)	5	Stack Area (Sq. Ft.)	42.21		
Nozzle No.	0.303	Probe Length (ft.)	8		
Nozzle Diameter (in.)	0.303	Probe Liner Material	SS		
Nozzle Material	SS	Probe Heater Setting (°F)	250		
Probe No.	8-1	Oven Heater Setting (°F)	250		
Control Unit #	90432	Meter Y (C Factor)	0.977	First traverse point all the way	In Out
Filter Oven #	1019	Meter Delta H@	1.773	Inside Dimension(s) (in.)	Port Dimen. (in.) / Gas Flow Direction
Impinger Unit #	1	Meter K / Orifice Factor	3.198	Diameter ____	Dia. ____ In ____
Pitot #	8-1	Pitot Cp	0.84	L W	L Out
Pitot Leak Check: Initial	ok	Final	ok	Filter #(s)	08-159
DGM Leak Rate Before:	0	CFM@ in Hg	15	Front-half #(s)	0
DGM Leak Rate After:	0	CFM@ in Hg	4.0	Back-half #(s)	0
Static Pressure (± in. H2O)		-0.35			
%CO2	13.9	%O2	7.6		
Condensate (g/ml)	79	Silica Gel (g)	0		
Total Vlc (ml)	79				
Total Test Run Sampling Time	60 Minutes				
Start Time	07:07 AM	Stop Time	08:11 AM		

Traverse Point Number	Stop-watch Time Minutes / Sample Point 2.5	Stack Gas Temp. Ts (°F)	Velocity Head Delta Ps (in. H2O)	Sq. Root Velocity Head Delta Ps (in. H2O)	Dry Gas Meter Sample Volume Vm (Ft³) Initial Volume 727.942	Orifice Meter Pressure Differential Delta H (in. H2O)	Dry Gas Meter Temp. Tm (°F)			Notes
1	2.5	369	0.35	0.592		2.05	88			
2	5	369	0.37	0.608		2.29	88		Imp. pH = N.A.	
3	7.5	369	0.38	0.616		2.29	88			
4	10	371	0.37	0.608		2.17	88		Start Purge N.A.	
5	12.5	371	0.35	0.592		2.05	88		Stop Purge N.A.	
6	15	371	0.34	0.583		2.00	89			
7	17.5	374	0.28	0.529		1.69	89		Pretest Nozzle Cal:	
8	20	374	0.34	0.583		1.69	88		A = " 0.305	
9	22.5	375	0.34	0.583		1.99	89		B = " 0.302	
10	25	375	0.3	0.548		1.75	89		C = " 0.302	
11	27.5	374	0.26	0.510		1.52	89		Avg. = " 0.303	
12	30	374	0.29	0.539		1.70	90			
1	32.5	374	0.31	0.557		1.83	91		Post Test Nozzle Cal:	
2	35	374	0.3	0.548		1.77	91		A = " 0.302	
3	37.5	374	0.22	0.469		1.30	92		B = " 0.303	
4	40	374	0.08	0.283		0.47	92		C = " 0.303	
5	42.5	374	0.07	0.265		0.41	92		Avg. = " 0.303	
6	45	374	0.1	0.316		0.59	92			
7	47.5	375	0.39	0.624		2.31	92			
8	50	376	0.45	0.671		2.66	92			
9	52.5	376	0.42	0.648		2.48	92			
10	55	376	0.45	0.671		2.66	92			
11	57.5	376	0.35	0.592		2.07	92			
12	60	376	0.28	0.529		1.65	93			
FINAL VOLUME					771.287					
Average / Total		373.5		0.544	43.345	1.81	90.3			

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EPA METHOD 5 Testing - Field Data Sheet

Run # 3 **Sampling Location** OUTLET

Client	JASPER	Project No.	08-T-617
Plant	JASPER, IN	Unit	BOILER NO 1
Date	06/09/2009	Project Site	JASPER, IN
Meter Operator	D.GUENTHER		
Probe Operator	J.WILSON		

Schematic of Stack Cross Section

Ambient Temp. (°F)	70	Baro. Press. (in. Hg)	29.33
Assumed Moisture (%)	5	Stack Area (Sq. Ft.)	42.21

Nozzle No.	0.303	Probe Length (ft.)	8
Nozzle Diameter (in.)	0.303	Probe Liner Material	SS
Nozzle Material	SS	Probe Heater Setting (°F)	250
Probe No.	8-1	Oven Heater Setting (°F)	250

Control Unit #	90432	Meter Y (C Factor)			0.977
Filter Oven #	1019	Meter Delta H@			1.773
Impinger Unit #	3	Meter K / Orifice Factor			3.198
Pitot #	8-1	Pitot Cp			0.84
Pitot Leak Check: Initial		OK	Final	OK	
DGM Leak Rate Before:		0	CFM@ in Hg		15
DGM Leak Rate After:		0	CFM@ in Hg		5.5
Static Pressure (± in. H2O)			-0.35		

First traverse point all the way In Out

Inside Dimension(s) (in.)	Port Dimen. (in.)	Gas Flow Direction
Diameter ____	Dia. ____	In ____
L W	L	Out
Filter #(s)	08-161	
Front-half #(s)	0	
Back-half #(s)	0	

%CO2	13.0	%O2	7.9
Condensate (g/ml)	87	Silica Gel (g)	0
Total Vlc (ml)	87		
Total Test Run Sampling Time	60 Minutes		
Start Time	10:33 AM	Stop Time	11:36 AM

Traverse Point Number	Stop-watch Time Minutes / Sample Point 2.5	Stack Gas Temp. Ts (°F)	Velocity Head Delta Ps (in. H2O)	Sq. Root Velocity Head Delta Ps (in. H2O)	Dry Gas Meter Sample Volume Vm (Ft³) Initial Volume 816.000	Orifice Meter Pressure Differential Delta H (in. H2O)	Dry Gas Meter Temp. Tm (°F)			Various Testing Procedures		Notes
1	2.5	374	0.37	0.608		2.22	96					
2	5	374	0.38	0.616		2.28	96			Imp. pH =	N.A.	
3	7.5	374	0.39	0.624		2.34	96					
4	10	375	0.36	0.600		2.16	95			Start Purge	N.A.	
5	12.5	375	0.29	0.539		1.76	96			Stop Purge	N.A.	
6	15	375	0.28	0.529		1.68	96					
7	17.5	376	0.29	0.539		1.74	96			Pretest Nozzle Cal:		
8	20	377	0.34	0.583		2.04	97			A = "	0.305	
9	22.5	377	0.37	0.608		2.22	97			B = "	0.302	
10	25	377	0.35	0.592		2.11	98			C = "	0.302	
11	27.5	377	0.32	0.566		1.93	98			Avg. = "	0.303	
12	30	375	0.28	0.529		1.69	98					
1	32.5	372	0.27	0.520		1.64	99			Post Test Nozzle Cal:		
2	35	376	0.25	0.500		1.51	99			A = "	0.302	
3	37.5	376	0.15	0.387		0.91	99			B = "	0.303	
4	40	376	0.07	0.265		0.42	99			C = "	0.303	
5	42.5	374	0.07	0.265		0.42	99			Avg. = "	0.303	
6	45	375	0.11	0.332		0.67	99					
7	47.5	376	0.35	0.592		2.13	100					
8	50	376	0.4	0.632		2.43	100					
9	52.5	376	0.43	0.656		2.61	100					
10	55	377	0.41	0.640		2.49	100					
11	57.5	376	0.31	0.557		1.89	101					
12	60	376	0.17	0.412		1.04	100					
FINAL VOLUM					860.222							
Average	al	375.5		0.529	44.222	1.76	98.1					

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Field Data Sheet

Run # 1 **Sampling Location** Outlet

Client	Jasper	Project #	
Plant	Jasper, IN	Unit	Boiler
Date	6/9/09	Project Site	Jasper IN
Meter Operator	DG		
Probe Operator	TW		

Schematic of Stack Cross Section

EPA Method

Ambient Temperature (°F)	86	Barometric Press. (in. Hg)	29.31
Assumed Moisture (%)	5	Calculated Moisture (%)	

Control Unit #	10432	Meter Y (C Factor)	0.977
Filter Oven #	1019	Meter Delta H@	1.773
Impinger Unit #	GSA #1	Meter K / Orifice Factor	3[illegible].148
Pitot #	S-1	Pitot Cp	0.84
Pitot Leak Check: Initial	OK DG	Final	DG
DGM Leak Rate Before:	0.00	CFM @ 15	in. Hg
DGM Leak Rate After:	0.00	CFM @ 4	in. Hg
Static Pressure (± in. H2O)		-0.35	

Nozzle #	0.303	Probe Length (ft.)	8
Nozzle Diameter (in.)		Probe Liner Material	SS
Nozzle Material	SS	Probe Heater Setting (°F)	256
Probe #	S-1	Oven Heater Setting (°F)	256

First traverse point all the way In Out

Inside Dimension(s) (in.)	Port Dimen. (in.)	Gas Flow Direction
Diameter ____	Dia. ____	In ____
L W	L	Out

Filter Number(s)		08-159	
Front-half Number(s)		C-12	
Back-half Number(s)			

IGS Bag #		IGS Analyzer #	
%CO2	13.9	%O2	7.6
Condensate (ml/g)	19	Silica Gel (g)	
Total Vlc (ml)		Total Acetone Wash (ml)	
Start Time (24 Hour)	07:07	Stop Time (24 Hour)	08:11

Traverse Point Number	Stop-watch Time Minutes / Sample Point	Stack Gas Temp. Ts (°F)	Velocity Head Delta Ps (in. H2O)	Orifice Meter Pressure Differential Delta H (in. H2O)	Dry Gas Meter Sample Volume Vm (Ft³)	Dry Gas Meter Temp. Tm (°F)	Probe Liner Temp. (°F)	Filter Oven Temp. (°F)	Impinger Outlet Temp. (°F)	Pump Vacuum (in. Hg)	Notes
	0				Initial Volume 727.942						
1	2.5	369	0.35	2.05	730.0	88	261	261	62	4	
2	5	369	[illegible]	2.29	732.0	88	252	257	61	4	
3	7.5	369	0.38	2.21	734.1	88	255	260	61	4	
4	10	371	0.37	2.17	736.1	88	258	264	62	4	
5	12.5	371	0.35	2.05	738.1	88	257	264	63	4	
6	15	371	0.34	2.00	740.0	89	257	258	63	4	
7	17.5	374	0.28	1.64	741.8	84	256	260	62	3	
8	20	374	0.34	1.99	743.7	88	255	257	62	4	
9	22.5	375	0.34	1.99	745.6	89	255	260	63	4	
10	25	375	0.30	1.75	747.5	89	249	257	62	3	
11	27.5	374	0.26	1.52	749.2	89	249	257	62	3	
12	30	374	0.29	1.76	751.091	90	257	261	62	3	
1	32.5	374	0.31	1.83	752.9	91	256	262	61	3	
2	35	374	0.30	1.77	754.8	91	258	261	61	3	
3	37.5	374	0.22	1.30	756.4	92	258	262	62	2	
4	40	374	0.08	0.47	757.4	92	258	257	62	1	
5	42.5	374	0.07	0.41	758.9	92	258	263	62	1	
6	45	374	0.10	0.59	759.9	92	258	263	63	1	
7	47.5	375	0.39	[illegible] 2.31	761.6	92	257	263	63	4	
8	50	376	0.45	2.66	763.4	92	258	263	63	4	
9	52.5	376	0.42	2.48	765.2	92	257	262	62	4	
10	55	376	0.45	2.66	767.1	[illegible]	256	263	64	4	
11	57.5	376	0.35	2.07	768.9	[illegible]	258	264	63	4	
12	60	377	0.28	1.65	771.287	93	255	258	63	4	

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Field Data Sheet

Run # 2 **Sampling Location** Outlet

Client	Jasper	Project #	
Plant	Jasper	Unit	Boiler No. 1
Date	6/09/09	Project Site	Jasper IN
Meter Operator	DG		
Probe Operator	JC		

Schematic of Stack Cross Section

EPA Method

Ambient Temperature (°F)	84	Barometric Press. (in. Hg)	29.33
Assumed Moisture (%)	5	Calculated Moisture (%)	

Control Unit #	96912	Meter Y (C Factor)	0.977
Filter Oven #		Meter Delta H@	1.77
Impinger Unit #	GSA #2	Meter K / Orifice Factor	1.148
Pitot #	S-1	Pitot Cp	0.84
Pitot Leak Check: Initial	DG OK	Final	DG OK
DGM Leak Rate Before:	0.0	CFM @ 15	in. Hg
DGM Leak Rate After:	0.0	CFM @ 4.5	in. Hg
Static Pressure (± in. H2O)	-0.35		

Nozzle #	0.305	Probe Length (ft.)	8
Nozzle Diameter (in.)	0.305	Probe Liner Material	SS
Nozzle Material	SS	Probe Heater Setting (°F)	250
Probe #	S-1	Oven Heater Setting (°F)	250

First traverse point all the way In Out

Inside Dimension(s) (in.)	Port Dimen. (in.)	Gas Flow Direction
Diameter ____	Dia. ____	In ____
L W	L	Out

Filter Number(s)	08166	IGS Bag #	IGS Analyzer #
Front-half Number(s)	03 54	%CO2 12	%O2 8.4
Back-half Number(s)		Condensate (ml/g) 105	Silica Gel (g)
		Total Vlc (ml)	Total Acetone Wash (ml)
		Start Time (24 Hour) 08:57	Stop Time (24 Hour) 10:07

Traverse Point Number	Stop-watch Time Minutes / Sample Point	Stack Gas Temp. Ts (°F)	Velocity Head Delta Ps (in. H2O)	Orifice Meter Pressure Differential Delta H (in. H2O)	Dry Gas Meter Sample Volume Vm (Ft³) Initial Volume	Dry Gas Meter Temp. Tm (°F)	Probe Liner Temp. (°F)	Filter Oven Temp. (°F)	Impinger Outlet Temp. (°F)	Pump Vacuum (in. Hg)	Notes
	0				771.546						
1	2.5	376	0.31	1.83	773.4	92	254	249	64	1	
2	5	377	0.27	1.54	775.2	92	262	262	62	1	
3	7.5	377	0.16	0.94	776.6	92	266	251	60	2	
4	10	377	0.08	0.47	777.6	92	258	249	60	1	
5	12.5	376	0.07	0.41	778.5	92	257	249	61	1	
6	15	377	0.10	0.59	779.7	92	260	250	61	1	
7	17.5	377	0.41	2.42	781.7	92	260	251	62	4	
8	20	377	0.44	2.60	784.1	92	255	251	63	4	
9	22.5	378	0.46	2.72	786.4	93	255	249	63	4.5	
10	25	379	0.36	2.11	788.4	93	257	256	62	4	
11	27.5	377	0.28	1.66	790.3	91	257	251	63	3	
12	30	372	0.17	1.97	792.177	94	257	251	64	3	
1	32.5	372	0.36	2.15	794.2	94	254	249	63	3.5	
2	35	374	0.39	2.32	796.4	94	258	251	64	4	
3	37.5	375	0.38	2.27	798.5	95	258	249	61	4	
4	40	376	0.36	2.15	800.5	95	257	248	64	4	
5	42.5	376	0.21	1.19	802.3	95	252	253	63	2	
6	45	377	0.22	1.31	804.8	95	250	253	63	2	
7	47.5	377	0.27	1.61	805.5	95	254	249	63	3	
8	50	377	0.35	2.09	807.5	95	260	248	63	4	
9	52.5	378	0.37	2.27	809.6	96	259	246	64	4	
10	55	378	0.26	2.15	811.6		260	250	63	4	
11	57.5	378	0.34	2.03	813.6		260	252	64	3	
12	60	378	0.30	1.79	815.514	96	260	252	64	3	

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Field Data Sheet

Run # 3 **Sampling Location** Ducts

EPA Method

Client	Jasper	Project #	
Plant	Jasper	Unit	Boiler No 1
Date	6/04/09	Project Site	Jasper, IN
Meter Operator	DG		
Probe Operator	JC		

Schematic of Stack Cross Section

Ambient Temperature (°F)	81	Barometric Press. (in. Hg)	28.31
Assumed Moisture (%)	5	Calculated Moisture (%)	

Nozzle #	0.503	Probe Length (ft.)	8
Nozzle Diameter (in.)	0.503	Probe Liner Material	SS
Nozzle Material	SS	Probe Heater Setting (°F)	250
Probe #	S-1	Oven Heater Setting (°F)	250

Control Unit #	90432	Meter Y (C Factor)	0.977
Filter Oven #	1015	Meter Delta H@	1.773
Impinger Unit #	GSA#3	Meter K / Orifice Factor	3.149
Pitot #	S-1	Pitot Cp	0.84
Pitot Leak Check: Initial	DG ok	Final	.76 ok
DGM Leak Rate Before:	0.00	CFM @ 15	in. Hg
DGM Leak Rate After:	0.00	CFM @ 5.5	in. Hg
Static Pressure (± in. H2O)		-0.35	

First traverse point all the way In Out

Inside Dimension(s) (in.)		Port Dimen. (in.)	Gas Flow Direction
Diameter		Dia.	In
L	W	L	Out

Filter Number(s)		08141	
Front-half Number(s)		20343	
Back-half Number(s)			

IGS Bag #		IGS Analyzer #	
%CO2	13.0	%O2	7.9
Condensate (ml/g)	57	Silica Gel (g)	
Total Vlc (ml)		Total Acetone Wash (ml)	
Start Time (24 Hour)	10:33	Stop Time (24 Hour)	11:36

Traverse Point Number	Stop-watch Time Minutes / Sample Point	Stack Gas Temp. Ts (°F)	Velocity Head Delta Ps (in. H2O)	Orifice Meter Pressure Differential Delta H (in. H2O)	Dry Gas Meter Sample Volume Vm (Ft³) Initial Volume 816.600	Dry Gas Metur Temp. Tm (°F)	Probe Liner Temp. (°F)	Filter Oven Temp. (°F)	Impinger Outlet Temp. (°F)	Pump Vacuum (in. Hg)	Notes
1	2.5	374	0.37	2.22	818.2	96	251	261	62	5	
2	5	374	0.38	2.28	820.47	96	252	260	61	5	
3	7.5	374	0.39	2.34	822.5	96	254	260	58	5	
4	10.5	375	0.36	2.16	824.4	95	253	261	57	4.5	
5	12.5	375	0.29	1.74	826.3	96	254	261	55	4	
6	15	375	0.28	1.68	828.2	96	254	261	55	4	
7	17.5	376	0.29	1.74	830.0	96	251	261	55	4	
8	20.5	377	0.34	2.04	832.0	97	249	254	55	4	
9	22.5	377	0.37	2.22	834.2	97	251	261	57	4.5	
10	25	377	0.35	2.11	836.2	98	250	255	58	4	
11	27.5	377	0.32	1.93	838.1	98	254	260	59	4	
12	30	375	0.28	1.69	839.930	98	252	257	60	4	
1	32.5	372	0.27	1.64	841.7	99	251	261	62	4	
2	35	376	0.25	1.51	843.5	99	252	260	61	4	
3	37.5	376	0.15	0.91	844.9	99	250	261	61	4.1	
4	40	376	0.07	0.42	845.9	99	251	260	61	1	
5	42.5	374	0.07	0.42	846.8	99	252	261	62	1	
6	45	375	0.11	0.67	848.0	99	251	263	62	1	
7	47.5	376	0.95	2.11	850.0	100	249	263	63	4.5	
8	50	376	0.40	2.41	852.2	100	244	262	63	5	
9	52.5	376	0.43	2.61	854.6	100	249	261	64	5	
10	55	377	0.41	2.49	856.8	2	244	261	64	5	
11	57.5	376	0.31	1.89	858.7	1	245	263	64	4.5	
12											

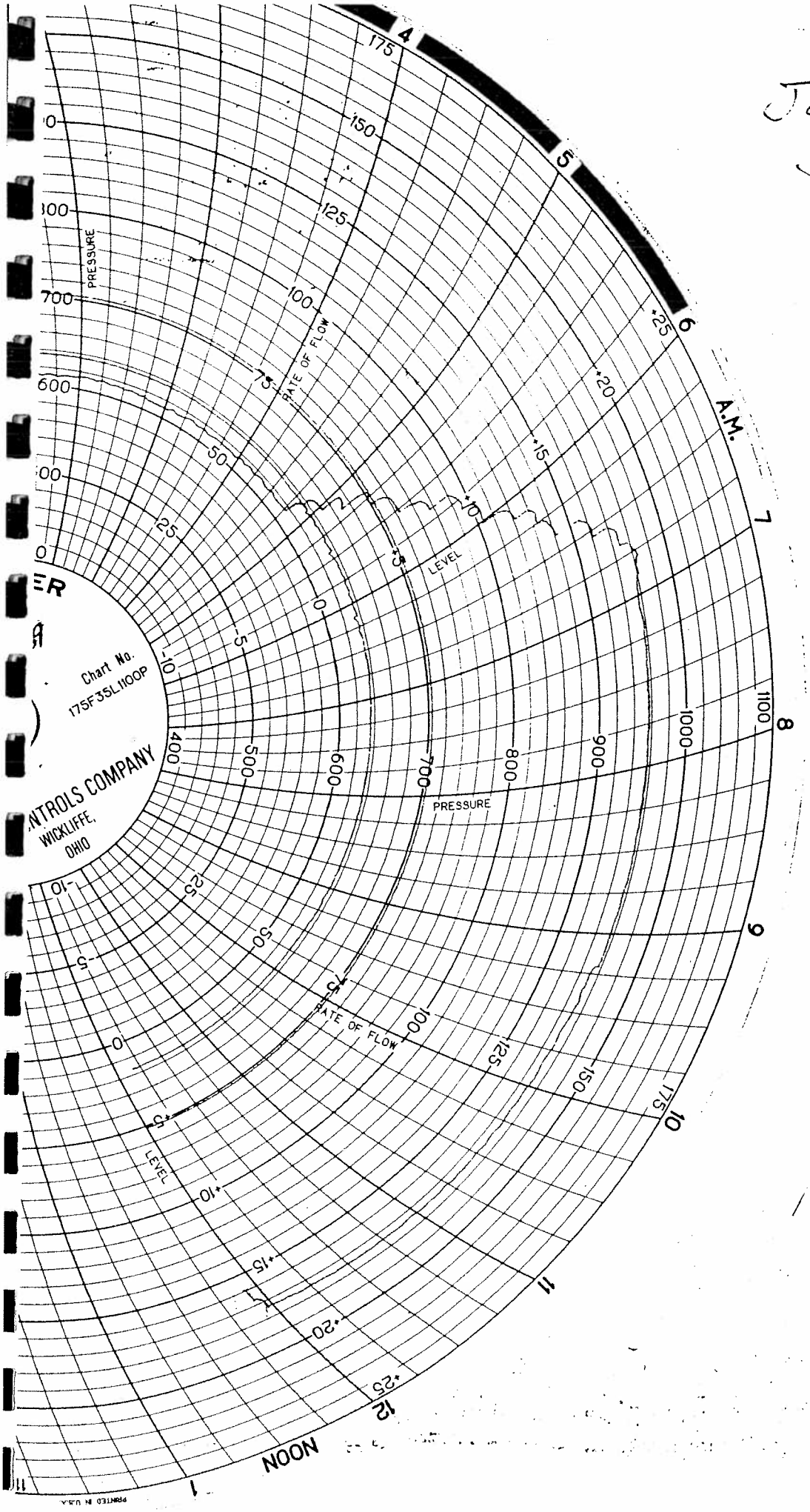
Data Listing Report (data0609.001)

Jasper Municipal
Jasper IN.
DAU# 001
Station ID Jasper In
Active Channels= 2

Time	Date	OP.Avg.(pct)
06:06	(06/09/2009)	1.72
06:12	(06/09/2009)	2.46
06:18	(06/09/2009)	3.76
06:24	(06/09/2009)	3.93
06:30	(06/09/2009)	4.34
06:36	(06/09/2009)	4.70
06:42	(06/09/2009)	5.30
06:48	(06/09/2009)	5.82
06:54	(06/09/2009)	4.91
07:00	(06/09/2009)	4.11
07:06	(06/09/2009)	4.22
07:12	(06/09/2009)	4.38
07:18	(06/09/2009)	4.47
07:24	(06/09/2009)	4.40
07:30	(06/09/2009)	4.41
07:36	(06/09/2009)	4.42
07:42	(06/09/2009)	4.47
07:48	(06/09/2009)	4.78
07:54	(06/09/2009)	5.18
08:00	(06/09/2009)	5.48
08:06	(06/09/2009)	5.13
08:12	(06/09/2009)	5.18
08:18	(06/09/2009)	5.61
08:24	(06/09/2009)	6.02
08:30	(06/09/2009)	6.46
08:36	(06/09/2009)	6.88
08:42	(06/09/2009)	7.15
08:48	(06/09/2009)	7.54
08:54	(06/09/2009)	8.27
09:00	(06/09/2009)	8.51
09:06	(06/09/2009)	8.13
09:12	(06/09/2009)	7.89
09:18	(06/09/2009)	7.87
09:24	(06/09/2009)	8.18
09:30	(06/09/2009)	8.35
09:36	(06/09/2009)	7.70
09:42	(06/09/2009)	7.52
09:48	(06/09/2009)	7.08
09:54	(06/09/2009)	6.72

10:06 (06/09/2009)	6.74
10:12 (06/09/2009)	6.48
10:18 (06/09/2009)	6.39
10:24 (06/09/2009)	6.40
10:30 (06/09/2009)	6.05
10:36 (06/09/2009)	6.02
10:42 (06/09/2009)	6.16
10:48 (06/09/2009)	6.13
10:54 (06/09/2009)	6.28
11:00 (06/09/2009)	6.42
11:06 (06/09/2009)	6.86
11:12 (06/09/2009)	6.97
11:18 (06/09/2009)	6.81
11:24 (06/09/2009)	6.82
11:30 (06/09/2009)	6.97
11:36 (06/09/2009)	7.44
11:42 (06/09/2009)	7.12
11:48 (06/09/2009)	7.24
11:54 (06/09/2009)	7.48
12:00 (06/09/2009)	6.90

	06/09/2009
	06:06
Minimum	1.72
6-minute Values	
Maximum	8.51
	09:00
	06/09/2009
Average	6.07
Total	363.91
Recovery %	100.00



Jasper Municipal
Jasper Dr.

Ray Flack
Plant
Supt.

6-9-09

GSA, INC. 1280 Arrowhead Ct., Suite 2, Crown Point, IN. 46307 TEL (219) 661-9900

PM GRAVIMETRIC ANALYSIS DATA SHEET

Client JASPER MUNICIPAL UTILITIES

Project No. 09-T-617

Source Tested BOILER NO. 1

Source Sampling Location OUTLET

Run No.	1
Filter No.	08-159
Acetone No.	6522
Amount of Liquid Lost During Transport, ml	0
Acetone Blank Volume, ml	100
Acetone Wash Volume, ml	100
Acetone Blank Concen., mg/mg (Eq 5-4)**	2.5E-006
Acetone Wash Blank, mg (Eq 5-5)**	0.20

Container Number	Weight of Particulate Collected, g Final Weight	Tare Weight	Weight Gain
08-159	0.3666	0.3553	0.0113
6522	4.2619	4.2367	0.0252
Total			0.0365
		Less Acetone Blank	0.0002
		Weight of Particulate Matter	**0.0363**

	Volume of Liquid Water Collected: Impinger Volume, ml/g	Silica Gel Weight, g	
Final		3552.0	
Initial		3473.0	
Liquid Collected		79.0	
Total Volume Collected	79.0	g*	ml

Run No.	3
Filter No.	08-161
Acetone No.	6524
Amount of Liquid Lost During Transport, ml	0
Acetone Blank Volume, ml	100
Acetone Wash Volume, ml	100
Acetone Blank Concen., mg/mg (Eq 5-4)**	2.5E-006
Acetone Wash Blank, mg (Eq. 5-5)**	0.20

Container Number	Weight of Particulate Collected, g Final Weight	Tare Weight	Weight Gain
08-161	0.3570	0.3541	0.0029
6524	4.2209	4.1931	0.0278
Total			0.0307
		Less Acetone Blank	0.0002
		Weight of Particulate Matter	**0.0305**

	Volume of Liquid Water Collected: Impinger Volume, ml/g	Silica Gel Weight, g	
Final		3505.0	
Initial		3418.0	
Liquid Collected		87.0	
Total Volume Collected	87.0	g*	ml

Run No.	2
Filter No.	08-160
Acetone No.	6523
Amount of Liquid Lost During Transport, ml	0
Acetone Blank Volume, ml	100
Acetone Wash Volume, ml	100
Acetone Blank Concen., mg/mg (Eq. 5-4)**	2.5E-006
Acetone Wash Blank, mg (Eq. 5-5)**	0.20

Container Number	Weight of Particulate Collected, g Final Weight	Tare Weight	Weight Gain
08-160	0.3544	0.3526	0.0018
6523	4.2465	4.2131	0.0334
Total			0.0352
		Less Acetone Blank	0.0002
		Weight of Particulate Matter	**0.0350**

	Volume of Liquid Water Collected: Impinger Volume, ml/g	Silica Gel Weight, g	
Final		3539.0	
Initial		3436.0	
Liquid Collected		103.0	
Total Volume Collected	103.0	g*	ml

Acetone Blank

Run No.(s)	1,2,3
Acetone Blank No.	153
Amount of Liquid Lost During Transport, ml	0
Acetone Blank Volume, ml	100
Acetone Blank Concen., mg/mg (Eq. 5-4)**	2.5E-006

Container Number	Weight of Acetone Residue, g Final Weight	Tare Weight	Weight Gain
153	105.0769	105.0767	**0.0002**

*Convert weight of water to volume by dividing total weight increase by density of water (1 g/ml):

$$\frac{\text{Increase, g}}{\text{1 g/ml}} = \text{Volume Water, ml}$$

**See Federal Register, Method 5, Sections 6.6 & 6.7

Analyst F. H. GUENTHER Date 06/11/2009

Keika Ventures

June 24, 2009

Mr. Fred Guenther
GSA, Inc.
1280 Arrowhead Ct., Suite 2
Crown Point, IN 46307

Dear Fred:

Enclosed are the sulfur dioxide (SO_2) results for your four samples collected June 9, 2009, received at the lab on June 12, 2009 and analyzed by US-EPA Method 8. This is your project Jasper Municipal Utilities. There were no problems noted by the lab with sample receipt or analysis.

A reagent Di water blank was archived as analysis of this fraction is not required by the method.

Sample results are reported in total mg.

Each sample was analyzed in duplicate per the method and the RPD's for all samples were less than 1% and within lab QC limits.

Let us know if you have any questions.

Sincerely,

Lorri L. White
Director of Analytical Services

P.O. Box 4704, Chapel Hill, North Carolina 27515 USA
T: 919.933.9569, F: 919.968.0064
www.keikaventures.com

Keika Ventures

PO Box 4704
Chapel Hill, NC 27515

Project Number: GSA061209

Sulfur Dioxide

EPA Method 8 Analysis

Analytical Report
12646

Element One, Inc.
5022-C Wrightsville Av., Wilmington, NC 28403
910-793-0128 FAX: 910-792-6853 e1lab@e1lab.com

The following data for Analytical Report 12646
has been reviewed for completeness, accuracy,
adherence to method protocol,
and compliance with quality assurance guidelines.

Review by:

Daphne Woodman, Chemist
June 22, 2009

Report Reviewed and Finalized By:

Ken Smith, Laboratory Director
June 22, 2009

SUMMARY OF RESULTS

Summary of Analysis

Summary of Method 8 Sulfur Dioxide Analysis

E1 ID# / Assay	Jasper R1 12646-1 Total mg	Jasper R2 12646-2 Total mg	Jasper R3 12646-3 Total mg	Jasper H_2O_2 Blank 12646-4 Total mg
Sulfur Dioxide	2790	2730	2540	0.772

Element One Analytical Narrative

Client:	Keika Ventures	Element One #:	12646
Client ID:	GSA061209	Analyst:	CMR
Method:	M8	Dates Received:	06/12/09
Analytes:	SO_2	Dates Analyzed:	06/17-24/09

Summary of Analysis

The samples were prepared according to Method 8 protocol, and analyzed for sulfur dioxide by barium-thorin titration.

Detection Limits

The EPA Method 8 reporting limit for sulfur dioxide was 0.3mg; based on a final volume 205mL and using an aliquot of 10mL.

Analysis QA/QC

All Laboratory QA/QC guidelines were followed in the analysis of the samples. Duplicate analyses relative percent difference (RPD) data is summarized in the quality control section. All QA/QC data was within the criteria of the method.

Additional Comments

The reported results have not been corrected for any blank values or spike recovery values.

Summary of Quality Control Data

Duplicate Analysis RPD

(Laboratory QC limits: <1% or ±0.2mL for RPD)

E1 ID#	Jasper R1 12646-1	Jasper R2 12646-2	Jasper R3 12646-3	Jasper H_2O_2 Blank 12646-4
Assay	RPD	RPD	RPD	RPD
Sulfur Dioxide	0.0%	0.8%	0.3%	0.0%

Analytical Calculations

Sulfur Dioxide Concentration-

$$C_{SO_2} = \frac{K * N * (V_t * FinalVolume)}{(Aliquot)}$$

Where-

K = 32.03 mg SO_2/meq for metric units,

N = Normality of barium standard titrant, meq/ml.--*M8 Calculation Sheet*

V_t = Volume of barium standard titrant used for the sample (average of replicate titration), ml.--*M8 Calculation Sheet*

Final Volume = Total volume of solution in which the SO_2 sample is contained.--*Sample Submission Form.*

Aliquot = Volume of solution taken for analysis.-- *M8 Calculation Sheet*

Duplicate Analysis RPD-

$$RPD\% = \frac{Duplicate\,Results(mg) - Sample\,Results(mg)}{Average(mg)} \times 100$$

Where-

Sample Result and Duplicate Results=Raw sample concentration (mg)-- *M8 Calculation Sheet*

$$\text{Average} = \frac{(Duplicate + Sample\ Results)}{2}$$

elementOne **AIR TESTING SAMPLE SUBMISSION FORM** **Lab ID 12646**

Analysis Due Date 06.22.09
QA/QC/Report Due Date 06.24.09

Client:	Keika
Project ID	GSA, Inc. 07-T-466

Date Rec:	06.12.09
Time Rec	1030

HNO_3 Lot:	HF Lot:	HCl Lot:	**Ref. Method:**
Volume Marked Y / N	Volume Loss Y / N ?	pH < 2.0 Y / N	**8**

Sample Identification

1	Jasper-M8-R1	4	Reagent Blank		
2	Jasper-M8-R2				
3	Jasper-M8-R3				

Analyses Requested: Samples 1-4 SO2

Runs/FB	Front Half					Back Half			
Lab ID	Quartz Filter	IPA Catch		IPA Wash		H2O2 Catch		Water Wash	
	ID	BV, ml	FV, ml	BV, ml	FV, ml	BV, ml	FV, ml	BV, ml	FV, ml
1						375			
2						380			
3						370			

Reagent Blanks

Lab ID	Fractions	BV, ml	FV, ml	Notes
4	IPA			
	H_2O_2	205		
	DI Water	110		Archive per LW via phone 6-12-09 BK

Lab Communications

SS Page 1 of 1
SS by BK
6/12/2009 1:57:47 PM

M8 Prep By / Date CMB 06/17/09
ID Verification By / Date RLC 6/12/09

ElementOne

Method 8 Calculation Sheet

Ref Method: EPA Methods 6 & 8

Client: Keika
Analyst: CMR

Date	06.24.09		Lab #: 12646
Time analysis begun	8:56		Duplicate All Samples
Time analysis finish	10:30		Duplicates must Agree By 1% or +/- 0.2ml
Sulfuric Acid (0.01N) Lot #:	WC1-77-7	IPA Lot #: CT323	
Barium Chloride Std (0.01N) Lot # :	WC1-84-1		
Thorin Indicater Lot # :	WC1-84-4	Minimum Titrant Vol, ml =	0.05

C_{SO_2}=(32.03*N*Vt*Final Vol.)/Alq.

- Calculated Normality of H_2SO_4 Titrant to Standardize BaCl: $N=(0.0098N_{H_2SO_4}*25mL_{S\ 0.01N\ H_2SO_4})/100mL_{S\ IPA}$ = 0.00245

$C_{H_2SO_4}$=(49.04*N*Vt*Final Vol.)/Alq.

Sample Number	Sample Final Volume, ml	Sample Volume, ml	Starting Titrant Vol, ml (S)	Final Titrant Vol, ml (F)	Titrant Vol, ml	Dilution (V)	Total SO_2, mg	Total H2SO4 (SO3) mg	% RPD	Comments
*Standardization		10	0.00	48.00	48.00	BaCl Normality (N)=		0.0118	*To be used in All Calculations.	
LRB	50	50	0.40	0.45	0.05	1	0.0			
12646-1	375	10	1.00	20.75	19.75	10	2789.7			NO COLOR CHANGE
12646-1	375	10	20.75	40.50	19.75	10	2789.7		0.00%	pH < 2
12646-2	380	10	0.00	19.15	19.15	10	2741.0			pH < 2
12646-2 DUP	380	10	19.15	38.15	19.00	10	2719.6		0.79%	
12646-3	370	10	0.00	18.25	18.25	10	2543.5			pH 6
12646-3 DUP	370	10	18.25	36.45	18.20	10	2536.5		0.27%	
12646-4	205	10	36.45	36.55	0.10	1	0.8			pH 6
12646-4 DUP	205	10	36.55	36.65	0.10	1	0.8		0.00%	
H2SO4 DL	100	100			0.05	1	0.02	0.03		
SO2 DL	100	100			0.05	1	0.02	0.03		
Submitted for QA/QC - Date		06.24.09		By: (Print)	Carolyn Ritscher			(sign)		

Lab No. 22872

Date Rec'd. 06/10/09

Date Sampled CLIENT

Sampled By

STANDARD LABORATORIES, INC.
EVANSVILLE, IN

JASPER MUNICIPAL UTILITIES
610 MAIN STREET
P.O. BOX 750
JASPER, IN 47547-0750

SAMPLE IDENTIFICATION

COAL SAMPLE
JUNE, 2009

DATE REPORTED: 06/13/09

	% Moisture	% Ash	%Volatile	% Fixed Carbon	B.T.U./LB.	% Sulfur
As Rec'd	13.80	7.72	XXXX	XXXX	11575	0.90
Dry Basis	-----	8.95	XXXX	XXXX	13428	1.05
M-A-Free					14748	
Method						

NOTE: XXXX INDICATES ANALYSIS WAS NOT PERFORMED

Respectfully Submitted, Teri Clark

TERI CLARK

TO: Mr. Fred Guenther – ~~Fax~~ ~~LP~~ Fax. 1-219-66-9[illegible] June 16th 2009

From: Windell Toby
Jasper Municipal Electric Utilities
Generation Dept.
1163 E. 15th Street Jasper, IN 47547

Pages 2

Fred here is a copy of the coal sample results from the June 9th 2009 stack test.

Windell Toby

Windell Toby

Generation Manager

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report
Coal Analysis

Source Name: Jasper Municipal Electric Utility
Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

2009

Month	COAL IN TONS Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate
APRIL	0.00	NA	NA	NA	
MAY	0.00	NA	NA	NA	
JUNE	1,048.27	1.30	11,817	8.35	2.15

HEAT RATE

16,569

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: Windell Toby

Date: 7-6-2009

Phone: (812) 482 - 3003

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

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Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

2009

Month	Coal Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate	HEAT RATE
JAN	4,846,720.00	0.79	11,695	7.10	1.32	15.20
FEB	1,942,660.00	1.75	12,357	6.72	2.76	14.14
MAR	NONE	NA	NA	NA	#VALUE!	

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: Windell Toby

Date: 4-1-2009

Phone: (812) 482 - 3003

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report
Coal Analysis

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Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

2008

Month	Coal Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate
OCT.	NONE	NA	NA	NA	NA
NOV.	204,480.00	NA	NA	NA	NA
DEC.	NONE	NA	NA	NA	NA

Heat Rate

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: Windell J. Toby

Date: 1-26-2009

Phone: (812) 482 - 3003

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report
Coal Analysis

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Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

2008

Month	Coal Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate	Heat Rate
JULY	5,280.90	0.57	11,638	9.40	0.96	15.24
AUGUST	5,299.65	0.47	11,389	8.76	0.81	14.75
SEPT.	3,088.85	0.44	11,315	8.20	0.76	15.46

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: _____

Date: _____

Phone: (812) 482 - 3003

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report
Coal Analysis

Source Name: Jasper Municipal Electric Utility
Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

2008

Month	Coal Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate
APRIL	5,447.85	0.52	11,660	9.34	0.87
MAY	258.68	NA	NA	NA	NA
JUNE	4,806.19	0.72	11,458	9.33	1.23

HEAT RATE
15,15
14,93

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: Windell J. Toby

Date: 7-7-2008

Phone: (812) 482 - 3003

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report
Coal Analysis

Source Name: Jasper Municipal Electric Utility
Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

2008

Month	Coal Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate	HEAT RATE
JAN	11,549,440.00	0.55	13103	10.48	0.82	15.03
FEB	10,984,520.00	0.89	13106	10.15	1.32	14.53
MAR	8,958,040.00	0.96	13146	10.35	1.42	15.01

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: _____

Date: _____

Phone: (812) 482 - 3003

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report
Coal Analysis

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Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

2007

Month	Coal Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate	HEAT RATE
OCT	3,203.21	1.42	11520	8.07	2.40	14,942
NOV	3,885.58	0.87	11405	8.09	1.49	14,958
DEC	3,568.03	0.42	11149	8.81	0.73	14,616

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: Windell Toby

Date: 1-15-08

Phone: (812) 482 - 3003

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report
Coal Analysis

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Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

2007

Month	Coal Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate	Heat Rate
JULY	3,325.14	1.16	11816	6.78	1.91	14.662
AUGUST	3,531.89	1.27	11876	7.06	2.09	15.801
SEPT	2,647.77	1.37	11569	7.00	2.31	20.486

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: Windell J Toby

Date: 10-3-07

Phone: (812) 482 - 3003

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report
Coal Analysis

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Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

Month	Coal Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate	Heat Rate
2007 APRIL	279.97	1.48	11664	7.25	2.47	14,952
MAY	3,160.18	1.48	11502	8.91	2.51	14,472
JUNE	2,312.72	1.17	11442	8.02	1.99	14,198

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: _____

Date: _____

Phone: (812) 482 - 3003

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report
Coal Analysis

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Source Address: 15th and Knust Streets, Jasper, Indiana 47546
Mailing Address: P.O. Box 750 Jasper, Indiana 47547- 0750
Part 70 Permit No. TO37- 6695 - 00002
Parameter: So2 Emission Rate

Month	Coal Consumption	Sulfur Content	Coal Heat Content	Ash Content	So2 Emission Rate	Heat Rate
2007 JAN.	3,660.58	0.74	11010	10.36	1.31	14.590
FEB.	3,038.98	0.35	11056	8.43	0.62	14.652
MARCH	3,473.00	0.81	11413	8.46	1.38	14.638

Submitted by: Windell J. Toby

Title / Position: Generation Plant Manager

Signature: Windell J. Toby

Date: 4-24-07

Phone: (812) 482 - 3003

Jasper Municipal Electic Utility
Coal Used in Generating (2004 - 2009)

		Coal Used (including delivery charge)				Ash Disposal Cost
		Pounds	Tons	$ Amount	Avg. per ton	
2004	Jan.	6,897,900	3,448.950	108,565.22	31.48	
	Feb	6,440,020	3,220.010	102,453.71	31.82	
	Mar	7,044,980	3,522.490	111,768.40	31.73	
	Apr	3,020,020	1,510.010	49,978.83	33.10	
	May	4,339,160	2,169.580	70,859.91	32.66	
	Jun	6,591,080	3,295.540	106,676.15	32.37	
	Jul	6,588,940	3,294.470	106,474.69	32.32	
	Aug	6,309,960	3,154.980	104,032.52	32.97	
	Sep	5,995,560	2,997.780	98,430.83	32.83	
	Oct	6,972,300	3,486.150	113,387.19	32.53	
	Nov	6,570,340	3,285.170	105,371.80	32.07	
	Dec	6,856,829	3,428.415	116,114.06	33.87	
		73,627,089	36,813.545	1,194,113.31	32.44	38,561.59
2005	Jan.	7,403,640	3,701.820	121,626.10	32.86	
	Feb	6,976,540	3,488.270	112,584.54	32.28	
	Mar	1,813,620	906.810	28,773.39	31.73	
	Apr	-	-	-	-	
	May	-	-	-	-	
	Jun	-	-	-	-	
	Jul	-	-	-	-	
	Aug	-	-	-	-	
	Sep	-	-	-	-	
	Oct	628,100	314.050	11,791.09	37.55	
	Nov	7,316,180	3,658.090	187,702.21	51.31	
	Dec	7,138,540	3,569.270	199,573.98	55.91	
		31,276,620	15,638.310	662,051.31	42.34	16,440.58
2006	Jan.	7,326,200	3,663.100	200,156.89	54.64	
	Feb	6,422,580	3,211.290	178,506.73	55.59	
	Mar	7,353,660	3,676.830	205,882.15	55.99	
	Apr	973,740	486.870	30,940.16	63.55	
	May	7,432,680	3,716.340	210,437.31	56.62	
	Jun	6,690,500	3,345.250	189,455.99	56.63	
	Jul	5,622,822	2,811.411	161,730.20	57.53	
	Aug	5,582,340	2,791.170	159,436.44	57.12	
	Sep	6,087,960	3,043.980	173,295.49	56.93	
	Oct	5,023,420	2,511.710	144,486.21	57.53	
	Nov	7,036,100	3,518.050	196,867.24	55.96	
	Dec	6,074,680	3,037.340	174,552.35	57.47	
		71,626,682	35,813.341	2,025,747.16	56.56	38,029.15

Jasper Municipal Electic Utility
Coal Used in Generating (2004 - 2009)

		Coal Used (including delivery charge)				Ash Disposal
		Pounds	Tons	$ Amount	Avg. per ton	Cost
2007	Jan.	7,373,220	3,686.610	203,412.32	55.18	3,963.60
	Feb	6,077,940	3,038.970	166,597.15	54.82	3,651.40
	Mar	6,945,380	3,472.690	187,902.67	54.11	4,084.74
	Apr	559,940	279.970	15,742.84	56.23	260.57
	May	6,320,360	3,160.180	174,214.99	55.13	3,469.22
	Jun	4,625,440	2,312.720	129,184.61	55.86	4,267.33
	Jul	6,650,280	3,325.140	186,977.89	56.23	4,160.42
	Aug	7,063,780	3,531.890	198,268.74	56.14	3,746.78
	Sep	5,295,540	2,647.770	148,075.65	55.92	3,053.83
	Oct	6,406,420	3,203.210	186,744.24	58.30	5,663.44
	Nov	7,771,160	3,885.580	220,822.71	56.83	4,759.75
	Dec	7,136,050	3,568.025	200,744.80	56.26	4,645.60
		72,225,510	36,112.755	2,018,688.61	55.90	45,726.68
2008	Jan.	11,549,440	5,774.720	319,429.31	55.32	8,300.41
	Feb	11,029,520	5,514.760	304,711.53	55.25	7,698.50
	Mar	8,958,040	4,479.020	247,957.46	55.36	7,449.20
	Apr	10,895,700	5,447.850	304,480.36	55.89	8,739.18
	May	517,360	258.680	14,456.55	55.89	660.95
	Jun	9,612,380	4,806.190	269,587.71	56.09	8,837.13
	Jul	10,561,320	5,280.660	382,379.70	72.41	8,784.67
	Aug	10,598,300	5,299.150	398,355.68	75.17	9,229.94
	Sep	6,177,700	3,088.850	230,236.63	74.54	5,585.96
	Oct	-	-	-	-	1,975.84
	Nov	204,480	102.240	7,632.57	74.65	-
	Dec	-	-	-	-	-
		80,104,240	40,052.120	2,479,227.50	61.90	67,261.78
2009	Jan.	4,846,720	2,423.360	147,672.27	60.94	2,406.99
	Feb	1,942,660	971.330	59,728.19	61.49	1,488.43
	Mar	-	-	2,925.24	-	137.86
	Apr	-	-	-	-	-
	May	-	-	-	-	-
	Jun	2,096,540	1,048.270	62,666.42	59.78	982.20
	Jul	-	-	-	-	-
	Aug	-	-	-	-	-
	Sep	-	-	-	-	-
	Oct	-	-	-	-	-
		8,885,920	4,442.960	272,992.12	61.44	5,015.48

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55 Electric Generation — RUN 1/19/09 TIME 13.43.03 PAGE 1

** DETAIL **

CONDENSED
INCOME STATEMENT FOR DECEMBER 31, 2008 (2008) MONTH 12 (2007)

		CURRENT MONTH AMOUNT	CURRENT MONTH PCT	YEAR-TO-DATE AMOUNT	YEAR-TO-DATE PCT	PREVIOUS YEAR MONTH	PREVIOUS YEAR YTD	VARIANCE YTD AMT	VARIANCE PCT
* ELECTRIC UTILITY SALES *									
Generation Sales									
4490 000	SALES OF GENERATED ELECTRI					367,079.99	4,003,731.06	4,003,731-	100-
IMPA Capacity Payment									
4495 000	IMPA CAPACITY PAYMENT	10,000.00-	100.00	3,486,233.22	100.00			3,486,233	
Other Generation Revenues									
4561 000	OTHER GENERATION REVENUES						437.10	437-	100-
NET SALES REVENUE		10,000.00-	100.00	3,486,233.22	100.00	367,079.99	4,004,168.16	517,935-	13-
* UTILITY OPERATION EXPENSES *									
Genrtn-Operating & Maint.									
5012 000	PRODUCTION SUPERVISION	990.00	9.90-	20,501.45	.59	1,630.93	19,480.91	1,021	5
5013 000	PRODUCTION MAINT. SUPERVIS	1,440.00	14.40-	20,929.35	.60	1,588.44	19,309.33	1,620	8
5020 000	OPERATING STEAM EXPENSE	959.86	9.60-	154,410.88	4.43	20,669.02	203,970.22	49,559-	24-
5022 000	OPERATING ELECTRIC EXPENSE	14,391.56	143.92-	244,708.28	7.02	19,391.17	255,094.95	10,387-	4-
5032 000	POWER PRODUCTION STANDBY P	240.00	2.40-	3,120.00	.09	200.00	2,600.00	520	20
5192 000	MISC. POWER PRODUCTION EXP	1,609.79	16.10-	26,498.31	.76	1,064.57	35,630.54	9,132-	26-
5311 000	PRODUCTION STEAM MAINTENAN	3,629.34	36.29-	114,265.92	3.28	1,888.60	131,317.78	17,052-	13-
5313 000	PRODUCTION STRUCTURE MAINT						36,952.05	36,952-	100-
5323 000	PRODUCTION ELECTRIC MAINTE	1,316.27	13.16-	25,800.64	.74	1,606.95	46,737.99	20,937-	45-
5363 000	MISC. PRODUCTION MAINTENAN						4,358.23	4,358-	100-
TOTAL	Genrtn-Operating & M	24,576.82	245.77-	610,234.83	17.50	48,039.68	755,452.00	145,217-	19-
Coal/Gas used in Generating									
5112 000	COAL ASH DISPOSAL			67,261.78	1.93	4,645.60	45,726.68	21,535	47
5122 000	COAL USED IN GENERATING			2,479,227.50	71.11	200,744.80	2,018,688.61	460,539	23
TOTAL	Coal/Gas used in Gen	.00	.00	2,546,489.28	73.04	205,390.40	2,064,415.29	482,074	23
Admin. & General Expense									
9201 000	ADMINISTRATIVE & GEN. SALA	5,734.31	57.34-	92,542.02	2.65	6,183.80	90,238.94	2,303	3
9202 000	CITY ATTORNEY SALARY	392.60	3.93-	4,318.58	.12	348.45	4,529.78	211-	5-
9203 000	SAFETY DIRECTOR SALARY	278.84	2.79-	3,620.66	.10	247.49	3,217.26	403	13
9211 000	EMPLOYEE BENEFITS EXPENSE	21,838.04	218.38-	244,281.68	7.01	25,049.80	299,103.66	54,822-	18-
9221 000	OFFICE SUPPLIES AND EXPENS	605.14	6.05-	8,879.55	.25	897.04	9,106.09	227-	2-
9221 374	- Utilities Expense	8,829.32	88.29-	273,443.51	7.84	23,897.49	278,685.25	5,242-	2-
9221	OFFICE SUPPLIES AND EXPENSES	9,434.46	94.34-	282,323.06	8.10	24,794.53	287,791.34	5,468-	2-
9231 000	OUTSIDE SERVICES EMPLOYED			2,741.80	.08		3,727.20	985-	26-
9231 376	- Electric Rate Study	4,000.00	40.00-	20,000.00	.57			20,000	
9231	OUTSIDE SERVICES EMPLOYED	4,000.00	40.00-	22,741.80	.65		3,727.20	19,015	510
9241 000	PROPERTY INSURANCE EXPENSE	7,295.00	72.95-	88,631.06	2.54	7,404.11	96,487.46	7,856-	8-
9241 385	- Auto Insurance	44.07	.44-	468.67	.01	38.60	650.04	181-	28-
9241 386	- Self-Ins. Liab. Claims	909.63	9.10-	11,030.31	.32	848.76	11,302.17	272-	2-
9241	PROPERTY INSURANCE EXPENSE	8,248.70	82.49-	100,130.04	2.87	8,291.47	108,439.67	8,310-	8-
9251 000	SAFETY EQUIPMENT EXPENSE			2.76			201.81	199-	99-
9261 000	COMPUTER AND RELATED EQUIP	106.44	1.06-	544.60	.02		285.84	259	91

** DETAIL ** C O N D E N S E D INCOME STATEMENT FOR DECEMBER 31, 2008 MONTH 12

	CURRENT MONTH AMOUNT	PCT	YEAR-TO-DATE AMOUNT	PCT	PREVIOUS YEAR MONTH	YTD	VARIANCE YTD AMT	PCT
9271 000 EDUCATION AND TRAINING	13.77	.14-	1,917.09	.05	17.76	522.84	1,394	267
9271 394 - Safety Training			39.13				39	
9271 EDUCATION AND TRAINING	13.77	.14-	1,956.22	.06	17.76	522.84	1,433	274
9281 392 - Operating Permits	3,900.32	39.00-	46,904.50	1.35	1,648.62	19,884.10	27,020	136
9281 393 - Regulatory Compliance			7,069.14	.20	13,081.39	18,520.84	11,452-	62-
9281 REGULATORY AGENCIES EXPENSE	3,900.32	39.00-	53,973.64	1.55	14,730.01	38,404.94	15,569	41
9301 000 MISCELLANEOUS GENERAL EXPE	471.63	4.72-	4,789.50	.14	808.72	5,871.51	1,082-	18-
9321 398 - Inventory Adjustment Exp	20,980.32	209.80	20,980.32-	.60-	7,628.92	7,628.92	28,609-	375-
9331 000 LEGAL/PERSONNEL/ENGRG EXPE	838.00-	8.38	1,754.00	.05	1,110.21-	1,751.79	2	
TOTAL Admin. & General Exp	32,600.79	326.01-	791,998.24	22.72	86,990.74	851,715.50	59,717-	7-
Depreciation Expense								
4030 000 DEPRECIATION EXPENSE	21,733.71	217.34-	260,794.07	7.48	21,734.20	260,792.30	2	
Social Security Tax Expense								
4080 000 SOCIAL SECURITY TAX	3,457.58	34.58-	49,230.08	1.41	4,048.80	52,699.08	3,469-	7-
TOTAL UTILITY OPERATION EXPENSE	82,368.90	823.69-	4,258,746.50	122.16	366,203.82	3,985,074.17	273,672	7
OPERATING PROFIT OR LOSS-	92,368.90-	923.69	772,513.28-	22.16-	876.17	19,093.99	791,607-	146-
* OTHER INCOME- & EXPENSE ITEMS *								
Interest Income-								
4190 000 INTEREST INCOME	597.96-	5.98	25,770.79-	.74-	6,645.93-	75,604.73-	49,834	66-
Interest Expense								
4270 000 INTEREST EXPENSE					650.72	11,049.13	11,049-	100-
Gain- or Loss Retired Assets								
4140 000 GAIN/LOSS RETIRED ASSETS			24.91			1,668.24	1,643-	99-
In Lieu of Taxes Expense								
4081 000 IN LIEU OF TAXES EXPENSE(C	4,481.00	44.81-	50,801.00	1.46	3,986.00	47,358.00	3,443	7
Misc. Amortization Expense								
4280 169 - 2003 Refunding Bonds					336.91	4,043.25	4,043-	100-
4281 169 - 2003 Refunding Bonds					535.98	6,431.76	6,432-	100-
4282 169 - 2003 Refunding Bonds					2,012.49	24,148.34	24,148-	100-
TOTAL Misc. Amortization E	.00	.00	.00	.00	2,885.38	34,623.35	34,623-	100-
Misc. Non-operating Expense								
4260 410 - Arbitrage Rebate - 2003			9,274.56	.27			9,275	
TOTAL OTHER INCOME- & EXPENSE	3,883.04	38.83-	34,329.68	.98	876.17	19,093.99	15,236	80
NET INCOME OR LOSS-	96,251.94-	962.52	806,842.96-	23.14-	.00	.00	806,843-	0

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55 Electric Generation
C O N D E N S E D
** DETAIL ** INCOME STATEMENT FOR DECEMBER 31, 2007 (2007)

RUN 10/07/08 TIME 10.33.58 PAGE 1

MONTH 12 (2006)

		CURRENT MONTH AMOUNT	CURRENT MONTH PCT	YEAR-TO-DATE AMOUNT	YEAR-TO-DATE PCT	PREVIOUS YEAR MONTH	PREVIOUS YEAR YTD	VARIANCE YTD AMT	VARIANCE PCT
* ELECTRIC UTILITY SALES *									
Generation Sales									
4490 000	SALES OF GENERATED ELECTRI	367,079.99	100.00	4,003,731.06	99.99	326,451.42	3,848,935.31	154,796	4
Other Generation Revenues									
4561 000	OTHER GENERATION REVENUES			437.10	.01		191.70	245	128
NET SALES REVENUE		367,079.99	100.00	4,004,168.16	100.00	326,451.42	3,849,127.01	155,041	4
* UTILITY OPERATION EXPENSES *									
Genrtn-Operating & Maint.									
5012 000	PRODUCTION SUPERVISION	1,630.93	.44	19,480.91	.49	2,206.02	22,574.10	3,093-	14-
5013 000	PRODUCTION MAINT. SUPERVIS	1,588.44	.43	19,309.33	.48	2,093.22	22,448.87	3,140-	14-
5020 000	OPERATING STEAM EXPENSE	20,669.02	5.63	203,970.22	5.09	11,249.01	195,266.73	8,703	4
5022 000	OPERATING ELECTRIC EXPENSE	19,391.17	5.28	255,094.95	6.37	26,723.91	248,227.37	6,868	3
5032 000	POWER PRODUCTION STANDBY P	200.00	.05	2,600.00	.06	250.00	2,600.00		
5192 000	MISC. POWER PRODUCTION EXP	1,064.57	.29	35,630.54	.89	2,890.14	44,778.07	9,148-	20-
5311 000	PRODUCTION STEAM MAINTENAN	1,888.60	.51	131,317.78	3.28	4,421.31	57,184.54	74,133	130
5313 000	PRODUCTION STRUCTURE MAINT			36,952.05	.92		26,838.49	10,114	38
5323 000	PRODUCTION ELECTRIC MAINTE	1,606.95	.44	46,737.99	1.17	2,036.15	28,909.09	17,829	62
5363 000	MISC. PRODUCTION MAINTENAN			4,358.23	.11		14,234.18	9,876-	69-
TOTAL	Genrtn-Operating & M	48,039.68	13.09	755,452.00	18.87	51,869.76	663,061.44	92,391	14
Coal/Gas used in Generating									
5112 000	COAL ASH DISPOSAL	4,645.60	1.27	45,726.68	1.14	3,426.46	38,029.15	7,698	20
5122 000	COAL USED IN GENERATING	200,744.80	54.69	2,018,688.61	50.41	174,552.35	2,025,747.16	7,059-	
TOTAL	Coal/Gas used in Gen	205,390.40	55.95	2,064,415.29	51.56	177,978.81	2,063,776.31	639	
Admin. & General Expense									
9201 000	ADMINISTRATIVE & GEN. SALA	6,183.80	1.68	90,238.94	2.25	6,734.73	90,316.88	78-	
9202 000	CITY ATTORNEY SALARY	348.45	.09	4,529.78	.11	845.80	4,397.84	132	3
9203 000	SAFETY DIRECTOR SALARY	247.49	.07	3,217.26	.08	600.71	3,123.67	94	3
9211 000	EMPLOYEE BENEFITS EXPENSE	25,049.80	6.82	299,103.66	7.47	29,974.05	264,192.97	34,911	13
9221 000	OFFICE SUPPLIES AND EXPENS	897.04	.24	9,106.09	.23	692.04	10,109.16	1,003-	10-
9221 374	- Utilities Expense	23,897.49	6.51	278,685.25	6.96	19,456.62	240,423.62	38,262	16
9221	OFFICE SUPPLIES AND EXPENSES	24,794.53	6.75	287,791.34	7.19	20,148.66	250,532.78	37,259	15
9231 000	OUTSIDE SERVICES EMPLOYED			3,727.20	.09	1,386.80	2,798.00	929	33
9241 000	PROPERTY INSURANCE EXPENSE	7,404.11	2.02	96,487.46	2.41	8,167.93	106,968.83	10,481-	10-
9241 385	- Auto Insurance	38.60	.01	650.04	.02	57.28	528.50	122	23
9241 386	- Self-Ins. Liab. Claims	848.76	.23	11,302.17	.28	1,012.90	11,146.35	156	1
9241	PROPERTY INSURANCE EXPENSE	8,291.47	2.26	108,439.67	2.71	9,238.11	118,643.68	10,204-	9-
9251 000	SAFETY EQUIPMENT EXPENSE			201.81	.01		262.84	61-	23-
9261 000	COMPUTER AND RELATED EQUIP			285.84	.01	47.04	1,669.61	1,384-	83-
9271 000	EDUCATION AND TRAINING	17.76		522.84	.01		3,142.32	2,619-	83-
9281 392	- Operating Permits	1,648.62	.45	19,884.10	.50	2,705.60	32,567.86	12,684-	39-
9281 393	- Regulatory Compliance	13,081.39	3.56	18,520.84	.46		14,867.75	3,653	25
9281	REGULATORY AGENCIES EXPENSE	14,730.01	4.01	38,404.94	.96	2,705.60	47,435.61	9,031-	19-
9301 000	MISCELLANEOUS GENERAL EXPE	808.72	.22	5,871.51	.15	360.68	5,363.09	508	9

** DETAIL ** C O N D E N S E D INCOME STATEMENT FOR DECEMBER 31, 2007 MONTH 12

	CURRENT MONTH AMOUNT	PCT	YEAR-TO-DATE AMOUNT	PCT	PREVIOUS YEAR MONTH	YTD	VARIANCE YTD AMT	PCT
9321 398 - Inventory Adjustment Exp	7,628.92	2.08	7,628.92	.19	1,909.45-	1,909.45-	9,538	500-
9331 000 LEGAL/PERSONNEL/ENGRG EXPE	1,110.21-	.30-	1,751.79	.04	1,743.04-	1,314.96	437	33
TOTAL Admin. & General Exp	86,990.74	23.70	851,715.50	21.27	68,389.69	791,284.80	60,431	8
City Web Site Expenses								
9229 000 CITY WEB SITE EXPENSES						79.50	80-	100-
Depreciation Expense								
4030 000 DEPRECIATION EXPENSE	21,734.20	5.92	260,792.30	6.51	21,733.43	259,329.55	1,463	1
Social Security Tax Expense								
4080 000 SOCIAL SECURITY TAX	4,048.80	1.10	52,699.08	1.32	5,012.68	50,605.00	2,094	4
TOTAL UTILITY OPERATION EXPENSE	366,203.82	99.76	3,985,074.17	99.52	324,984.37	3,828,136.60	156,938	4
OPERATING PROFIT OR LOSS-	876.17	.24	19,093.99	.48	1,467.05	20,990.41	1,896-	9-
* OTHER INCOME- & EXPENSE ITEMS *								
Interest Income-								
4190 000 INTEREST INCOME	6,645.93-	1.81-	75,604.73-	1.89-	7,057.07-	83,956.57-	8,352	10-
Interest Expense								
4270 000 INTEREST EXPENSE	650.72	.18	11,049.13	.28	1,730.85	23,483.50	12,434-	53-
Gain- or Loss Retired Assets								
4140 000 GAIN/LOSS RETIRED ASSETS			1,668.24	.04		1,181.24	487	41
In Lieu of Taxes Expense								
4081 000 IN LIEU OF TAXES EXPENSE(C	3,986.00	1.09	47,358.00	1.18	3,908.00	45,659.00	1,699	4
Misc. Amortization Expense								
4280 169 - 2003 Refunding Bonds	336.91	.09	4,043.25	.10	336.94	4,043.28		
4281 169 - 2003 Refunding Bonds	535.98	.15	6,431.76	.16	535.98	6,431.76		
4282 169 - 2003 Refunding Bonds	2,012.49	.55	24,148.34	.60	2,012.35	24,148.20		
TOTAL Misc. Amortization E	2,885.38	.79	34,623.35	.86	2,885.27	34,623.24		
TOTAL OTHER INCOME- & EXPENSE	876.17	.24	19,093.99	.48	1,467.05	20,990.41	1,896-	9-
NET INCOME OR LOSS-	.00	.00	.00	.00	.00	.00	1,896-	9-

** DETAIL **

CONDENSED
INCOME STATEMENT FOR DECEMBER 31, 2006 MONTH 12
(2006) (2005)

	CURRENT MONTH AMOUNT	PCT	YEAR-TO-DATE AMOUNT	PCT	PREVIOUS YEAR MONTH	YTD	VARIANCE YTD AMT	PCT
* ELECTRIC UTILITY SALES *								
Generation Sales								
4490 000 SALES OF GENERATED ELECTRI	326,451.42	100.00	3,848,935.31	100.00	356,323.24	3,217,437.48	631,498	20
Other Generation Revenues								
4561 000 OTHER GENERATION REVENUES			191.70			328.90	137-	42-
NET SALES REVENUE	326,451.42	100.00	3,849,127.01	100.00	356,323.24	3,217,766.38	631,361	20
* UTILITY OPERATION EXPENSES *								
Genrtn-Operating & Maint.								
5012 000 PRODUCTION SUPERVISION	2,206.02	.68	22,574.10	.59	1,975.84	20,939.03	1,635	8
5013 000 PRODUCTION MAINT. SUPERVIS	2,093.22	.64	22,448.87	.58	1,963.80	20,662.15	1,787	9
5020 000 OPERATING STEAM EXPENSE	11,249.01	3.45	195,266.73	5.07	18,541.74	108,169.84	87,097	81
5022 000 OPERATING ELECTRIC EXPENSE	26,723.91	8.19	248,227.37	6.45	20,345.25	211,397.52	36,830	17
5032 000 POWER PRODUCTION STANDBY P	250.00	.08	2,600.00	.07	250.00	2,600.00		
5192 000 MISC. POWER PRODUCTION EXP	2,890.14	.89	44,778.07	1.16	7,053.02	51,149.53	6,371-	12-
5311 000 PRODUCTION STEAM MAINTENAN	4,421.31	1.35	57,184.54	1.49	5,278.36	142,823.75	85,639-	60-
5311 587 - Replace Boiler Tubes						36,355.00	36,355-	100-
5311 597 - Steam Boiler Feed Pump						55,661.82	55,662-	100-
5311 PRODUCTION STEAM MAINTENANCE	4,421.31	1.35	57,184.54	1.49	5,278.36	234,840.57	177,656-	76-
5313 000 PRODUCTION STRUCTURE MAINT			26,838.49	.70		439.87	26,399	,001
5323 000 PRODUCTION ELECTRIC MAINTE	2,036.15	.62	28,909.09	.75	2,456.86	63,977.63	35,069-	55-
5323 586 - Cooling Tower - Asbestos						35,629.86	35,630-	100-
5323 592 - Turbine Overhaul						186,257.71	186,258-	100-
5323 596 - Rotor Repair						531,259.37	531,259-	100-
5323 PRODUCTION ELECTRIC MAINTENANC	2,036.15	.62	28,909.09	.75	2,456.86	817,124.57	788,215-	96-
5363 000 MISC. PRODUCTION MAINTENAN			14,234.18	.37	2,632.66	2,632.66	11,602	441
TOTAL Genrtn-Operating & M	51,869.76	15.89	663,061.44	17.23	60,497.53	1,469,955.74	806,894-	55-
Coal/Gas used in Generating								
5112 000 COAL ASH DISPOSAL	3,426.46	1.05	38,029.15	.99	3,519.40	16,440.58	21,589	131
5122 000 COAL USED IN GENERATING	174,552.35	53.47	2,025,747.16	52.63	199,573.98	662,051.31	1,363,696	206
TOTAL Coal/Gas used in Gen	177,978.81	54.52	2,063,776.31	53.62	203,093.38	678,491.89	1,385,284	204
Admin. & General Expense								
9201 000 ADMINISTRATIVE & GEN. SALA	6,734.73	2.06	90,316.88	2.35	6,301.47	85,292.23	5,025	6
9202 000 CITY ATTORNEY SALARY	845.80	.26	4,397.84	.11	441.64	4,593.14	195-	4-
9203 000 SAFETY DIRECTOR SALARY	600.71	.18	3,123.67	.08	312.74	3,252.59	129-	4-
9211 000 EMPLOYEE BENEFITS EXPENSE	29,974.05	9.18	264,192.97	6.86	30,109.75	303,063.07	38,870-	13-
9221 000 OFFICE SUPPLIES AND EXPENS	692.04	.21	10,109.16	.26	990.51	11,935.21	1,826-	15-
9221 374 - Utilities Expense	19,456.62	5.96	240,423.62	6.25	19,516.91	118,307.51	122,116	103
9221 OFFICE SUPPLIES AND EXPENSES	20,148.66	6.17	250,532.78	6.51	20,507.42	130,242.72	120,290	92
9231 000 OUTSIDE SERVICES EMPLOYED	1,386.80	.42	2,798.00	.07		431.00-	3,229	749-
9231 381 - Outside Legal Services						704.00	704-	100-
9231 OUTSIDE SERVICES EMPLOYED	1,386.80	.42	2,798.00	.07		273.00	2,525	925
9241 000 PROPERTY INSURANCE EXPENSE	8,167.93	2.50	106,968.83	2.78	9,243.29	114,948.84	7,980-	7-

C O N D E N S E D

** DETAIL ** INCOME STATEMENT FOR DECEMBER 31, 2006 MONTH 12

		CURRENT MONTH		YEAR-TO-DATE		PREVIOUS YEAR		VARIANCE	
		AMOUNT	PCT	AMOUNT	PCT	MONTH	YTD	YTD AMT	PCT
9241 385	- Auto Insurance	57.28	.02	528.50	.01	21.41	735.20	207-	28-
9241 386	- Self-Ins. Liab. Claims	1,012.90	.31	11,146.35	.29	864.01	11,537.34	391-	3-
9241	PROPERTY INSURANCE EXPENSE	9,238.11	2.83	118,643.68	3.08	10,128.71	127,221.38	8,578-	7-
9251 000	SAFETY EQUIPMENT EXPENSE			262.84	.01			263	
9261 000	COMPUTER AND RELATED EQUIP	47.04	.01	1,669.61	.04	290.64	879.84	790	90
9271 000	EDUCATION AND TRAINING			3,142.32	.08		3,643.65	501-	14-
9281 392	- Operating Permits	2,705.60	.83	32,567.86	.85	2,922.85	35,579.78	3,012-	8-
9281 393	- Regulatory Compliance			14,867.75	.39		6,753.38	8,114	120
9281	REGULATORY AGENCIES EXPENSE	2,705.60	.83	47,435.61	1.23	2,922.85	42,333.16	5,102	12
9301 000	MISCELLANEOUS GENERAL EXPE	360.68	.11	5,363.09	.14	378.63	5,396.76	34-	1-
9321 398	- Inventory Adjustment Exp	1,909.45-	.58-	1,909.45-	.05-	4,795.05-	3,619.55-	1,710	47-
9331 000	LEGAL/PERSONNEL/ENGRG EXPE	1,743.04	.53-	1,314.96	.03	3,795.33-	945.67	369	39
	TOTAL Admin. & General Exp	68,389.69	20.95	791,284.80	20.56	62,803.47	703,517.66	87,767	12
	City Web Site Expenses								
9229 000	CITY WEB SITE EXPENSES			79.50			620.17	541-	87-
	Depreciation Expense								
4030 000	DEPRECIATION EXPENSE	21,733.43	6.66	259,329.55	6.74	21,479.09	257,849.57	1,480	1
	Social Security Tax Expense								
4080 000	SOCIAL SECURITY TAX	5,012.68	1.54	50,605.00	1.31	5,013.37	48,951.54	1,653	3
	TOTAL UTILITY OPERATION EXPENSE	324,984.37	99.55	3,828,136.60	99.45	352,886.84	3,159,386.57	668,750	21
	OPERATING PROFIT OR LOSS-	1,467.05	.45	20,990.41	.55	3,436.40	58,379.81	37,389-	64-
	* OTHER INCOME- & EXPENSE ITEMS *								
	Interest Income-								
4190 000	INTEREST INCOME	7,057.07-	2.16-	83,956.57-	2.18-	5,790.85-	56,408.65-	27,548-	49
	Interest Expense								
4270 000	INTEREST EXPENSE	1,730.85	.53	23,483.50	.61	2,629.06	33,776.37	10,293-	30-
	Gain- or Loss Retired Assets								
4140 000	GAIN/LOSS RETIRED ASSETS			1,181.24	.03	11.92	1,516.30	335-	22-
	In Lieu of Taxes Expense								
4081 000	IN LIEU OF TAXES EXPENSE(C	3,908.00	1.20	45,659.00	1.19	3,701.00	44,924.00	735	2
	Misc. Amortization Expense								
4280 169	- 2003 Refunding Bonds	336.94	.10	4,043.28	.11	336.94	4,043.28		
4281 169	2003 Refunding Bonds	535.98	.16	6,431.76	.17	535.98	6,431.76		
4282 169	- 2003 Refunding Bonds	2,012.35	.62	24,148.20	.63	2,012.35	24,148.20		
	TOTAL Misc. Amortization E	2,885.27	.88	34,623.24	.90	2,885.27	34,623.24		
	Misc. Non-operating Income								
4210 000	MISC. NON-OPERATING INCOME						51.45-	51	100-

** DETAIL ** C O N D E N S E D

INCOME STATEMENT FOR DECEMBER 31, 2006 MONTH 12

	CURRENT MONTH AMOUNT	PCT	YEAR-TO-DATE AMOUNT	PCT	PREVIOUS YEAR MONTH	YTD	VARIANCE YTD AMT	PCT
TOTAL OTHER INCOME- & EXPENSE	1,467.05	.45	20,990.41	.55	3,436.40	58,379.81	37,389-	64-
NET INCOME OR LOSS-	.00	.00	.00	.00	.00	.00	37,389-	64-

ELECTRIC STAT SHEET
TOTAL GENERATED KILOWATT HOURS

	2005	2006	2007	2008	2009
JAN	5,829,600	5,863,200	5,577,600	8,467,200	3,729,600
FEB	5,275,200	5,140,800	4,586,400	8,584,800	1,696,800
MAR	1,327,200	5,930,400	5,191,200	6,770,400	0
APR	0	940,800	436,800	8,383,200	0
MAY	0	5,829,600	5,023,200	453,600	0
JUN	0	5,107,200	3,729,600	7,375,200	1,495,200
JUL	0	4,720,800	5,359,200	8,064,000	0
AUG	0	4,317,600	5,308,800	8,181,600	0
SEP	0	4,620,000	4,670,400	4,519,200	0
OCT	554,400	4,065,600	4,939,200	0	0
NOV	5,728,800	5,493,600	5,980,800	84,000	
DEC	5,560,800	4,737,600	5,443,200	0	
SUM	24,276,000	56,767,200	56,246,400	60,883,200	6,921,600
AVG	2,023,000	4,730,600	4,687,200	5,073,600	692,160
MAX	5,829,600	5,930,400	5,980,800	8,584,800	3,729,600

ELECTRIC STAT SHEET
15TH STREET POWER PLANT USAGE KILOWATT HOURS GENERATED

	2005	2006	2007	2008	2009
JAN	537,250	533,050	540,050	632,450	417,550
FEB	486,500	472,850	462,350	607,250	175,700
MAR	191,450	549,500	547,050	402,850	61,600
APR	61,600	171,500	126,700	650,300	53,200
MAY	62,650	600,600	586,250	288,050	55,300
JUN	64,400	609,700	486,500	679,000	192,500
JUL	59,500	584,500	613,200	756,700	46,200
AUG	68,600	591,150	614,600	770,700	43,400
SEP	92,400	563,150	569,100	470,400	39,200
OCT	129,500	502,250	558,250	72,800	43,400
NOV	532,350	533,750	543,550	188,125	
DEC	505,400	507,150	529,900	177,450	
SUM	2,791,600	6,219,150	6,177,500	5,696,075	1,128,050
AVG	232,633	518,263	514,792	474,673	112,805
MAX	537,250	609,700	614,600	770,700	417,550

ELECTRIC STAT SHEET
TOTAL NET GENERATED KILOWATT HOURS

	2005	2006	2007	2008	2009
JAN	5,292,350	5,330,150	5,037,550	7,834,750	3,312,050
FEB	4,788,700	4,667,950	4,124,050	7,977,550	1,521,100
MAR	1,135,750	5,380,900	4,644,150	6,367,550	(61,600)
APR	(61,600)	769,300	310,100	7,732,900	(53,200)
MAY	(62,650)	5,229,000	4,436,950	165,550	(55,300)
JUN	(64,400)	4,497,500	3,243,100	6,696,200	1,302,700
JUL	(59,500)	4,136,300	4,746,000	7,307,300	(46,200)
AUG	(68,600)	3,726,450	4,694,200	7,410,900	(43,400)
SEP	(92,400)	4,056,850	4,101,300	4,048,800	(39,200)
OCT	424,900	3,563,350	4,380,950	(72,800)	(43,400)
NOV	5,196,450	4,959,850	5,437,250	(104,125)	0
DEC	5,055,400	4,230,450	4,913,300	(177,450)	0
SUM	21,484,400	50,548,050	50,068,900	55,187,125	5,793,550
AVG	1,790,367	4,212,337	4,172,408	4,598,927	579,355
MAX	5,292,350	5,320,700	5,366,200	7,814,100	3,312,050

2005 - 2009

ELECTRIC STAT SHEET
TOTAL GENERATED KILOWATT HOURS

	2004	2005	2006	2007	2008
JAN	5,308,800	5,829,600	5,863,200	5,577,600	8,467,200
FEB	5,073,600	5,275,200	5,140,800	4,586,400	8,584,800
MAR	5,577,600	1,327,200	5,930,400	5,191,200	6,770,400
APR	2,352,000	0	940,800	436,800	6,383,200
MAY	3,410,400	0	5,829,600	5,023,200	453,600
JUN	5,191,200	0	5,107,200	3,729,600	7,375,200
JUL	5,090,400	0	4,720,800	5,359,200	8,064,000
AUG	5,107,200	0	4,317,600	5,308,800	8,181,600
SEP	4,754,400	0	4,620,000	4,670,400	4,519,200
OCT	5,443,200	554,400	4,065,600	4,939,200	0
NOV	5,107,200	5,728,800	5,493,600	5,980,800	84,000
DEC	5,073,600	5,560,800	4,737,600	5,443,200	0
SUM	57,489,600	24,276,000	56,787,200	56,248,400	60,883,200
AVG	4,790,800	2,023,000	4,730,600	4,687,200	5,073,600
MAX	5,577,600	5,829,600	5,930,400	5,980,800	8,584,800

ELECTRIC STAT SHEET
15TH STREET POWER PLANT USAGE KILOWATT HOURS GENERATED

	2004	2005	2006	2007	2008
JAN	498,400	537,250	533,050	540,050	632,450
FEB	471,100	486,500	472,850	462,350	607,250
MAR	530,250	191,450	549,500	547,050	402,850
APR	260,050	61,600	171,500	126,700	650,300
MAY	411,950	62,650	600,600	586,250	288,050
JUN	592,900	64,400	609,700	486,500	679,000
JUL	602,700	59,500	584,500	613,200	756,700
AUG	601,300	68,600	591,150	614,600	770,700
SEP	561,750	92,400	563,150	569,100	470,400
OCT	579,600	129,500	502,250	558,250	72,800
NOV	516,950	532,350	533,750	543,550	188,125
DEC	483,700	505,400	507,150	529,900	177,450
SUM	6,110,650	2,791,600	6,219,150	6,177,500	5,696,075
AVG	509,221	232,633	518,263	514,792	474,673
MAX	602,700	537,250	609,700	614,600	770,700

ELECTRIC STAT SHEET
TOTAL NET GENERATED KILOWATT HOURS

	2004	2005	2006	2007	2008
JAN	4,810,400	5,292,350	5,330,150	5,037,550	7,834,750
FEB	4,602,500	4,788,700	4,667,950	4,124,050	7,977,550
MAR	5,047,350	1,135,750	5,380,900	4,644,150	6,367,550
APR	2,091,950	(61,600)	769,300	310,100	7,732,900
MAY	2,998,450	(62,650)	5,229,000	4,436,950	165,550
JUN	4,598,300	(64,400)	4,497,500	3,243,100	6,696,200
JUL	4,487,700	(59,500)	4,136,300	4,746,000	7,307,300
AUG	4,505,900	(68,600)	3,726,450	4,694,200	7,410,900
SEP	4,192,650	(92,400)	4,056,850	4,101,300	4,048,800
OCT	4,863,600	424,900	3,563,350	4,380,950	(72,800)
NOV	4,590,250	5,196,450	4,959,850	5,437,250	(104,125)
DEC	4,589,900	5,055,400	4,230,450	4,913,300	(177,450)
SUM	51,378,950	21,484,400	50,548,050	50,068,900	55,187,125
AVG	4,281,579	1,790,367	4,212,337	4,172,408	4,598,927
MAX	4,974,900	5,292,350	5,320,700	5,366,200	7,814,100

2004 - 2008

Jasper Municipal Utilities
Electric Generation Plant Asset Schedule as of 10-31-2009
(excludes misc. tools, office/computer equipment, vehicles, etc.)

By acquisition date

A - Active R - Retired	G/L Account #	General Ledger (G/L) Account # Description	Capital Asset Number	Est. Useful Life (Years)	~~YYYY-MM-DD~~ Date Acquired	~~YYYY-MM-DD~~ Date Retired	(1) Asset Type	(2) Ins. Type	(3) Ins. Loc.	Asset Description	Cost	10/31/2009 Accumulated Depreciation		10/31/2009 Book Value		Comments
A	3120-000	Elec. Equip. & Cooling Towers	55-EE-000026	67	1967-01-01		D	B	118	Cooling Tower at Power Plant	468,772.10	299,687.64		169,084.46		
A	3950-000	Laboratory Equipment	55-LE-000068	25	1967-01-01		D	E	108	Beginning Balance - Laboratory Equipment	9,850.46	9,850.46		-		
A	3110-000	Power Plant Structures	55-PS-000025	67	1967-01-01		B	B	108	New Plant Structures	1,576,392.78	1,007,793.70		568,599.08		
A	3110-000	Power Plant Structures	55-PS-000063	67	1967-01-01		B	B	111	Quanset Hut - Steel Warehouse Building	18,490.75	11,821.39		6,669.36		
A	3110-000	Power Plant Structures	55-PS-003116	67	1967-01-01		B	S	111	Quanset Hut - Steel Warehouse Building Sub-structure	2,903.51	1,856.04		1,047.47		
A	3110-000	Power Plant Structures	55-PS-003117	67	1967-01-01		B	S	108	New Plant Foundation Sub-Structure	107,655.02	68,824.31		38,830.71		
A	3110-000	Power Plant Structures	55-PS-003118	67	1967-01-01		B	B	109	Maintenance Building Structure	28,106.17	17,968.63		10,137.54		
R	3120-000	Elec. Equip. & Cooling Towers	55-EE-002942	67	1967-01-01	1995-12-31	D	Ret.	Ret.	Cooling Tower	97,857.00	-	R	-	R	Abandonment
R	3140-000	Turbogenerator Units	55-TU-000028	67	1967-01-01	2001-08-17	D	Ret.	Ret.	Beginning Balance - Turbo Generators	1,223,423.60	-	R	-	R	
R	3140-000	Turbogenerator Units	55-TU-002940	67	1967-01-01	1995-12-31	D	Ret.	Ret.	Turbo Generators	620,752.87	-	R	-	R	Abandonment
R	3140-000	Turbogenerator Units	55-TU-002941	67	1967-01-01	1995-12-31	D	Ret.	Ret.	Turbo Generators	15,484.56	-	R	-	R	Abandonment
A	3110-000	Power Plant Structures	55-PS-003174	67	1970-10-16		B	S	109	Maintenance Building Foundation Substructure	3,091.66	1,977.10		1,114.56		
A	3970-000	Communication Equipment	55-CO-000071	25	1980-01-01		D	C *	108 *	Beginning Balance - Communication Equipment	16,630.33	16,630.33		-		
A	3950-000	Laboratory Equipment	55-LE-000904	25	1984-12-03		D	E	108	Refrigerator Sanyo Almond-Color (Shop) Model SR1120-2	349.95	349.95		-		
A	3980-000	Miscellaneous Equipment	55-ME-000924	25	1984-12-15		D	P	108	Hot Water Heater - Main Floor Model KTA-030-RR S/N ZJ3560115	130.87	130.87		-		
A	3900-521	Gen. Plant Structures / Improvements - Radio Shack	55-NS-000062	67	1985-01-01		B	B	108	Beginning Balance - New Radio Shack (Structure)	3,814.87	1,413.33		2,401.54		
A	3970-000	Communication Equipment	55-CO-000624	25	1987-12-04		D	C *	108 *	ASP Antenna with 140 ft. 1/2 In. Heliax / 2 Connectors Model 685	897.75	819.62		78.13		
A	3100-000	Power Plant Land & Land Rights	55-PL-000024	N/A	1988-01-01		A	L		Beginning Balance - Plant Land	22,305.65	-		22,305.65		
A	3970-000	Communication Equipment	55-CO-000325	25	1988-04-20		D	C *	108 *	Mobile Midland CTCSS Base / Programming / Testing Model 70-385 (for stand-by communications)	1,040.00	908.69		131.31		
A	3980-000	Miscellaneous Equipment	55-ME-000461	25	1988-08-29		D	P	108	Split System Heatpump with 20 KW Resistance - Manager's Office 36,000 Btu	3,082.16	2,674.64		387.52		
A	3110-000	Power Plant Structures	55-PS-000526	67	1988-11-09		B	S	108	Concrete Driveway - 49 x 25 x 8" Thick, 23 Yards Slick Finish	1,265.00	411.78		853.22		
A	3110-000	Power Plant Structures	55-PS-000527	67	1988-11-09		B	S	108	Sidewalk 70" - Broomed Finish	461.88	149.93		311.95		
A	3110-000	Power Plant Structures	55-PS-001141	67	1989-12-14		B	B	111	2/8 - M70 Steel Door on Steel Warehouse Building	131.25	40.38		90.87		
A	3980-000	Miscellaneous Equipment	55-ME-001194	25	1990-04-03		D	P	109	Hilti Gun Kit	1,710.53	1,356.79		353.74		
A	3160-000	Misc. Power Plant Equipment	55-PE-001301	25	1991-05-03		D	A	108	Opacity Monitor Installation Engineering Services	1,185.90	892.98		292.92		
A	3160-000	Misc. Power Plant Equipment	55-PE-001322	25	1991-06-04		D	A	108	Opacity Monitor Installation Engineering Services	2,349.97	1,769.89		580.08		
A	3110-000	Power Plant Structures	55-PS-001348	67	1991-06-24		B	B	108	10' x 9' Steel Storage Building	299.99	83.91		216.08		
A	3160-000	Misc. Power Plant Equipment	55-PE-001344	25	1991-07-03		D	A	108	Opacity Monitor Installation Engineering Services	2,161.66	1,542.55		619.11		
A	3980-000	Miscellaneous Equipment	55-ME-001401	25	1991-07-09		D	P	109	13-P Oasis Cooler	516.69	368.27		148.42		
R	3120-000	Elec. Equip. & Cooling Towers	55-EE-001370	67	1991-08-07	1995-12-31	D	Ret.	Ret.	Chlorination Unit	500.00	-	R	-	R	Abandonment
A	3970-000	Communication Equipment	55-CO-001836	25	1993-03-23		D	C *	108 *	Phone System Power Plant / DM 16-Key BusinessCom	2,441.58	1,644.16		797.42		
A	3110-000	Power Plant Structures	55-PS-001987	67	1993-08-06		B	P	108	12 x 14' Overhead Door	1,218.76	288.54		930.22		
A	3150-000	Accessory Electric Equipment	55-AU-002400	30	1994-05-31		D	P	108	Chart Recorder 10" Strip 3-Channel	4,538.00	2,395.62		2,142.38		
A	3990-000	Safety Equipment	55-SF-002406	20	1994-05-31		D	P	108	General Electric Blower S/N 27785	885.00	700.94		184.06		
A	3990-000	Safety Equipment	55-SF-002535	20	1994-11-30		D	P	109	(3) Paint Cabinet 2-Door Self-Close 40-Gallons	574.70	425.64		149.06		
A	3990-000	Safety Equipment	55-SF-002523	20	1994-12-06		D	P	108	Installed 2-Eye Washes and Misc. Plumbing Fixtures	686.83	509.16		177.67		
A	3150-000	Accessory Electric Equipment	55-AU-002874	30	1995-01-01		D	P	108	House Transformer Purchases and Installation	48,040.00	23,752.53		24,287.47		
A	3150-000	Accessory Electric Equipment	55-AU-003159	30	1995-01-01		D	A	108	New House Transformer Engineering Study	3,091.00	1,528.82		1,562.18		
A	3120-000	Elec. Equip. & Cooling Towers	55-EE-002863	30	1995-01-01		D	B	118	Cooling Tower Refurbish	97,857.00	48,385.49		49,471.51		
A	3130-000	Engines & Engine Driven Equip.	55-EN-002852	30	1995-01-01		D	P	108	Multiclone System Material and Installation	195,785.00	96,805.15		98,979.85		
A	3130-000	Engines & Engine Driven Equip	55-EN-002857	30	1995-01-01		D	P	108	Coal Handling System Refurbish	36,445.28	18,020.56		18,424.72		
A	3130-000	Engines & Engine Driven Equip	55-EN-002858	30	1995-01-01		D	P	108	Superheater and Economizer Replacement	348,224.63	172,177.65		176,046.98		
A	3130-000	Engines & Engine Driven Equip	55-EN-002859	30	1995-01-01		D	P	108	Light Off Gas Burner Material and Installation	360,120.46	178,058.96		182,061.50		
A	3130-000	Engines & Engine Driven Equip	55-EN-002864	30	1995-01-01		D	P	108	Electrostatic Precipitator Material and Installation	1,812,790.03	896,324.22		916,465.81		
A	3130-000	Engines & Engine Driven Equip	55-EN-002867	30	1995-01-01		D	P	108	Boiler Controls - Replace Controls with Electronics	181,929.20	89,954.01		91,975.19		
A	3130-000	Engines & Engine Driven Equip	55-EN-002868	30	1995-01-01		D	P	108	Boiler Piping - Replace Blowdown Piping	15,975.00	7,899.39		8,075.61		

Jasper Municipal Utilities
Electric Generation Plant Asset Schedule as of 10-31-2009
(excludes misc. tools, office/computer equipment, vehicles, etc.)

A - Active R - Retired	G/L Account #	General Ledger (G/L) Account # Description	Capital Asset Number	Est. Useful Life (Years)	YYYY-MM-DD Date Acquired	YYYY-MM-DD Date Retired	(1) Asset Type	(2) Ins. Type	(3) Ins. Loc	Asset Description	Cost	10/31/2009 Accumulated Depreciation	10/31/2009 Book Value	Comments
A	3130-000	Engines & Engine Driven Equip.	55-EN-002869	30	1995-01-01		D	P	108	Boiler Cleaning - Acid Cleaning and Disposal	69,680.12	34,453.47	35,226.65	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002873	30	1995-01-01		D	P	108	Ash System Replacement	493,293.05	243,906.19	249,386.86	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002894	30	1995-01-01		D	A	108	Engineering: Field Assistance / Project Coordination	273,339.35	135,151.63	138,187.72	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002898	30	1995-01-01		D	A	108	Accounting / Legal / Permits / Administrative	45,197.30	22,347.79	22,849.51	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002902	30	1995-01-01		D	P	108	Capitalized Interest	320,205.85	158,323.91	161,881.94	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003142	30	1995-01-01		D	A	108	Multiclone System Engineering Services	72,653.00	35,922.36	36,730.64	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003147	30	1995-01-01		D	A	108	Coal Handling System Engineering Services	2,361.00	1,167.59	1,193.41	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003148	30	1995-01-01		D	A	108	Superheater and Economizer Engineering Services	2,677.32	1,324.16	1,353.16	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003149	30	1995-01-01		D	A	108	Light Off Gas Burner Engineering Services	38,893.97	19,231.05	19,662.92	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003152	30	1995-01-01		D	A	108	Electrostatic Precipitator Engineering Services	76,017.23	37,586.42	38,430.81	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003154	30	1995-01-01		D	A	108	Boiler Controls Engineering Services	53,349.46	26,377.96	26,971.50	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003155	30	1995-01-01		D	A	108	Boiler Piping Engineering Services	5,917.00	2,926.12	2,990.88	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003156	30	1995-01-01		D	A	108	Boiler Cleaning Engineering Services	4,497.00	2,223.30	2,273.70	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003158	30	1995-01-01		D	A	108	Ash System Replacement Engineering Services	58,985.60	29,154.78	29,810.82	
A	3160-000	Misc. Power Plant Equipment	55-PE-002853	30	1995-01-01		D	P	108	Continuous Emission Monitor Material and Installation	102,325.40	50,594.57	51,730.83	
A	3160-000	Misc. Power Plant Equipment	55-PE-002854	30	1995-01-01		D	B	108	Asbestos Removal and Reinsulate	35,517.00	17,561.39	17,955.61	
A	3160-000	Misc. Power Plant Equipment	55-PE-002855	30	1995-01-01		D	A	108	Emission Stack Tests to Determine Compliance	14,215.00	7,029.02	7,185.98	
A	3160-000	Misc. Power Plant Equipment	55-PE-002870	30	1995-01-01		D	P	108	Control Room Enclosure - Construction	23,580.00	11,659.00	11,921.00	
A	3160-000	Misc. Power Plant Equipment	55-PE-002879	30	1995-01-01		D	A *	108 *	Cogen Engineering Rate Study	1,589.61	786.53	803.08	
A	3160-000	Misc. Power Plant Equipment	55-PE-003143	30	1995-01-01		D	A	108	Continuous Emission Monitor Engineering Services	21,015.00	10,391.39	10,623.61	
A	3160-000	Misc. Power Plant Equipment	55-PE-003144	30	1995-01-01		D	A	108	Asbestos Removal and Insulation Engineering Services	13,192.00	6,522.13	6,669.87	
A	3160-000	Misc. Power Plant Equipment	55-PE-003145	30	1995-01-01		D	A	108	Emission Stack Tests Engineering Services	5,238.00	2,589.90	2,648.10	
A	3110-000	Power Plant Structures	55-PS-002860	30	1995-01-01		B	B	108	Stack Refurbish Lining and Paint	72,950.00	36,069.85	36,880.15	
A	3110-000	Power Plant Structures	55-PS-002871	30	1995-01-01		B	B	108	Coal Bunker Construction	167,260.00	82,700.63	84,559.37	
A	3110-000	Power Plant Structures	55-PS-002872	30	1995-01-01		B	P *	108 *	Coal Pile and Sludge Basin Clean-up Earth / Disposal Work	21,567.27	10,663.92	10,903.35	
A	3110-000	Power Plant Structures	55-PS-003150	30	1995-01-01		B	A	108	Stack Refurbish Engineering Services	4,721.00	2,333.76	2,387.24	
A	3110-000	Power Plant Structures	55-PS-003157	30	1995-01-01		B	A *	108 *	Coal Pile and Sludge Basin Cleanup Engineering Services	64,587.46	31,934.95	32,652.51	
A	3140-000	Turbogenerator Units	55-TU-002865	30	1995-01-01		D	P	108	Turbine and Exciter	582,193.87	287,863.13	294,330.74	
A	3140-000	Turbogenerator Units	55-TU-003153	30	1995-01-01		D	A	108	Turbine - Engineering Services	38,559.00	19,065.49	19,493.51	
A	3990-000	Safety Equipment	55-SF-002561	20	1995-01-05		D	P	108	Coal Conveyor Alarm	3,055.01	2,265.89	789.12	
A	3160-000	Misc. Power Plant Equipment	55-PE-002569	25	1995-02-06		D	P	108	Oxygen Analyzer Teledyne Continuous Model 9500 S/N 147517	4,973.32	2,951.12	2,022.20	
R	3160-000	Misc. Power Plant Equipment	55-PE-002617	25	1995-04-27	2005-08-15	D	Ret.	Ret.	Coal Conveyer - 30" 48' - Used	2,225.00	- R	- P	Used
A	3160-000	Misc. Power Plant Equipment	55-PE-002810	25	1995-09-18		D	P	108	Tuff Pressure Washer Model 830360 S/N 8522	2,380.00	1,316.50	1,063.50	
A	3980-000	Miscellaneous Equipment	55-ME-003259	25	1997-04-02		D	P	108	Amana Air / Electric Heat - Lab Room	745.00	382.00	363.00	
A	3970-000	Communication Equipment	55-CO-003256	25	1997-04-03		D	C *	108 *	Base / Adaptor DC-Tone Interface / Power Supply Cabinet Model 70-134DB S/N 076085	1,689.00	867.02	821.98	
A	3990-000	Safety Equipment	55-SF-003548	20	1998-09-17		D	P	108	Rechargeable Battery Pack with Charger	1,860.60	1,007.50	853.10	
A	3110-000	Power Plant Structures	55-PS-003665	30	1999-03-26		B	B	108	Installed Versigard Roof	7,879.00	2,801.92	5,077.08	
A	3160-000	Misc. Power Plant Equipment	55-PE-003723	30	1999-08-03		D	P	108	Amana Heat / Cool Model (Control Room)	785.00	268.14	516.86	
A	3140-000	Turbogenerator Units	55-TU-004246	30	2001-08-17		D	P	108	Generator Rebuild & Upgrade	689,861.70	189,711.72	500,149.98	
A	3110-000	Power Plant Structures	55-PS-004494	30	2002-05-30		B	B	108	Door on Wall of Turbine Room	978.22	244.80	733.42	
A	3980-000	Miscellaneous Equipment	55-ME-004533	25	2002-06-28		D	P	108	Carrier A/C Unit - Supt. Office S/N S0702X38461	1,450.00	429.87	1,020.13	
A	3160-000	Misc. Power Plant Equipment	55-PE-004592	10	2002-09-03		D	P	108	Boiler Computer with Conductor NT Server Software	33,438.00	23,963.90	9,474.10	
A	3900-533	Gen. Plant Structures / Improvements - Drives & Parking Lots	55-RD-005533	20	2006-07-22		C	L *	108 *	Asphalt Paving around Shop, Cooling Tower and Preciptator	67,700.00	11,283.20	56,416.80	
										Total Active Plant Assets	8,886,532.08	4,553,549.99	4,332,982.09	

Jasper Municipal Utilities
Electric Generation Plant Asset Schedule as of 10-31-2009
(excludes misc. tools, office/computer equipment, vehicles, etc.)

A - Active R - Retired	G/L Account #	General Ledger (G/L) Account # Description	Capital Asset Number	Est. Useful Life (Years)	YYYY-MM-DD Date Acquired	YYYY-MM-DD Date Retired	(1) Asset Type	(2) Ins. Type	(3) Ins. Loc.	Asset Description	Cost	10/31/2009 Accumulated Depreciation	10/31/2009 Book Value	Comments

(1) Asset Types

A	Land
B	Buildings
C	Improvements
D	Machinery & Equipment

(2) Property Insurance Types

*	Not on property insurance schedule
A	Architect Fees
A *	Architect Fees (not on property insurance)
B	Buildings
C *	Communication Equipment (not on property ins.)
E	Lab Equipment
L	Land & Land Improvements
L *	Land & Land Improvements (not on property ins.)
P	Personal Property
P *	Personal Property (not on property insurance)
S	Substructure/Foundation

(3) Property Insurance Location:

*	Not on property insurance schedule
108	Power Plant 15th St
109	Maintenance Bldg. 15th & Knust St.
111	Quanset Bldg. 15th & Knust St
118	Cooling Tower 15th & Knust

(1/1/1995 Acquisition Date)

12-01-95
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ELECTRIC IMPROVEMENT PROJECT
CAPITALIZATION WORKSHEET

FIXED ASSET \ LEDGER ACCOUNT NUMBER	JASPER PROJECT NAME Acct / Project Phase	ACTUAL EXPENDITURE ENGINEERING	 CONSTRUCTION	TOTAL CAPITALIZED COST
EN-2852 / 313	Multiclone System: Power Plant			
	36 Engineering	72,653.00		
	12 Material & Install		195,785.00	268,438.0
PE-2853 / 316	Continuous Emission Monitor: Power Plant			
	10 Engineering	21,015.00		
	10 Material & Install		102,325.40	123,340.4
PE-2854 / 316	Asbestos Removal & Insulation: Power Plant			
	36 Engineering	13,192.00		
	13 Remove Asbestos & Reinsulate		35,517.00	48,709.0
PE-2855 / 316	Emission Stack Tests: Power Plant			
	36 Engineering	5,238.00		
	14 Determine Compliance		14,215.00	19,453.0
OC-2856 / 365-01	New 3-Phase Line: Distribution Lines			
	40 Engineering	1,012.00		
	24 Construction		15,300.00	16,312.0
EN-2857 / 313	Coal Handling System: Power Plant			
	40 Engineering	2,361.00		
	29 Refurbish		36,445.28	38,806.2
EN-2858 / 313	Superheater & Economizer: Power Plant			
	19 Engineering	2,677.32		
	20 Replace		348,224.63	350,901.9
EN-2859 / 313	Light Off Gas Burner: Power Plant			
	9 Engineering	38,893.97		
	37 Material & Install		360,120.46	399,014.4
PS-2860 / 311	Stack: Power Plant			
	40 Engineering	4,721.00		
	17 Refurbish Lining & Paint		72,950.00	77,671.0
CO-2861 / 397	Scada System: Scada/Office Bldg			
	8 Engineering	78,062.08		
	41 Equipment & Intall		230,608.69	308,670.7
BO-2862 / 390-02	Scada/Office Building: Scada/Office Bldg			
	8 Engineering	35,519.00		
	7 Construction		193,241.75	228,760.7
EE-2863 / 312	Cooling Tower: Power Plant			
	25 Refurbish		97,857.00	97,857.0
EN-2864 / 313	Electrostatic Precipitator: Power Plant			
	16 Engineering	76,017.23		
	21/27 Material & Install		1,812,790.03	1,888,807.2
TU-2865 / 314	Turbine & Generator: Power Plant			
	40 Engineering	38,559.00		
	26 Overhaul Turbine & Replace Exiter		582,193.87	
AU-2866 / 315	Battery Bank: Scada/Office Bldg			
	28 Replace Battery Bank		15,484.56	636,237.4
EN-2867 / 313	Boiler Controls: Power Plant			
	30 Engineering	53,349.46		
	44 Replace Controls with Electronic		181,929.20	235,278.6
EN-2868 / 313	Boiler Piping: Power Plant			
	36 Engineering	5,917.00		
	15 Replace Blowdown Piping		15,975.00	21,892.0
EN-2869 / 313	Boiler Cleaning: Power Plant			
	40 Engineering	4,497.00		
	18 Acid Cleaning & Disposal		69,680.12	74,177.1
PE-2870 / 316	Control Room Enclosure: Power Plant			
	47 Construction		23,580.00	23,580.0
PS-2871 / 311	Coal Bunker: Power Plant			
	48 Construction		167,260.00	167,260.0
PS-2872 / 311	Coal Pile & Sludge Basin Clean-up: Power Plant			
	11 Engineering	64,587.46		
	22 Earth/Disposal Work		21,567.27	86,154.7

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ELECTRIC IMPROVEMENT PROJECT
CAPITALIZATION WORKSHEET

FIXED ASSET \ LEDGER ACCOUNT NUMBER	JASPER PROJECT NAME Acct / Project Phase	ACTUAL EXPENDITURE		TOTAL CAPITALIZED COST
		ENGINEERING	CONSTRUCTION	
EN-2873 / 313	Ash System: Power Plant			
	11 Engineering	58,965.60		
	32 Replace		493,293.05	552,258.6
AU-2874 / 315	New House Transformer: Power Plant			
	40 Engineering	3,091.00		
	31 Purchase & Install		48,040.00	51,131.0
SS-2876 / 362-02	Central Sub-Station: Central Sub-Station			
	6/54 Engineering	55,741.72		
	50 Relay Panels		46,522.00	102,263.7
SS-2877 / 362-02	Central Sub-Station: Central Sub-Station			
	6/54 Engineering	55,741.73		
	51 Install 69KV O.C.B.'s		156,178.00	211,919.7
SS-2878 / 362-02	Central Sub-Station: Central Sub-Station			
	6/54 Engineering	55,741.73		
	55 Control Panels & Install		111,620.00	167,361.7
SS-2875 / 362-02	Central Sub-Station: Central Sub-Station			
	42 Sub-Station Structure		167,670.33	167,670.3
PE-2879 / 316	Cogen Rate Study: Cogen Rate Study			
	45 Engineering	1,589.61		1,589.6
OC-2880 / 365-01	Transmission/Distribution Study: Trans/Distribution Study			
	46 Engineering	25,000.00		25,000.0
ST-2881 / 362-07	South Tie Sub-Station: South Tie Sub-Station			
	40/52 /62 Engineering/Contruction	33,141.82		
	23 Install Additional Feeder		30,438.77	63,580.5
ST-2882 / 362-07	South Tie Sub-Station: South Tie Sub-Station			
	40/52 /62 Engineering/Contruction	33,141.82		
	53 Transformer & Install		273,131.00	306,272.8
ST-2883 / 362-07	South Tie Sub-Station: South Tie Sub-Station			
	40/52 /62 Engineering/Contruction	33,141.82		
	60 69KV Circuit Breaker & Install		41,040.00	74,181.8
ST-2884 / 362-07	South Tie Sub-Station: South Tie Sub-Station			
	40/52 /62 Engineering/Contruction	33,141.82		
	61 Relay Panels & Install		20,834.00	53,975.8
ST-2885 / 362-07	South Tie Sub-Station: South Tie Sub-Station			
	68 Switchgear Repair		31,645.00	31,645.0
OC-2886 / 365-01	Reconductor Circuits: Distribution Lines			
	56 Engineering	49,157.44		
	57 Installation		124,411.56	173,569.0
NT-2887 / 362-08	North Tie Sub-Station: North Tie Sub-Station			
	33/58 /66 Engineering/Construction	51,519.11		
	43 15KV Vacuum Circuit Breaker		12,956.00	64,475.1
NT-2889 / 362-08	North Tie Sub-Station: North Tie Sub-Station			
	33/58 /66 Engineering/Construction	51,519.12		
	59 69KV Circuit Breaker & Install		79,700.00	131,219.1
NT-2890 / 362-08	North Tie Sub-Station: North Tie Sub-Station			
	33/58 /66 Engineering/Construction	51,519.12		
	64 69KV & 15KV Control Panels & Install		48,355.00	99,874.1
NT-2891 / 362-08	North Tie Sub-Station: North Tie Sub-Station			
	33/58 /66 Engineering/Construction	51,519.12		
	65 15KV Circuit Breaker & Install		15,474.50	66,993.6
NT-2888 / 362-08	North Tie Sub-Station: North Tie Sub-Station			
	49 Sub-Station Structure		37,667.00	37,667.0
NT-2892 / 362-08	North Tie Sub-Station: North Tie Sub-Station			
	68 Switchgear Repair		38,057.50	38,057.5
OC-2893 / 365-01	Short Circuit and Relay Coordination Study: Relay Coordination Study			
	67 Engineering	34,952.47		34,952.4
	NET CONSTRUCTION & ENGINEERING COSTS	1,196,896.57	6,370,083.97	7,566,980.5

12-01-95
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ELECTRIC IMPROVEMENT PROJECT
CAPITALIZATION WORKSHEET

FIXED ASSET \ LEDGER ACCOUNT NUMBER	JASPER PROJECT NAME Acct / Project Phase	ACTUAL EXPENDITURE ENGINEERING	 CONSTRUCTION	TOTAL CAPITALIZED COST
	Power Plant: Power Plant			
EN-2894 / 313	39/40 Field Assist/Project Coordination (Less 56,208)	273,339.35		273,339.35
EN-2898 / 313	34/35/38 Accounting/Legal/Permits/Administrative	45,197.30		45,197.30
	Central Sub-Station: Central Sub-Station			
SS-2895 / 362-02	39/40 Field Assist/Project Coordination (Less 56,208)	91,113.12		91,113.12
SS-2899 / 362-02	34/35/38 Accounting/Legal/Permits/Administrative	15,065.76		15,065.76
	North Sub-Station: North Sub-Station			
ST-2896 / 362-07	39/40 Field Assist/Project Coordination (Less 56,208)	91,113.12		91,113.12
ST-2900 / 362-07	34/35/38 Accounting/Legal/Permits/Administrative	15,065.77		15,065.77
	South Sub-Station: South Sub-Station			
NT-2897 / 362-08	39/40 Field Assist/Project Coordination (Less 56,208)	91,113.12		91,113.12
NT-2901 / 362-08	34/35/38 Accounting/Legal/Permits/Administrative	15,065.77		15,065.77
	TOTAL PROJECT COSTS TO BE CAPITALIZED	1,833,969.88	6,370,083.97	8,204,053.85
	Net Interest Expense (Bond Interest Expense minus Construction Fund Interest Earnings) through 12-31-94 (per SBA Auditor):			
EN-2902 / 313	Power Plant		320,205.85	
SS-2903 / 362-02	Central Sub-Station		160,102.93	
ST-2904 / 362-07	South Sub-Station		160,102.93	
NT-2905 / 362-08	North Sub-Station		160,102.93	
	TOTAL NET INTEREST EXPENSE TO BE CAPITALIZED		800,514.64	
	Other Bond Related Costs:			
	Underwriter's Discount		129,750.00	
	Debt Service Reserve		862,556.00	
	Repayment of Water Loan & Interest		243,886.00	
	Interest on BAN's		40,823.00	
	TOTAL OTHER BOND RELATED COSTS		1,277,015.00	
	TOTAL CAPITALIZED COSTS PLUS OTHER BOND RELATED COSTS:			10,281,583.49

Jasper Municipal Utilities
Electric Generation Plant Asset Schedule as of 10-31-2009
(excludes misc. tools, office/computer equip, vehicles, etc.)

DY 03361

A - Active R - Retired	G/L Account #	General Ledger (G/L) Account # Description	Capital Asset Number	Est. Useful Life (Years)	YYYY-MM-DD Date Acquired	YYYY-MM-DD Date Retired	(1) Asset Type	(2) Ins. Type	(3) Ins. Loc.	Asset Description	Cost	10/ Acc Dep
R	3120-000	Elec. Equip. & Cooling Towers	55-EE-001370	67	1991-08-07	1995-12-31	D	Ret.	Ret.	Chlorination Unit	500.00	
R	3120-000	Elec. Equip. & Cooling Towers	55-EE-002942	67	1967-01-01	1995-12-31	D	Ret.	Ret.	Cooling Tower	97,857.00	
R	3160-000	Misc. Power Plant Equipment	55-PE-002617	25	1995-04-27	2005-08-15	D	Ret.	Ret.	Coal Conveyer - 30" 48' - Used	2,225.00	
R	3140-000	Turbogenerator Units	55-TU-000028	67	1967-01-01	2001-08-17	D	Ret.	Ret.	Beginning Balance - Turbo Generators	1,223,423.60	
R	3140-000	Turbogenerator Units	55-TU-002940	67	1967-01-01	1995-12-31	D	Ret.	Ret.	Turbo Generators	620,752.87	
R	3140-000	Turbogenerator Units	55-TU-002941	67	1967-01-01	1995-12-31	D	Ret.	Ret.	Turbo Generators	15,484.56	
A	3150-000	Accessory Electric Equipment	55-AU-002400	30	1994-05-31		D	P	108	Chart Recorder 10" Strip 3-Channel	4,538.00	
A	3150-000	Accessory Electric Equipment	55-AU-002874	30	1995-01-01		D	P	108	House Transformer Purchases and Installation	48,040.00	
A	3150-000	Accessory Electric Equipment	55-AU-003159	30	1995-01-01		D	A	108	New House Transformer Engineering Study	3,091.00	
A	3970-000	Communication Equipment	55-CO-000071	25	1980-01-01		D	C *	108 *	Beginning Balance - Communication Equipment	16,630.33	
A	3970-000	Communication Equipment	55-CO-000325	25	1988-04-20		D	C *	108 *	Mobile Midland CTCSS Base / Programming / Testing Model 70-385 (for stand-by communications)	1,040.00	
A	3970-000	Communication Equipment	55-CO-000624	25	1987-12-04		D	C *	108 *	ASP Antenna with 140 ft. 1/2 In. Heliax / 2 Connectors Model 685	897.75	
A	3970-000	Communication Equipment	55-CO-001836	25	1993-03-23		D	C *	108 *	Phone System Power Plant / DM 16-Key BusinessCom	2,441.58	
A	3970-000	Communication Equipment	55-CO-003256	25	1997-04-03		D	C *	108 *	Base / Adaptor DC-Tone Interface / Power Supply Cabinet Model 70-134DB S/N 076085	1,689.00	
A	3120-000	Elec. Equip. & Cooling Towers	55-EE-000026	67	1967-01-01		D	B	118	Cooling Tower at Power Plant	468,772.10	2
A	3120-000	Elec. Equip. & Cooling Towers	55-EE-002863	30	1995-01-01		D	B	118	Cooling Tower Refurbish	97,857.00	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002852	30	1995-01-01		D	P	108	Multiclone System Material and Installation	195,785.00	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002857	30	1995-01-01		D	P	108	Coal Handling System Refurbish	36,445.28	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002858	30	1995-01-01		D	P	108	Superheater and Economizer Replacement	348,224.83	1
A	3130-000	Engines & Engine Driven Equip.	55-EN-002859	30	1995-01-01		D	P	108	Light Off Gas Burner Material and Installation	360,120.46	1
A	3130-000	Engines & Engine Driven Equip.	55-EN-002864	30	1995-01-01		D	P	108	Electrostatic Precipitator Material and Installation	1,812,790.03	8
A	3130-000	Engines & Engine Driven Equip.	55-EN-002867	30	1995-01-01		D	P	108	Boiler Controls - Replace Controls with Electronics	181,929.20	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002868	30	1995-01-01		D	P	108	Boiler Piping - Replace Blowdown Piping	15,975.00	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002869	30	1995-01-01		D	P	108	Boiler Cleaning - Acid Cleaning and Disposal	69,680.12	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002873	30	1995-01-01		D	P	108	Ash System Replacement	493,293.05	2
A	3130-000	Engines & Engine Driven Equip.	55-EN-002894	30	1995-01-01		D	A	108	Engineering: Field Assistance / Project Coordination	273,339.35	1
A	3130-000	Engines & Engine Driven Equip.	55-EN-002898	30	1995-01-01		D	A	108	Accounting / Legal / Permits / Administrative	45,197.30	
A	3130-000	Engines & Engine Driven Equip.	55-EN-002902	30	1995-01-01		D	P	108	Capitalized Interest	320,205.85	1
A	3130-000	Engines & Engine Driven Equip.	55-EN-003142	30	1995-01-01		D	A	108	Multiclone System Engineering Services	72,653.00	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003147	30	1995-01-01		D	A	108	Coal Handling System Engineering Services	2,361.00	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003148	30	1995-01-01		D	A	108	Superheater and Economizer Engineering Services	2,677.32	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003149	30	1995-01-01		D	A	108	Light Off Gas Burner Engineering Services	38,893.97	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003152	30	1995-01-01		D	A	108	Electrostatic Precipitator Engineering Services	76,017.23	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003154	30	1995-01-01		D	A	108	Boiler Controls Engineering Services	53,349.46	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003155	30	1995-01-01		D	A	108	Boiler Piping Engineering Services	5,917.00	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003156	30	1995-01-01		D	A	108	Boiler Cleaning Engineering Services	4,497.00	
A	3130-000	Engines & Engine Driven Equip.	55-EN-003158	30	1995-01-01		D	A	108	Ash System Replacement Engineering Services	58,965.60	
A	3950-000	Laboratory Equipment	55-LE-000069	25	1967-01-01		D	E	108	Beginning Balance - Laboratory Equipment	9,850.46	
A	3950-000	Laboratory Equipment	55-LE-000904	25	1984-12-03		D	E	108	Refrigerator Sanyo Almond-Color (Shop) Model SR1120-2	349.95	
A	3980-000	Miscellaneous Equipment	55-ME-000461	25	1988-08-29		D	P	108	Split System Heatpump with 20 KW Resistance - Manager's Office 36,000 Btu	3,062.16	
A	3980-000	Miscellaneous Equipment	55-ME-000924	25	1984-12-15		D	P	108	Hot Water Heater - Main Floor Model KTA-030-RR S/N ZJ3560115	130.87	
A	3980-000	Miscellaneous Equipment	55-ME-001194	25	1990-04-03		D	P	109	Hilti Gun Kit	1,710.53	
A	3980-000	Miscellaneous Equipment	55-ME-001401	25	1991-07-09		D	P	109	13-P Oasis Cooler	516.69	
A	3980-000	Miscellaneous Equipment	55-ME-003259	25	1997-04-02		D	P	108	Amana Air / Electric Heat - Lab Room	745.00	
A	3980-000	Miscellaneous Equipment	55-ME-004533	25	2002-06-28		D	P	108	Carrier A/C Unit - Supt. Office S/N S0702X38461	1,450.00	
A	3900-521	Gen. Plant Structures / Improvements - Radio Shack	55-NS-000062	67	1985-01-01		B	B	108	Beginning Balance - New Radio Shack (Structure)	3,814.87	

Jasper Municipal Utilities

Electric Generation Plant Asset Schedule as of 10-31-2009

(excludes misc. tools, office/computer equip, vehicles, etc.)

A - Active R - Retired	G/L Account #	General Ledger (G/L) Account # Description	Capital Asset Number	Est. Useful Life (Years)	YYYY-MM-DD Date Acquired	YYYY-MM-DD Date Retired	(1) Asset Type	(2) Ins. Type	(3) Ins. Loc.	Asset Description	Cost	10/ Acc Dep
A	3160-000	Misc. Power Plant Equipment	55-PE-001301	25	1991-05-03		D	A	108	Opacity Monitor Installation Engineering Services	1,185.90	
A	3160-000	Misc. Power Plant Equipment	55-PE-001322	25	1991-06-04		D	A	108	Opacity Monitor Installation Engineering Services	2,349.97	
A	3160-000	Misc. Power Plant Equipment	55-PE-001344	25	1991-07-03		D	A	108	Opacity Monitor Installation Engineering Services	2,161.66	
A	3160-000	Misc. Power Plant Equipment	55-PE-002569	25	1995-02-06		D	P	108	Oxygen Analyzer Teledyne Continuous Model 9500 S/N 147517	4,973.32	
A	3160-000	Misc. Power Plant Equipment	55-PE-002810	25	1995-09-18		D	P	108	Tuff Pressure Washer Model 830360 S/N 8522	2,360.00	
A	3160-000	Misc. Power Plant Equipment	55-PE-002853	30	1995-01-01		D	P	108	Continuous Emission Monitor Material and Installation	102,325.40	
A	3160-000	Misc. Power Plant Equipment	55-PE-002854	30	1995-01-01		D	B	108	Asbestos Removal and Reinsulate	35,517.00	
A	3160-000	Misc. Power Plant Equipment	55-PE-002855	30	1995-01-01		D	A	108	Emission Stack Tests to Determine Compliance	14,215.00	
A	3160-000	Misc. Power Plant Equipment	55-PE-002870	30	1995-01-01		D	P	108	Control Room Enclosure - Construction	23,580.00	
A	3160-000	Misc. Power Plant Equipment	55-PE-002879	30	1995-01-01		D	A *	108 *	Cogen Engineering Rate Study	1,589.61	
A	3160-000	Misc. Power Plant Equipment	55-PE-003143	30	1995-01-01		D	A	108	Continuous Emission Monitor Engineering Services	21,015.00	
A	3160-000	Misc. Power Plant Equipment	55-PE-003144	30	1995-01-01		D	A	108	Asbestos Removal and Insulation Engineering Services	13,192.00	
A	3160-000	Misc. Power Plant Equipment	55-PE-003145	30	1995-01-01		D	A	108	Emission Stack Tests Engineering Services	5,238.00	
A	3160-000	Misc. Power Plant Equipment	55-PE-003723	30	1999-08-03		D	P	108	Amana Heat / Cool Model (Control Room)	785.00	
A	3160-000	Misc. Power Plant Equipment	55-PE-004592	10	2002-09-03		D	P	108	Boiler Computer with Conductor NT Server Software	33,438.00	
A	3100-000	Power Plant Land & Land Rights	55-PL-000024	N/A	1988-01-01		A	L		Beginning Balance - Plant Land	22,305.65	
A	3110-000	Power Plant Structures	55-PS-000025	67	1967-01-01		B	B	108	New Plant Structures	1,576,392.78	1,0
A	3110-000	Power Plant Structures	55-PS-000063	67	1967-01-01		B	B	111	Quanset Hut - Steel Warehouse Building	18,490.75	
A	3110-000	Power Plant Structures	55-PS-000526	67	1988-11-09		B	S	108	Concrete Driveway - 49 x 25 x 6" Thick, 23 Yards Slick Finish	1,265.00	
A	3110-000	Power Plant Structures	55-PS-000527	67	1988-11-09		B	S	108	Sidewalk 70" - Broomed Finish	461.88	
A	3110-000	Power Plant Structures	55-PS-001141	67	1989-12-14		B	B	111	2/8 - M70 Steel Door on Steel Warehouse Building	131.25	
A	3110-000	Power Plant Structures	55-PS-001348	67	1991-06-24		B	B	108	10' x 9' Steel Storage Building	299.99	
A	3110-000	Power Plant Structures	55-PS-001987	67	1993-08-06		B	P	108	12 x 14' Overhead Door	1,218.76	
A	3110-000	Power Plant Structures	55-PS-002860	30	1995-01-01		B	B	108	Stack Refurbish Lining and Paint	72,950.00	
A	3110-000	Power Plant Structures	55-PS-002871	30	1995-01-01		B	B	108	Coal Bunker Construction	167,260.00	
A	3110-000	Power Plant Structures	55-PS-002872	30	1995-01-01		B	P *	108 *	Coal Pile and Sludge Basin Clean-up Earth / Disposal Work	21,567.27	
A	3110-000	Power Plant Structures	55-PS-003116	67	1967-01-01		B	S	111	Quanset Hut - Steel Warehouse Building Sub-structure	2,903.51	
A	3110-000	Power Plant Structures	55-PS-003117	67	1967-01-01		B	S	108	New Plant Foundation Sub-Structure	107,655.02	
A	3110-000	Power Plant Structures	55-PS-003118	67	1967-01-01		B	B	109	Maintenance Building Structure	28,106.17	
A	3110-000	Power Plant Structures	55-PS-003150	30	1995-01-01		B	A	108	Stack Refurbish Engineering Services	4,721.00	
A	3110-000	Power Plant Structures	55-PS-003157	30	1995-01-01		B	A *	108 *	Coal Pile and Sludge Basin Cleanup Engineering Services	64,587.46	
A	3110-000	Power Plant Structures	55-PS-003174	67	1970-10-16		B	S	109	Maintenance Building Foundation Substructure	3,091.66	
A	3110-000	Power Plant Structures	55-PS-003665	30	1998-03-26		B	B	108	Installed Versigard Roof	7,879.00	
A	3110-000	Power Plant Structures	55-PS-004494	30	2002-05-30		B	B	108	Door on Wall of Turbine Room	978.22	
A	3900-533	Gen Plant Structures / Improvements - Drives & Parking Lots	55-RD-005533	20	2006-07-22		C	L *	108 *	Asphalt Paving around Shop, Cooling Tower and Precipitator	87,700.00	
A	3990-000	Safety Equipment	55-SF-002406	20	1994-05-31		D	P	108	General Electric Blower S/N 27785	885.00	
A	3990-000	Safety Equipment	55-SF-002523	20	1994-12-06		D	P	108	Installed 2-Eye Washes and Misc. Plumbing Fixtures	686.83	
A	3990-000	Safety Equipment	55-SF-002535	20	1994-11-30		D	P	109	(3) Paint Cabinet 2-Door Self-Close 40-Gallons	574.70	
A	3990-000	Safety Equipment	55-SF-002561	20	1995-01-05		D	P	108	Coal Conveyor Alarm	3,055.01	
A	3990-000	Safety Equipment	55-SF-003548	20	1998-09-17		D	P	108	Rechargeable Battery Pack with Charger	1,860.60	
A	3140-000	Turbogenerator Units	55-TU-002865	30	1995-01-01		D	P	108	Turbine and Exciter	582,193.87	2
A	3140-000	Turbogenerator Units	55-TU-003153	30	1995-01-01		D	A	108	Turbine - Engineering Services	38,559.00	
A	3140-000	Turbogenerator Units	55-TU-004246	30	2001-08-17		D	P	108	Generator Rebuild & Upgrade	689,861.70	1
										Total Active Plant Assets	8,886,532.08	4,5

Jasper Municipal Utilities
Electric Generation Plant Asset Schedule as of 10-31-2009
(excludes misc. tools, office/computer equip, vehicles, etc.)

A - Active R - Retired	G/L Account #	General Ledger (G/L) Account # Description	Capital Asset Number	Est Useful Life (Years)	YYYY-MM-DD Date Acquired	YYYY-MM-DD Date Retired	(1) Asset Type	(2) Ins. Type	(3) Ins. Loc.	Asset Description	Cost	10/ Acc Dep

(1) Asset Types:

A	Land
B	Buildings
C	Improvements
D	Machinery & Equipment

(2) Property Insurance Types

*	Not on property insurance schedule
A	Architect Fees
A *	Architect Fees (not on property insurance)
B	Buildings
C *	Communication Equipment (not on property ins.)
E	Lab Equipment
L	Land & Land Improvements
L *	Land & Land Improvements (not on property ins.)
P	Personal Property
P *	Personal Property (not on property insurance)
S	Substructure/Foundation

(3) Property Insurance Location:

*	Not on property insurance schedule
108	Power Plant 15th St.
109	Maintenance Bldg. 15th & Knust St.
111	Quanset Bldg. 15th & Knust St.
118	Cooling Tower 15th & Knust

SURFACE CONDENSER ENGINEERING DATA SHEET

Customer City of Jasper, Municipal Electric Plant
Location Jasper, Indiana — Number of Units One
Serial Number 1606161 — Works Order Number P-447360
Customer's Order Number 1438-4 — Sales Office Number 33-60032

DESIGN PERFORMANCE

Steam Condensed - Lbs./Hr. — Heat Removed 112,000,000 BTU/Hr.
Absolute Pressure 2.5 Inches Hg. — Inlet Water Temperature 88 °F.
Circulating Water 15,800 USGPM — Cleanliness Factor 85 % HEI.
Circulating Water Friction thru Condenser, clean tubes 11.3 ft.water @ 15,800 GPM

DATA

Surface 15,000 Sq. Ft. — Type Circulation Two-Pass, Divided

Shell 5/8 in. Steel Plate — Number Support Plates Four (4)

Water Boxes Steel — Water Box Test Pressure 40 p.s.i.Ga.

Tubes, 3,280, 7/8 in O.D. x 18 B.W.G. x 20'2½ in. Total length, rolled & belled in tube plate at inlet, rolled in tube plate at outlet, material Admiralty type "B".

108 tubes Plug

Tube Head Size 93"Dia. x 1-1/8"Thk., Material Muntz Metal

Water Box Flange Gaskets, to Water Box Cover 1/8" Rubber
to Tube Sheet 1/8" Rubber

Water Level Gauges, manufacturer Penberthy Model 58A
One (1) on hotwell, 3/4 in. fittings, 3/4 in.Dia.x 29 in.glass
- on water boxes, - in. fittings, - in.Dia.x - in.glass

Weights, approximate,

condenser, dry	91,000 lbs.
condenser, service	122,000 lbs.
condenser, all flooded	176,000 lbs.
inlet water box	6,500 lbs.
return or outlet water box	4,200 lbs.
water box cover	3,200 lbs. each half

ADDITIONAL EQUIPMENT FOR CONDENSER

46"x8'0" Sts.Stl. Exhaust Expansion Joint (Temp-flex)
Split range hotwell Level Control (Mason-Neilan) Schematic arrg't.E-147559/.
#5 (12 CFM) Air Leakage Meter (Fischer & Porter)
Five (5) 4½"Dial Thermometers and One (1) Thermometer Test Well (M.M.&M.)

Elevation Drawing DR-125072 — Tube Sheet Drawing * DR-125375

*To be furnished on request.

STEAM-JET EJECTOR ENGINEERING DATA SHEET

Purchaser City of Jasper, Municipal Electric Plant
Location Jasper, Indiana — Number of Units One
Serial Number 1611927 — Works Order Number P-447361
Customer's Order Number 1438-4 — Branch Office Number 33-60032

Size and Type of Unit 6 CTH Ejector

DESIGN PERFORMANCE

Capacity per Element 112.5 Tot. lbs. mix./hr. including 7.5 SCFM 33.7 lbs./hr. non-condensibles at 1 in. hg. abs. suction pressure
Min. Steam Press. at Nozzle 260 psig. 798 °F. T.T. 1 PSIG Max. Back Press.
Steam Consumption per Element 470 lbs./hr.
Perf. Curve E-142030

DATA ON INDIVIDUAL STAGES

	1st Stage	2nd Stage	3rd Stage
Nozzle Number	2929	3367	
Nozzle Throat Dia.-in.	0.173	0.159	
Drill Size	17	21	
Nozzle Extension Length-in.	2-1/2	3-1/8	
Diffuser Throat Dia.-in.	1.844	0.688	

CONDENSER DATA

	1st Intercondenser	2nd Intercondenser	Aftercondenser
Surface - Sq. Ft.	118		75
Tube Dia. and Gauge	3/4 18		3/4 18
Tube Overall Length in.	72		72
Number of Tubes	100		64
Type Tube Packing	Straight rolled both ends		

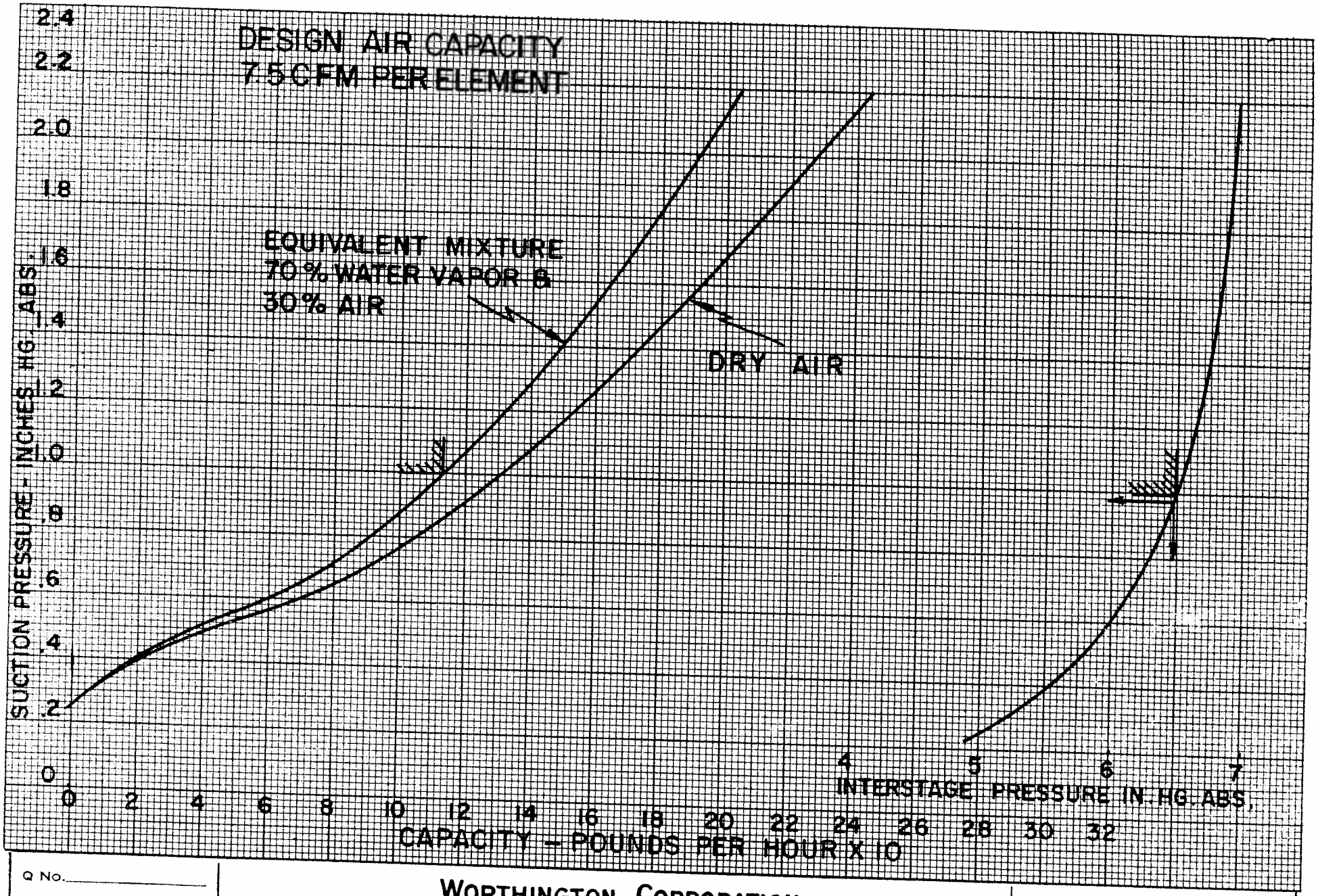
Min. Cooling Water - GPM 130 @ 80 F.
Cooling Water Friction Thru Unit, Clean Tubes, 4.5 ft. Water @ 270 GPM
Water Box Test Pressure 280 PSIG

MATERIALS

Nozzle and Extension Stainless Steel — Shell Steel
Diffuser Cast Iron — Tubes Welded type 304 Stainless Steel
Nozzle Head Chrome Moly Steel — Water Boxes Steel
Body Cast Iron — Tube Heads Type 304 St.St.

Thermostatic Recirculation Control Valve Setting None
Drain Trap Manufacturer Fisher Governor Co., Marshalltown, Iowa
Drain Trap Sizes - Intercondenser 37M 1/2" Orifice Fisher W501, Aftercondenser 37M - 3/8" Orifice Fisher U888
Approximate Weight of Unit 4200 lbs.

Stages Page 11 of 4520-E2
Elevation Drawing DX-124909 Sectional Drawing Condensers SK-151092



Q No._____

ORDER No._____

APPR._____

WORTHINGTON CORPORATION
HARRISON, N.J.

SUBJECT SHOP TEST-FIRST STAGE OF 6 CTH STEAM JET EJECTOR

DATE_____

E-142030

W1013 263M20

STEAM-JET EJECTOR ENGINEERING DATA SHEET

Purchaser City of Jasper, Municipal Electric Plant
Location Jasper, Indiana — Number of Units One
Serial Number 1611928 — Works Order Number P-447362
Customer's Order Number 1438-4 — Branch Office Number 33-60032

Size and Type of Unit 4 NPA Ejector

DESIGN PERFORMANCE

Capacity per Element 1350 Tot. lbs. mix./hr. including 300 SCFM 1350 lbs./hr. non-condensibles
at 15 in.hg.abs. suction pressure
Min. Steam Press. at Nozzle 260 psig. 798 °F.T.T. 1 PSIG Max. Back Press.
Steam Consumption per Element 1450 lbs./hr.

DATA ON INDIVIDUAL STAGES

	1st Stage	2nd Stage	3rd Stage
Nozzle Number	3337		
Nozzle Throat Dia.-in.	0.413		
Drill Size	Letter Z		
Nozzle Extension Length-in.	None		
Diffuser Throat Dia.-in.	1.875		

CONDENSER DATA

	1st Intercondenser	2nd Intercondenser	Aftercondenser
Surface - Sq. Ft.			
Tube Dia. and Gauge			
Tube Overall Length in.			
Number of Tubes			
Type Tube Packing			

Min. Cooling Water - GPM
Cooling Water Friction Thru Unit, Clean Tubes, _____ ft. Water @ _____ GPM
Water Box Test Pressure

MATERIALS

Nozzle and Extension stainless steel — Shell
Diffuser Cast Iron — Tubes
Nozzle Head Chrome Moly Steel — Water Boxes
Body Cast Iron — Tube Heads

Thermostatic Recirculation Control Valve Setting
Drain Trap Manufacturer
Drain Trap Sizes - Intercondenser _____, Aftercondenser

Approximate Weight of Unit 150 lbs.

Elevation Drawing SK-123291 — Sectional Drawing SK-83106

EJECTOR TYPES - THEIR PRINCIPLE OF OPERATION

The purpose of the steam-jet ejector is to continuously compress the air and other non-condensibles liberated in the vacuum system to a little above atmospheric pressure.

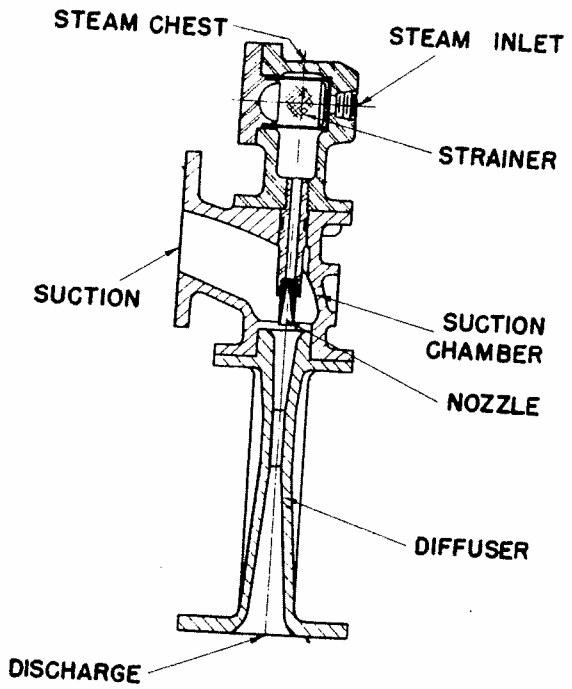


FIG. 1. THE SINGLE-STAGE EJECTOR IS THE BASIC EJECTOR.

Operating Principle:

The basic steam-jet ejector is shown in Fig.1. High-pressure steam, or motive steam, as it is often called, is expanded through the steam nozzle to a lower pressure, acquiring high velocity. The high velocity jet entrains the gases and vapors flowing into the suction, increasing their velocity at the expense of a part of it's own velocity. The mixture - of motive steam, air and vapors - enters the converging diverging diffuser where the velocity of the mixture is, in large part, reconverted to a discharge pressure higher than the suction pressure.

Ejectors as used in practice have one or more stages. Fig.2 shows a section of a two-stage ejector with it's condensers, one for the first-stage, one for the second or atmospheric stage - that stage from which final discharge of air and vapor is made to the atmosphere. Condensers are used between stages for condensing the condensible load and motive steam from the preceding stage, thereby reducing the load to the next stage. Thus in Fig.2 the inter-condenser reduces the load to the second stage and thereby reduces the steam consumption of the ejector.

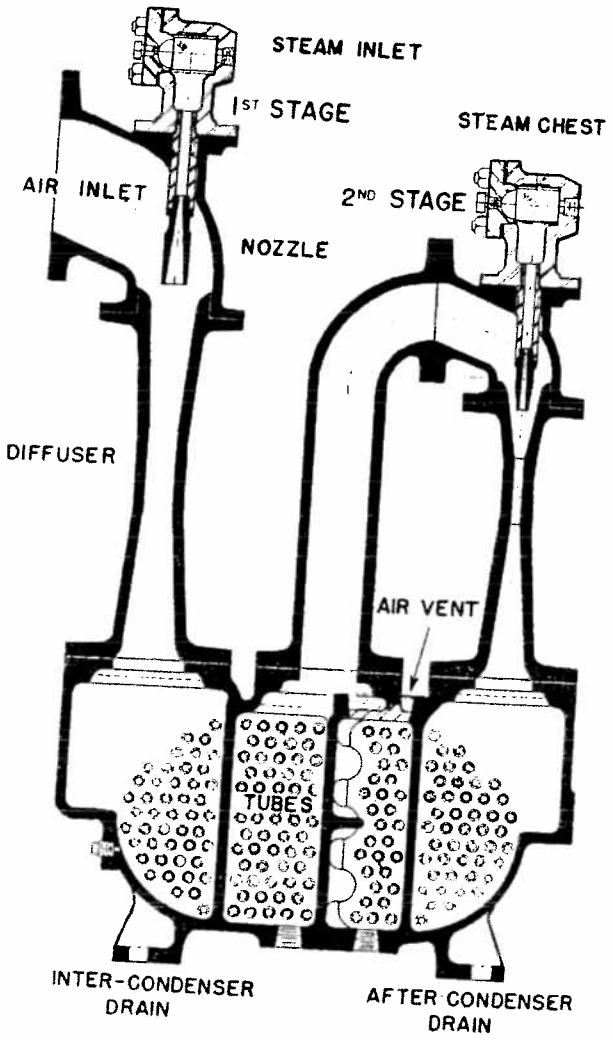


FIG. 2. SECTION OF THE TWO-STAGE, SINGLE-ELEMENT, TYPE CPH EJECTOR.

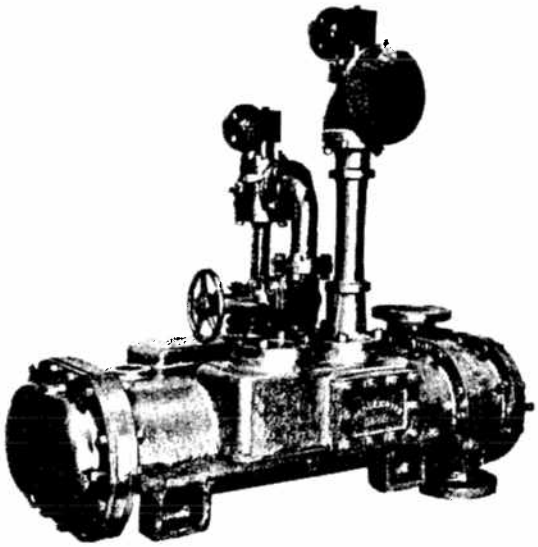


FIG.3. TYPE CPH TWO-STAGE, SINGLE-ELEMENT EJECTOR

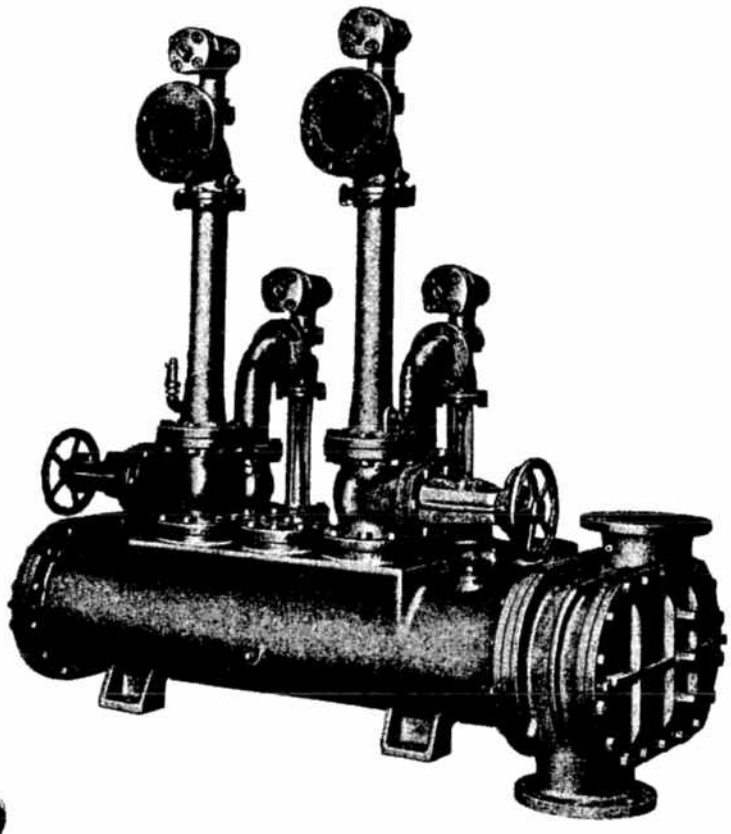


FIG.4. TYPE CTH, TWO-STAGE, TWIN ELEMENT EJECTOR

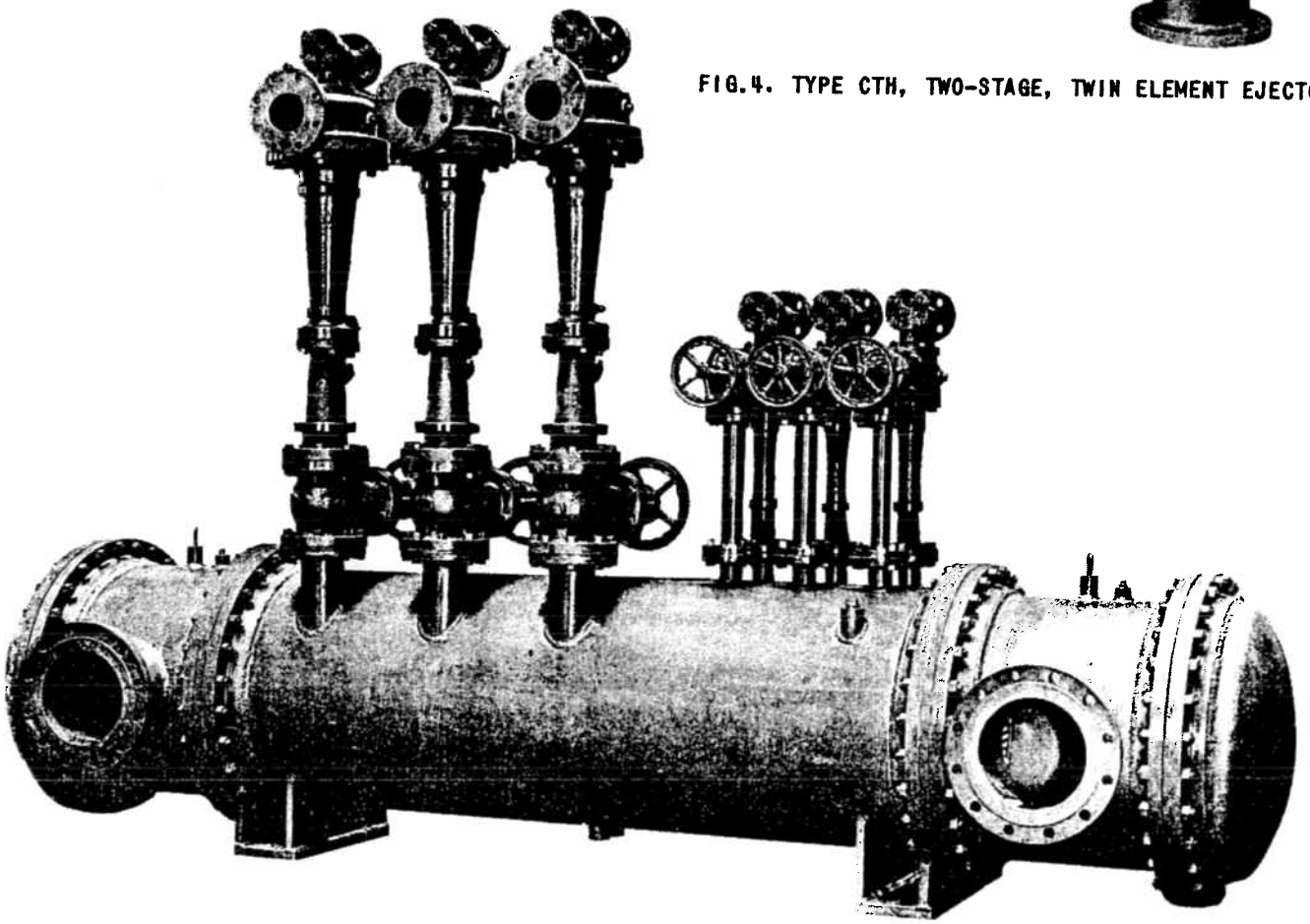


FIG.5. TYPE CXH, TWO-STAGE, TRIPLE-ELEMENT EJECTOR OF LARGE CAPACITY.

The after-condenser condenses the steam and vapor from the second or atmospheric stage. This condensation takes place at atmospheric pressure as the after condenser discharges it's air and vapor direct to the atmosphere. The after-condenser therefore does not affect the steam consumption of the ejector. It does conserve the condensate from the motive steam and some of its heat. After-condensers are used where it is objectionable to discharge vapors from the atmospheric stage directly to the atmosphere.

The type ejector shown in Figs.2 and 4 is often used for the removal of non-condensibles from a surface condenser serving a steam turbine. The intercondenser pressure is intermediate between the turbine's condenser pressure (vacuum) and atmospheric pressure. The steam condensed in the condensers serving the ejector is drained back into the main condenser serving the turbine. The cooling or condensing water used by the ejector's condensers usually is condensate from the main condenser, it being discharged by the hotwell pump through the ejector's condensers on it's way to the feedwater system.

Stages and Elements:

These are two important terms in ejector language. "Stage", by now is understood by you. Perhaps the best way to define "element" is to say it means one ejector, regardless of the number of stages the ejector has. The kind of element is made known by stating the number of stages it has. Thus an element with one stage is called a "single-stage, single element". If it has two stages, it's a "two stage single element", three, "three-stage single element", and so on.

Just as an element is one stage or an assembly of stages, a complete ejector is an assembly of "elements", one or more. An ejector of one element, Fig.3, is a "single-element"ejector. If it has two-elements, as Fig.4, it's a "twin-element" ejector. If three elements, as Fig.5, a "triple-element", and so on.

Elements and Ejector Capacity:

Capacity of an ejector is usually stated as capacity "per element". Ejectors serving surface condensers of steam turbines often are twin-element, occasionally triple-element. And one element usually has sufficient air-removal capacity to carry the normal air-leakage load. The other element is stand-by. In event of increase-above-normal air leakage the stand-by element can be started to help carry the increased load. Usually the second-stage only of the stand-by element is required for this. This stage then pulls it's vapor from the intercondenser; discharge of the 1st stage of this standby element must be closed. Both stages of the standby element can be operated, if required. With both stages of both elements operating at one time supply of condensing water likely will have to be increased above the minimum required for one element. If air leakage is excessive, operate two second stages with one first. The right-hand first stage can be operated with the left-hand second stage and vice versa. If both first stages were inoperative, the second stages would probably maintain a sufficient vacuum for emergency operation. An evacuator, if installed, can be used for emergency operation during excessive air leakage.

Air leakage is, of course, greatest at starting the turbine. Then the seals on the shaft, particularly at the low-pressure end, are cold and their clearance great. But with a properly maintained turbine and its auxiliaries, and the turbine under normal load, air leakage is low, usually not exceeding 4 cfm., much lower in many installations.

Ejector Condenser Cooling Water:

Before turning steam on the nozzles

of an ejector having inter- and after-condensers, condensing water - condensate or raw water, whichever is used - should be circulating through the ejector condenser tubes. So, when possible at starting have enough condensate in the main condenser hotwell for the ejector condensers without pulling down the condensate level too low in the main condenser hotwell. The condensate pump usually must have a minimum head on it's suction.

When not enough condensate from the main turbine is available to condense the motive steam and cool the air in the ejector's condensers, either circulating water from an outside source must be used or recirculation of the condensate back to the main condenser must be done.

Recirculation of Condensate:

The quantity of condensate available from the main condenser varies with the load on the turbine. To provide a sufficient quantity of this condensate at light loads part of the condensate already delivered to the ejector's condensers must be discharged back into the main condenser. This is recirculation of the condensate. Control of when and how much of the condensate is recirculated may be manual or automatic. Usually it is automatic. Controls are described later.

Ejector Condenser Drains:

Ejector condenser drains may be saved by returning them to the main condenser. Because pressure in the

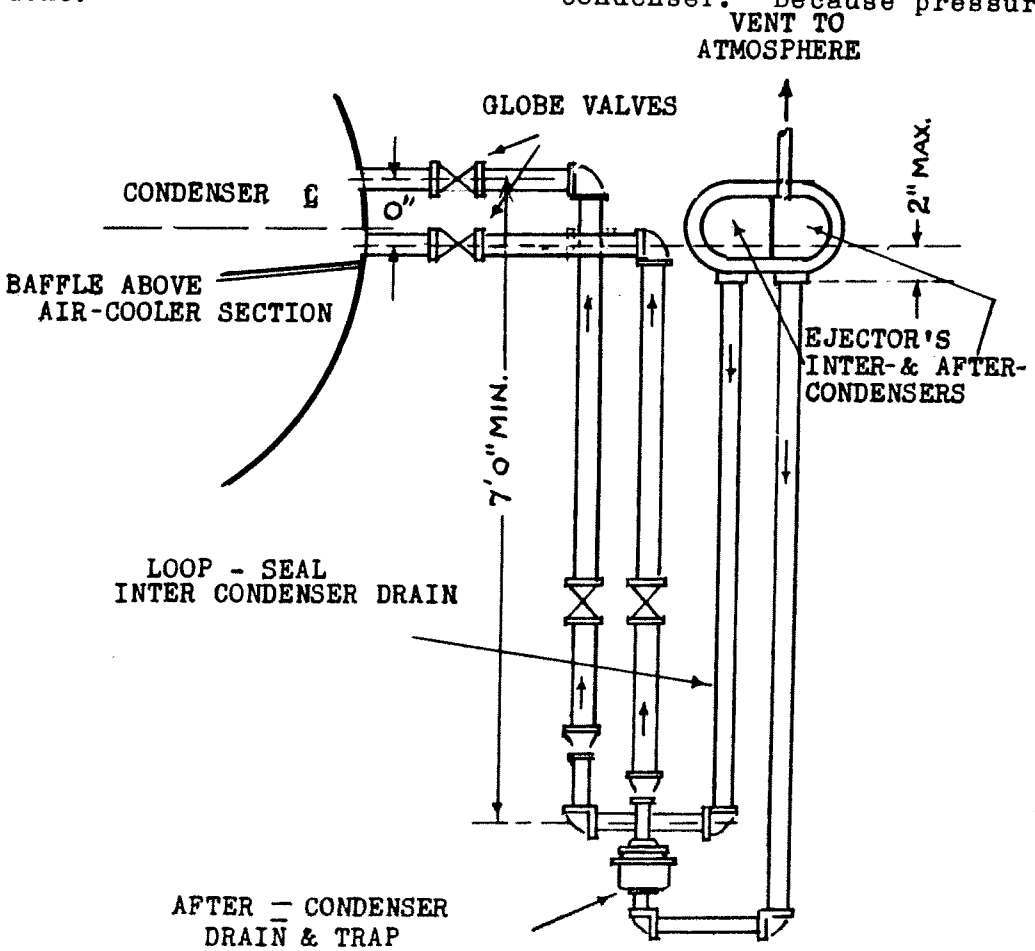


FIG.6. TYPICAL LOOP-SEAL DRAIN FOR INTER-CONDENSER.

1. Start A.C. oil pump.
   Put D.C. oil pump in automatic position.
   Start vapor extractor.
   Check bearing sight glasses for oil flow.
   Open oil valve to turning gear, and start turning gear motor.
   Run turning gear for 6 hours minimum.
   Start lube oil purifier.
   Maintain oil temperature to bearing at 90* to 100* F.

2. Open: 600# steam line at boiler.
   Steam drum air cocks.
   Water gauge glasses.
   Superheater vents.
   L.P. extraction trip valve
   Steam line drains
   Close all boiler blowdown valves, economizer vent and hydrazine injection (2) valves to superheater.

3. Fill boiler with feedwater to light off level (0") using heater pump.
   Open front grate damper
   Start circulating water pump and vent line.
   Start cooling water booster pump.
   Open drains collector pump discharge valve and start pump on automatic.
   Open drains collector valve at meter.
   Open cooling water to:
   Ash pit doors
   I.D. Fan
   Boiler Feed Pump
   Turbine oil coolers
   Vertical air compressors
   Coal feeders

4. Make sure Electrostatic Precipitator is energized.
   Turn on fly ash re-injection motors

5. Open main water valve at cooling tower.
   Start chemical pumps for:
   Boiler and cooling tower.

6. Open turbine drains,
   Close vacuum release valve.
   Close turbine throttle valve.
   Close hotwell drain.
   Close D.A. tank extraction control valve.

7. I.D. FAN STARTUP:
   I.D. Damper control must be 75 %
   Go to Display Summary on Boiler Computer
   Click on Air Control, select Run
   Adjust the draft on the computer or on the analog control
   Before starting gas burner, make sure to bring the draft on the I.D. fan to at least – 1.0

8. Gas Burner Startup
   Open the main gas valve
   Open the small ball valve on the main line
   Open the small ball valve for the pilot valve
   Press start on the gas control panel
   Press cooling fan damper alarm to stop alarm
   After burner lights, go to control room, and raise gas output slowly.

9. When steam forms in boiler, close air cocks.
   Close down on steam drains to prevent excessive blowing.

10. When steam pressure reaches 100# lift check valves to boiler.
    Open economizer inlet from H.P. heater
    Open D.A. tank inlet from heater pump.
    Open D.A. suction to boiler feed pump.
    Close two (2) bypass valves.

11. Increase output on coal feeder controls and run until there is about 2 inches of coal on the grate.
    Turn grate drive control on 2.0 or 2.5
    Increase I.D. fan draft to – 2.5.
    Start Overfire air fan.
    Make sure to turn down F.D. damper control to –5.00
    Start F.D. fan.
    Raise F.D. damper control.

12. When steam drum level starts dropping, start boiler feed pump steam turbine.
    Open re-circulating line on boiler feed pump three rounds.
    Start heater pump.
    Admit boiler water on occasion to prevent water hammer.
    Maintain slow and steady firing rate (0 – 380#) steam in 4 hours.

13. When boiler pressure reaches 300#, open condensate make up valve under hotwell (3) rounds.
    When water level is normal, start condensate pump.

Open steam seal valve.
Open spray water valve to 10#. Leave spraywater on a few minutes,
Start gland exhauster pump.

14. Start hogger unit and air ejector to raise 20-25" of vacuum.
Start steam lube oil pump.
Turn A.C. oil pump off.

15. Open main steam bypass valve.

16. Press Reset on the exciter keypad.
Reset each control panel on the switchgear and in the control room.
Make sure lock-out relay is reset on switchgear.
Reset the stop valve in the control room.

Start steam chest warm-up as follows:

0 – 50# ---------- 15 minutes

0 – 150# ---------- 10 minutes

0 – 250# ---------- 5 minutes

0 – 350# ---------- 5 minutes

0 – Full Pressure -- 30 minutes

17. Open main steam valve.
Close bypass valve.
Turn off generator heaters.

Spin turbine gradually from:

0 --- 800 rpm in 15 minutes

800 – 1000 rpm in 15 minutes

1000 – 3600 rpm in 5 minutes

18. Bring lube oil temperature to 110* to 115* F.
Place generator on line.
Close all turbine drains.
Close superheater vent.

19. Tighten manhole and handhole gaskets.
    Check steam trap operation.

20. Close condensate make up valve under hotwell.
    At 5000 KW open D.A. tank extraction valve.
    At 5000 KW take hogger off.

SHUTDOWN OF 14,500 KW TURBINE/GENERATOR AND BOILER 10-31-2003

1. Shut off coal at coal scales

2. Change circulating water to city water for:
   Coal feeders
   Ash pit doors
   I.D. fan
   Boiler feed pump
   Turbine oil coolers
   Vertical air compressors

4. Turn off cooling water booster pump
   Shut down lube oil purifier
   Test: A\C and D\C oil pumps
   Non-return valves
   Main Stop Valve

3. Turn off cooling tower chemical pumps
   Shut off main water valve
   Shut off cooling tower blowdown valve

5. Start turbine steam drive oil pump

6. At 4,000 KW. trip D.A. heater, and L.P. heater extraction trip valves, in that order.

7. Crack open superheater vent.
   When coal is out of feeders, open superheater vent.
   Put grate drive on 10.

8. When steam pressure drops, take the generator load to zero.
   Trip the generator main breaker
   Push stop on the exciter IOS control pad.
   Go to the switchgear and turn the generator main breaker off.
   De-energize the underfrequency relay.

9. In the following order, test the oil trip, overspeed trip (3960 RPM)
   Open the vacuum release valve.
   Shut off the air ejector unit
   Open the turbine drains wide (except before seat drain)
   Call VECTREN – time on untie (812) 465-4194

SHUTDOWN OF 14,500 KW TURBINE/GENERATOR AND BOILER

10. Turn off generator booster pump when air temp. drops to 30*
    Close water valve to generator air coolers.

11. When hotwell temp begins rapid drop, turn off circulating pump and drains collector pump.
    Close drains collector pump discharge valve at meter.

12. Place turbine generator on turning gear. Turn on generator heaters and exciter housing light.

13. When boiler water level can no longer be maintained without excessive throttling of control valves, pump 12" high and shut down boiler feed pump.
    Turn off heater pump.

14. When boiler fire is out, turn off F.D. fan and overfire air fan.
    Run stoker feeders, grate, flyash re-injection motors and I.D.fan an hour after the boiler fire is out.

15. When boiler pressure drops to 100#, open heater pump discharge and lift check valves to boiler.
    Close economizer inlet from H. P. heater.
    Close D.A. tank inlet from heater pump.
    Close D.A. suction to boiler feed pump.
    Boiler water level is now maintained using heater pump.
    Turn off boiler chemical pump.

16. After 8 hours open air cock valves on top of steam drum.

17. After 8 hours turn off turning gear motor,
    Close oil valve.
    Turn off A.C. oil pump, then turn off D.C. oil pump.
    Turn vapor extractor off.
    Turn off city cooling water to equipment.

    Shut off water valves on top of condenser.

BLOWDOWN BAILEY TRANSMITTERS

TRIP THE EXPRESS BREAKER AT PLANT SWITCHGEAR

PLACING GENERATOR ON LINE

1. Bring machine TO 3600 R.P.M. and when all other associated equipment for the turbine and boiler is ready, the generator can be synchronized as follows.

2. Go to switchgear I.O.S. control panel, press the PRESTART button. Within 10 seconds, press START button. Turn on the generator synchronization switch on 13.2 switchgear. (Indicating lights are bright when out of synchronization, off when in synchronization.)

3. The running voltmeter on the synchronizing panel indicates generator voltage. Adjust the generator voltage to match the bus voltage by adjusting the voltage adjusting up or down button on I.O.S unit on Unit 2 of the switchgear.

4. Adjust generator speed with the turbine governor switch on unit 1 of 13.2 K.V. switchgear so that the generator speed is slightly faster than synchronous speed. This is indicated by the synchroscope rotating SLOWLY in a clockwise direction. The generator breaker (13.2 K.V. switchgear-Unit-1) can now be closed when the scope hand is slightly before midnight. Reenergize under frequency relays on express and old plant Skyline circuits.

5. The generator can be loaded by adjusting the turbine governor motor control switch on the dual switchboard.

6. The reactive load (VAR) in the generator can be changed by adjusting RAISE OR LOWER I.O.S. control switch on the dual switchboard. Raising the excitation voltage will increase the VAR's and decreasing the excitation voltage will decrease the VAR's.

NOTE: These instructions are in no way intended to cover all that should be checked out prior to any startup or shutdown. Reasonable and diligent operation, coupled with plain old common sense by plant personnel must supercede any written instructions. No plant function should be started unless you are certain all pumps, valves, etc., are properly aligned.

START-UP PROCEDURE FOR JOY SYSTEM
JASPER MUNICIPAL ELECTRIC UTILITY

I.D. FAN

- Verify breakers for bearing heater and Bailey acuator heaters are energized.

- Energize by-pass and VFD breakers.

- Turn on bearing cooling H_2O and verify ~ 3 G.P.M.

- Start fan normally in "Remote" switch position which enables control from the Bailey. Fan may be started locally with manual control pot. Fan will come up to desired speed.

PRECIPITATOR

- Verify the following breakers are energized in PDP: Rapper panel and the three (3) AVC fields. Hopper panel should be energized at all times to insure protection of the program in the modicon PLC.

- Verify breakers No. 12 (Annunciator) and No. 14 (Ash Handling are energized in lighting panel.

- Start ICVS. From panel in the penthouse, start the fan and heater with the push buttons. Verify system comes up to temperature by monitoring temp controller display. Set pt. 250°F. High temp trip 350°F.

- Start rappers with switch inside panel located in the penthouse. Verify program in operation if necessary by using the keypad in the panel. Press EDIT - 1234 and choose program 1, 2, or 3. These programs have the following repeat times:

	Field "A"	Field "B"	Field "C"
Program #1:	3 Min.	~~5~~ 6 Min.	~~10~~ 12 Min. PS-1 only
Program #2:	5 Min.	12 Min.	60 Min.
Program #3:	7 Min.	17 Min.	54 Min.

The rappers are presently using Program ~~#3~~ #1

- Start the AVC's. The T/R's should already be in High Voltage (HV) position at the T/R disconnect. The keys should be in the breakers (PDP) and energized. (Keys A1, B1, and C1). Proceed to the AVC panes and verify the

"Power On", "Halt", and "Alarm" lights are illuminated. Place "Auto/Man" switch in the "Auto" position. Energize the T/R's by pressing the red "Start" buttons. The "Unit On" light should illuminate and the "Power On" light will stay on. The "Halt" and "Alarm" lights should go out. The fields (A, B, and C) will attempt to reach full power (Primary current limit - 71 Amps). Boiler process may induce sparking at times and the AVC's will cut back and ramp up voltage as necessary to achieve the highest power possible.

- Check ICVS following alarm - May need to reset heater, clear alarm and check ICVS panel.

ASH HANDLING SYSTEM

- At the Joy ash handling panel, place the Auto/Man switch in the "Auto" position. Place the three (3) hopper "by-pass/collect" switches in the "Collect" position. Four (4) white lights will be illuminated (one light - auto, three lights - collect). Proceed to the UCC panels. Place filter/separator panel switches (2) in the "Auto" position. On the mechanical exhauster panel, make certain the atmosphere intake switch is in the "open" position. When ash is to be pulled, start the mechanical exhauster and press "The Hopper Permissive" button. This will illuminate the green hopper permissive light on the Joy panel. The hopper dust valves and the seg (row) valve will sequence automatically A, B, and C until hoppers are empty. The seg (row) valve will close at which time the exhauster may be shut down. If boiler ash is pulled first, it is necessary to shut down and start up the exhauster again as well as press the hopper permissive button. This is necessary to reset pressure switches in the UCC system.

PREPARED BY: STEVE CARROLL
JOY FIELD SERVICE ENGINEER

Boiler Nameplate

Union Iron Works
Division Of Riley Stoker Carporation
Erie, Pa.
Union Steam Generator
Date 02--06--67 Contract 90784
Heating Surface in Sq. Ft. 14,253
Boiler 12,288 Water Walls 1965
Design Pressure 750 P.S.I.
Serial No. 23424
Max. Cont. Cap. 140,000 LBs/HR. at 625 P.s.I. and 825 F
Super Heater Design Pressure 750 P.S.I.

Nat. Board No. 4038
Year 1967.

DEMINERALIZER NAMEPLATE

TANKS
QUAKER CITY IRON WORKS
PHILADELPHIA 34, PA.
MAX WORK PRESSURE 100 PSI AT 450 * F' H
QCIW NO. CATION R 1768 -- ANION 1769
SHELL THK'S .187
1965 ASME
YEAR BUILT 1968
HEAD THK' INS .187
RADIUS HD. INS. 18
NAT'L B'RD NO. 6821 CATION 6822 ANION

1969 replaced resin in anion & cation

Stoker grate drive nameplate

Riley Stoker Corporation
Worcester, Mass.
Serial No.
Contract NO.
Year 1967

Note:(Body Stamp KT-546 BM)
(Side Plate KT-330 B)

Electric motor
Westinghouse
H P 2
Fram 184
Model ABFC
Cat. # 05-2 H 4 ABFC-FKB
Cont.
Max. Ambient 40 C
Ins. Class A
Seervice Factor 1.0
Cycle 60 phase 3
Volts 208-220/440
Amps. 6.3-60/3.0
RPM 1725
S# 6703
Drive End Bearing 374P 644 G01
Front End Bearing 374 P 643 G01
Westinghouse Electric Corporation 185 P024 H01

replaced parts as needed
last date 10-94

Stoker Feeder Drive-Nameplate

Electric Motor
Westinghouse (Life-Line A Motor)
H.P. 1
Frame 184
Model ABNV
Cont.
Max. Amb. 40 C
Ins. Class A
Service Fractor 1.0
Cycle 60 Phase 3
Volts 208-220/440
Amps. 3.6/3.4/1.7
RPM 1155
S# 474 B 860 Go9 Locked KVA C0de
ser 6703
Drive end bearings 386 P 435 G01
Front end bearings 386 P 438 G01
Westinghouse electric corporation

Feeder Bias Controls
Riley Stoker Corporation
Worcester, Mass.
Year 1967
Cont. No. 65181
Mach. No. 2116-
2115
2117
2118

Feeder Electric Motor Pulley
Reeve's
Model No. 91-1/2-BH-335 Large Pulley # 9205-7/8" Bore
Reliance Electric & engineering Co.
Reeve's Pulley Division
Columbus, Indiana

Feeder Hilliard Clurches
Hilliard Special Over-Running Clurches
Model # 2-1-8VR
The Hilliard Corporation
100 W. N. Y. 14902

Alarm V-Belt Napa (MODAC) 4L260--GATES (TRUFLEX 2260

Baldor Industrial Motor NORTH END
3 H. P. Cat # M 3607

Feeder Drive Moters

5ea- Baldor-Boston Gear
Spec. 34-2244-872
Frame 56 Ser# 4799
HP 1/2
Volts-208/230/460
Amps-2.1-2/1
RPM-1725-sfa-5-2.4/1.2
HZ-60 class B
Ser.F 1.25 Code-1
Full Load. EFF-74% PF-83
Rating-40C-AMB-cont
Cat No.-BFUTF-B

1ea-Baldor
Cat NO. M3536
Spec-34A41-872
Frame-56 Ser# W199
HP-.5 TE
Volts-208/230/460
AMPS-2.1-2/1
RPM-1725
HZ-60 Class-B
SerF-1.25 Code-1
Nema Nom EFF-74% PF-83
Rating-40C-AMB-cont

Spec 36A11-110
Frame 184 Ser F 1180
H. P. 1.5 Volts 230/460
Amps 5.2 / 2.6 R.P.M. 1140
Hz 60 Ph. 3 Class B
S.F. 1.15 DES. B Code J
Full load eff: 80% P.F. 66%
Rating 40 * C. amb cont.

Baldor Industrial Motor South End
3 H.P. Cat. # M 3607
Spec 36A11-110
Frame 184 Ser F 395
H.P. 1.5 volts 230/460
Amps 5.2/2.6 R.P.M. 1140
Hz.60 Ph.3 Class B
S.F. 1.15 Des. B Code J
Full load eff. 80% P.F. 66 %
Rating 40 * C. amb. cont.

May-1999

New feeder drive motors: 5 in all.

Baldor- Boston Gear
Spec. 34-2244-872
Frame 56 Ser# 4799
HP 1/2
Volts- 208/230/460
Amps- 2.1 - 2/1
RPM- 1725-sfa-5-2.4/1.2
HZ-60 Class B
Ser.F 1.25 Code-1
Full load. EFF - 74% PF - 83
Rating- 40C- AMB-cont.
Cat No. - BFUTF-B

ONE EACH- BALDOR
Cat. No. M 3536
Spec-34A 41-872
Frame -56 Ser# W199
HP -.5 TE
Volts- 208/230/460
AMPS - 2.1- 2/1
RPM- 1725
HZ 60
SerF- 1.25 Code - 1
Nema Nom EFF-74% PF - 83
Rating - 40 C AMB - cont.

ELECTROSTATIC PRECIPITATOR

JOB #AEN-00201

CONTRACT NO. 93-045

NO. OF GAS PASSAGES ——————————————12

SPACING OF GAS PASSAGES——————————12 INCHES (305 MM)

SIZE OF CURTAINS (LXH)——————————9.84` X29.5` (3.0 M X 9.0 M)

HIGH VOLTAGE ELECTRODE——————————RIGID MAST

DESIGN PRESSURE——————————+OR– 20 INCHES VWC (4.98 KPA)

DESIGN TEMPERATURE——————————525 F (274 C)

POWER SUPPLY——————————480V/3PH/60Hz

TRANSFORMER RECTIFIER——————————N.W.L.

RATINGS——————————55KV/400A/31.4KVA

SWITCHBOARDS

VOLTAGE CONTROL——————————JOY MK VII

RAPPERS CONTROL——————————FORRY

AUXILIARY DQUIPMENT——————————6 INCH FLY ASH PIPING

Last data 00

COOLING WATER BOOSTER PUMP –NAMEPLATE

1-R
HK PUMP
TYPE3/4 X 5 HK 1-1/2-4-2
NO. 0881-1275B
HYDRO 150 PSI- MECHANICAL SEAL: US SEAL # PS 359
ELECTRIC MOTOR
MARATHON ELECTRIC
WAUSAU, WISCONSIN 54401
MODEL LD56T34F254F W
RPM 3450 HP 1.5
FR 56-8 PH 3 HZ 60 TYPE TS
CODE K VOLT 208-230/460
F..L. AMPS 4.4/2.2 DUTY CONT.
40°C AMB. INSUL CL-B S.F. 1.0
SHAFT END BRG. 203 OPP END BRG. 203

NO history

I.D. FAN MOTOR

MOD # 5KS511EN3325----------NO.Z66512030
H.P. 500----------SERVICE FACTOR 1.0
R.P.M. 1190----------TIME RATING CONT
VOLTS 460----------PHASE--3 ----------HERTZ 60
AMPS 549----------POWER FACTOR 88.5----MAX KVA 97.9
FRAME 5071LL--------TYPE KS----------CODE 6

I.D. FAN

CLARAGE FANS- BY ZURN INDUSTRIES
FAN 70 1/2" DIAMETER
SHAFT 12 1/2" DIA. C-1035-C-1045
BEARINGS DODGE 5 7/16" RT SLEEVOIL
COUPLING (HOLESET) PM-27 WITH LIMITED END FLOAT KIT

I.D. FAN CONTROL

HALMAR ROBICON GROUP
I.D. PWM 454 SERIES
P/N 405453.00
CO. 04985, 500HP

I.D. PWM DRIVE
P/N 454182.00
500HP
-93 with EP

I.D. FAN START

PUT DAMPER OPEN TO 75% GO TO COMPUTOR
ALT M-ENTER
ALT E-START
ALT Q-STOP
CALL UP LETTER.
ALT-O
THEN ADJUST UP OR DOWN OR ENTER NO. DESIRED
TO CLEAR ALARMS
ALT-A-GETS YOU TO THE ALARMS
PRESS+ TO CLEAR ALARMS
ALT-P-GET BACK TO SCREEN YOU LEFT

I.D. FAN DRIVE PROGRAM

I.D. PWM 4545 SERIES
DRIVE KEY
MAN SPEED #1——————————100%
JOG SPEED——————————0
ACC TIME——————————160
DEC-TIME——————————160
MIN. SPEED——————————0.0 HZ
MAX SPEED——————————60 HZ
V/HZ INIT——————————1.23
V/HZ RATE——————————.12
OVEERLOAD SELECT——————0
I OVERLOAD——————————549
I TIME OUT——————————30.SEC
SPIN LOAD FLAG——————1
AUTO RESET——————————10 SEC
RESET SATURATION——————0
RESET 0/VOLTS.——————0
RESET OVERLOAD——————0
SLIP COMPENSATION——————0
CHANGE DIPSWITCH NO. 1 ONSWITCH #1 TO DOWN
PRESS SHIFT
THEN DRIVE
SCROLL UP OR DOWN
THEN ENTER
CODE 5885
THEN ENTER
WHEN A CHANGE IS MADE PRESS ENTER
FIRST COMMAMND THEN ENTER
PRESS CANCEL T0 ESCAPE.
CHANGE DIPSWITCH TO UP TO SAVE CHANGES

FORCED DRAFT FAN NAMEPLATE

American Standard
Industrial Division
Detroit 32, Michigan
Mechanical Draft Fan
Size 445 Type Airfoil
Order 12506-01
American Radiator and Standard Sanitary Corporation

Electric Motor
Westinghouse
Lifeline A Motor
H.P. 75-42.2 Cont. 60 * C
Frane 504-UU Max. Amb. 40* C
Model AVDP Serial factor 1.15
3 Phase 60 cycle
Volts 440
Amps 88-51 S# 66F 37816
RPM 1185-886 SER 1S-67
Drive end bearing sleeve
Front end bearing sleeve
DES-U

Turbine Drive
Worthington Corporation
Wellsville, N.Y.
Serial # 26004 Form R2RGB
KW OR HP 81.3 RPM 4547/1170
Inlet Temp. 750 F EXH Temp 540
Trip Speed 5750 Steam Rate 35.3
Max Cont. RPM 5000 Inst. Book U-14934
1st Crit. rpm 7200

Turbine Speed Air Control Valve
Mason-Neilan
Div. of Worthington Corporation
Norwood, Mass.
Model # 37-26471
Trim CV 1
Valve Size 1/2
Body Rating 3000
100
Range 3-15 PSI
Mat'l Trim 316
Mat'l Body CS
Valve Serial # G 42157-1

- New damper controller

AIR EJECTOR————NAMEPLATE

WORTHINGTON CORPORATION
STEAM JET EJECTOR
SIZE 6C TM
SERIAL NO. 1611927
MIN. OPERATING STEAM PRESS. 260 GA.
HARRISON, N.J.

AIR GAUGE
FISHER PORTER COMPANY
WARMINSTER, PA.
SER.0608A2298A1
OD 10A1485A
S.C.F.M. GAS SP. GR. 1.0 @ STP.

RELIEF VALVE
2ND STAGE
CONSOLIDATED SAFETY VALVE
MANNING , MAXWELL, & MOORE
DIVISION OF DRESSER INDUSTRIES
ALEXANDRIA, LA.
SIZE 1 TYPE 1544F
SEAT DIA. .625 IN. BD 2 PSI
LIFT .1562 IN. SET 15 PSI
CAP. 416 LBS. ST/ HR @ SAT. F.

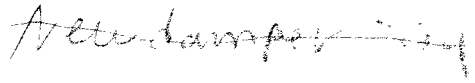
1ST STAGE
SIZE 1 1/4 TYPE 1544G
SER WO
SEAT DIAL .800 IN. BD 2 PSI
LIFT .200 IN SET 15 PSI
CAP. 684 # ST/ HR @ SAT. F

THROTTLE VALVE
LOOSE BACKSEAT
MANCOCK TYPE 7105W-1-202
FLL STEEL ALME 2325 PSI
STEM CR 13
SEAT HF DISC HF
1500 PSI 1020 F
3600 WOG

Last date '96

Overfire Air Fan Nameplate

Clarage Fan Company
Kalamazoo , Michigan
Type O
Size 323 B
Electric Motor
Westinghouse Electric Coporation
Lifelne A Motor
H.P. 60 Max. Amb. 40
Frame 405-US Ins. class A
Model AAFC Ser. Factor 1.0
60 Cycle 3 Phase
208-220/440 Volts
153-146/73 Amps
S# 474 B 862 G51 Locked KVA Code G
Ser. 6701
Drive end bearing 386 P 421 G01
Front end bearing 386 P 421 G01
Note: Stabilizing block in upper half and free type in lower half. Be sure that only one pillow block is stabilized with stabilizing ring.



HIGH PRESSURE HEATER NAME PLATE

National Board No. 61527
Aqua-chem no. SP67-7366
Davis Engineering Div.
Aqua-Chem Inc.
Downington,Division
Downington, Penn.
W Shell MAWP 160 PSI MT 600F
Channel MAWP 1000PSI MT 400F
4V-135C HP FW Htr. #1
66H321

Relief valve
Crosby Valve by Crosby Valve and Gage Co.
Shop # 42542 Style J025-3 A
Size 3 K 4 Set 180 PSIG
Made in Wrentham , Mass.
Set Pressure 180 PSIG
Back Pressure 0 PSIG
Temp ° F 300 Temp. Correction + 2 PSIG
Cold differential test pressure 182 PSIG

Float
Atwood and Morrill Co.
Salem, Mass.
Order No. 10826

Mercury switch (For Float)
Mercoid control
The Mercoid Corporation
Chicago, Illinois 60641

Air switch (For mercury switch)
Type J6
Model 148-3
AO 18
Range 0-40 PSI
Diff'l 4 oz.
15 Amps
115-230 Vac.
United Electric Control Co.
Watertown, Mass.

H. P. Heater
Fischer -Level- Trol
Type 2502-249B Serial 4346122
Press. Rating 600 PSI @ 850° F
Float Size 3" Diameter by 14" long. Volume 99 cu.in.
Material 304 S.S. Collapsing Press 1600 PSI @ 60° F
Supply Press 35 PSI Diaphragm press. 6 to 30 psi
Fischer Govenor Co.
Marshalltown, Ia.

Nat'l Board No. 71235
Aqua - Chem No. SP 67-7367
Davis Engineering Div'n
Aqua-Chem, Inc.
Downingtown, Division
Downingtown, Penn.
W Shell MAWP 150 PSI M.T. 350° F
Channel MAWP 150 PSI M.T. 350 ° F
4R-133 C LP FW HEATER # 3
66 H 322

Float
Atwood and Morrill Co.
S.O. No.10-826
Item 2" 125# float ch.

Mercoid Control
Mercontrol Volts 120/240/440 Amps 10/5/3
Type 46-3
Ser no. 947494
Switch # 9-51 120V-240v Motor HP
The Mercoid Corporation 1Ph. AC 3/4 DC1/3

Fisher Level - Trol
Type 2502-249 Serial 4346123 Press rating 125 PSIG at 360° F
Float size 3" dia. by 14" long Volume at 99 cu. in.
Material 304 SS Collapsing pressure 950 PSI @ 60°F
Supply pressure 35 PSI Diaphragm press. 6 to 30 PSI
Fisher Govener Co.
Marshalltown,Ia.

LUBE OIL COOLER--TURBINE-----NAMEPLATE

ANDALE
LANSDALE, PA.
SIZE 112X-S-3
REQ. 089.EI.320323.G.002
DWG. G 7616R3
PO 66616
SERIAL NOS. 66616-2
66616-1

TOP GASKETS NAMEPLATE
FOR RENEWING GASKETS
UPPER AND LOWER TUBE SHEET
GASKETS AT THIS HEAD MUSTBE 1/32" THICK EXACT]
TWO WATER CHANNEL GASKETS MUST BE 1/16 " EXACT

LUBE OIL PURIFIER --------- NAMEPLATE

BOWSER
MODEL NO. 859-16-C
SERIAL NO. 86645
REFILL NO. A-2069
GUARANTEED ONLY WITH BOWSER - BRIGGS CARTRIDGES
BOWSER INC.
BOWSER- BRIGGS FILTRATION DIVISION
COOKEVILLE, TENN.

OIL PUMP ELECTRIC MOTOR
GENERAL ELECTRIC A-C MOTOR
MODEL 5K43KG2796
RPM 1725
SIZE 3/4 VOLTS 230/460
AMP 3.1/1.55 60 CYLCE TIME RATING CONT.
P H 3 FR 56 SF 1.0
INS. CLASS A DSN AMB. 40 * C
FORT WAYNE, INDIANA

OIL PUMP
ROPER
FIGURE 1F10 BELT NAPA- 4L280W HEAVY DUTY
TYPE 27
SERIAL NO. D28219

OIL TEMP CONTROLLER
CHROMALOX
TEMP CONTROL
CAT. NO. ARC 240
TEMP. RANGE 50-250* F
VOLTS 250 AMPS. 26
D.P.S.T. AC ONLY
EDWIN L. WIEGAND CO.
PITTSBURG, PA.

---------REMOVED FROM SERVICE... 03-25-86----------
VACUUM PUMP ELECTRIC MOTOR
GENERAL ELECTRIC
TRI CLAD INDUCTION MOTOR
MODEL 5K 184 HG 311 NO. BD
HP. 1 1/2 PH 3 VOLTS 208-220/440
CYCLE 60
RPM 1730
AMP 4.2/2.1
DEG CONT. RISE 55
SERVICE FACTOR 1 TIME RATING CONT.
AFMA DESIGN B FRAME184
TYPE K CODE K
SHAFT END BRG. AFBMA 25BC02XP
OPP. END 25BC2XP

DA HEATER TANK -- NAMEPLATE DATA

Advance (Chicago Heater Company)
Boiler and Tank Co.
Milwaukee, Wisconsin
Max. allowable temp. 650° F —20
Max. allowable working pressure 75 PSIG
ASME No. 1984 Built in 1967
(State of Indiana Serial No. 137817

Gauge Glass
Daniel
9720 Katy Rd.
Houston TX.
Catalog No. 72 RM
2440 100° F
1380 PSI @ 750° F

Extraction Steam valve
Atwood and Morril
Salem, Mass.
Serial No. 10826

High Level Alarm and Low Level Alarm
Magnetrol
Liquid level control
Type S-1 Switch Head
Model 249 C
Design Pressure 250# @ 450 ° F
5300 Belmont Rd.
Downers Grove, Illinois

Low Level controller
Fisher Level-Trol
Type 2502-249
Serial 4346124
Press. rating 125 PSI @ 360° F
Float size 3" dia. by 14" long
Volume 99 cu.in.
Material 304 SS
Collapsing pressure 950 PSI at 60° F
Supply Press. 35 PSI
Diaphragm Pressure 6 to 30 PSI
Fisher Govener Co.
Marshalltown, Iowa

High Level Controller
Fisher Govenor Co.
Marshalltown , Iowa
Type 2500R -249
Serial 4242490
Pressure rating 125 PSI at 360° F

Control Valves

Low Feedwater Flow
Actuator Size 60 — Travel 3/4
27 to 3 PSI — Actuator press Closes Port
Type VBA-758A — Class A11J-O
Style G 153 D — Service ASA 1500-W
Temp 250 F — Body CS/A306-60
Stem 304 SS — Plug 440 SS
Seat 440 SS — Size 1X1
Serial No. H 72146
Bailey Meter Co. Wickliffe, Ohio
(3/4" Stem

Main Feedwater Flow
Actuator Size 60 — Travel 1 1/2
27 to 3 PSI — Actuator press. closes port
Type VFA 758A — Class C 24G-0
Style G 060 W — Service ASA 600 W
Temp 250 F — Body C 5
Stem 316 SS — Plug 316 SLG
Seat 316 SL — Size 4x4
Serial No. H 72026
Bailey Meter Co. Wickliffe, Ohio USA
3/4 " stem

Heating system steam
Actuator size 45 — Travel 1 1/2"
27 to 3 PSI — Actuator pressure closes port
Type VFA 562A — Class B 20E-C
Style CO34W — Service ASA-300-C
Temp 475 * F — Body C-5
Stem 316 SS — Plug 316SS
Seat 316 SS — Size 3x3
Serial No. H 72514
Bailey Meter Co. Wickliffe , Ohio USA
1/2 " Stem

Ash Removal System (REMOVED IN 1992)
Fisher Govenor Co.
Marshalltown, Ia. — Type 655 AR Size 32
Serial No. 3987116
Increase Control Dif'tial Press. Opens port
Spg. Rng. 10-80 — Max Diff Press– Max Casing Press. 100
Body size 1 1/2 " — Rating 600
Mat'l Steel — Plug type 1 1/2 " SP 00
Travel 3/4 — Trim 316 Stellite
3/8" stem

Barksdale Valves
Pressure or Vacuum Actuated switch # DIT- H18
5125 Alcoa Ave.
Los Angelos, Calif.

Main Feedwater Valve

01-91 Replaced diaphram and cleaned air controller.

09-91 Had automatic valve welded froom HP heater to DA heater tank had hole in housing and repacked.

06–93 Replaced all valve transmitter units

IP EXTRACTION

Actuator size 45	Travel 1 1/2
3 to 27 PSI	Actuator Pressure closes Port
Type VFA 558 A	Class D20E-C
Style C034W	Service ASA 300W
Temp 480 F	Body WCB
Stem 316 SS	Plug 316SS
Serial No. 72027	
Bailey Meter Company	Wickliffe, Ohio
1/2 ' stem	

HIGH PRESSURE EXTRACTION

Actuator size 45	Travel 1 1/2
3 to 27 PSI	Actuator pressure closes port
Type VFA 558 A	Class D20E-C
Style CO34W	Service ASA 300W
Temp. 480 F	Body WCB
Stem 316 SS	Plug 316 SS
Seat 316 SS	Size 4x4
Serial No. H72027	
Bailey Meter Co.	Wickliffe, Ohio
(1/2 " Stem)	

ATTEMP SPRAY WATER

Actuator size 34	Travel 3/4
3 to 27 PSI	Actuator pressure opens port
Type VFA-358A	Class A50G-C
Style C060W	Service ASA600-W
Temp 310 F	Body ASA-WCB
Stem 316 SL	Plug 316 SL
Seat 316SL	Size 1x1

Serial No H 68740
Bailey Meter Co Wickliffe, Ohio
(3/8 " stem)

SURGE TANK MVCV
Fisher Govener Co.
Marshalltown, Ia.
Serial No. 4346118 Type 657 AR Size 45
Increase Control Dif'tial press opens port
SPG RNG 5-17 Max Diff Pressure
Body Size 4 Max Casing pressure
Rating 150
Mat'l Ductile Plug type
Travel 3 1/2 Trim

HP HEATER DRAIN
Fisher Govener Co.
Marshalltown, Ia.
Serial No. 4346120 Type 657 AR Size 45
6 to 30 PSI Diaph pressure opens port
With 120 PSI Drop bench set 15 to 30 PSI
Body Size 3 Rating 300 Travel 1 1/2
Body Mat'l Steel Plug type 3 SP VPUP
Trim 316 Guides post
Order 1881
1/2" stem

LVC-DA- TANK (HEATER PUMP TO DA TANK)
Fischer Govener Co.
Marshalltown Ia.
Serial No. 4346117 Type 657 AR Size 45
6 to 30 PSI Diaph press opens port
With 122 PSI drop Bench set 15 to 30 PSI
Body size 3 Rating 125 Travel 1 1/2
Body Mat'l Iron Plug type 3 SP VPUP
Trim 316 Guides Post
Order 1881
1/2" stem

DA TANK OVERFLOW
Fisher Govener Co.
Marshalltown Ia.
Serial No. 4242491 Type 657- A Size 50
3 to 18PSI Diaph pressure closes port
With 16 PSI drop Bench set 3 to12 PSI
Body size 6 Rating 125 Travel 2
Body Mat'l Iron Plug type 6 SP 00
Trim 316 Guides Skirt
Order 1963-08
3/4 Stem

LOWER COLD CONDENSATE LCV
Fisher Govener Company
Marshalltown , Ia.
Serial No. 4346119 Type 657 AR Size 45
6 to 30 PSI Diaphragm Pressure opens port
With 45 PSI Drop Bench set 10 to 30PSI
Body size 3 Rating 125 Travel 1 1/2
Body mat'l Iron Plug type 3 SP VPUP
Trim 316 Guides post
Order 1881
1/2 stem

LP DRAIN HEATER LVC
Fisher Govener Co.
Marshalltown, Ia.
Serial No. 4346121 Type 657 AR
Actuator Size 40 Travel 1 1/2
6 to 30 PSI Diaphragm pressure opens port
Body size 3 Rating 125
Body Mat'l Iron Plug type 3 SP VPUP
Trim 316 Guides Post
Order 1881
1/2" stem

FEED VALVE (AIR EJECTOR DISCHARGE TO LP HEATER)
Masoneilan
Mason- Neilan
Division of Worthington Corporation
Norwood, Mass.
Action-Air to close Range 6 to 30 PSI
Model 37-10132
Size - Body 4 Port 4
Mat'l Body C.I. Trim 316
Rating 125 ASA
Serial No. G40688-1
1/2 " Stem

RECIRCULATION VALVE (AIR EJECTOR TO HOT WELL)
Masoneilan
Model No. 37-10133
Size- Body 2 Port 2
Action- Air to open
Range 6 to 30 PSI
Body C.I. Trim 316
Rating 250 ASA
Serial No. G40688-2
Worthington Controls
Norwood Mass.
3/8 stem

LEVEL CONTROL (HOTWELL)
Masoneilan

Model No. 12800 Displacer size std.
Rating ASA 125 Connections 2 NPT
Range 14 Supply PSI 35
Mat'l Displacer 304
Chamber C.I.
Torque tube Inc.
Displacer collapsing press @ 60* F PSI (Calc) 1800
Serial No. G 40688-3
Worthington Controls Company
Norwood Mass.

HOTWELL MAGNETROL-(2)
Liquid level control
Type S-1 Switch Head
Model 249-C
A.C Volts 115/230 Amps. 13/6.5 Hp. 3/4-1 345VA.
D.C. Amps 10/5 Hp. 1/2-1/2
Design pressure 250# at degrees F 450
Magnetrol Inc.
5300 Belmont Rd.
Downers Grove, Illinois

CONTROL VALVES MACHINERY HISTORY

05-10-74 Adjusted Hotwell low level alarm, alarm did not go off even when empty; Electric wire holding mercury switch from contact.

03-09-77 Installed new diaphragm in auto valve for steam cinder puller.

05-04-77 Installed new diaphragm in auto valve for steam cinder puller.

10-27-77 Dismantled , installed new packing , stem, gland studs, gasket , pin, and clamping nut on Masonneilan Hotwell level control valve.

07-06-78 Dismantled cinder puller valve, checked and repacked , removed steam strainer from line as it was slowly disintegrating and lodging in valve and steam nozzle.

11-21-78 Cleaned orifice and lubricated valve positioner for LP heater drain.

12-07-78 Removed cinder puller valve packing (3) rings due to stem binding. Replaced with (2) rings. Lantern ring is stuck in bonnet and partially blocks lubrication.

04-24-79 Renewed stem, disc plug, upper and lower stem guides and repacked with wiper ring, 2 rings packing, lantern ring, 3 rings packing . Also installed new actuator diaphragm and bottom drain valve.

02-14-80 Installed cinder puller valve diaphragm made with flexible black rubber and light reinforcement-(lasted 3 days)

04-02-80 Renewed gasket on bottom flange of cinder puller valve.

COOLING TOWER FAN GEAR REDUCER—NAMEPLATE

GEAREDUCER
SERIES 32
RATIO 11.22/1
MODEL NO. 9-413OE
SERIAL NO 11422
MARLEY CO.
KANSAS CITY , MISSOURI

ELECTRIC MOTOR
ALLIS CHALMERS
INDUCTION MOTOR
NORWOOD, OHIO
SERIAL NO.S 1-5139-06431-11 (S) 1-5139-06431-1-2 (C) 1-5139-06431-1-3 (NORTH)
TYPE G-S FRAME 404 US MODEL NO. 79
HP 50/12
RPM 1760/880
VOLTS 440
AMPS 61/18
DUTY CONT. SERVICE FACTOR 1.15 * C RISE 60
CYCLE 60 PH 3 CLASS INSULATION B
OPERATING INST. 51X9535A
SH. IND BRG. 313SFF
OPP. END BRG. 313SFF

COOLING TOWER FAN -------MACHINERY HISTORY

05-01-73 Cleaned vent lines.

05-10-74 Cleaned and resealed shaft end plate on center gear reducer.

11-08-74 Renewed oil seal in center fan gear reducer.

05-03-76 Cleaned vent lines.

04-07-77 Cooling tower sprayed with Calgon H607 (4- 55 gal drum) by Lilie Hoffman Cooling Towers Inc. They also furnished 1- 50 # bag Doweide G -ST to finish job.

11-08-78 North fan motor was dipped and baked due to 2 cracks in the insulated capusule, also 2 # 6313zz bearings renewed.

02-20-79 South fan motor rewound, encapsulated and new bearings installed. burned out on -1-24-79 .

05-02-79 Center fan motor dipped and baked , new bearings.

01-02-81 Installed water level control valve (used approx. 6 months)

09-10-81 Installed new 2 1/2 " Marley float valve.

01-06-82 North fan motor rewound , encapsulated and new bearings installed.Burned out 1-3-82

09-27-82 Installed new 2 1/2 " Marley float valve.

10-28-82 Installed shock absorber in 2 1/2 " water inlet, and installed 2nd float valve assy.

05-08-85 Installed new Keckley float valve. Installed new oil seal and gasket on south fan gear reducer.

03-03-86 South fan motor burned out. Taken out of service at 12:34 pm motor was taken off tower and taken to Jasper elec. motors at 7:58 AM on March 4, 1986. Motor was repaired and reinstalled at 1:32 PM on March 12 , 1986 Worked perfectly.

02-14-88 10:08 AM Center cooling tower fan motor burned up. Breaker box also burned .

06--88 North cooling tower fan out of service. Gear box locked up. Put in new bearings and seals on short shaft.

09—91 Cleaned cooling tower.

02-10-92 North cooling tower fan motor burned up. Back in service 2-28-92.

11—92 Replaced all four screens in cooling tower pump basin.

05-93 Redid South cooling tower fan motor.

05–93 COOLING TOWER WAS REDONE WITH NEW FAN STACKS, 1/4% NEW FILL NEW DRAFT ELM,, NORTH FAN GEAR BOX WAS SENT IN TO COMPANY AND INSPECTED FOR WEAR NEW BEARINGS WERE INSTALED AT THIS TIME . NEW WOOD WAS ADDED AT THIS TIME IF NEEDED EVERY THING WAS RENAILED AS NEEDED ALSO

01–94 Redid South cooling tower fan motor.

06—94 STARTED USING NEW CHIMICAL IN COOLING TOWER PHREEDOM 400
06—94 STARTED USING DRY CHLORINE IN COOLING TOWER

10–97 CLEANED COOLING TOWER BASIN AND INSTSALLED REIBUILT FLOAT VALVE

07-98 NORTH COOLING TOWER FAN MOTOR WENT OUT, REBUILT. WENT OUT ON JULY 9TH 1998 BACK IN SERVICE JULY 14TH 1998.

07-99 Replaced Marley float valve with spare on hand.

NORTH and SOUTH CIRCULATING PUMP ---NAMEPLATE

ELECTRIC MOTOR
WESTINGHOUSE LIFE LINE " A "
HP 200 60 * C CONT.
FR 509 UPH INS. CLASS B
TYPE ABDP SERVICE FACTOR 1.15
3 PHASE
60 CYCLE SER. 25-67
VOLTS 440
AMP 266
RPM 885
DRIVE END BRG. 1657497 LOWER
FRONT END BRG. UPPER 345P611G01
NEMA CODE F
THERM-EPOXY- INS.
IL 3830-4

PUMP
WORTHINGTON CORP.
SIZE 28-HH-1200-1-STAGE
SERIAL NO, VTP 18273
VERTICAL PUMP DIVISION
DENVER, COLORADO

10-98 Changed expansion joint on south circulating pump discharge.

N

NORTH CIRCULATING PUMP -MACHINERY HISTORY

05-08-74 Renewed north expansion joint--lubricated

05-10-76 Installed new wiring from outdoor sub to pump. Due to low meggar readings.

11-03-76 Installed new packing gland nuts and bolts.

08-31-82 Motor rewound , new bearings installed.

SOUTH CIRCULATING PUMP—NAMEPLATE

ELECTRIC MOTOR
WESTINGHOUSE LIFE LINE A

HP. 200	CONT. 60* C
FRAME 509 UPH	INS. CLASS B
MODEL ABDP	SERVICE FACTOR 1.15
3 PHASE	LOCKED DVA CODE NEMA-F
VOLTS 440	S# 66F 48719
AMPS 266	SER. 1S-67
RPM 885	
DRIVE END BRG.	1657497
FRONT END BRG.	345 P611G01

THERM-EPOXY

PUMP
WORTHINGTON CORPORATION
SIZE 28-HH-1200-1-STAGE
SERIAL NO. VTP-18272
VERTICAL PUMP DIVISION
DENVER, COLORADO

PIPING (SWING CHECK VALVE)
CHAPMAN]
24L 23
TILTING DISC.
150 DWG.

PIPING (CUT OUT VALVE) PUMP DISCHARGE
ALLIS CHALMERS 200EG
STREAMSEAL VALVE
YORK, PA.
SIZE 24"
RATING 150 FR
ORDER NO 61403-2 SOUTH NORTH 61403-3
10/4/66

DISCHARGE VALVE TO TOWER
ALLIS CHALMERS
STEAMSEAL VALVE
YORK, PA.
SIZE 36"
ORDER NO. 61404
RATING 150 FR
10/04/66

OPERATING GEAR
LIMITORQUE
PHILADELPHIA GEAR CORPORATION
KING OF PRUSSIA, PA.
TYPE H SIZE 33
ORDER 322298
SERIAL 55786 A
VALVE Y- 61733 R
POS. B

CROSS - CONNECTING VALVES
ALLIS - CHALMERS
STREAMSEAL VALVE
YORK, PA.
SIZE 36'
ORDER NO. 2-61405
RATING 150 FR
10/4/66

GEAR/ CROSS CONNECTING VALVE
LIMITORQUE
PHILADELPHIA GEAR CORPORATION
KING OF PRUSSIA, PA.
TYPE H
SIZE 3 B
ORDER 322298
SERIAL 55784A NORTH SOUTH 55785A
VALVE Y-61733-R
POS. B

DRAINS COLLECTOR PUMP —NAMEPLATE

ELECTRIC MOTOR
MARATHON ELECTRIC
MOD 4M 56T34D253DW
HP 1 1/2
FR. 56-8
RPM 3450/2850
PH 3 CYCLE 60-50
VOLT 230-380-450
AMP. 6/2.3-5.8/2
TYPE TS DUTY CONT. RISE 40* C
SERVICE FACTOR AMP 5.6/2.8 S.F. 1.3 CODE K
THERMAL PROCTECTION NONE

PUMP
INGERSOLL RAND
TYPE 3/4 KRVSA- 1 1/2
MODEL B
NO. A67-6464
SEAL 10.015
GPM 15
TOT HD FT. 93
IMP. 75KRVSA30X1A DIA. 5

Changed motor '99

CONDENSATE PUMPS——NAMEPLATE

ELECTRIC MOTORS—WESTINGHOUSE
HP 20 FRAME 284 UP
MODEL ABDP CYCLE 60 VOLTS 220/440
AMPS. 52/26 PHASE 3 RPM 1750
S# 627 B 860G17 SERIAL NO. 6703
CONT. DUTY 60° C TEMP RISE LOCKED KVA CODE F
MAX AMB. 40 ° INSUL. CLASS B
SERVICE FACTOR 1.15
UPPER BEARING 7311 LOWER BEARING 209
DRIVE END BEARING 386 P 439G01
FRONT END BEARING 345 P 647G01

PUMP
WORTHINGTON
N. SER. NO. 18264 S. SER. NO. 18263
DESIGN COS. 270 GPM. 194 FT. HEAD
SIZE 10L-22-5
S.G. 1.0 RPM. 1760
CONTRACT NO. 1438-4

CHECK VALVE
WILLIAMS HAGER
SIZE 4
NO. CH. 68386
WWP 125
FIG. 329
THE WILLIAMS GAUGE COMPANY INC.
PITTSBURG, PENN.

'90 North pump replaced all motor bearings
'89 S. pump repl. all motor bearings

GENERATOR BOOSTER PUMPS——NAMEPLATE

PUMP
INGERSOLL RAND
CAMERON DIVISION NY.
TYPE 3 RVS-71/2
NO.B 675866
GPM. 400
TOT. HD. FT. 45

MOTOR
WESTINGHOUSE LIFE LINE T AC MOTOR
MODEL TBDP

HP. 7.5	FRAME 213 TCZ	LOCKED KVA CODE H
PHASE 3	CYCLE 60	24 HRS.
VOLTS 230/460		B INS. CLASS
AMPS 21.2/10.6		1.15 SERVICE FACTOR
RPM 1745		40 MAX AMB.
S# 67A68965		SER 6711
DRIVE END BRG.		386 P 439G01
OPP. END BRG.		386 P 435G01
1R 159184C		(WEST PER 1R 159184C)

STRAINER
ANDALE
LANSDALE PA.
SIZE 6-101C R.H.
REQ. 1892
DWG. H7233 P.O. 67376
SERIAL 67376

CHECK VALVE
CHEX OTER
CHECK VALVE
DANIEL ORIFICE
FITTING COMPANY
CAT. NO. AND SIZE 1601-4
RATING ASA150
TRIM A
HOUSTON–LOS ANGELES

[illegible] bearings pumpmotor westside

COLD CONDENSATE TRANSFER PUMP——NAMEPLATE

PUMP
INGERSOLL RAND
CAMERON PUMP DIVISION NEW YORK
TYPE 3 RVS-10
NO. 09676082 (09676081 WEST)
GPM. 250
TOT. HD. FT. 100

MOTOR
GENERAL ELECTRIC 55 TRI-CLAD INDUCTION MOTOR ECONO-MATCHED
MODEL 5 K 254 YG 136
SERIAL NO. KC6381044 (KC 6381043 WEST)
HP. 10 SERVICE FACTOR 1.15-1 CODE F
FL RPM 3530-2945 VOLTS 230-460
PHASE 3 FL AMPS 25/12-27/13 CYCLES 60-50
TYPE K FRAME 254 UCZ C. RISE 40-50 TIME RATING CONT.
NEMA CLASS DESIGN B
DRIVE END AFBMA BRG. 50 BC 03
OPP. END AFBMA BRG. 35 BC 02
FOR OPERATION OF INGERSOLL RAND COMPANY MOTOR PUMP
SYMBOL E 10 H3 D24 T2
SCHENECTADY, NY.

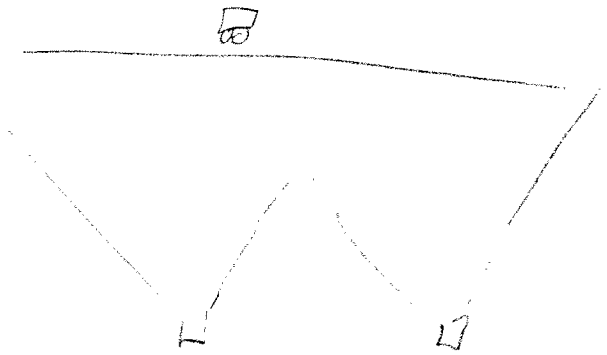
CHECK VALVE
WILLIAMS HAGER
SIZE 4
NO. CH. 70515 (WEST 70514)
W.W.P. 125
FIG. 329
THE WILLIAMS GAUGE COMPANY INC.
PITTSBURG, PENN.

ASH PULLER ROOTS BLOWER

SER NO. 50174
DESIGNATION 62-4RCS-V
ROOTS ID. NO. 862-639 4 20

MOTOR
RELIANCE ELECTRIC
HP 100
VOLTS 460 -PHASE 3
RPM 1785
AMPS 111
HZ 60

7-93 replace ash puller system with new



06—92 Replaced 4 ' of 8" ash line near ash pits . Replaced dump plate on south east side.

07—93 Replaced ash puller system with new one. Changed 2 ash line gaskets 8" restrooms.Changed 4 ashline gaskets 6" undergrate bins.

11-93 Changed intake valve assy. primary bins.Changed 1 gasket.

01—94 Replaced 6 ft. of 8" ash line behind surge tank above rest room and new gaskets. Replaced 7' of 8" ash line up through restroom floor and new gaskets. Replaced 6' of 8" ash line west of vacuum cleaner and new gaskets.

02-01-94 Changed 1 air intake check valve spring bottom ash line.

03--94 Replaced 6" slide gate by lower tank, new gaskets, seal ring and spring.

04--94 Changed one bag filter 96" long Hole in bottom side.

06--94 Changed 1 wear back,8" line in basement,southwest.

06-26-94 Changed 2 bag filters 96" long.

07-22-94 Changed 1 bag filter-96"long

08-29-94 Changed 1 gasket - pipe 8" restroom.

10-94 Changed auto diaphragm on cinder ash system.

02--95 Replaced 1--7' section of 8" line behind surge tank east end.

12--94 Replaced one bag filter. Replaced one 6' section from boiler room basement to restroom.

03--95 Replaced one 6' section of 8" ash line just west of vacuum cleaner in boiler room basement. Replaced all air dryer filters. Replaced one 6" wear back on line to primary ash system. Replaced one 6" wear back middle to primary ash system.

07--95 Replaced one element on air dryer B type.

03—95 1 gasket, 3 pistons 2 1/2 " air cyl., 2- 0 rings ,1 gasket 6" , 1 gasket 6" , 2 gaskets 8".

04--95 1 gasket 6" ,

05--95 3 bag filters, 4 pistons 2 1/2 '

07-95 2 gaskets pipe 6"

08-03-95 1 gasket Pipe 8", 1 piston 2 1/2 " air cyl. 1 gasket pipe,, 1 metal ring nuvaseal gasket. , 1 intake valve assy., 1 tee 6" , 4 gaskets cinder pipe 6". south cinter fly ash return.

BOILER CHEMICAL PUMP——NAMEPLATE

PUMP
M ROY CONTROLLED VOLUME PUMP
MODEL R-110 A
SERIAL 104370-1
CAP/ SIDE 2.4 GPH
PRESSURE 1100 PSI
MILTON ROY CO.
1300 EAST MERMAID LANE
PHILADELPHIA 18 , PA

PUMP MOTOR
CENTURY
TYPE SP FRAME Y 48 YZ
PART 7-12890G-01
HP 1/4 CODE H PH-1
CYCLE 60 SERVICE FACTOR 1.00
RPM 1725 VOLT 115 AMP 4.0
RATING CONT. 55C INSUL CLASS A
SERIAL NO. K4 FORM HXX
CONN. DIAG. 110714
THERMALLY PROTECTED ——NOT
CENTURY ELECTRIC CO.
ST. LOUIS, MO.

SAFETY VALVE
MODEL 741-032
SET PR. 50 PSI
MAT'L STEEL
SIZE 1/4
MILTON ROY CO.
PHILADELPHIA, PA

MIXING TANK MOTOR
CENTURY
TYPE SP FRAME H 48
PART 7-101660-01
CODE H PH-1
HP. 1/4 SER. FACTOR 1.00
CYCLE 60 RPM 1725
VOLT 115 AMP 3.5
CONT. 55* C
SERIAL NO J8
FORM HKB
CONN. DIAG. 100143
THERMALLY PROTECTED——NOT

ASH UNLOADER MIXER NAMEPLATE DATA

MOD. NO. 1535/45
PART NO. 5100-5-0411------REV.F
SERIAL NO. 930503

MOTOR

RELIANCE ELECTRIC
HP 15
VOLTS 230/460
PHASE 3
RPM 1765
AMPS 36.2 / 18.1------HZ 60

ASH UNLOADER ROTARY VALVE

20" DIAMETER
ROTARY VANE FEED VALVE

GEAR REDUCER

UCC NO. 354262
STYLE 93G58092
G182M21D
SERVICE HP. 3
RATIO 37.54
SER.NO. 9303
OUTPUT 45
FIGURE F

7-93 replaced ashunloader with new paddle mixer unit
9-5 replaced B.A paddle shaft

FALK
ALL - MOTOR MOTOREDUCER
MODEL 32-5EZ3-56B5
MO 6-640191
RPM 25 DATE 5/67
RATIO 74.48
HP 3 CLASS 2

ELECTRIC MOTOR
WESTINGHOUSE LIFE-LINE A
HP 3 FRAME 213
MODEL ABEP 55 C RISE SERVICE FACTOR 1.0
MAX AMB 40 INS. CLASS A
VOLTS 208-220/440
AMPS 8.7-8.2/4.1
RPM 1730
S # 474 B 861G31 SER 6611
DRIVE END BRG. 386 P 436 G01
FRONT END BRG. 386 P 435 G01

CONNECTION BOX
UNDERWRITERS LABORATORIES INC.
LISTED
ELECTRIC MOTOR FOR HAZARDOUS LOCATION
CLASS 1 GROUP D
CLASS 2 GROUP FG
NO. S H 303791

90 replaced

2 sets of buckets in 30 years

all motors original

hopper door not working

belt repl. lower 20yrs ago

upper belt 10 yrs ago

replace rollers periodically

grease rollers 1x per month

COAL CONVEYER - BUCKET ELEVATOR- NAMEPLATE

FALK
ALL-MOTOR MOTOREDUCER
MODEL 103 - 6EZ3-56B1
MO 6-640192
RPM 56
DATE 5/67
RATIO 32.36
HP 10
CLASS 3
THE FALK CORPORATION
MILWAUKEE, WISCONSIN

ELECTRIC MOTOR
WESTINGHOUSE LIFE -LINE -A
HP 10
FRAME 256U
MODEL ACEP
CONT 55 C RISE MAX AMB 40
INS CLASS A SERVICE FACTOR 1.00
60 CYCLE 3PH VOLTS 208-220/440 AMPS. 26.8-25.6/12.8
RPM 1735
S# 474 B 866G52 SER 6612
DRIVE END BRG 386 P 417 G01
FRONT END BRG. 386 P 436 G01

CONNECTION BOX
UNDERWRITERS LABORATORIES INC.
LISTED
ELECTRIC MOTOR FOR HAZARDOUS LOCATION
CLASS 1 GROUP D
CLASS 2 GROUP FG
NO. L H309104

bucket's corrode

COAL CONVEYER -BELT CONVEYER – NAMEPLATE

FALK
ALL- MOTOR MOTOREDUCER
MODEL 32-2EZ2-56B4
MO 6-640193
RPM 190
DATE 5/67
RATIO 9.139
HP 3 CLASS 2
THE FALK CORPORATION
MILWAUKEE , WISCONSIN

ELECTRIC MOTOR
WESTINGHOUSE LIFE LINE A
HP 3 FRAME 213 MODEL ABEP
MAX AMB 40 INS CLASS A S.F. 1.0
CONT 55 C RISE LOCKED KVA CODE K
1730 RPM
208-220/440 VOLTS
8.7-8.2/4.1 AMPS
S# 474 B 861G31 SER 6611
DRIVE IND BRG. 386 P 436 G01
FRONT END BRG. 386 P 435 G01

CONNECTION BOX
UNDERWRITERS LABORATORIES INC.
LISTED
ELECTRIC MOTOR FOR HAZARDOUS LOCATION
CLASS 1 GROUP D
CLASS 2 GROUP FG
NO. S *H303792*

COAL CONVEYER TRIPPER BELT –NAMEPLATE

FALK
ALL MOTOR MOTOREDUCER
MODEL 52-3EZ2-56 B5
MO 6-640194
RPM 155
DATE 5/67
RATIO 11.28
HP 5 CLASS 2
THE FALK CORPORATION
MILWAUKEE , WISCONSIN

ELECTRIC MOTOR
WESTINGHOUSE LIFE-LINE A
HP-5 FRAME215 MODEL ACEP
CONT. 55* C RISE MAX AMB 40
INS CLASS A SER. FAC. 100
VOLTS 208-220/440
AMPS 14.6-14.7
RPM 1735 LOCKED KVA CODE H
S# 474B 866 G40 SER 6612
DRIVE END BRG. 386 P 436 G01
FRONT END BEARING 386 P 435 G01

CONNECTION BOX
UNDERWRITERS LABORATORIES INC.
LISTED
ELECTRIC MOTOR FOR HAZARDOUS LOCATION
CLASS 1 GROUP D
CLASS 2 GROUP FG
NO. S H303696

COAL ROOM TRIPPER BELT HYDRAULIC UNIT

RACINE (SOUTH BODY)
MD 12 SPND LB01
RACINE HYD. & MACH. INC.
RACINE, WISCONSIN
1 997523 5069
RACINE (NORTH BODY)
MR 12 RZE 01

1 994155 69

FILTER
RACINE HYD & MACH INC.
MOBILE DIVISION
RACINE, WISCONSIN
MODEL NO. 493138
CODE OF5A15AA

CHAR-LYNN COMPANY
ORBIT MOTOR
US PATENT NO. RE 25,291

WHEEL DRIVE FOR CARRIAGE
FEDERAL SEAL AND GEAR CORP.
KENDALLVILLE, INDIANA

HOSE MP 10

REVERSING CONTROLLERS
RACINE
OD 3 RTET 9025 01
96 976103 10

AUTO CUTOFF SWITCH
CUTLER - HAMMER
TYPE LX LIMIT SWITCH
NO. 10316 H10 49A
600 VOLT AC MAX
PILOT DUTY

COUPLINGS FOR COAL HANDLING EQUIPMENT BY FALK

TRIPPER BELT CONVEYER
30 T 10
MH.B. 1.125 K,W. 1/4X1/8
U.H.B. 1.000 K.W. 1/4X1/8

BELT CONVEYER
20 T 10
M.H.B. 1.125 K.W. 1/4X1/8
U.H.B. .875 K.W. 3/16X 3/32

COAL BUCKET ELEVATOR

40 T 10
M.H.B. 1.375 K.W. 5/16X5/32
U.H.B. 1.375 K.H. 3/8X3/16

BELT FEEDER

20 T 10

COAL CONVEYERS MACHINERY HISTORY

04-10-73 Adjusted all chains (except bucket elevator) to proper tension.

04-16-74 Rotated belt wipers on conveyer belt.

05-16-74 Rotated belt wipers on tripper belt. Installed new wipers on feeder belt, welded in steel strips along length of belt chute on both sides. installed new rubber skirts.

HEATER PUMP —NAMEPLATE

ELECTRIC MOTOR
MODEL TBDP
HP 25
FRAME 256 T
LOCKED KVA CODE G
PHASE 3
CYCLE 60
HRS 24
VOLTS 230/460
AMPS 60/30
RPM. 3515
INS. CLASS B
SERVICE FACTOR 1.15
MAX. AMBIENT 40* SER. 6708
SERIAL NO. 680B 101 G 55
DRIVE END BEARING 386 P 419 GO1
FRONT END BEARING 386 P 416 GO1
LIFE LINE T
AC MOTOR
WESTINGHOUSE ELECTRIC CORPORATION 185 PO 65HO1B

PUMP
INGERSOLL-RAND
CAMERON DIVISION
NY.
SIXE 3SA
S/N 0767-121 NORTH————————SOUTH 0767-120
GPM 325
THF 200
RPM 3570
HYD. T 375
NOTE; COUNTER CLOCKWISE ROTATION 1/64 HEAD GASKET THICKNESS (PUMP HEAD STAMPINGS) 0767121 NORTH————————SOUTH 0767120 3SA2A
PUMP BEARINGS INBOARD- SKF6206 FAFNIR 206KD
OUTBOARD SKF 6206 FAFNIR 206KD
PUMP SEALS— NATIONAL 410135 (REQUIRES 2)
NATIONAL 502365 (REQUIRES 1)

TUBE TURN BELLOWS EXPANSION JOINT
SIZE 6" MATERIAL 321 CAT. F4F SERIES U
SERIAL NO. 24592 NORTH————————SOUTH 67220
THE WILLIAMS GAUGE CO. INC.
PITTSBURG, PENN.

HEATER PUMP ————MACHINERY HISTORY

'01 N. heater pump changed bearings

RETURN CONDENSATE PUMP –NAMEPLATE

ELECTRIC MOTOR
WESTINGHOUSE
MODEL TBDP

HP 7.5	FRAME 213TCZ	LOCKED KVA	CODE H
PHASE 3	CYCLE 60	HOURS 24	
VOLTS 230/460		INS CLASS B	
AMPS. 21.2/10.6		SERVICE FACTOR 1.15	
RPM. 1745		MAX AMB. 40	
S# 67 A 66964		SER. 6711	
DRIVE END BRG.		2736 D20 G05	
FRONT END BRG.		2736 D20 GO2	

PER 1 R 159204B
LIFE LINE AC MOTOR
WESTINGHOUSE ELECTRIC CORP.

PUMP
INGERSOLL RAND
TYPE 2 RVL 7 1/2
GPM 60
TOT HD. FT. 120
NO C 675638 NORTH
NO C 675637 SOUTH

BOILER FEED PUMP– NAMEPLATE

ELECTRIC
3 WTL 89 PUMP
SERIAL NO. 1613876
WORTHINGTON CORPORATION
DRIVER H.P. 300 RPM 3570
T.D.H. 2150 FT.
GPM 370
HARRISON, NEW JERSEY

MOTOR
GENERAL ELECTRIC
CUSTOM 8000 INDUCTION MOTOR
H.P. 300 F.L. R.P.M. 3570
VOLTS 440 PH. 3 CYCLES 60
F.L. AMPS 365 TYPE K FRAME 6155S
RISE 60* C TIME RATING CONT.
SERVICE FACTOR 1.15 CODE G
CONN. DIAG. 34A770200-007
MAINT & INSTL. INST. GEH3160
LUBRICATION OIL
MODEL 5 K 815526A22
SERIAL NO. AC 8363841
SCHENECTADY, NY.

≈ $50K

THRUST BEARING
MADE BY KINGSBURY MACHINE WORKS INC.
FRANKFORD-PHILADELPHIA, PA.
ORDER 29-970———(FOR TURBINE DRIVE 29-969)
SIZE 4
DRAWING 264587
NORMAL SPEED 3600 RPM
RATED THRUST LOAD 1750 LBS. ON 4 SHOES
ASSUMED WATER INLET 70* F MAX

DISCHARGE LINE ORIFICE TO D.A. TANK
WORTHINGTON CORPORATION
MULTIPLE PRESSURE REDUCING ORIFICE
SERIAL NO. 1613879- (FOR TURBINE DRIVE 1613878)
SIZE 1 GPM 51
DIFF. PRESS. PSI 1150
HARRISON , N.J.

CHECK VALVE - ROCKWELL EDWARD MFG.CO. PGH. PA.
4 BODY STEEL
FIG. NO. A4095Y 900S DISC. HF
BODY MELT 1096-1 850 F SEAT HF

36-44999
PS FS-5

BOILER FEED PUMP TURBINE———NAMEPLATE

PUMP
3 WTL 89 PUMP
SERIAL NO. 1613877
WORTHINGTON CORPORATION
DRIVER HP. 265 RPM. 3570
T.D.H. 2150 FT.
GPM. 370
HARRISON, NEW JERSEY

TURBINE
WORTHINGTON CORPORATION
SERIAL NO.26034

KW OR HP	265 HP.
INLET PRESS	600#
INLET TEMP.	750*
TRIP SPEED	4110
MAX. CONT.	RPM 3570
1ST CROT	RPM 5400

FORM S2R
RPM 3570
EXH. PRESS 20#
EXH TEMP 496*
STEAM RATE 27.4
INST BOOK U-14955
TURBINE DIVISION
WELLSVILLE, NEW YORK

CHECK VALVE

ROCKWILL EDWARD MFG. CO.
PGH. PA.
4 BODY STEEL

FIG NO. A4095Y	900S	DISC. HF
BODY METL 1096-2	850 F	SEAT HF

PS FS 6
36-44999
4-96 motor recorded
4-96 elec. BFP [illegible] for repair

AIR COMPRESSORS------NAMEPLATE VERTICAL

INGERSOLL - RAND
NEW YORK, N.Y.
SERIAL NO. W8EC-UN11C (EAST) (WEST) W8EC-UN 12C
TYPE ESV1 NL-2
YEAR 1967
COMP. CYLINDER- STROKE
7 X 5
DISCHARGE PRESSURE 100
RPM 675

WEST AIR COMPRESSOR- ELECTRIC MOTOR - SUPER E

CAT. NO. EM2531T		RPM 1780
FRAME 284T		SER. NO. 292C-599
VOLTS 230/460		CODE E
AMPS 60/30		DES. B
NEMA NOM EFF 93.0		PH.3
PU END BRG.	6311	HZ. 60
FR.END BRG.	6309	
CLASS B	SER. F. 1.15	
40* C AMB. CONT.	SPEC 40G4 8Y17	

EAST AIR COMPRESSOR- ELECTRIC MOTOR

MARATHON ELECTRIC SERVICE E HIGH EFFICIENCY
MODEL 5VE286TTDC 4026AAS
FRAME 286T TYPE TDC DES. B PH-3
INSUL CL. B2 DUTY CONT.
MAX C* AMB. 40 ENCL DR.PR.
HZ. 60 SF 1.15 RPM 1765
HP 30 VOLTAGE 230/460
AMPS 72/36
NEMA NOM. EFF. 92.4 NOM PF 84
(NP HAS 50 HZ RATINGS NOT SHOWN.)

COOLING WATER SOLENOID VALVE
ASCO
110 VOLTS HERTZ 50/60 WATTS 6 (480160)
SERIAL NO. EAST - C 790425
WEST - C 785995
PIPE 1/2 " ORIFICE 5/8"
MEDIA (AIR, GAS, WATER) LT OIL
PRESS (5-200)
CATALOG NO . 821ODZ

AIR COMPRESSOR– NAMEPLATE–HORIZONTAL

INGERSOLL - RAND
SERIAL NO 8EF-32D
TYPE ESH 1
YEAR 1966
COMP. CYLINDER-STROKE
8 X 7
DISCHARGE PRESSURE 125
RPM 465

WESTINGHOUSE LIFE LINE -A
HP. 30 FRAME 326 U
MODEL ABDP MAX AMB. 40 INS. CLASS A
82-78.4/39.2 AMPS 208-220/440 VOLTS LOCKED KVA CODE F
DRIVE IND BRG. 337P 780 G01
FRONT IND BRG. 374 P 646 G01
RPM 1770 SER. FACTOR 1.15
S# 74 B 850G17 SER. 6609

TANK
RICHMOND ENGINEERING CO. , RICHMOND , VA
MFG. NO. L- 54 83 YEAR 1966
DESIGN PRESS. 165 PS. NATIONAL BD. 53975
HEAD THK. INS. 1/4 TANK DIA. INS. 42
SHELL THK. INS.1/4 OVERALL LENGTH INS. 120
HEAD RAD. INS. 2-1 MAX WORK TEMP. * F 400
IND. INSP. # 146505

AFTERCOOLER

INGERSOLL - RAND
TYPE PL-12 SIZE 7
MAX WORK PRESS. TUBES 165
SHELL 75
MAX WORK TEMP. TUBES 350
SHELL 150
SHELL .203 HEAD .625 RAD. FLAT
SERIAL NO. 32275 YEAR 1966

CYLINDER LUBRICATOR
MODEL DSL LUBRICATOR
L- 9844- C1

NATIONAL ELECTRIC COIL
COLUMBUS, OH • BROWNSVILLE, TX

800 KING AVENUE (43212)
P.O. BOX 370 • COLUMBUS, OHIO 43216
PHONE: (614) 488-1151
FAX: (614) 488-8892 • (614) 488-2063

CUSTOMER: CITY OF JASPER **NEC JOB #: 69559-2181**

COLUMBUS ROTOR REPORT CHECKLIST

OEM: GE RATING: 16,100 KVA

#	ACTION	NAME	DATE	DEPARTMENT
1	UNIT SHIP DATE	B HOWARD	9/12/05	Production
2	ASSEMBLE FINAL REPORT: INCLUDE THE FOLLOWING	B HOWARD	9/15/05	Inspection

Place the following items in the order listed in the first tab of the job folder:

- [x] Workscope Checklist
- [x] Completed Incoming Inspection & Test Summary Sheet
- [x] Incoming Run Out
- [x] Final Run Out
- [x] Final Inspection & Test Summary Sheet
- [x] Final Balance Weight Location
- [x] Impedance Data/Running Electricals
- [x] Job Completion Checklist
- [x] Flux Probe Chart
- [x] All NDE Reports
- [ ] Asbestos Report (if applicable)
- [ ] Metallurgical Reports (if applicable)
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

3	FORWARD TO ENGINEERING MANAGER ONE WEEK AFTER SHIP DATE	B HOWARD	9/16/05	Inspection
4	REVIEW REPORT & APPROVE	W MOORE	9/16/05	Engineering
5	FORWARD TO CUSTOMER SERVICE ONE WEEK AFTER RECEIPT	W Moore	9/16/05	Engineering
6	REVIEW REPORT & APPROVE			Customer Service
7	SEND TO CUSTOMER			Customer Service

TARGET: REPORT SENT TO CUSTOMER WITHIN 3 WEEKS AFTER SHIP DATE

This checklist should travel with each production job folder.

Issued: 1-25-99
By: WGM
File: CHCKLST.DOC
Revised: 3/25/04

Blocks not checked indicate not applicable to the job.

NATIONAL ELECTRIC COIL
COLUMBUS, OH • BROWNSVILLE, TX

800 KING AVENUE (43212)
P.O. BOX 370 • COLUMBUS, OHIO 43216
PHONE: (614) 488-1151
FAX: (614) 488-8892 • (614) 488-2063

CUSTOMER: CITY OF JASPER **NEC JOB #: 69559-2181**

INCOMING INSPECTION FINDINGS

Date Unit Received: 4-15-05

Background Data

Ambient Temperature: 68°F Iron Temperature: 67°F

Electrical Tests

Winding Resistance: **.9920** Ohms

Insulation Resistance Test with **500** Volt Megger **Only 180 Volts out of 500 Volts on winding.**

One Minute Reading: **60,000** Ohms

Ten Minute Reading: MegOhms

Polarization Index:

Field Winding Impedance: **1.58** Amps @ **115** VAC

Pole No. 1 (IB Collector Ring) VAC

Pole No. 2 (OB Collector Ring) VAC

If crossover is not accessible, readings are from The bottom of the last coil on each pole to the Collector rings:

Collector rings:	IB Ring	OB Ring
Pole A (OB Ring Pole)	VDC	VDC
Pole B (IB Ring Pole)	VDC	VDC

High Potential Test:

☐ VDC for minutes microamps, Result: ☐ OK ☐ Failed

☐ VAC for minutes milliamps, Result: ☐ OK ☐ Failed

☒ None Applied

Bearing Journal Measurements

Bearing Journals:

Coupling End: Average Diameter: inches

Maximum Deviation: inches

Opposite Coupling End: Average Diameter: **6.4832** inches

Maximum Deviation: **.0036** inches

Inspection of Retaining Rings

Retaining Rings:

Coupling End:

Hardness: **350** Brinell (average reading)

NDE Results: ☒ OK ☐ Rejected

Opposite Coupling End:

Hardness: **341** Brinell (average reading)

NDE Results: ☒ OK ☐ Rejected

Issued: 1-25-99
By: WGM
File: CHCKLST.DOC
Revised: 3/25/04

Blocks not checked indicate not applicable to the job.

RUN OUT MEASUREMENTS INCOMING MECHANICAL

Note: 0° Reference is center of outboard pole.

CUSTOMER: AEP JOB #: 69465-2181

	TIR EXP.	0°	90°	180°	270°	TIR
TE SHAFT COUPLING	0.001"	.000	.000	.000	+.0008	
TE WIPER FIT – OUTBOARD	0.001"	N/A				
TE PROBE AREA	0.0005"	N/A				
TE JOURNAL OUTBOARD	0.0005"	N/A				
TE JOURNAL CENTER	0.0005"	N/A				
TE JOURNAL INBOARD	0.0005"	N/A				
TE WIPER FIT – INBOARD	0.001"	N/A				
TE FAN SHROUD RUNOUT	0.005"	.000	+.002	.000	+.0025	
TE FAN AXIAL RUNOUT	0.010"	.000	.000	+.001	-.0025	
TE CENTER RING AXIAL	0.025"					
TE FAN/CENTER RING OD	0.015"					
TE RETAINING RING – OB OD	0.025"	.000	+.0005	+.0005	.000	
TE RETAINING RING – IB OD	0.025"	.000	-.001	.000	-.0015	
CORE TO RR AIR GAP TE	See below	.252	.253	.252	.250	
CORE BODY –TE	0.005"	.000	.000	.0003	.000	
CORE BODY – MIDDLE	0.005"	.000	.000	.000	+.0002	
CORE BODY – OTE	0.005"	.000	.000	.000	.000	
OTE CENTER RING AXIAL	0.025"					
OTE FAN/CENTER RING OD	0.015"					
OTE RETAINING RING – IB OD	0.025"	.000	-.001	-.0035	-.003	
OTE RETAINING RING – OB OD	0.025"	.000	-.001	-.001	-.002	
CORE TO RR AIR GAP OTE	See below	.256	.255	.255	.255	
OTE FAN SHROUD RUNOUT	0.005"	.000	+.001	-.002	+.003	
OTE FAN AXIAL RUNOUT	0.010"	.000	-.005	-.002	-.006	
OTE WIPER FIT- INBOARD	0.001"	.000	-.001	-.001	.000	
OTE JOURNAL – INBOARD	0.0005"	.000	.000	.000	.000	
OTE JOURNAL – CENTER	0.0005"	.000	.000	.000	.000	
OTE JOURNAL – OUTBOARD	0.0005"	.000	.000	.000	.000	
OTE PROBE AREA	0.0005"					
OTE WIPER FIT- OUTBOARD	0.001"	.000	.000	.000	.000	
STUB SHAFT	0.001"					
SHAFT COUPLING RUNOUT	0.001"					
OTE SHAFT COUPLING FIT	0.001"					
COLLECTOR RING IB	0.001"	IN		OUT		+.0005
COLLECTOR RING OB	0.001"	IN		OUT		+.0005

BALANCER/MACHINIST: J.C. 13209 DLV 1367 DATE: April 14, 05

REVIEWED BY: Dale E Bonner DATE: 4-14-05

NOTE: If any gap readings vary by more than .025", contact engineering.
NOTE: Rings must be seated and square after overspeed. If not, contact supervisor.
NOTE: Use NA when readings are unattainable.

NATIONAL ELECTRIC COIL
COLUMBUS, OH • BROWNSVILLE, TX

800 KING AVENUE (43212)
P.O. BOX 370 • COLUMBUS, OHIO 43216
PHONE: (614) 488-1151
FAX: (614) 488-8892 • (614) 488-2063

CUSTOMER: CITY OF JASPER **NEC JOB #: 69559-2181**

ROTOR WORKSCOPE CHECKLIST

CHECK | WORKSCOPE ITEMS

BASE WORKSCOPE

- ☐ Clean-Up Only
- ☒ Incoming Electrical Test: ☒ Insulation Resistance ☒ PI ☒ Pole Balance
- ☒ Rewind & Reinsulate: ☒ New Copper ☐ Old Copper ☐ Partial
- ☒ High Speed Balance With Overspeed
- ☒ Final Electrical Tests:
- ☒ Stationary ☒ Insulation Resistance ☒ PI ☒ Pole Balance ☒ Hi-Pot
- ☒ Running ☒ Insulation Resistance ☒ Impedance ☒ Flux Probe
- ☐ Asbestos Abate: ☐ All ☐ Blocking ☐ Slot Liner ☐ RR Insulation

COMPONENT EVALUATIONS

☒	Rotor Forging	☒ Inspected	☒ OK	☐ Repairs	
☐	Rotor Forging Tooth Top	☐ Inspected	☐ OK	☐ Repairs	
☒	Retaining Ring	☒ Inspected	☒ OK	☐ Repairs	☐ New
☒	Slot Wedge	☒ Inspected	☒ OK	☐ Repairs	☐ New
☒	Fans	☒ Inspected	☒ OK	☐ Repairs	☐ New
☒	Collector Rings	☒ Inspected	☒ OK	☐ Repairs	☐ New
☐	Leads	☐ Inspected	☐ OK	☐ Repairs	☐ New
☐	Seals	☐ Inspected	☐ OK	☐ Repairs	☐ New
☒	Journals	☒ Inspected	☒ OK	☐ Repairs	☐ New
☐	Snap Rings	☐ Inspected	☐ OK	☐ Repairs	☐ New

SPECIAL

- ☐ Metallurgical Evaluation:
- ☐ Engineering Analysis:
- ☐ Other:

Target: Supply this checklist with Final Report to Engineering, 1 week after unit ships

Issued: 1-25-99
By: WGM
File: CHCKLST.DOC
Revised: 3/25/04

Blocks not checked indicate not applicable to the job.

NATIONAL ELECTRIC COIL
COLUMBUS, OH • BROWNSVILLE, TX

800 KING AVENUE (43212)
P.O. BOX 370 • COLUMBUS, OHIO 43216
PHONE: (614) 488-1151
FAX: (614) 488-8892 • (614) 488-2063

CUSTOMER: CITY OF JASPER **NEC JOB #: 69559-2181**

REPAIR DETAILS

CHECK	REPAIR ITEMS	
☒	COILS:	NEW COPPER
☒	ROTOR FORGING:	INSPECTED - OK
☐	TOOTH TOPS:	
☒	RETAINING RINGS:	INSPECTED - OK
☒	SLOT WEDGES:	INSPECTED - OK
☐	MAIN LEAD WEDGES:	
☒	FANS:	INSPECTED - OK
☒	COLLECTOR RINGS:	INSPECTED - OK
☐	AXIAL LEADS:	
☐	RADIAL LEADS:	
☒	JOURNALS:	INSPECTED - OK
☐	SNAP RINGS:	
☐	OTHER:	

Target: Supply this checklist with Final Report to Engineering, 1 week after unit ships

Workscope checklist should be completed based on Job Notification Sheet & Updated as Job Progresses

Issued: 1-25-99
By: WGM
File: CHCKLST.DOC
Revised: 3/25/04

Blocks not checked indicate not applicable to the job.

New Copper Recommendation

for

Jasper Municipal Rotor

by

William G. Moore, P.E
National Electric Coil

May 4, 2005

RECOMMENDATION

National Electric Coil (NEC) recommends replacement of the existing rotor copper in the Jasper Municipal Rotor with new copper. The reasons for the recommendation are as follows:

- The existing copper is soft.
- A piece of copper broke off during disassembly of the winding from the rotor.
- The rotor is a spindle mounted retaining ring design.
- The winding end turns have a significant amount of distortion.
- NEC has repaired rotors of this style that previously failed in service due to a rotor ground.

Soft Copper

The existing copper out of the Jasper Municipal rotor is soft, with low hardness values. Hardness measurements were taken in the slot and the end turns. Values ranged from 45 F to 60 F, in the slot and in the end turns.

New copper typically has a hardness reading of about 80 to 85 F on the Rockwell scale.

Copper that has a higher hardness is much more resistant to fatigue cracking. It can withstand many more start and stop cycles.

Broken Copper

During disassembly of the rotor winding from the rotor, a piece of top turn copper broke off. We believe that it was already fatigued, since it broke so easily. In general, copper is very tough, and although it may bend and distort a little during disassembly, it almost never will break off.

Additionally, the piece of copper broke right at the end of the rotor body core. This is the highest stressed area of the rotor turns, since in this particular design, there is not support for the copper

The broken piece of copper is shown on the next page.

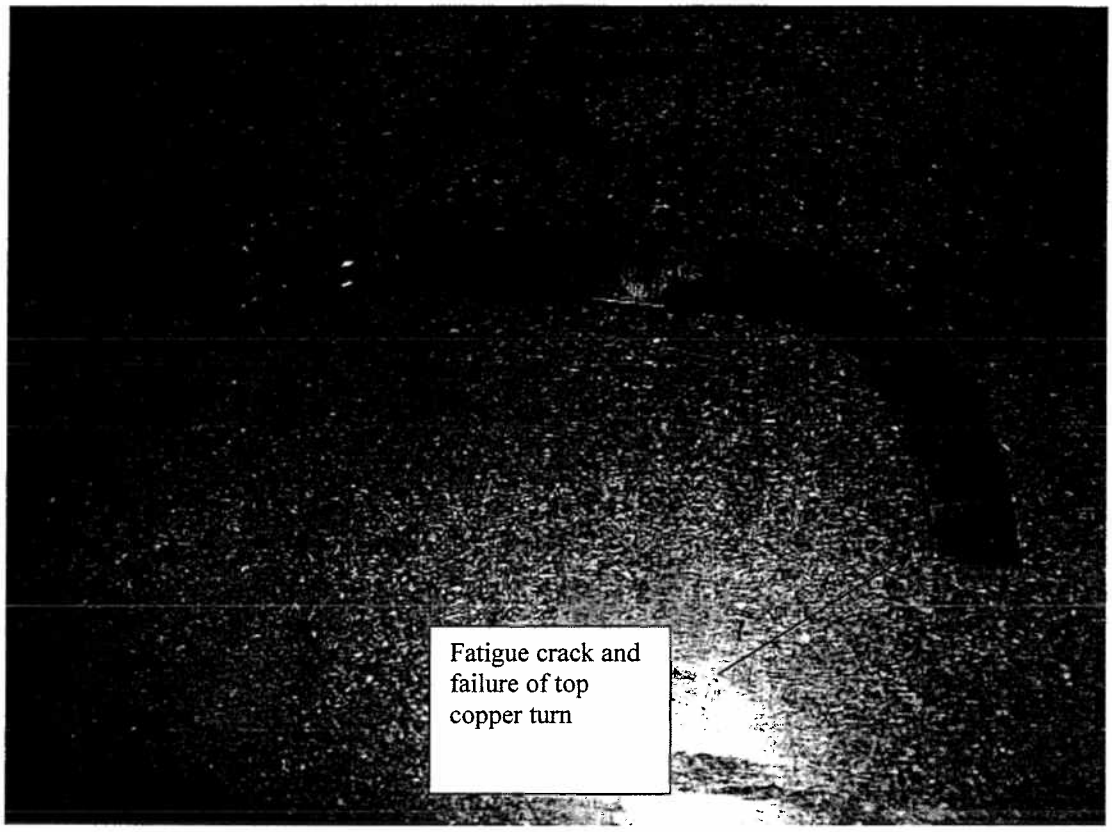
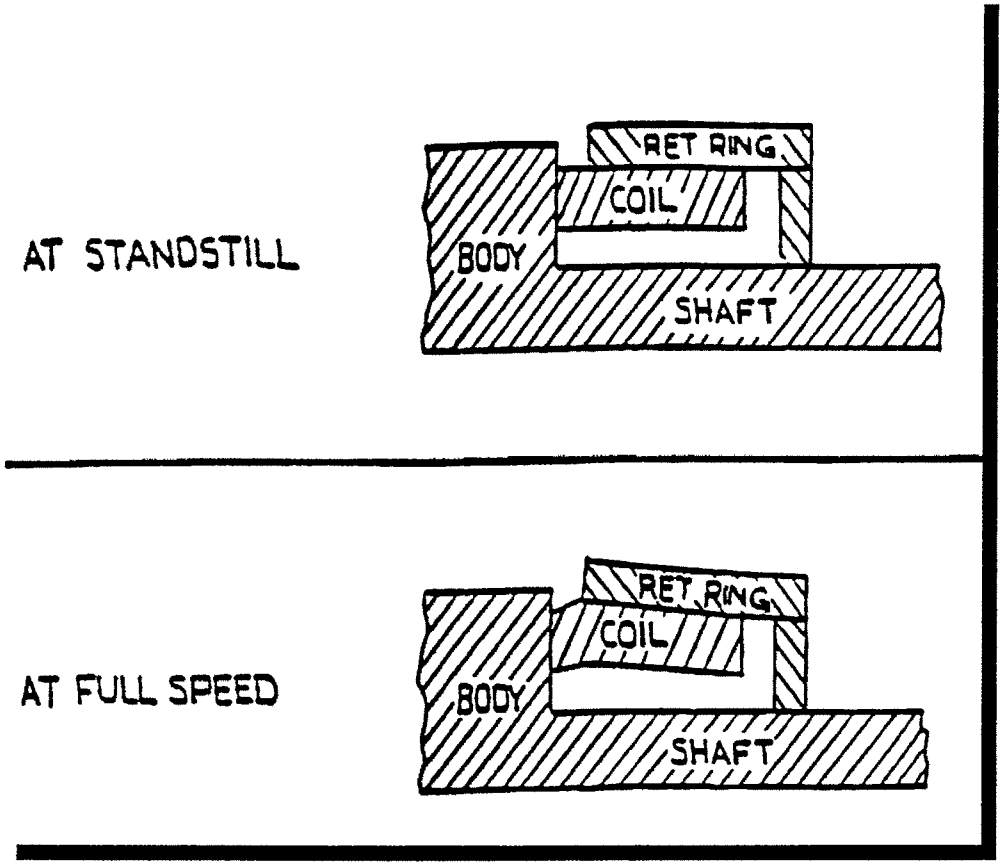


Photo above shows broken piece of copper from Jasper Municipal Rotor. Piece broke off easily during disassembly of the rotor winding from the rotor. Fatigue crack is indicative of top turn cracking that occurs on Spindle Mounted Retaining Ring Designs, in combination with softer copper.

Spindle Mounted Retaining Ring Design

The spindle mounted retaining ring design is an earlier vintage rotor design, in which the retaining ring is shrunk on a shaft spindle at the tail end of the ring. New, modern designs have the retaining ring shrunk on the rotor body at the nose of the ring.

The sketch below illustrates the spindle mounted retaining ring configuration, and the problems that it causes. High stresses are placed on the top few turns of the rotor coils, since these coils are unsupported.



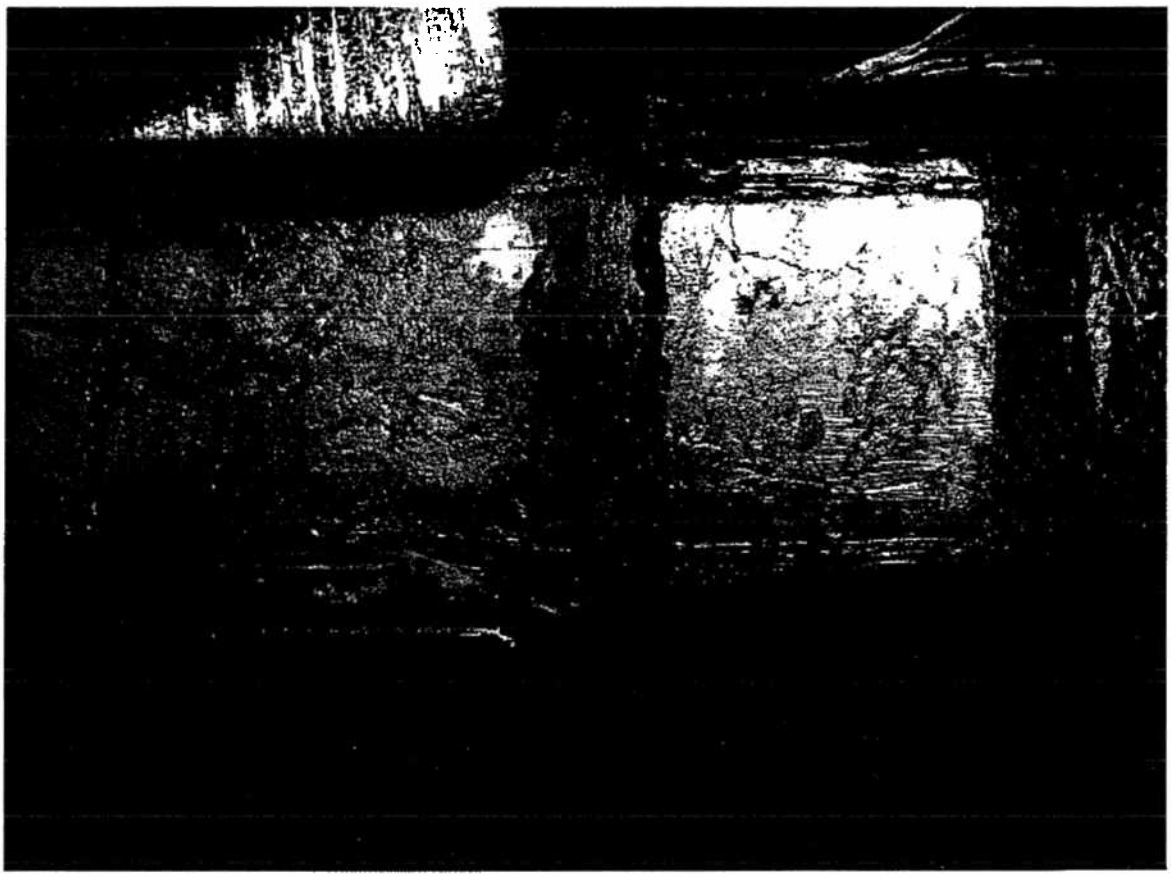
Sketch above shows spindle mounted retaining ring (mounted away from the rotor body) configuration. As the rotor comes up to speed, the top copper turns are highly stressed due to the lack of support. They often develop cracks, and can cause a ground failure. Softer copper is less fatigue resistant, and can accelerate this fatigue cracking.

End Turn Distortion

The end turns of the rotor winding have significant amounts of distortion, estimated to be about 20% of the total number of turns. This distortion can make support and blocking of the end turns more difficult, and can contribute to the creation of shorted turns.

Other Rotors with Top Turn Cracking

NEC has experience with another rotor that had been rewound by another vendor three separate times. The rotor kept failing to ground soon after it was put into service. Upon inspection by NEC, we found that it was suffering from top turn cracking. A photo of one of the cracks in the top turns is shown below:



Close up photo of top turn crack (NOT JASPER MUNICIPAL). This is a view looking directly down on the top turn of a coil, as it exits out of the rotor body core iron. This is the classic type of top turn fatigue cracking, associated with spindle mounted retaining rings. The top turns are unsupported from rotational forces. Hence, with each start / stop cycle, the turns flex and are stressed. Eventually they fail in fatigue.

This particular rotor was also made by G.E. and was rated at 13,500 kVA. It also is a spindle mounted retaining ring design. The copper in this rotor had a hardness between 30 and 35 Rockwell F. This is indeed, a little lower than the hardness measured on Jasper Municipal, but this only serves to provide some additional fatigue life. Eventually, the cracks will occur.

NEC rewound this particular rotor with new, hard copper, on the order of 80 Rockwell F. It was returned to service several years ago and has been operating trouble – free ever since.

Summary

For the reasons stated above, NEC strongly recommends that the existing soft, rotor copper turns, be replaced with new hard copper coils. The existing copper, because of the combination of the retaining ring design, and the fact that they are soft, are susceptible to fatigue cracking in service. This can cause a ground, and in the worst case damage the rotor forging. In addition, the existing copper is quite distorted, most probably because the copper is soft. New, hard copper will not only resist fatigue cracking, but also resist distortion. Distorted coils tend to develop shorted turns, as turn insulation can slip and migrate more easily.

NATIONAL ELECTRIC COIL

800 King Avenue
Columbus, Ohio 43212

SUBJECT: MECHANICAL RUN OUT MEASUREMENTS			NUMBER: QCTGR-200-50
EFFECTIVE DATE: 12-15-03	SUPERSEDES: 03-14-03	REVISION: D	PAGE: 1 of 1
APPROVED BY: ENGINEERING J Moore		APPROVAL: QUALITY CONTROL	

MECHANICAL RUN OUT MEASUREMENTS

☒ Pre-Balance ☐ After Overspeed ☐ Final Balance

NOTE: 0° Reference is center of ~~outboard~~ INBOARD pole unless otherwise indicated.

CUSTOMER : Jasper **JOB # :** 69559

	TIR EXP	0°	90°	180°	270°	T.I.R.
TE SHAFT COUPLING	0.001"	.000	-.0005	-.0005	.000	
TE WIPER FIT-OUTBOARD	0.001"					
TE PROBE AREA	0.0005"					
TE JOURNAL - OUTBOARD	0.0005"					
TE JOURNAL - CENTER	0.0005"					
TE JOURNAL - INBOARD	0.0005"					
TE WIPER FIT-INBOARD	0.001"					
TE FAN SHROUD RUNOUT	0.005"	.000	-.0005	-.002	-.004	
TE FAN AXIAL RUNOUT	0.010"	.000	+.001	+.004	.000	
TE CENTER RING AXIAL	0.025"					
TE FAN/CENTER RING OD	0.015"					
TE RETAINING RING-OB OD	0.025"	.000	.000	.000	+.001	
TE RETAINING RING-IB OD	0.025"	.000	-.005	.000	-.002	
CORE TO RR AIR GAP TE	See below	.252	.253	.254	.253	
CORE BODY-TE	0.005"	.000	.000	-.0005	-.001	
CORE BODY-MIDDLE	0.005"	.000	.000	.000	-.001	
CORE BODY-OTE	0.005"	.000	.000	+.0005	.000	
CORE TO RR AIR GAP OTE	See below	.256	.255	.255	.256	
OTE RETAINING RING-IB OD	0.025"	.000	-.006	-.002	-.010	
OTE RETAINING RING-OB OD	0.025"	.000	-.002	-.001	-.002	
OTE FAN/CENTER RING OD	0.015"					
OTE CENTER RING AXIAL	0.025"					
OTE FAN AXIAL RUNOUT	0.010"	.000	-.004	-.007	-.0095	
OTE FAN SHROUD RUNOUT	0.005"	.000	-.004	-.003	-.001	
OTE WIPER FIT-INBOARD	0.001"	.000	-.0005	-.001	-.001	
OTE JOURNAL – INBOARD	0.0005"					
OTE JOURNAL – CENTER	0.0005"					
OTE JOURNAL - OUTBOARD	0.0005"					
OTE PROBE AREA	0.0005"					
OTE WIPER FIT - OUTBOARD	0.001"	.000	.000	.000	+.0005	
STUB SHAFT	0.001"					
SHAFT COUPLING RUNOUT	0.001"					-0.001
OTE SHAFT COUPLING FIT	0.001"					-0.001
COLLECTOR RING IB	0.001"	IN	OUT	AXIAL		<.015"
COLLECTOR RING OB	0.001"	IN	OUT	AXIAL		<.015"

BALANCER/MACHINIST: 1367 / 1379 DATE : 8-18-05

REVIEWED BY : _____ DATE : _____

NOTE: If any gap readings vary by more than .025, contact engineering.

NOTE: Rings must be seated and square after overspeed. If not, contact supervisor.

NOTE: Use NA when readings are unattainable

NATIONAL ELECTRIC COIL
COLUMBUS, OH • BROWNSVILLE, TX

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PHONE: (614) 488-1151
FAX: (614) 488-8892 • (614) 488-2063

CUSTOMER: CITY OF JASPER **NEC JOB #: 69559-2181**

FINAL INSPECTION RESULTS

Date Unit Shipped: 9-12-05

Background Data

Ambient Temperature: 78°F Iron Temperature: 77°F

Electrical Tests

Winding Resistance: **1.014** Ohms

Insulation Resistance Test with **1000** Volt Megger

One Minute Reading: **2380** MegOhms

Ten Minute Reading: **4680** MegOhms

Polarization Index: **1.97**

If crossover is not accessible, readings are from the bottom of the last coil on each pole to the collector rings:

	IB Ring	OB Ring
Pole A (OB Ring Pole)	VDC	VDC
Pole B (IB Ring Pole)	VDC	VDC

Field Winding Impedance: **1.40** Amps @ **115** VAC

Pole No. 1 (IB Collector Ring) VAC

Pole No. 2 (OB Collector Ring) VAC

High Potential Test:

☒ VDC **3500** for **1** minutes **1.0** microamps, Result: ☒ OK ☐ Failed

☐ VAC for minutes milliamps, Result: ☐ OK ☐ Failed

Final Balance Results

Dynamic Balance @ 3600 RPM:

Coupling End Vibration Levels:

Horizontal: **.350** mils **50** degrees (phase angle)

Vertical: **.504** mils **325** degrees (phase angle)

Axial: **.195** mils **198** degrees (phase angle)

Opposite Coupling End:

Horizontal: **.668** mils **40** degrees (phase angle)

Vertical: **.257** mils **198** degrees (phase angle)

Axial: **.391** mils **183** degrees (phase angle)

Final Inspection of Retaining Rings after Overspeed

Retaining Rings:

Coupling End:

NDE Results: ☒ OK ☐ Rejected

Opposite Coupling End:

NDE Results: ☒ OK ☐ Rejected

Blocks not checked indicate not applicable to the job.

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CUSTOMER: CITY OF JASPER **NEC JOB #: 69559-2181**

FINAL INSPECTION RESULTS

Final Rotating Insulation Resistance Test

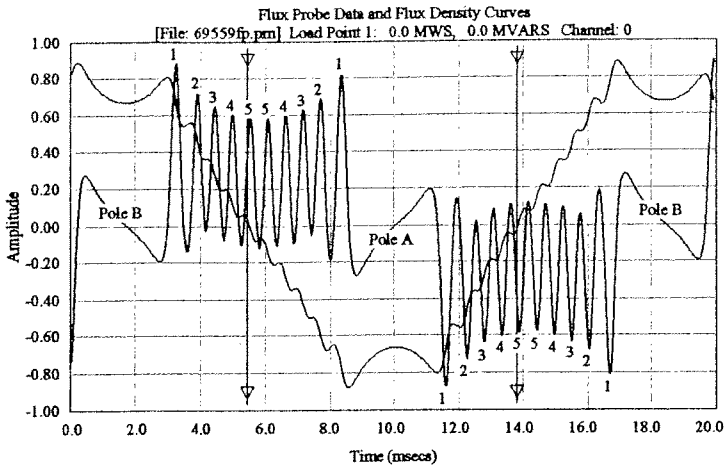
1000 VOLT

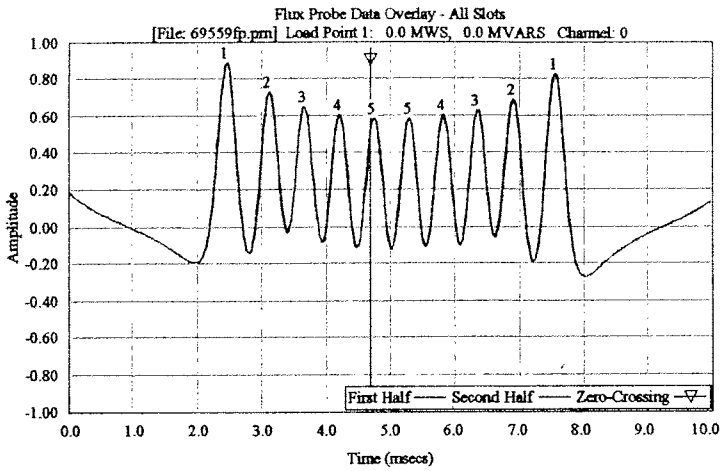
RPM	MegOhms	RPM	MegOhms
0	4560/ 4020	2100	4080/ 4140
300	3800/ 4300	2400	4100/ 4200
600	3780/ 4360	2700	4080/ 4120
900	3880/ 4180	3000	4120/ 4180
1200	3900/ 4020	3300	4120/ 4160
1500	3920/ 4120	3600	4080/ 4080
1800	4100/ 4040	(Ascending/Descending)	

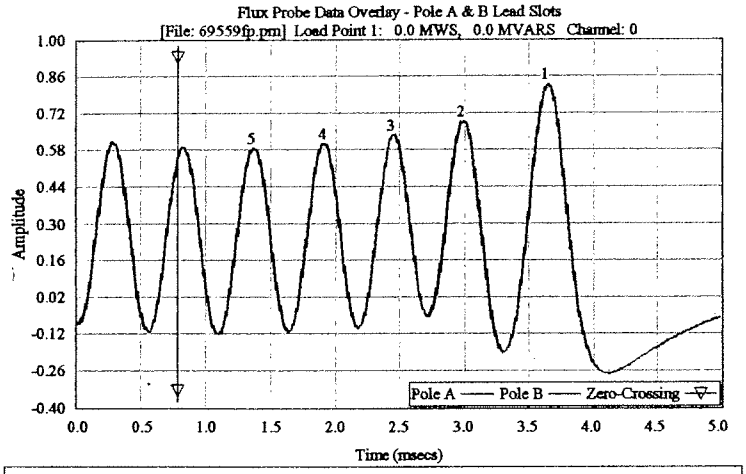
Final Running Impedance Rest

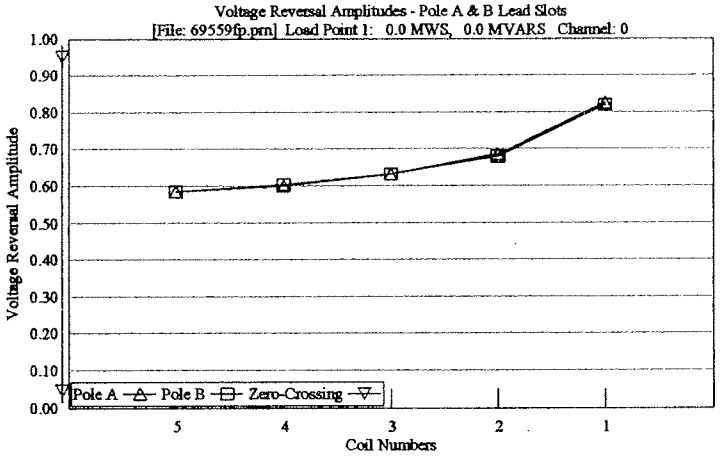
RPM	Impedance (Ohms)	RPM	Impedance (Ohms)	RPM	Impedance (Ohms)
0	74.887	1300	72.613	2600	71.253
100	74.697	1400	72.445	2700	71.178
200	74.738	1500	72.284	2800	71.097
300	74.618	1600	72.118	2900	71.097
400	74.455	1700	71.953	3000	71.166
500	74.279	1800	71.777	3100	70.926
600	74.080	1900	71.777	3200	70.840
700	73.819	2000	71.608	3300	71.092
800	73.560	2100	71.538	3400	70.285
900	73.347	2200	71.456	3500	71.648
1000	73.211	2300	71.392	3600	72.236
1100	73.035	2400	71.328		
1200	72.697	2500	71.247		

Blocks not checked indicate not applicable to the job.









Generatortech Shorted-Turn Data Table

File: 69559fp.prn Date: September 6, 2005 8:33:47 am

Path: C:\Snapshot\69559fp.prn
Company: Jasper Station: 69559
Comments:
Number of poles= 2 Coils/pole= 5 Max Load MWS= 0.0
Turns/Coil: 1=47, 2=47, 3=47, 4=47, 5=47,

Load Point= 1 MWS= 0.0 MVARs= 0.0 Field Amps= 0.0 Field Volts= 0.0
Flux Density Zero-Crossing= 6.1, Filter=none, Rotor RPM=3600.0 Peak Height=Modified

Coil	Pole A Peak Size	Pole B Peak Size	Ratio of Sizes A/B	Ratio of Sizes B/A	Pole A Shorted Turn Indication	Pole B Shorted Turn Indication
1	0.836	0.828	1.010	0.991	---	---
2	0.695	0.688	1.010	0.990	---	---
3	0.639	0.638	1.001	0.999	---	---
4	0.609	0.609	0.999	1.001	---	---
5	0.590	0.591	0.999	1.001	---	---

Generatortech, Inc. Shorted-Turn Detection System

Analysis System V3.1

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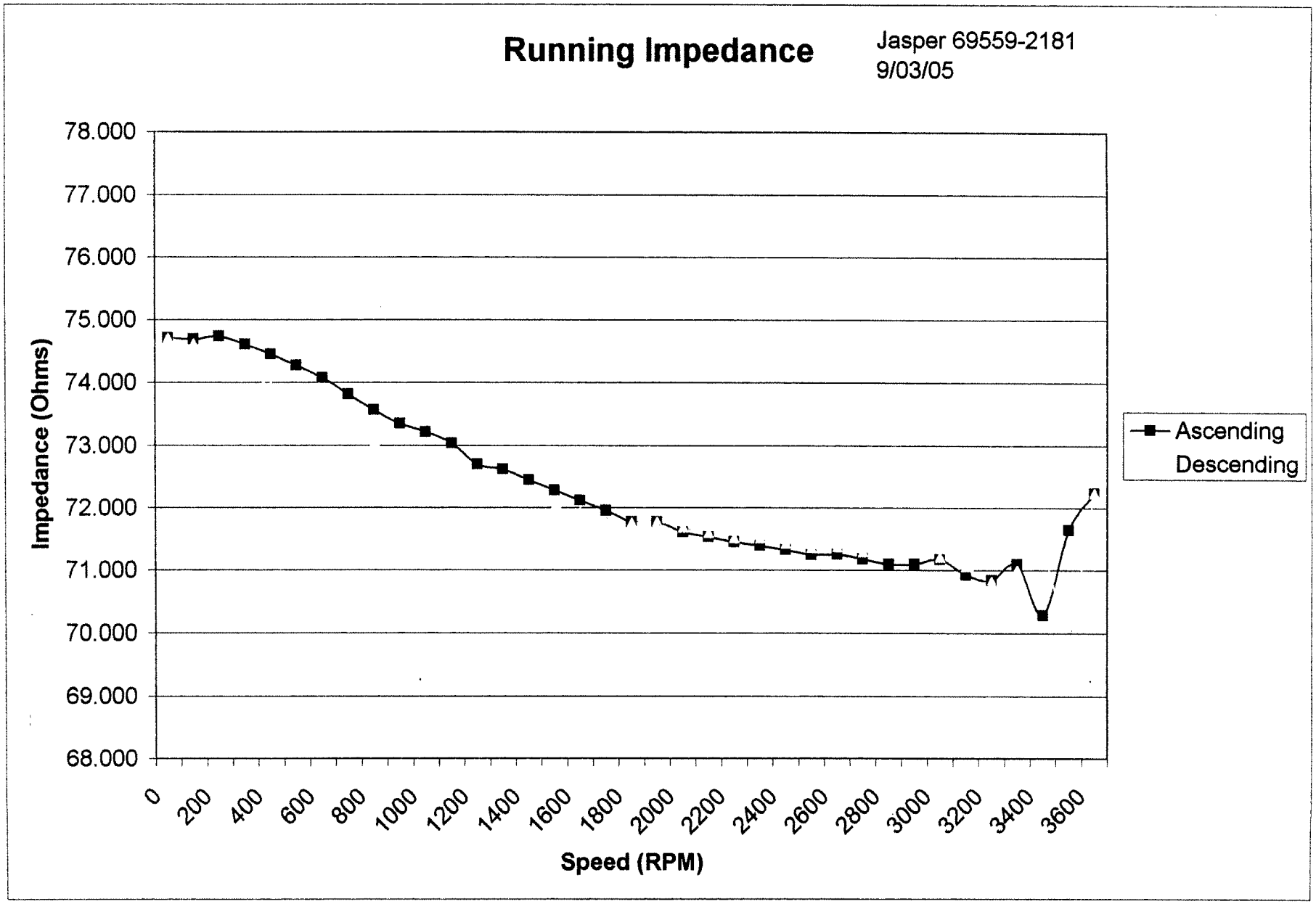
Generatortech, Inc.
31 Sutherland Drive
Scotia, NY 12302

518-399-4646 (voice & fax)
Email: support@generatortech.com
Web Page: www.generatortech.com

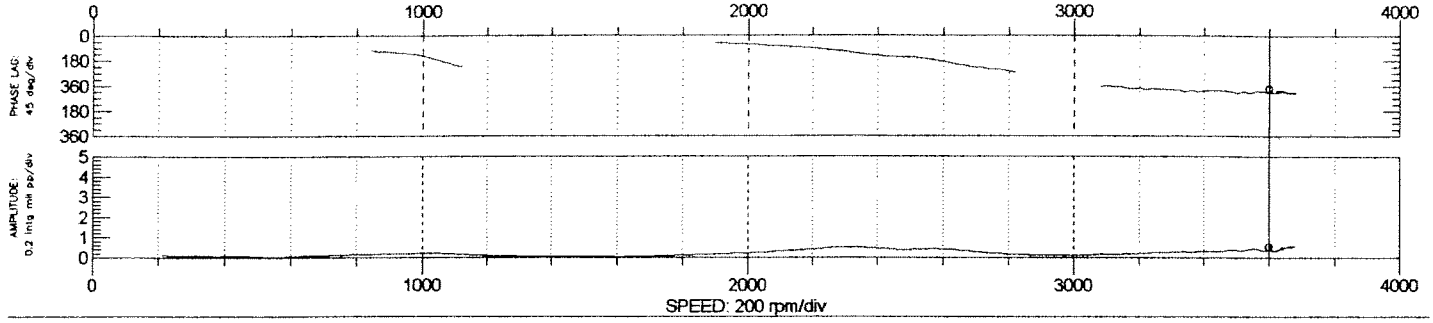
Modified Peak Calculations


Running Impedance
Jasper 69559-2181
9/03/05
78.000
77.000
76.000
75.000
74.000
73.000
72.000
71.000
70.000
69.000
68.000
Impedance (Ohms)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
3000
3200
3400
3600
Speed (RPM)
Ascending
Descending

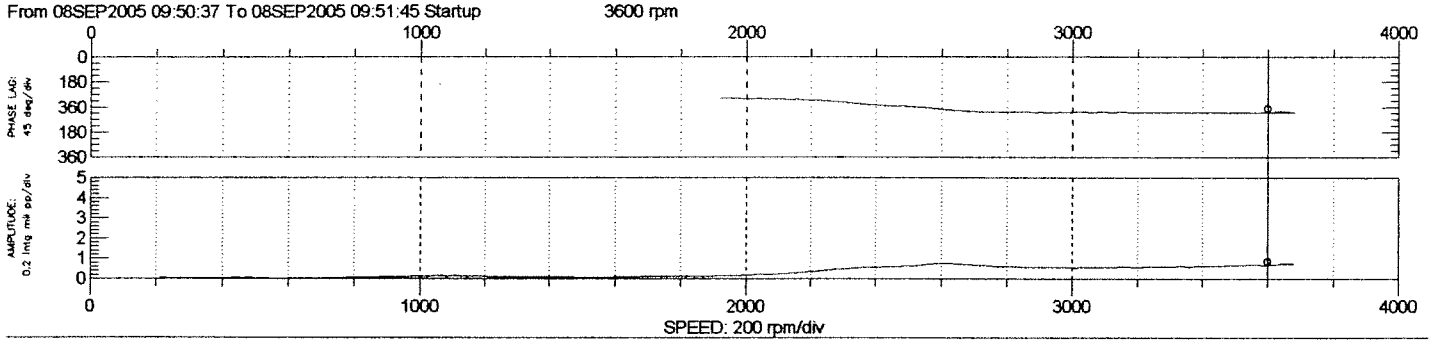
BODE PLOT
COMPANY: Jasper
MACHINE TRAIN: TURBO ROTOR

PLOT NO._____
PLANT: N.E.C.
JOB REFERENCE: 69559-2181

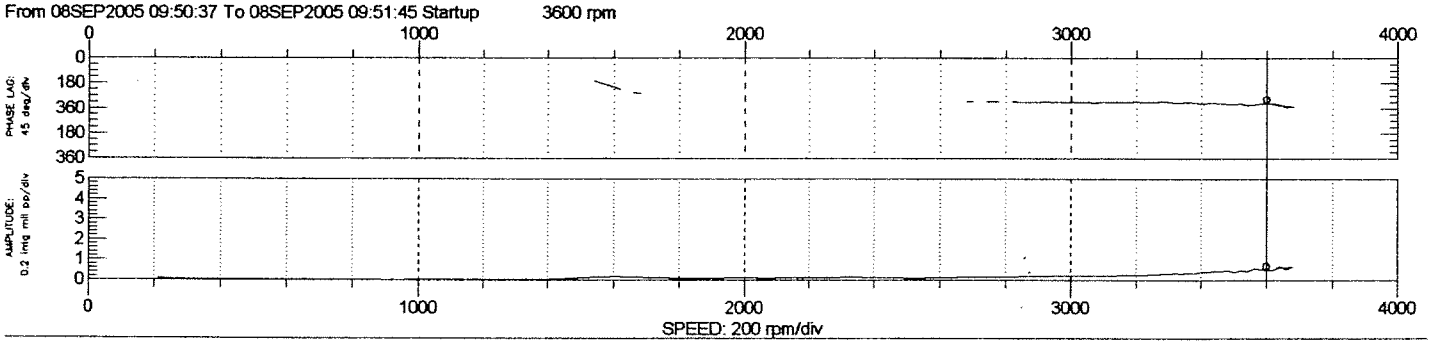
POINT: Near Horizontal ∠90° Right 1X UNCOMP 0.350∠50°
MACHINE: Generator
From 08SEP2005 09:50:37 To 08SEP2005 09:51:45 Startup 3600 rpm



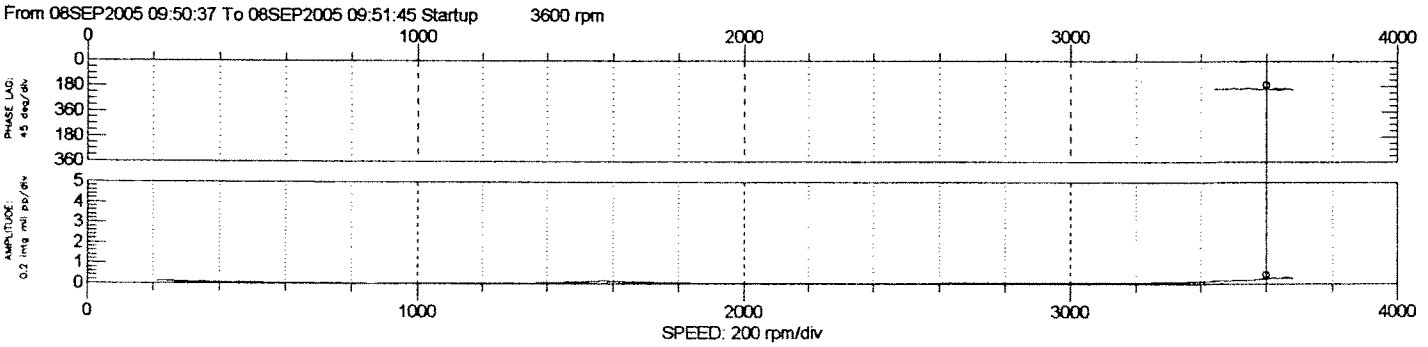
POINT: Far Horizontal ∠90° Right 1X UNCOMP 0.668∠40°
MACHINE: Generator
From 08SEP2005 09:50:37 To 08SEP2005 09:51:45 Startup 3600 rpm



POINT: Near Vertical ∠0° 1X UNCOMP 0.504∠325°
MACHINE: Generator
From 08SEP2005 09:50:37 To 08SEP2005 09:51:45 Startup 3600 rpm



POINT: Far Vertical ∠0° 1X UNCOMP 0.257∠198°
MACHINE: Generator
From 08SEP2005 09:50:37 To 08SEP2005 09:51:45 Startup 3600 rpm



COMMENTS

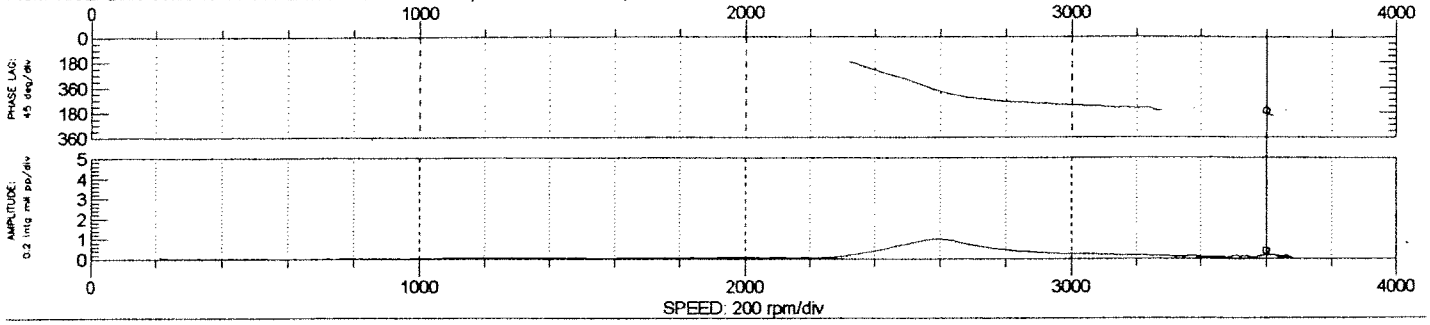
Repeat Final Balance

BENTLY NEVADA

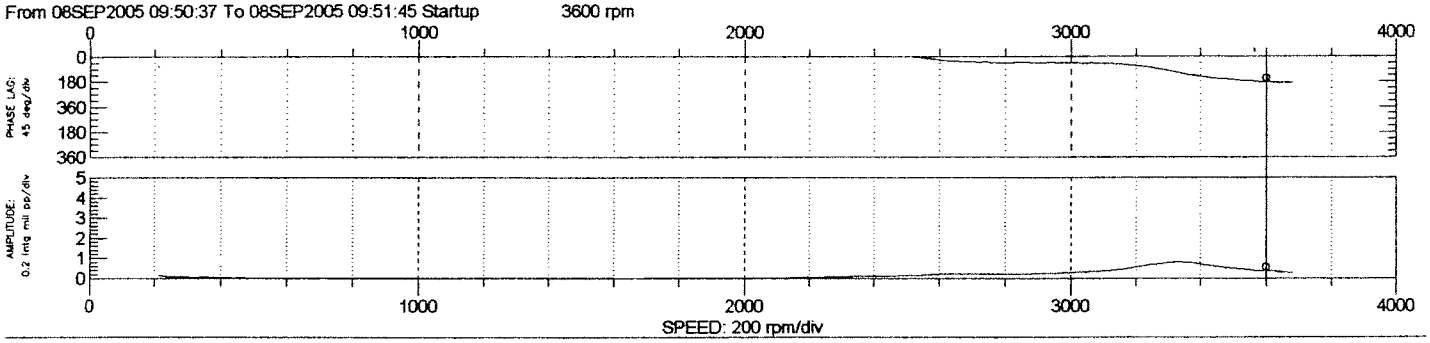
BODE PLOT
COMPANY: Jasper
MACHINE TRAIN: TURBO ROTOR

PLOT NO._____
PLANT: N.E.C.
JOB REFERENCE: 69559-2181

POINT: Near Axial ∠90° Right 1X UNCOMP 0.195∠198°
MACHINE: Generator
From 08SEP2005 09:50:37 To 08SEP2005 09:51:45 Startup 3600 rpm



POINT: Far Axial ∠90° Right 1X UNCOMP 0.391∠183°
MACHINE: Generator
From 08SEP2005 09:50:37 To 08SEP2005 09:51:45 Startup 3600 rpm



COMMENTS

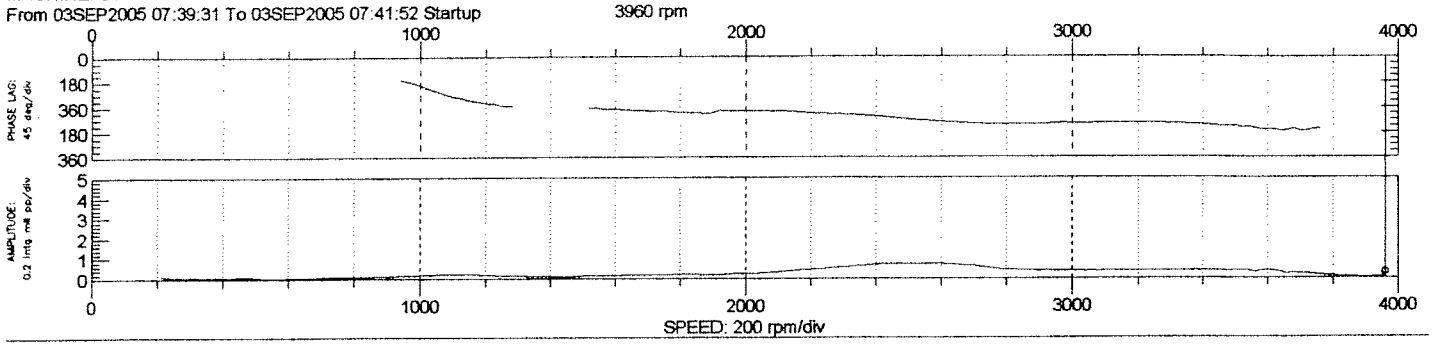
Repeat Final Balance

BENTLY NEVADA

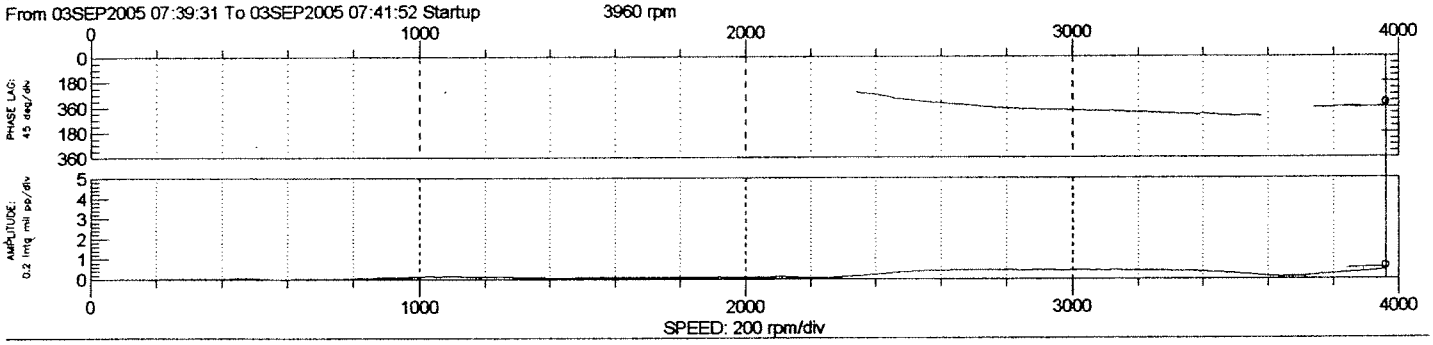
BODE PLOT
COMPANY: Jasper
MACHINE TRAIN: TURBO ROTOR

PLOT NO._____
PLANT: N.E.C.
JOB REFERENCE: 69559-2181

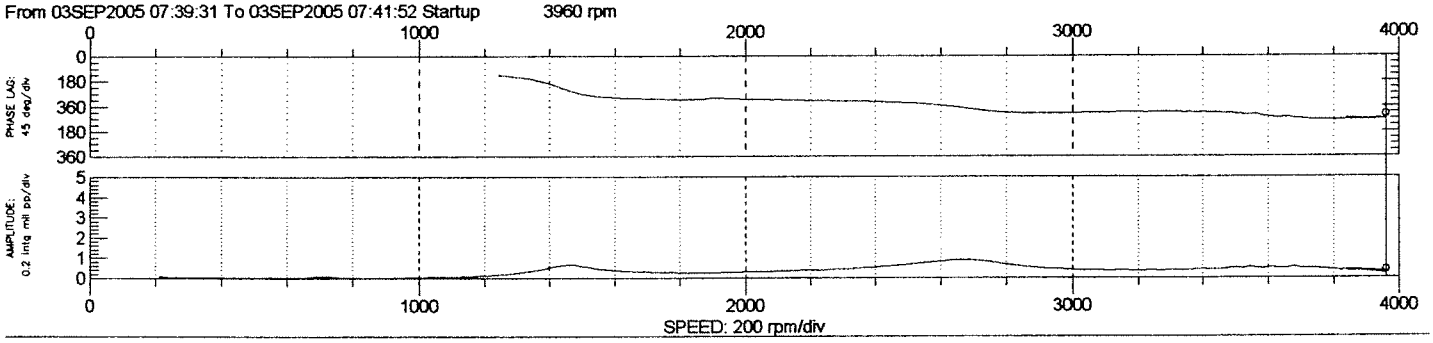
POINT: Near Horizontal ∠90° Right 1X UNCOMP 0.082∠NA°
MACHINE: Generator
From 03SEP2005 07:39:31 To 03SEP2005 07:41:52 Startup 3960 rpm



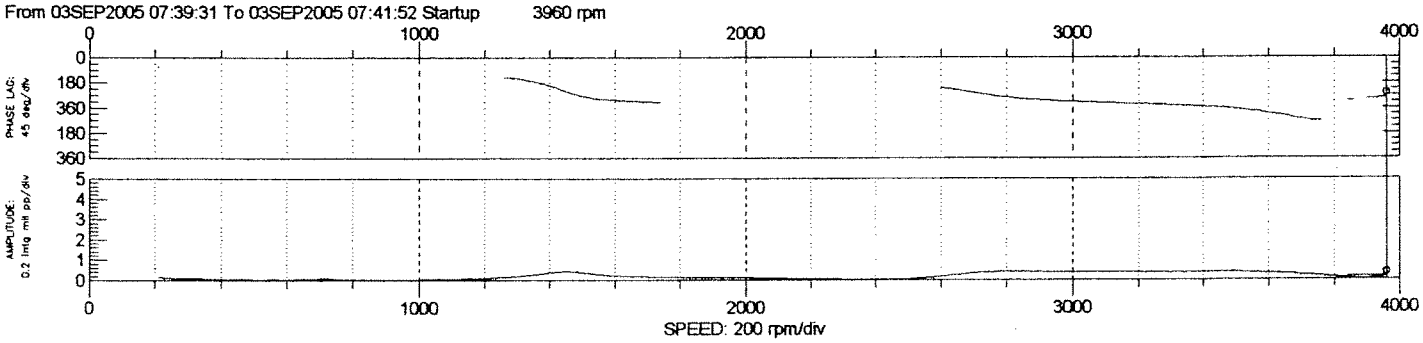
POINT: Far Horizontal ∠90° Right 1X UNCOMP 0.452∠357°
MACHINE: Generator
From 03SEP2005 07:39:31 To 03SEP2005 07:41:52 Startup 3960 rpm



POINT: Near Vertical ∠0° 1X UNCOMP 0.206∠90°
MACHINE: Generator
From 03SEP2005 07:39:31 To 03SEP2005 07:41:52 Startup 3960 rpm



POINT: Far Vertical ∠0° 1X UNCOMP 0.154∠286°
MACHINE: Generator
From 03SEP2005 07:39:31 To 03SEP2005 07:41:52 Startup 3960 rpm



COMMENTS

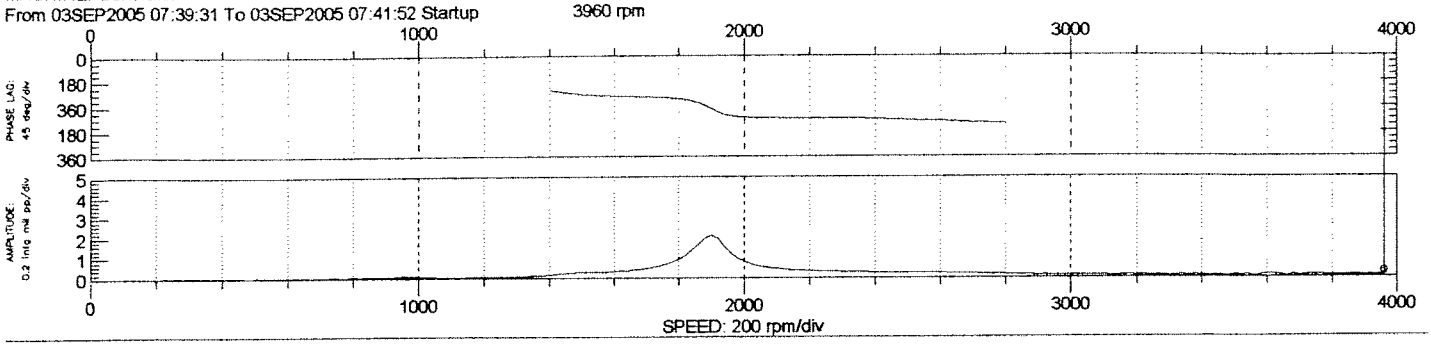
10% Overspeed

BENTLY NEVADA

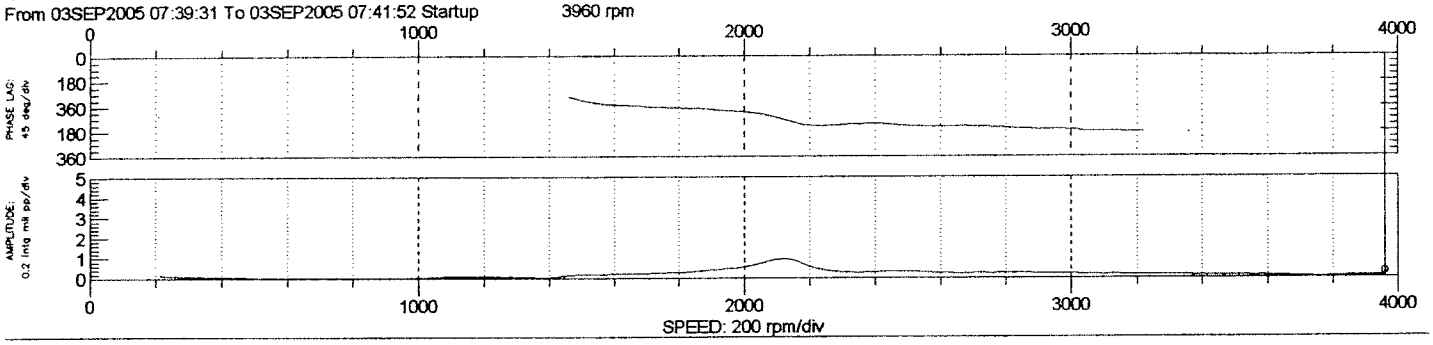
BODE PLOT
COMPANY: Jasper
MACHINE TRAIN: TURBO ROTOR

PLOT NO._____
PLANT: N.E.C.
JOB REFERENCE: 69559-2181

POINT: Near Axial ∠90° Right 1X UNCOMP 0.082∠NA°
MACHINE: Generator
From 03SEP2005 07:39:31 To 03SEP2005 07:41:52 Startup 3960 rpm



POINT: Far Axial ∠90° Right 1X UNCOMP 0.082∠NA°
MACHINE: Generator
From 03SEP2005 07:39:31 To 03SEP2005 07:41:52 Startup 3960 rpm



COMMENTS

10% Overspeed

BENTLY NEVADA

NATIONAL ELECTRIC COIL

800 King Avenue
Columbus, Ohio 43212

SUBJECT: MECHANICAL RUN OUT MEASUREMENTS			NUMBER: QCTGR-200-50
EFFECTIVE DATE: 12-15-03	SUPERSEDES: 03-14-03	REVISION: D	PAGE: 1 of 1
APPROVED BY: ENGINEERING J Moore		APPROVAL: QUALITY CONTROL	

MECHANICAL RUN OUT MEASUREMENTS

☐ Pre-Balance ☐ After Overspeed ☒ Final Balance

NOTE: 0° Reference is center of outboard pole unless otherwise indicated.

CUSTOMER : Jasper **JOB # :** 69559-2181

	TIR EXP	0°	90°	180°	270°	T.I.R.
TE SHAFT COUPLING	0.001"	0.000	0.000	+0.001	+0.0005	
TE WIPER FIT-OUTBOARD	0.001"	NA				
TE PROBE AREA	0.0005"	NA				
TE JOURNAL - OUTBOARD	0.0005"	NA				
TE JOURNAL - CENTER	0.0005"	NA				
TE JOURNAL - INBOARD	0.0005"	NA				
TE WIPER FIT-INBOARD	0.001"	NA				
TE FAN SHROUD RUNOUT	0.005"	NA				
TE FAN AXIAL RUNOUT	0.010"					0.0065
TE CENTER RING AXIAL	0.025"	NA				
TE FAN/CENTER RING OD	0.015"	0.000	-0.001	-0.0005	-0.001	0.001
TE RETAINING RING-OB OD	0.025"	0.000	-0.001	+0.001	+0.0005	0.002
TE RETAINING RING-IB OD	0.025"	0.000	-0.001	+0.002	-0.002	0.004
CORE TO RR AIR GAP TE	See below	.252	.252	.256	.253	
CORE BODY-TE	0.005"	0.000	0.000	+0.0015	0.000	0.0015
CORE BODY-MIDDLE	0.005"	0.000	+0.001	+0.0005	0.000	0.001
CORE BODY-OTE	0.005"	0.000	0.000	+0.0005	0.000	0.0005
CORE TO RR AIR GAP OTE	See below	.257	.258	.255	.257	
OTE RETAINING RING-IB OD	0.025"	0.000	-0.0065	-0.0015	-0.004	0.0065
OTE RETAINING RING-OB OD	0.025"	0.000	-0.0015	0.000	-0.001	0.0015
OTE FAN/CENTER RING OD	0.015"	0.000	-0.0035	-0.0025	-0.0025	0.0035
OTE CENTER RING AXIAL	0.025"	NA				
OTE FAN AXIAL RUNOUT	0.010"					0.009
OTE FAN SHROUD RUNOUT	0.005"	NA				
OTE WIPER FIT-INBOARD	0.001"	NA				
OTE JOURNAL – INBOARD	0.0005"	NA				
OTE JOURNAL – CENTER	0.0005"	NA				
OTE JOURNAL - OUTBOARD	0.0005"	NA				
OTE PROBE AREA	0.0005"	NA				
OTE WIPER FIT - OUTBOARD	0.001"	NA				
STUB SHAFT	0.001"	NA				
SHAFT COUPLING RUNOUT	0.001"	0.000	0.000	+0.0007	+0.0002	
OTE SHAFT COUPLING FIT	0.001"	NA				
COLLECTOR RING IB	0.001"	IN 0.0005	OUT NA	AXIAL .0135		<.015"
COLLECTOR RING OB	0.001"	IN NA	OUT 0.001	AXIAL .012		<.015"

BALANCER/MACHINIST: 1341 DATE : 9/4/05

REVIEWED BY : CEW DATE : 9/9/05

NOTE: If any gap readings vary by more than .025, contact engineering.

NOTE: Rings must be seated and square after overspeed. If not, contact supervisor.

NOTE: Use NA when readings are unattainable

NATIONAL ELECTRIC COIL

800 King Avenue
Columbus. Ohio

SUBJECT: FINAL BALANCE RECORD			NUMBER: QCTGR-945C
EFFECTIVE DATE: 02-07-05	SUPERSEDES: 04-30-02	REVISION: D	PAGE: 1 of 1
APPROVAL PLANT MANAGER:		QUALITY ASSURANCE:	

FINAL BALANCE RECORD

CUSTOMER: Jasper **JOB #:** 69559-2181

*** Unless otherwise noted:** The 0° reference for angle of weight will be the center of the outboard Pole. Rotation will be counter clockwise when facing rotor from Turbine End (TE).

BALANCE PLANE	WEIGHT @ angle	WEIGHT @ angle	WEIGHT @ angle	WEIGHT @ angle	WEIGHT @ angle	WEIGHT @ angle
TE COUPLING	NA					
TE FAN	NA					
TE RETAINING RING	20g @ 165°	20g. @ 325°	30g. @ 350°			
CORE BODY - TE	513g. @ 30°	459g. @ 330°				
CORE BODY - MID. TE	642g. @ 330°					
CORE BODY - MIDDLE	464g. @ 330°					
CORE BODY – MID OTE	462g. @ 30°	464g. @ 330°				
CORE BODY - OTE	509g. @ 210°	465g. @ 330°				
OTE RETAINING RING	40g. @ 165°	20g. @ 170°				
OTE FAN	NA					
COLLECTOR RING - IB	NA					
COLLECTOR RING - OB	NA					
EXCITER	NA					
DIODE WHEEL	NA					
MISC	NA					
OTE COUPLING	NA					

BALANCER: 1341 DATE: 9/7/05

REVIEWED BY: CEW DATE: 9/7/05

NOTE: USE NA WHEN NO WEIGHTS ARE APPLIED TO PLANE.

NATIONAL ELECTRIC COIL
COLUMBUS, OHIO · BROWNSVILLE, TX

800 KING AVENUE (43212)
P.O. BOX 370 · COLUMBUS, OHIO 43216
PHONE: (614) 488-1151
FAX: (614) 488-8892 · (614) 488-2063

DYE PENETRANT TESTING OF TURBINE GENERATOR ROTOR RETAINING RINGS

JOB NAME: Jasper

JOB #: 69559

MATERIALS DO NOT SUBSTITUITE WITHOUT ENGINEERING APPROVAL:

FLOURESCENT PENETRANT: MAGNAFLUX ZL-22D
DEVELOPER: MAGNAFLUX SKD-S2
CLEANERS: MAGNAFLUX SKC-NF & DENATURED ALCOHOL

DWELL TIMES
PENETRANT: 60 MINUTES
DEVELOPER: 5 MINUTES

AMBIENT LEVEL(Max. 3)_____F.C.
BLK. LIGHT INTENSITY(Min.800)_____W/CM^2

RING TESTED
OPE / PE
OFF ROTOR / ON ROTOR AFTER OVERSPEED

REF SPECS: ASTM E-165

OLD: X NEW_____

OBSERVATION RESULTS: No significant indications found

DISPOSITION:

INSPECTOR B Howard DATE: 9-6-05

APPROVED BY: DMH
DATE: 01-25-03
REVISION LEVEL: D
QC-TGR- 11

Welding Consultants, Inc.

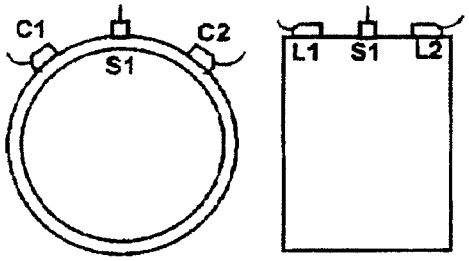
889 North Twenty-Second Street – Columbus, Ohio 43219 - 614/258-7018 – Fax 614/258-1996

National Electric Coil Retaining Ring UT Report/Time Sheet

N.E.C. Customer: AEP

Reference #: 69465-2181 *Date:* 04-18-2005

WCI Job #: Z-102 *WCI Technician:* M. Sartin



UT Machine: Masterscan 330

Transducers:
S: 1" Dia., 1.0 MHz, 90 Degree

C & L: ¾" X ¾", 2.25 MHz, 45 Degree

Turbine End: X *Other End:* X

Off Rotor: X *After Overspeed:* _____

_____ *Check if holes present to interfere with angle beam scans*

Test Results

Scan Direction	*Reference Level*	*Accept*	*Reject**
S1	50	√	
C1	75	√	
C2	75	√	
L1	75	√	
L2	75	√	

* Include details on separate sheet.

Test Results Certified By Welding Consultants, Inc. M. Sartin

Job Time Summary

Hours Worked: 4.0

N.E.C. Representative: B. Howard

NATIONAL ELECTRIC COIL
COLUMBUS, OHIO · BROWNSVILLE, TX

800 KING AVENUE (43212)
P.O. BOX 370 · COLUMBUS, OHIO 43216
PHONE: (614) 488-1151
FAX: (614) 488-8892 · (614) 488-2063

DYE PENETRANT TESTING OF TURBINE GENERATOR ROTOR RETAINING RINGS

JOB NAME: AEP

JOB #: 69465-2181

MATERIALS DO NOT SUBSTITUITE WITHOUT ENGINEERING APPROVAL:

FLOURESCENT PENETRANT: MAGNAFLUX ZL-22D
DEVELOPER: MAGNAFLUX SKD-S2
CLEANERS: MAGNAFLUX SKC-NF & DENATURED ALCOHOL

DWELL TIMES
PENETRANT: 60 MINUTES AMBIENT LEVEL(Max. 3)_____F.C.
DEVELOPER: 5 MINUTES BLK. LIGHT INTENSITY(Min.800)_____W/CM^2

RING TESTED
~~OPE / PE~~
OFF ROTOR / ON ROTOR AFTER OVERSPEED

REF SPECS: ASTM E-165

OLD: ✓ NEW_____

OBSERVATION RESULTS: No significant indications found

DISPOSITION: OK for reuse

INSPECTOR R Messer DATE: 4/19/05

APPROVED BY: DDH
DATE: 01-25-03
REVISION LEVEL: D
QC-TGR- 11

Welding Consultants, Inc.

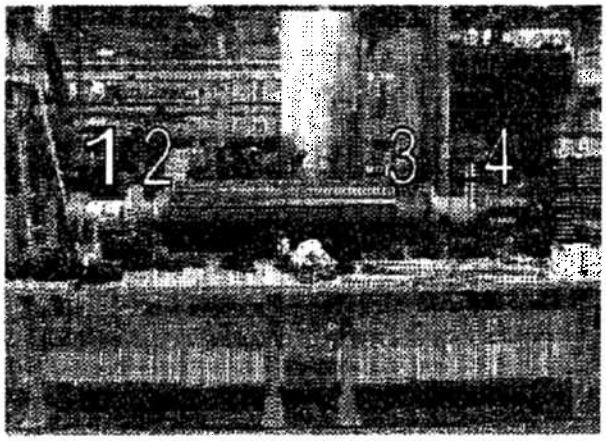
889 North Twenty-Second Street – Columbus, Ohio 43219 - 614/258-7018 – Fax 614/258-1996

National Electric Coil Rotor UT Report/Time Sheet

N.E.C. Customer: *Jasper*

Reference #: *69465-2181* ***Date:*** *05-03-2005*

WCI Job #: *Z-102* ***WCI Technician:*** *M. Elick*



Test Results				
Test Location	Scan Direction	Reference Level	Accept	Reject*
1-4	S1	58	√	
1	A1	73	√	
2	A1	73	√	
3	A1	73	√	
4	A1	73	√	

UT Machine: *Masterscan 330*

Transducers:

Angle Beam: *¾ X ¾ , 2.25 MHz, 45 Degree Probe*

Straight Beam: *1" Dia., 2.250 MHz, 90 Degree*

Turbine End: *X* ***Other End:*** *X*

* Include details on separate sheet.

Test Results Certified By Welding Consultants, Inc. *M. Elick*

Job Time Summary

Hours Worked: *2.0*

N.E.C. Representative: *B. Howard*

Note: Picture is for general reference, is not exact.

NATIONAL ELECTRIC COIL

800 King Avenue
Columbus, Ohio 43212

SUBJECT: NDE TESTING OF FANS			NUMBER: QCTGR-235-40
EFFECTIVE DATE: 01-29-03	SUPERSEDES:	REVISION: NEW	PAGE: 1 of 1
APPROVED BY: ENGINEERING		APPROVAL: QUALITY CONTROL	

CUSTOMER: 69559/2181 **C.R. #:** JASPER

☒ FANS ARE MAGNETIC AND I HAVE TESTED THEM USING A WET MAGNETIC PARTICLE TEST. NO DEFECTS WERE FOUND.

CLOCK #: B Howard DATE: 5-10-05

IF DEFECTS FOUND, DESCRIBE LOCATION AND NUMBER:

CLOCK #: _____ DATE: _____

☐ FANS ARE NON-MAGNETIC AND I HAVE TESTED THEM USING A DYE PENETRANT TEST. NO DEFECTS WERE FOUND.

CLOCK #: _____ DATE: _____

IF DEFECTS FOUND, DESCRIBE LOCATION AND NUMBER:

CLOCK #: _____ DATE: _____

☐ FANS ARE RIVETED AND I HAVE TESTED THEM USING A DYE PENETRANT TEST. NO DEFECTS WERE FOUND.

CLOCK #: _____ DATE: _____

IF DEFECTS FOUND, DESCRIBE LOCATION AND NUMBER:

CLOCK #: _____ DATE: _____

NATIONAL ELECTRIC COIL

800 King Avenue
Columbus, Ohio 43212

SUBJECT: NDE TESTING OF WEDGES			NUMBER: QCTGR-235-60
EFFECTIVE DATE: 01-29-03	SUPERSEDES:	REVISION: NEW	PAGE: 1 of 1
APPROVED BY: ENGINEERING SMoore		APPROVAL: QUALITY CONTROL DEhel	

CUSTOMER: Jasper **C.R.#** 69559-2181

☒ WEDGES HAVE BEEN CLEANED AND TESTED USING A DYE PENETRANT. NO DEFECTS WERE FOUND.

CLOCK #: 2822 DATE: 5-12-05

IF DEFECTS FOUND, DESCRIBE LOCATION AND NUMBER:

ROW#	WEDGE	WEDGE	WEDGE	WEDGE	WEDGE	WEDGE	WEDGE	WEDGE

wedges are galled and battered on ends, also have a residual magnetism

WEDGE ROW(S): _____ CLOCK #: _____ DATE: _____

WEDGE ROW(S): _____ CLOCK #: _____ DATE: _____

WEDGE ROW(S): _____ CLOCK #: _____ DATE: _____

WEDGE ROW(S): _____ CLOCK #: _____ DATE: _____

WEDGE ROW(S): _____ CLOCK #: _____ DATE: _____

Welding Consultants, Inc.

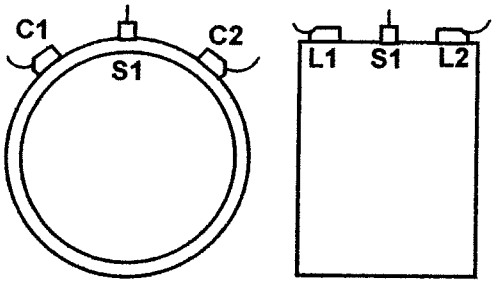
889 North Twenty-Second Street – Columbus, Ohio 43219 - 614/258-7018 – Fax 614/258-1996

National Electric Coil Retaining Ring UT Report/Time Sheet

N.E.C. Customer: City of Jasper

Reference #: 69559-2181 *Date:* 8-3-2005

WCI Job #: Z-102 *WCI Technician:* M. Sartin



UT Machine: Masterscan 330

Transducers:
S: 1" Dia., 1.0 MHz, 90 Degree

C & L: ¾" X ¾", 2.25 MHz, 45 Degree

Turbine End: X *Other End:* X

Off Rotor: _____ *After Overspeed:* X

_____ *Check if holes present to interfere with angle beam scans*

Test Results

Scan Direction	Reference Level	Accept	Reject*
S1	50	√	
C1	70	√	
C2	70	√	
L1	70	√	
L2	70	√	

* Include details on separate sheet.

Test Results Certified By Welding Consultants, Inc. M. Sartin

Job Time Summary

Hours Worked: 4.0 x 1.5

N.E.C. Representative: B. Howard

POWER GENERATION SERVICE, INC.

JASPER MUNICIPAL ELECTRIC
GENERATION DEPARTMENT
JASPER, IN

15MW GENERAL ELECTRIC
UNIT #1
TURBINE / GENERATOR OVERHAUL

MARCH 11, 2005 – APRIL 29, 2005

TIM DRADER
TECHNICAL FIELD ADVISOR

2719 37TH St NW, Mandan, ND 58554 701-663-6736

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2] RENEWAL PARTS

3] BEARINGS AND JOURNALS

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5] NON-RETURN VALVE

6] TURBINE MASTER NDE REPORT

7] MAIN STOP VALVE

8] LUBRICATION SYSTEM

9] DIAPHRAGMS

10] CONTROL VALVES

11] CONTROL SYSTEM

12] TURBINE SHELL

13] TURBINE ROTOR

14] ROTOR

JOB SUMMARY REPORT

When I arrived on site the generator had been completely disassembled and the generator rotor removed.

The HP/LP upper half was removed and all rotor clearances were taken

The rotor was removed along with all diaphgrams and sand blasted.

The front standard was disassembled and all componets were cleaned and measurements taken.

The stop valve was removed cleaned and blue checked.

The aux-oil pump and regulator were disassembled cleaned and repaired to proper working order.

The unit was reassembled with each part checked for correct clearances and the rotor was rolled to check for packing and oil deflector clearances.

The unit as a whole was found to be in good mechanical condition when disassembled and the rotor and diaphragms had very little build up that was removed at sandblasting.

RENEWAL PARTS

(USED DURING INSPECTION AND NEEDED TO REPLACE STOCK)

Date: 4-14-05 Turbine Serial No. 178416 Prepared By: Tim Drader

Item	Qty	Description	Seq No.	Instruction Book Reference			Part No.
				Catolog Number	Instruction Book No.	Figure,Drawing, or Photo Number	
	1	Aux-oil pump upper brg.				09486010p001	
	1	Aux-oil pump lower brg.				09486010p001	
	1	Drive end main oil pump brg.				0354c118g0007	
	1	Non-drive end main oil pump brg.				0354c118g0007	
	80	cap screws for HP/LP					
		diaphgram keys				06643072p0015	

TIL/ENC ACTIVITY

None done this outage.

BEARINGS

1 Brg. Was disassembled cleaned and all clearances checked all were with in OEM spec.

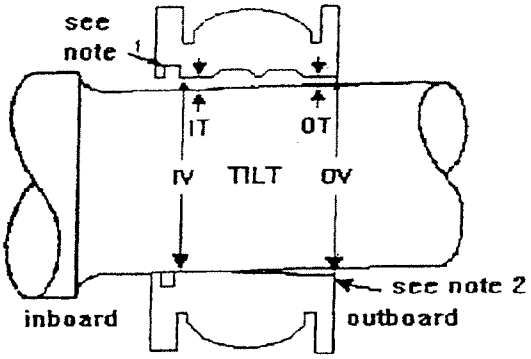
2 Brg. Was disassembled cleaned and all clearances checked. The horizontal joint blue check indicated that the joint did not have proper contact the joint was then stoned on the high spots and blued several times to achive proper contact. Clearance were within OEM specs.

3 Brg. Was cleaned and clearances checked with a micrometer. Blue check on the joint was good . Clearance were within OEM specs.

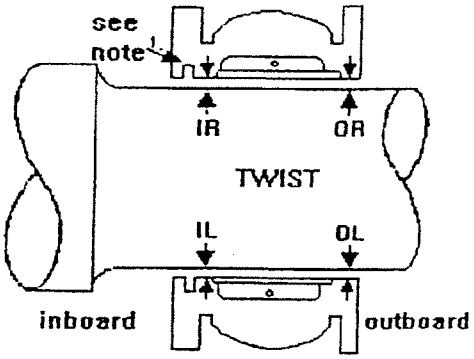
PGS

Bearing To Journal Alignment
For Bearings With Ball Seats

Date(m/d/y) 4-21-05 Turbine Serial No. 178416 Prepared by Tim Drader



ELEVATION VIEW



PLAN VIEW

NOTES:
1. On most generator bearings, the end leakage groove is on the outboard end.
2. On hood bearings, the outboard end is set low to compensate for vacuum deflection.

Tilt

Brg #	Section	Reading in Inches IV	Reading in Inches OV	Reading in Mils IT	Reading in Mils OT	Limits 0.0 To	Actual (Mils)	Tolerance Check
1				.0065	.0075		.0005	.0005
2				.019	.019		0	0

Twist

Brg #	Section	Readings in Mils IL	OL	IR	OR	Limits	Actual	Tolerance Check
1								
2		.018	.022	.019	.020		.001	.001

Comments:

PGS

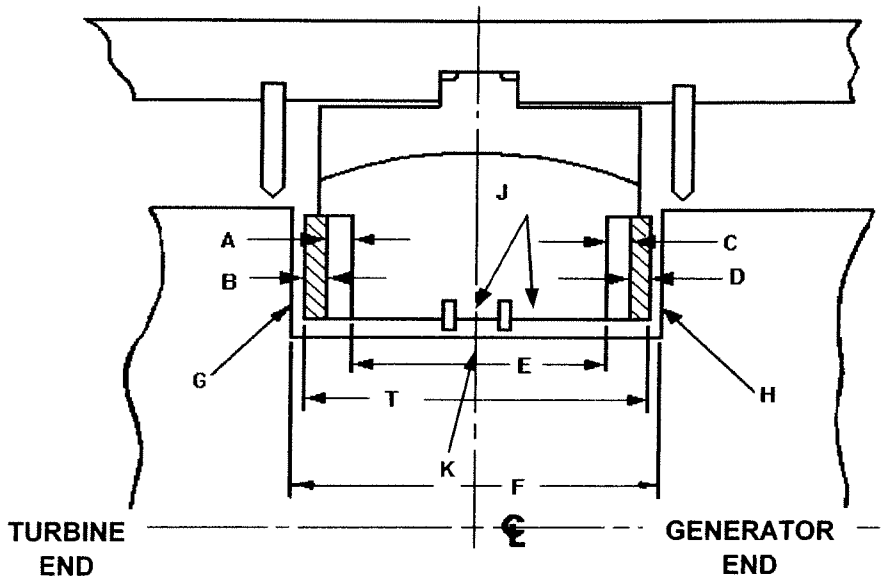
Thrust Bearing
Straddle

Date(m/d/y) 3/15/2005 Turbine Serial No. 178416 Prepared by Tim Drader
d

INSPECTIONS & CHECKS				CODE	
Ball Contact Check	X	Runner Inspection	X	X	Work Carried Out
Ball Pinch Check	X	Wear Device Inspection	N/A	N	Not Done
Ball Torque Check	X	Screens and Orifices	N/A	NA	Not Applicable
Parallelism Check	X	Thermocouples Calib.	N/A	C	See Comments
Thrust Plate Inspection	X			V	Visual Inspection
Babbitt Inspection	X			MP	Mag. Particle
				UT	Ultrasonic
				PT	Penetrant

Thrust Bearing Data

"A" Shim	0.155
"B" Plate	0.876
"C" Shim	0.235
"D" Plate	0.812
"E" Casing	4.935
"T" Total	7.013
"F" Rotor	7.023



Thrust Clearance

Clearance (F minus T)	0.010
Clearance (By float)	0.010
Difference	0.000
Stack Check	✓

Runout (Mils TIL)

G	
H	

Ball Torque

Ball Diam.		Inches
Reading		Ft-Lb
Check		

Seal Ring Clearances

	Turbine End				Generator End		
	0°	90°	Out of Round		0°	90°	Out of Round
Seal Diameter (J)							
Rotor Diameter (K)							
Clearance							

Comments:
As Found

PGS

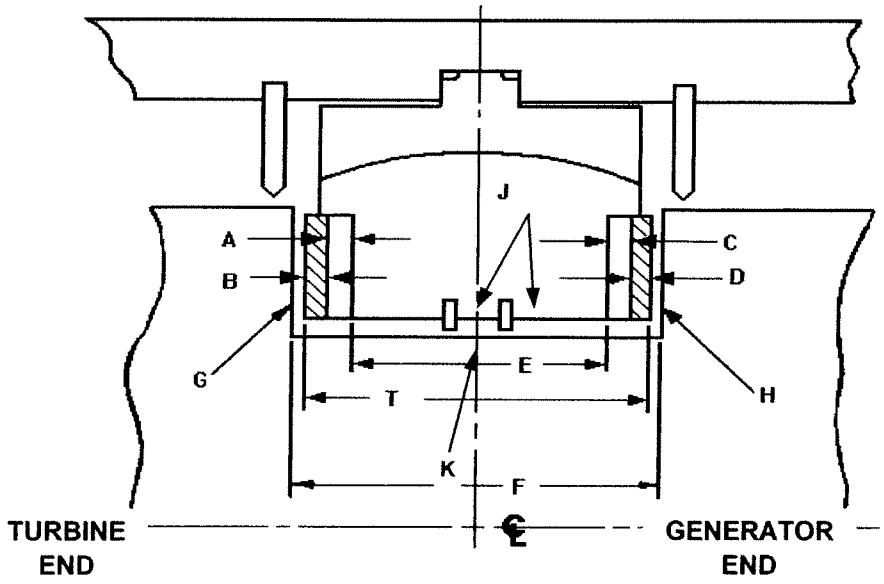
Thrust Bearing
Straddle

Date(m/d/y) 4/18/2005 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTIONS & CHECKS				CODE	
Ball Contact Check	X	Runner Inspection	X	X	Work Carried Out
Ball Pinch Check	X	Wear Device Inspection	N/A	N	Not Done
Ball Torque Check	X	Screens and Orifices	N/A	NA	Not Applicable
Parallelism Check	X	Thermocouples Calib.	N/a	C	See Comments
Thrust Plate Inspection	X			V	Visual Inspection
Babbitt Inspection	X			MP	Mag. Particle
				UT	Ultrasonic
				PT	Penetrant

Thrust Bearing Data

"A" Shim	0.155
"B" Plate	0.875
"C" Shim	0.235
"D" Plate	0.812
"E" Casing	4.935
"T" Total	7.012
"F" Rotor	7.023



Thrust Clearance

Clearance (F minus T)	0.011
Clearance (By float)	0.011
Difference	0.000
Stack Check	✓

Runout (Mils TIL)

G	
H	

Ball Torque

Ball Diam.		Inches
Reading		Ft-Lb
Check		

Seal Ring Clearances

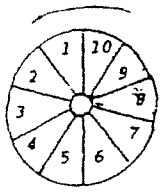
	Turbine End				Generator End		
	0°	90°	Out of Round		0°	90°	Out of Round
Seal Diameter (J)							
Rotor Diameter (K)							
Clearance							

Comments:
New active thrust bearing was installed this outage. AS LEFT

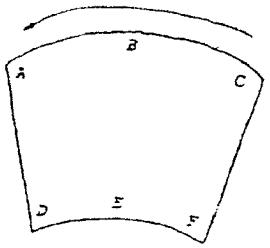
THRUST BEARING PAD

Date 4-5-05 Turbine Serial No. 178416 Prepared By Tim Drader

CENTER LINE



ROTATION



As Found

CHECK ONE

[ ] ACTIVE

[X] INACTIVE

Pad No.					Pad No.				
1	A	.811	D	.806	2	A	.812	D	.808
	B		E			B		E	
	C	.811	F	.812		C	.811	F	.812

3	A	.810	D	.812	4	A	.810	D	.808
	B		E			B		E	
	C	.812	F	.808		C	.810	F	.812

5	A	.811	D	.808	6	A	.811	D	.808
	B		E			B		E	
	C	.812	F	.812		C	.812	F	.812

7	A	.812	D	.809	8	A	.811	D	.809
	B		E			B		E	
	C	.811	F	.812		C	.810	F	.812

PGS

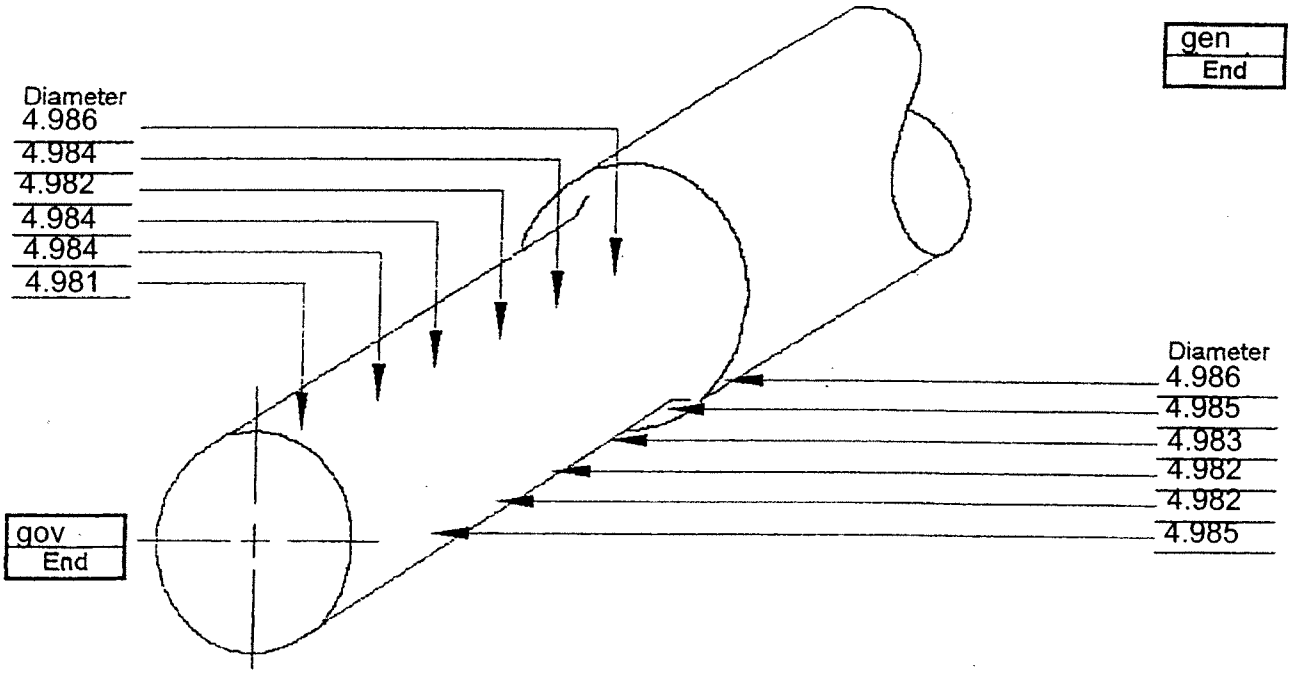
Rotor Journal Condition

AS FOUND

Date 3/18/05 Turbine Serial No. 178416 Prepared by Tim Drader

Journal Number #1

Note: Mark on sketch to show grooving, discoloration, carbon inclusions, or irregularities in the journal surface.



Journal Sizes

	0°	90°	All
Maximum	4.986	4.986	
Minimum	4.981	4.982	
Difference	0	.001	
Average			

Out of Roundness

Diameters 0°	Diameters 90°	Out of Round
4.968	4.968	0
4.984	4.985	.001
4.982	4.983	.001
4.984	4.982	.002
4.984	4.982	.002
4.981	4.985	.004

Comments:

PGS

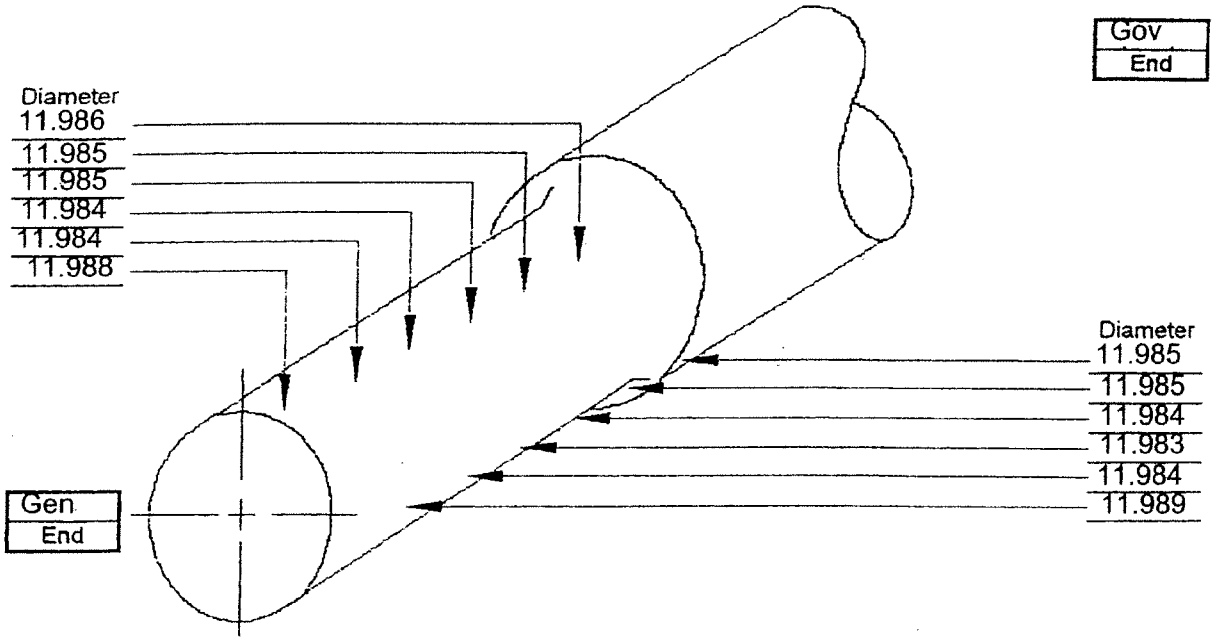
Rotor Journal Condition

AS FOUND / As Left

Date 3/18/05 Turbine Serial No. 178416 Prepared by Tim Drader

Journal Number # 2

Note: Mark on sketch to show grooving, discoloration, carbon inclusions, or irregularities in the journal surface.



Journal Sizes

	0°	90°	All
Maximum	11.988	11.989	
Minimum	11.984	11.983	
Difference	.004	.006	
Average			

Out of Roundness

Diameters 0°	Diameters 90°	Out of Round
11.986	11.985	.001
11.985	11.985	0
11.985	11.984	.001
11.984	11.983	.001
11.984	11.984	0
11.988	11.989	.001

Comments:

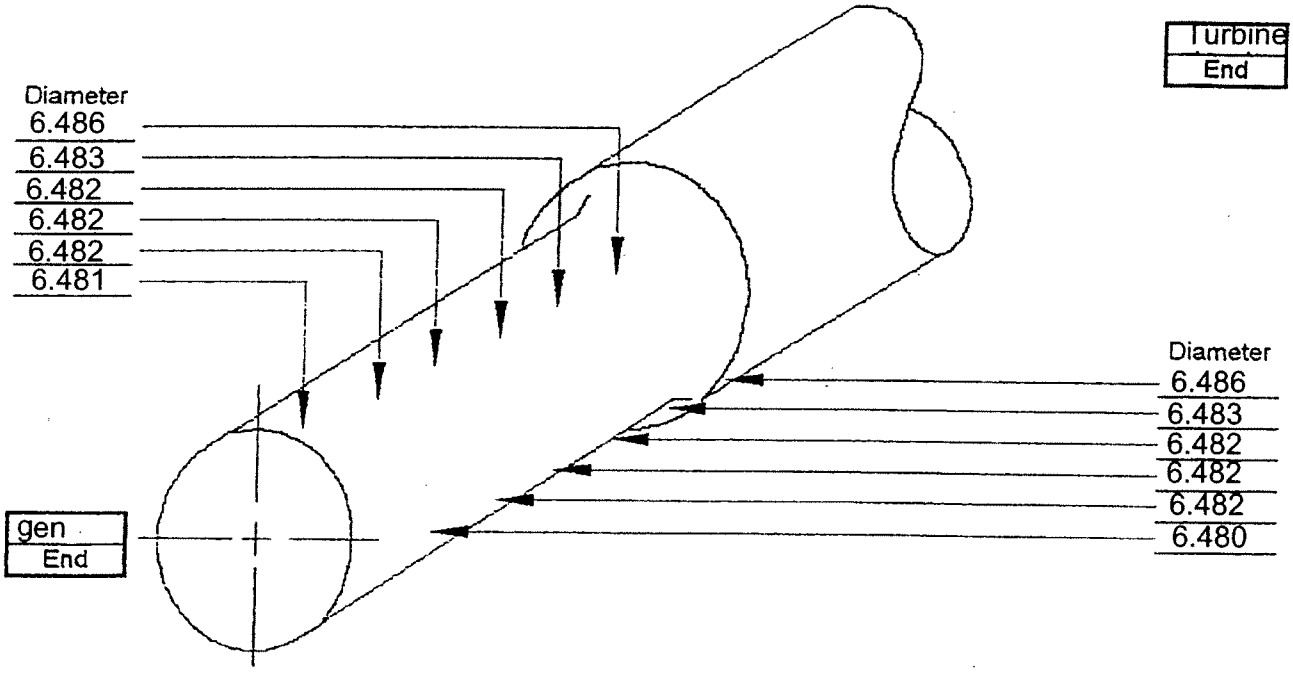
PGS

Rotor Journal Condition

Date 3-21-05 Turbine Serial No. 178416 Prepared by Tim Drader

Journal Number # 3 As Found & As Left

Note: Mark on sketch to show grooving, discoloration, carbon inclusions, or irregularities in the journal surface.



Journal Sizes

	0°	90°	All
Maximum	6.486	6.486	6.486
Minimum	6.481	6.480	6.481
Difference	.005	.006	.004
Average			

Out of Roundness

Diameters 0°	Diameters 90°	Out of Round
6.486	6.486	0
6.483	6.483	0
6.482	6.482	0
6.482	6.482	0
6.482	6.482	0
6.481	6.480	.001

Comments:

PGS

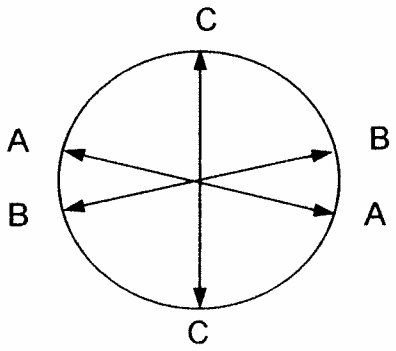
Journal Bearings

Date 3/21/2005 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTIONS & CHECKS			
Ball Contact Check	N		
Ball Pinch Check	N		
Ball Torque Check	N		
Twist & Tilt Check	V	As Left	
Journal Inspection	V		
Babbit Inspection	V		
Screens & Orifices	N/A		
T/C Calib.	N/A		

CODE	
X	Work Carried Out
N	Not Done
NA	Not Applicable
C	See Comments
V	Visual Inspection
MP	Mag. Particle
UT	Ultrasonic
PT	Penetrant

Bearing No.	Bearing Type	Forward or Turbine End			Aft or Generator End			Journal Dia.	Vertical Clearance	
		A-Dia	B-Dia	C-Dia	A-Dia	B-Dia	C-Dia		Mils	Mils/In
1	Babbit	4.993	4.991	4.991	4.991	4.990	4.991	4.984	7	1.4
2	Eliptical	12.011	12.014	12.003	12.011	12.014	12.003	11.984	19	1.6
3	Babbit	6.495	6.493	6.492	6.495	6.493	6.491	6.482	9	1.4



Shim 0

Leadwire X

Ball Seat Pinch Fits

Bearing Number	Pinch* Mils	Bearing Number	Pinch*
1	0.0		
2	0.0		
3			

* Pinch equals wire thickness minus shim

Comments:

PGS

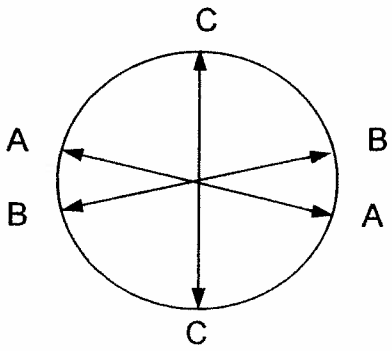
Journal Bearings

Date 4/4/2005 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTIONS & CHECKS			
Ball Contact Check	N		
Ball Pinch Check	N		
Ball Torque Check	N		
Twist & Tilt Check	V	As Found	
Journal Inspection	X		
Babbit Inspection	X		
Screens & Orifices	N/A		
T/C Calib.	N/A		

CODE	
X	Work Carried Out
N	Not Done
NA	Not Applicable
C	See Comments
V	Visual Inspection
MP	Mag. Particle
UT	Ultrasonic
PT	Penetrant

Bearing No.	Bearing Type	Forward or Turbine End			Aft or Generator End			Journal Dia.	Vertical Clearance	
		A-Dia	B-Dia	C-Dia	A-Dia	B-Dia	C-Dia		Mils	Mils/In
1	Babbit	4.993	4.991	4.991	4.991	4.991	4.991	4.984	7	1.4
2	Elipitical	12.014	12.011	12.003	12.014	12.011	12.003	11.984	19	1.6
3	Babbit	6.491	6.493	6.490	6.494	6.493	6.491	6.482	8	1.2



Shim

Leadwire

Ball Seat Pinch Fits

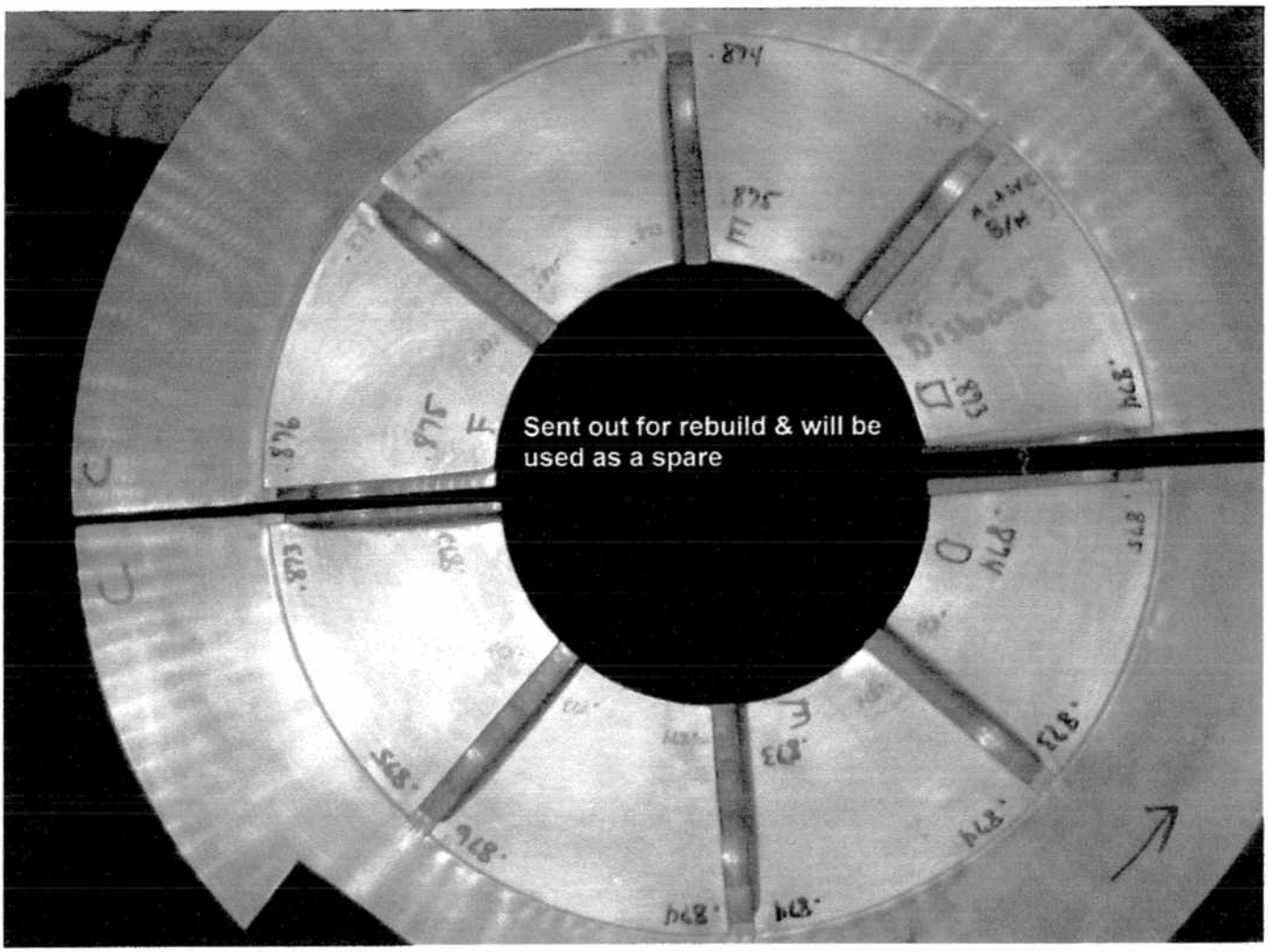
Bearing Number	Pinch* Mils	Bearing Number	Pinch*
1			
2			
3			

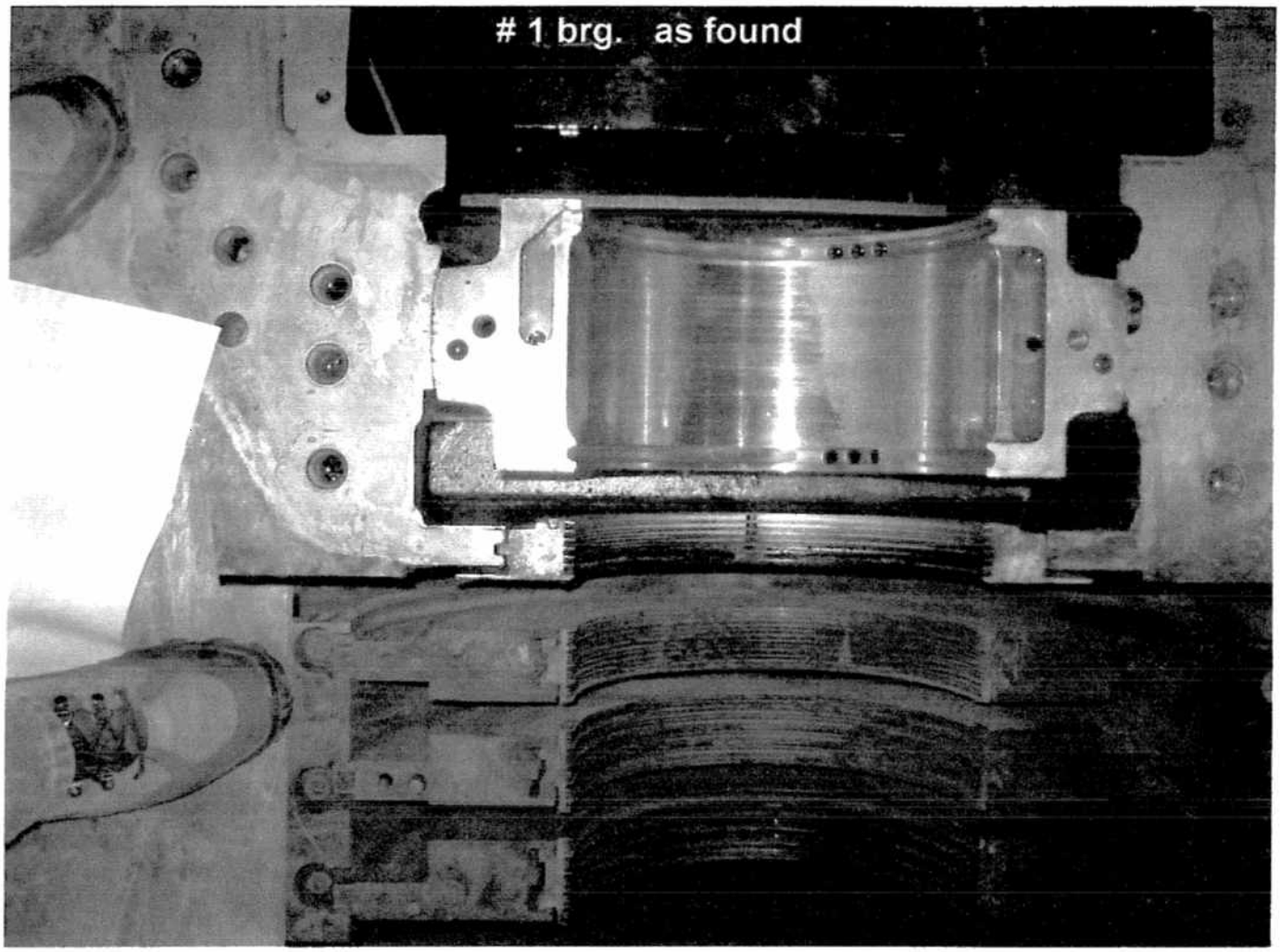
* Pinch equals wire thickness minus shim

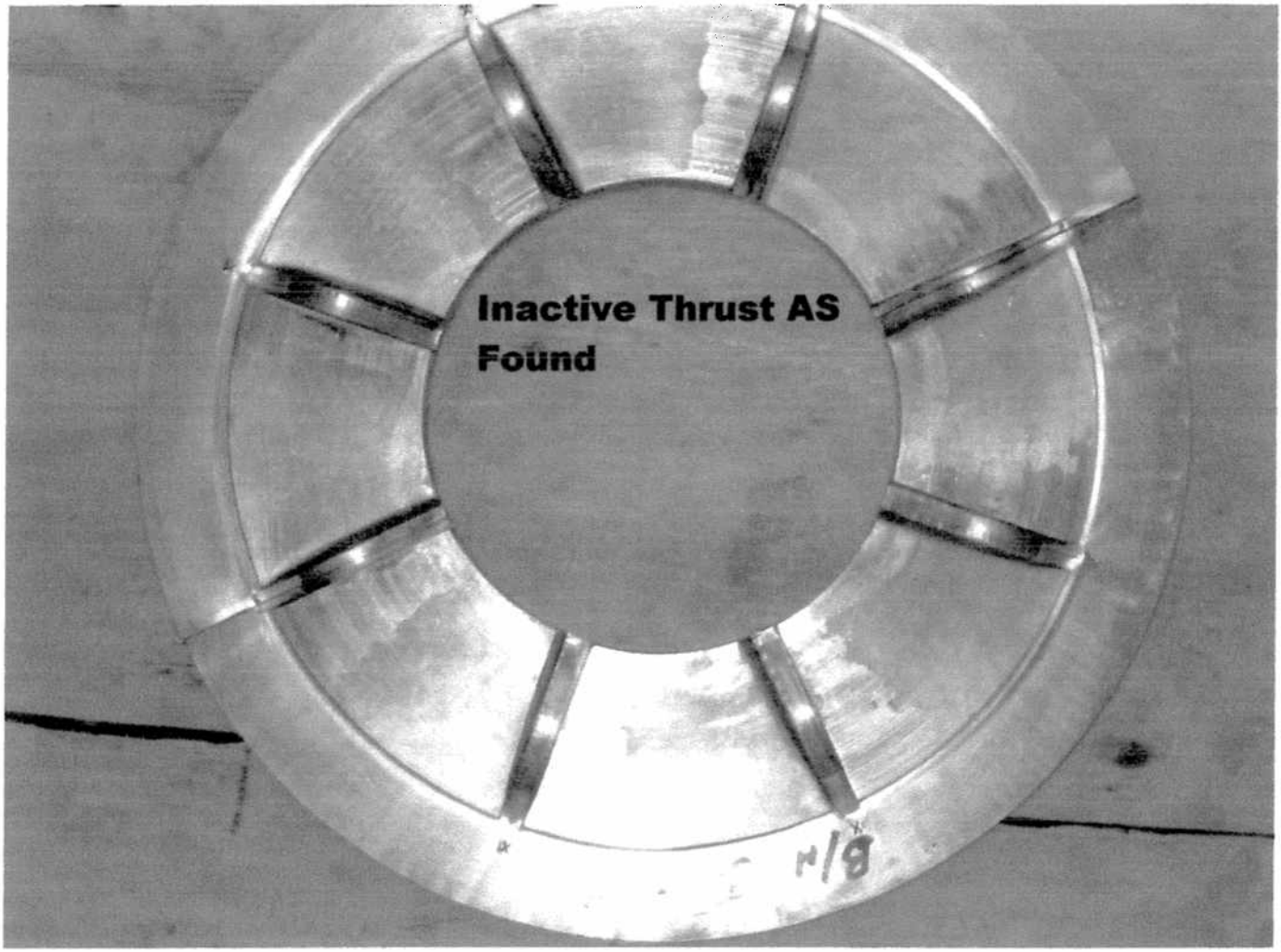
Comments:

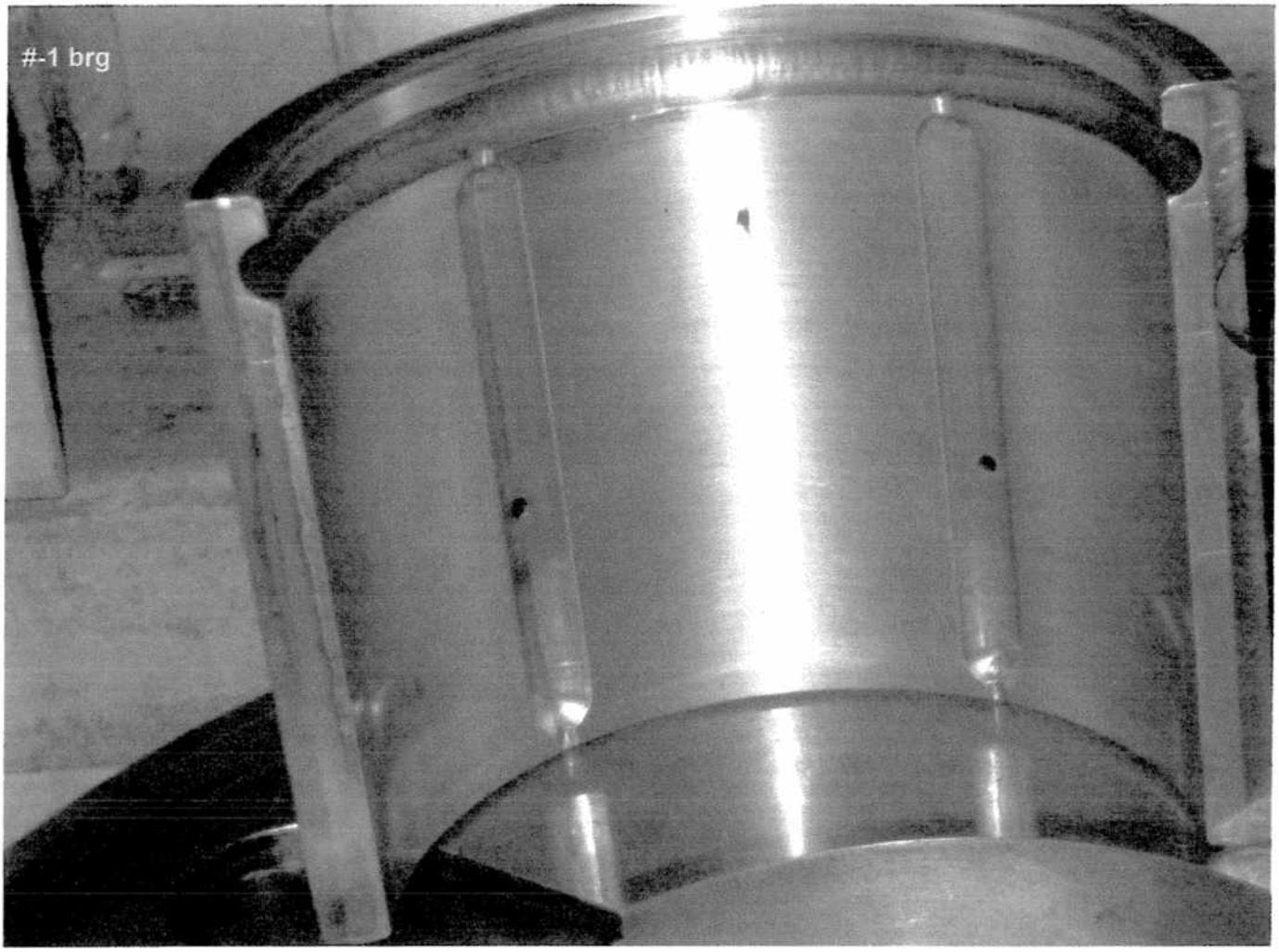
Journal Bearings clearances 1-2-3 as found

As Found As Left
Inactive Thrust

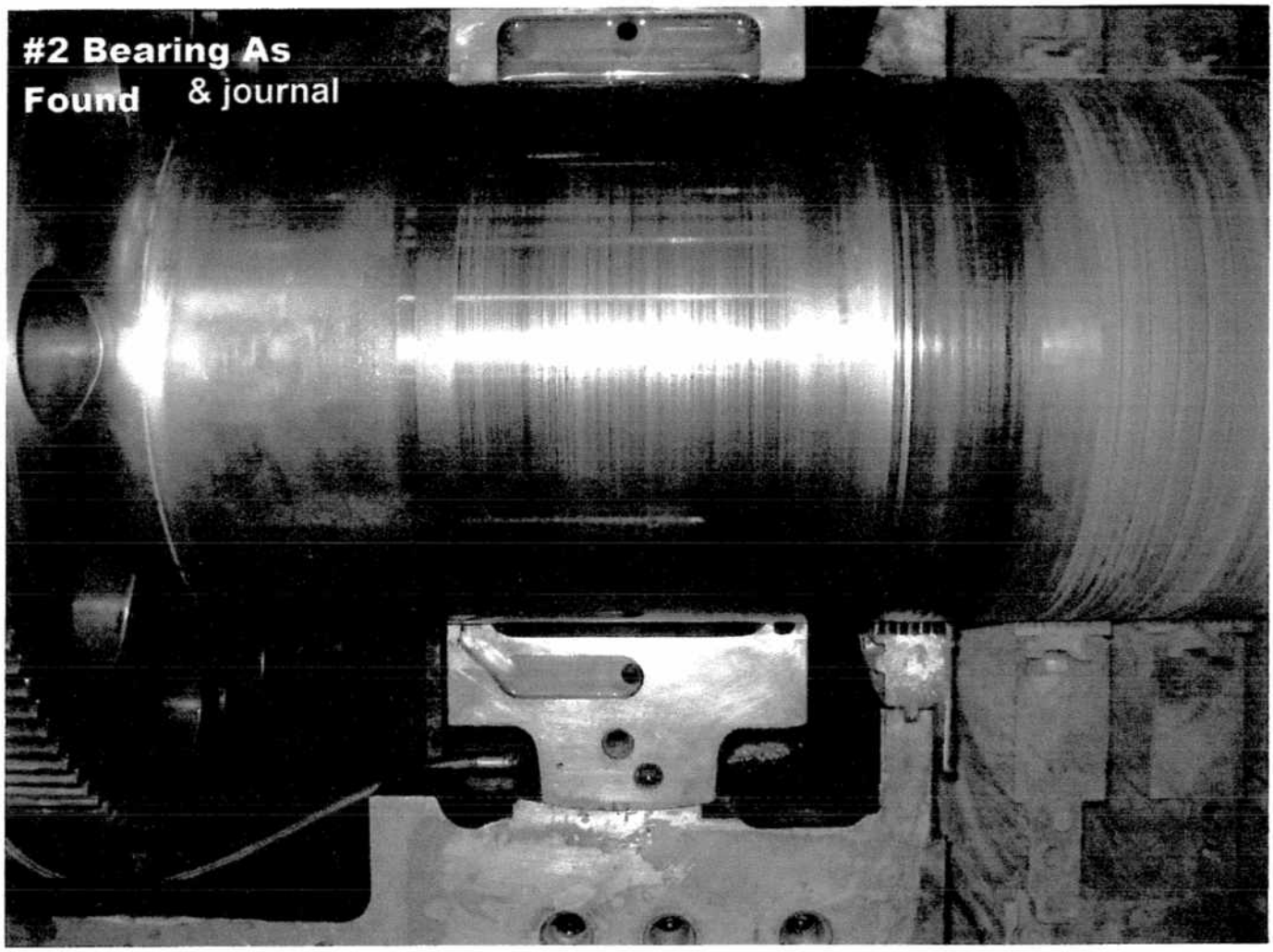

Sent out for rebuild & will be used as a spare

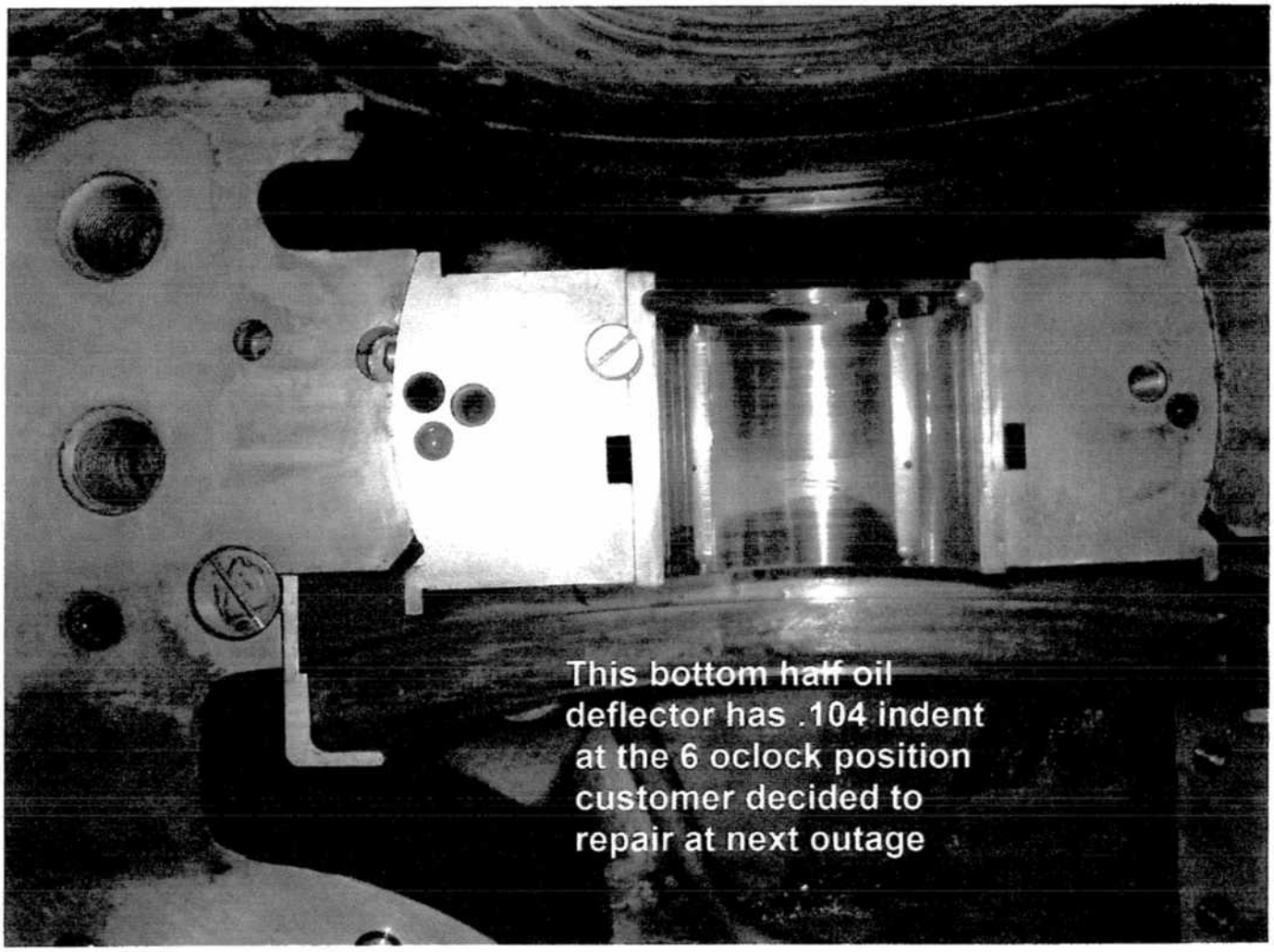

1 brg. as found

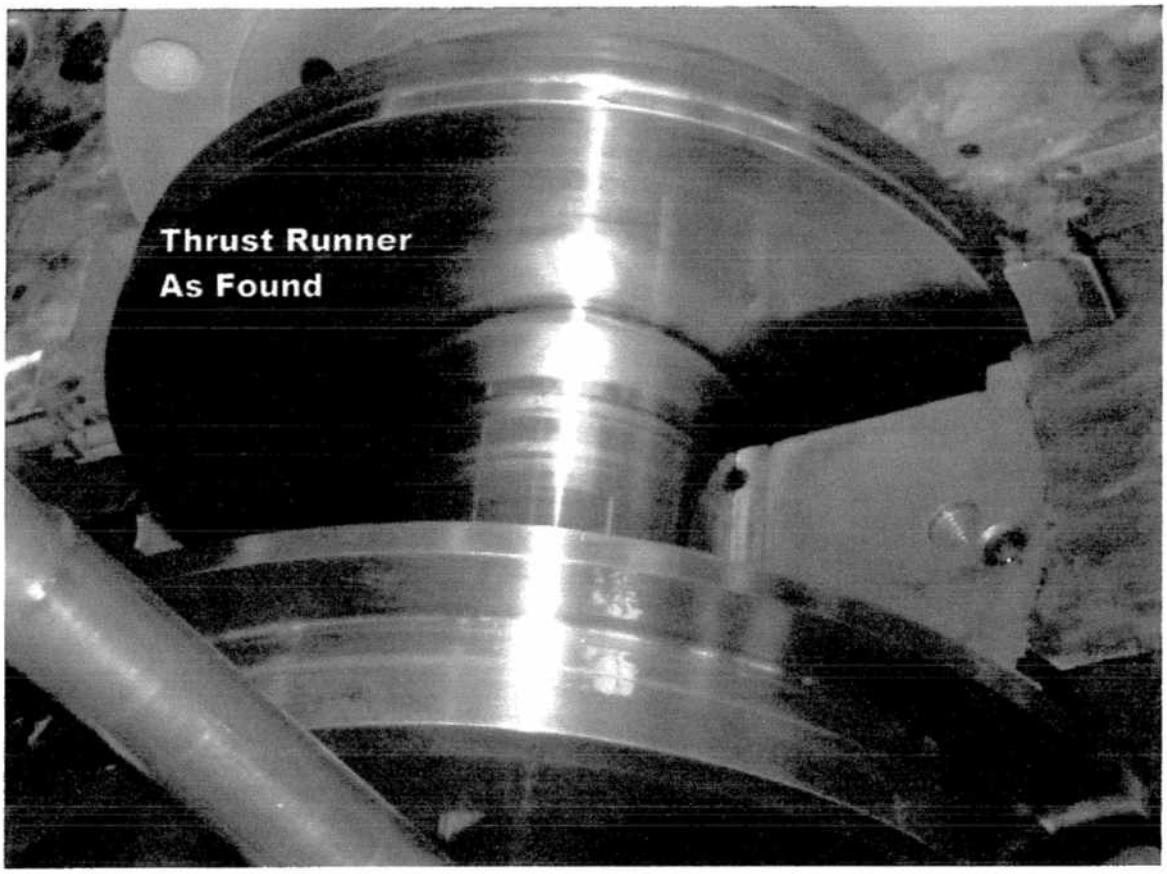

Inactive Thrust AS
Found


#-1 brg

#2 U/B BEARING


#2 Bearing As
Found & journal


This bottom half oil
deflector has .104 indent
at the 6 oclock position
customer decided to
repair at next outage


Thrust Runner
As Found

BEARINGS

1 Brg. Was disassembled cleaned and all clearances checked all were with in OEM spec.

2 Brg. Was disassembled cleaned and all clearances checked. The horizontal joint blue check indicated that the joint did not have proper contact the joint was then stoned on the high spots and blued several times to achive proper contact. Clearance were within OEM specs.

3 Brg. Was cleaned and clearances checked with a micrometer. Blue check on the joint was good . Clearance were within OEM specs.

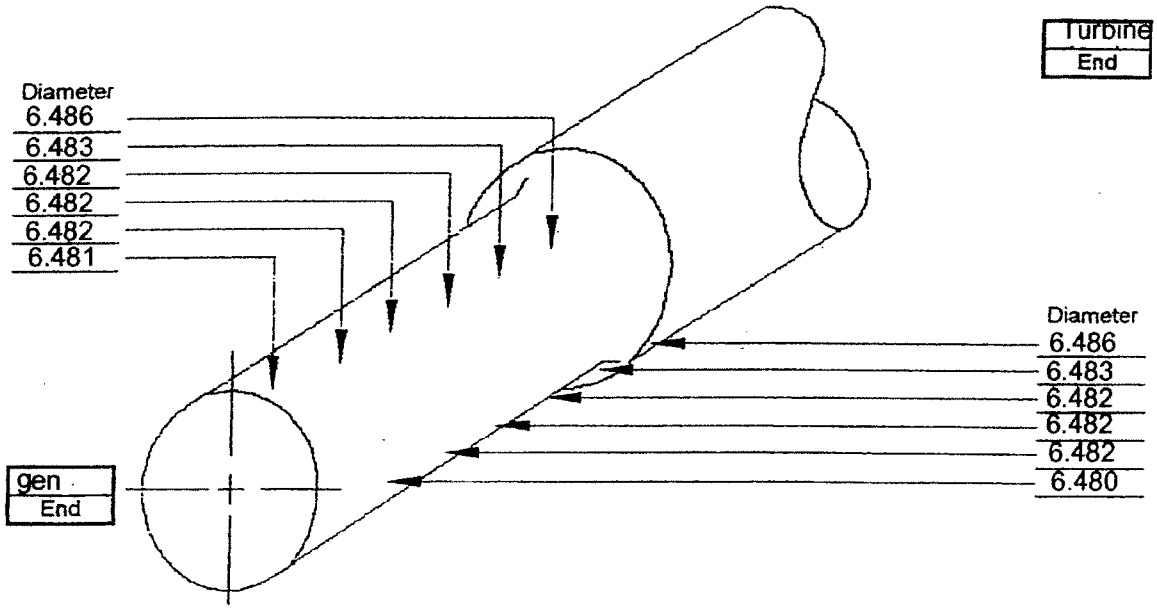
PGS

Rotor Journal Condition

Date 3-21-05 Turbine Serial No. 178416 Prepared by Tim Drader

Journal Number # 3 As Found & As Left

Note: Mark on sketch to show grooving, discoloration, carbon inclusions, or irregularities in the journal surface.



Journal Sizes

	0°	90°	All
Maximum	6.486	6.486	6.486
Minimum	6.481	6.480	6.481
Difference	.005	.006	.004
Average			

Out of Roundness

Diameters 0°	Diameters 90°	Out of Round
6.486	6.486	0
6.483	6.483	0
6.482	6.482	0
6.482	6.482	0
6.482	6.482	0
6.481	6.480	.001

Comments:

Oil Deflectors

T-1 Oil Deflector was rubbed out on the top side and had to be sent to local machine shop to be welded and re-machined to OEM specs.

T-2 Oil Deflector (inboard and outboard) were rubbed out on the bottom side and had to be sent to the local machine shop to be welded and re-machined to OEM specs.

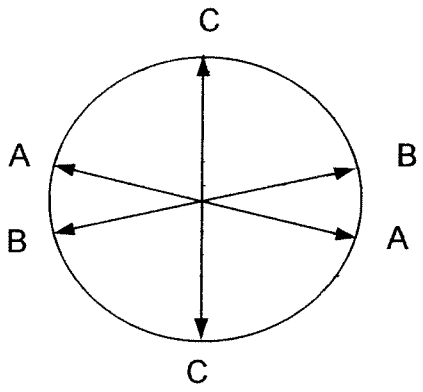
T-3 Oil Deflector cleaned and measured.

PGS

Oil Deflector Clearances

Date 3/21/2005 Turbine Serial No. 178416 Prepared by Timothy Drader

INSPECTIONS & CHECKS				CODE	
Teeth Inspected	x			X	Work Carried Out
Journals Inspected	x			N	Not Done
				NA	Not Applicable
		As Found		C	See Comments
				V	Visual Inspection
				MP	Mag. Particle
				UT	Ultrasonic
				PT	Penetrant



Location Number	Oil Deflector A-Dia	Oil Deflector B-Dia	Oil Deflector C-Dia	Journal Dia	Clearance Average	Clearance Min.	Clearance Max.	Condition Comment
1-gen	12.199	12.197	12.203	12.122	0.078	0.075	0.081	needs repair
1-mid	10.495	10.510	10.502	10.479	0.023	0.016	0.031	needs repair
1--tur	8.373	8.383	8.381	7.996	0.383	0.377	0.387	N/A
T2-tur	12.063	12.079	12.075	12.000	0.072	0.063	0.079	needs repair
T2-gen	12.071	12.063	12.051	12.000	0.062	0.051	0.071	needs repair
T3-IB	8.005	8.008	8.006	7.982	0.024	0.023	0.026	good
T3-OB	7.971	7.964	7.964	7.943	0.023	0.021	0.028	good

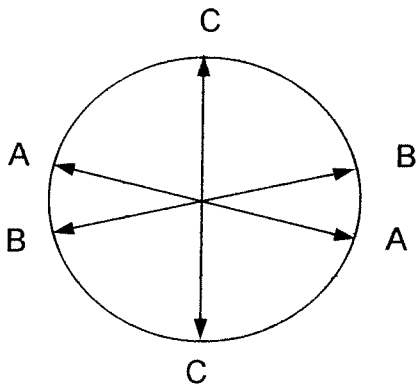
Comments:	

PGS

Oil Deflector Clearances

Date 4/27/2005 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTIONS & CHECKS				CODE	
Teeth Inspected	X			X	Work Carried Out
Journals Inspected	X			N	Not Done
				NA	Not Applicable
				C	See Comments
		Final		V	Visual Inspection
				MP	Mag. Particle
				UT	Ultrasonic
				PT	Penetrant



Location Number	Oil Deflector A-Dia	Oil Deflector B-Dia	Oil Deflector C-Dia	Journal Dia	Clearance Average	Clearance Min.	Clearance Max.	Condition Comment
T-1tur	12.147	12.147	12.147	12.122	0.025	0.025	0.025	good
T-1 mid	10.504	10.504	10.504	10.479	0.025	0.025	0.025	good
T-1gen	8.373	8.383	8.381	7.996	0.383	0.377	0.387	N/A
T-2 tur	12.025	12.025	12.025	12.000	0.025	0.025	0.025	good
T-2 gen	12.025	12.025	12.025	12.000	0.025	0.025	0.025	good
T-3 tur	8.005	8.008	8.006	7.982	0.024	0.023	0.026	good
T-3 gen	7.971	7.964	7.964	7.943	0.023	0.021	0.028	good

Comments:

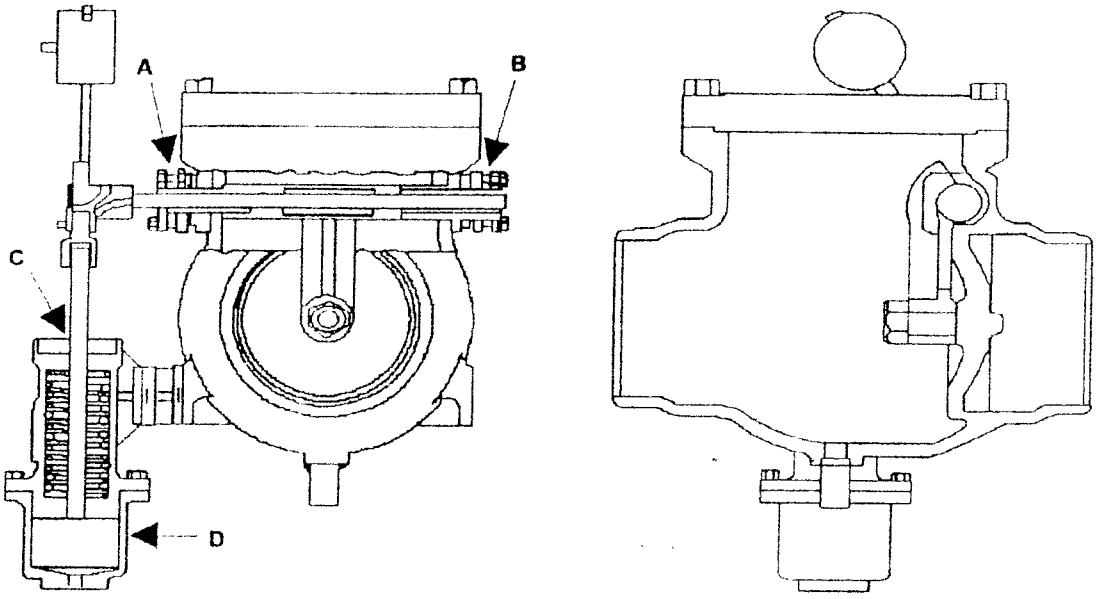
Non Return Valves

Nonreturn Valves were completely disassembled seats and flappers were NDE checked for cracks . The actuators and controllers were disassembled and completely rebuilt. Two shut off valves were installed on the fifth stage controller so customer could keep the non return valve shut when not using the heater.

Check Valve Checklist
Extraction Non-Return

Date 4-5-05 Turbine Serial No. 178416 Prepared by Tim Drader
Location

INSPECTIONS & CHECKS				CODE	
Seat	PT	As Found/As Left		X	Work Carried Out
Disk	PT			N	Not Done
Packing	X			NA	Not Applicable
Glands	X			C	See Comments
Rocker Shaft	X			V	Visual Inspection
Weighted Lever	X			MP	Mag. Particle
				UT	Ultrasonic
				PT	Penetrant



Comments	
One new shaft was installed in stage 8 . New packing installed arounf shafts on all three nonretum valves All actuators were rebuilt on site & shutoff valves placed on main air line & control air line for # 5 as customer wants ti control it manualy.	

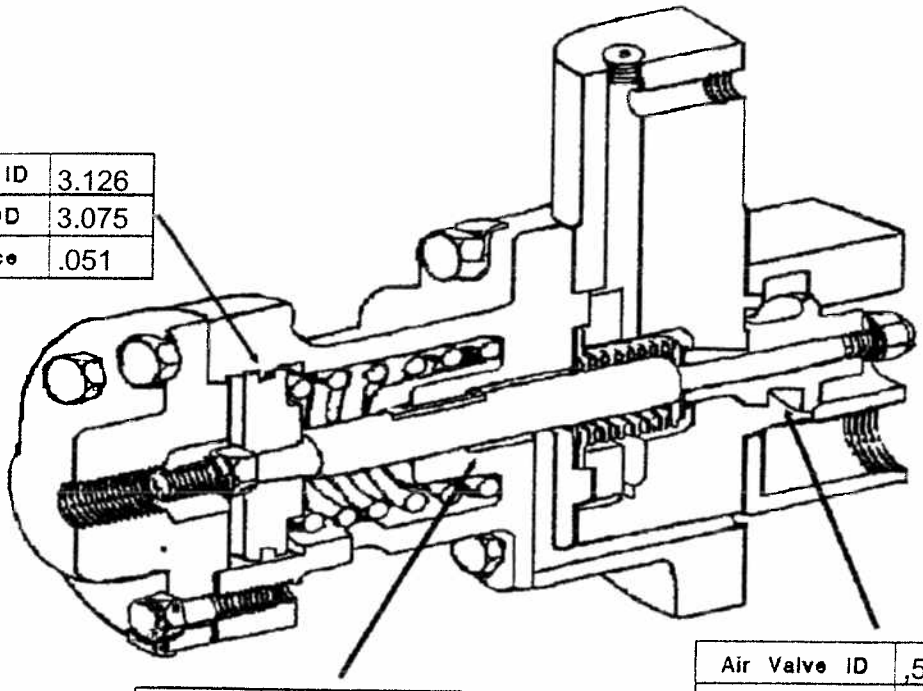
EXTRACTION NON-RETURN CHECK VALVES; CLEARANCE REPORT			
LOCATION	stage-5	stage-8	stage-12
BUSHING ID	1.265	1.388	1.761
A. SHAFT OD	1.249	1.375	1.752
CLEARANCE	.016	.013	.009
BUSHING ID	1.266	1.389	1.765
B. SHAFT OD	1,249	1.375	1.752
CLEARANCE	.017	.014	.013
BUSHING ID			
C. STEM OD			
CLEARANCE			
CYLINDER ID			
D. PISTON OD			
CLEARANCE			
ES-STM-D3.10.450A			

POWER GENERATION

EXTRACTION VALVE TRIP RELAY

Date 4-11-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTION & CHECKS				CODE
Dimensional Checks	X	Air Valve Contact Checked	X	X - Work Carried Out
Air Bellows Condition	good	As Found As Left		N - Not Done
Oil Piston Ring Condition	good			NA - Not Applicable
Dump Valve Seat Condition	good			C - See Comments
				V - Visual Inspection



Cylinder ID	3.126
Piston OD	3.075
Clearance	.051

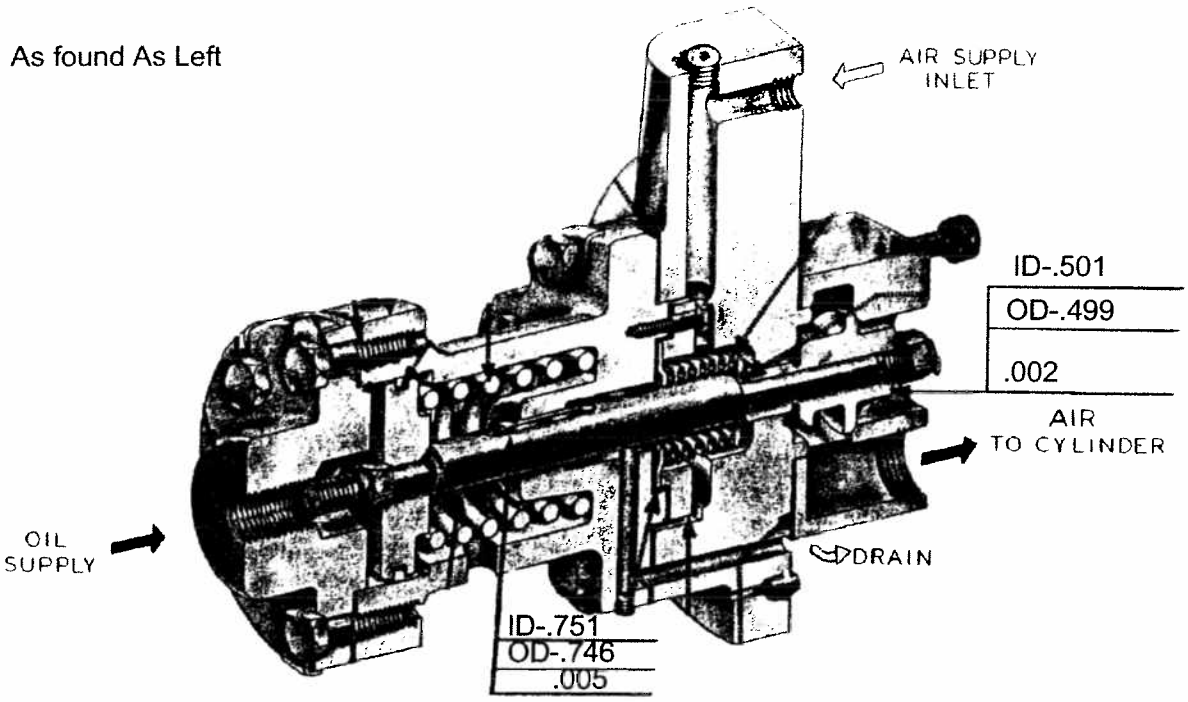
Bushing ID	.751
Piston Rod OD	.746
Clearance	.005

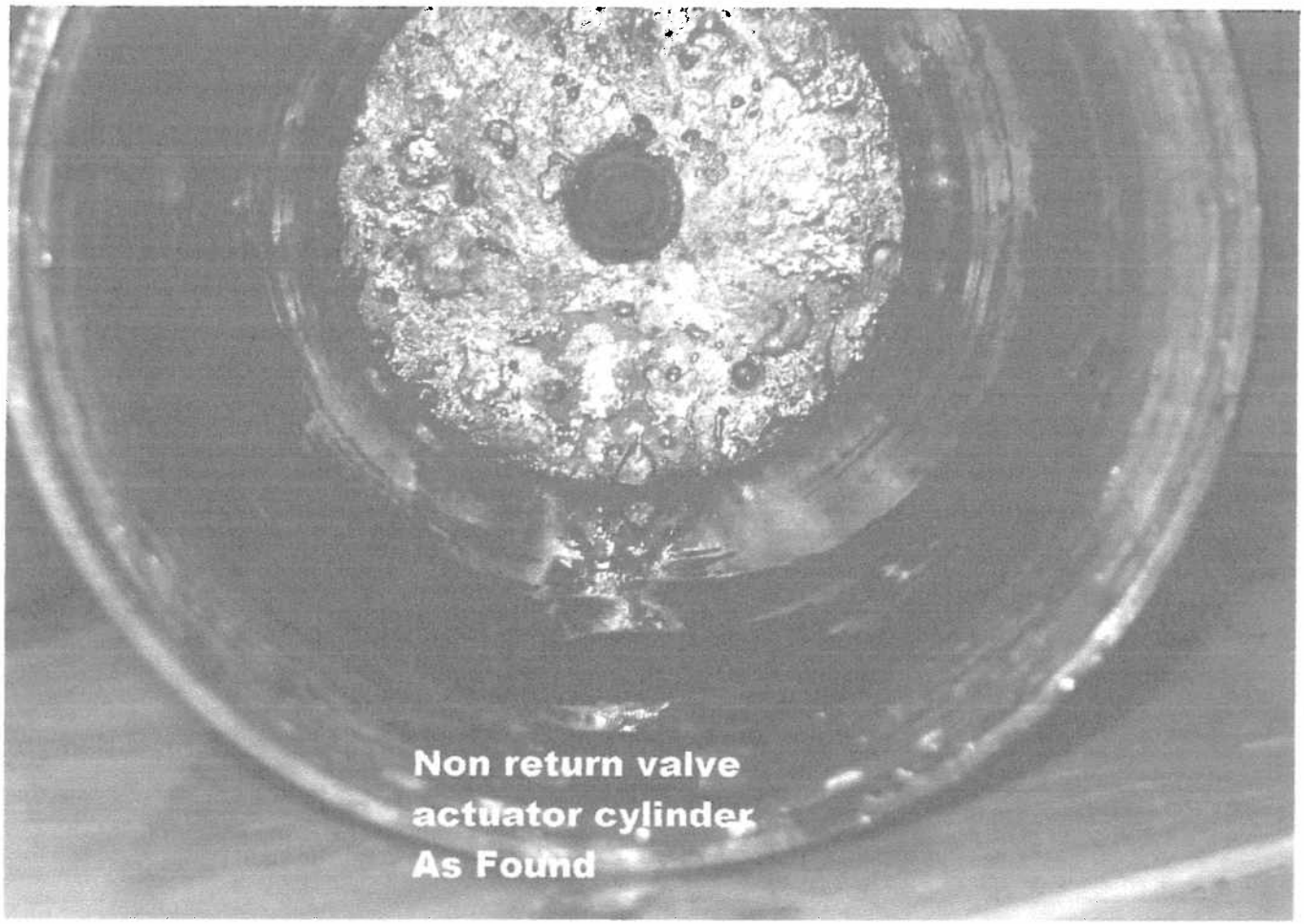
Air Valve ID	.501
Piston Rod OD	.499
Clearance	.002

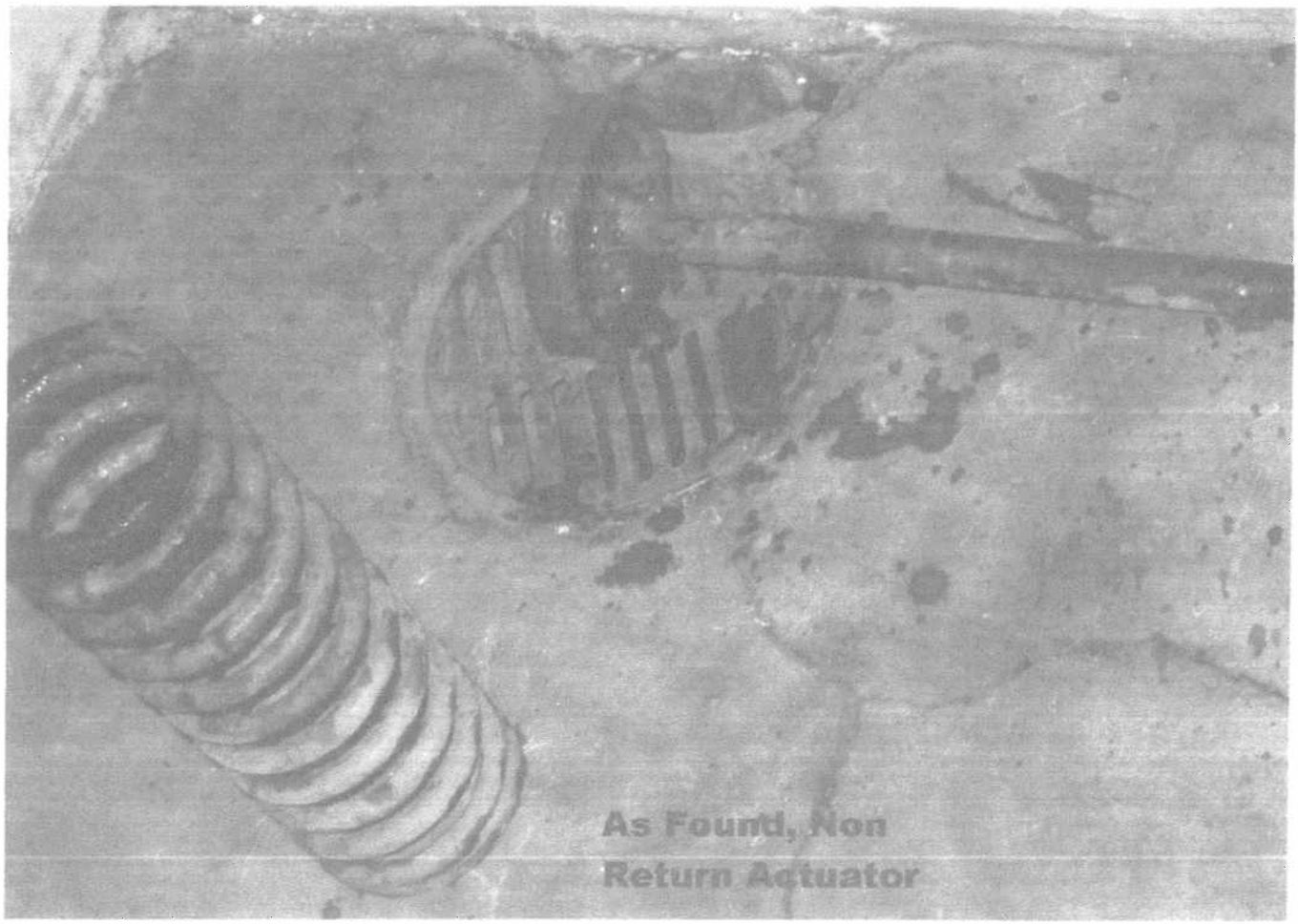
NON-RETURN VALVE TRIP RELAY

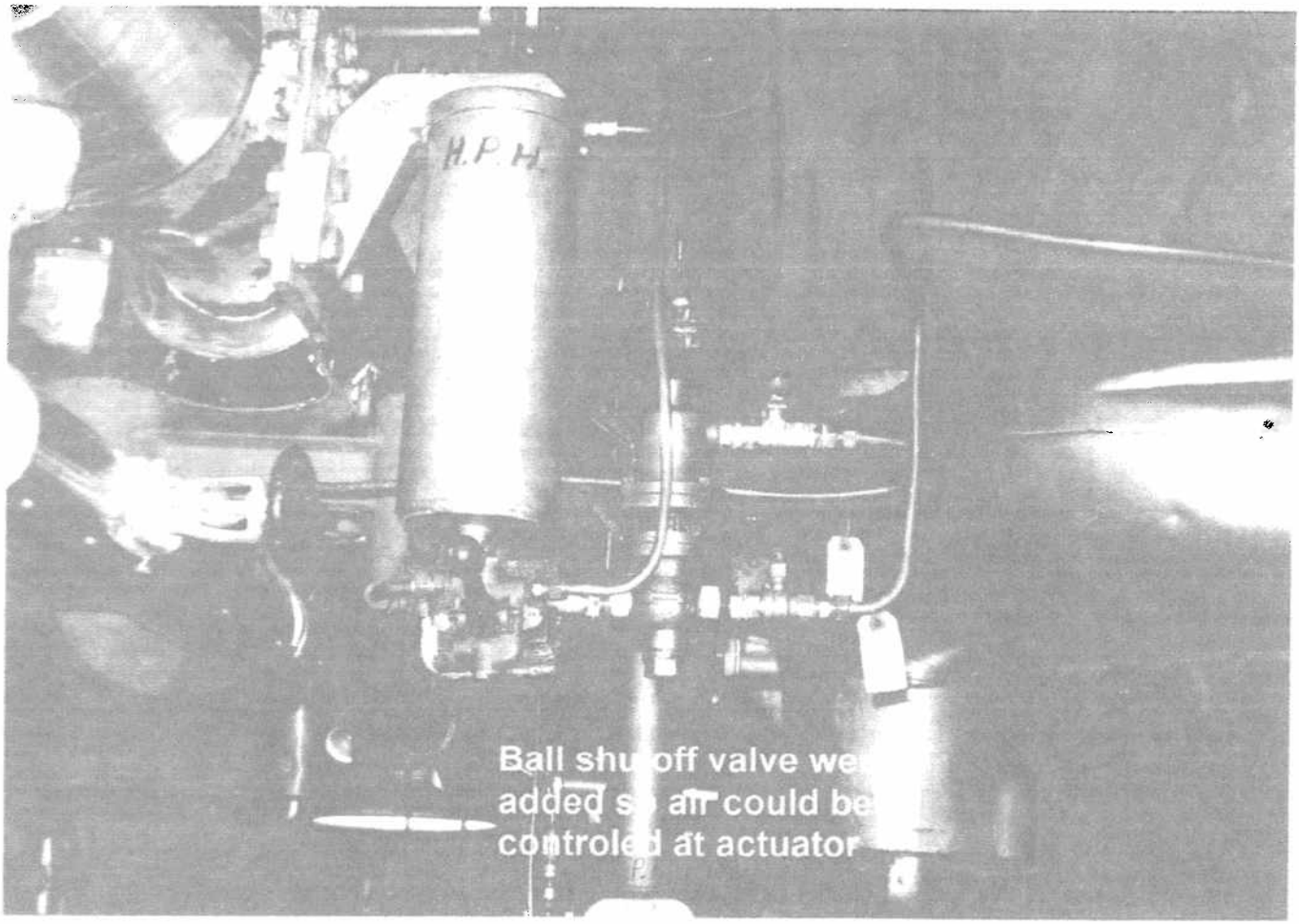
Date 4-11-05 Turbine Serial No 178416 Prepared By Tim Drader

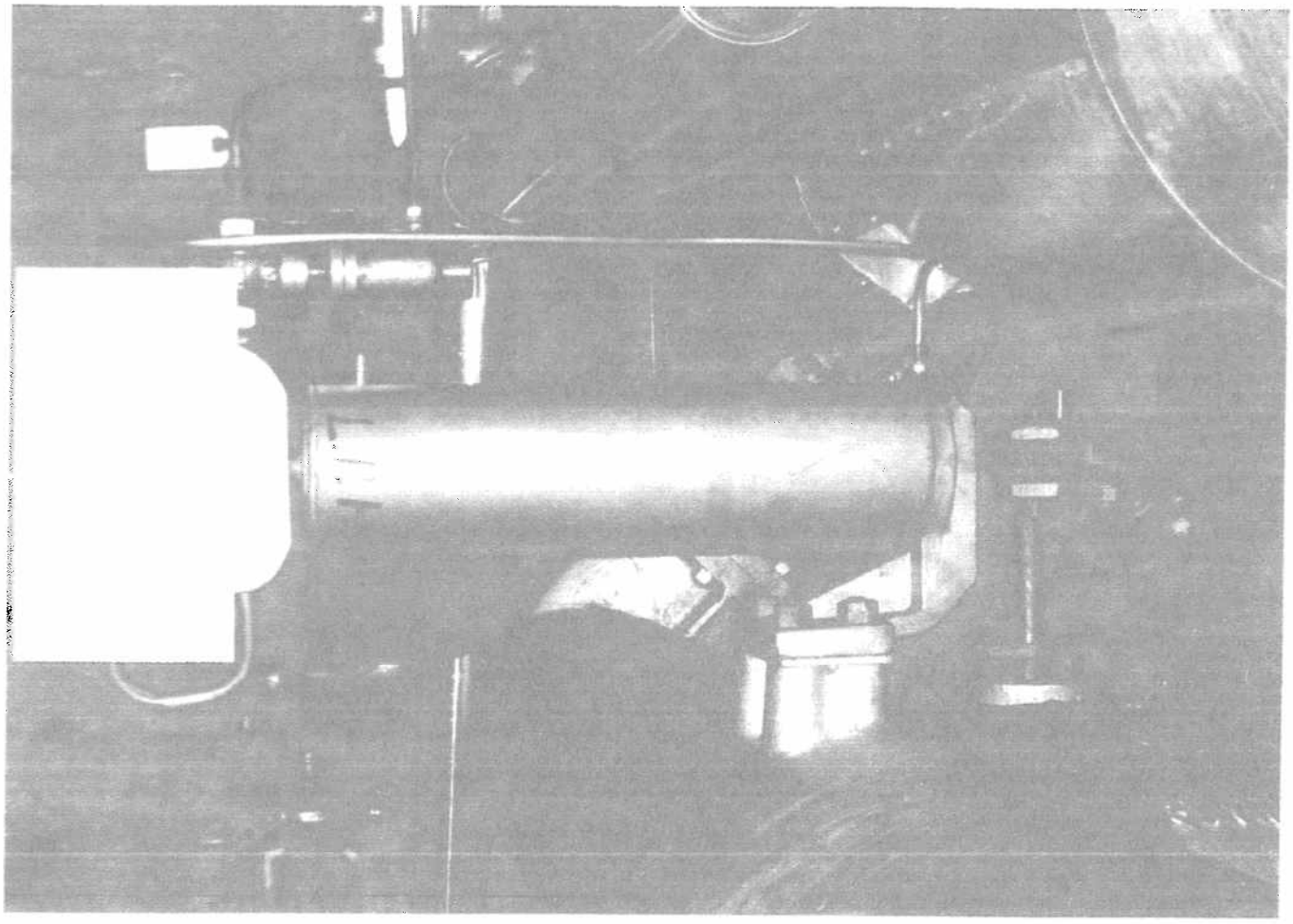
As found As Left

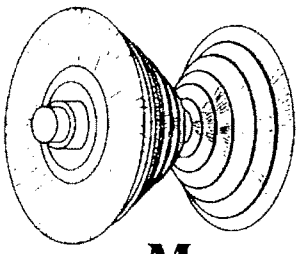



Non return valve
actuator cylinder
As Found


As Found, Non
Return Actuator


H.P.H.
Ball shut off valve we
added s air could be
controled at actuator





TURBINE MASTER inc.
2220 North Grand Avenue
Tahlequah, OK 74464

POWER GENERATION SERVICE
JASPER MUNICIPAL ELECTRIC UTILITIES
JASPER, INDIANA
GENERAL ELECTRIC UNIT #1 SERIAL #178416
MARCH 2005

REPORT OF FLUORESCENT MAGNETIC PARTICLE INSPECTION
REPORT OF PENETRANT INSPECTION
REPORT OF ULTRASONIC INSPECTION

REPORT OF FLUORESCENT MAGNETIC PARTICLE INSPECTION

OF: General Electric **UNIT** #1 **SERIAL** # 178416

FOR: Power Generation Service
Jasper Municipal Utilities
Jasper, Indiana

DATE: March 29, 2005

PURPOSE: *To test steel castings and wrought material for discontinuities.*

EQUIPMENT:

Instrument - 1560-W
Machine with capability of head shot and coil shot.
Prods
Wet Fluorescent particles, or Dry black particles (visible).
Black Light (for Fluorescent particle)
Dark Room (or curtain to make portable dark room for Fluorescent).

SYSTEM CHECK

Test bath for correct particle concentration.
Assure magnetic source (instrument) is properly functioning.
White light - background - no greater than 2 candle power.
Visible particle - white light intensity 200 candle power, minimum.
Assure black light is functioning properly.

INSPECTION

Apply magnetic source into part.
Use either PIE gage or GAUSS meter for proper magnetism.
Apply particles onto part.
For wet particle method apply magnetic source into part while particles are draining from the part.
Inspect the part within 5 minutes after the magnetic source has been applied.

RESULTS OF INSPECTION

UPPER HALF SHELL

- Contained indication of discontinuity 3/8" long on right side of stage 9 fit in weld.

Nozzle Block

- No indication of discontinuity was observed.

Curtis Ring

- No indication of discontinuity was observed.

LOWER HALF SHELL

- Contained indication of steam cut on right side between stage 2 and stage 3 fits.

MAIN STOP VALVE

Strainer Basket

- No indication of discontinuity was observed.

Studs (20)

- No indication of discontinuity was observed.

ROTOR

Body

- Contained indication of pitting on shaft and wheels.

Impulse A

- Contained indication of RUB on inlet side of bucket covers and inlet side of bucket platforms.

Impulse B

- Contained indication of pitting on discharge side of buckets.

Stage 2

- Contained indication of mechanical damage on inlet side of buckets.
- Contained indication of pitting on discharge side of buckets, bucket covers and tenons.

Stage 3

- Contained indication of pitting on inlet and discharge side of buckets, bucket covers, and tenons.

Stage 4

- Contained indication of pitting on inlet side and discharge side of buckets, bucket covers and tenons.

Stage 5

- Contained indication of pitting on discharge side of buckets and bucket covers.

Stage 6

- Contained indication of pitting on inlet side and discharge side of buckets.

Stage 7

- Contained indication of pitting on inlet side and discharge side of buckets.

Stage 8

- Contained indication of pitting on inlet side and discharge side of buckets and bucket covers.

Stage 9

- Contained indication of pitting on inlet and discharge side of buckets and bucket covers.

Stage 10

- Contained indication of pitting on inlet side and discharge side of buckets.

Stage 11

- Contained indication of pitting on inlet and discharge side of buckets.
- Contained indication of discontinuity 1/2" long on discharge side of the 42nd bucket counter clockwise from the notch block.

Rotor Stage 11 Continued:

- Contained indication of rub on 16th, 17th and 18th bucket groups counter clockwise from the notch block on the inlet side of the covers; lifting.
- Contained indication of mechanical damage on 2nd and 3rd bucket groups clockwise from the notch block, tenon heads worn down.
- Contained indication of mechanical damage on 11th bucket group counter clockwise from the notch block, bucket cover bent downward.

Stage 12
- Contained indication of pitting on bucket covers.

Stage 13
- Contained indication of pitting on bucket covers.

Stage 14
- Contained indication of erosion on inlet side of buckets.
- Contained indication of pitting on bucket covers.

DIAPHRAGMS

#2 Upper Half
- Contained indication of mechanical damage on discharge side of partitions.
- Contained indication of erosion on discharge side of partitions.

#2 Lower Half
- Contained indication of mechanical damage on discharge side of partitions.
- Contained indication of erosion on discharge side of partitions.
- Contained 2 indications of discontinuity 1/8" – 1 1/2" long on right side of horizontal joint.
- Contained indication of discontinuity 1/4" long on inlet side of outer web in weld.

#3 Upper Half
- Contained indication of discontinuity of mechanical damage on discharge side of partitions.
- Contained 2 indications of discontinuity 1 1/2" long on right side of horizontal joint.
- Contained 2 indications of discontinuity 1/4" long on discharge side in right side web weld.

#3 Lower Half
- Contained indication of mechanical damage on discharge side of partitions.
- Contained 2 indications of discontinuity 1/8" long and 3/8" long on inlet side of outer web at right side horizontal joint.

#4 Upper Half
- Contained indication of pitting on discharge side of on partitions.
- Contained 2 indications of discontinuity 1 1/2" long on right side horizontal joint.

#4 Lower Half
- Contained 1 indication of steam cut on left side of 1st partition.

#5 Upper Half
- Contained indication of mechanical damage on discharge side of partitions.

#5 Lower Half
- Contained indication of mechanical damage on discharge side of partitions.

Diaphragms Continued:

#6 Upper Half
- Contained 2 indications of discontinuity on 1 1/2" long on right side of horizontal joint.

#6 Lower Half
- Contained indication of discontinuity 3/16" long on discharge side of partitions.

#7 Upper Half
- Contained 2 indications of discontinuity 1 1/2" long on right side of horizontal joint.

#7 Lower Half
- Contained 2 indications of discontinuity 1/4" long and 3/4" long on inlet side of inner web in weld.

#8 Upper Half
- Contained indication of erosion on discharge side of partitions.
- Contained indication of discontinuity 1" long on right side of horizontal joint.

#8 Lower Half
- Contained indication of steam cut on 9th partition from the right side.

#9 Upper Half
- No indication of discontinuity was observed.

#9 Lower Half
- Contained indication of pitting on discharge side of partitions.

#10 Upper Half
- Contained indication of pitting on discharge side of partitions.

#10 Lower Half
- Contained indication of pitting on discharge side of partitions.

#11 Upper Half
- Contained indication of erosion on discharge side of partitions.
- Contained indication of pitting on discharge side of partitions.
- Contained 2 indications of discontinuity 1/4" long on discharge side of inner web at left side of horizontal joint.

#12 Upper Half
- Contained 2 indications of discontinuity on discharge side of partitions.
- Contained 34 indications of discontinuity 1/4" long on inlet side of partitions to outer web welds.

#12 Lower Half
- Contained indication of pitting on discharge side of partitions.
- Contained indication of steam cut on discharge side of partitions.
- Contained 38 indications of discontinuity 1/4" long on inlet side of partitions to outer web welds.

#13 Upper Half
- Contained indication of erosion on discharge side of partitions.
- Contained 3 indications of discontinuity 1/8" long on inlet side of partitions to outer web welds.

#13 Lower Half
- No indication of discontinuity was observed.

Diaphragms Continued:

#14 Upper Half

- Contained 8 indications of discontinuity 1/4" long on discharge side of partitions to outer web welds.
- Contained 35 indications of discontinuity 1/4" long on inlet side of partitions to outer web welds.

#14 Lower Half

- Contained 19 indications of discontinuity 1/4" long on discharge side of partitions to outer web welds.
- Contained 39 indications of discontinuity 1/4" long on inlet side of partitions to outer web welds.

Glands

- No indication of discontinuity was observed.

Each item was visually examined concurrently with mag particle inspection.

REPORT OF PENETRANT INSPECTION

OF: General Electric **UNIT** #1 **SERIAL** #178416

FOR: Power Generation Service
Jasper Municipal Utilities
Jasper, Indiana

DATE: March 29, 2005

PURPOSE: *To detect cracks in metallic parts using Visible Dye or Fluorescent Penetrant.*

METHOD AND EQUIPMENT:

PREPARATION

1. Parts shall be cleaned prior to the test.
2. Surface shall be blast cleaned or steps necessary to obtain a clean area.

EQUIPMENT

1. Penetrant - Process (Water-Washable, Fluorescent, Visible Dye)
2. Cleaner
3. Black Light
4. Developer (as necessary)
5. Cotton Swabs

INSPECTION

1. Assure part cleanliness
2. Apply penetrant by brushing, swabbing, or dipping.
3. Allow dwell per required time. (20-30 minutes for Fluorescent or 5-10 minutes for Visible)
4. Remove excess by washing with water using a course spray.

4.1. Wash under the black light to prevent overwashing.

4.2. Water temperature shall be 60 deg. F to 125 deg. F.

5. Dry the part until surface is dry. (225 deg. max.)
6. Apply Developer if required. (Inspect after 5 minutes and before I hour)

EVALUATION

1. Inspect the parts using the black light and mark any area having indications.
2. Evaluate parts using applicable limitations.

RESULTS OF PENETRANT INSPECTION

VALVES

Control Valves

#1 Disc
- Contained indication of erosion around stellite insert.

#1 Seat
- Contained indication of erosion around stellite insert.

#2 Disc
- Contained indication of erosion around stellite insert.

#2 Seat
- Contained indication of erosion around stellite insert.

#3 Disc
- Contained indication of erosion around stellite insert.

#3 Seat
- Contained indication of erosion around stellite insert.

#4 Disc
- Contained indication of erosion around stellite insert.

#4 Seat
- Contained indication of erosion around stellite insert.

#5 Disc
- Contained indication of erosion around stellite insert.

#5 Seat
- Contained indication of erosion around stellite insert.

#6 Disc
- Contained indication of erosion around stellite insert.

#6 Seat
- Contained indication of erosion around stellite insert.

Main Stop Valve

Seat
- Contained erosion around stellite insert.

Disc
- Contained erosion around stellite insert.

Back Seat
- Contained erosion around stellite insert.

Back Seat Disc
- No indication of discontinuity was observed.

Pilot Seat
- No indication of discontinuity was observed.

Pilot Disc
- No indication of discontinuity was observed.

*** Each item was visually examined concurrently with penetrant inspection.*

REPORT OF ULTRASONIC INSPECTION

OF: General Electric **UNIT** #1 **SERIAL** #178416

FOR: Power Generation Service
Jasper Municipal Utilities
Jasper, Indiana

DATE: March 29, 2005

PURPOSE: *Inspection for cracks, erosion, thickness, or other flaws.*

PROCEDURES: *Equipment*

A. Instrument Sonic 136 *Transducer*
1. Straight
C. Reference Standard II W Type 2
CALIBRATION
A. Set frequency 5 MHZ
B. Set range to 1 back reflection for repeatable indications
C. Set gain at 80%
D. Reject off
INSPECTION
A. Calibrate per paragraph III
B. Scan area of inspection for repeatable indications
EVALUATION
A. Indication of discontinuity forwarded to engineering for evaluation.

RESULTS OF INSPECTION

BEARINGS

#1 Upper Half
- No indication of lack of bond was observed.

#1 Lower Half
- No indication of lack of bond was observed.

#2 Upper Half
- Contained 6 indications of isolated patches of lack of bond, less than 5% total.

#2 Lower Half
- No indication of lack of bond was observed.

#3 Upper Half
- No indication of lack of bond was observed.

#3 Lower Half
- No indication of lack of bond was observed.

THRUST PADS

Active

. Contained indication of lack of bond along the left edge of 1st right side pad.

In-Active

. No indication of lack of bond was observed.

COUPLING BOLTS (10)

. No indication of discontinuity was observed.

BOLTING

Shell Studs (42)

. No indication of discontinuity was observed.

Main Steam Studs (16)

. No indication of discontinuity was observed.

VALVES

CONTROL VALVE

Right Side Stem

. No indication of discontinuity was observed.

Left Side Stem

. No indication of discontinuity was observed.

Left Side Studs (26)

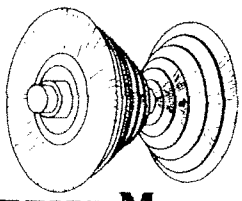
. No indication of discontinuity was observed.

MAIN STOP VALVE

Stem

. No indication of discontinuity was observed.

Each item was visually examined concurrently with ultrasonic inspection.



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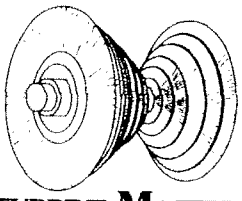
220 N. Grand Ave. Tahlequah, OK 74464

MAG PARTICLE ULTRASONIC PENETRANT
Fluorescent / Visible

CUSTOMER: PGS **DATE:** 3/29/05 **PAGE #** 1
STATION: JASPER MUNICIPAL **ADDRESS:** JASPER, IN
UNIT MAKE: GE **UNIT MODEL:** **UNIT** 1 **SERIAL #** 178416

NAME OF PART	METHOD				TYPE OF DISCONTINUITY							SIZE/ LENGTH	LOCATION
	MAG	PT	UT	VE	MECH DAMAGE	CRACK	EROSION	PITTING	RUB	STEAM CUT	INDICATION		
BEARINGS													
#1 U/H			X	X									NO INDICATION OF DISBOND
#1 L/H			X	X									NO INDICATION OF DISBOND
#2 U/H			X	X							X	>	6 ISOLATED PATCHES OF DISBOND, LESS THAN 5% TOTAL
#2 L/H			X	X									NO INDICATION OF DISBOND
#3 U/H			X	X									NO INDICATION OF DISBOND
#3 L/H			X	X									NO INDICATION OF DISBOND
THRUST PADS													
ACTIVE			X	X							X	>	DISBOND ALONG THE LEFT EDGE OF THE 1ST R/S PAD
IN-ACTIVE			X	X									NO INDICATION OF DISBOND
COUPLING BOLTS (10)			X	X									NO INDICATION OF DISCONTINUITY

LEVEL II TECHNICIAN(S): MIKE MERRILL



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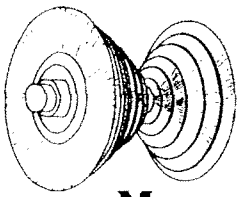
MAG PARTICLE ULTRASONIC PENETRANT
Fluorescent / Visible

CUSTOMER: PGS **DATE:** 3/29/05 **PAGE #** 2
STATION: JASPER MUNICIPAL **ADDRESS:** JASPER, IN
UNIT MAKE: G.E. **UNIT MODEL:** **UNIT** 1 **SERIAL #** 178416

NAME OF PART	METHOD				TYPE OF DISCONTINUITY							SIZE/ LENGTH	LOCATION
	MAG	PT	UT	VE	MECH DAMAGE	CRACK	EROSION	PITTING	RUB	STEAM CUT	INDICATION		
U/H SHELL	X			X							1	3/8	R/S OF STAGE 9 FIT IN WELD
NOZZLE BLOCK	X			X									NO INDICATION OF DISCONTINUITY
CURTIS RING	X			X									NO INDICATION OF DISCONTINUITY
L/H SHELL	X			X						1			R/S BETWEEN STAGE 2 & STAGE 3 FITS
SHELL STUDS (42)			X	X									NO INDICATION OF DISCONTINUITY
MAIN STEAM STUDS (16)			X	X									NO INDICATION OF DISCONTINUITY

LEVEL II TECHNICIAN(S): MIKE MERRILL



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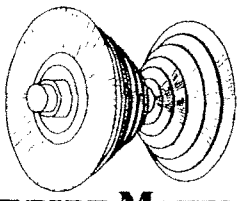
MAG PARTICLE ULTRASONIC PENETRANT
Fluorescent / Visible

CUSTOMER: PGS **DATE:** 3/29/05 **PAGE #** 3
STATION: JASPER MUNICIPAL **ADDRESS:** JASPER, IN
UNIT MAKE: G.E. **UNIT MODEL:** **UNIT** 1 **SERIAL #** 178416

NAME OF PART	METHOD				TYPE OF DISCONTINUITY							SIZE/ LENGTH	LOCATION
	MAG	PT	UT	VE	MECH DAMAGE	CRACK	EROSION	PITTING	RUB	STEAM CUT	INDICATION		
CONTROL VALVES													
#1 DISC		X		X			X						AROUND STELLITE INSERT
SEAT		X		X			X						AROUND STELLITE INSERT
#2 DISC		X		X			X						AROUND STELLITE INSERT
SEAT		X		X			X						AROUND STELLITE INSERT
#3 DISC		X		X			X						AROUND STELLITE INSERT
SEAT		X		X			X						AROUND STELLITE INSERT
#4 DISC		X		X			X						AROUND STELLITE INSERT
SEAT		X		X			X						AROUND STELLITE INSERT
#5 DISC		X		X			X						AROUND STELLITE INSERT
SEAT		X		X			X						AROUND STELLITE INSERT
#6 DISC		X		X			X						AROUND STELLITE INSERT
SEAT		X		X			X						AROUND STELLITE INSERT
R/S STEM			X	X									NO INDICATION OF DISCONTINUITY
L/S STEM			X	X									NO INDICATION OF DISCONTINUITY
STUDS (26)			X	X									NO INDICATION OF DISCONTINUITY

LEVEL II TECHNICIAN(S): MIKE MERRILL



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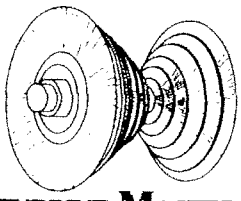
MAG PARTICLE ULTRASONIC PENETRANT
Fluorescent / Visible

CUSTOMER: PGS **DATE:** 3/29/05 **PAGE #** 4
STATION: JASPER MUNICIPAL **ADDRESS:** JASPER, IN
UNIT MAKE: G.E. **UNIT MODEL:** **UNIT** 1 **SERIAL #** 178416

NAME OF PART	METHOD				TYPE OF DISCONTINUITY							SIZE/ LENGTH	LOCATION
	MAG	PT	UT	VE	MECH DAMAGE	CRACK	EROSION	PITTING	RUB	STEAM CUT	INDICATION		
MAIN STOP VALVE													
SEAT		X		X			X						AROUND STELLITE INSERT
DISC		X		X			X						AROUND STELLITE INSERT
BACK SEAT		X		X			X						AROUND STELLITE INSERT
BACK SEAT DISC		X		X									NO INDICATION OF DISCONTINUITY
PILOT SEAT		X		X									NO INDICATION OF DISCONTINUITY
PILOT DISC		X		X									NO INDICATION OF DISCONTINUITY
STEM			X	X									NO INDICATION OF DISCONTINUITY
STRAINER BASKET	X			X									NO INDICATION OF DISCONTINUITY
STUDS (20)	X			X									NO INDICATION OF DISCONTINUITY

LEVEL II TECHNICIAN(S): MIKE MERRILL



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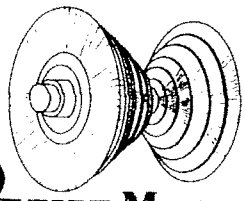
MAG PARTICLE ULTRASONIC PENETRANT
Fluorescent / Visible

CUSTOMER: PGS **DATE:** 3/29/05 **PAGE #** 5
STATION: JASPER MUNICIPAL **ADDRESS:** JASPER, IN
UNIT MAKE: G.E. **UNIT MODEL:** **UNIT** 1 **SERIAL #** 178416

NAME OF PART	METHOD				TYPE OF DISCONTINUITY							SIZE/ LENGTH	LOCATION
ROTOR	MAG	PT	UT	VE	MECH DAMAGE	CRACK	EROSION	PITTING	RUB	STEAM CUT	INDICATION		
BODY	X			X				X					ON SHAFT AND WHEELS
IMPULSE A	X			X					X				I/S OF BUCKET COVERS & I/S BUCKET PLATFORMS
IMPULSE B	X			X				X					D/S BUCKETS
STAGE 2	X			X	X								I/S BUCKETS
								X					D/S BUCKETS, BUCKET COVERS, & TENONS
STAGE 3	X			X				X					I/S & D/S BUCKETS, BUCKET COVERS, & TENONS
STAGE 4	X			X				X					I/S & D/S BUCKETS, BUCKET COVERS, & TENONS
STAGE 5	X			X				X					D/S BUCKETS & BUCKET COVERS
STAGE 6	X			X				X					I/S & D/S BUCKETS
STAGE 7	X			X				X					I/S & D/S BUCKETS
STAGE 8	X			X				X					I/S & D/S BUCKETS & BUCKET COVERS
STAGE 9	X			X				X					I/S & D/S BUCKETS & BUCKET COVERS
STAGE 10	X			X				X					I/S & D/S BUCKETS
STAGE 11	X			X				X					I/S & D/S BUCKETS
											1	½"	D/S OF 42ND BUCKET COUNTER CLOCKWISE FROM THE NOTCH BLOCK
									X				16TH, 17TH, & 18TH BUCKET GROUPS COUNTER CLOCKWISE FROM THE NOTCH BLOCK ON THE I/S OF THE COVERS CAUSING LIFT

LEVEL II TECHNICIAN(S): MIKE MERRILL



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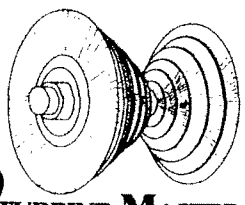
Fluorescent / Visible

CUSTOMER: PGS **DATE:** 3/29/05 **PAGE #** 6
STATION: JASPER MUNICIPAL **ADDRESS:** JASPER, IN
UNIT MAKE: G.E. **UNIT MODEL:** **UNIT** 1 **SERIAL #** 178416

NAME OF PART	METHOD				TYPE OF DISCONTINUITY							SIZE/ LENGTH	LOCATION
	MAG	PT	UT	VE	MECH DAMAGE	CRACK	EROSION	PITTING	RUB	STEAM CUT	INDICATION		
ROTOR (CONTINUED)													
STAGE 11 (CONTINUED)					X								2ND & 3RD BUCKET GROUPS CLOCKWISE FROM THE NOTCH BLOCK TENON HEADS WORN DOWN
					X								11TH BUCKET GROUP COUNTER CLOCKWISE FROM THE NOTCH BLOCK BUCKET COVER BENT DOWNWARD
STAGE 12	X			X				X					BUCKET COVERS
STAGE 13	X			X				X					BUCKET COVERS
STAGE 14	X			X			X						I/S BUCKETS
								X					BUCKET COVERS

LEVEL II TECHNICIAN(S): MIKE MERRILL



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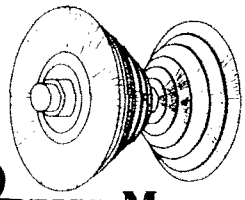
MAG PARTICLE ULTRASONIC PENETRANT
Fluorescent / Visible

CUSTOMER: PGS **DATE:** 3/29/05 **PAGE #** 7
STATION: JASPER MUNICIPAL **ADDRESS:** JASPER, IN
UNIT MAKE: G.E. **UNIT MODEL:** **UNIT** 1 **SERIAL #** 178416

NAME OF PART	METHOD				TYPE OF DISCONTINUITY							SIZE/ LENGTH	LOCATION
DIAPHRAGMS	MAG	PT	UT	VE	MECH DAMAGE	CRACK	EROSION	PITTING	RUB	STEAM CUT	INDICATION		
#2 U/H	X			X	X								D/S PARTITIONS
							X						D/S PARTITIONS
#2 L/H	X			X	X								D/S PARTITIONS
							X						D/S PARTITIONS
											2	1/8 & 1 ½	R/S HORIZONTAL JOINT
											1	1/4	I/S OUTER WEB IN WELD
#3 U/H	X			X	X								D/S PARTITIONS
											2	1 ½	R/S HORIZONTAL JOINT
											2	1/4	D/S IN R/S WEB WELD
#3 L/H	X			X	X								D/S PARTITIONS
											2	1/8 & 3/8	I/S OUTER WEB AT R/S HORIZONTAL JOINT
#4 U/H	X			X				X					D/S PARTITIONS
											2	1 ½	R/S HORIZONTAL JOINT
#4 L/H	X			X						1			1ST L/S PARTITION
#5 U/H	X			X	X								D/S PARTITIONS
#5 L/H	X			X	X								D/S PARTITIONS
#6 U/H	X			X							2	1 ½	R/S HORIZONTAL JOINT
#6 L/H	X			X							1	3/16	D/S PARTITION
#7 U/H	X			X							2	1 ½	R/S HORIZONTAL JOINT
#7 L/H	X			X							2	¼ & ¾	I/S INNER WEB IN WELD
#8 U/H	X			X			X						D/S PARTITIONS
											1	1"	R/S HORIZONTAL JOINT
#8 L/H	X			X						1			9TH PARTITION FROM THE R/S

LEVEL II TECHNICIAN(S): MIKE MERRILL



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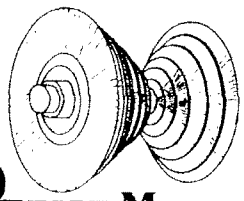
MAG PARTICLE ULTRASONIC PENETRANT
Fluorescent / Visible

CUSTOMER: PGS **DATE:** 3/29/05 **PAGE #** 8
STATION: JASPER MUNICIPAL **ADDRESS:** JASPER, IN
UNIT MAKE: G.E. **UNIT MODEL:** **UNIT** 1 **SERIAL #** 178416

NAME OF PART	METHOD				TYPE OF DISCONTINUITY							SIZE/ LENGTH	LOCATION
DIAPHRAGMS (CONTINUED)	MAG	PT	UT	VE	MECH DAMAGE	CRACK	EROSION	PITTING	RUB	STEAM CUT	INDICATION		
#9 U/H	X			X									NO INDICATION OF DISCONTINUITY
#9 L/H	X			X				X					D/S PARTITIONS
#10 U/H	X			X				X					D/S PARTITIONS
#10 L/H	X			X				X					D/S PARTITIONS
#11 U/H	X			X				X					D/S PARTITIONS
#11 L/H	X			X			X						D/S PARTITIONS
								X					D/S PARTITIONS
											2	1/4	D/S INNER WEB AT L/S HORIZONTAL JOINT
#12 U/H	X			X						2			D/S PARTITIONS
											34	1/4	I/S PARTITIONS TO OUTER WEB WELDS
#12 L/H	X			X				X					D/S PARTITIONS
										1			D/S PARTITION
											38	1/4	I/S PARTITIONS TO OUTER WEB WELDS
#13 U/H	X			X			X						D/S PARTITIONS
											3	1/8	I/S PARTITIONS TO OUTER WEB WELDS
#13 L/H	X			X									NO INDICATION OF DISCONTINUITY

LEVEL II TECHNICIAN(S): MIKE MERRILL



TURBINE MASTER inc.
220 N. Grand Ave. Tahlequah, OK 74464

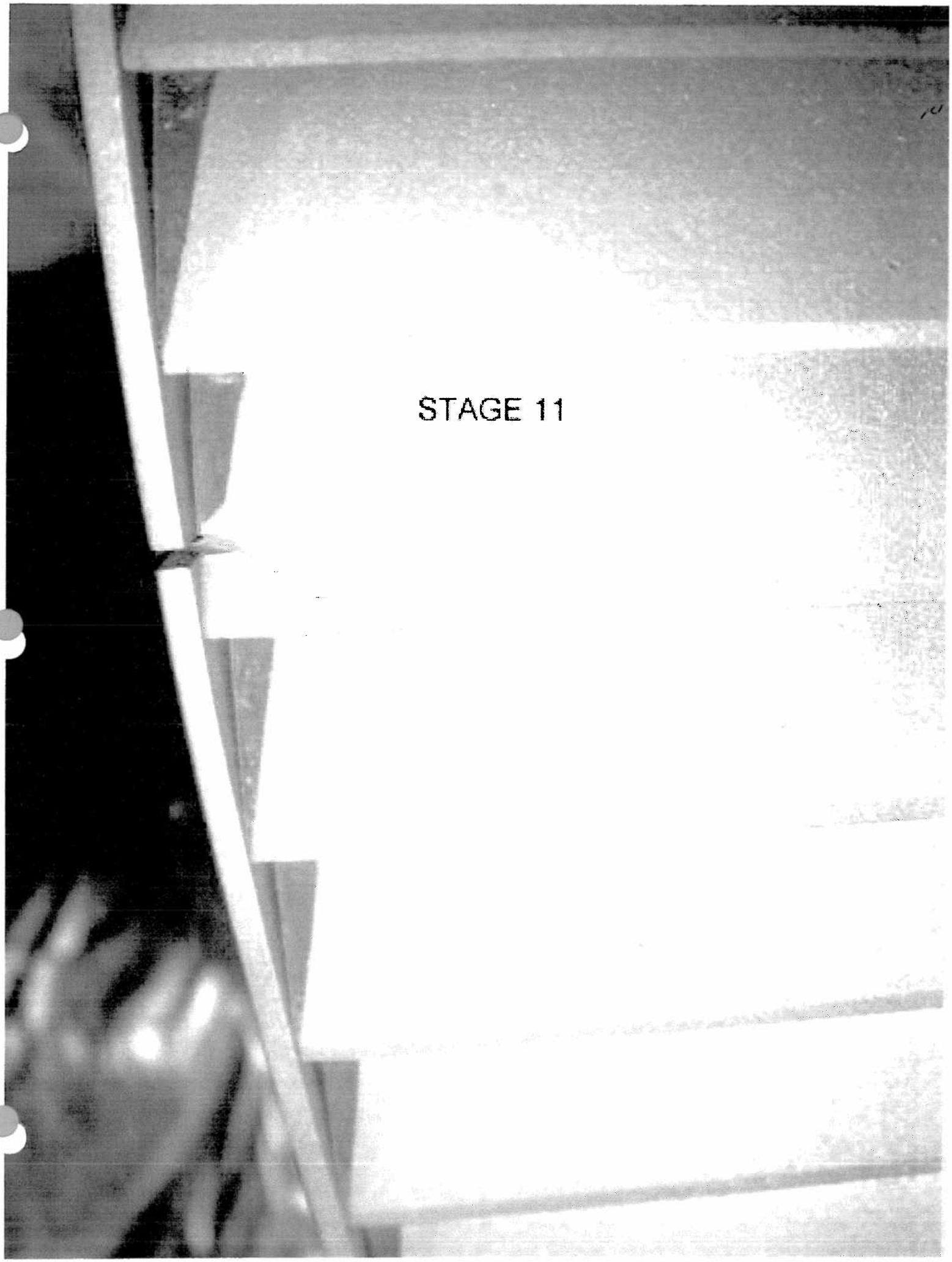
MAG PARTICLE ULTRASONIC PENETRANT
Fluorescent / Visible

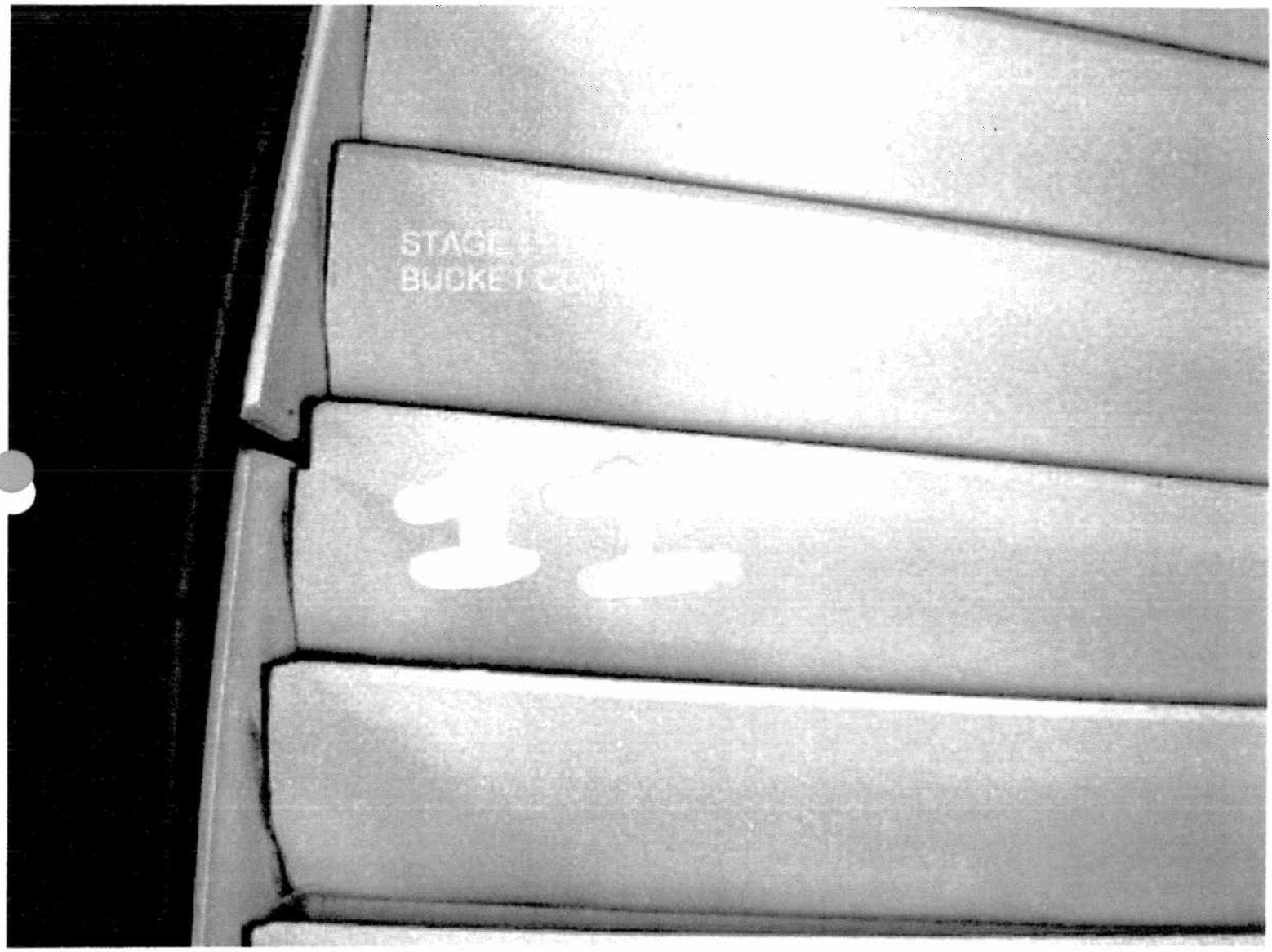
CUSTOMER: PGS **DATE:** 3/29/05 **PAGE #** 9
STATION: JASPER MUNICIPAL **ADDRESS:** JASPER, IN
UNIT MAKE: G.E. **UNIT MODEL:** **UNIT** 1 **SERIAL #** 178416

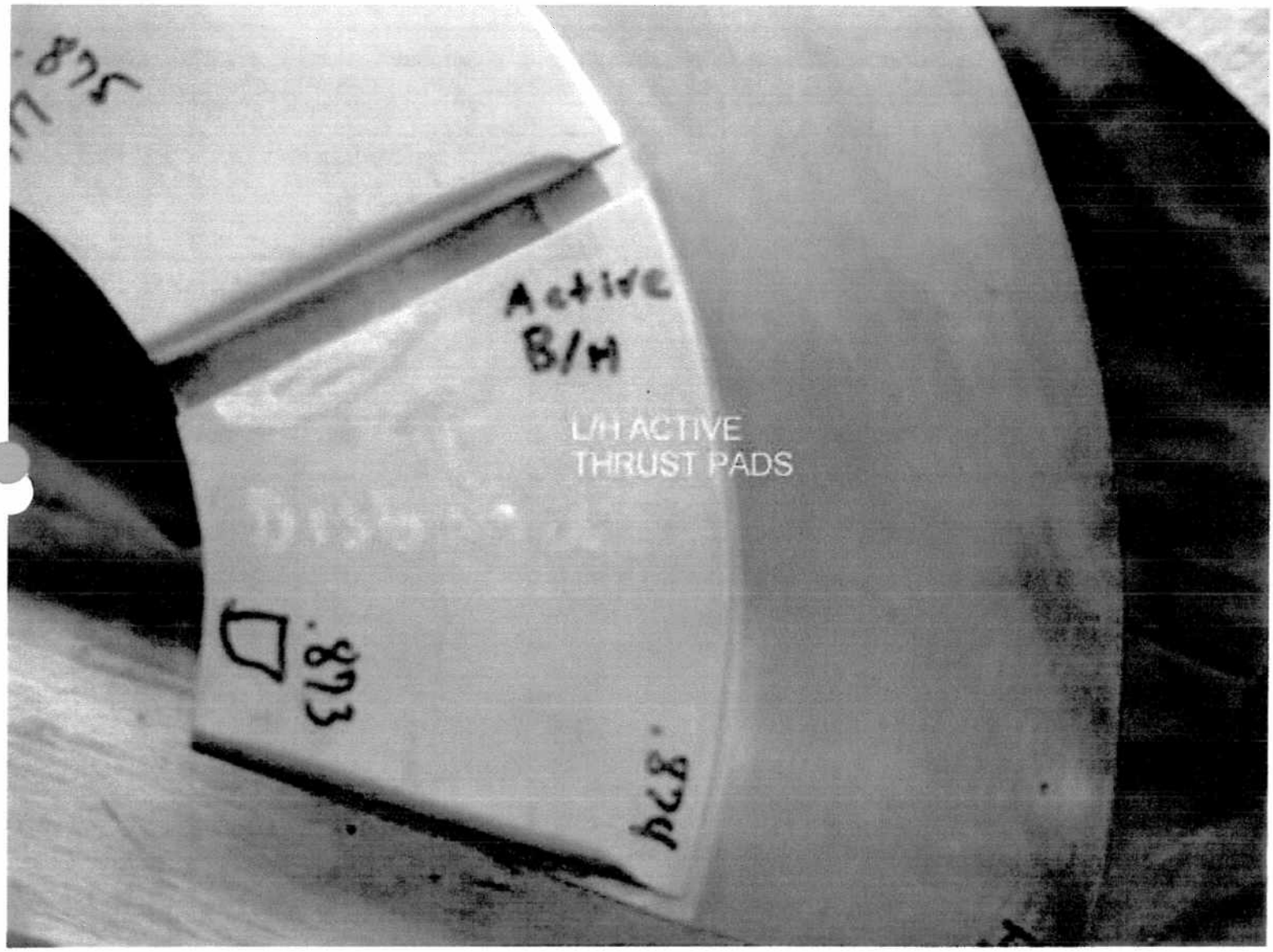
NAME OF PART	METHOD				TYPE OF DISCONTINUITY							SIZE/ LENGTH	LOCATION
	MAG	PT	UT	VE	MECH DAMAGE	CRACK	EROSION	PITTING	RUB	STEAM CUT	INDICATION		
DIAPHRAGMS (CONTINUED)													
#14 U/H	X			X							**8**	1/4	D/S PARTITIONS TO OUTER WEB WELDS
											35	1/4	I/S PARTITIONS TO OUTER WEB WELDS
[redacted] L/H	X			X							**19**	1/4	D/S PARTITIONS TO OUTER WEB WELDS
											39	1/4	I/S PARTITIONS TO OUTER WEB WELDS
GLANDS	X			X									NO INDICATION OF DISCONTINUITY

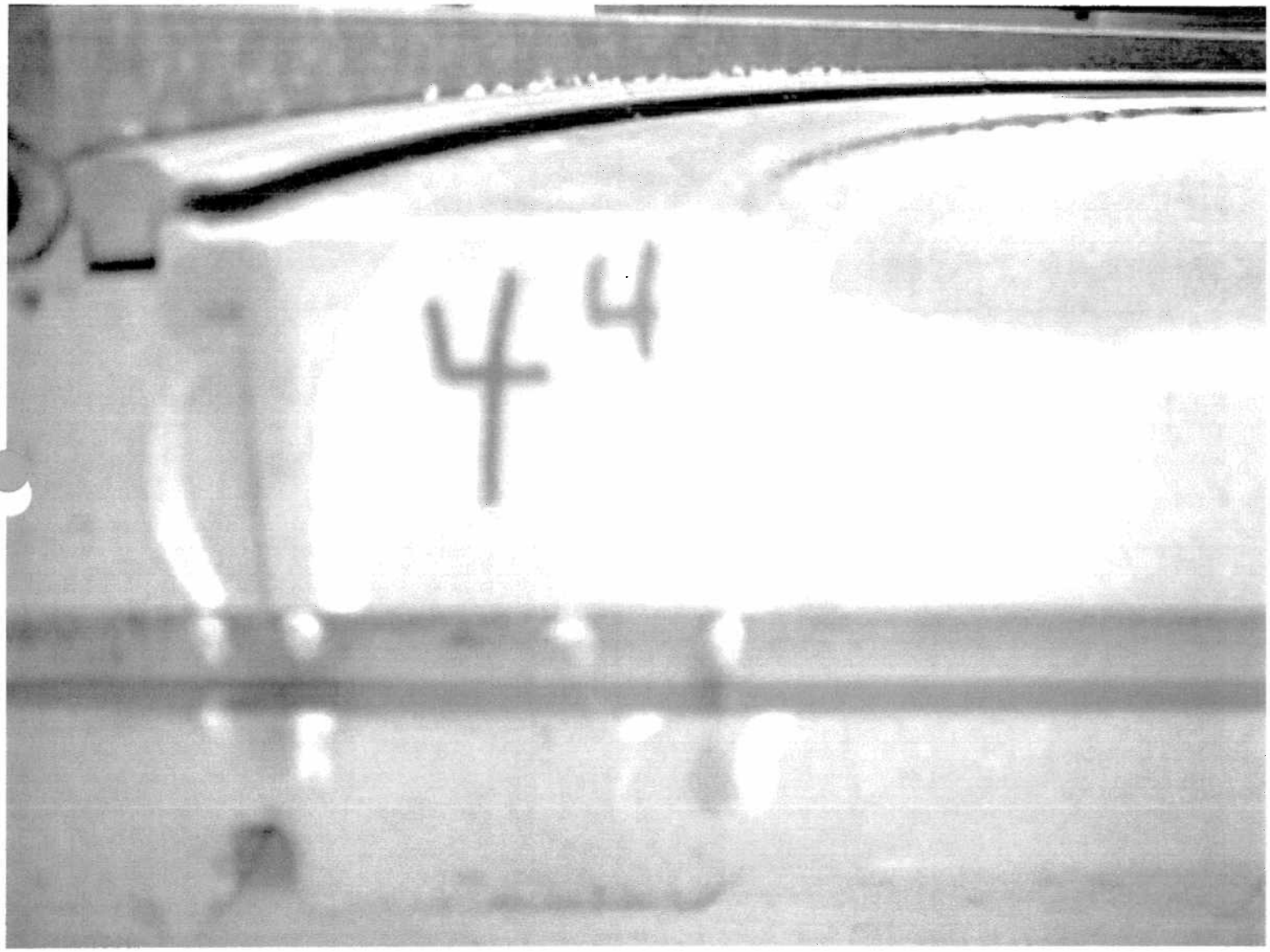
LEVEL II TECHNICIAN(S): MIKE MERRILL

STAGE 11 TENON HEADS
WORN DOWN

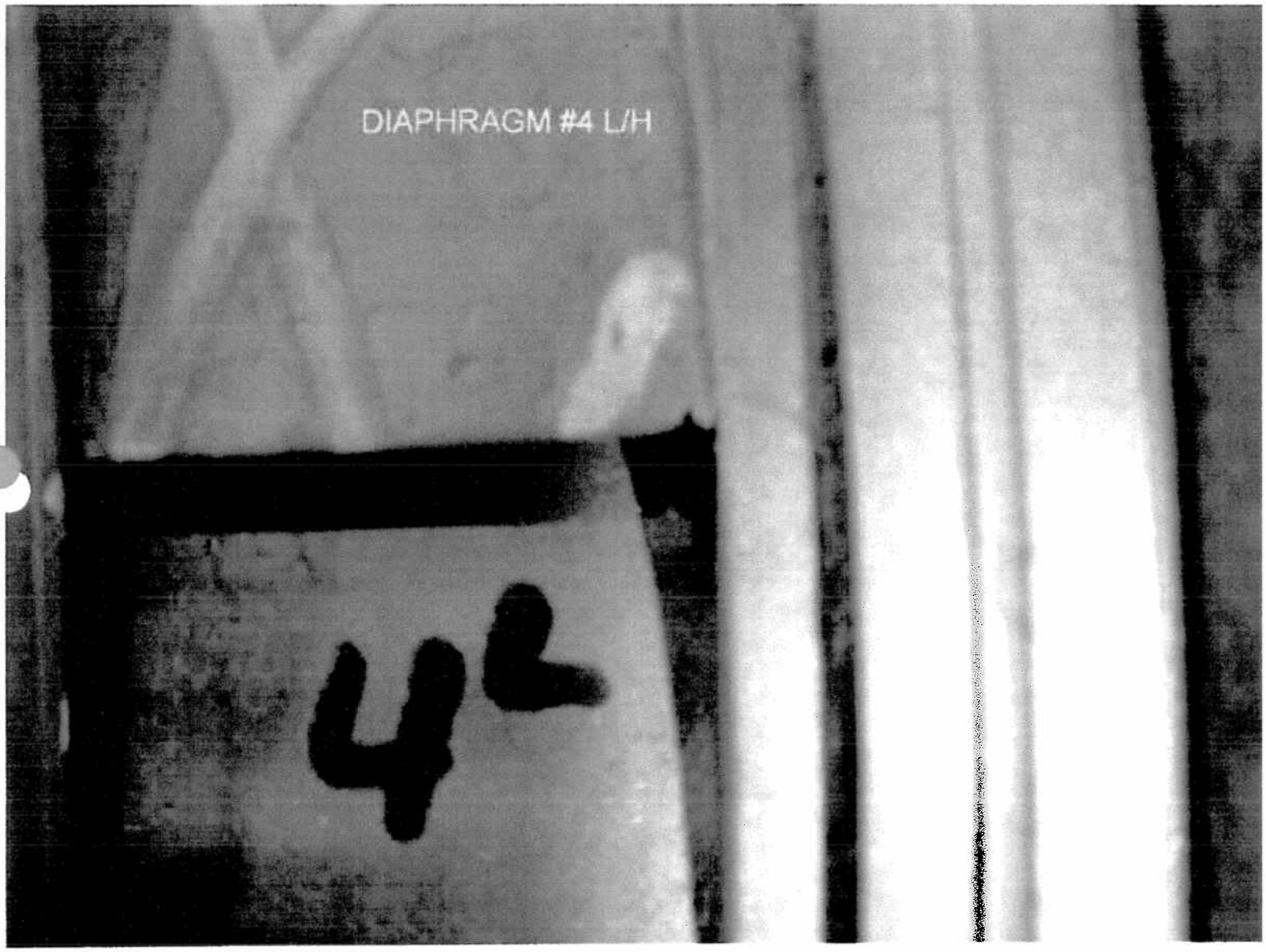

STAGE 11

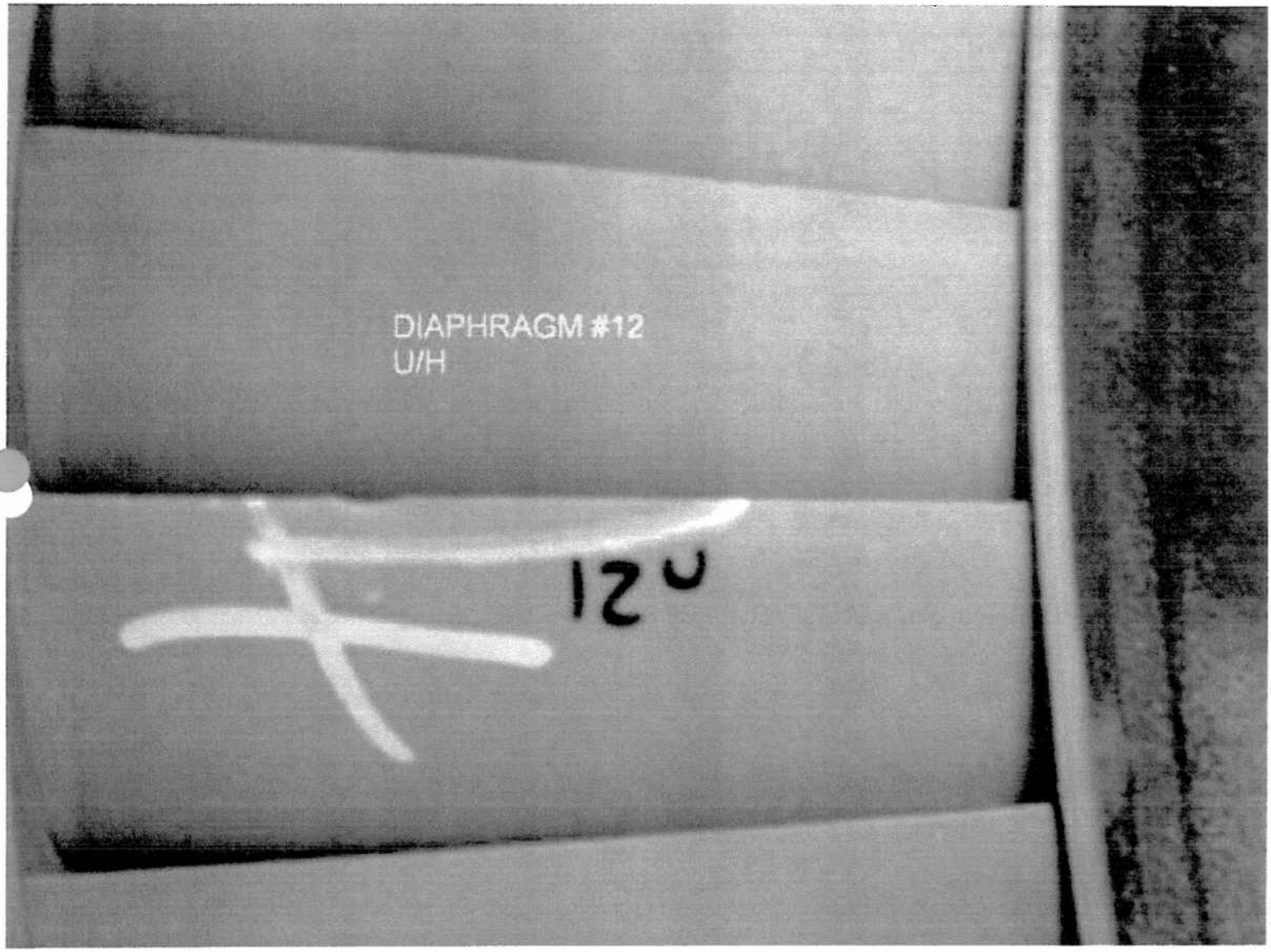

STAGE
BUCKET
33

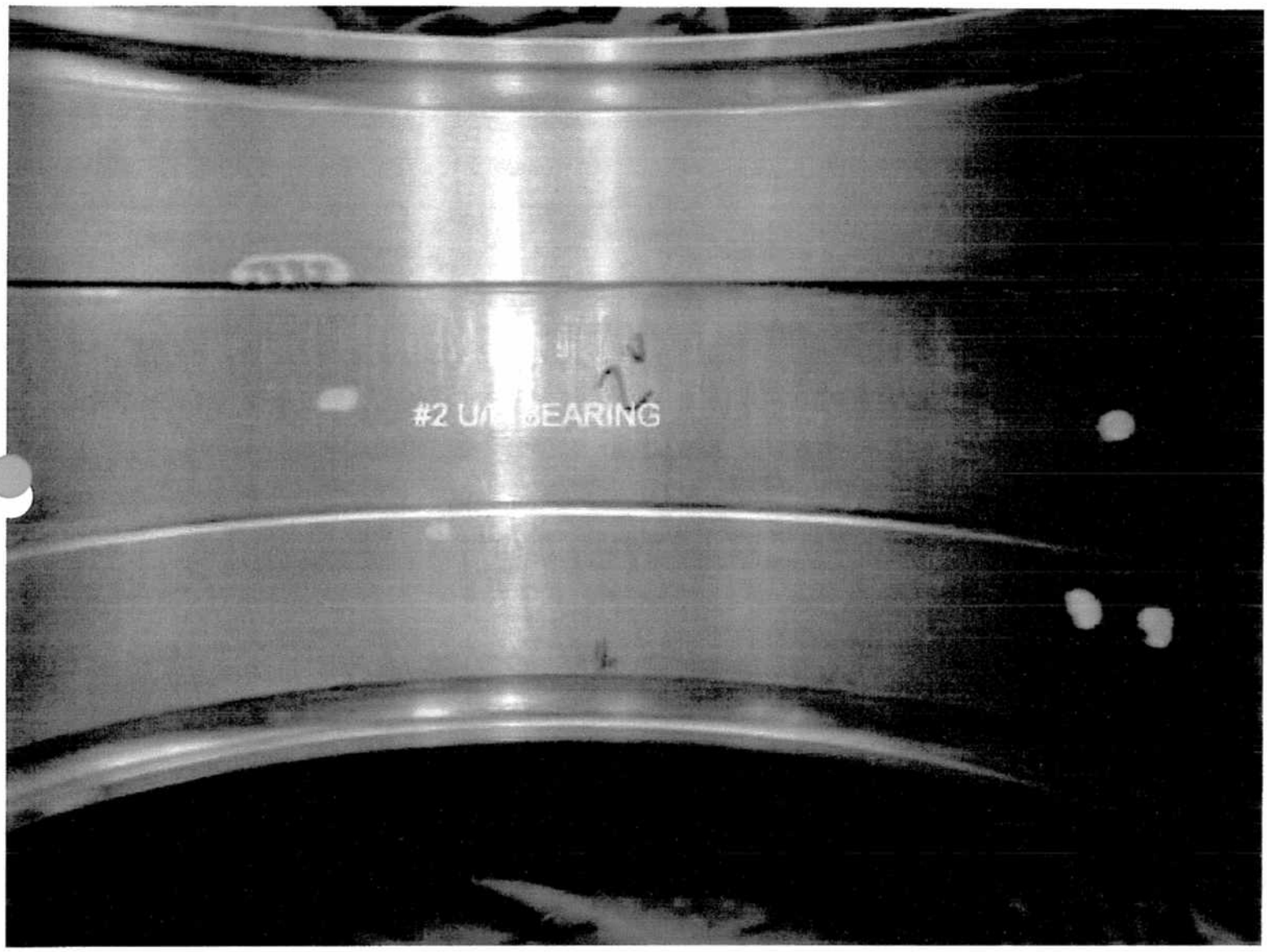

Active
B/H
L/H ACTIVE
THRUST PADS


44

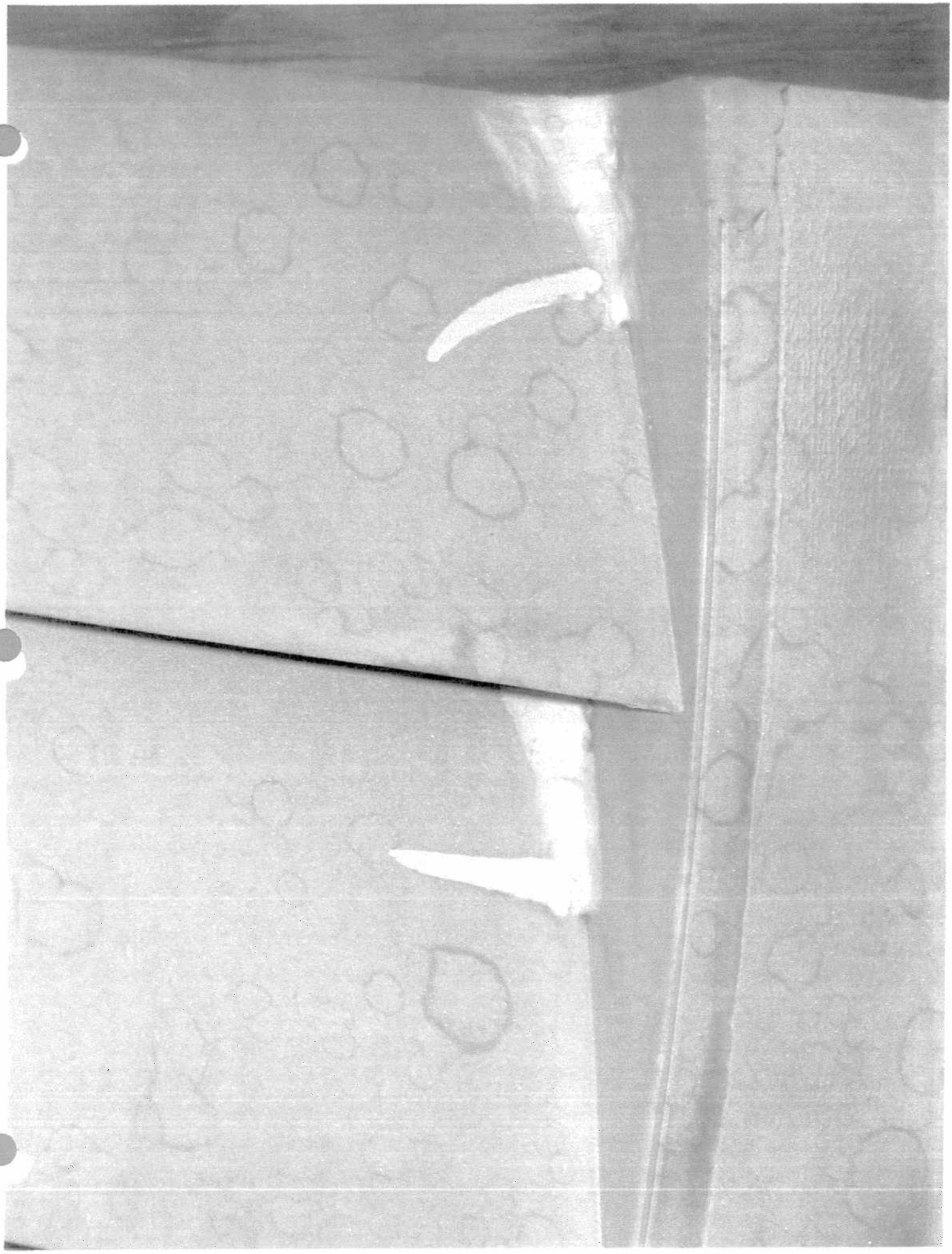
DIAPHRAGM #14 L/H

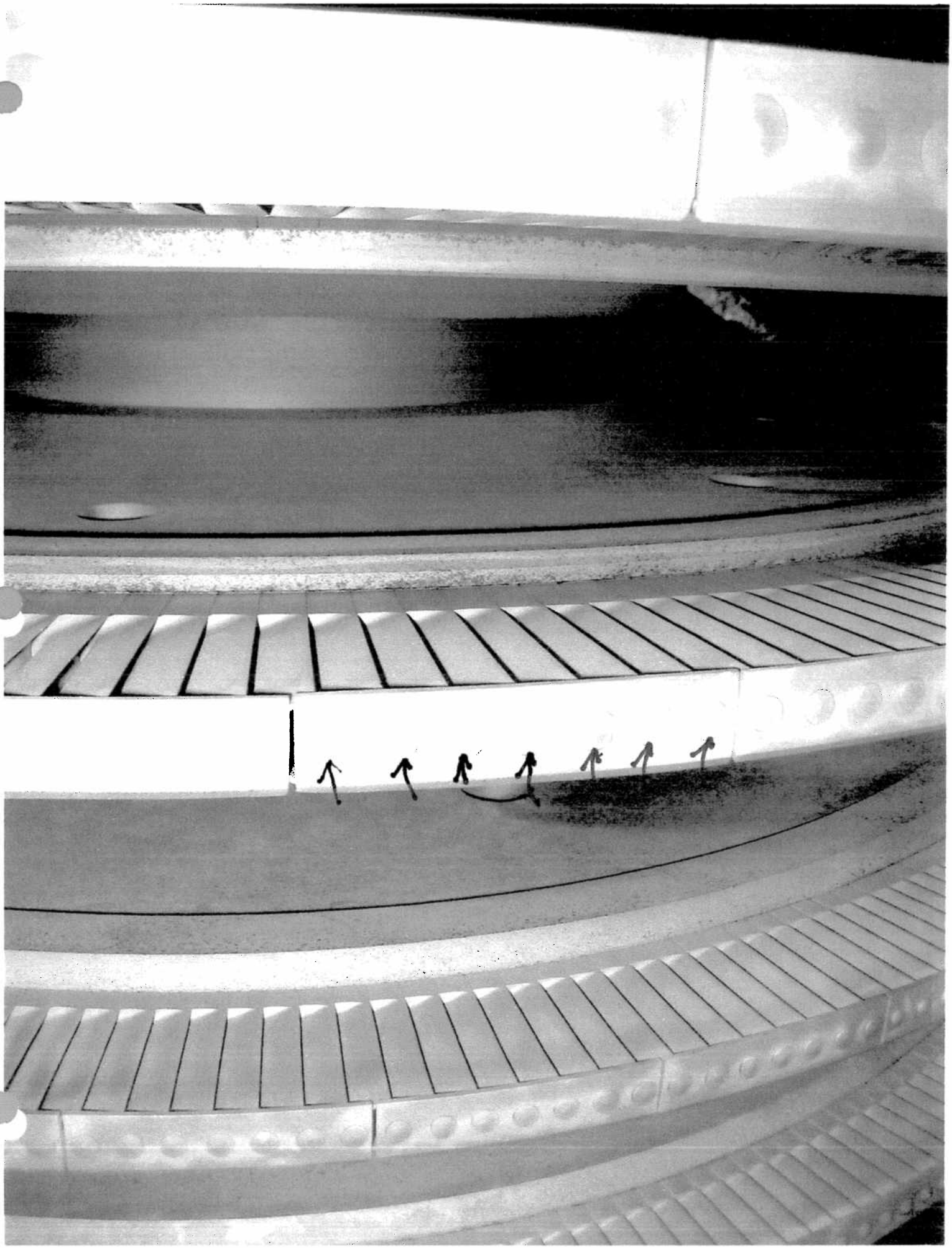

DIAPHRAGM #4 L/H
42


DIAPHRAGM #12
U/H
12U


#2 U
BEARING

4





MAIN STOP VALVE

The stop valve was completely disassembled all clearances checked, the main seat and the back seats were cleaned, blue checked and showed proper seat contact. The controller for the actuator was disassembled, cleaned and clearances checked. The controller was with in OMC spec and was reassembled with new packing installed in the actuator.

PGS

Main Stop Valve

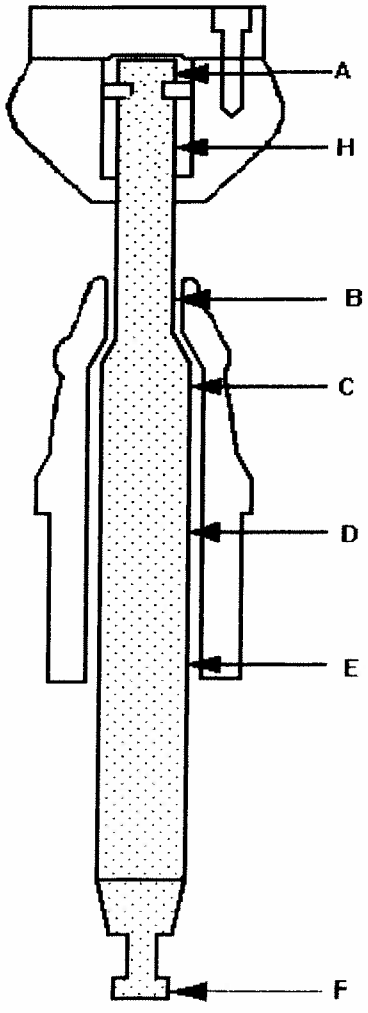
DPC - Unit 1 assembly

Date(m/d/y) 4/4/04 Turbine Unit No. 2E+05 Prepared by Timothy Drader

INSPECTIONS & CHECKS				CODE	
Seat Inspection	X			X	Work Carried Out
Disc Inspection	X			N	Not Done
Seat Contact Check	X			NA	Not Applicable
Stem Inspection	X			C	See Comments
Pressure Steel Head	X	As found/As left		V	Visual Inspection
Stud Inspection	X			MP	Mag. Particle
Nut Inspection	V			UT	Ultrasonic
Body Inspection	V			PT	Penetrant
Strainer Inspection	N				

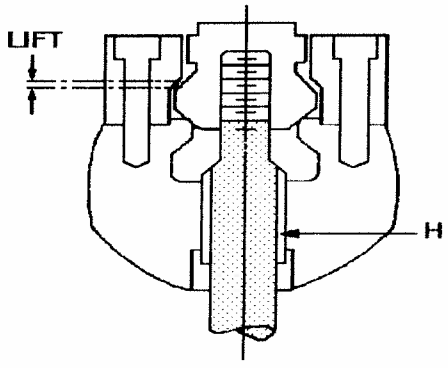
Note: Stem and bushing diameters should be recorded both before and after cleaning. Try bar diameters must be recorded.

VALVE CLEARANCE		BEFORE CLEAN B	AFTER CLEAN B	BEFORE CLEAN C	AFTER CLEAN C	BEFORE CLEAN E	AFTER CLEAN E	BEFORE CLEAN H	AFTER CLEAN H
VALVE NO.	Bushing ID		1.9280		2.3740		2.3740		1.8740
	Stem OD		1.8640		2.3640		2.3640		1.8640
TRY BAR DIA.	Clearance		0.0640		0.0100		0.0100		0.0100

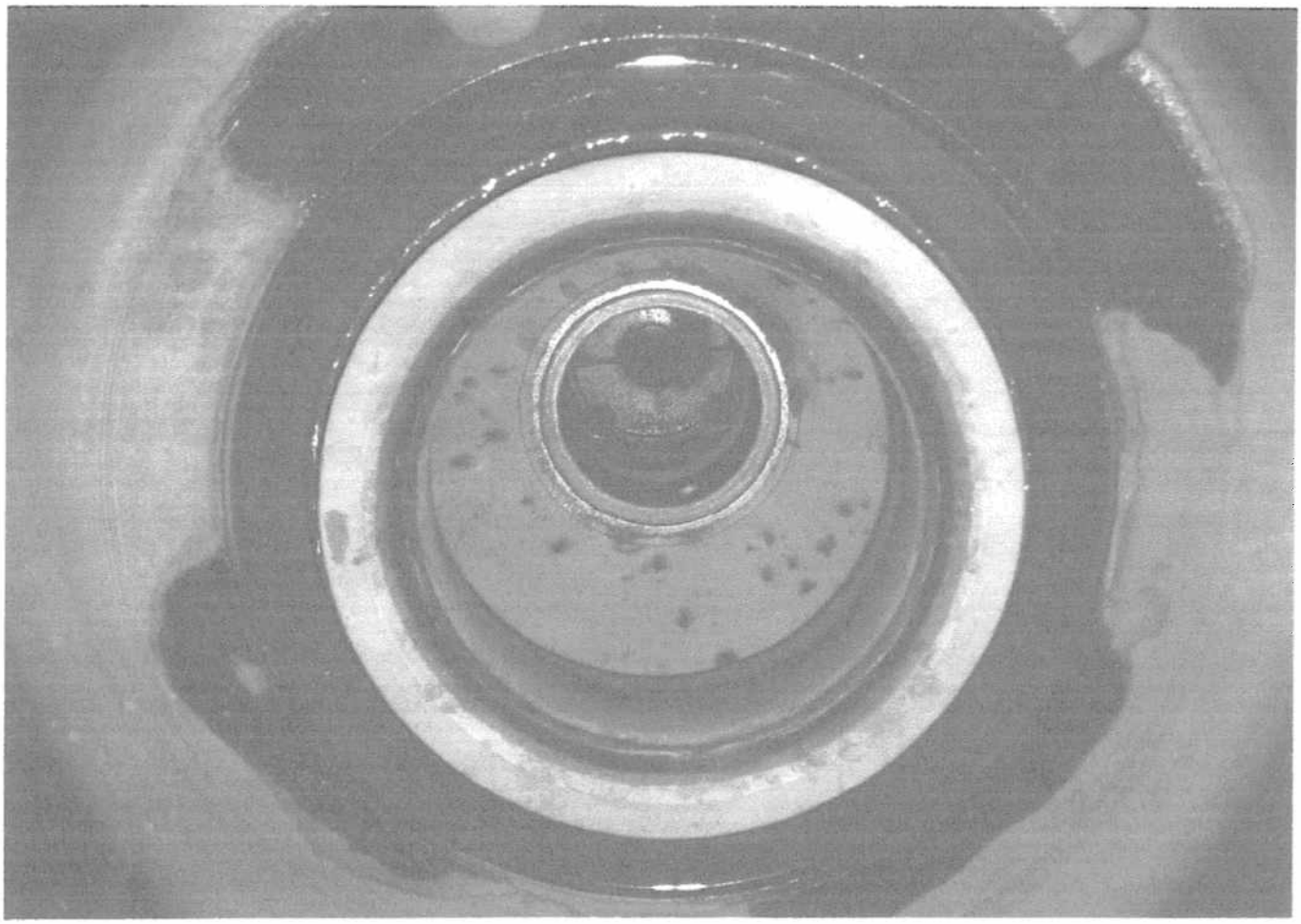


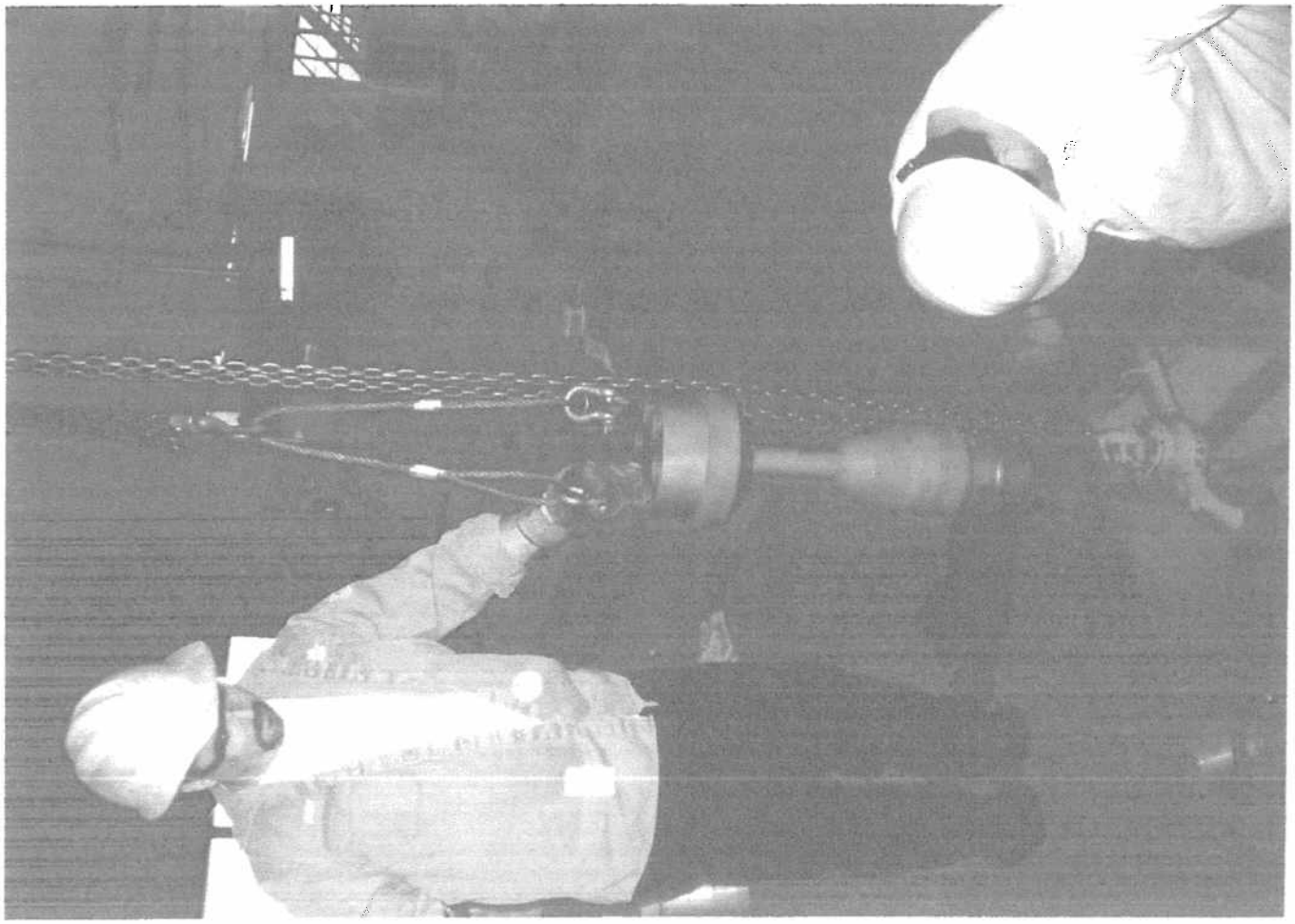
STEM RUNOUT	A	B	C	D	E	F
VALVE NO.	0.0010	0.0000	0.0010	0.0000	0.0010	0.0010
1						
STEM LENGTH	27.000 IN.					

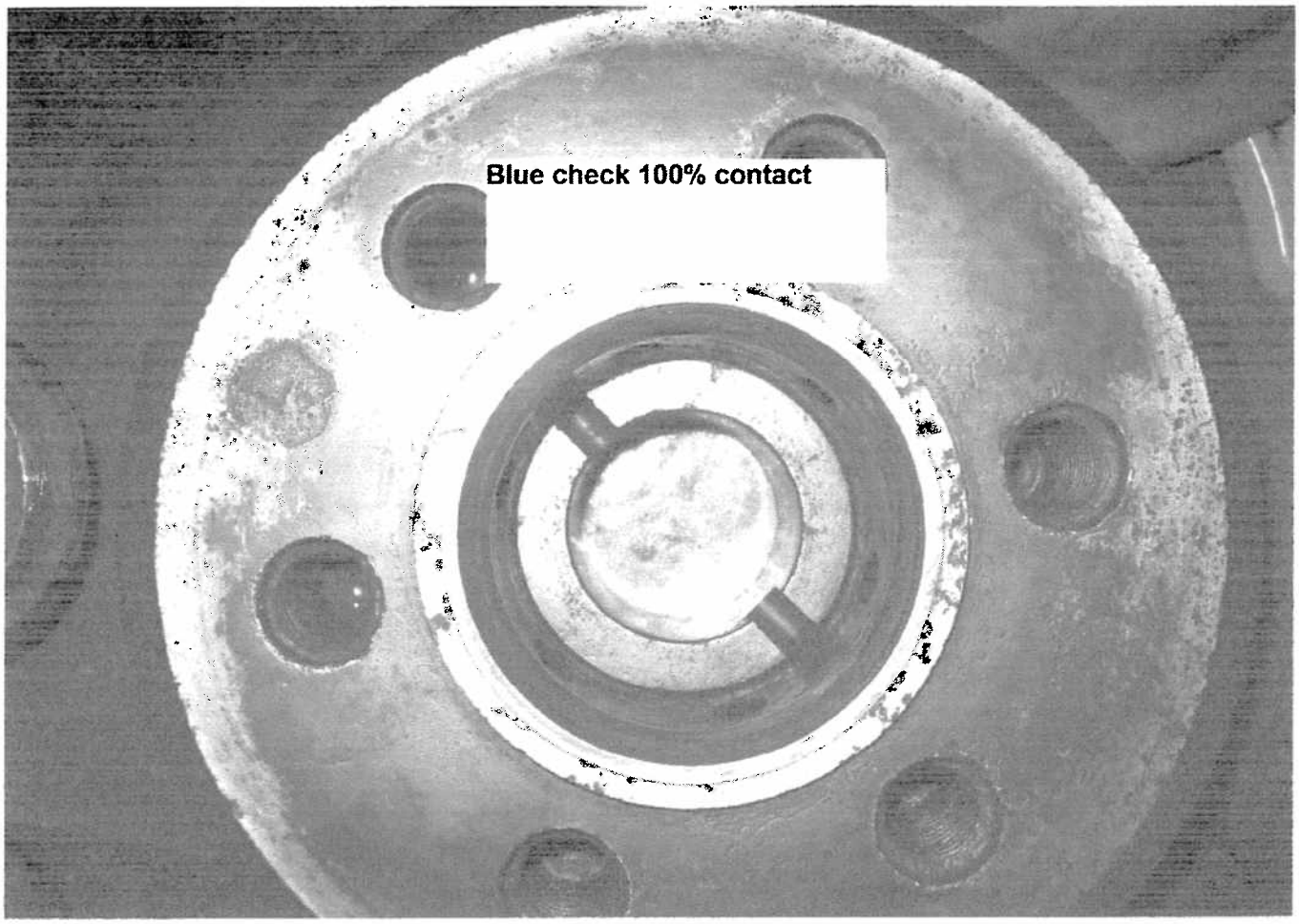
BYPASS VALVE	LIFT
VALVE NO. 1	0.262
VALVE NO.	

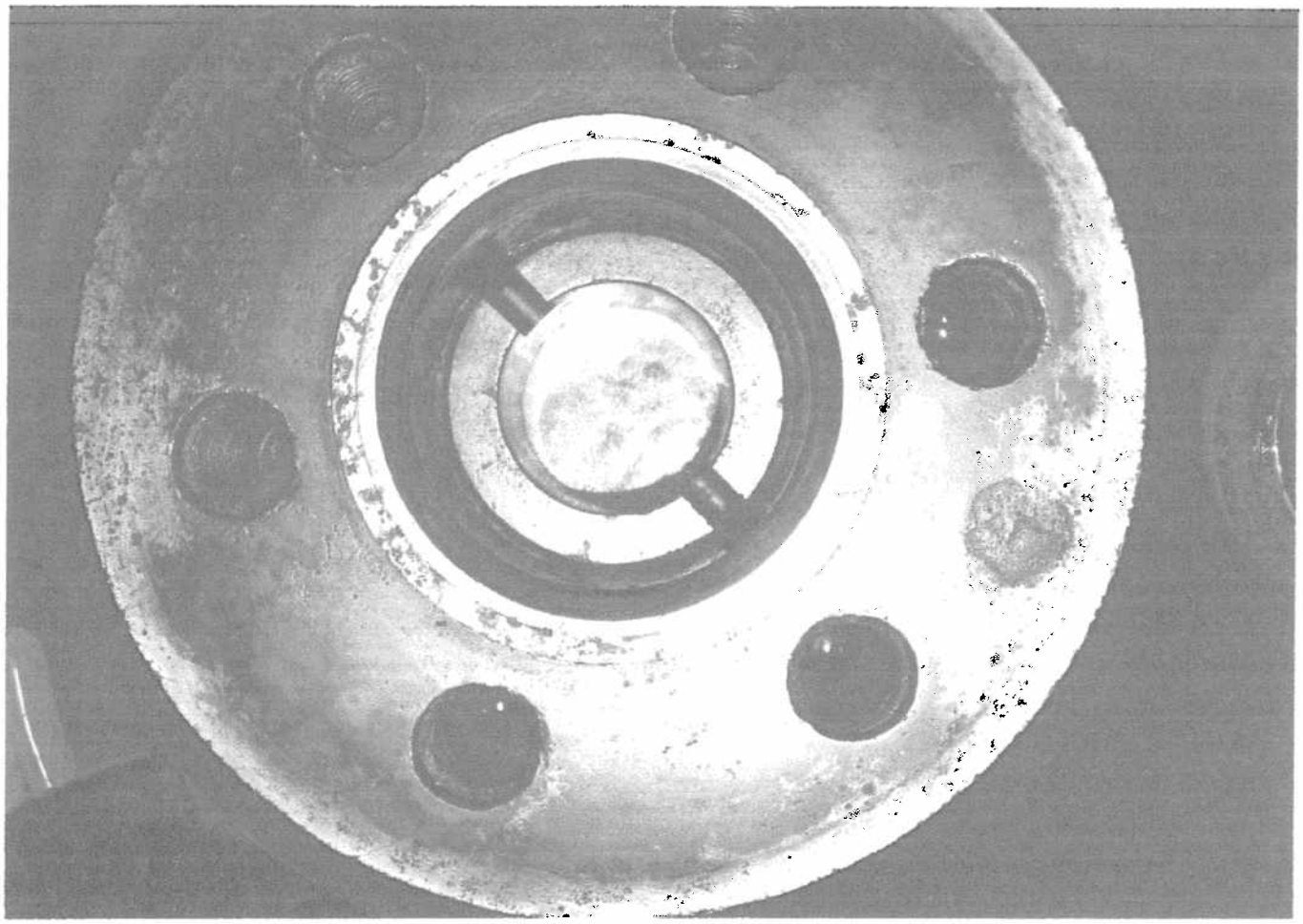


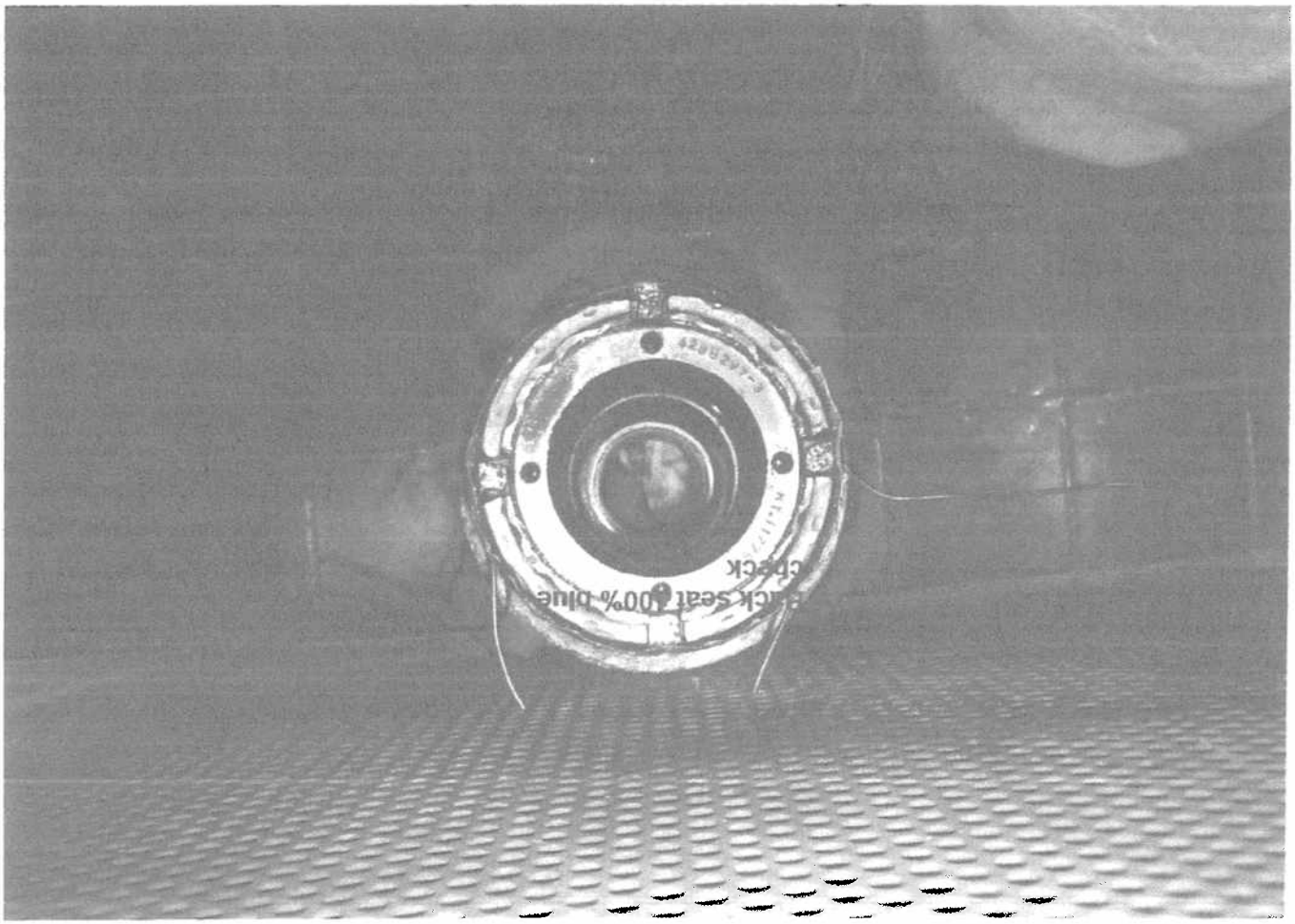
Comments:
see pictures






Blue check 100% contact





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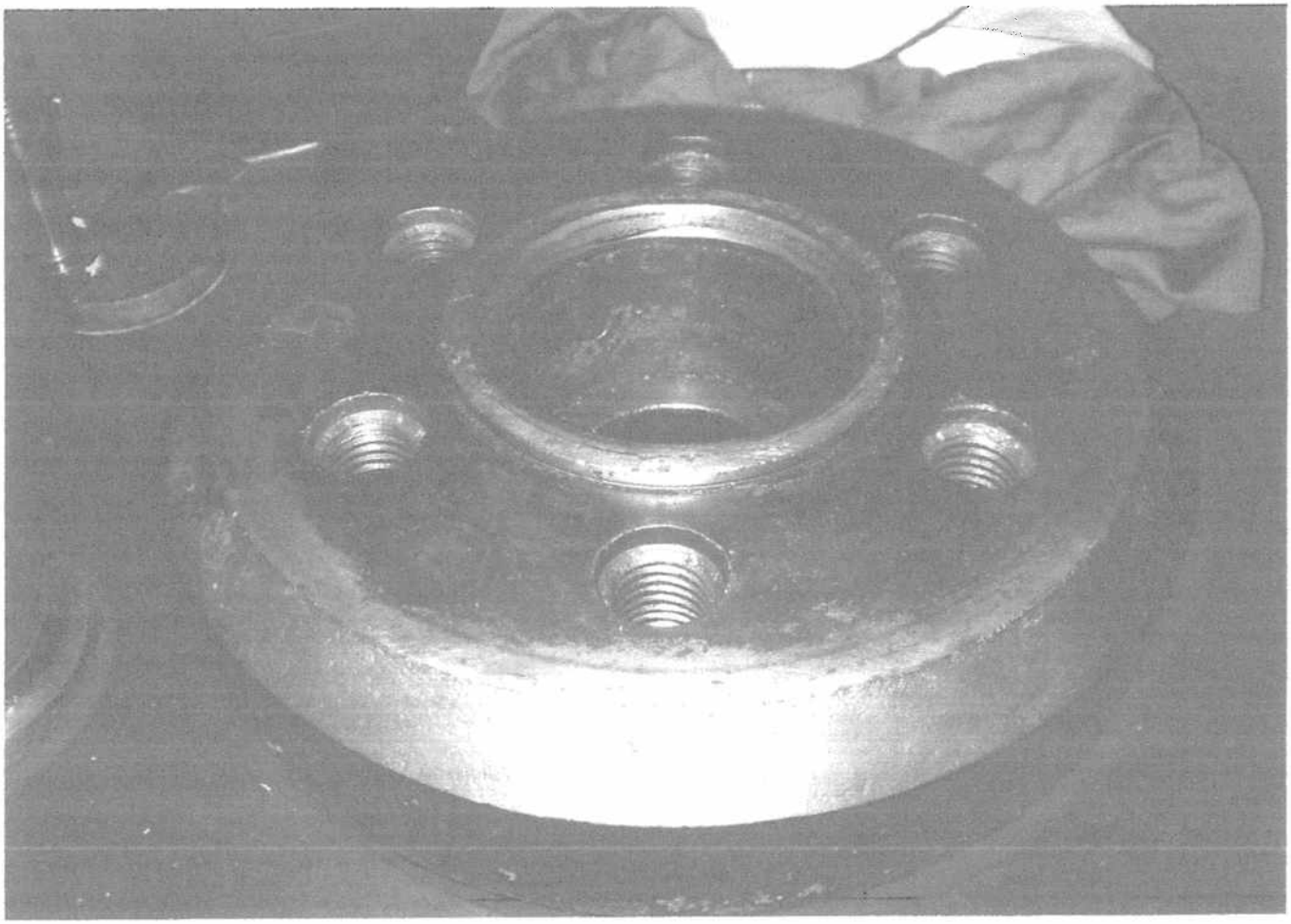


LUBRICATION SYSTEM

The aux-oil pump was disassembled a new bearing from customer stock was used to replace the upper bearing. The new bearing had to be taken to local machine shop to renew ID clearances as the bearing had been damaged.

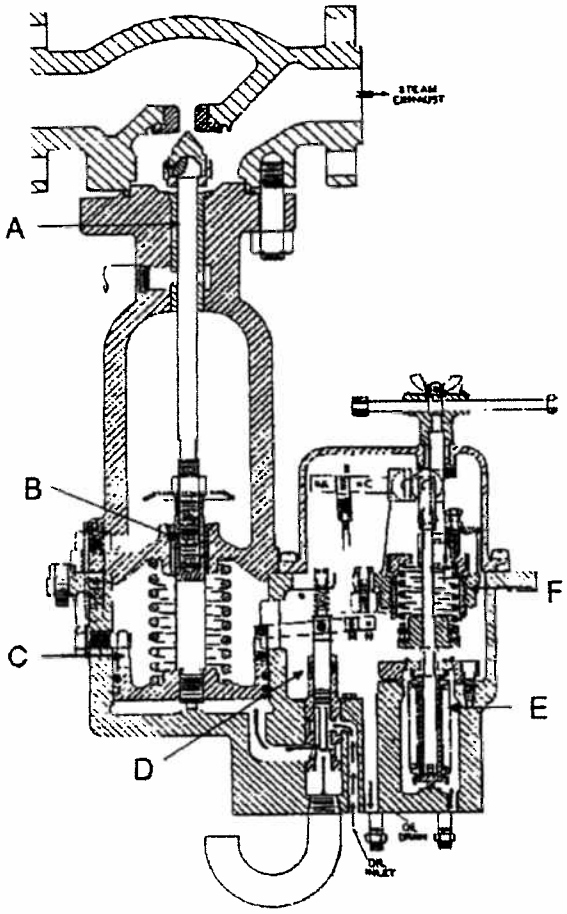
The aux-oil pump regulator had not been working since previous outage. It was disassembled and inspected. The valve seat cover fit had been damaged and was restored with the proper fit clearance. The valve stem bushing had a steam leak in the housing below the leak off line. The piston rod surface was badly pitted.

The rod and housing were sent to a local machine shop and were rebuilt along with two undersize bushings for the piston rod. The unit was reassembled and the stroke properly set at 5/8 inch. The main oil tank cover was removed the tank was drained and cleaned the paint on the bottom of the tank had areas of blistering and peeling these areas were scraped and cleaned .

AUXILIARY OIL PUMP REGULATOR

Date 4-18-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTIONS & CHECKS	Final			CODES
Steam Valve	X	Oil Piston	X	X - Work Carried Out
Valve Stem	X	Piston Rings	X	N - Not Done
Valve Stem Bushing	X	Bypass Valve	X	V - Visual Inspection
Pilot Valve	X	Bypass Valve Seat	X	PT - Penetrant Test
Pilot Valve Bushing	X	Main Valve Seat	X	MP- Magnetic Particle
Oil Bellows Assembly	X	Ball Bearing	X	C - See Comments



A	BUSHING ID	.750
	STEM OD	.743
	CLEARANCE	.007
B	BUSHING ID	1.088
	PISTON ROD OD	1.086
	CLEARANCE	.002
C	CYLINDER ID	5.999
	PISTON OD	5.990
	CLEARANCE	.009
D	PV BUSHING ID	.499
	PILOT VALVE OD	.497
	CLEARANCE	.002
E	OIL BELLOWS ID	.501
	BELLOWS STEM OD	.499
	CLEARANCE	.002
F	BALL BEARING ID	.437
	BELLOWS STEM OD	.435
	CLEARANCE	.002

COMMENTS:

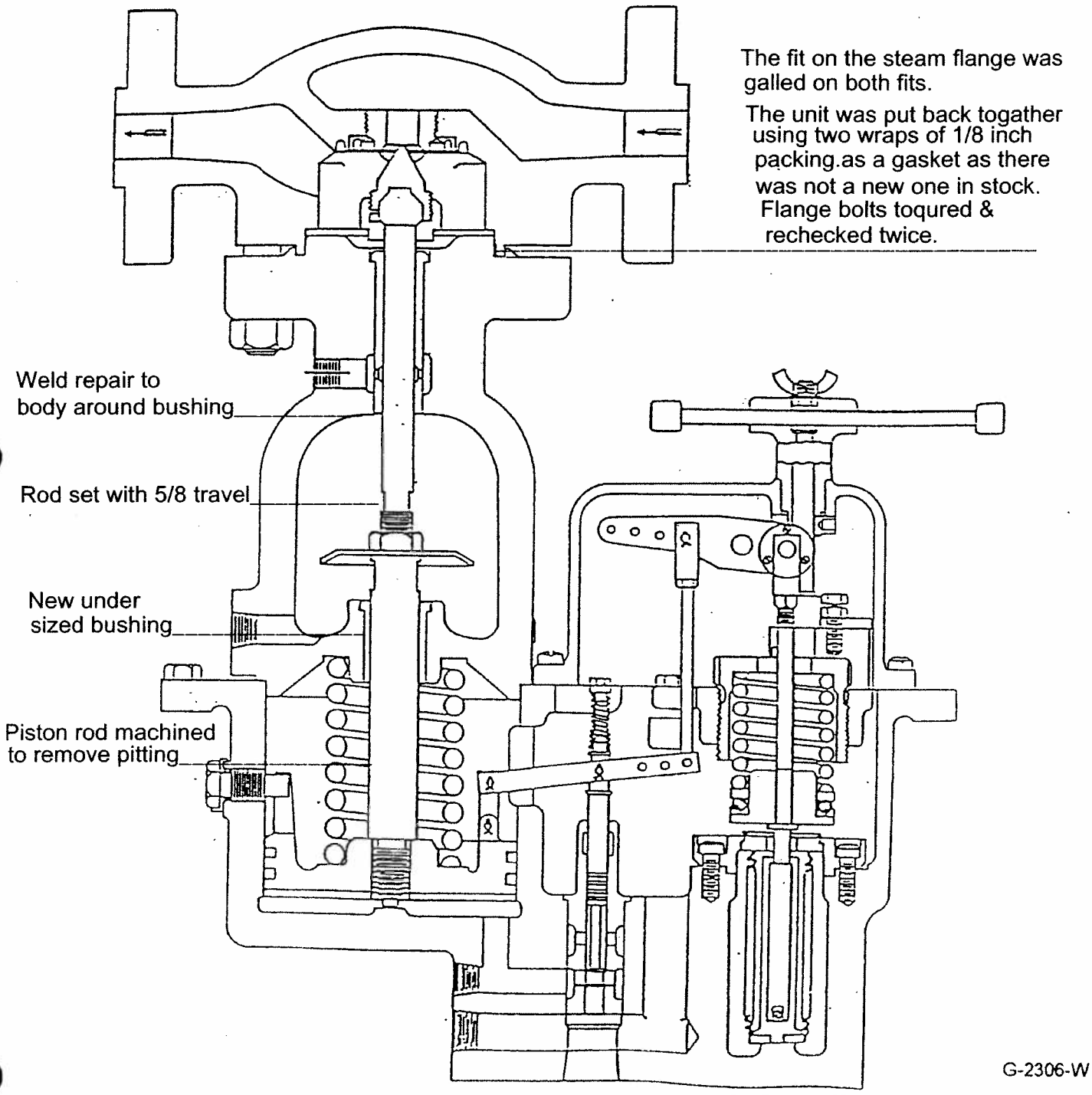
The regulator body was sent to a local repair shop & the bushing fit below the leakoff line was welded and remachined to fit the bushing.

The piston rod was machine down to remove pitting and a new bushing made with one spare

OIL PUMP REGULATOR

Date 4-18-05 Turbine Serial No. 178416 Prepared By Tim Drader

NOTE: MARK SKETCH TO SHOW PROBLEM AREA OR COMPONENT



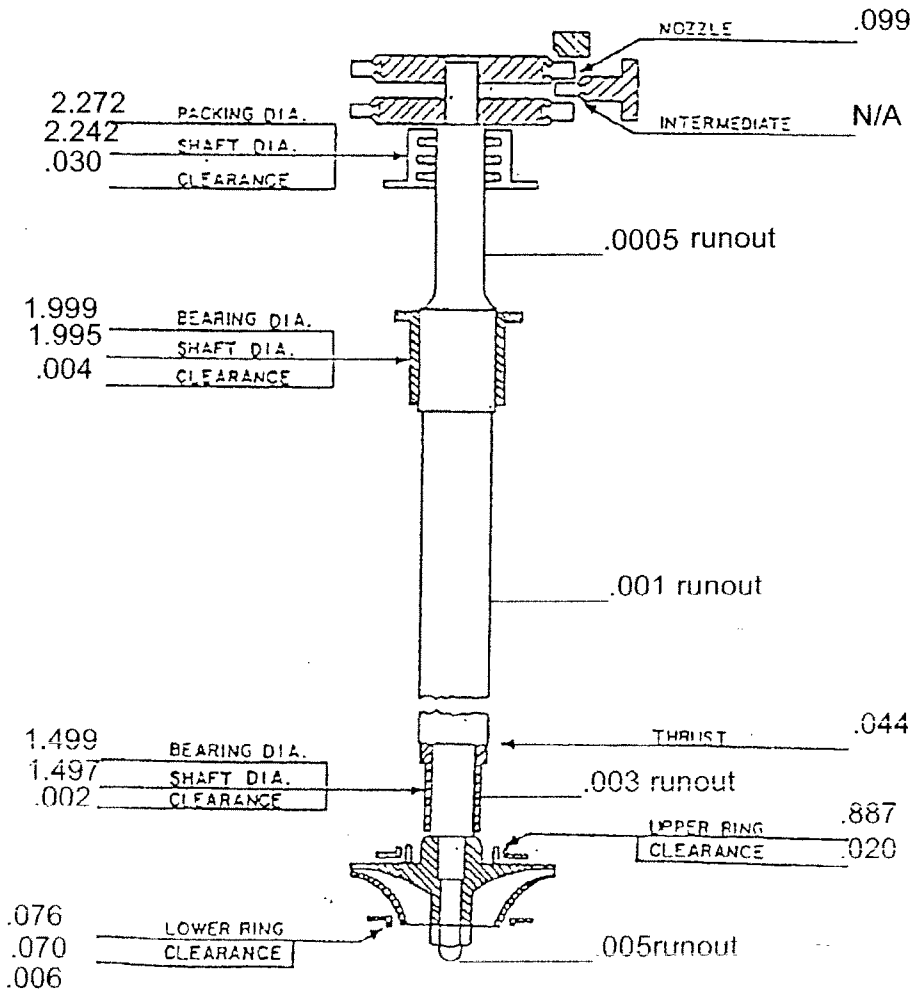
G-2306-W

AUXILIARY PUMP

(TURBINE DRIVEN)

Date 4-18-05 Turbine Serial No. 178416 Prepared By Tim Drader

INSPECTIONS & CHECKS			CODE	
Mechanical Condition	X		X -	Work Carried Out
Internal Clearances	X	As Found	N -	Not Done
Bearing Condition	X		NA -	Not Applicable
			C -	See Comments
			V -	Visual Inspection
			MP -	Mag. Particle
			UT -	Ultrasonic
			PT -	Penetrant

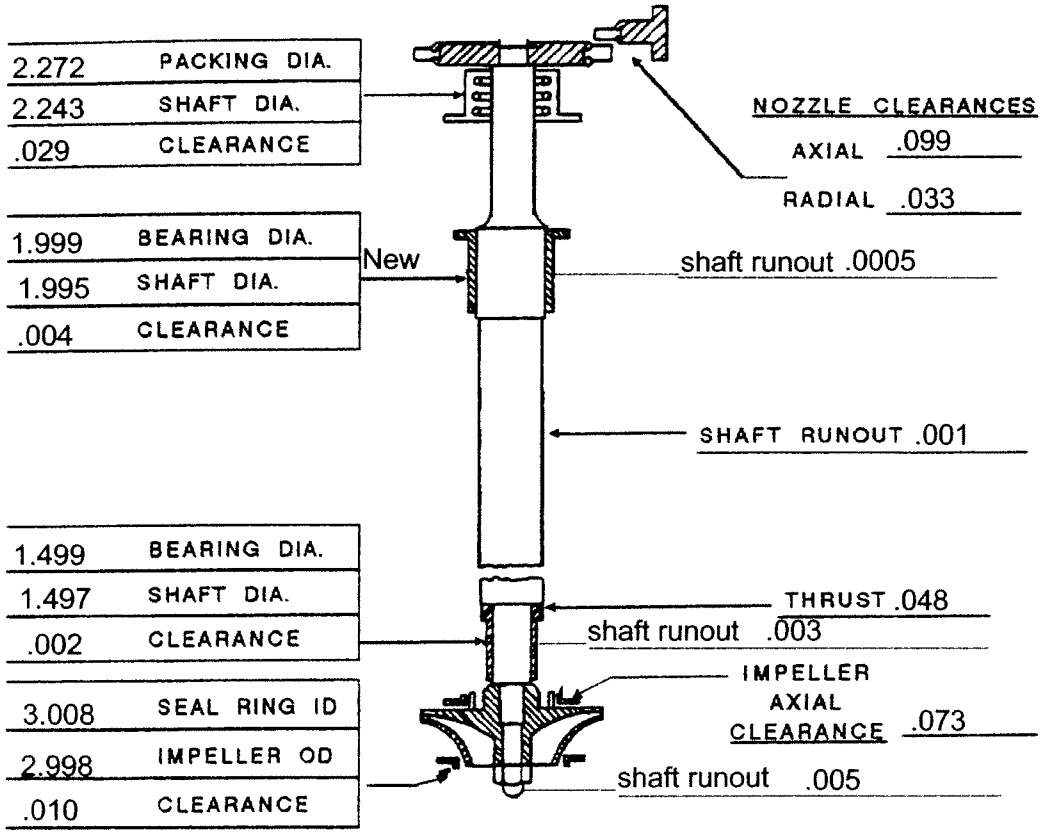


G-1411-N

AUXILIARY OIL PUMP
(TURBINE DRIVEN)

Date 4-19-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTION & CHECKS				CODE
TURBINE DRIVEN	X	Impeller	X	X - Work Carried Out
Mechanical Condition	X	Impeller Seal Ring	X	N - Not Done
Internal Clearances	X	Nozzle Plate	X	NA - Not Applicable
Bearing Condition	X	Packing Ring	X	C - See Comments
Thrust Collar	XXXX	Buckets and Shaft	X	V - Visual Inspection
		FINAL		MP - Mag. Particle
				UT - Ultrasonic
				PT - Penetrant



COMMENTS:

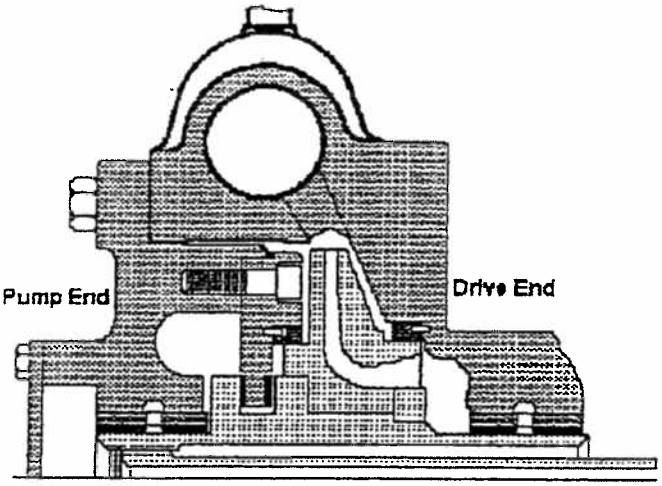
Oil Pump, Main

Shaft Driven-Intermediate Capacity

Date 3-22-05 Turbine Serial No. 178416 Prepared by Timothy Drader

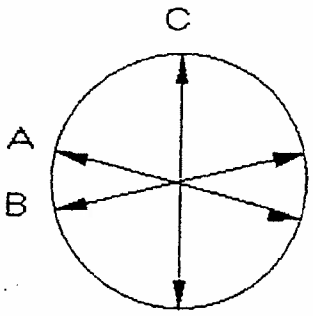
Data As Left

(As Found/Final)



Axial Clearances

	Thrust	Quill
Float/End Play	.006	
Max. Expected Clearance		
Min. Expected Clearance		
Tolerance		



Bearings

	Turbine End			Generator End				Maximum	Minimum	
End	A	B	C	A	B	C	Journal	Clearance	Clearance	Tolerance
Pump	2.003	2.003	2.003	2.003	2.003	2.003	1.999	.004	.004	.004
Drive	2.001	2.001	2.001	2.001	2.001	2.001	1.999	.002	.002	.002
Expected Clearance			Max			Min				

Wear Ring

End	A	B	C	Impeller	Max Clear.	Min. Clear.	Out/Round	Tolerance
Pump	5.979	5.977	5.978	5.969	.010	.008	.002	.008
Drive	5.969	5.968	5.969	5.961	.008	.007	.001	.007
Expected Clearance			Max		Min			

Comment

New bearing out of customer stock was placed in drive end

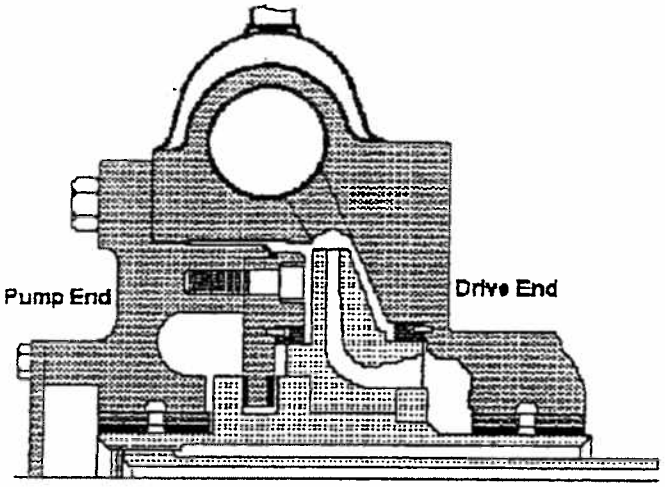
Oil Pump, Main

Shaft Driven-Intermediate Capacity

Date 3-21-05 Turbine Serial No. 178416 Prepared by Timothy Drader

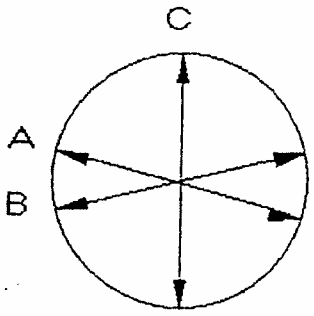
Data As Found

(As Found/Final)



Axial Clearances

	Thrust	Quill
Float/End Play	.006	
Max. Expected Clearance		
Min. Expected Clearance		
Tolerance		



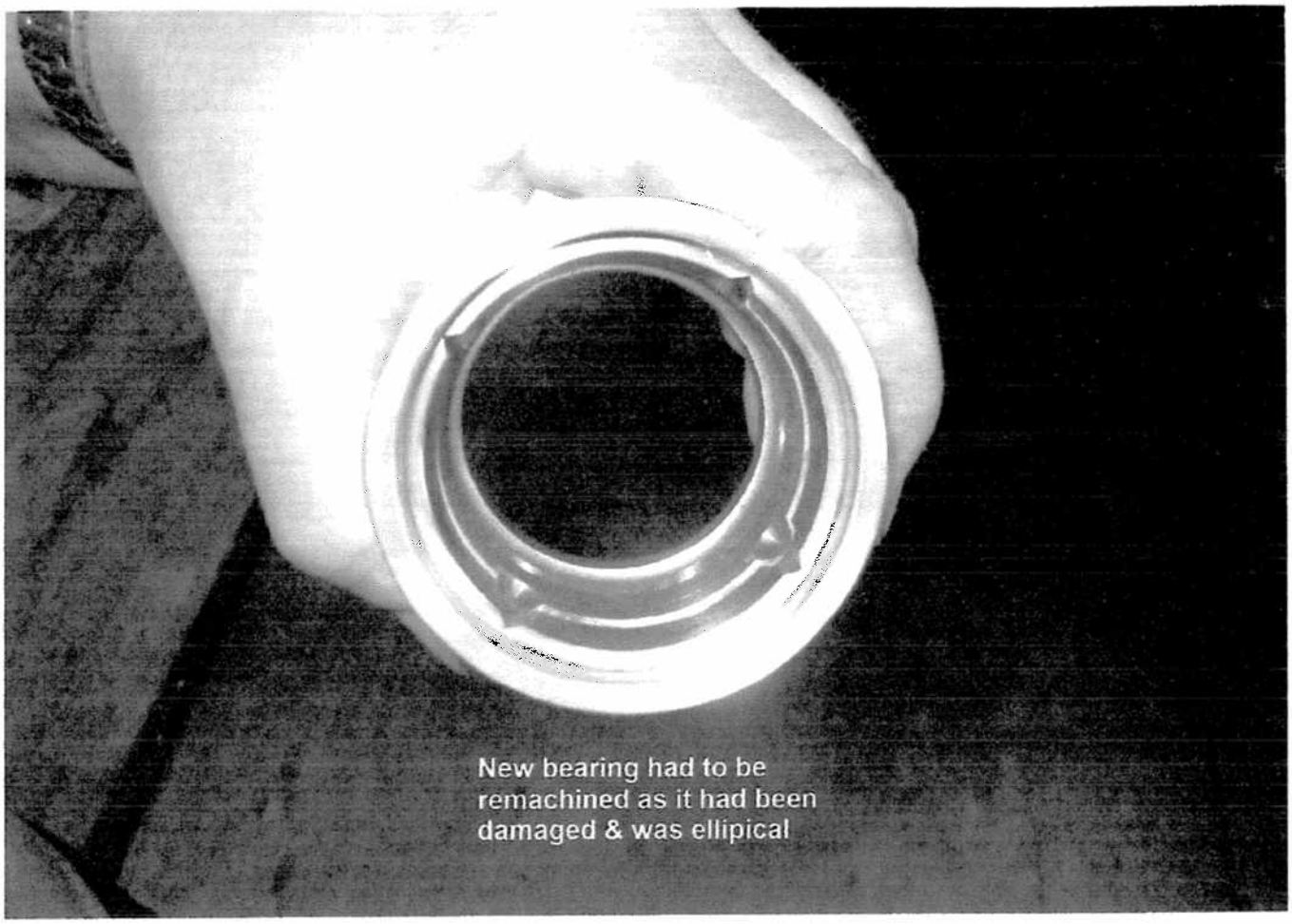
Bearings

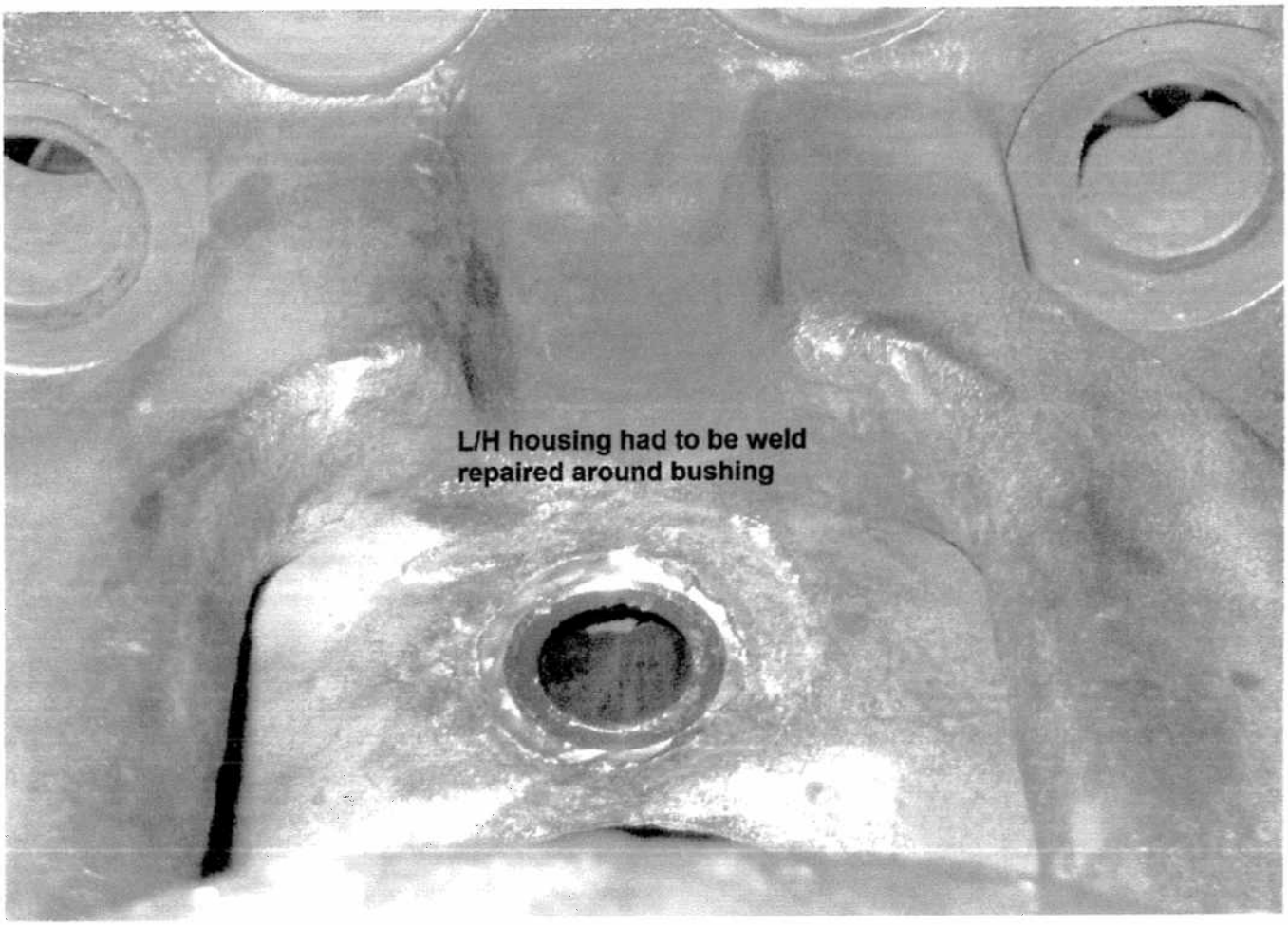
	Turbine End			Generator End				Maximum	Minimum	
End	A	B	C	A	B	C	Journal	Clearance	Clearance	Tolerance
Pump	2.003	2.004	2.003	2.003	2.004	2.003	1.999	.005	.004	.004
Drive	2.004	2.004	2.005	2.004	2.004	2.005	1.999	.006	.005	.004
Expected Clearance			Max		Min					

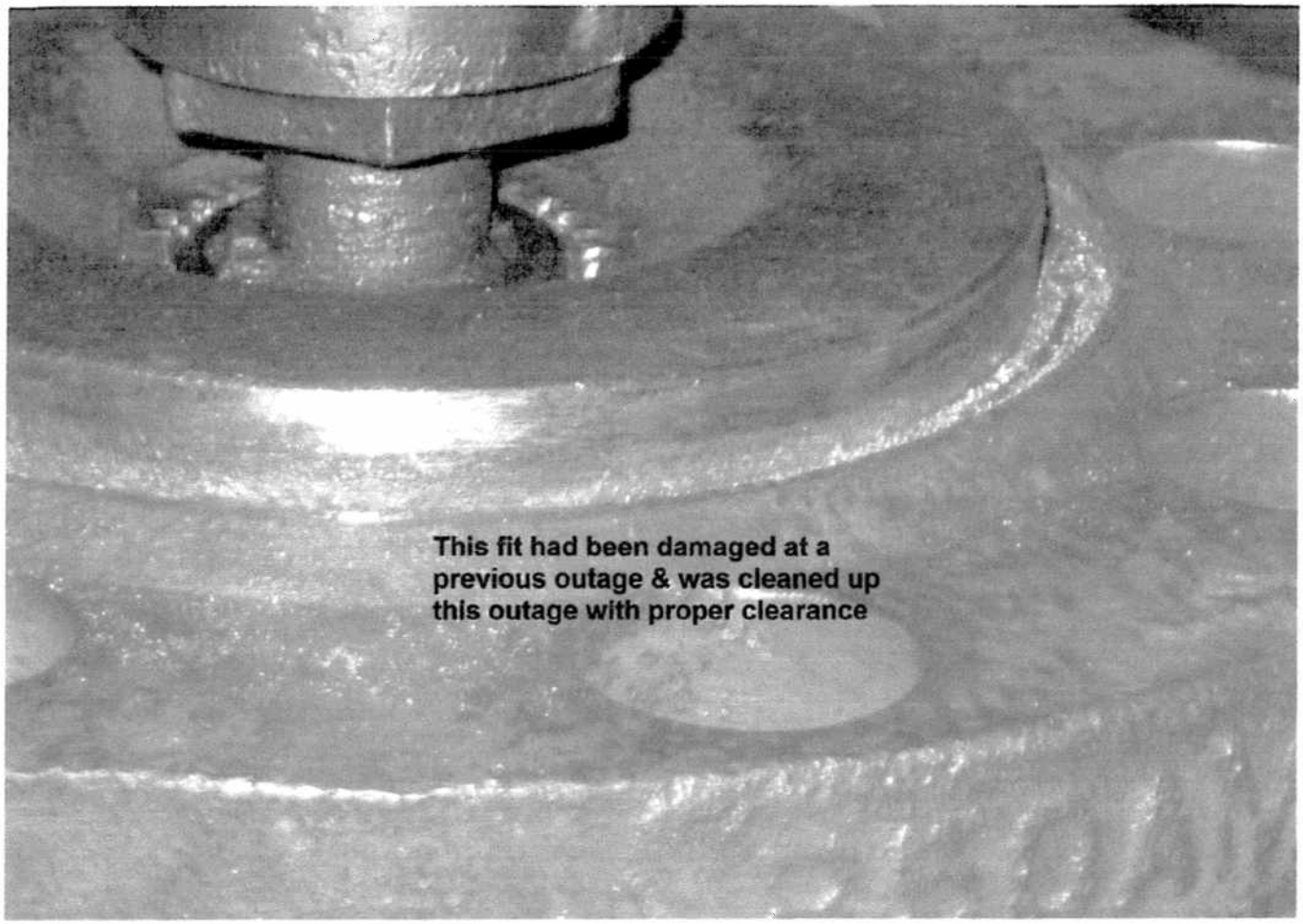
Wear Ring

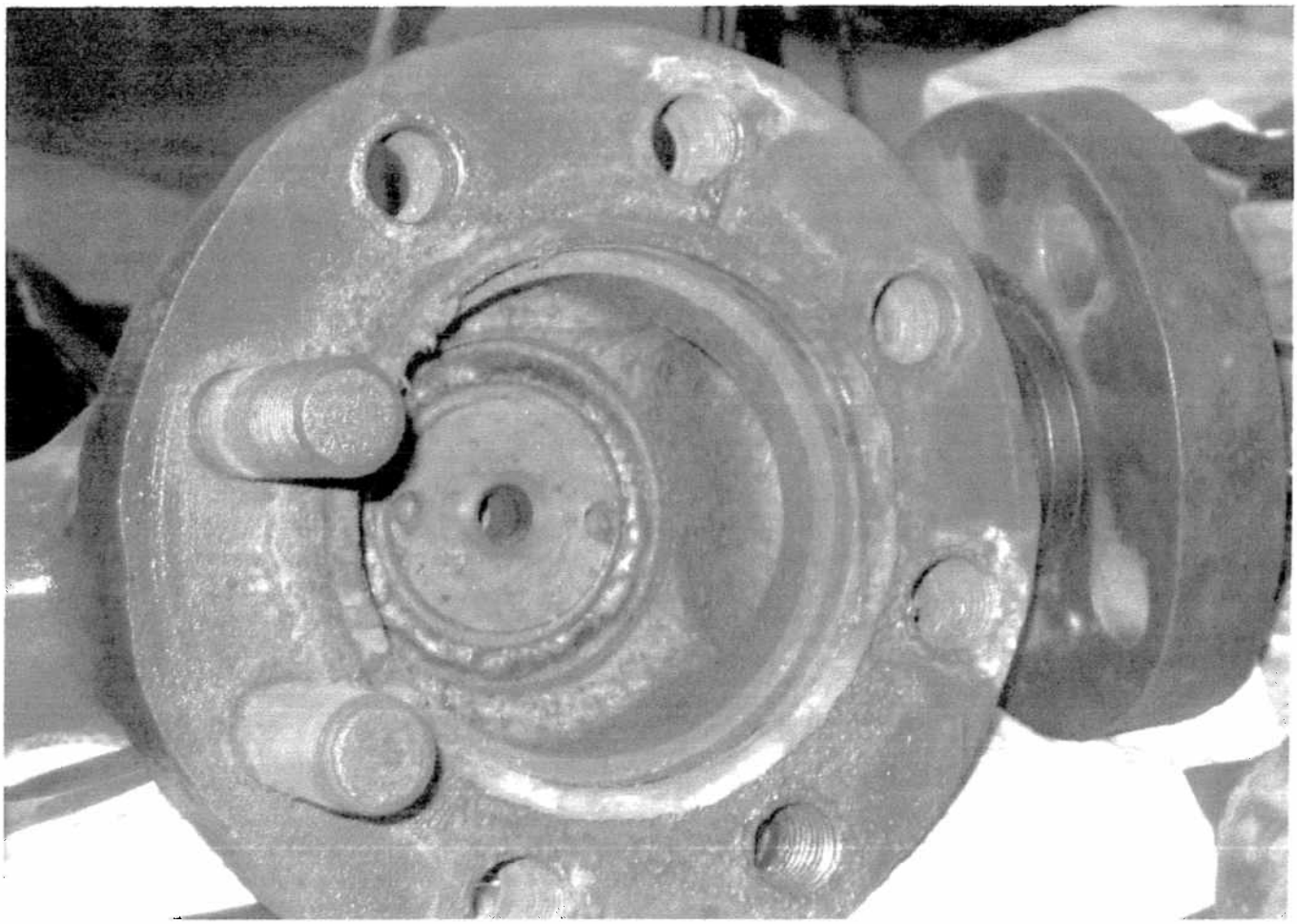
End	A	B	C	Impeller	Max Clear.	Min. Clear.	Out/Round	Tolerance
Pump	5.979	5.977	5.978	5.969	.010	.008	.002	.008
Drive	5.969	5.968	5.969	5.961	.008	.007	.001	.007
Expected Clearance			Max		Min			

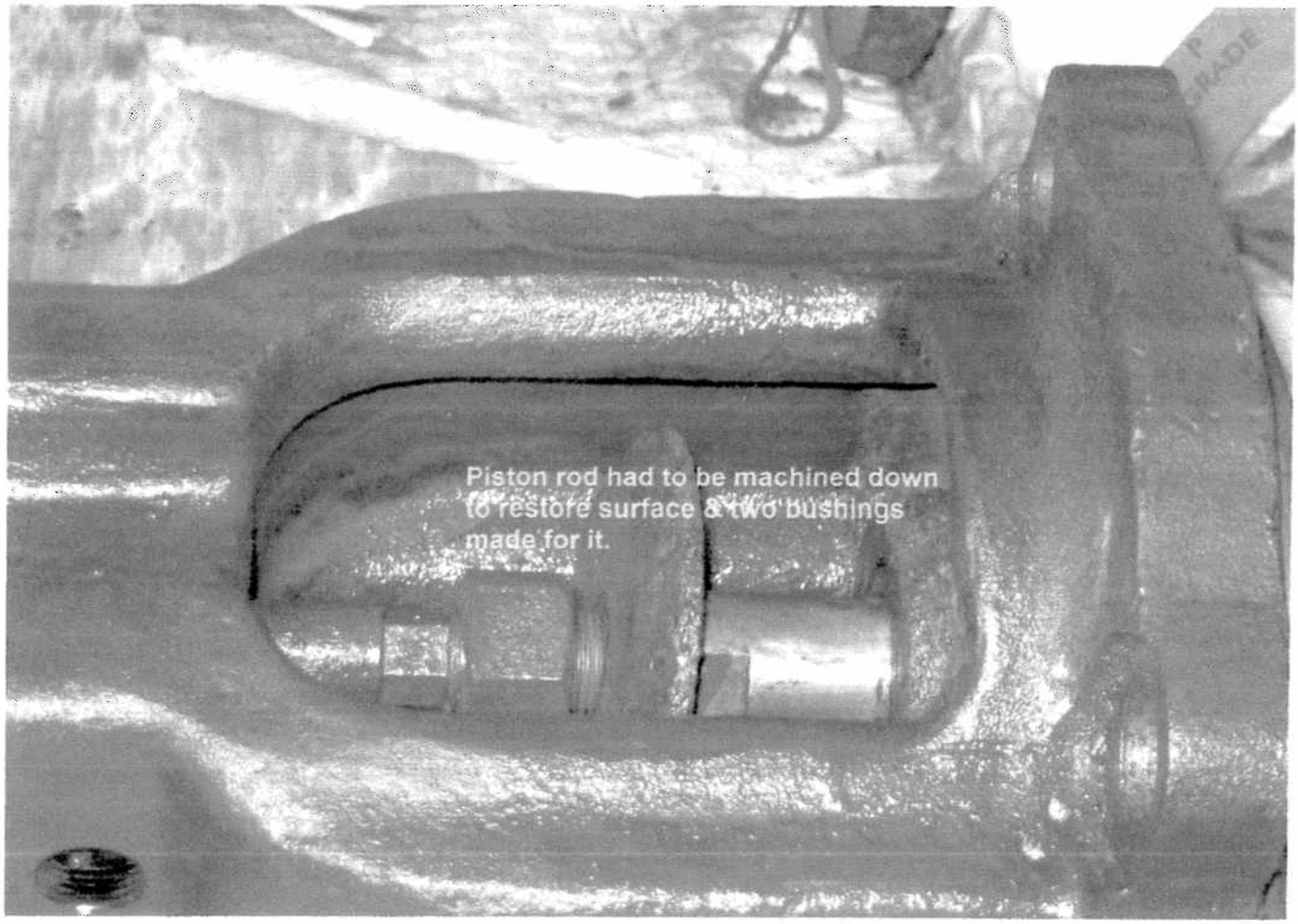
Comment

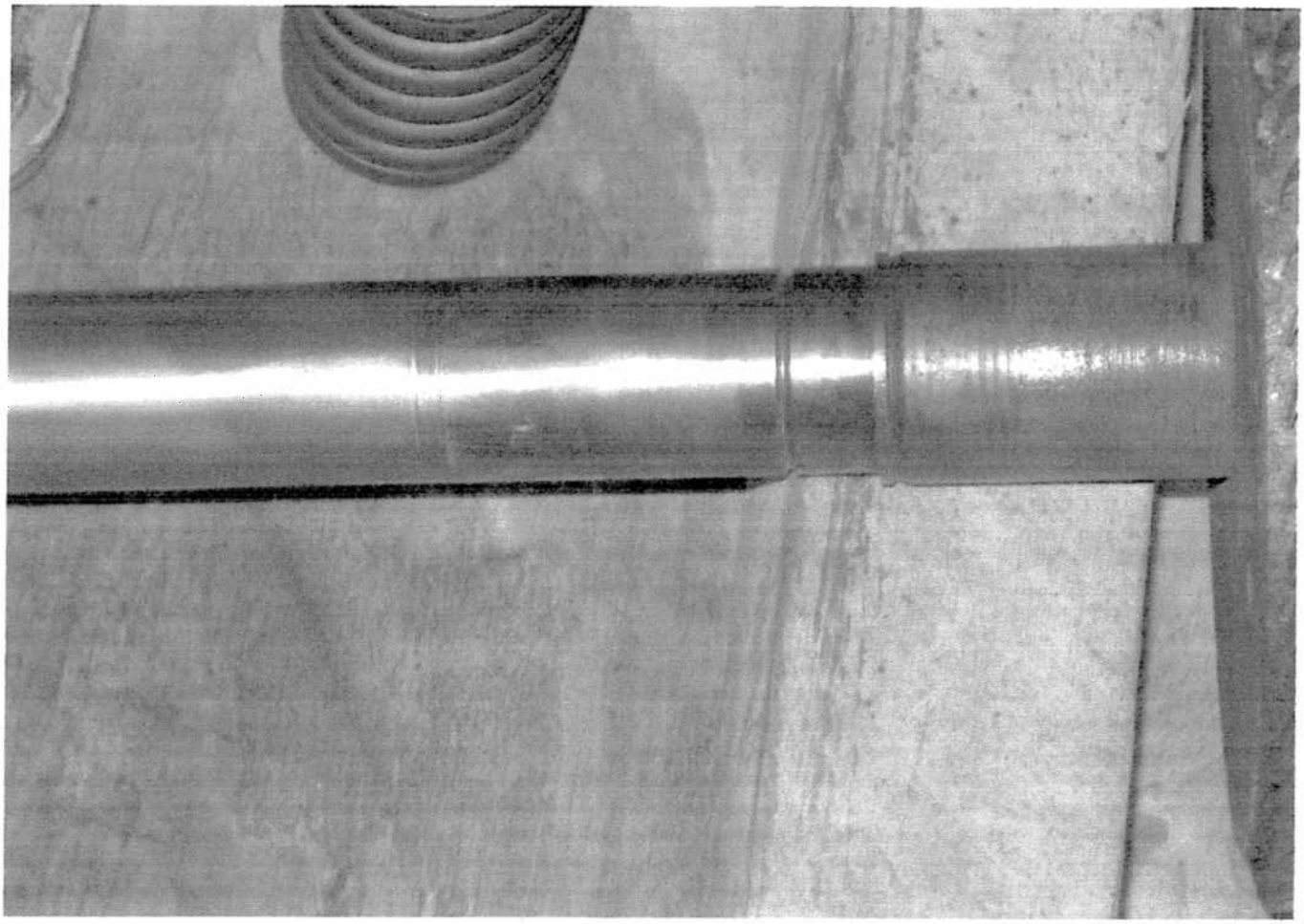

New bearing had to be
remachined as it had been
damaged & was ellipical


L/H housing had to be weld
repaired around bushing


This fit had been damaged at a
previous outage & was cleaned up
this outage with proper clearance




Piston rod had to be machined down
to restore surface & two bushings
made for it.



#2 DIAPHGRAM- was straightened and benched and is a candidate for major repair next outage. The trailing edges are thin and there are ¼ inch impact indications on the majority of the partitions.

#3DIAPHGRAM-Was straightened and benched and a ½ inch weld repair was made on the discharge side of the diaphragm web.

#4DIAPHGRAM-Was straightened and benched and one indication on the lower half discharge side was blended out.

#5DIAPHGRAM-Was straightened and benched and two indications were welded on the lower half intake side.

#6DIAPHGRAM- Was straightened and benched and one 3/16 inch indication on the intake out side wall was blended out.

#7 DIAPHGRAM- Was straightened and benched.

#8 DIAPHGRAM- Was straightened and benched, all trailing edges were polished and one indication on the lower half intake side was blended out.

#9 DIAPHGRAM-was straightened and benched.

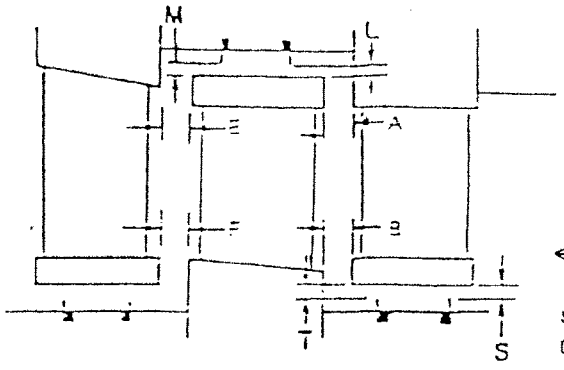
#10 DIAPHGRAM-Was straightened and benched and a ½ inch weld repair was made on the right side horizontal joint.

#11DIAPHGRAM- Was straightened and benched and two indications on the horizontal joint were blended out.

#12 DIAPHGRAM- Was straightened and benched and one indication on the intake side was welded.

#13 DIAPHGRAM-Was straightened and benched and three indications were welded on the upper half intake side.

#14 DIAPHGRAM-Was straightened and benched and twenty five indications were welded on the upper half intake side and twenty indications were welded on lower half intake side and five indications were welded on the exhaust side.



SPINDLE

STEAM FLOW

Spindle set with "L" Dimension of_____

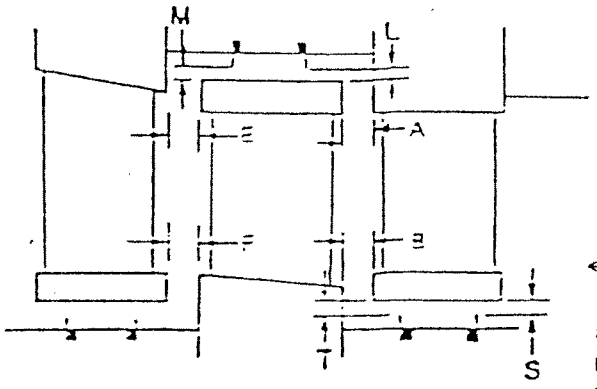
Spindle End Mic_____

CUSTOMER:		
G.O./JOB NO.		S.O.
REACTION BLADING CLEARANCES		
DWG.	SUB	ITEM
BB	COMPONENT	

K=SETTING 2.811

As Found 3-29-05 Rotor at 180

	LEFT SIDE								RIGHTSIDE							
ROW	A	B	L	M	S	T	E	F	A	B	L	M	S	T	E	F
1	.095	.092	.045	.057	n/a	n/a	.077	.073								
2	.341	.305	.025	n/a	n/a	n/a	.054	.049								
3	n/a	n/a	.034	n/a	n/a	n/a	.042	.056								
4	.260	.269	.052	n/a	n/a	n/a	.070	.082								
5	n/a	n/a	.030	n/a	n/a	n/a	.052	.065								
6	.340	.326	.038	n/a	n/a	n/a.	.055	.060								
7	.325	.343	.039	n/a	n/a	n/a	.055	.060								
8	n/a	n/a	.042	n/a	n/a	n/a	.060	.067								
9	n/a	.360	n/a	n/a	n/a	n/a	.065	.136								
10	n/a	n/a	n/a	n/a	n/a	n/a	.080	.140								
11	n/a	.386	n/a	n/a	n/a	n/a	.070	.144								
12	n/a	.498	n/a	n/a	n/a	n/a	.054	.149								
13	n/a	.344	n/a	n/a	n/a	n/a	.057	.164								
14	n/a	n/a	n/a	n/a	n/a	n/a	.088	.251								
15																
16																
17																
18																
19																
20																



SPINDLE

STEAM FLOW ←

Spindle set with "L" Dimension of_____

Spindle End Mic_____

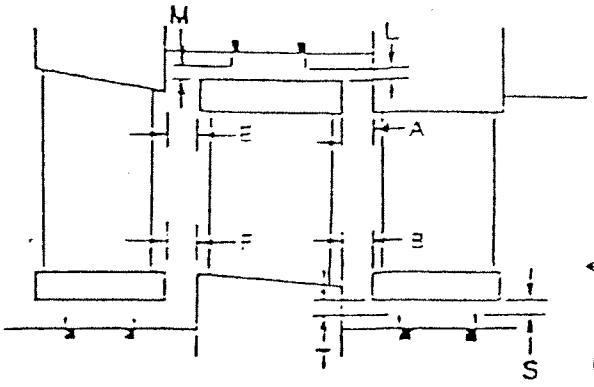
CUSTOMER:	
G.O./JOB NO.	S.O.
REACTION BLADING CLEARANCES	
DWG. SUB	ITEM
BB	COMPONENT

K=SETTING 2.813

As Found

Rotor at -90

	LEFT SIDE								RIGHTSIDE							
ROW	A	B	L	M	S	T	E	F	A	B	L	M	S	T	E	F
1	.090	.091	.047	.065	n/a	n/a	.070	.067								
2	.345	.299	.025	n/a	n/a	n/a	.049	.048								
3	.415	.402	.034	.n/a	n/a	n/a	.047	.064								
4	.259	.270	.050	n/a	n/a	n/a	.070	.092								
5	n/a	n/a	.030	n/a	n/a	n/a	.051	.075								
6	.341	.328	.035	n/a	n/a	n/a	.054	.061								
7	.324	.337	.040	n/a	n/a	n/a	.059	.062								
8	n/a	n/a	.044	n/a	n/a	n/a	.061	.064								
9	n/a	.368	n/a	n/a	n/a	n/a	.062	.135								
10	n/a	n/a	n/a	n/a	n/a	n/a	.080	.140								
11	n/a	.385	n/a	n/a	n/a	n/a	.067	.147								
12	n/a	.504	n/a	n/a	n/a	n/a	.051	.052								
13	n/a	.345	n/a	n/a	n/a	n/a	.085	.162								
14	n/a	n/a	n/a	n/a	n/a	n/a	.066	.247								
15																
16																
17																
18																
19																
20																



SPINDLE

STEAM FLOW

Spindle set with "L" Dimension of_____

Spindle End Mic_____

CUSTOMER:	
G.O./JOB NO.	S.O.
REACTION BLADING CLEARANCES	
DWG. SUB	ITEM
BB	COMPONENT

K=SETTING 2.814

AS FOUND

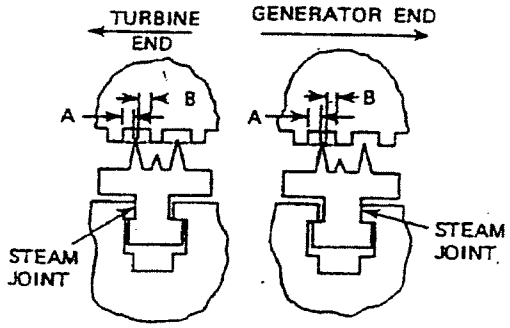
Rotor at 0

	LEFT SIDE								RIGHTSIDE							
ROW	A	B	L	M	S	T	E	F	A	B	L	M	S	T	E	F
1	.099	.092	.050	.050	n/a	n/a	.070	.065	.085	.115	n/a	n/a	n/a	n/a	.135	.133
2	.350	.310	.024	n/a	n/a	n/a	.050	.046	.295	.312	.025	n/a	n/a	n/a	.045	.058
3	.410	.425	.033	n/a	n/a	n/a	.045	.060	.395	.375	.039	n/a	n/a	n/a	.038	.057
4	.268	.281	.050	n/a	n/a	n/a	.064	.077	.295	.205	.061	n/a	n/a	n/a	.067	.089
5	n/a	n/a	.030	n/a	n/a	n/a	.053	.065	n/a	n/a	.044	n/a	n/a	n/a	.052	.065
6	.351	.330	.036	n/a	n/a	n/a	.050	.057	.300	.330	.047	n/a	n/a	n/a	.053	.055
7	.320	.321	.037	n/a	n/a	n/a	.057	.060	.306	.356	.060	n/a	n/a	n/a	.054	.055
8	n/a	n/a	.042	n/a	n/a	n/a	.060	.062	n/a	n/a	.052	n/a	n/a	n/a	.055	.055
9	n/a	.374	n/a	n/a	n/a	n/a	.065	.130	n/a	.355	n/a	n/a	n/a	n/a	.064	.128
10	n/a	n/a	n/a	n/a	n/a	n/a	.079	.148	n/a	n/a	n/a	n/a	n/a	n/a	.080	.039
11	n/a	.384	n/a	n/a	n/a	n/a	.067	.149	n/a	.385	n/a	n/a	n/a	n/a	.066	.039
12	n/a	.522	n/a	n/a	n/a	n/a	.054	.145	n/a	.482	n/a	n/a	n/a	n/a	.055	.148
13	n/a	.346	n/a	n/a	n/a	n/a	.056	.155	n/a	.342	n/a	n/a	n/a	n/a	.055	.169
14	n/a	n/a	n/a	n/a	n/a	n/a	.079	.245	n/a	.245	n/a	n/a	n/a	n/a	.082	.252
15																
16																
17																
18																
19																
20																

LABYRINTH PACKING CLEARANCE RECORD

Final

Date 4-19-05 Turbine Serial No. 178416 Prepared by Tim Drader



N-1

PACKING BOX OR CASING NO.				
RING NO.	A	B	RADIAL LEFT	RADIAL RIGHT
1		New	.018	.010
2		New	.011	.017
3			.018	.012
4		New	.008	.008
5		New	.008	.021
6		New	.008	.020

N-2

PACKING BOX OR CASING NO.				
RING NO	A	B	RADIAL LEFT	RADIAL RIGHT
20			.017	.014
21			.012	.017
22			.031	.005

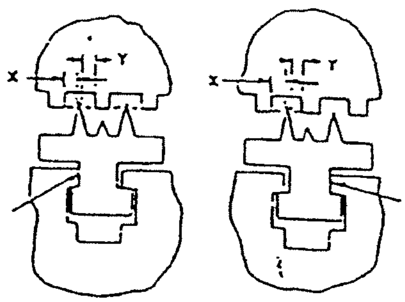
INTERSTAGE DIAPHRAGM PACKING						
RING NO	STA NO	A	B	RADIAL LEFT	RADIAL RIGHT	
7	2		New	.009	.020	
8	3		New	.008	.024	
9	4		New	.010	.021	HP
10	5		New	.005	.027	
11	6		New	.006	.027	
12	7		New	.005	.024	
13	8		New	.009	.024	
14	9			.009	.034	
15	10			.017	.031	
16	11			.025	.035	LP
17	12			.012	.034	
18	13			.060	.012	
19	14			.033	.014	

CLEARANCE AND ALIGNMENT

Date 3-28-05 Turbine Serial No. 178416 Prepared By Tim Drader

TURBINE END GENERATOR END

PACKING CLEARANCES



AS FOUND

STEAM JOINT

STEAM JOINT

STEAM PACKING NO. 1				
RING			RADIAL 1	
NO	X	Y	LEFT	RIGHT
1			.022	.036
2			.o24	.037
3			.026	.004
4			.028	.006
5			.024	.027
6			.029	.031

STEAM PACKING NO.				
RING			RADIAL	
NO	X	Y	LEFT	RIGHT

DIAPHRAGM PACKINGS				
STA			RADIAL	
NO.	X	Y	LEFT	RIGHT
2			.016	.020
3			.012	.024
4			.019	.031
5			.008	.025
6			.024	.036
7			.016	.025
8			.023	.033
9			.009	.029
10			.012	.029
11			.018	.032
12			.014	.014
13			.066	.015
14			.014	.023

STEAM PACKING NO. 2				
RING			RADIAL	
NO.	X	Y	LEFT	RIGHT
1			.018	.018
2			.009	.016
3			.024	.022

STEAM PACKING NO.				
RING			RADIAL	
NO.	X	Y	LEFT	RIGHT

STEAM PACKING NO.				
RING			RADIAL	
NO.	X	Y	LEFT	RIGHT

STEAM PACKING NO.				
RING			RADIAL	
NO.	X	Y	LEFT	RIGHT

PACKING BUTT CLEARANCES

Date 4-14-05 Turbine Serial No 178416 Prepared By Tim Drader

Data Final (As Found/Final) Section N-1-HP/LP-N-2 (HP/LP)

Notes: 1. Packing above Diaphragm record as PLUS (+)
2. Packing below Diaphragm record as MINUS (-)

Vertical Joint Clearance Max _____ Mils
Vertical Joint Clearance Min _____ Mils
Levelness Maximum 1 Mils/Inch

	Lower Half							Upper Half					
Stage	Left Mils	Right Mils						Left Mils	Right Mils	Actual	Expected	Diff.	Final
R-1	-.060	0		New				0	+.042	-.018	-.023	+.005	-.018
R-2	-.070	0		New				0	-.053	-.123	-.035	-.088	-.123
R-3	-.043	0		Old				0	-.100	-.143	-.052	-.091	-.143
R-4	+.017	0		New				0	-.016	+.001	-.067	+.068	-.067
R-5	-.093	0		New				0	-.051	-.082	-.082	-.062	-.144
R-6	-.052	0		New				0	+.013	-.039	-.097	+.058	-.097
R-7	-.017	0		New				0	-.059	-.076	-.115	+.039	-.115
R-8	-.059	0		New				0	-.012	-.071	-.106	+.035	-.106
R-9	-.048	0		New				0	-.001	-.049	-.098	+.049	-.098
R-10	-.040	0		New				0	-.003	-.043	-.089	+.046	-.089
R11	-.036	0		New				0	-.012	-.048	-.086	+.038	-.086
R12	-.016	0		New				0	-.010	-.026	-.077	+.051	-.077
R-13	-.010	0		New				0	-.054	-.064	-.068	+.004	-.064
R-14	-.043	0		Old				0	-.006	-.049	-.063	+.014	-.049
R-15	-.124	0		Old				0	+.070	-.054	-.053	-.001	-.054
R-16	-.052	0		Old				0	+.029	-.023	-.043	+.020	-.023
R-17	-.007	0		Old				0	-.037	-.044	-.033	-.011	-.044
R18	0	0		Old				0	+.058	+.058	-.023	+.081	+.081
R-19	-.104	0		Old				0	+.090	-014	-.018	+.004	-.014
R-20	-.070	0		Old				0	-.065	-.135	-.035	-.100	-.135
R-21	-.043	0		Old				0	-.064	-.107	-.027	-.080	-.107
R-22	-.058	0		Old				0	-.082	-.140	-.023	-.117	-.140

G-1209-L

PACKING BUTT CLEARANCES

Date 4-12-05 Turbine Serial No 178416 Prepared By Tim Drader

Data As Found (As Found/Final) Section N-1HP/LP-N2 (HP/LP)

Notes: 1. Packing above Diaphragm record as PLUS (+)
2. Packing below Diaphragm record as MINUS (-)

Vertical Joint Clearance Max _____ Mils
Vertical Joint Clearance Min _____ Mils
Levelness Maximum 1 Mils/Inch

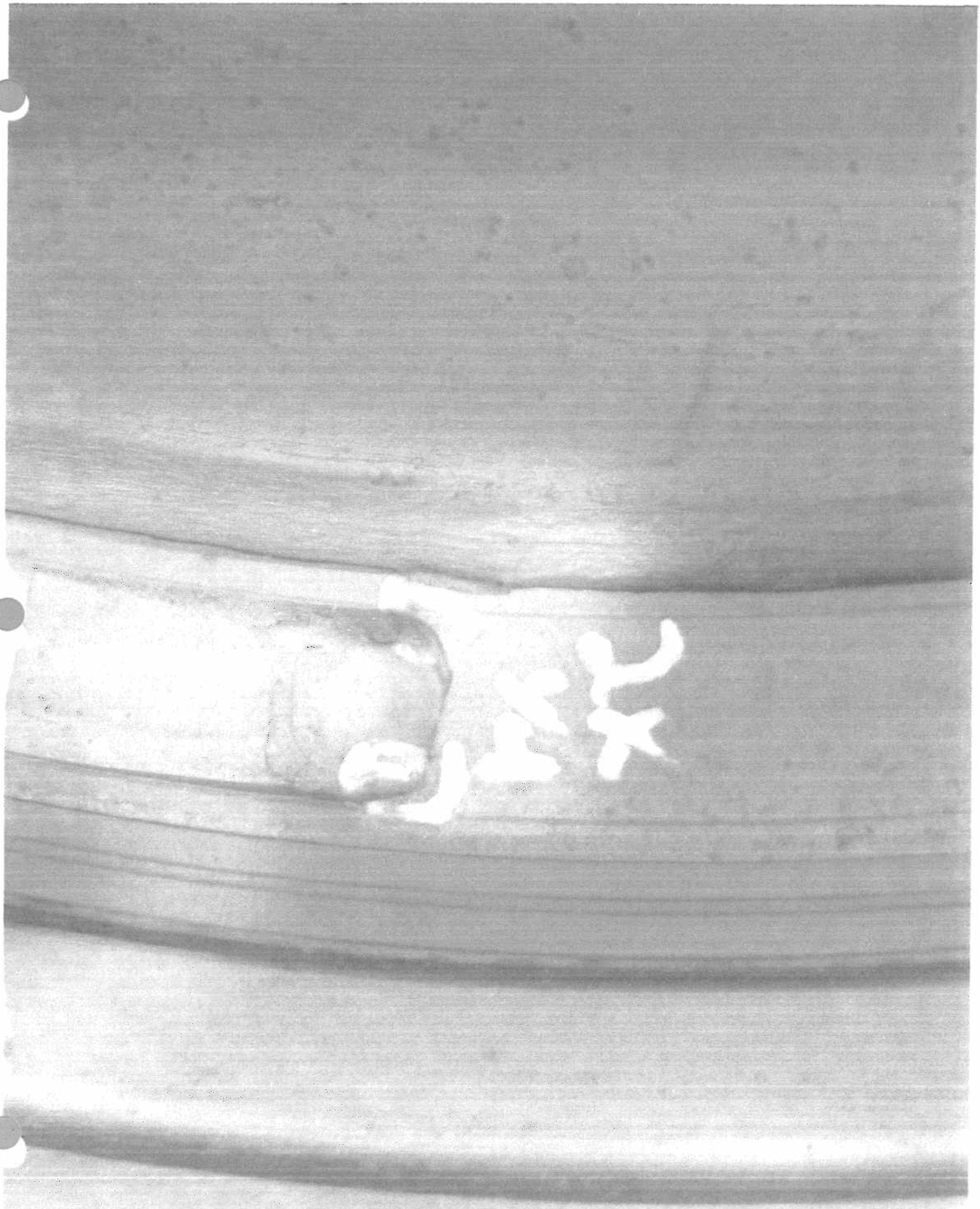
	Lower Half							Upper Half					
Stage	Left Mils	Right Mils						Left Mils	Right Mils		Actual		Expected
1	-.084	0						0	-.033		-.117		-.023
2	-.047	0						0	-.061		-.108		-.035
3	-.043	0						0	-.100		-.143		-.052
4	-.062	0						0	-.085		-.147		-.067
5	-.093	0						0	-.083		-.176		-.082
6	-.054	0						0	-.137		-.191		-.097
7	-.058	0						0	-.068		-.126		-.115
8	-.127	0						0	-.008		-.135		-.106
9	-.036	0						0	-.052		-.088		-.098
10	-.087	0						0	-.030		-.117		-.089
11	-.024	0						0	-.096		-.120		-.086
12	-.074	0						0	-.024		-.098		-.077
13	-.093	0						0	-.063		-.156		-.068
14	-.043	0						0	-.006		-.049		-.063
15	-.124	0						0	+.070		-.054		-.053
16	-.052	0						0	+.029		-.023		-.043
17	-.007	0						0	-.037		-.044		-.033
18	0	0						0	+.58		+.058		-.023
19	-.104	0						0	+.090		-.014		-.018
20	-.070	0						0	-.065		-.135		-.035
21	-.043	0						0	-.064		-.107		-.027
22	-.058	0						0	-.082		-.140		-.023

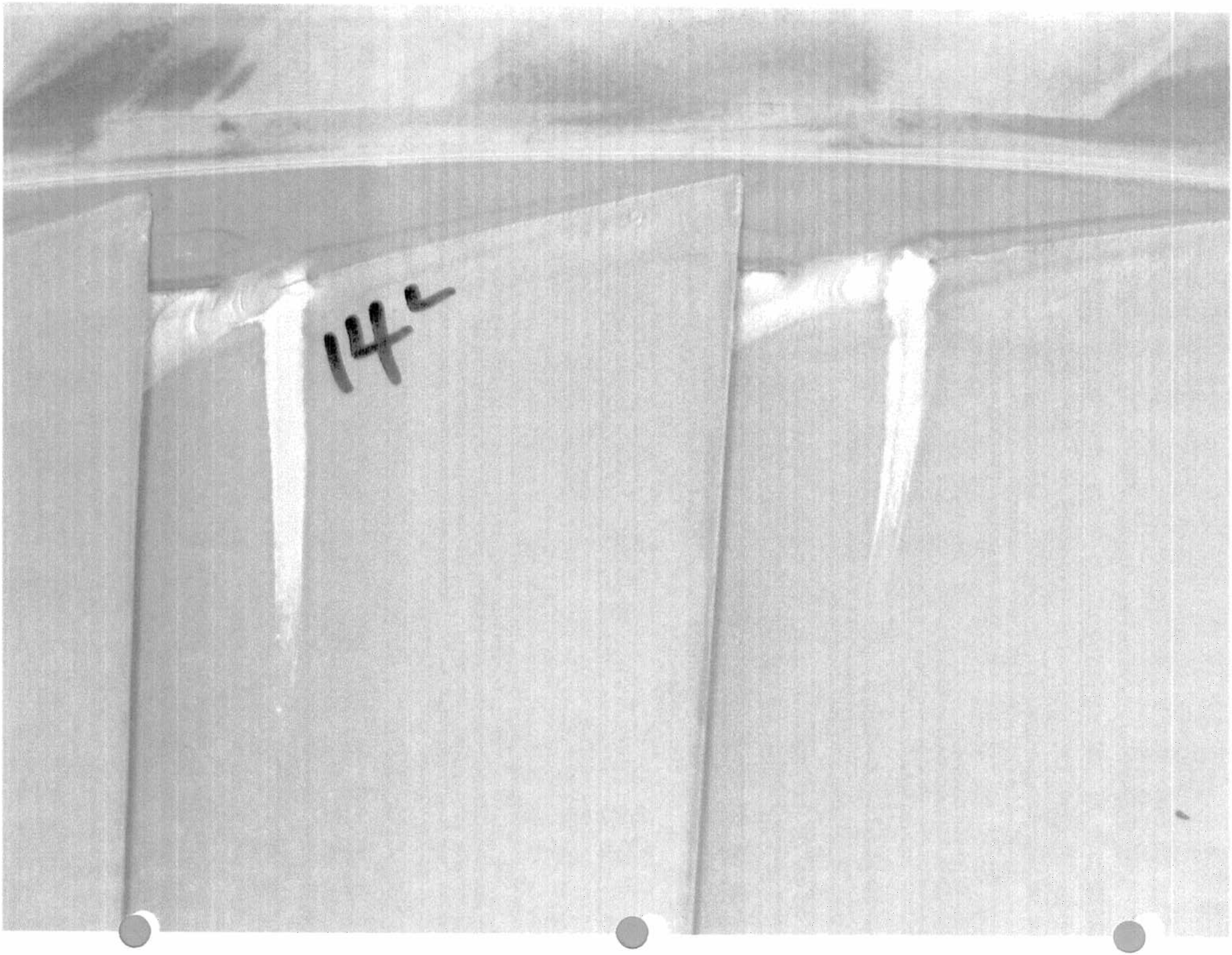
N-1 / HP / LP / N-2

G-1209-L

BRONZE ROW #	BUTT CLEARANCE CO-EFFICIENT	HOOK DIAMETER	STAGE TEMP	AMBIENT	MARGIN	MULTIPLIER	TOTAL BUTT CLEARANCE
1	0.0000109	9.500	250	78	0.005	1	0.023
2	0.0000109	12.500	300	78	0.005	1	0.035
3	0.0000109	13.500	400	78	0.005	1	0.052
4	0.0000109	13.500	500	78	0.005	1	0.067
5	0.0000109	13.500	600	78	0.005	1	0.082
6	0.0000109	13.500	700	78	0.005	1	0.097
7	0.0000109	13.500	825	78	0.005	1	0.115
8	0.0000109	13.500	767	78	0.005	1	0.106
9	0.0000109	13.500	709	78	0.005	1	0.098
10	0.0000109	13.500	651	78	0.005	1	0.089
11	0.0000109	14.500	593	78	0.005	1	0.086
12	0.0000109	14.500	535	78	0.005	1	0.077
13	0.0000109	14.500	477	78	0.005	1	0.068
14	0.0000109	15.500	419	78	0.005	1	0.063
15	0.0000109	15.500	361	78	0.005	1	0.053
16	0.0000109	15.500	303	78	0.005	1	0.043
17	0.0000109	15.500	245	78	0.005	1	0.033
18	0.0000109	15.500	187	78	0.005	1	0.023
19	0.0000109	22.500	129	78	0.005	1	0.018
20	0.0000109	13.500	280	78	0.005	1	0.035
21	0.0000109	13.500	230	78	0.005	1	0.027
22	0.0000109	13.500	200	78	0.005	1	0.023

62

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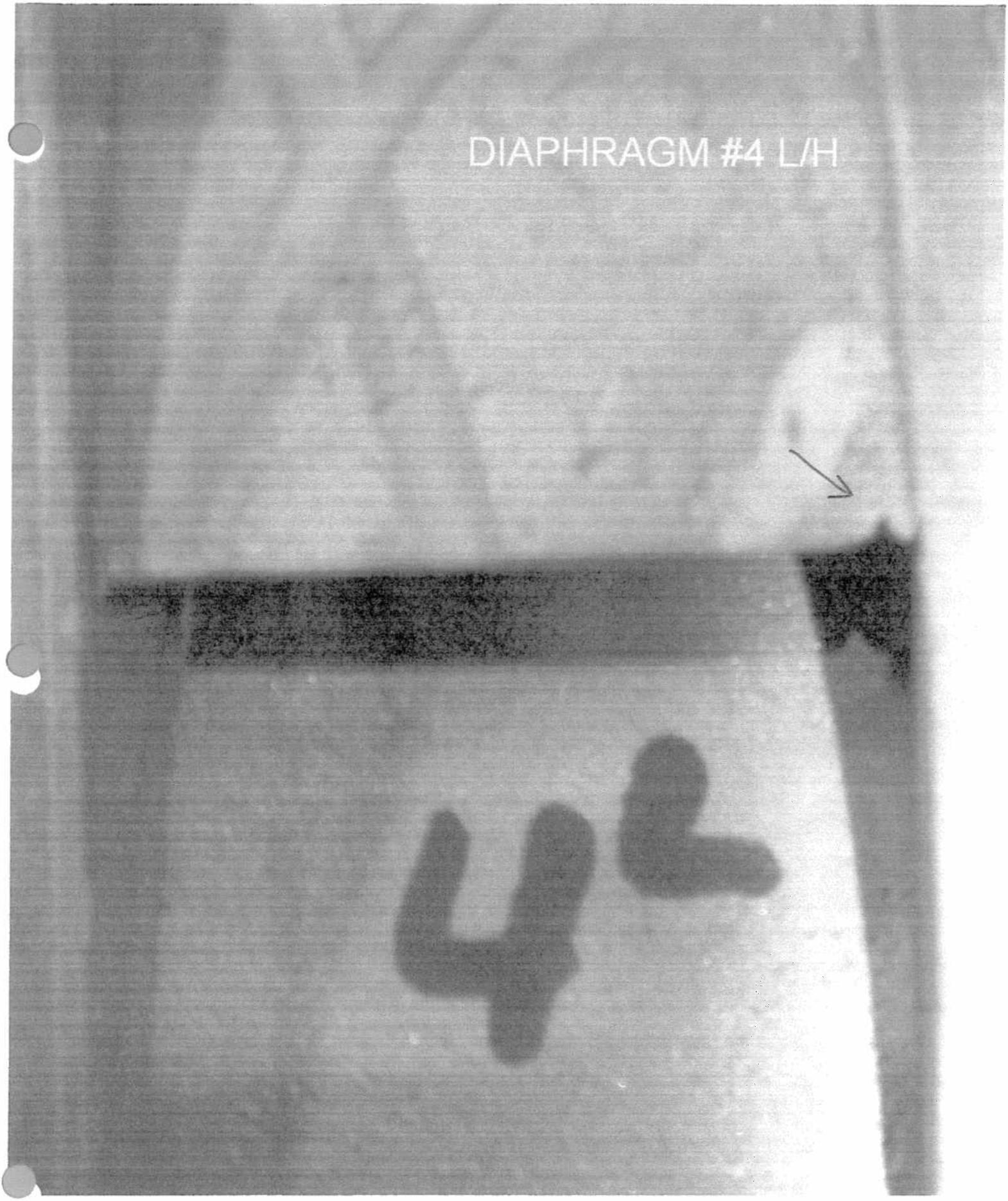
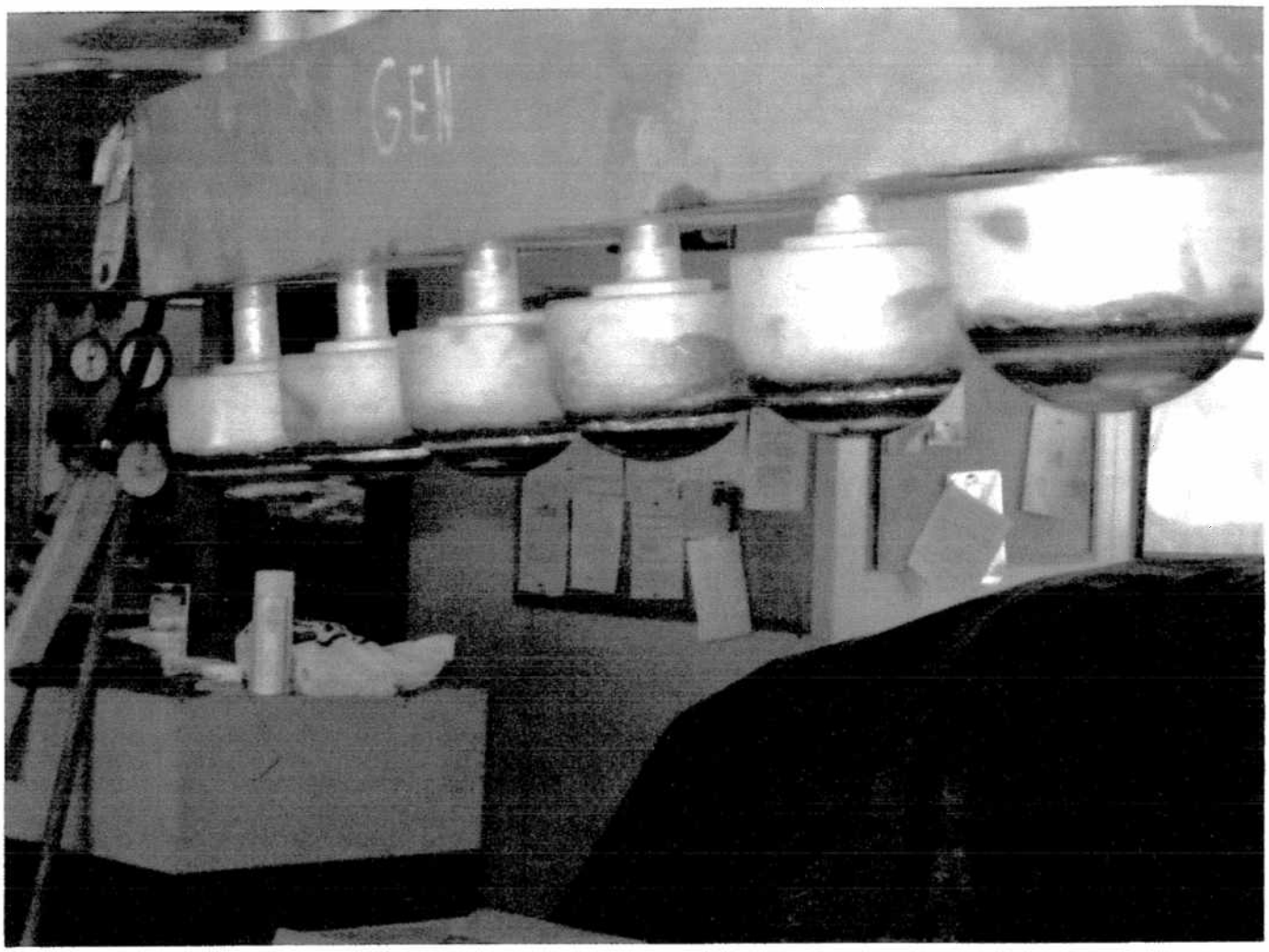

DIAPHRAGM #4 L/H

DIAPHRAGM #1

DIAPHRAGM #12
U/H
12"

CONTROL VALVES

The control valves were removed and disassembled the horizontal joints and spot faces were sandblasted. The valves were then reassembled and blue checked. The numbers 2-3-4&5 valve seats needed minor lapping before they blue checked ok. The valves and the seats had some pitting above the seat and may require more than just minor repair the next outage .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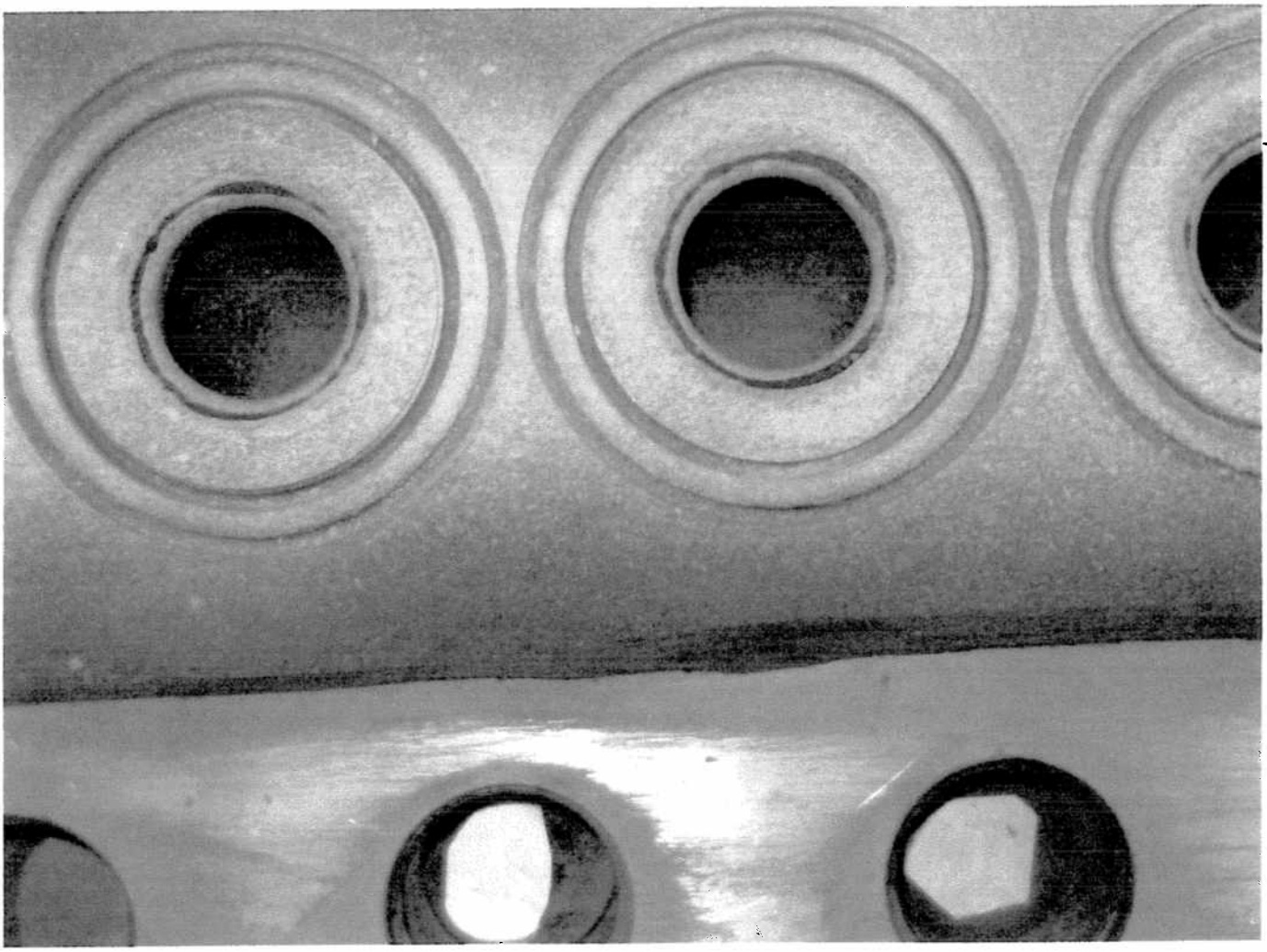

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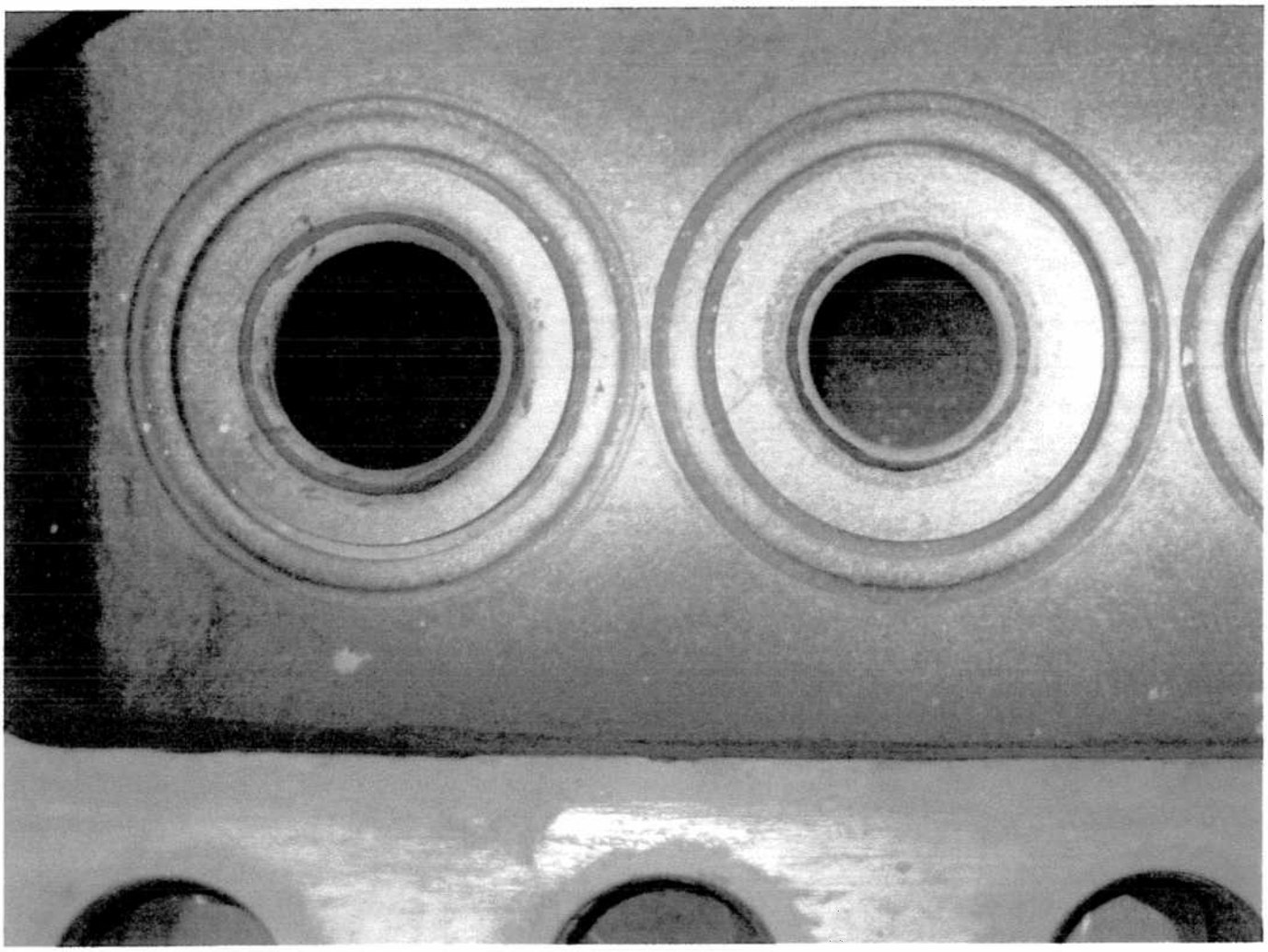
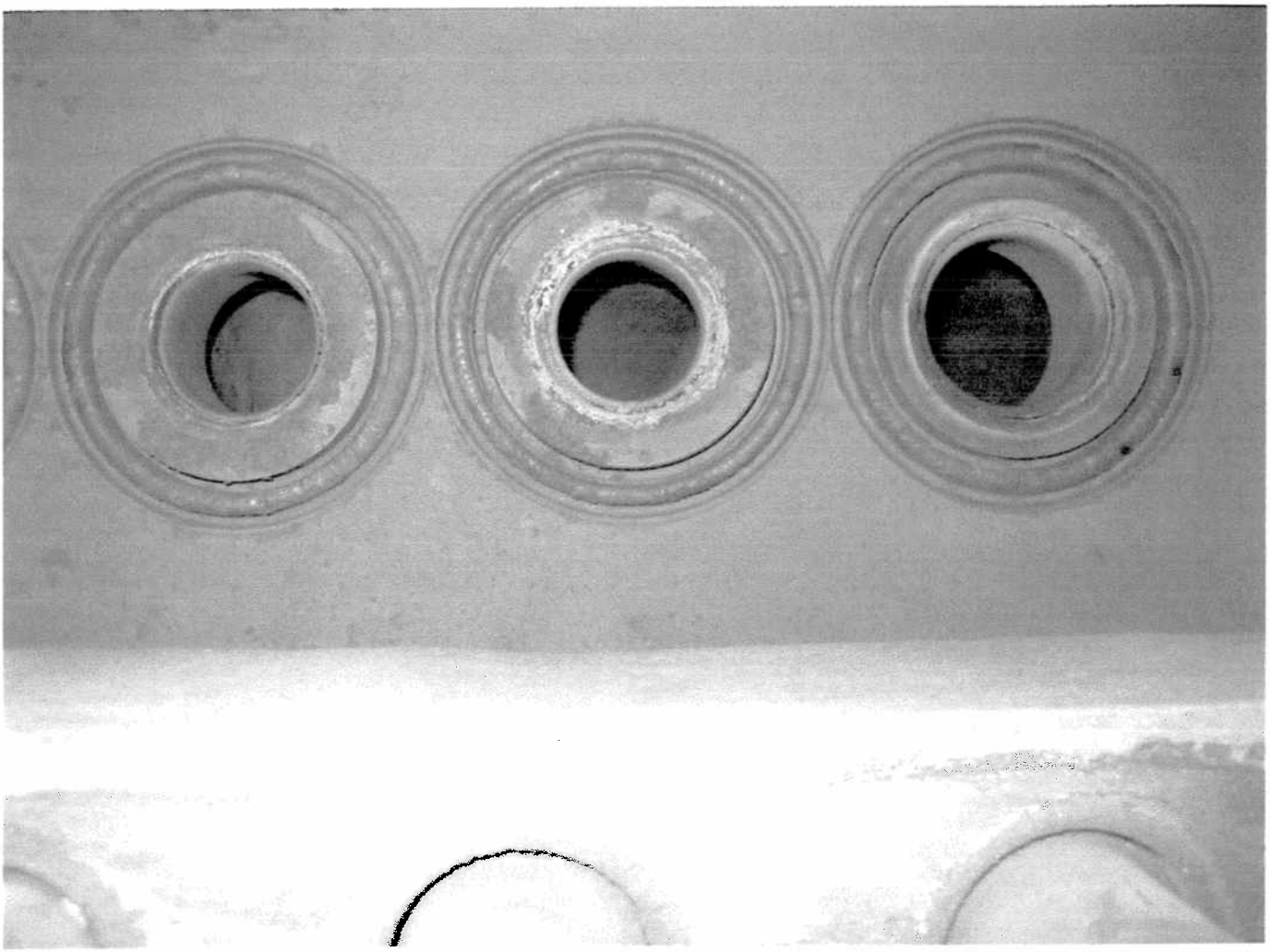
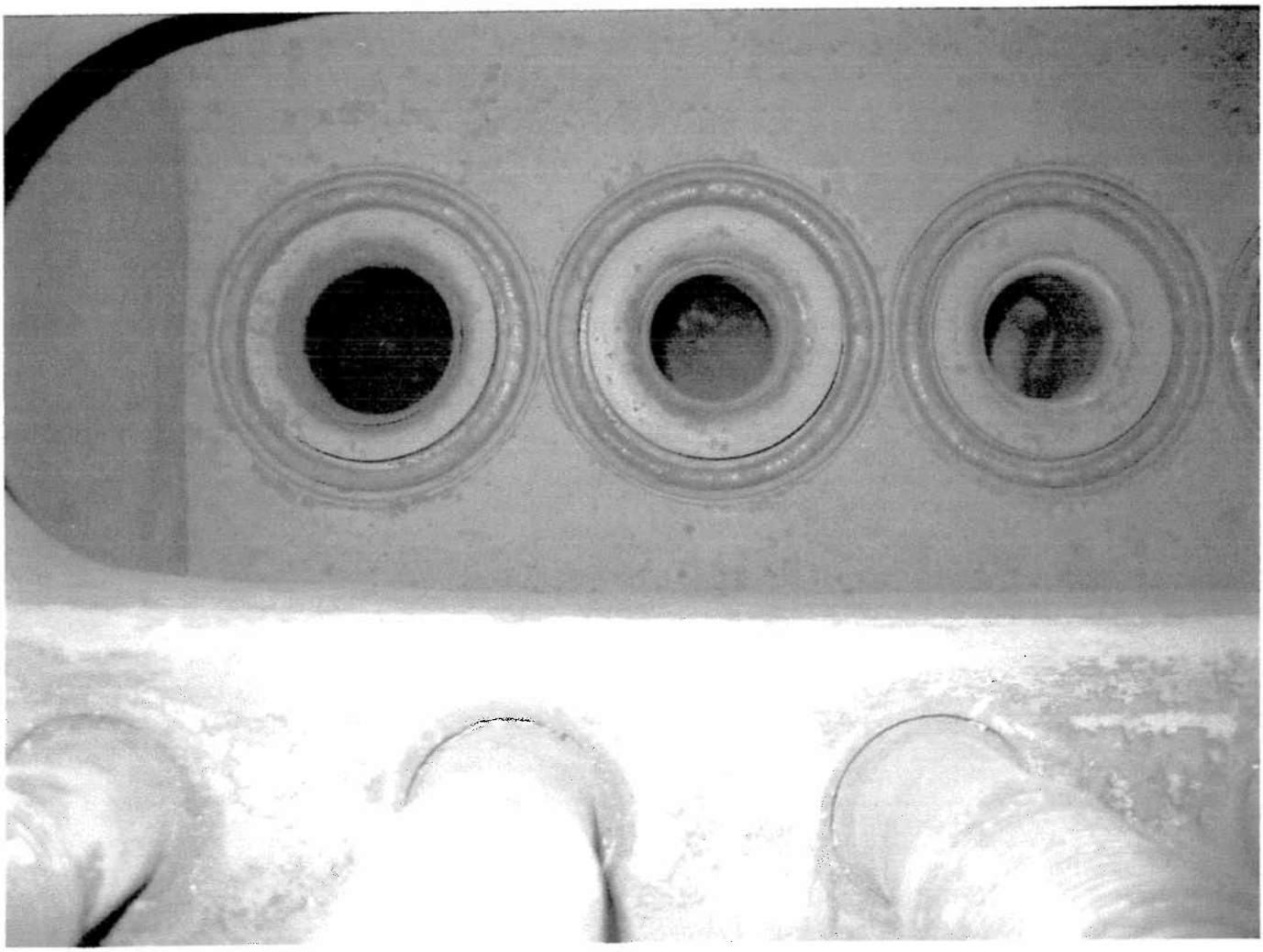






CONTROL SYSTEM

Stage 5 nonreturn valve – The valve actuator and controller had not been working prior to the outage when the unit was disassembled there was lots of corrosion and scale in the actuator and controller. The unit was cleaned and clearance readings taken then reassembled with a new shaft made by a local machine shop and new packing rings installed, This actuator was also equipped with two ball valves on the two air lines as the customer wanted the ability to shut it off while the unit was running.

Stage 8 nonreturn valve – The valve actuator and controller were completely rebuilt with new kit installed at reassembly. The nonreturn valve itself was disassembled NDE tested cleaned and New packing was also used at reassembly.

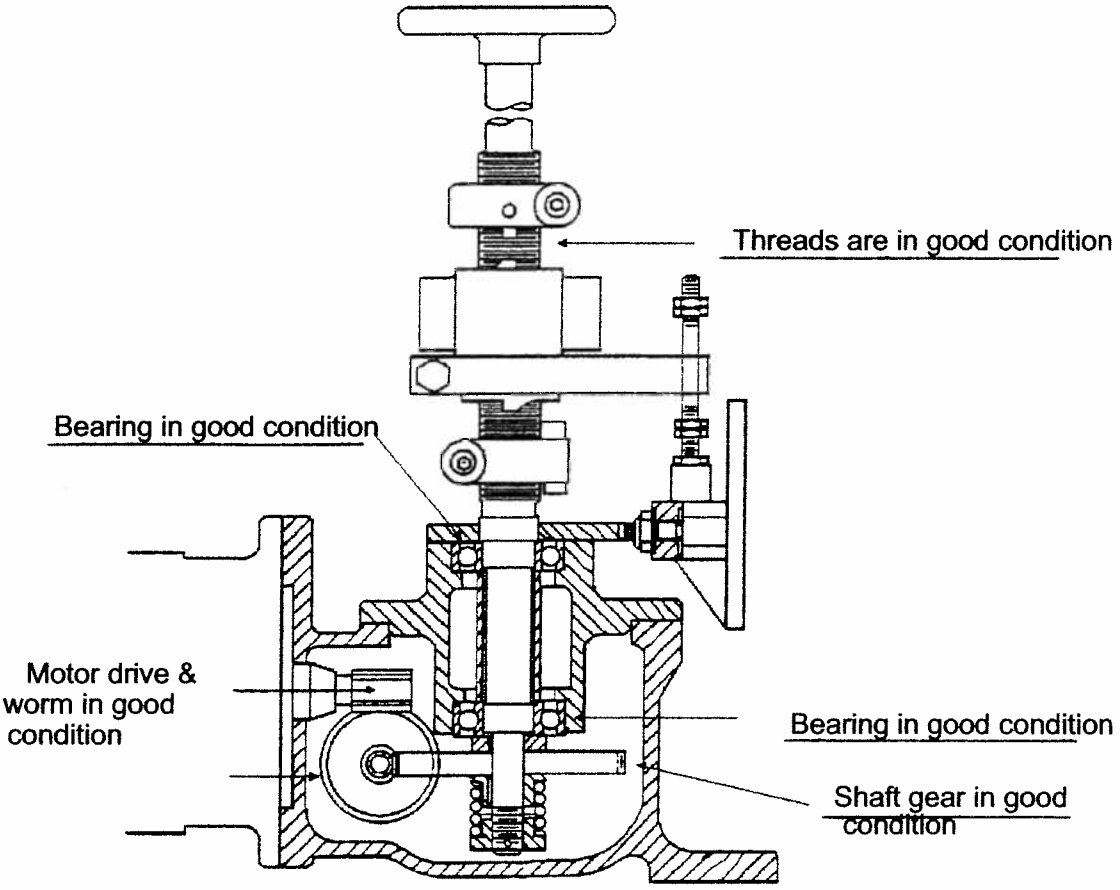
Stage 12 nonreturn valve- the valve, actuator and controller were completely disassembled cleaned NDE tested and reassembled with a new actuator kit. This non return valve actuator piston rod requires a nut and washer under the nonreturn valve control arm as well as one on the topside of the control arm to assist with the opening of the valve. It was installed and proper clearance set at this outage.

Front standard- was completely disassembled all components and controllers were cleaned and measurements were taken (See data sheets).

SYNCHRONIZING DEVICE

Date 4-28-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTION & CHECKS				CODE
Shaft Inspected	V	Low Speed Stop Set	X	X - Work Carried Out
Bearings Inspected	V	High Speed Stop Set	X	N - Not Done
Gears Inspected	V	Limit Switches Set	X	NA - Not Applicable
Motor Inspected	N			C - See Comments
Grease Replaced	X			V - Visual Inspection



COMMENTS:

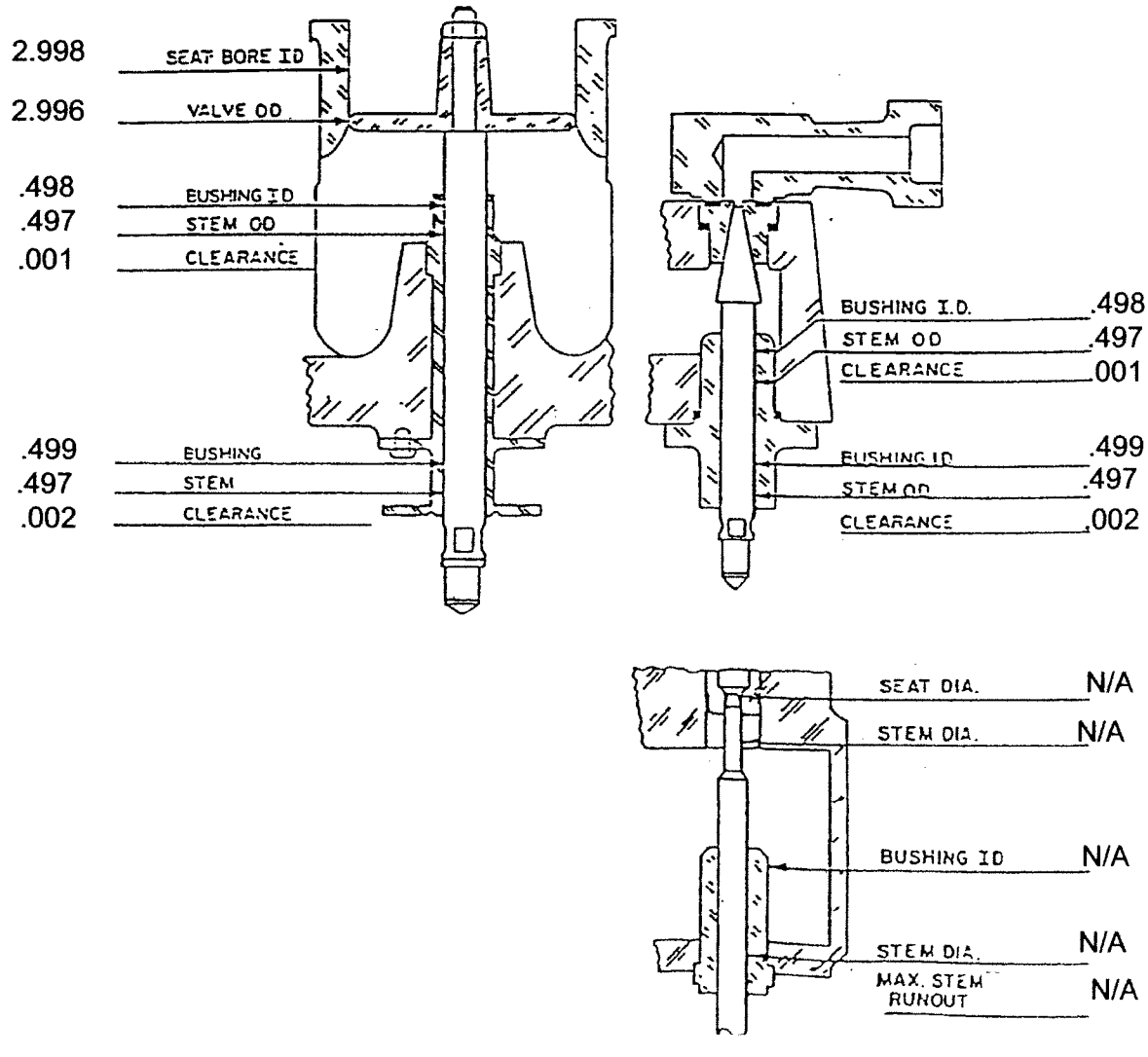
Unit was reassembled and more grease added

STEAM SEAL REGULATOR

Date 4-5-05 Turbine Serial No. 178416 Prepared By Tim Drader

As Found / As Left

INSPECTIONS & CHECKS				CODE	
Check Regulator-steam Side	X	Water Pot Filled	X	X -	Work Carried Out
Check Regulator-oil Side	X	Pilot Valve Movement Checked	X	N -	Not Done
Check Relief Valves	X	Regulator Stable	N	NA -	Not Applicable
Check Diverting Valve	X	Packing System Pressure	X	C -	See Comments
Feed Valve(s)	X			V -	Visual Inspection
Inspect Unloading Valve	X			MP -	Mag. Particle
Inspect Gland Exhauster	X			UT -	Ultrasonic
Fluid Restorer Oil Level Checked	X			PT -	Penetrant



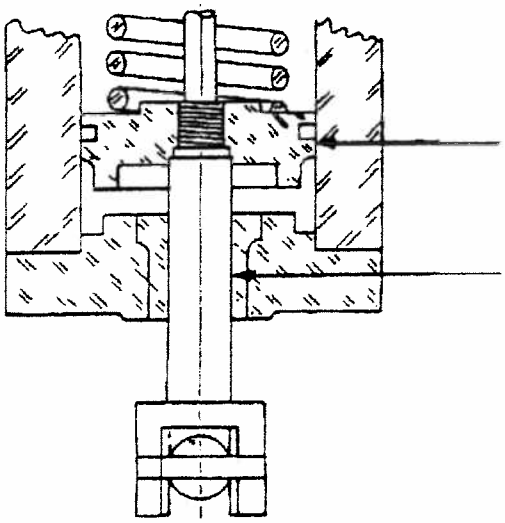
G-2307-W

SPEED RELAY

Date 4-28-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTION & CHECKS				CODE
Dimensional Checks	X	Stem Bushing Condition	X	X - Work Carried Out
Piston Ring Condition	X	Linkages Inspected	V	N - Not Done
Piston Spring Condition	V	As Found/As Left		NA - Not Applicable
Cylinder Condition	X			C - See Comments
Stem Condition	X			V - Visual Inspection

SPEED RELAY



	As Found	As Left
CYLINDER ID	3.121	3.121
PISTON OD	3.118	3.118
CLEARANCE	.003	.003
BUSHING ID	1.125	1.125
STEM OD	1.123	1.123
CLEARANCE	.002	.002

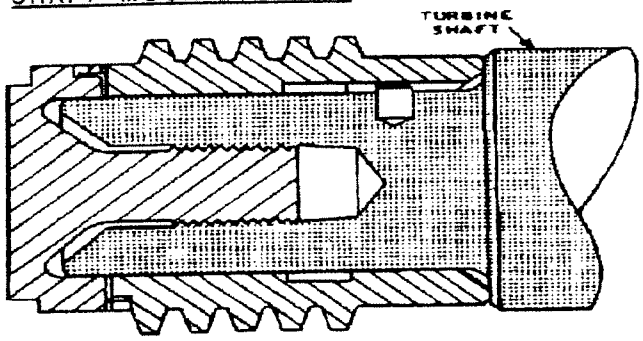
COMMENTS:

SPEED GOVERNOR DRIVE

Date 4-28-05 Turbine Serial No. 178416 Prepared by Tim Drader

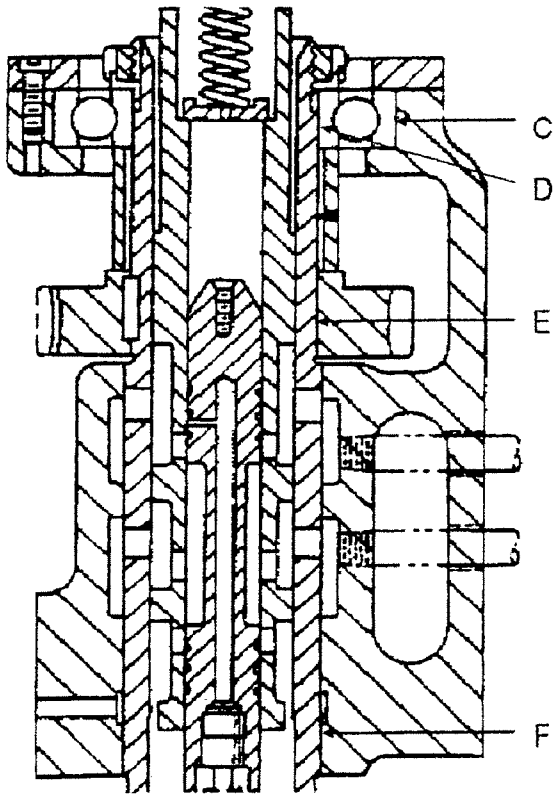
INSPECTION & CHECKS				CODE
Governor Worm & Gear	V	Backlash*	X	X - Work Carried Out
Gov. Gear Drive Assembly	V	Pinion Spline Connections	V	N - Not Done
Gov. Shaft & Bearings	X	Oil Passages	V	NA - Not Applicable
Worm /Wheel Tooth Contact	X	Worm Alignment		C - See Comments
		As Found/As Left		V - Visual Inspection

SHAFT MOUNTED WORM



	Rotor Thrust	.009
	Worm Runout	N/A
A	Worm ID	N/A
	Shaft OD	N/A
	Clearance	N/A

GOVERNOR DRIVE ASSEMBLY



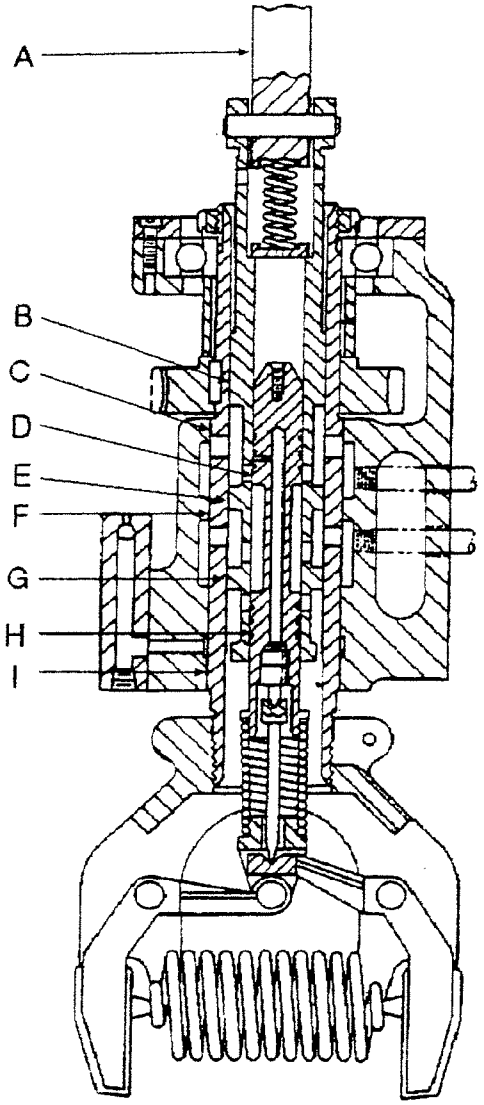
GOVERNOR DRIVE ASSEMBLY CLEARANCES			
MEASUREMENT		AS - FOUND	REASSEMBLY
B	Backlash	.010	.010
C	Cylinder Housing ID	4.723	4.723
	Ball Bearing OD	4.722	4.722
	Clearance	.001	.001
D	Ball Bearing ID	2.558	2.558
	Rotating Bushing OD	2.557	2.557
	Clearance	.001	.001
E	Worm Gear ID	N/A	N/A
	Rotating Bushing OD	N/A	N/A
	Clearance	N/A	N/a
F	Cylinder Housing ID	2.686	2.686
	Rotating Bushing OD	2.684	2.684
	Clearance	.002	.002
G	Vertical Thrust	.005	.005

* MANDATORY MEASUREMENT

ROTATING PILOT VALVE ASSEMBLY

Date 4-28-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTION & CHECKS				CODE
Rotating Pilot Valve	X	Pivot Pin Cup	V	X - Work Carried Out
Stationary Pilot Valve	X	Ball Bearing	V	N - Not Done
Rotating Bushing	X	Flywiight Assembly	V	NA - Not Applicable
Cylinder Housing	X	Spring	V	C - See Comments
Pivot Pin	V			V - Visual Inspection

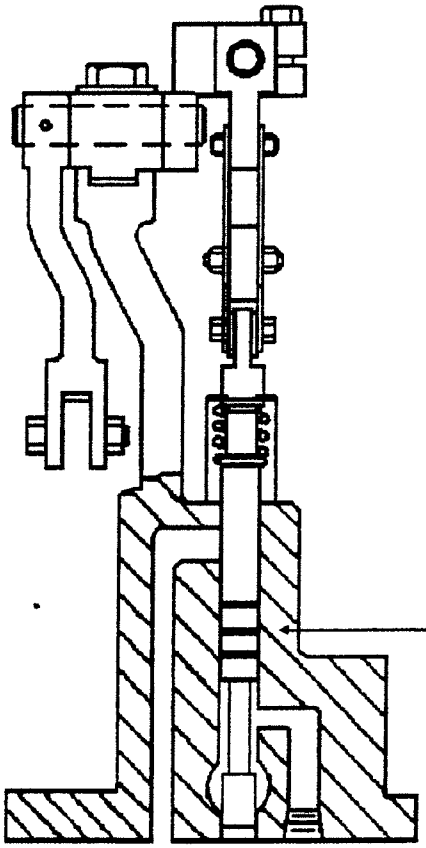


		AS - FOUND	REASSEMBLY
A	BORE IN COVER	.999	.999
	STEM DIAMETER	.996	.996
	CLEARANCE	.003	.003
B	ROTATING BUSHING ID	1.998	1.998
	STATIONARY PV OD	1.996	1.996
	CLEARANCE	.002	.002
C	CYLINDER HOUSING ID	2.688	2.688
	ROTATING BUSHING OD	2.783	2.683
	CLEARANCE	.005	.005
D	STATIONARY PV ID	.998	.998
	ROTATING PILOT VALVE OD	.997	.997
	CLEARANCE	.001	.001
E	ROTATING BUSHING ID	1.998	1.998
	STATIONARY PV OD	1.996	1.996
	CLEARANCE	.002	.002
F	CYLINDER HOUSING ID	2.688	2.688
	ROTATING BUSHING OD	2.683	2.683
	CLEARANCE	.005	.005
G	ROTATING BUSHING ID	1.998	1.998
	STATIONARY PV OD	1.996	1.996
	CLEARANCE	.002	.002
H	STATIONARY PV ID	.999	.999
	ROTATING PILOT VALVE OD	.998	.998
	CLEARANCE	.001	.001
I	CYLINDER HOUSING ID	2.685	2.685
	ROTATING BUSHING OD	2.683	2.683
	CLEARANCE	.002	.002
	LAP		

LOAD LIMIT MECHANISM

Date 4-28-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTION & CHECKS				CODE
Pilot Valve Inspected	X	As Found/As Left		X - Work Carried Out
Linkages Inspected	X			N - Not Done
Oil Passageways Clear	X			NA - Not Applicable
				C - See Comments
				V - Visual Inspection



HOUSING ID	.625
PILOT VALVE OD	.622
CLEARANCE	.003

COMMENTS:

Unit was disassembled cleaned & all linkage was checked & found to be in good shape.

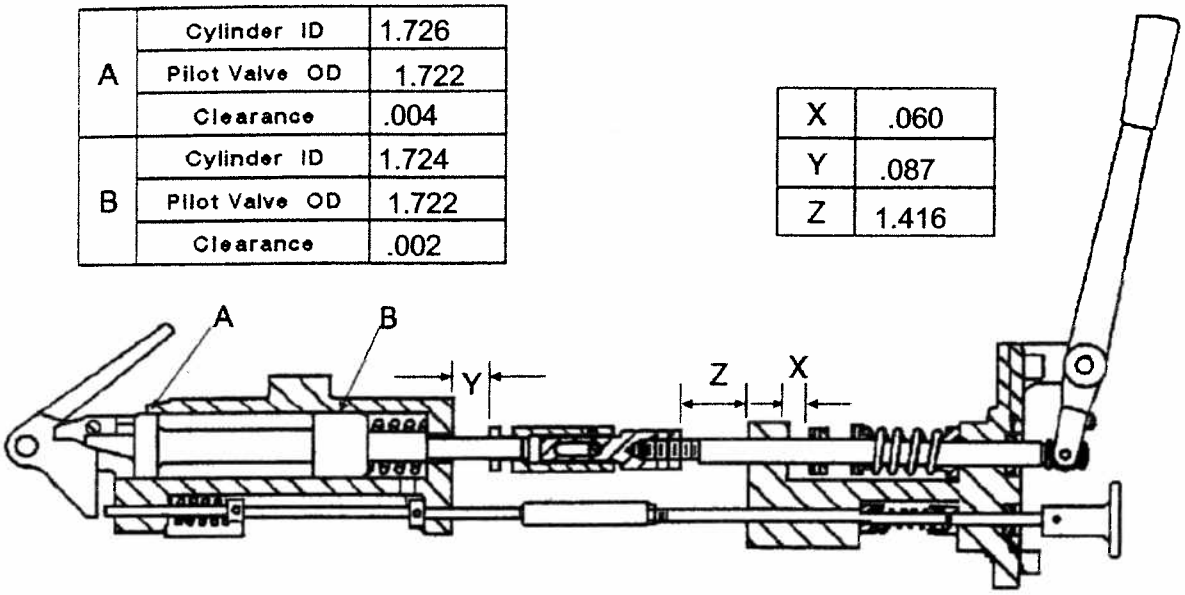
EMERGENCY TRIP / RESET MECHANISM

Date 4-14-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTION & CHECKS				CODE
Trip Finger Inspected	X	Clearances Measured	X	X - Work Carried Out
Springs Inspected	X	Freedom of Movement	X	N - Not Done
Push Rods Inspected	X			NA - Not Applicable
Pilot Valve Inspected	X	As Found As Left		C - See Comments
Cylinder Inspected	X			V - Visual Inspection

A	Cylinder ID	1.726
	Pilot Valve OD	1.722
	Clearance	.004
B	Cylinder ID	1.724
	Pilot Valve OD	1.722
	Clearance	.002

X	.060
Y	.087
Z	1.416



COMMENTS:

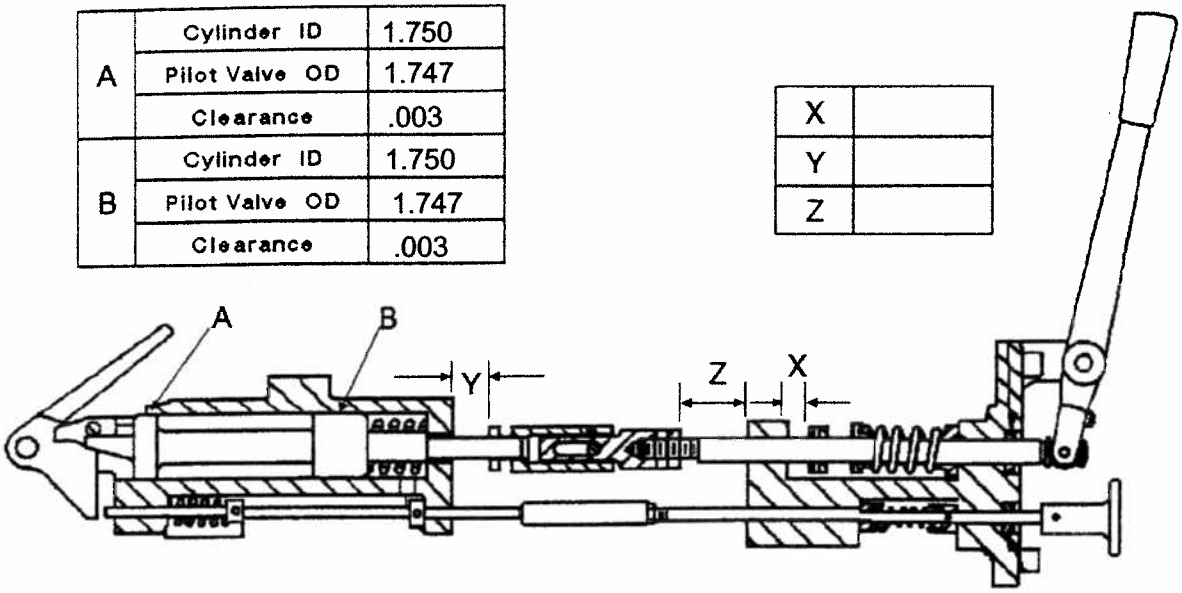
EMERGENCY TRIP / RESET MECHANISM

Date 4-28-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTION & CHECKS				CODE
Trip Finger Inspected	V	Clearances Measured	X	X - Work Carried Out
Springs Inspected	V	Freedom of Movement	X	N - Not Done
Push Rods Inspected	V			NA - Not Applicable
Pilot Valve Inspected	X			C - See Comments
Cylinder Inspected	X			V - Visual Inspection

A	Cylinder ID	1.750
	Pilot Valve OD	1.747
	Clearance	.003
B	Cylinder ID	1.750
	Pilot Valve OD	1.747
	Clearance	.003

X	
Y	
Z	



COMMENTS:

Unit was disassembled cleaned & reassembled with proper clearances.

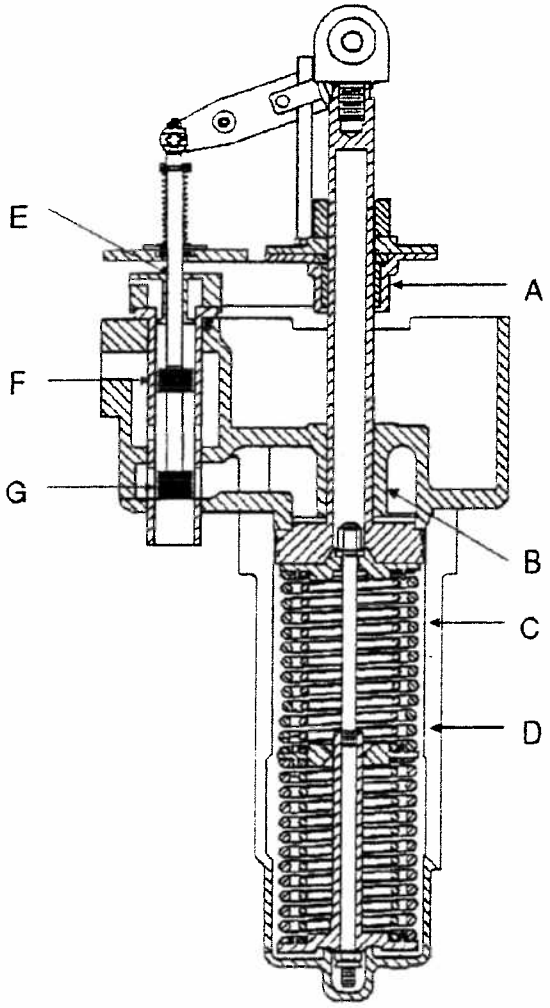
CONTROL VALVE OPERATING CYLINDER

Date 4-28-05 Turbine Serial No. 178416 Prepared by Tim Drader

INSPECTION & CHECKS				CODE
Dimensional Checks	X	Pilot Valve Condition	X	X - Work Carried Out
Piston Ring Condition	V	PV Bushing Condition	X	N - Not Done
Cylinder Condition	X	Pilot Valve Seal Replaced		NA - Not Applicable
Spring Condition	V	Linkage Inspected	X	PT - Penetrant
Piston Rod Seal Replaced	N			V - Visual Inspection
		As found As Left		MP - Mag. Particle

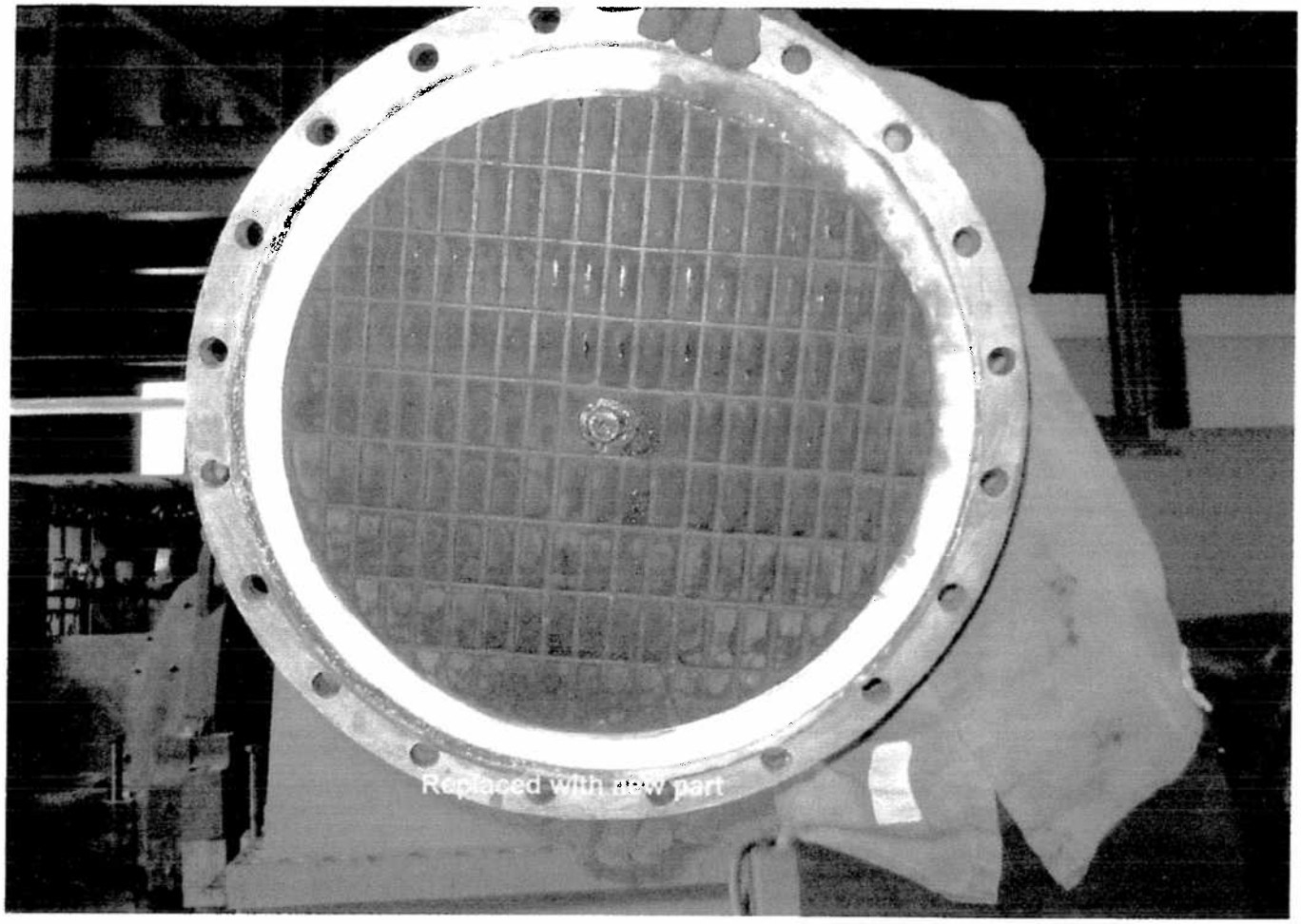
		AXIAL	TRANS.
A	Bronze Bushing ID	3.000	3.000
	Piston Rod OD	2.999	2.999
	Clearance	.001	.001
B	Steel Guide ID	3.001	3.001
	Piston Rod OD	2.998	2.998
	Clearance	.003	.003
C	Cylinder Bore ID	10.000	10.000
	Piston OD	9.990	9.990
	Clearance	.010	.010
D	Cylinder Bore ID	10.000	10.000
	Piston OD	9.990	9.990
	Clearance	.010	.010

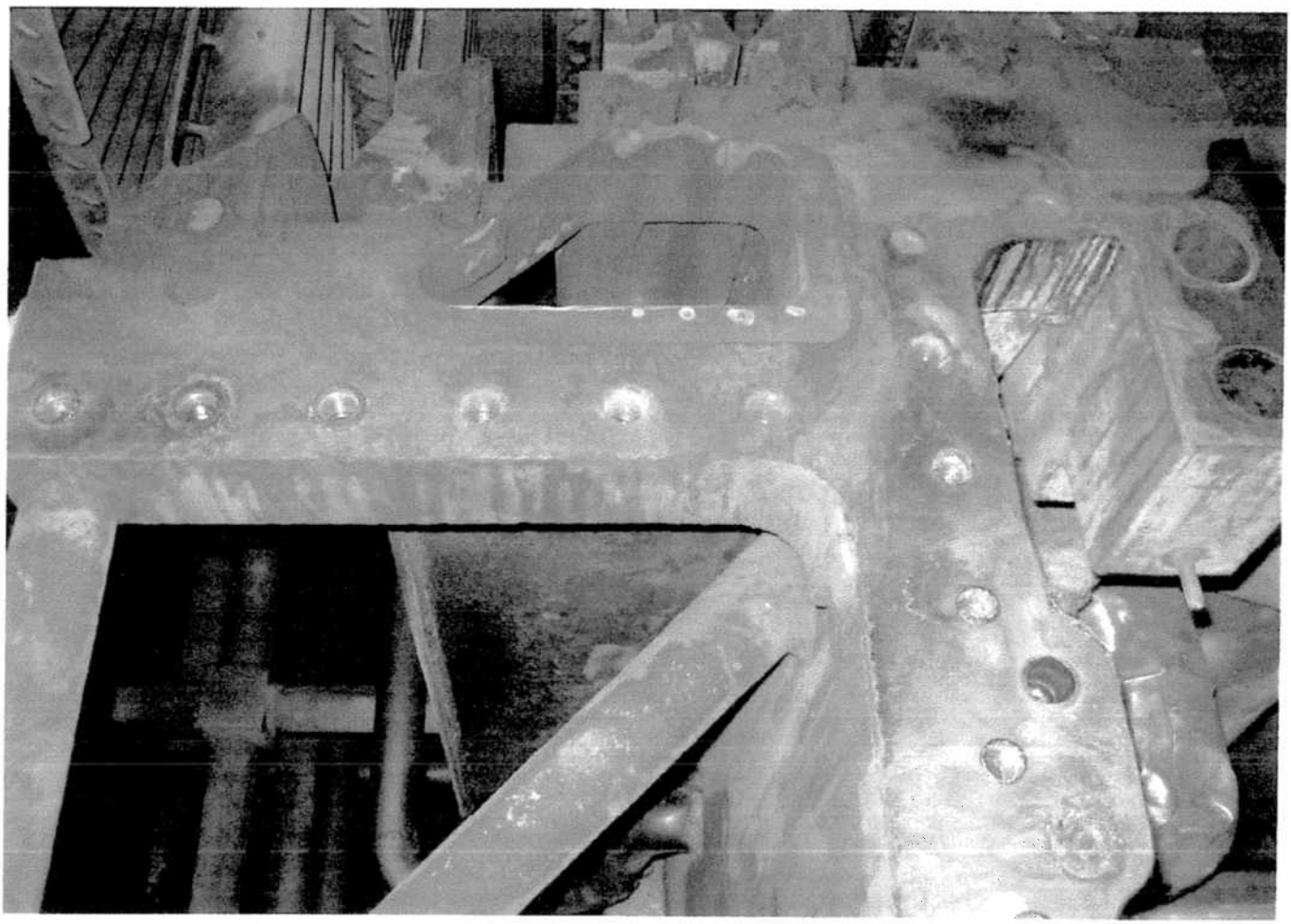
E	Pilot Valve Cover ID	1.001
	Pilot Valve Stem OD	.9975
	Clearance	.0035
F	Pilot Valve Bore ID	2.500
	Pilot Valve Land OD	2.498
	Clearance	.002
G	Pilot Valve Bore ID	2.500
	Pilot Valve Land OD	2.495
	Clearance	.005

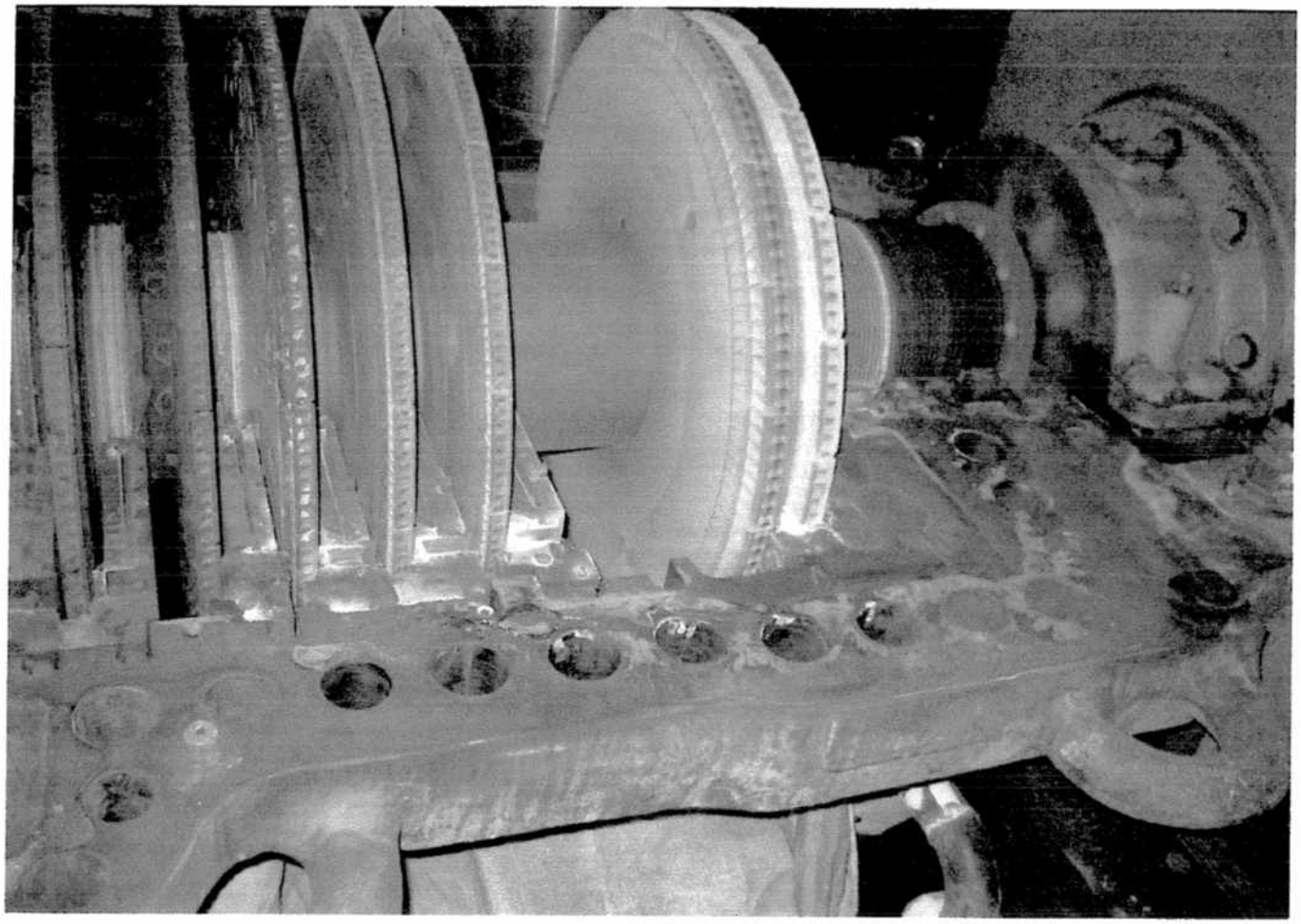


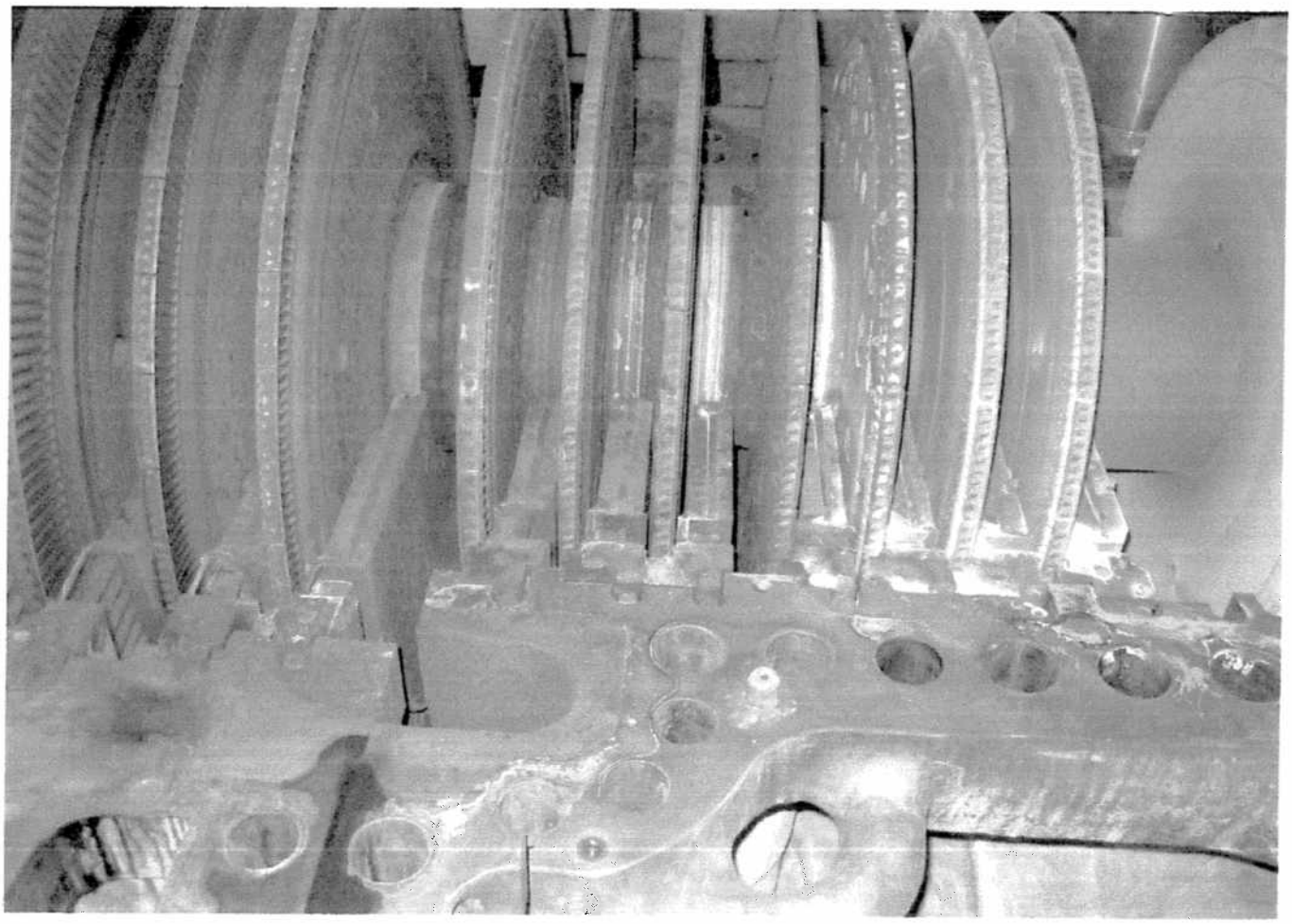
TURBINE SHELL

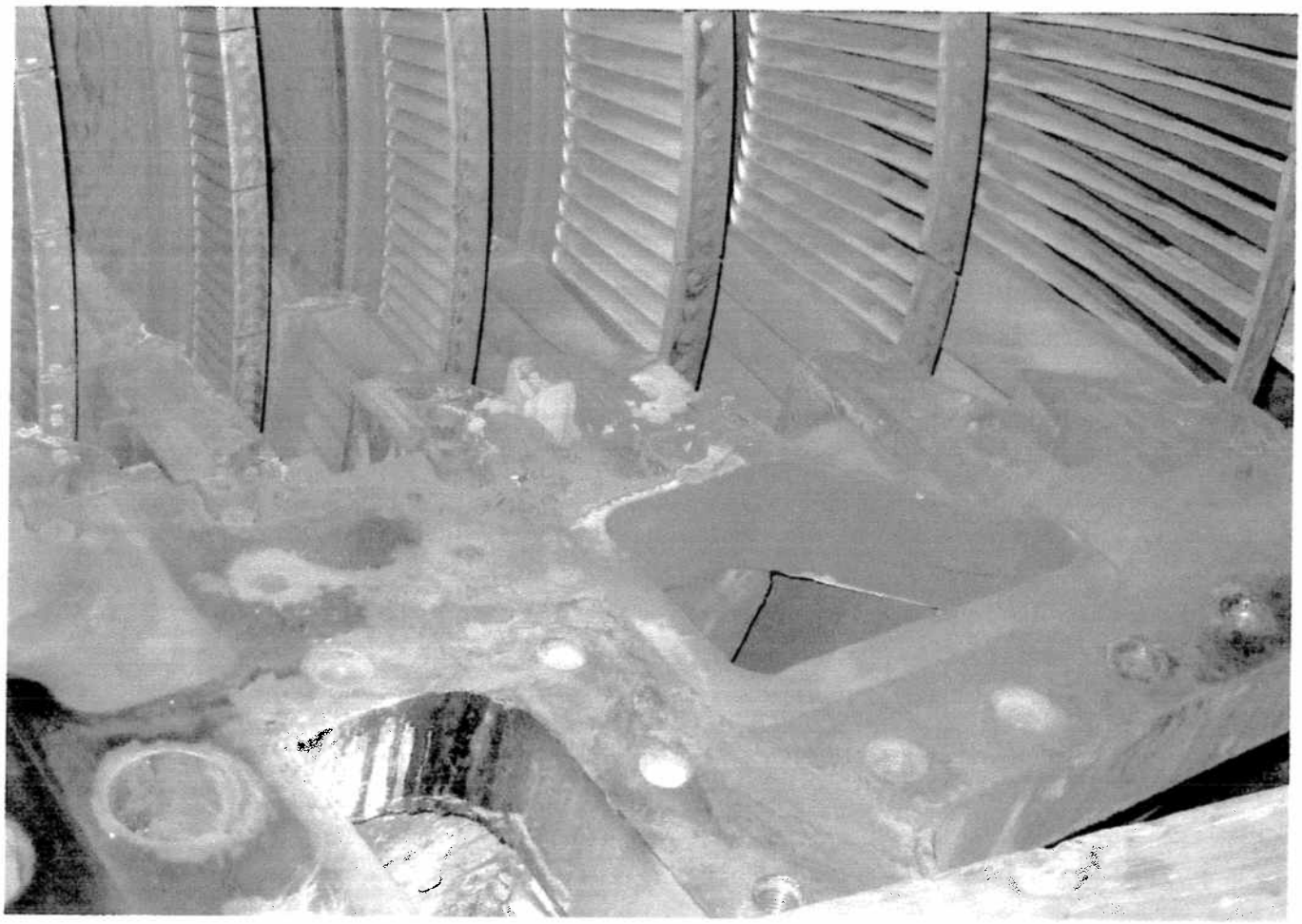
Triple boiled linseed oil was used on the high pressure shell horizontal joint and two part RTV-60 was used on the low pressure horizontal joint as there had been some internal steam leaks at the generator end of the horizontal joint. All bolting was reinstalled to OEM torques specifications.

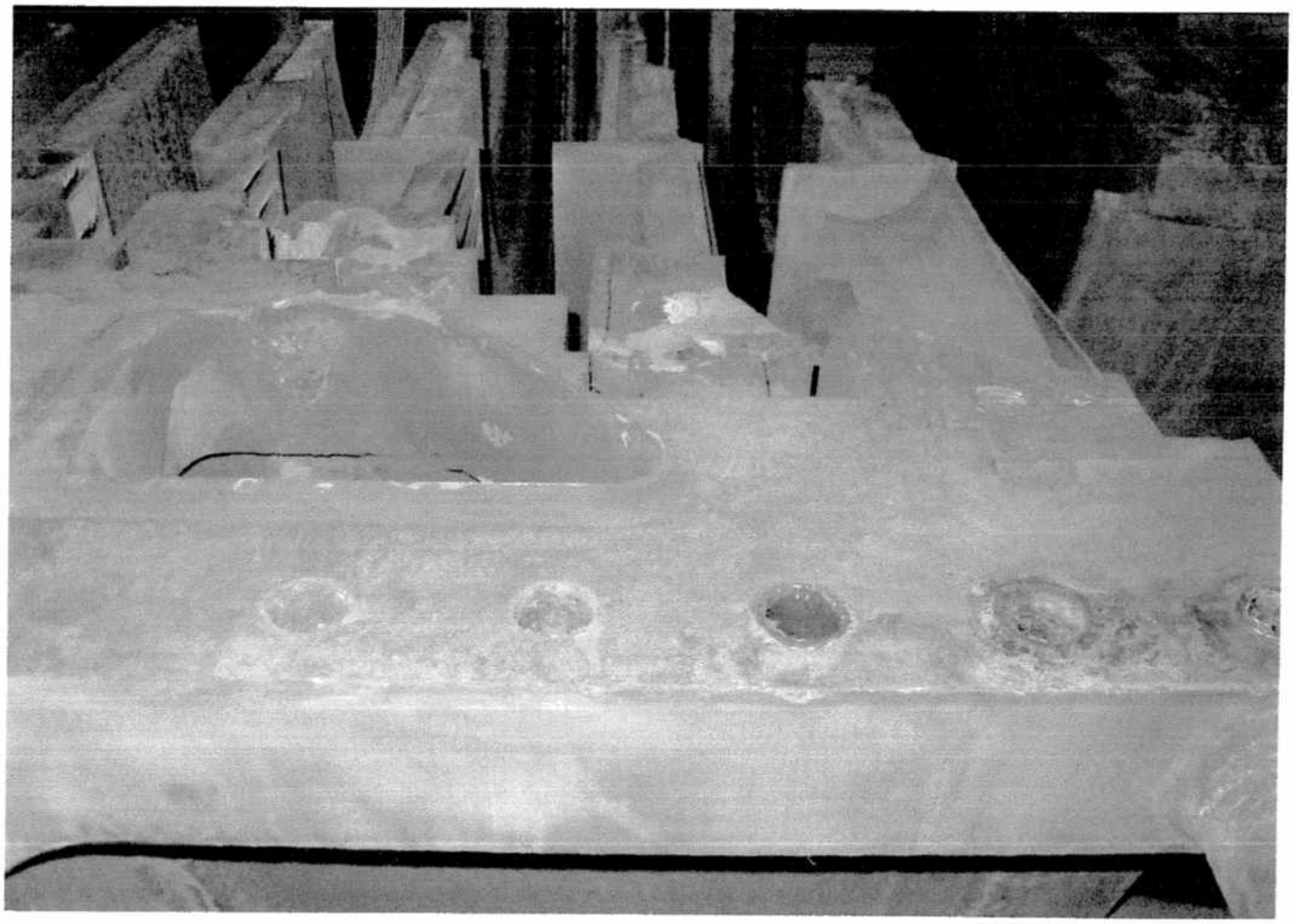

Replaced with new part











ROTOR

Removed the burrs on the curtis wheel bucket cover.

One corner of a bucket on stage 11 was cracked. This was ground out and polished.

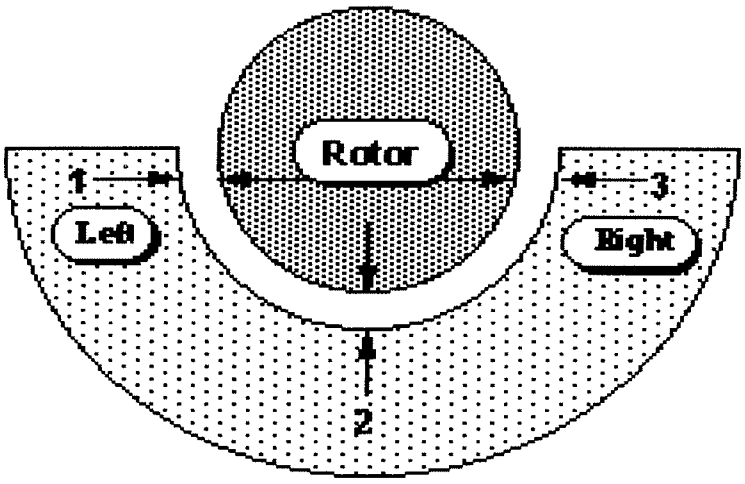
Three groups of buckets on stage 11 had bent covers and these were straightened.

PGS

Oil Bore Readings
Alignment

As found/as left

Date ####### Turbine Serial No. 178416 Prepared by Tim Drader



Location	Position (Mils) 1	2	3			
T-1	1.758	N/A	2.024			
T-2	1.762	N/A	2.024			
T-3						

Comments:

T-3 Oil bores were not taken at disassembly

PGS

Wheel Clearance Record

(New Method)

Final

Date: (m/d/y) 4-19-05 Turbine Unit No. 178416 Prepared by Tim Drader

STAGE NO.	Left side of turbine 1L	2	3	4	Right 1L	1R	STAGE NO.	Left side of turbine 1L	2	3	4	Right 1L	1R
2	.050	.060	.050	.058	.050	.050	curtis-A	.070	.080	.070	.073	.070	.130
3	.052	.055	.053	.057	.052	.048	curtis-B	.066	.070	.060	.065	.066	.126
4	.065	.070	.060	.065	.065	.060							
5	.050	.060	.055	.057	.050	.050							
6	.060	.067	.060	.060	.060	.057							
7	.055	.057	.055	.056	.055	.055							
8	.065	.070	.065	.068	.065	.065							
9	.070	.075	.068	.072	.070	.072							
10	.077	.085	.076	.080	.077	.080							
11	.065	.075	.065	.070	.065	.060							
12	.060	.067	.060	.065	.060	.062							
13	.057	.065	.055	.057	.057	.075							
14	.065	.085	.065	.082	.065	.065							

Comments:

PGS

Wheel Clearance Record

(New Method)

As Found

Date: (m/d/y) 3-17-05 Turbine Unit No. 178416 Prepared by Tim Drader

STAGE NO.	Left side of turbine 1L	2	3	4	Right 1L	1R	STAGE NO.	Left side of turbine 1L	2	3	4	Right 1L	1R
2	.050	.049	.054	.050	.050	.045							
3	.045	.047	.042	.040	.045	.038							
4	.064	.070	.070	.069	.064	.067							
5	.053	.051	.052	.051	.053	.052							
6	.050	.054	.055	.052	.050	.053							
7	.057	.059	.055	.056	.057	.054							
8	.060	.061	.060	.058	.060	.055							
9	.065	.062	.065	.064	.065	.064							
10	.079	.080	.080	.079	.079	.080							
11	.067	.067	.070	.067	.067	.066							
12	.054	.051	.054	.055	.054	.055							
13	.056	.058	.057	.056	.056	.055							
14	.079	.066	.088	.085	.079	.082							

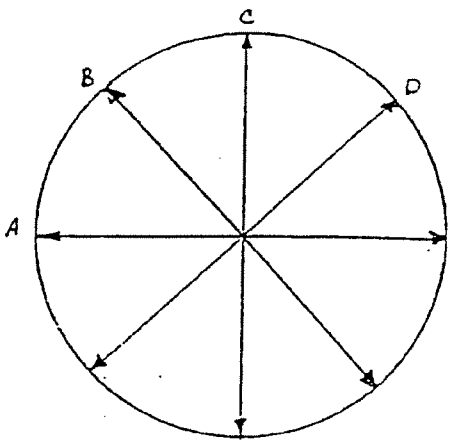
Comments:

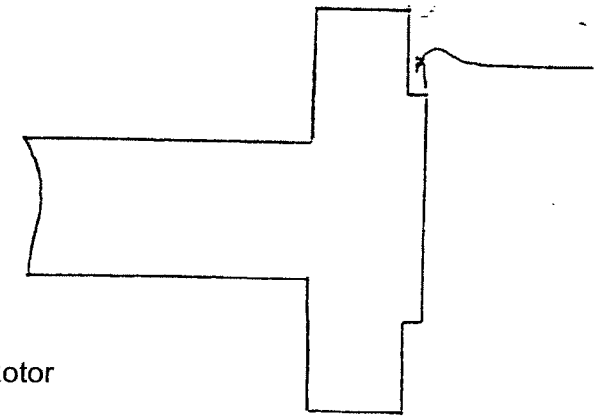
Readings taken with rotor at inactive thrust.

As Found & As Left

COUPLING SPIGOT FITS

Date 3-18-05 Turbine Serial No. 178416 Prepared By Tim Drader

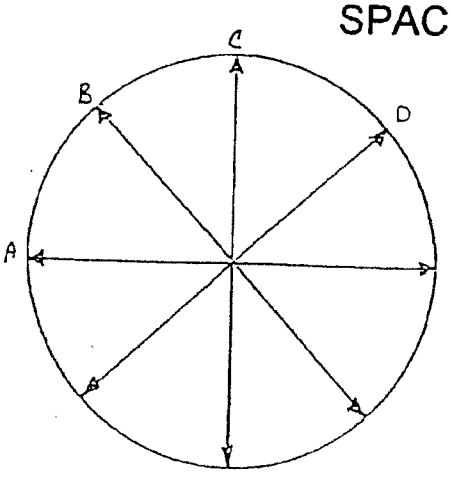


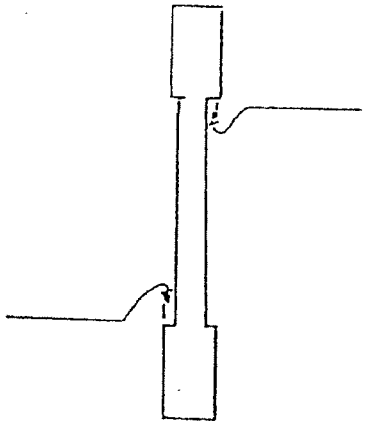


Turbine Rotor

A. 7.2510
B. 7.2510
C. 7.2510
D. 7.2510

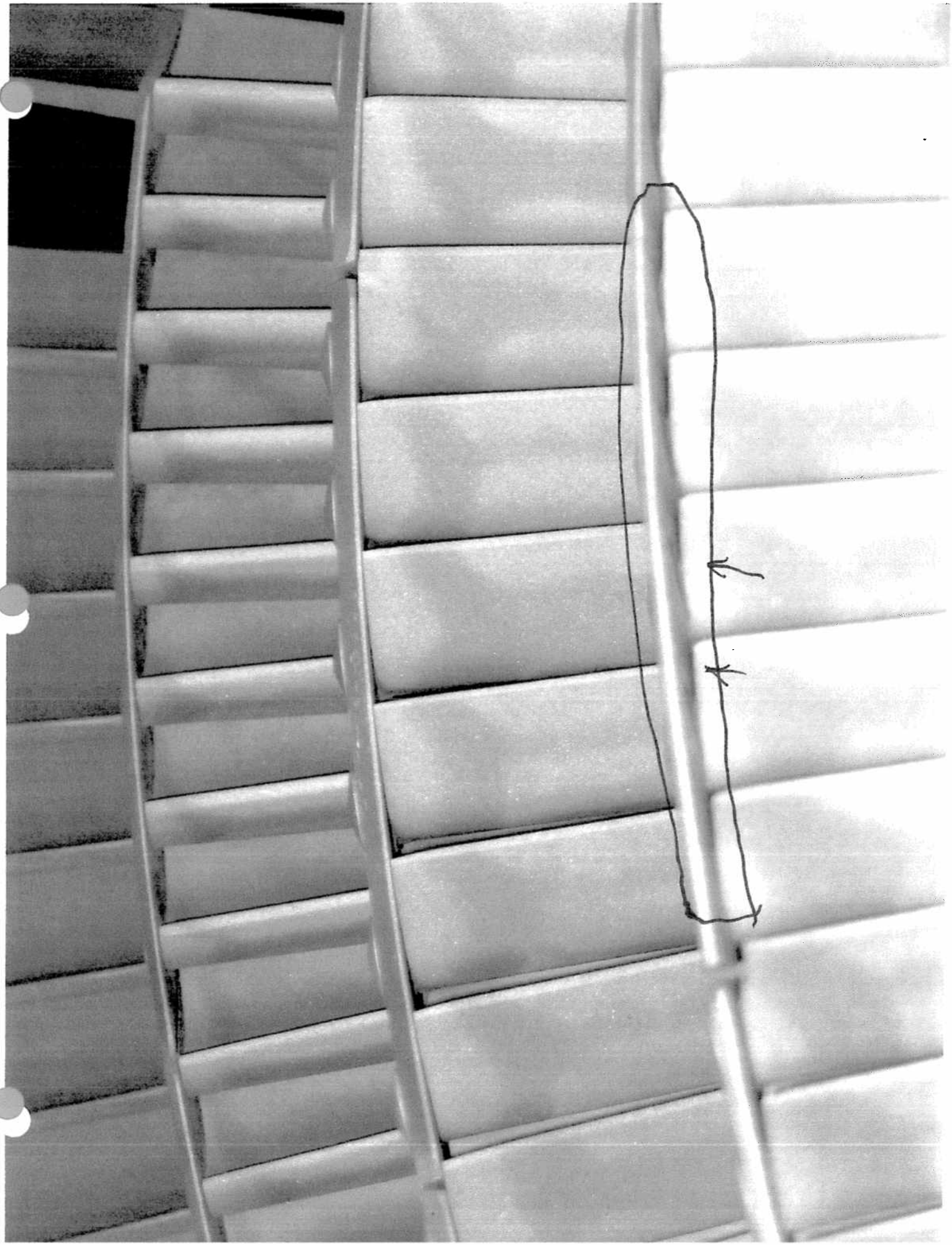
SPACER SPIGOT FITS

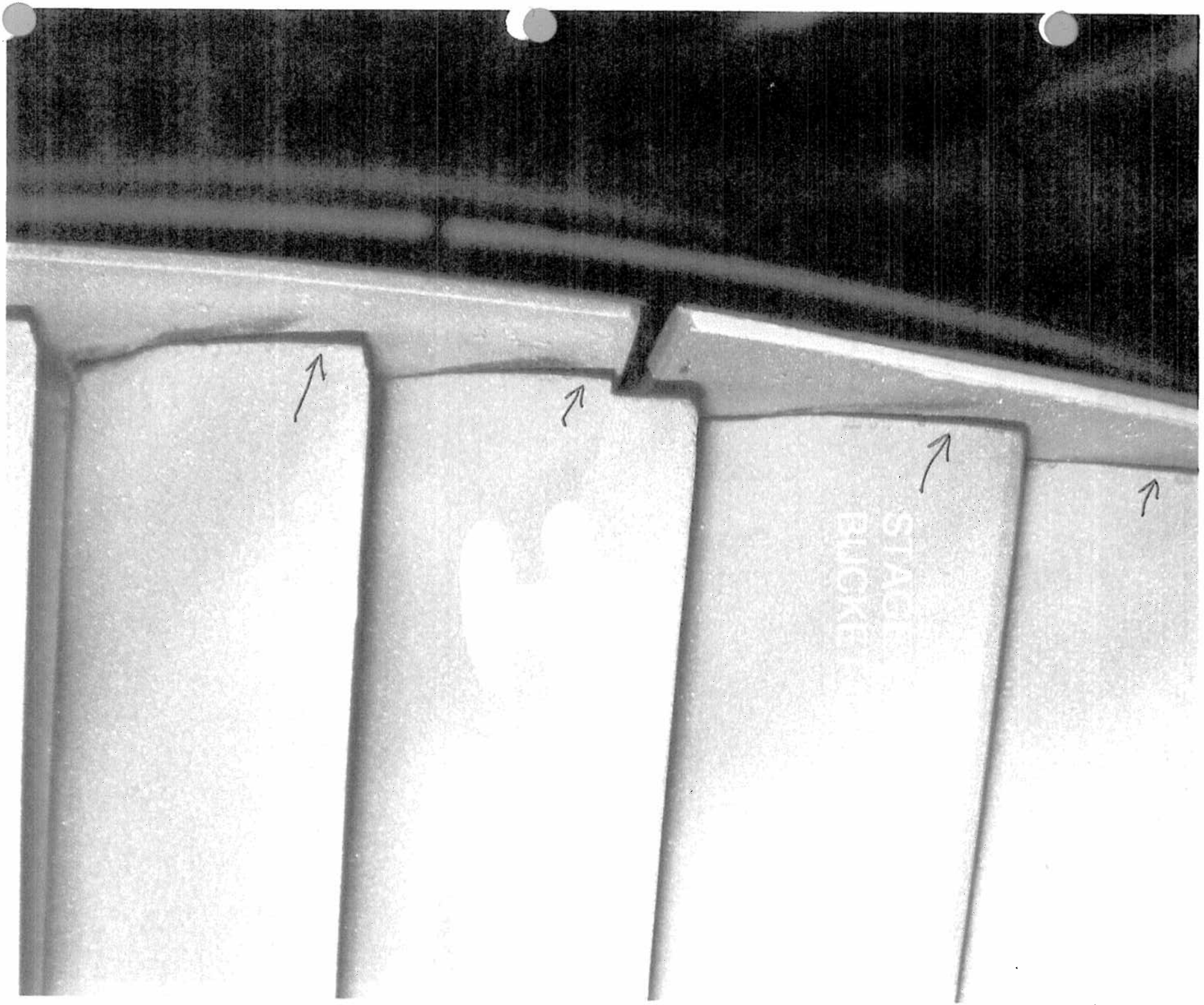




Generator Rotor

A. 7.2515
B. 7.2515
C. 7.2515
D. 7.2515



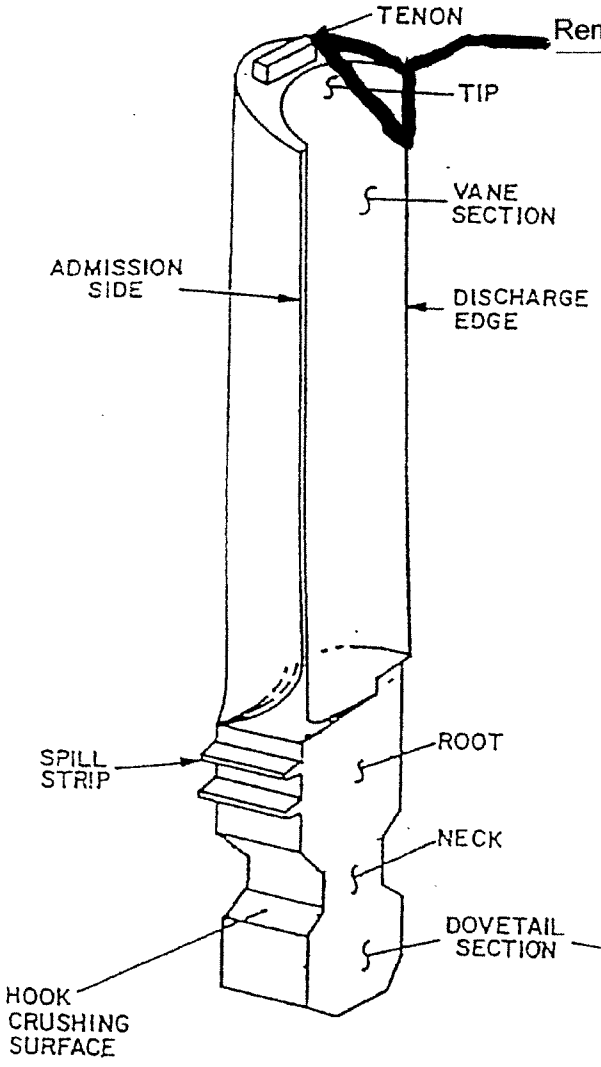

SIMPLE
BRICKWORK

STAGE 11 TENON
WORN DOWN

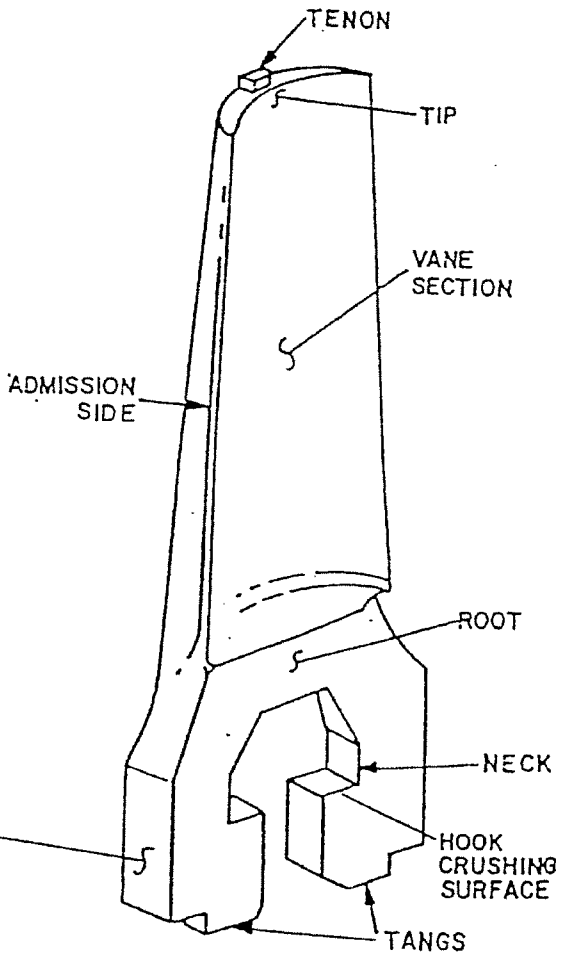
BUCKET REPORT

Date 4-15-05 Turbine Serial No. 178416 Prepared By Tim Drader

Removed this portion of the bucket-stage #11

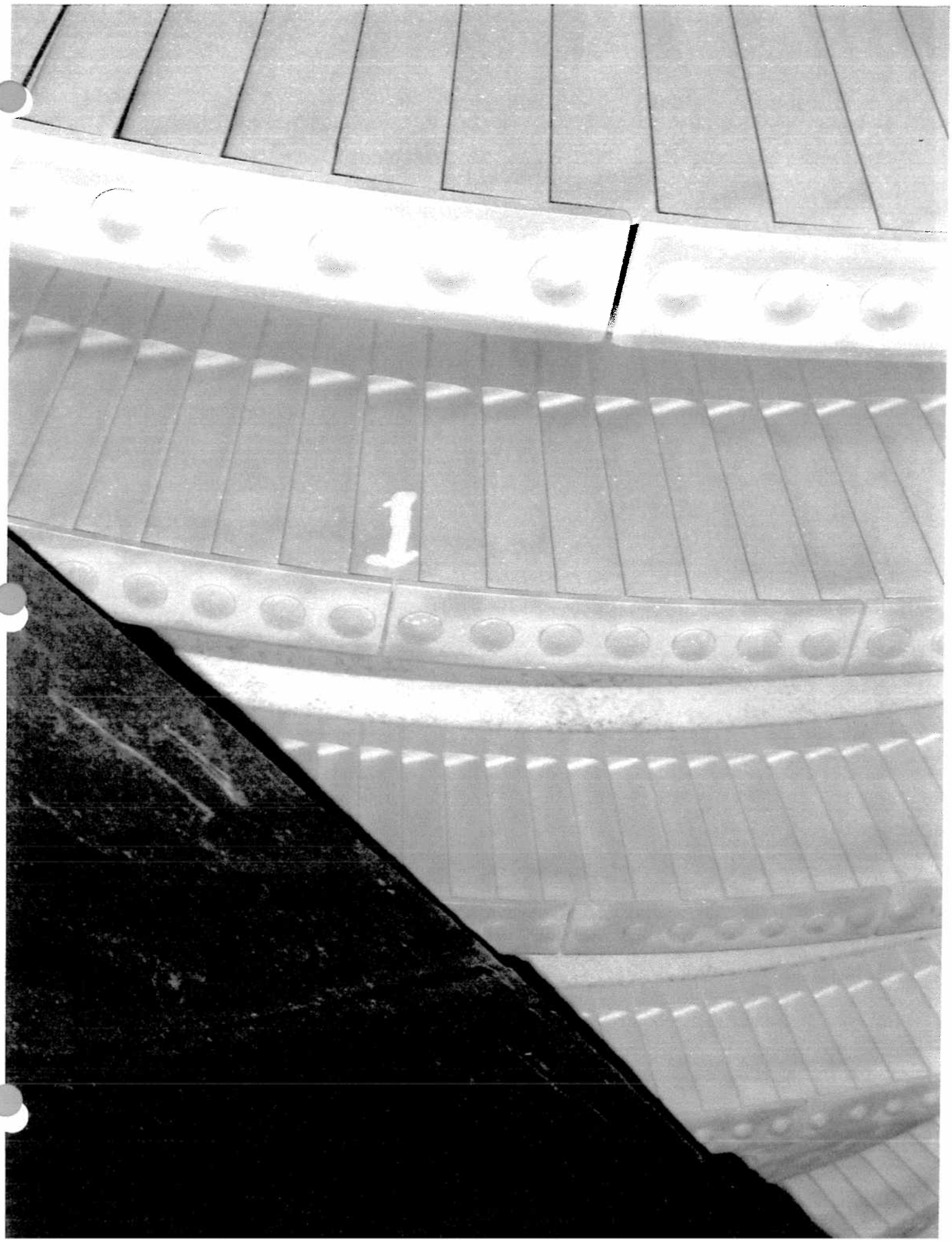


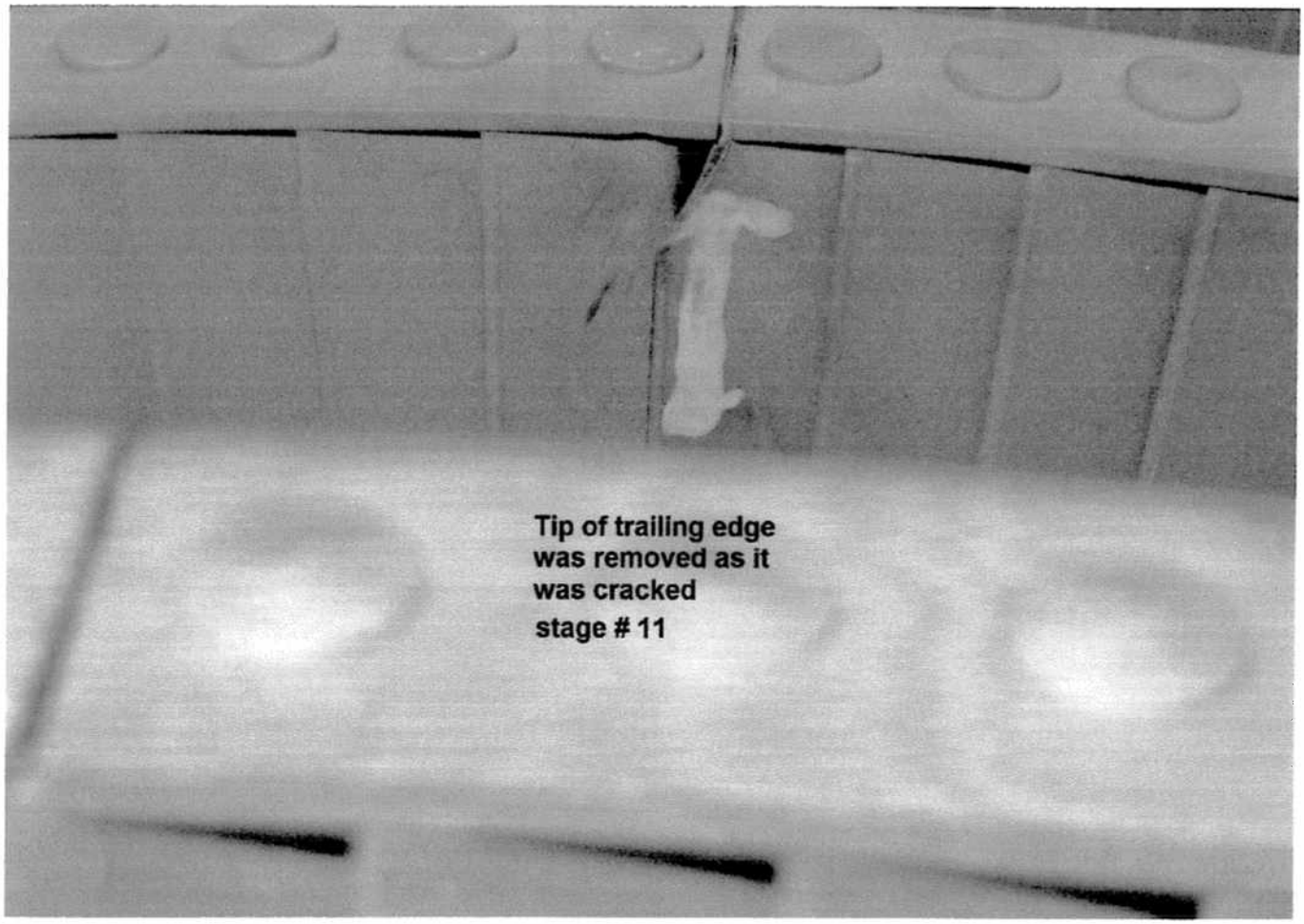
INTERNAL OR INSIDE HOOK DOVETAIL BUCKET

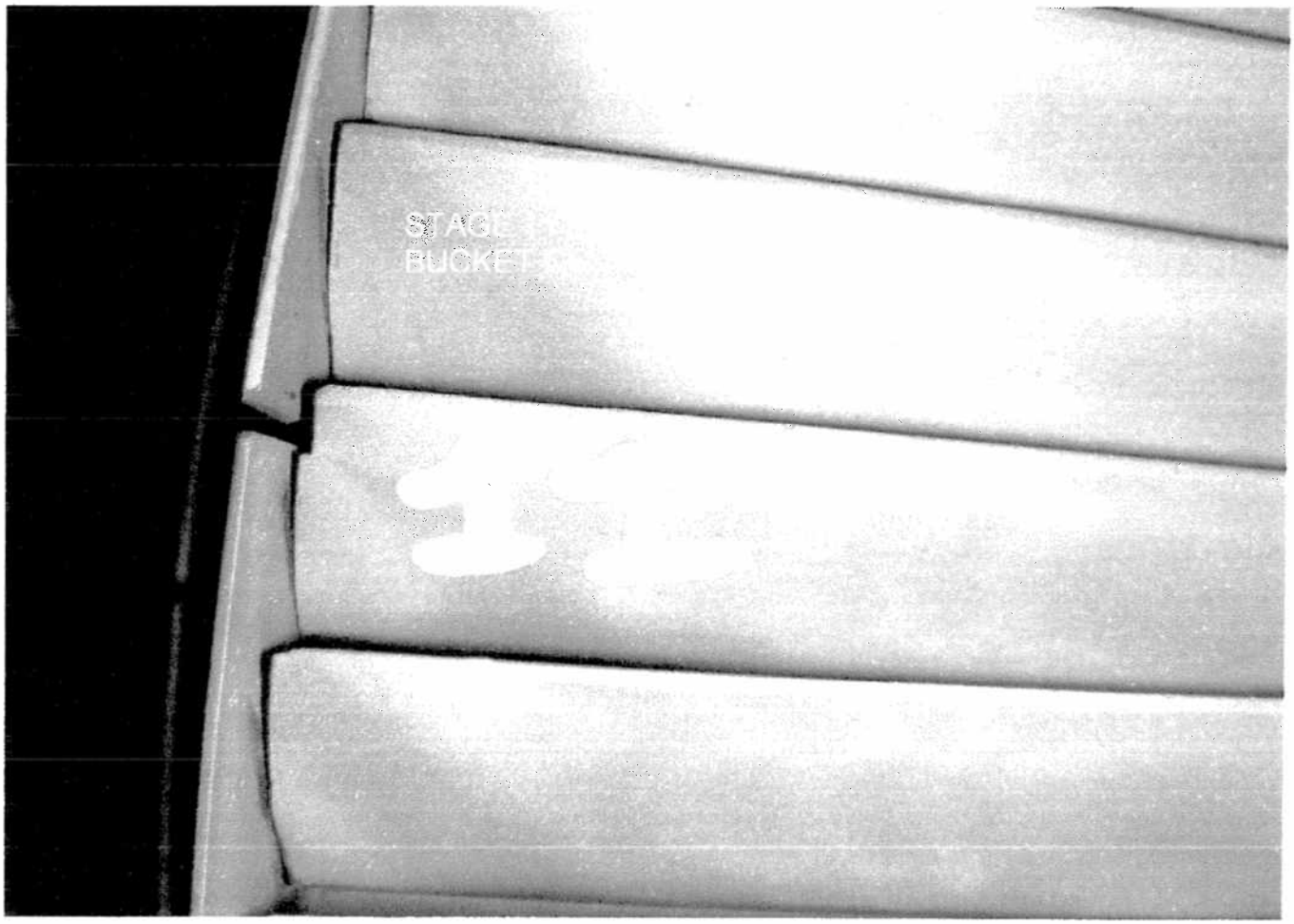


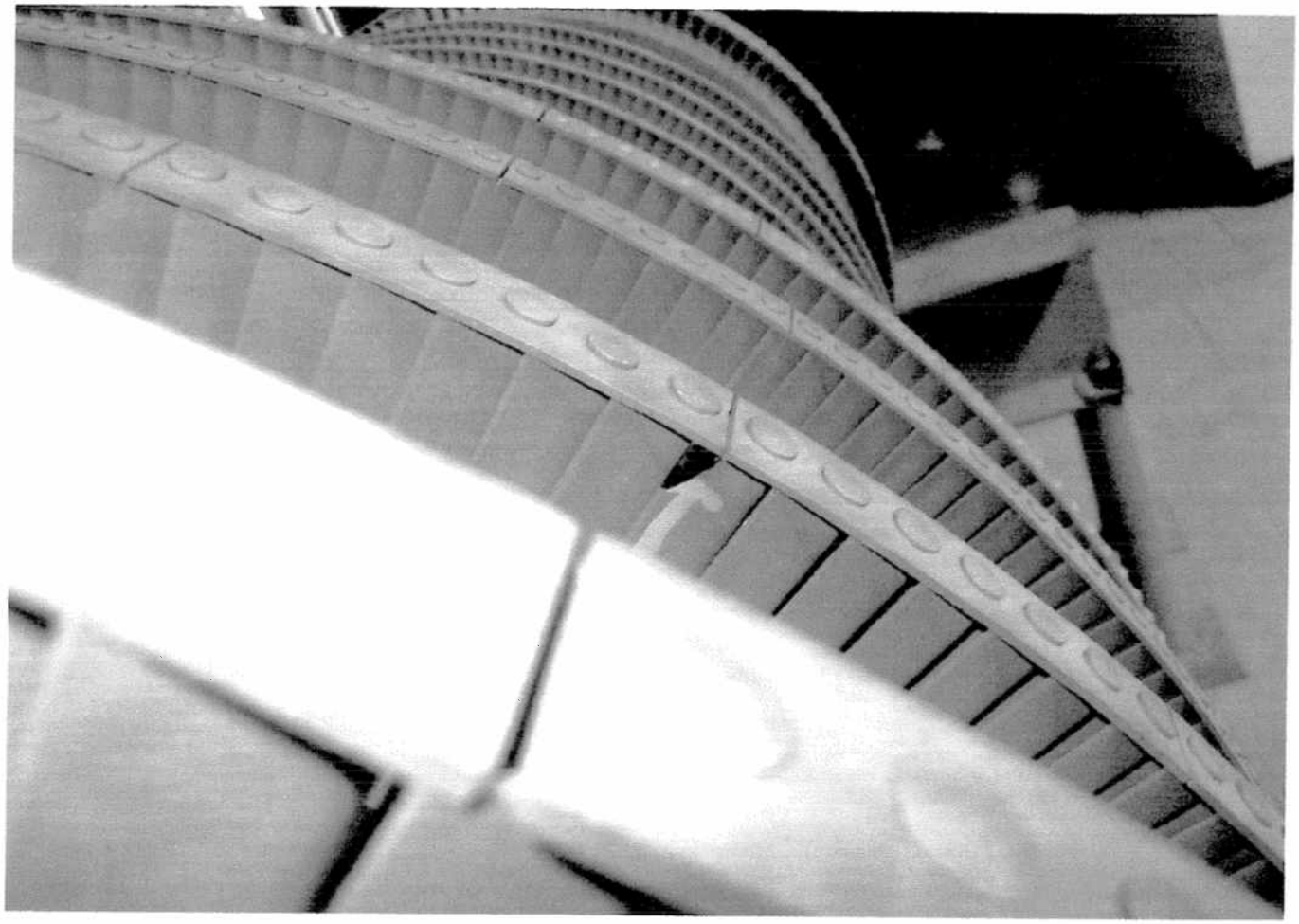
INVERTED OR OUTSIDE HOOK DOVETAIL BUCKET

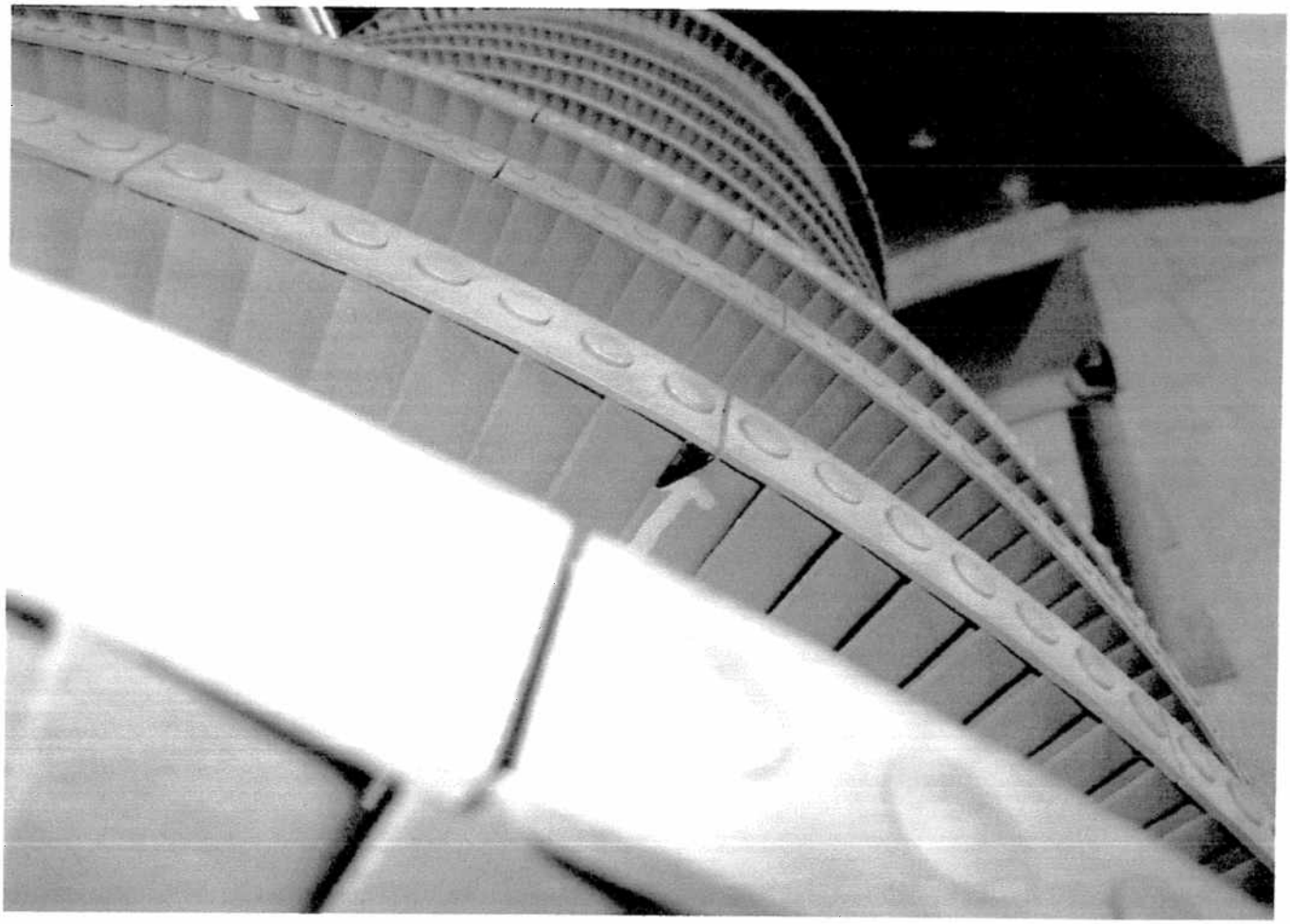
NOTES:
1. Mark up sketches to show defects in the bucket.
2. Count the bucket group and bucket from the notch block, or if two notch blocks are present from the #1 coupling bolt hole in the direction of rotation.


1


Tip of trailing edge
was removed as it
was cracked
stage # 11


STAGE
BUCKET





AEP
PRO SERV

Introduction

This report summarizes the findings and conclusions of a study to evaluate available options to increase the maximum generation output of Jasper Municipal Electric's steam plant. This study was completed under AEP Pro Serv's consulting services agreement number 01-00085.

Methodology

AEP Pro Serv engineers Tom McCartney and Jeff Hofacre visited the plant site on March 1, 2001 to collect design information for equipment installed at the Jasper Municipal Power plant. Information was collected for all the major equipment.

A PEPSE heat balance was developed for the Jasper design point. Additional modes of operation were also modeled concerning the potential for load increases. The additional cases include removing the high pressure heater from service, increasing steam throttle pressure 5% above design of 600 psig and removing the high pressure heater from service combined with the steam throttle pressure raised 5% above design. The models indicate that up to 1.8 additional MW can be generated versus design of 14.5 MW. An additional 2.2 MW can be generated versus the reported typical operating point with 580 psig steam turbine throttle pressure.

Findings

Jasper Municipal Power personnel believed that the turbine at the Henderson City Utility in Henderson, Kentucky was identical to Jasper's turbine. AEP Pro Serv personnel visited the Henderson, Kentucky plant on March 22, 2001 to collect design and operating data. Outlined below is a comparison of design data for the two steam turbine generators and boilers.

	Henderson	Jasper
Turbine Number	173357	178416
Turbine rating, KW	29,091	14,500
Steam pressure, psig	850	600
Steam temperature, deg F	900	825
Back pressure, Hg abs	2"	1.5"
Turbine stages	14	14
Turbine bucket height	average 20% greater	---
Turbine nozzle area	average 20% greater	---
Turbine assembled weight, lbs	134,000	81,363
Generator assembled weight, lbs	142,000	71,800
Boiler rating, lbs/hr	285,000	140,000
Boiler heating surface, sq ft	24,370	14,253
No. of coal feeders	8	4

The difference in steam turbine design pressure, rotating bucket geometry and stationary nozzles explains the difference in the generation capability between Henderson and Jasper. To increase Jasper's generation to the 20 MW goal would necessitate upgrade of a majority of the turbine components. Even with Henderson's turbine, Jasper's other equipment would not be able to support increasing load above 17 MW because of boiler and boiler feedpump (BFP) limitations.

The goal of obtaining 20 MW is unachievable given the existing equipment. A new turbine, boiler, feedpumps, heaters, deaerator, fans and precipitator would be required at an estimated cost of $10,000,000. The existing condenser, cooling tower and circulating water pumps are adequate for output up to 20 MW. Although 20 MW is not practical, with the existing equipment, AEP Pro Serv personnel noticed several operational changes that could increase generation and reduce Jasper's operating costs.

During the March 23, 2001 visit the high-pressure heater was removed from service by shutting off the steam flow to the heater which resulted in a measured output increase of 1 MW which compares to the PEPSE predicted 1.1 MW. The heater was put back in service and then the throttle pressure was raised from 580 psig to 602 psig. The generation increased 0.4 MW simply by setting throttle pressure to design. The throttle pressure was then increased to 620 psig gaining another 0.4 MW.

The following paragraphs detail various findings and recommendations by issue and/or equipment.

Heat Input Limit

Jasper's current air permit has a reported limit of 192,000,000 Btu/hr heat input to the boiler. Based on Jasper's reported year 2000 average heat rate of 13,300 Btu/kwh the heat input could increase to 226,100,000 Btu/hr when operating at 17 MW. The current limit leaves no margin for increased generation at current plant efficiency as shown by the following calculation. (14,436 kw x 13,300 Btu/kwh = 192,000,000 Btu/hr heat input).

A permit review is recommended to ensure compliance with NSR/PSD regulatory programs.

Throttle Pressure

The pressure at the turbine main steam valve can be controlled to be a minimum of 600 psig. Per GE guidelines, (attached reference GE proposition no. 146-14273) throttle pressure can be controlled to a maximum of 105% or 630 psig. Currently Jasper's combustion control logic fires the boiler to achieve steam pressure. Operator intervention is required to maintain throttle pressure when fuel quality varies. Installing an integrator into the combustion control configuration will allow throttle pressure to be automatically

controlled with varying fuel quality. AEP Pro Serv can supply control expertise to modify Jasper's controls if desired.

High Pressure Heater Out of Service

Removing the high-pressure heater from service demonstrated increased generation of 1MW. During this period the coal flow only increased 1% which indicates only a small detrimental effect on heat rate. The small heat rate effect is due to the fact that for every 40 °F drop in exit gas temperature boiler efficiency increases 1%.

For the current coal supply, the sulfuric acid dewpoint is estimated to be in the range of 250° – 280° F. Exit gas temperatures below this range will result in severe corrosion of the precipitator. Further testing of unit operation with the high-pressure heater out of service while measuring exit gas temperatures is recommended before concluding that removing the high-pressure heater from service is worthwhile.

If the exit gas temperature does drop too far, a high-pressure heater steam supply could be designed to provide the proper amount of steam flow to the heater in order to maintain adequate exit gas temperatures. AEP Pro Serv could provide a cost effective design if desired.

Boiler

The boiler was manufactured by Union Iron Works, a division of Riley Stoker Corporation. The boiler is rated for a maximum continuous capacity of 140,000 lbs/hr at 625 psi and 825 deg F per nameplate data obtained at Jasper. The superheater design pressure is 750 psi. There are safety valves on the drum set at 750 psig and a safety valve on the superheater outlet set at 685 psig. These safety valve settings are per good design practice, which should assure the superheater outlet safety valve opens first.

Riley Stoker was contacted to determine if any margin beyond the written maximum capacity exists. Hayes Orender of DB Riley verbally indicated on March 29, 2001 that the boiler was originally rated for 154,000 lbs/hr. Mr. Orender of DB Riley, who owns Riley Stoker, reported that the reason it was originally rated higher is because it was a standard size boiler. Jasper's boiler was then stamped with the 140,000 lb/hr capacity.

To verify the ability to operate the boiler beyond rated capacity, DB Riley recommended that in service temperatures of the 1st stage discharge tubing be verified. The SA210 Grade C carbon steel 1st stage tubing is not recommended for temperatures over 800 °F to avoid possible graphitization of the carbon steel. The 2nd stage tubing is SA213T12 material and is recommended for use up to 1200 °F. In the boiler the 2nd stage tubing metal temperatures should be less than 75 °F greater than the steam temperature. With 825 °F steam outlet temperature, the 2nd stage tubing metal temperature should not rise above 900 °F. Therefore it is not in danger of overheating.

ASME code calculations (attached) indicate Riley Stoker's design may be conservative. The calculated minimum wall for the 1st stage superheater tubing is 0.071" based on 750 psi and 800 °F. The calculated minimum wall for the 2nd stage superheater tubing is 0.06" based on 750 psi and 900 °F whereas the reported minimum wall is 0.150" for both sections. The calculations indicate that there is a theoretical potential to increase boiler loading.

In conclusion, the boiler capacity, per verbal discussion with DB Riley personnel, is capable of producing 154,000 lbs/hr. At this flowrate the maximum load the Jasper cycle can theoretically produce is about 17MW.

Boiler Feedpumps

Per nameplate data each boiler feedpump is rated for 175,000 lbs/hr at 2150 ft head (878 psi, 246.5 deg F water). The pumps are therefore capable of providing boiler flows of 154,000 lb/hr.

Fans

There is a forced draft (FD) fan that is powered by a two speed 75 hp motor. The FD fan is reported to be typically operated in low speed, which implies extra capacity. The Jasper cycle currently has the potential to run the FD fan with a steam turbine. The induced draft (ID) fan is powered by an adjustable speed 500 hp electric motor (ASD).

It was noticed that the ID fan inlet vanes were throttled to 75%. During a plant site visit a control room operator commented that these vanes never move from 75% while at full load. Opening the inlet vanes to 100% will reduce the ID fan motor power consumption. AEP Pro Serv has personnel experienced with the Bailey INFI 90 control system who can modify the control logic to accommodate 100% open inlet vanes, if desired.

The ID and FD fans appear to have ample capacity for the 154,000 lbs/hr boiler steam flow.

Condenser

Per Worthington drawings, Jasper's condenser has 15,000 square feet of surface compared to 20,000 square feet at Henderson. The Worthington drawings of Jasper's condenser clearly show that adequate surface area and turbine exhaust opening area exists to allow 20 MW operation.

Condensate Pumps

Per nameplate data the condensate pumps are rated for 135,000 lbs/hr each. While the hp heater was out of service it was noted that the condensate pressure had dropped to 34 psig

from 53 psig. This was due to the higher condensate flow. Audible checks of the operating pump indicated no cavitation was occurring. The capacity of the condensate pumps will need to be increased for beyond 17 MW operation, but by design is adequate for operation up to 17 MW.

Cooling Tower

The Marley Class 600 cooling tower design should be able to accommodate generation of 17 MW. A cooling tower is flexible regarding the quantity of heat transferred. No harm will be done to the wood cooling tower structure unless the water temperature exceeds 130°F per Cooling Tower Institute guidelines.

Circulating Water Pumps

It was reported that normally only one circulating water pump is operated. Two pumps are operated only when they are needed to control generator temperatures.

Heat balance models were run and calculations performed to determine the net unit heat rate break-even point for running two circulating water pumps. Assuming 70% cleanliness of the condenser tubes indicates that whenever the circulating water inlet temperature is above 70°F, two pumps should be operated. Assuming 85% cleanliness changes the recommended temperature to 74°F and above.

Multiclones

At full load the multiclones cause over 8" of pressure drop based on the draft gages in the control room. As the electrostatic precipitator has been upgraded it is possible that these muticlones are not required. Jasper personnel could experiment with removing multiclones to ascertain the need for multiclones. Elimination of the multiclones can potentially reduce full load auxiliary power by 100 hp.

Note that Henderson City Utility has only one precipitator field after the multiclones. Henderson does not have any extra margin and must keep the multiclones in service. With Jasper's three electrostatic precipitator fields removal of the multiclones may be possible.

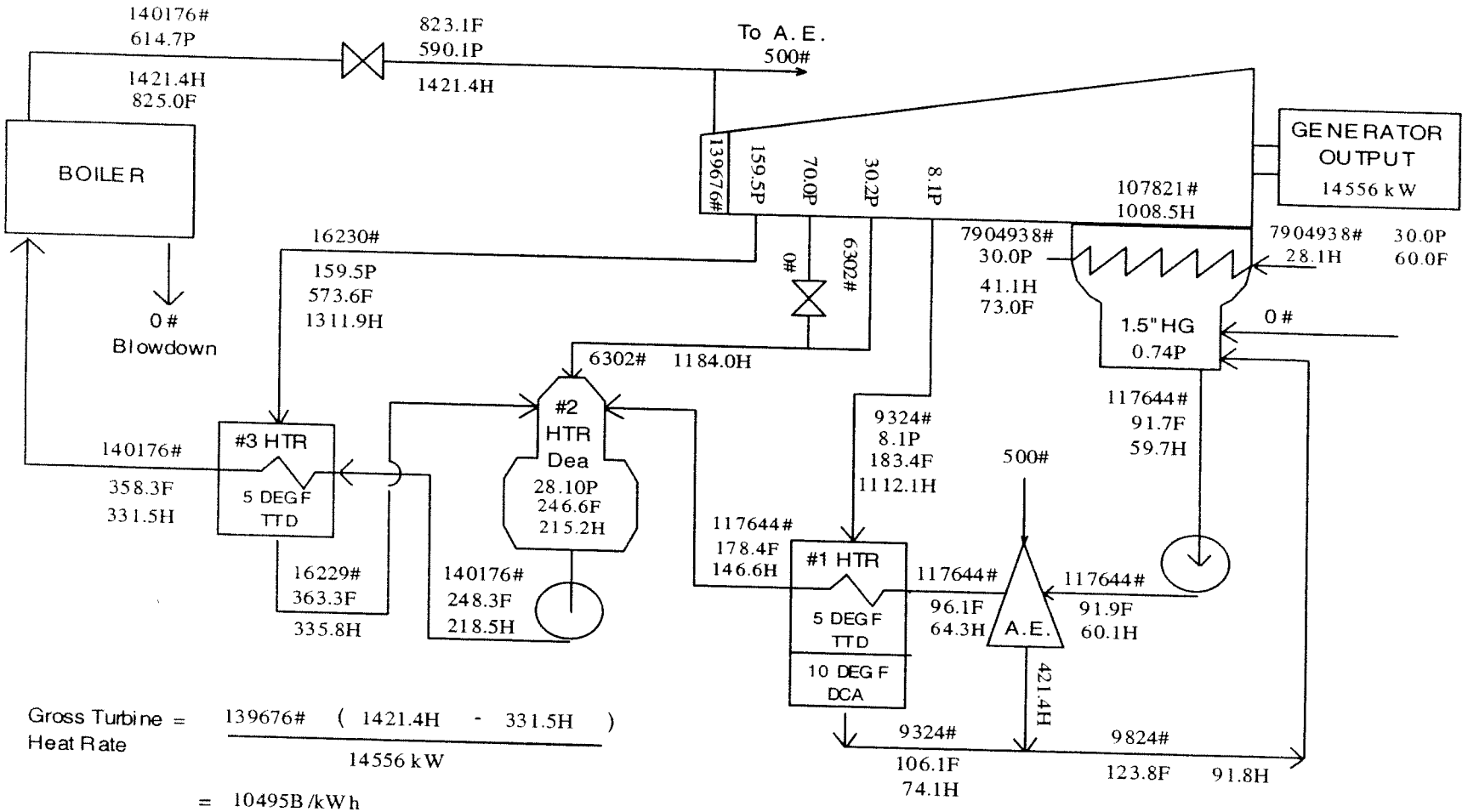
Steam Driven Feedpump and FD Fan

Based on conversations with the plant superintendent, Jasper has extra steam capacity. Therefore, a switch to steam driven equipment can also reduce auxiliary power. It is possible to route the steam turbine exhaust to the deaerator and avoid losing the condensate. Based on the calculated heat content left in the steam turbine exhaust, the deaerator should, by design, be capable of processing all the steam from the BFP and the FD fan steam turbines.

The potential savings by operating the BFP and FD fan on steam is 225 kw (300 hp) and 60 kw (80 hp) respectively. The resulting demand and energy savings could be up to $3,000 per month.

Conclusions/Recommendations

1. Increasing the existing plant capacity to 20 MW is estimated to cost $10,000,000. The economic feasibility appears to be marginal at best. The June 15, 2000 study performed by SFT explored better economic options.
2. Increase the throttle steam pressure to the maximum allowed by GE. This can be worth up to 1MW.
3. Add a steam pressure integrator to the combustion controls.
4. Monitor the exit gas temperature to the electrostatic precipitator.
5. Proceed with high-pressure heater experiments based on exit gas temperature and System demand.
6. Open the ID fan inlet vanes to 100 % and allow the ASD to control furnace pressure.
7. Modify steam supply to high-pressure heater to easily limit the steam flow to the heater. An automated steam supply valve could be added to provide ease of operation.
8. Operate one circulating water pump when condenser inlet water temperature is 70°F and below. Operate two circulating water pumps above 70°F.
9. Monitor 1st stage superheater outlet tubing temperatures.



Gross Turbine Heat Rate = $\dfrac{139676\#\ (\ 1421.4H - 331.5H\ )}{14556\ kW}$

= 10495B/kWh

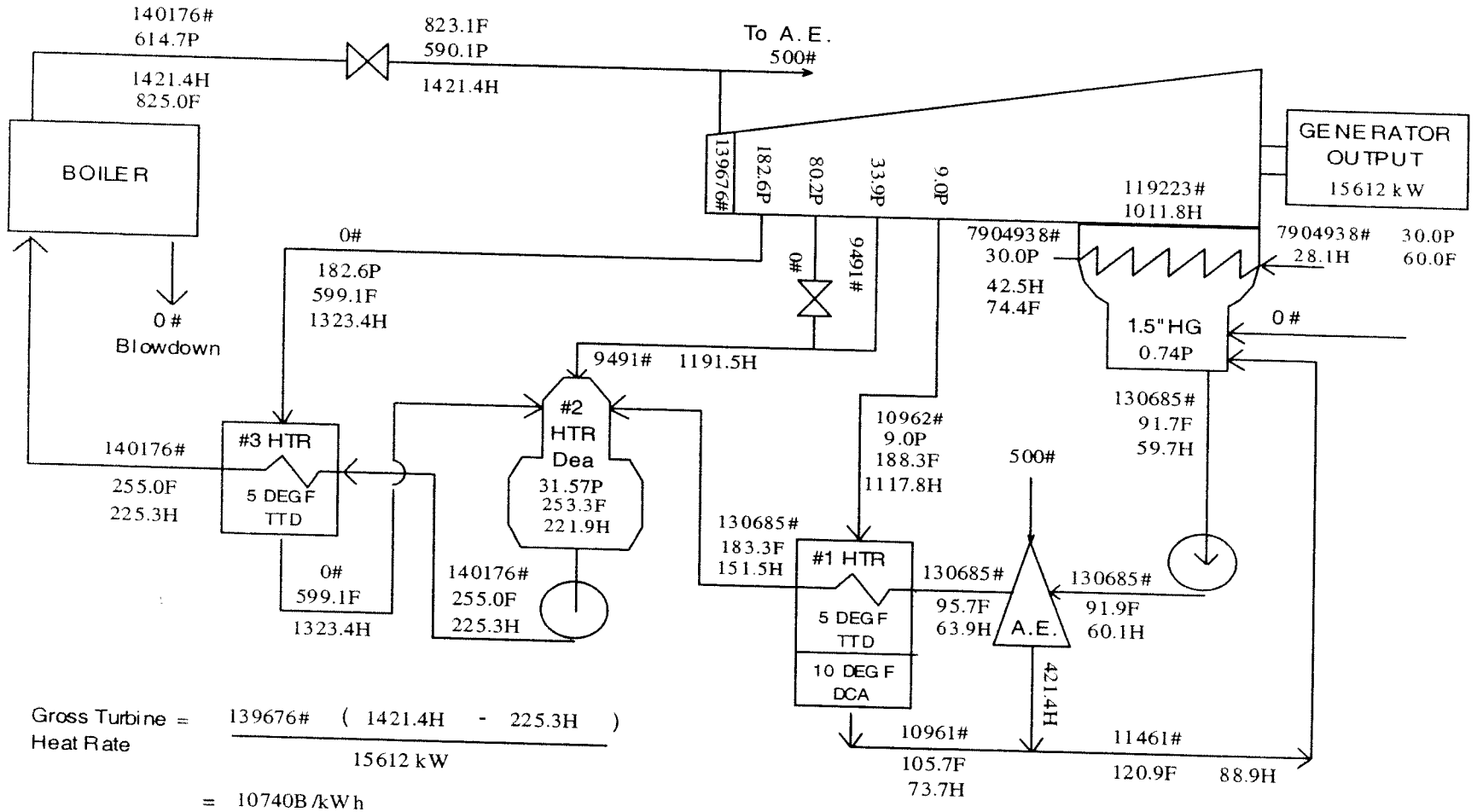
LEGEND
# = Flow, lbs per hr
P = Pressure, Psia
F = Temperature, deg F
H = Enthalpy, Btu/#

Jasper - Design

03/30/01

Jasper Upgrade Study
#01-00085

AEP PRO SERV



Gross Turbine Heat Rate = $\frac{139676\# \ (\ 1421.4H - 225.3H\ )}{15612\ kW}$

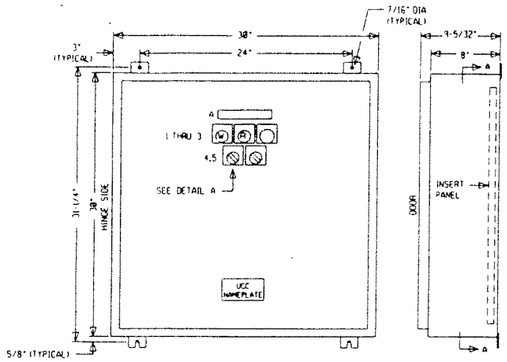
= 10740B/kWh

LEGEND
# = Flow, lbs per hr
P = Pressure, P sia
F = Temperature, deg F
H = Enthalpy, Btu/#

Jasper - HP Heater Out of Service 03/30/01

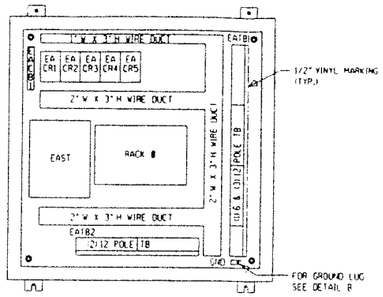
Jasper Upgrade Study
#01-00085

AEP PRO SERV

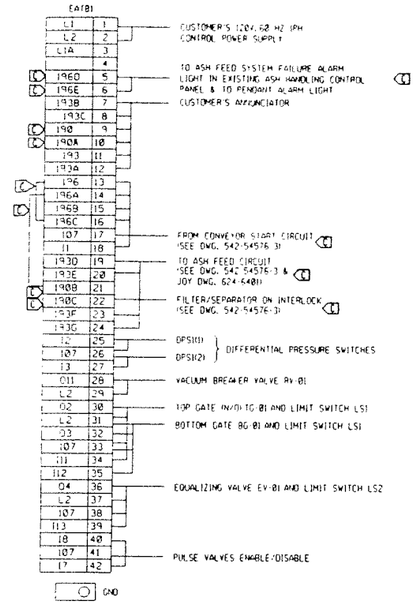


FRONT VIEW
(PANEL LAYOUT GRID 5-3514-22 TO BE LOCATED ON CENTER OF DOOR)

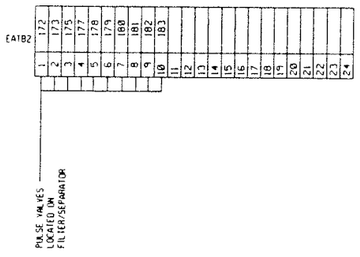
SIDE VIEW

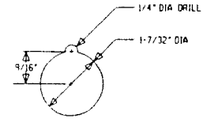


SECTION A-A

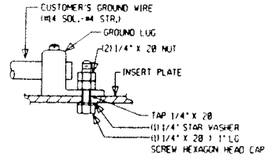


TERMINAL BLOCK ARRANGEMENT
N.T.S.





DETAIL A
MOUNTING HOLE FOR OPERATORS
N.T.S.



DETAIL B
GROUND LUG MOUNTING
N.T.S.

PANEL NAMEPLATE			
LTR.	QTY.	NAMEPLATE SIZE	CHAR SIZE	ENGRAVING
A	1	1" X 6"	1/4"	FILTER/SEPARATOR LOCAL CONTROL PANEL

PUSHBUTTON, SWITCH & LIGHT NAMEPLATES				
POS.	MARK	QTY.	UCC PART NUMBER	ENGRAVING
1	EAL2	1	42182-6	HIGH DIFFERENTIAL
2	EAL1	1		PULSE VALVES ON
3	EAPB1	1	42182-7	PUSH TO STOP PULL TO RESET
4	EASW2	1	42182-6	TRANSFER HOPPER MANUAL AUTO
5	EASW1	1		PULSE VALVES MANUAL AUTO

THIS SPECIFICATION IS TO BE USED IN CONJUNCTION WITH THE REFERENCED DRAWINGS AND UNITED CONVEYOR CORPORATION GENERAL FABRICATION SPECIFICATIONS FOR ELECTRICAL CONTROL ENCLOSURES No. 98886, PART 1 & 2.

THIS SPECIFICATION TAKES PRECEDENCE OVER UCC CONTROL PANEL AND ENCLOSURE SPECIFICATION No. 98886 WHEN CONFLICT OCCURS. IF ORDER OF PRECEDENCE IS NOT CLEAR, CONTACT UCC PURCHASING DEPARTMENT IMMEDIATELY.

1.0 NEMA ENVIRONMENTAL RATING

1.1 ENCLOSURE WILL BE DESIGNED TO MEET THE REQUIREMENTS OF NEMA 4X CONSTRUCTION.

2.0 FINISH

2.1 ENCLOSURE INTERIOR AND EXTERIOR SHALL BE STAINLESS STEEL, TYPE 316, 14 GAUGE AND HAVE A SMOOTH BRUSHED FINISH. INSERT PANEL IS WHITE ENAMEL.

3.0 HARDWARE

3.1 WIRE DUCT AND OTHER WIRING AIDS MAY BE ATTACHED WITH NYLON FASTENERS OR POP RIVETS.

4.0 WIRING

4.1 CONTROL COMPONENT WIRING WILL BE 14 AWG, 41 STRAND WIRE.

4.2 BOTH ENDS OF EACH WIRE SHALL BE TAGGED WITH ADHESIVE BACKED PRINTED PLASTIC WRAP-AROUND MARKERS. BRADY TYPE B292 OR UNITED CONVEYOR CORPORATION ENGINEERING APPROVED EQUAL.

5.0 NAMEPLATES AND DEVICE IDENTIFICATION

5.1 NAMEPLATES SHALL BE FRONT ENGRAVED PER PANEL NAMEPLATE TABLE ON THIS DRAWING.

5.2 PANEL NAMEPLATES SHALL BE FABRICATED FROM 1/16" THICK WHITE LAMINATED PLASTIC WITH BLACK CORE, AND HAVE 1/32" BEVELED EDGES.

5.3 NAMEPLATES SHALL HAVE TWO 1/8" MOUNTING HOLES CENTERED VERTICALLY 3/16" FROM EACH SIDE. NAMEPLATES SHALL BE FASTENED TO PANEL WITH #4-40 PHILLIPS PAN HEAD STAINLESS STEEL SCREWS. ALL NAMEPLATE MOUNTING SCREW PENETRATIONS TO BE SEALED WITH RTV COMPOUND.

5.4 PANEL INTERNAL COMPONENT NAMEPLATES SHALL BE FABRICATED FROM 1/16" THICK WHITE LAMINATED PLASTIC WITH BLACK CORE, AND HAVE 1/32" BEVELED EDGES. NAMEPLATES WILL BE 1/2" WIDE BY THE LENGTH NEEDED TO ACCOMMODATE THE TAG No. ENGRAVING IS TO BE 1/8". NAMEPLATES WILL BE ATTACHED TO PANEL STEEL NEAR THE COMPONENT IN THE MOST VISIBLE LOCATION POSSIBLE USING 3M #Y4945 SCOTCHMOUNT-WHITE D.C. FOAM TAPE 45 MIL. THICK.

6.0 TESTING

6.1 PANELS SHALL BE INSPECTED AND TESTED FOR OPERATION AT THEIR RATED VOLTAGES.

REFERENCES:
ELECTRICAL SCHEMATIC DIAGRAM ——— 542-54576-1
LADDER DIAGRAM PRINTOUT ——— LDP42-54576-1

CONSULTING ENGINEERS
S.F.T. INC.

REV		REV		REV		REV		REV		REV	
G		F		E		D		C	PER ITEM MARKED PRINT OF 6/21/93 DW/JJR 6/22/93 KMC 6/24/93 LFM BGS M	B	PER DWG. RETURN OF 3/18/93 W/O UCC REVIEW DW/JJR 3/24/93 KMC LFM BGS 3/25/93	A	INITIAL SUBMITTAL

DWN	CK'D	APR'D	APR'D	PM	SCALE	CONTRACT NUMBER	DRAWING LETTER IDENTIFICATION	DRAWING NUMBER	REVISION
KJA	DBL	MMK	LFM	BGS	2"=1'-0"	54576-B1	EA	535-54576-1	C
11/28/91	12/18/92	12/31/92	02/12/93	02/15/93		SUBSYSTEM Z			

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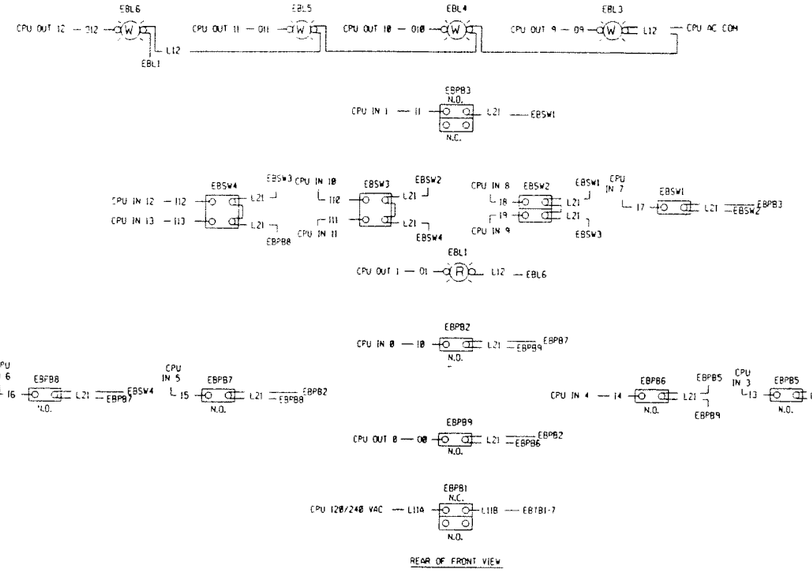
DRAWING TITLE
CONTINUOUS CONVEYING
FILTER/SEPARATOR CONTROL PANEL

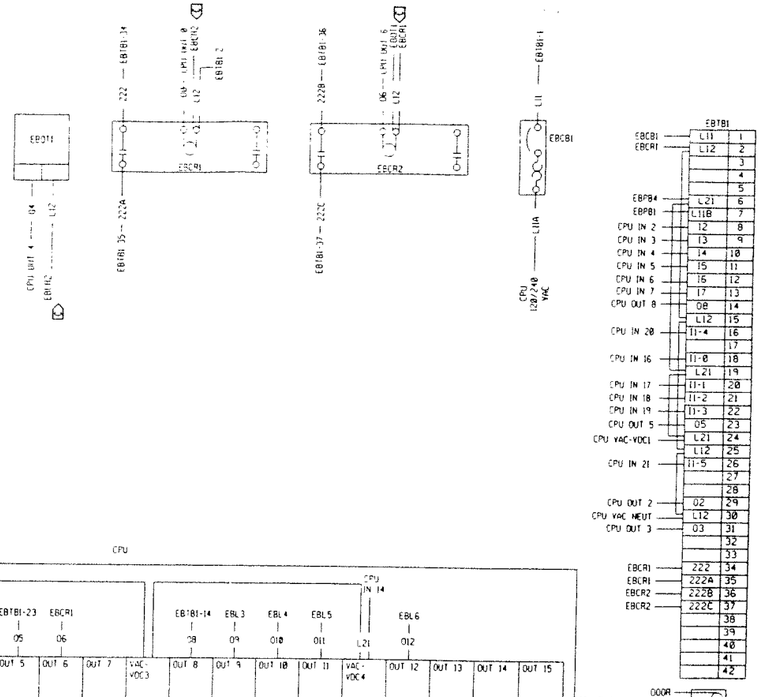
PLANT NAME
JASPER MUNICIPAL UTILITIES
PLANT # 2
JASPER, INDIANA

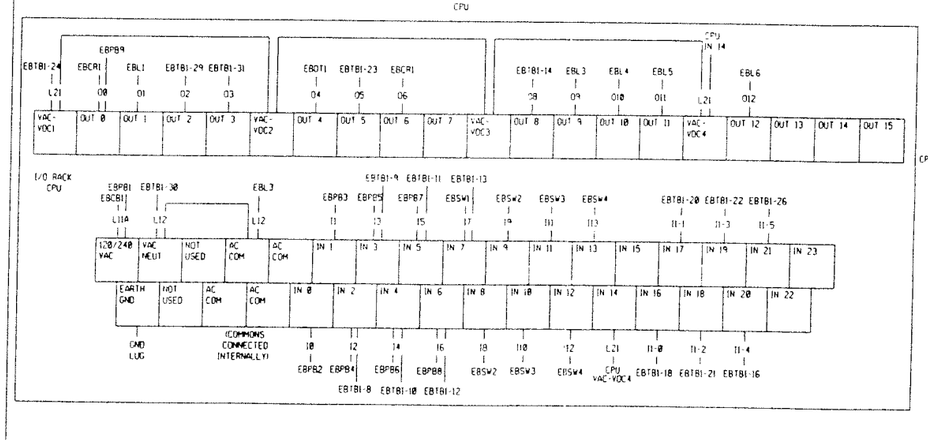
UNITED CONVEYOR CORPORATION
2100 NORMAN DRIVE WEST
WAUKEGAN, ILLINOIS 60085

FORM 9820-09 06/92

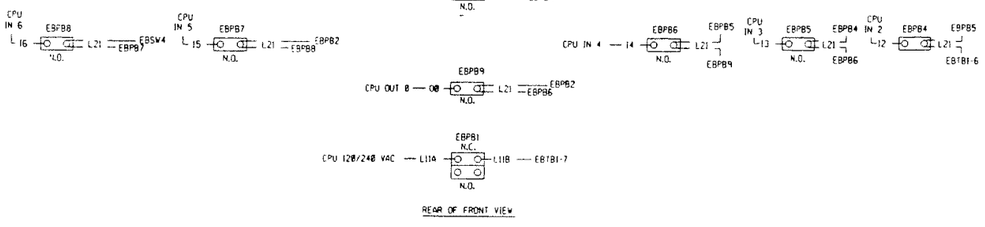


REAR OF FRONT VIEW





CPU



CONSULTING ENGINEERS
S.P.T. INC.

REFERENCES:
CONTROL PANEL ——— 535-54576-2

REV		
G		
F		
E		
D		
C	PER SHOP INSPECTION 5/21/93 DW/JJR 6/22/93 MHK 6/24/93 LFM 6/25	M
B	PER DWG. RETURN OF 3/18/93 DW/JJR 3/24/93 MHK,LFM,BGS 3/25/93	
A	INITIAL SUBMITTAL	

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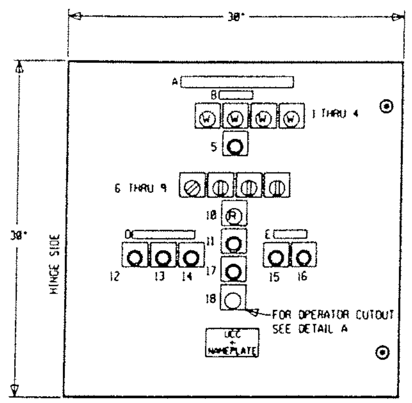
DRAWING TITLE
ELECTRICAL WIRING DIAGRAM
UNLOADER

PLANT NAME
JASPER MUNICIPAL UTILITIES
PLANT # 2
JASPER, INDIANA

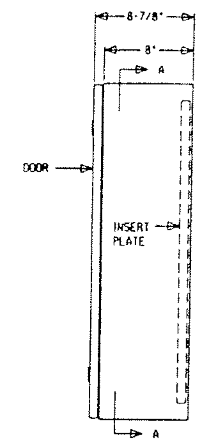
UNITED CONVEYOR CORPORATION
200 NORMAN DRIVE WEST
WAUKEGAN, ILLINOIS 60085

DW	CK'D	APP'D	APP'D	Pat	SCALE	CONTRACT NUMBER	DRAWING NUMBER	REVISION
AJA	DBL	MHK	LFM	BGS	NONE	54576-01	535-54576-D1	C
01/27/93	02/18/93	02/22/93	02/22/93	02/25/93		SUBSYSTEM 7	DRAWING CENTER IDENTIFICATION —	

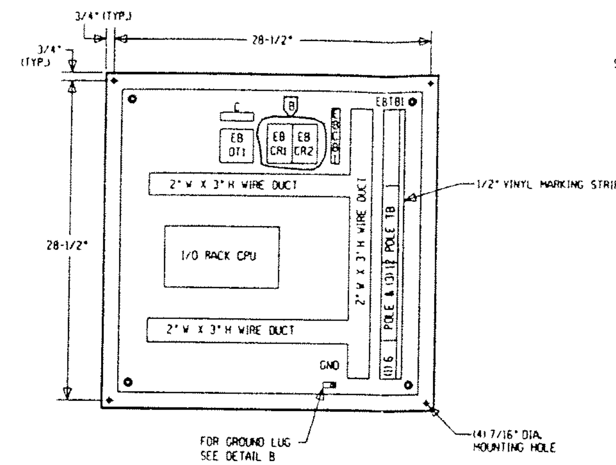
FORM 3920-09 06/92



FRONT VIEW
(PANEL LAYOUT GRID 5-3514-22
TO BE LOCATED ON CENTER
OF DOOR)



SIDE VIEW



SECTION A-A

SEE SECTION A-A

PANEL NAMEPLATES				
LTR.	QTY	NAMEPLATE SIZE	CHAR SIZE	ENGRAVING
A	1	1" X 10"	1/4"	UNLOADER LOCAL CONTROL
B	1	3/4" X 3"	3/16"	ALARMS
C	1	3/4" X 3"	3/16"	OPERATING TIME
D	1	3/4" X 5-1/2"	3/16"	UNLOADING
E	1	3/4" X 3"	3/16"	WASHOUT

PUSHBUTTON, SWITCH & LIGHT NAMEPLATES				
POS	MARK	QTY	UCC PART NUMBER	ENGRAVING
1	EBL3	1	42182-6	LOW CONTROL AIR PRESSURE
2	EBL4	1		LOW WATER FLOW
3	EBL5	1		ASH FEED FAILURE
4	EBL6	1		MOTOR TROUBLE
5	EBPB3	1		ALARM RESET/ LAMP TEST
6	EBSW1	1		REMOTE OPERATION ON OFF
7	EBSW2	1		BIN ISOLATION VALVE AUTO CYCLE CLOSE OPEN
8	EBSW3	1		ASH FEED TEST OFF AUTO
9	EBSW4	1		WATER SUPPLY ON OFF AUTO
10	EBL1	1		POWER ON
11	EBPB2	1		START/ POWER ON
12	EBPB4	1		START
13	EBPB5	1		NORMAL STOP
14	EBPB6	1		FINAL LOAD STOP
15	EBPB7	1		START
16	EBPB8	1		STOP
17	EBPB9	1		UNLOADER JOG
18	EBPB1	1	42182-7	EMERGENCY STOP/ POWER OFF

THIS SPECIFICATION IS TO BE USED IN CONJUNCTION WITH THE REFERENCED DRAWING(S) AND UNITED CONVEYOR CORPORATION GENERAL FABRICATION SPECIFICATIONS FOR ELECTRICAL CONTROL ENCLOSURES No. 98806, PART 1 & 2.

THIS SPECIFICATION TAKES PRECEDENCE OVER UCC CONTROL PANEL AND ENCLOSURE SPECIFICATION No. 98806, WHEN CONFLICT OCCURS. IF ORDER OF PRECEDENCE IS NOT CLEAR, CONTACT UCC PURCHASING DEPARTMENT IMMEDIATELY.

1.0 NEMA ENVIRONMENTAL RATING

1.1 ENCLOSURE WILL BE DESIGNED TO MEET THE REQUIREMENTS OF NEMA 4X CONSTRUCTION.

2.0 FINISH

2.1 ENCLOSURE INTERIOR AND EXTERIOR SHALL BE STAINLESS STEEL, TYPE 316, 14 GAUGE AND HAVE A SMOOTH BRUSHED FINISH. INSERT PANEL IS WHITE ENAMEL.

3.0 HARDWARE

3.1 WIRE DUCT AND OTHER WIRING AIDS MAY BE ATTACHED WITH NYLON FASTENERS OR POP RIVETS.

4.0 WIRING

4.1 CONTROL COMPONENT WIRING WILL BE 14 AWG, 41 STRAND WIRE.

4.2 BOTH ENDS OF EACH WIRE SHALL BE TAGGED WITH ADHESIVE BACKED PRINTED PLASTIC WRAP-AROUND MARKERS, BRADY TYPE B292 OR UNITED CONVEYOR CORPORATION ENGINEERING APPROVED EQUAL.

5.0 NAMEPLATES AND DEVICE IDENTIFICATION

5.1 NAMEPLATES SHALL BE FRONT ENGRAVED PER PANEL NAMEPLATE TABLE ON THIS DRAWING.

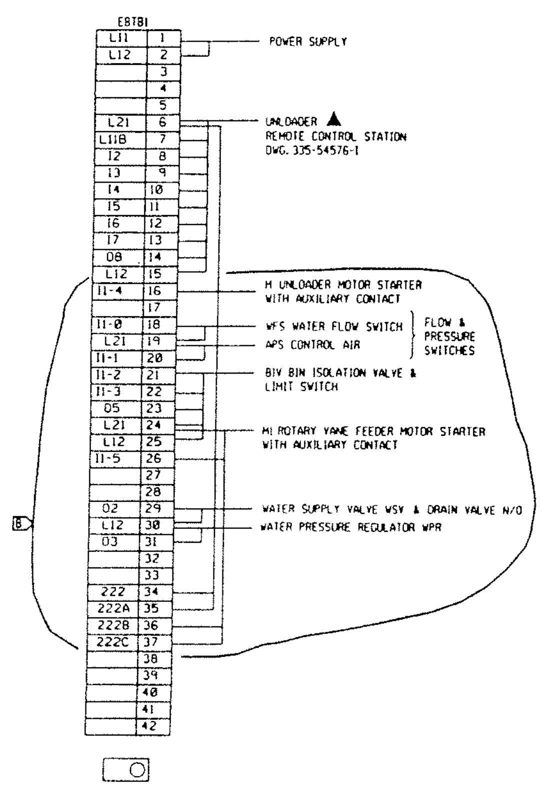
5.2 PANEL NAMEPLATES SHALL BE FABRICATED FROM 1/16" THICK WHITE LAMINATED PLASTIC WITH BLACK CORE, AND HAVE 1/32" BEVELED EDGES.

5.3 NAMEPLATES SHALL HAVE TWO 1/8" MOUNTING HOLES CENTERED VERTICALLY 3/16" FROM EACH SIDE. NAMEPLATES SHALL BE FASTENED TO PANEL WITH #4-40 PHILLIPS PAN HEAD STAINLESS STEEL SCREWS. ALL NAMEPLATE MOUNTING SCREW PENETRATIONS TO BE SEALED WITH RTV COMPOUND.

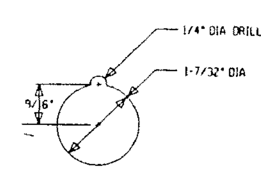
5.4 PANEL INTERNAL COMPONENT NAMEPLATES SHALL BE FABRICATED FROM 1/16" THICK WHITE LAMINATED PLASTIC WITH BLACK CORE, AND HAVE 1/32" BEVELED EDGES. NAMEPLATES WILL BE 1/2" WIDE BY THE LENGTH NEEDED TO ACCOMMODATE THE TAG No. ENGRAVING IS TO BE 1/8". NAMEPLATES WILL BE ATTACHED TO PANEL STEEL NEAR THE COMPONENT IN THE MOST VISIBLE LOCATION POSSIBLE USING 3M #Y4945 SCOTCHMOUNT-WHITE O.C. FOAM TAPE 45 MIL. THICK.

6.0 TESTING

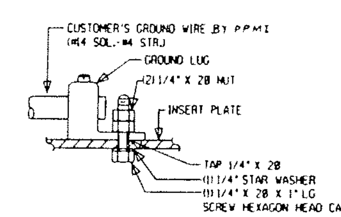
6.1 PANELS SHALL BE INSPECTED AND TESTED FOR OPERATION AT THEIR RATED VOLTAGES.



TERMINAL BLOCK ARRANGEMENT
N.T.S.



DETAIL A
MOUNTING HOLE FOR OPERATORS
N.T.S.



DETAIL B
GROUND LUG MOUNTING
N.T.S.

REFERENCES:
WIRING DIAGRAM ———— 535-54576-01
ELECTRICAL SCHEMATIC DIAGRAM ———— 542-54576-2
LADDER DIAGRAM PRINTOUT ———— LDP42-54576-2

CONSULTING ENGINEERS
S.F.T. INC.

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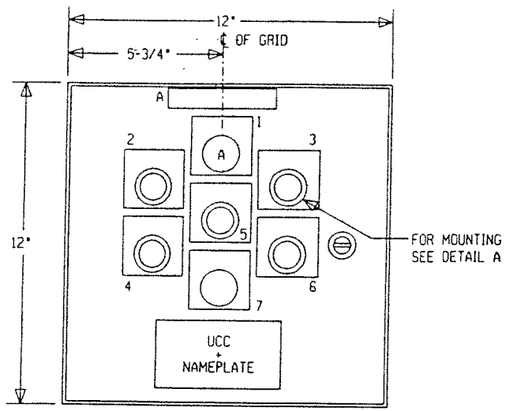
DRAWING TITLE: UNLOADER LOCAL CONTROL PANEL

PLANT NAME: JASPER MUNICIPAL UTILITIES PLANT # 2 JASPER, INDIANA

UNITED CONVEYOR CORPORATION
2100 NORMAN DRIVE WEST
WAUKEGAN, ILLINOIS 60085

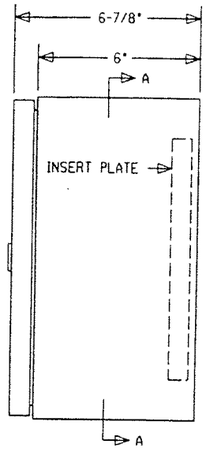
DWN	CK'D	APR'D	APR'D	PM	SCALE	CONTRACT NUMBER	DRAWING LETTER IDENTIFICATION	DRAWING NUMBER	REVISION
AJK	DBL	HMK	LFM	BGS	2"=1'-0"	54576-01	EB	535-54576-2	B
01/28/93	02/10/93	02/11/93	02/12/93	02/15/93		SUBSYSTEM: Z			

REV	DESCRIPTION
G	
F	
E	
D	
C	
B	PER DWG. RETURN OF 3/10/93 BGS DW/JJR 3/24/93 HMK 3/4/93 LFM
A	INITIAL SUBMITTAL

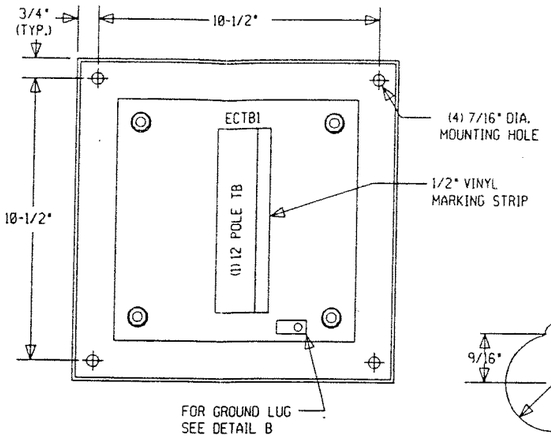


FRONT VIEW

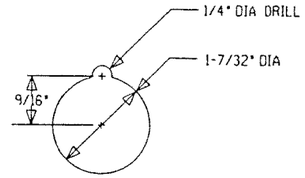
(PANEL LAYOUT GRID 5-3514-23
TO BE LOCATED AS INDICATED
ON DOOR)



SIDE VIEW



SECTION A-A

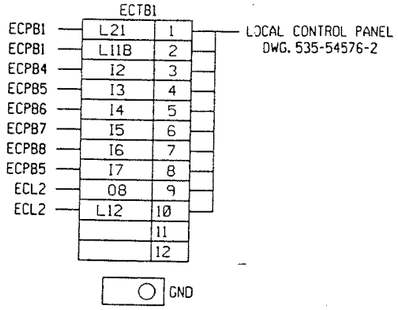


DETAIL A

MOUNTING HOLE FOR OPERATORS
N.T.S.

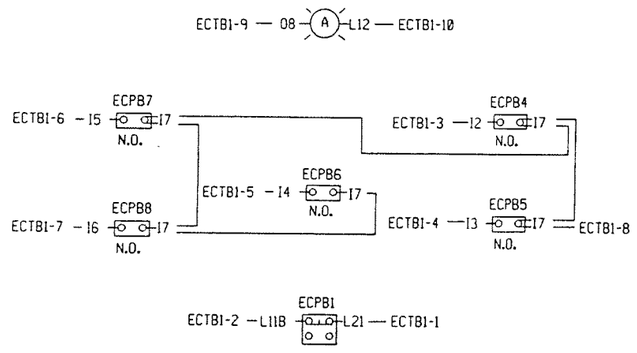
PANEL NAMEPLATE				
LTR.	QTY	NAMEPLATE SIZE	CHAR SIZE	ENGRAVING
A	1	3/4" X 4"	3/16"	UNLOADER REMOTE CONTROL

PUSHBUTTON & LIGHT NAMEPLATES				
POS	MARK	QTY	UCC PART NUMBER	ENGRAVING
1	ECL2	1	42182-6	STATION ON
2	ECPB4	1		UNLOADING START
3	ECPB7	1		WASHOUT START
4	ECPB5	1		UNLOADING NORMAL STOP
5	ECPB6	1		FINAL LOAD STOP
6	ECPB8	1		WASHOUT STOP
7	ECPB1	1	42182-7	EMERGENCY STOP/ POWER OFF



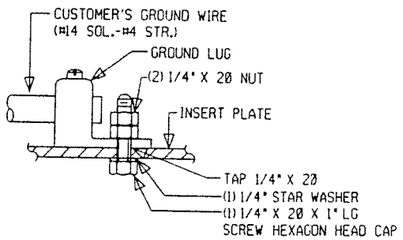
LOCAL CONTROL PANEL
DWG. 535-54576-2

TERMINAL BLOCK ARRANGEMENT
N.T.S.



REAR OF FRONT VIEW
N.T.S.

HINGE WIRING



DETAIL B

GROUND LUG MOUNTING
N.T.S.

WIRING DIAGRAM
N.T.S.

REFERENCES:
ELECTRICAL SCHEMATIC DIAGRAM ——— 542-54576-2

THIS SPECIFICATION IS TO BE USED IN CONJUNCTION WITH THE REFERENCED DRAWING(S) AND UNITED CONVEYOR CORPORATION GENERAL FABRICATION SPECIFICATIONS FOR ELECTRICAL CONTROL ENCLOSURES No. 98006, PART 1 & 2.

THIS SPECIFICATION TAKES PRECEDENCE OVER UCC CONTROL PANEL AND ENCLOSURE SPECIFICATION No. 98006, WHEN CONFLICT OCCURS. IF ORDER OF PRECEDENCE IS NOT CLEAR, CONTACT UCC PURCHASING DEPARTMENT IMMEDIATELY.

1.0 NEMA ENVIRONMENTAL RATING

1.1 ENCLOSURE WILL BE DESIGNED TO MEET THE REQUIREMENTS OF NEMA 4X CONSTRUCTION.

2.0 FINISH

2.1 ENCLOSURE INTERIOR AND EXTERIOR SHALL BE STAINLESS STEEL, TYPE 316, 14 GAUGE AND HAVE A SMOOTH BRUSHED FINISH. INSERT PANEL IS WHITE ENAMEL.

3.0 HARDWARE

3.1 WIRE DUCT AND OTHER WIRING AIDS MAY BE ATTACHED WITH NYLON FASTENERS OR POP RIVETS.

4.0 WIRING

4.1 CONTROL COMPONENT WIRING WILL BE 14 AWG, 41 STRAND WIRE.

4.2 BOTH ENDS OF EACH WIRE SHALL BE TAGGED WITH ADHESIVE BACKED PRINTED PLASTIC WRAP-AROUND MARKERS. BRADY TYPE B292 OR UNITED CONVEYOR CORPORATION ENGINEERING APPROVED EQUAL.

5.0 NAMEPLATES AND DEVICE IDENTIFICATION

5.1 NAMEPLATES SHALL BE FRONT ENGRAVED PER PANEL NAMEPLATE TABLE ON THIS DRAWING.

5.2 PANEL NAMEPLATES SHALL BE FABRICATED FROM 1/16" THICK WHITE LAMINATED PLASTIC WITH BLACK CORE, AND HAVE 1/32" BEVELED EDGES.

5.3 NAMEPLATES SHALL HAVE TWO 1/8" MOUNTING HOLES CENTERED VERTICALLY 3/16" FROM EACH SIDE. NAMEPLATES SHALL BE FASTENED TO PANEL WITH #4-40 PHILLIPS PAN HEAD STAINLESS STEEL SCREWS. ALL NAMEPLATE MOUNTING SCREW PENETRATIONS TO BE SEALED WITH RTV COMPOUND.

5.4 PANEL INTERNAL COMPONENT NAMEPLATES SHALL BE FABRICATED FROM 1/16" THICK WHITE LAMINATED PLASTIC WITH BLACK CORE, AND HAVE 1/32" BEVELED EDGES. NAMEPLATES WILL BE 1/2" WIDE BY THE LENGTH NEEDED TO ACCOMMODATE THE TAG No. ENGRAVING IS TO BE 1/8". NAMEPLATES WILL BE ATTACHED TO PANEL STEEL NEAR THE COMPONENT IN THE MOST VISIBLE LOCATION POSSIBLE USING 3M #Y4945 SCOTCHMOUNT-WHITE D.C. FOAM TAPE 45 MIL. THICK.

6.0 TESTING

6.1 PANELS SHALL BE INSPECTED AND TESTED FOR OPERATION AT THEIR RATED VOLTAGES.

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DWN	CK'D	APP'D	APP'D	PM	SCALE
AJK	KRB	MWK	LFM	BJS	4"=1'-0"
01/28/93	02/4/93	2/11/93	2/12/93	2/15/93	

CONTRACT NUMBER 54576-01
SUBSYSTEM Z

DRAWING TITLE
UNLOADER
REMOTE CONTROL STATION

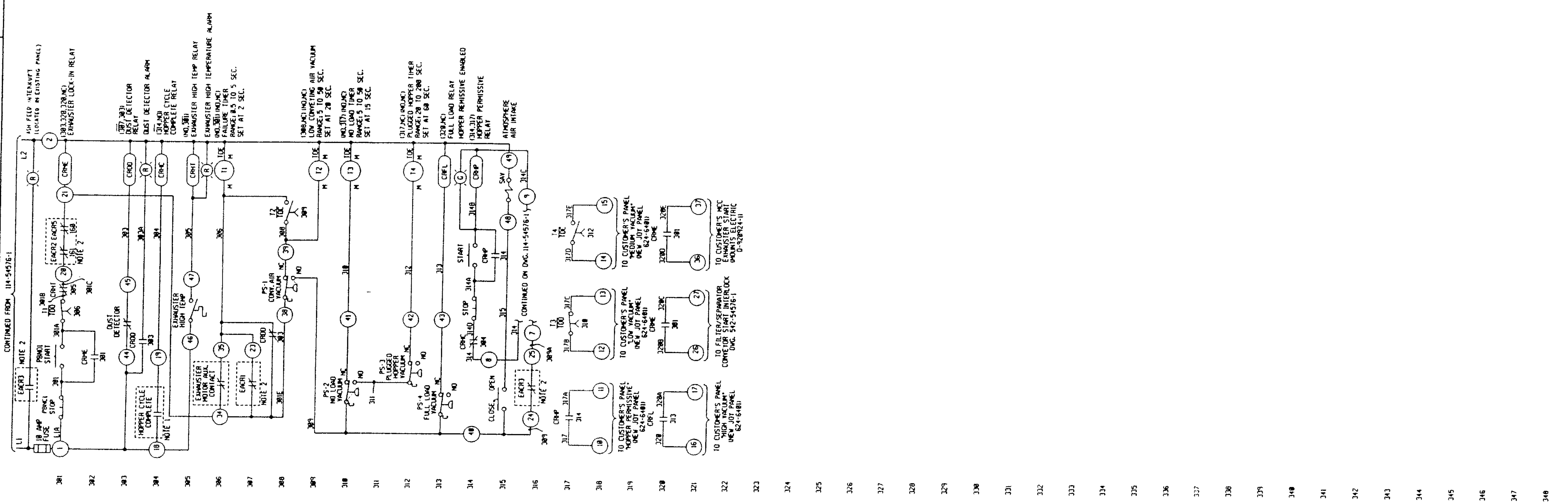
PLANT NAME
JASPER MUNICIPAL UTILITIES
PLANT # 2
JASPER, INDIANA

UNITED CONVEYOR CORPORATION
2100 NORMAN DRIVE WEST
WAUKEGAN, ILLINOIS 60085

DRAWING LETTER IDENT EC

DRAWING NUMBER 335-54576-1 A

REV		
F		
E		
D		
C		
B		
A	M	INITIAL SUBMITTAL



NOTES:

1. OUTPUT FROM JOY PANEL DWG. 624-6481
2. CONTACT LOCATED IN FILTER/SEPARATOR LOCAL CONTROL PANEL DWG. 542-54576-1

REFERENCES:

ELECTRICAL SCHEMATIC DIAGRAMS ———— 542-54576-1, 2
NUVEYOR CONTROL DIAGRAM ———— 114-54576-1
MECHANICAL EXHAUSTER CONTROL PANEL — MOUNTS ELECTRIC D-920924-4

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DRAWING TITLE: ELECTRICAL SCHEMATIC DIAGRAM FOR MODIFICATIONS TO EXISTING SYSTEM TO INCORPORATE MECHANICAL EXHAUSTER

PLANT NAME: JASPER MUNICIPAL UTILITIES PLANT # 2 JASPER, INDIANA

UNITED CONVEYOR CORPORATION
2100 NORMAN DRIVE WEST
WAUKEGAN, ILLINOIS 60085

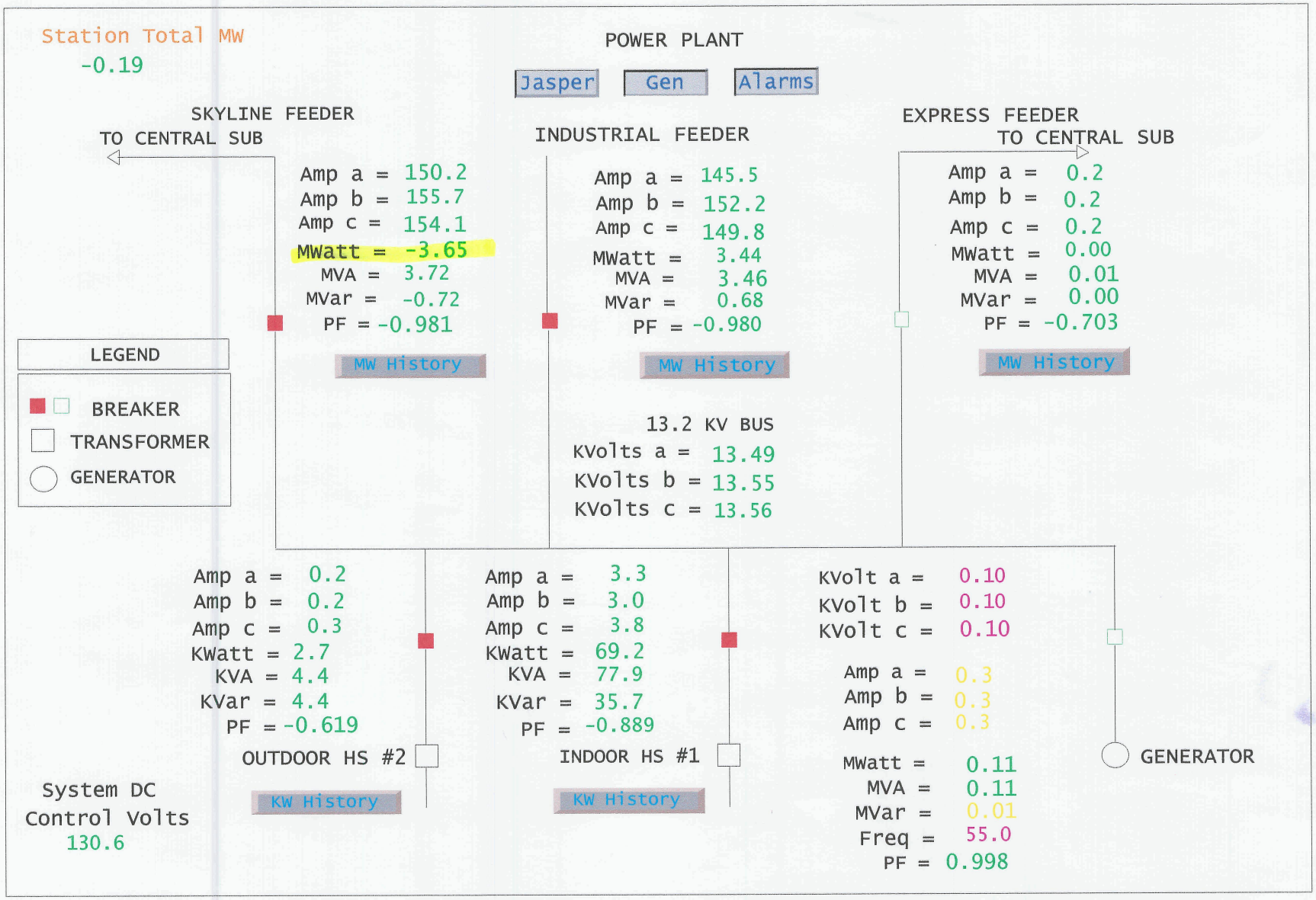
DWN	CK'D	APR'D	APR'D	PM	SCALE	CONTRACT NUMBER	DRAWING LETTER CERTIFICATION	DRAWING NUMBER	REVISION
KJA	DBL	MMK	LFM	BGS	NONE	54576-01	—	542-54576-3	C
01/29/93	02/12/93	02/12/93	02/12/93	02/15/93		SUBSYSTEM 2			

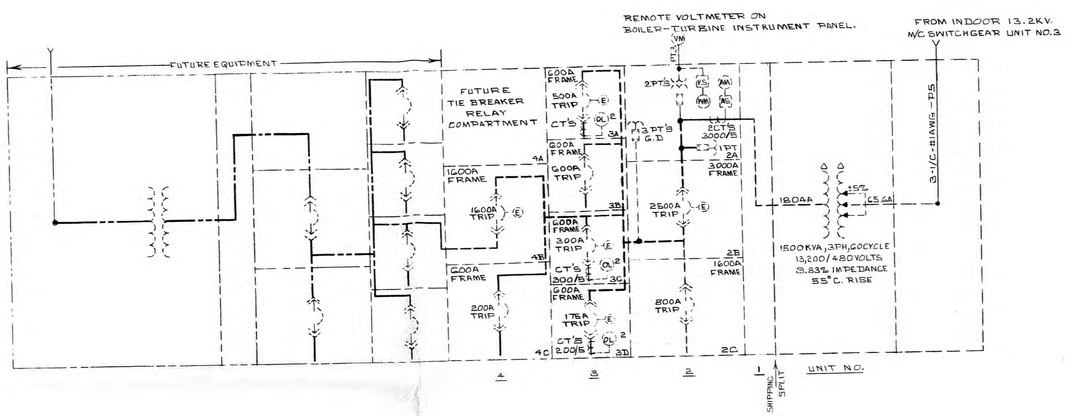
REV	DESCRIPTION
G	
F	
E	
D	
C	GEN REV TERM PNTS & IND LTS ADDED PER SFT REQ &77##T MKD PRT OF 6/21/93 MMK 1/24/93 DW/JJR 6/22/93 LFM BGS
B	PER DWG RETURN OF 3/10/93 DW/JJR 3/24/93 MMK,LFM,BGS 3/25/93
A	INITIAL SUBMITTAL

SYSTEM FEEDER READING SUMMARY

DATE 1-19-09	Monday				
TIME 7:58 AM	TOTAL KW	TOTAL KVAR	TOTAL KVA	P.F.	
WEATHER TEMP	54394	5754	54697	-.994	
Clear 15°					
SUB/FEEDER	AMPS	KW	KVARS	P.F.	KVA
ST WEST	210 219 220	4900	230	1.000	4905
ST SOUTH	152 154 194	3720	390	-.994	3740
ST EAST	151 175 178	3790	-10	1.000	3790
ST NORTH	70 87 79	1600	230	-.989	1616
ST TOTALS		14010	840	-.992	14035
NT NORTH	162 228 144	4040	-130	+.999	4042
NT WEST	91 101 147	2400	370	-.988	2428
NT SOUTH	142 143 161	3350	-40	1.000	3350
NT EAST	169 154 157	3590	160	-.999	3593
NT TOTALS		13380	360	-.999	13384
CT SKYLINE*	71 78 82	-1740	470	+.965	-1802
CT LOOP	192 184 165	4410	170	-.999	4413
CT INNER LOOP	69 71 69	1580	970	-.857	1853
CT EXPRESS*	85 72 77	-2000	640	+.953	2099
CT TRANSF SEC TOTALS		1420	1530	-.680	2087
PL SKYLINE*	213 212 207	5010	240	-.998	5015
PL EXPRESS*	206 202 206	5000	-200	1.000	5003
PL INDUSTRIAL	170 176 173	3860	950	-.971	3975
PL OUTDOOR	11 10 10	200	202	-.704	284
PL INDOOR	34 34 35	726	343	-.906	802
PL GENERATOR	632 632 629	14930	1540	-.994	15009
GENERATOR TOTAL		14930	1540	-.994	15009
SW EAST	86 81 85	1700	460	-.965	1761
SW NORTH	115 126 123	2640	380	-.990	2667
SW WEST	191 191 198	4500	390	-.996	4516
SW SOUTH	92 92 94	2000	150	-.997	2005
SW TOTALS		10840	1380	-.992	10927
PURCHASE KW	PURCHASE KVAR	PURCHASE KVA	P.F.		
39650	4110	40433	-.980		
SYSTEM TOTAL KW	SYSTEM TOTAL KVAR	SYSTEM TOTAL KVA	P.F.		
54580	5650	55442	-.984		
SKYLINE PL	213 212 207	5010	240	-.998	5015
CT	71 78 82	-1740	470	+.965	-1802
SKYLINE TOTALS	142 134 125	3270	710	-.977	3346
EXPRESS PL	206 202 206	5000	-200	1.000	5003
CT	85 72 77	-2000	640	+.953	2099
EXPRESS TOTALS	121 130 129	3000	440	-.989	3032

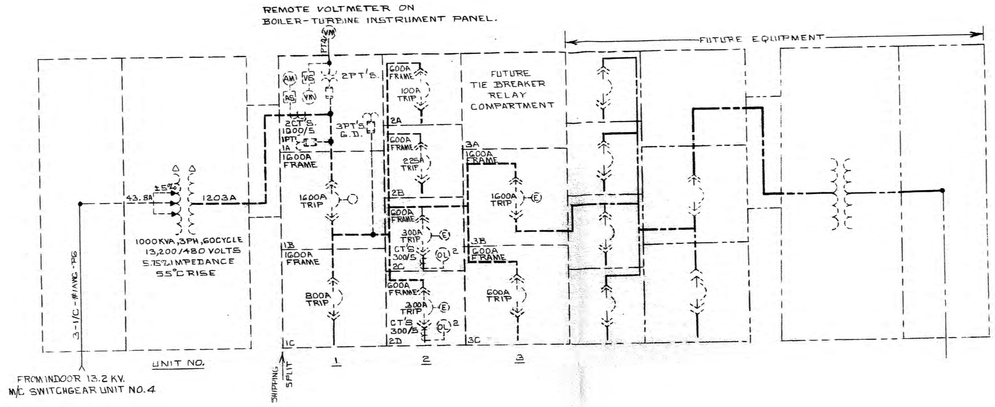
*SKYLINE And EXPRESS loads depend on Generator load at time of readings taken.


Station Total MW
-0.19
POWER PLANT
Jasper
Gen
Alarms
SKYLINE FEEDER
TO CENTRAL SUB
Amp a = 150.2
Amp b = 155.7
Amp c = 154.1
MWatt = -3.65
MVA = 3.72
MVar = -0.72
PF = -0.981
MW History
INDUSTRIAL FEEDER
Amp a = 145.5
Amp b = 152.2
Amp c = 149.8
MWatt = 3.44
MVA = 3.46
MVar = 0.68
PF = -0.980
MW History
EXPRESS FEEDER
TO CENTRAL SUB
Amp a = 0.2
Amp b = 0.2
Amp c = 0.2
MWatt = 0.00
MVA = 0.01
MVar = 0.00
PF = -0.703
MW History
LEGEND
BREAKER
TRANSFORMER
GENERATOR
13.2 KV BUS
KVolts a = 13.49
KVolts b = 13.55
KVolts c = 13.56
Amp a = 0.2
Amp b = 0.2
Amp c = 0.3
KWatt = 2.7
KVA = 4.4
KVar = 4.4
PF = -0.619
OUTDOOR HS #2
KW History
Amp a = 3.3
Amp b = 3.0
Amp c = 3.8
KWatt = 69.2
KVA = 77.9
KVar = 35.7
PF = -0.889
INDOOR HS #1
KW History
KVolt a = 0.10
KVolt b = 0.10
KVolt c = 0.10
Amp a = 0.3
Amp b = 0.3
Amp c = 0.3
MWatt = 0.11
MVA = 0.11
MVar = 0.01
Freq = 55.0
PF = 0.998
GENERATOR
System DC
Control Volts
130.6



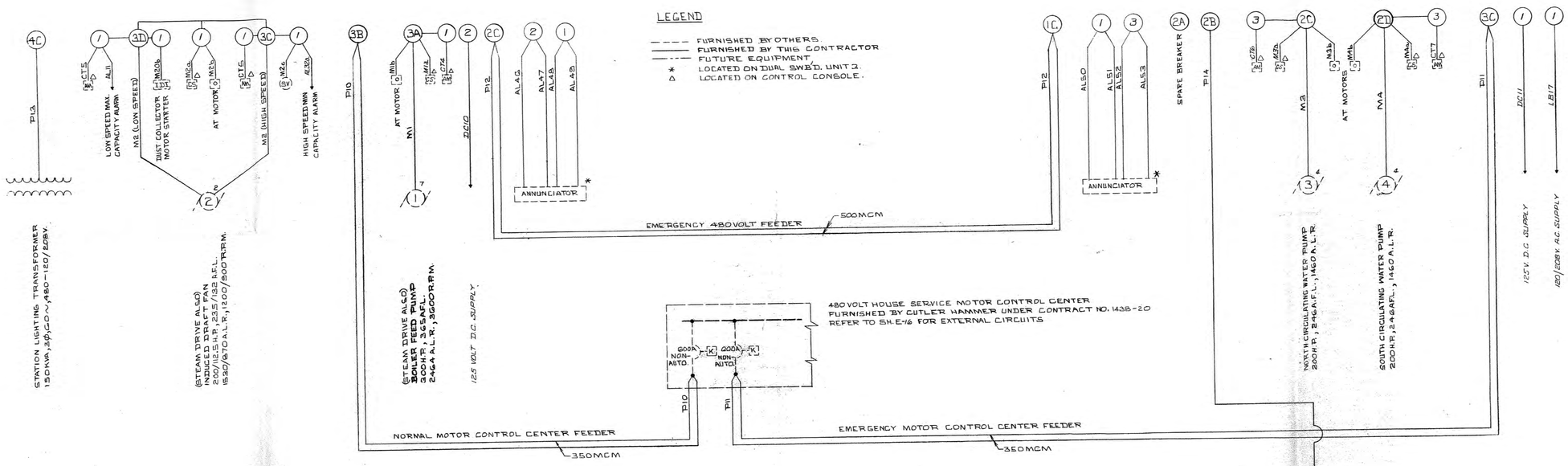
480 VOLT HOUSE SERVICE UNIT SUBSTATION NO. 1 (INDOOR)

FURNISHED BY WESTINGHOUSE ELECTRIC CORP. UNDER CONTRACT NO. 1438-19



480 VOLT HOUSE SERVICE UNIT SUBSTATION NO. 2 (OUTDOOR)

FURNISHED BY WESTINGHOUSE ELECTRIC CORP. UNDER CONTRACT NO. 1438-19



CONTRACT NO. 24

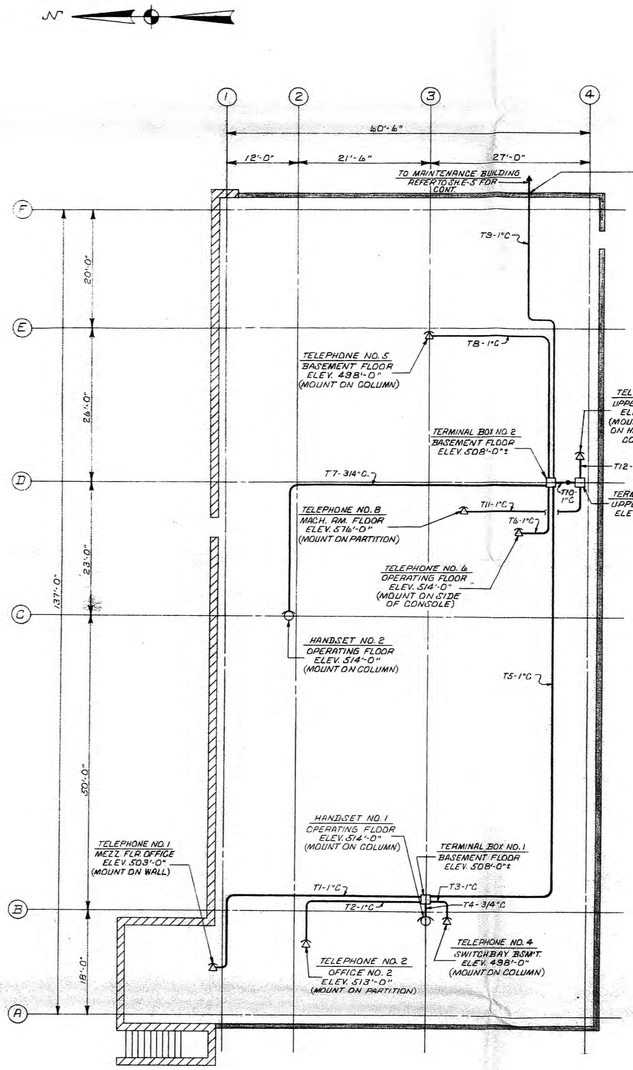
·· MUNICIPAL · LIGHT · PLANT · ·CITY · OF · JASPER · INDIANA ··

480 VOLT HOUSE SERVICE SUBSTATIONS AND CIRCUIT DESIGNATIONS

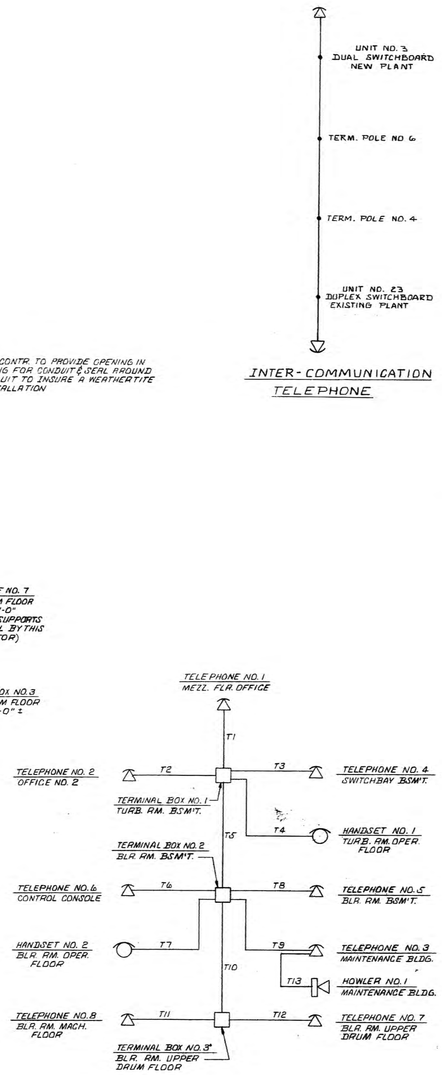
DRAWN REK | CHECKED | APPROVED

CAMPBELL, DEBOE, GIESE & WEBER
ELECTRICAL, MECHANICAL AND STRUCTURAL ENGINEERS
TOLEDO, OHIO

DATE 5-28-47
ORDER NO. 1438
SHEET E-15-0



PLAN VIEW
SCALE 1"=10'-0"



ONE LINE DIAGRAM

SOUND POWERED TELEPHONE SYSTEM

CIRCUIT NO.	CIRCUIT IDENTIFICATION	LOAD SUPPLIED	BKR. HANDLE LOCKS
	120/208 VOLT-3Φ-4 W MAIN & BRANCH FEEDERS		
L	LIGHTING TRANSFORMER SECONDARY	MAIN LIGHTING DISTRIBUTION CABINET	
LA	TURBINE ROOM BASEMENT & MEZZANINE FLOOR	BRANCH LIGHTING PANELBOARD 'A'	
LB	BOILER ROOM BASEMENT	BRANCH LIGHTING PANELBOARD 'B'	
LC	TURBINE ROOM OPERATING FLOOR	BRANCH LIGHTING PANELBOARD 'C'	
LD	BOILER ROOM OPERATING FLOOR	BRANCH LIGHTING PANELBOARD 'D'	
LE	LOWER DRUM ACCESS FLOOR	BRANCH LIGHTING PANELBOARD 'E'	
LF	UPPER DRUM ACCESS FLOOR	BRANCH LIGHTING PANELBOARD 'F'	
LG	MACHINERY ROOM FLOOR	BRANCH LIGHTING PANELBOARD 'G'	
	BRANCH LIGHTING PANELBOARD 'A' (TURB. RM. BSM'T & MEZZ. FLR.)		
LA1	MEZZANINE FLOOR - NORTH BAY LIGHTING	4-200W	
LA2	MEZZANINE FLOOR - EAST BAY LIGHTING	4-200W	
LA3	MEZZANINE FLOOR - SOUTH BAY LIGHTING	5-200W	
LA4	MEZZANINE FLOOR - WEST BAY LIGHTING	5-200W	
LA5	SWITCHBAY - WEST ROW LIGHTING	5-200W	
LA6	SWITCHBAY - EAST ROW LIGHTING	5-200W & 4-40W	
LA7	BASEMENT - NORTHWEST BAY LIGHTING	5-200W	
LA8	BASEMENT - SOUTHWEST BAY LIGHTING	5-200W	
LA9	BASEMENT - SOUTHEAST BAY LIGHTING	4-200W	
LA10	BASEMENT - EAST BAY LIGHTING	4-200W	
LA11	BASEMENT - EAST BAY LIGHTING	4-200W	
LA12	MEZZANINE OFFICE - LIGHTING	20-40W & 4-200W	X
LA13	TOILET ROOM LTG AND OFFICE RECEPTACLES	2-20W, 2-60W & 7 OUTLETS & VENTILATOR	X
LA14	MEZZANINE FLOOR RECEPTACLES	6 OUTLETS	X
LA15	SWITCHBAY RECEPTACLES	4 OUTLETS	X
LA16	BASEMENT RECEPTACLES	5 OUTLETS	X
LA17	UNIT HEATERS NO. 2, 3 & 4	3-1/8 H.P.	X
LA18	GAS UNIT HEATER NO. 1	1/4 H.P.	X
LA19	HOT WATER TANK	2000 W (2 P. 30A)	X
LA20	MEZZANINE OFFICE BASEBOARD HEATER	2000W (2P 30A)	X
LA21	TOILET ROOM BASEBOARD HEATER	750W (2P 30A)	X
LA22	MEZZANINE OFFICE AIR CONDITIONER	4500W (30A 2P 30A)	X
		SPARE 3-1P-20 AMP BKRS	
		SPACE 1-3P	
	BRANCH LIGHTING PANELBOARD 'B' (BOILER ROOM BASEMENT)		
LB1	NORTHWEST BAY LIGHTING	5-200W	
LB2	NORTHEAST BAY LIGHTING	5-200W	
LB3	EAST BAY LIGHTING	5-200W	
LB4	SOUTH BAY LIGHTING	6-200W	
LB5	SOUTHWEST BAY LIGHTING	5-200W	
LB6	WEST BAY LIGHTING	5-200W	
LB7	OUTSIDE DOOR LIGHTING	3-200W	X
LB8	OUTSIDE EAST WALL AREA LIGHTING	2-250W	
LB9	COAL ELEVATOR ROOM LIGHTING	4-200W	
LB10	COAL ELEVATOR PIT LIGHTING	5-200W	
LB11	RECEPTACLES - BSM'T. & COAL ELEVATOR PIT	5 OUTLETS	X
LB12	RECEPTACLES - BASEMENT	4 OUTLETS	X
LB13	UNIT HEATERS NO. 10 & 11	2-1/8 H.P.	X
LB14	UNIT HEATER NO. 9	1/30 H.P.	X
LB15	UNIT HEATERS NO. 12 & 13	1/3 & 1/30 H.P.	X
LB16	GAS UNIT HEATER NO. 3	1/15 H.P.	X
LB17	120/208 V. SUPPLY OUTDOOR 480 V. SWGR.	6000 W (30 A 2P BKR) (1-3/C #8 / 22 AWG)	X
LB18	COAL BUNKER ALARM RELAY CABINET		X
LB19	DEMINERALIZER POWER	SPARE 3-1P-20 AMP BKRS.	
		SPACE 1-3P	
	BRANCH LIGHTING PANELBOARD 'C' (TURB. RM. OPER. FLR.)		
LC1	TURBINE ROOM LIGHTING - WEST ROW	5-400W (30 A BKR)	
LC2	TURBINE ROOM LIGHTING - CENTER ROW	5-400W (30 A BKR)	
LC3	TURBINE ROOM LIGHTING - EAST ROW	5-400W (30 A BKR)	
LC4	BEHIND SWGR. LIGHTING	3-200W	
LC5	OFFICE NOS. 1 & 2 LIGHTING	36-40W	X
LC6	GENERATOR EXCITER LIGHTS	2-100W (2/C-#12 U.S.E CABLE)	X
LC7	SWITCHBAY STAIRWAY LIGHTING	1-300W	
LC8	RECEPTACLES - TURBINE ROOM	3 OUTLETS	X
LC9	RECEPTACLES - TURBINE ROOM & OFFICE #2	4 OUTLETS	X
LC10	RECEPTACLES - OFFICES	4 OUTLETS	X
LC11	UNIT HEATERS NO. 6 & 7	2-1/3 H.P.	X
LC12	UNIT HEATERS NO. 5 & 8	2-1/3 H.P.	X
LC13	TURBINE ROOM ROOF VENT - NORTH VENTS	2-1/2 H.P. (30A BKR)	X
LC14	TURBINE ROOM ROOF VENT - CENTER VENTS	2-1/2 H.P. (30A BKR)	X
LC15	TURBINE ROOM ROOF VENT - SOUTH VENTS	2-1/2 H.P. (30A BKR)	X
LC16	SWITCHBAY ROOF VENT	3-1/3 H.P.	X
LC17	SWITCHGEAR LIGHTING	16-40W	
LC18	GENERATOR HEATERS	1400 W (2/C-#12 U.S.E CABLE)	X
LC19	OFFICE NO. 1 BASEBOARD HEATER	1500W (2P BKR)	X
LC20	OFFICE NO. 2 BASEBOARD HEATER	1000W (2P BKR)	X
LC21	OFFICE NO. 1 AIR-CONDITIONER	3360W (30A-2P BKR)	X
LC22	OFFICE NO. 2 AIR-CONDITIONER	3360W (30A-2P BKR)	X
		SPARE 3-1P-20 AMP BKRS	
		SPACE 1-3P	

CIRCUIT NO.	CIRCUIT IDENTIFICATION	LOAD SUPPLIED	BKR. HANDLE LOCKS
	BRANCH LIGHTING PANELBOARD 'D' (BLR. RM. OPER. FLR.)		
LD1	MOTOR CONTROL CENTER AREA LIGHTING	12-40W	
LD2	NORTH BAY LIGHTING	4-200W & 1-300W	
LD3	I.D. FAN AREA LIGHTING	4-200W	
LD4	SOUTHEAST BAY LIGHTING	5-200W	
LD5	SOUTH BAY LIGHTING	4-200W & 1-300W.	
LD6	FRONT BOILER AREA LIGHTING	5-300W	
LD7	CONTROL PANELS AREA LIGHTING	1-300W & 4-40W	
LD8	WASHROOM & ASH SILO DOOR LIGHTING	1-200W & 8-40W	X
LD9	RECEPTACLES	4 OUTLETS	X
LD10	RECEPTACLES	5 OUTLETS	X
LD11	UNIT HEATERS NO. 14 & 15	1-1/20 & 1-1/6 H.P.	X
LD12	UNIT HEATERS NO. 16 & 17	2-1/20 H.P.	X
LD13	GAS UNIT HEATERS NO. 2 & 4	2-1/15 H.P.	X
LD14	UPPER NORTH & NORTH CENTER ROTARY FEEDERS	2-1/2 H.P. (30A BKR.)	X
LD15	UPPER SOUTH & SOUTH CENTER ROTARY FEEDERS	2-1/2 H.P. (30A BKR)	X
LD16	LOWER SOUTH & CENTER ROTARY FEEDERS	2-1/2 H.P. (30A BKR)	X
LD17	LOWER NORTH ROTARY FEEDER	1/2 H.P.	X
LD18	AIR SOOT BLOWER CONTROL PANEL		X
LD19	ASH HANDLING SYSTEM CONTROL PANEL		X
LD20	YARWAY BOILER LEVEL GAGE		X
LD21	WASHROOM HOT WATER HEATER	4000 W (30A-2P BKR)	X
LD22	DUAL SWITCHBOARD - UNIT 1 POWER		X
LD23	DUAL SWITCHBOARD - UNIT 3 POWER		X
LD24	DUAL SWITCHBOARD - ILLUMINATION	4-40W	
LD25	CONTROL CONSOLE		
LD26	CONTROL CONSOLE		
LD27	INSTRUMENT PANEL		
LD28	INSTRUMENT PANEL		
		SPARE 4-1P-20 AMP BKRS	
		SPACE 1-3P	
	BRANCH LIGHTING PANELBOARD 'E' (LOWER DRUM ACCESS FLOOR)		
LE1	NORTH BAY LIGHTING	6-200W & 1-300W	
LE2	ECONOMIZER AREA LIGHTING	6-200W	
LE3	SOUTHEAST BAY LIGHTING	4-200W & 1-300W.	
LE4	SOUTHWEST BAY LIGHTING	5-200W	
LE5	COAL SCALE AREA LIGHTING	5-200W	
LE6	RECEPTACLES	5 OUTLETS	X
LE7	FURNACE DRAFT GAGE	1-100W	X
		SPARE 4-1P-20 AMP BKRS	
		SPACE 1-3P	
	BRANCH LIGHTING PANELBOARD 'F' (UPPER DRUM ACCESS FLOOR)		
LF1	NORTH BAY LIGHTING	4-200W & 1-300W	
LF2	EAST BAY LIGHTING	5-200W	
LF3	SOUTHEAST BAY LIGHTING	4-200W	
LF4	SOUTHWEST BAY LIGHTING	4-200W	
LF5	SOUTHWEST STAIRWAY LIGHTING	4-300W	
LF6	OUTDOOR LIGHTING & RECEPTACLES	2 OUTLETS & 2-200W	X
LF7	RECEPTACLES	3 OUTLETS	X
LF8	BOILER LEVEL GAGES	4-60W	X
		SPARE 3-1P-20 AMP BKRS	
		SPACE 1-3P	
	BRANCH LIGHTING PANELBOARD 'G' (MACHINERY ROOM FLOOR)		
LG1	NORTHEAST BAY LIGHTING	4-200W	
LG2	NORTHWEST BAY LIGHTING	5-200W	
LG3	COAL BUNKER AREA LIGHTING	4-200W	
LG4	SOUTH BAY LIGHTING	4-200W	
LG5	RECEPTACLES & BOILER ROOM ROOF LIGHTING	2 OUTLETS & 2-200W	X
LG6	RECEPTACLES	4 OUTLETS	X
		SPARE 3-1P-20 AMP BKRS	
		SPACE 1-3P	

CONTRACT NO. 24

·· MUNICIPAL · LIGHT · PLANT · · CITY · OF · JASPER · INDIANA ··

CIRCUIT TABULATION 120/208 VOLT LIGHTING AND COMMUNICATION SYSTEM

DRAWN TPB | CHECKED | APPROVED

CAMPBELL, DEBOE, GIESE & WEBER
ELECTRICAL, MECHANICAL AND STRUCTURAL ENGINEERS
TOLEDO, OHIO

DATE 9-28-67
ORDER NO. 1438
SHEET E-41-0

13.2 KV OVERHEAD TRANSMISSION LINE BY OTHERS

INCOMING 6.9 KV LINE FROM I.S.G.&E. CO.

(3) L.A.N.S.

A.B.S.

TO S.I.G.&E. CO. METERING

(2) C.T.'S.

A.B.S.

NOTE:
ALL ITEMS ASSOCIATED WITH TIE SUBSTATION TO BE FURNISHED UNDER CONTRACT NO. 17 UNLESS NOTED OTHERWISE.
▲ INDICATES DEVICES INCLUDED ON DUPLEX SWITCHBOARD UNIT 2.S.

TERMINAL POLE NO.3

CIRC. P.9

UNDERGROUND FEEDER

A.B.S.

(3) L.A.N.S.

FUSED DISC. SW.

FUSED DISC. SW.

S.I.G.E. CO. TIE TRANSF. (SOUTH)

5000/6250 KVA 47000-13,200/7620 V. TRANSFORMERS

S.I.G.E. CO. TIE TRANSF. (NORTH)

1 C.P.T. 15 KVA 13,200-240/120

2 P.T.'S. LL 14,400/120 V.

1 C.P.T. 15 KVA 13,200-240/120

2 P.T.'S. LL 14,400/120 V.

12 KV. L.A.

(3) 1200/5 BUS DIFF.

(3) 800/5

(3) 800/5

▲ THERMAL TRANSDIT. 80

PILOT WIRES

(TO UNIT NO. 7 OF NEW INDOOR 13.2 KV M/C SWGR.)

TO BUS R.T.'S.

TRIP

(3) 1200/5 BUS DIFF.

(3) 300/5 TO METERING & RELAYING ON D/A SWBD.

RECORDING MW

(3) 300/5

(3) 1200/5 BUS DIFF.

(3) 300/5 TO METERING & RELAYING ON D/A SWBD.

(3) 300/5

1200 A.

1200 A. 500 MVA.

1200 A. 500 MVA.

13,200 V. 3 PH. 4 W. 60~ 1200 A (500 MVA) BUS NO. 2

13,200 V. 3 PH. 4 W. 60~ 1200 A (500 MVA) BUS NO. 1

(3) 1200/5 1200/5

1200

BUS DIFF.

BUS DIFF.

2 P.T.'S. LL 14,400/120 V.

TERMINAL POLE NO. 7

UNDERGROUND FEEDER

CIRC. P7

INCOMING

SYN.

BUS

TO SYN. SWITCHES

L.A.

(3) 2000/5 BUS DIFF.

(3) 800/5

TO BUS R.T.'S

RECORDING VOLTMETER

TRIP

TO SYN. BRACKET

IL-N

BUS R.T.'S.

7 1200 A

FUTURE FEEDER

L.A.

(3) 2000/5 BUS DIFF.

TO BUS R.T.'S.

(3) 400/5

TRIP

5 1200 A

FUTURE

LOOP FEEDER

SKYLINE FEEDER

FUTURE

TO TIE NO. 2 TRANSF. RELAYS

(3) 400/5

TO METERING & RELAYING ON D/A SWBD.

TO METERING & RELAYING ON D/A SWBD

(3) 1200/5

TO RELAYING ON D/A SWBD.

BUS DIFF.

TO SYN. SW. ON UNIT 6?

(3) 1200/5

L.A.R.S.

(3) 1200/5

3 - 1/c - 350 MCM

5000/6500/7000 KVA 13,200 - 4160 Y/2400 V. TIE NO. 2 TRANSFORMER (SOUTH)

6 - 1/c - 500 MCM

4160 V. 3PH. 4W. 60~ 1600 A BUS

8 FEEDERS

4 GENERATORS

3 400/5

3 1200/5

L.A.R.S.

TO TIE NO. 1 TRANSF. RELAYS

TO METERING & RELAYING ON D/A SWBD.

TO RELAYING ON D/A SWBD.

2 P.T.'S. LL 14,400/120 V.

TO METERS ON UNIT 4.

5000/6250 KVA 13,200-2400/4160 Y. TIE NO. 1 TRANSFORMER (NORTH)

2 - 3/c - 750 MCM

FUTURE EXTENSION

2000 A

(3) 2000/5

(3) 2000/5

B 1200 A

IL-N

TO SYN. BRACKET

TRIP

(3) 800/5

TO BUS R.T.'S.

BUS DIFF.

(3) 2000/5

L.A.

CIRC. P8

UNDERGROUND FEEDER

TERMINAL POLE NO. 5

EXISTING LOOP FEEDER

TRIP

ALL BARS ON BUS NO. 1 & SECT. BAR.

BUS NO. 1 DIFF. C.T.'S.

(FUTURE) 3 (FUTURE) TRIP

ALL BARS ON BUS NO. 2 & SECT. BAR.

FUTURE BUS NO. 2 DIFF. C.T.'S.

13,200 V. 3φ 4φ~ 2000 A (500 MVA) BUS NO. 1

UNIT NO. 4

UNIT NO. 3

TO BUS R.T.'S.

(3) 75/5

(3) 2000/5 BUS DIFF.

CIRC. P6

TO 480 VOLT HOUSE SERVICE SUBSTATION NO. 2-1000 KVA SEE DWG. E-15 FOR CONTINUATION.

TO BUS R.T.'S.

(3) 100/5

(3) 2000/5 BUS DIFF.

CIRC. P5

TO 480 VOLT HOUSE SERVICE SUBSTATION NO. 1 - 1500 KVA SEE DWG. E-15 FOR CONTINUATION.

TRIP

1200 A

IL-L

3L-N

TO VOLTMETER ON SYNCHRONIZING BRACKET

TO SYNCHRONIZING BRACKET

(3) 1200/5

(3) 1200/5

(3) 2000/5 BUS DIFF.

CIRC. P2

0.25 WD. CBA

0.12 KV. L.A.'S

TO TIE SUBSTATION SENSOR

LOAD RECORDER

WATT TRANSDUCER

TRIP

TO SOLENOID TRIP VALVE

CIRC. P1

DIGITAL REG.

GEN. FLD.

SHUNT

FIELD

EXCITER SHUNT FIELD

MOTOR OPERATED EXCITER FIELD RHEOSTAT

GENERATOR NO. 1 1400 KW 0.9 P.F. 1800 KVA 706 AMPS

CIRC. P3

(3) 1200/5

(1) 1200/5

MOTOR OPERATED VOLTAGE ADJUSTING RHEOSTAT

TRIP

CIRC. P4

NEUTRAL REACTOR 0.82 Ω. 7000 AMPS 40 SECOND

NOTE:
* INDICATES DEVICES INCLUDED ON DUAL SWITCHBOARD

FUTURE BUS NO. 2

13,200 V. 3 φ 60~ 2000 A. BUS NO. 1

1200 A 500 MVA

3 C.T.'S 2000/5

3 P.T.'S. 2400/120 V.

1 P.T. 2400/120 V.

3 C.T.'S 800/5

3 C.T.'S 2000/5

12 KV. L.A.

1 P.T. 14400/120 V.

3 C.T.'S 400/5

3 C.T.'S 75/5

3 C.T.'S 100/5

3 P.T.'S. 14400/120 V.

3 C.T.'S 1200/5

10	9	8	7	6	5	4	3	2	1	
BUS SECTIONALIZING	AUXILIARY COMPARTMENT	LOOP FEEDER	13.2 KV EXPRESS FEEDER	AUXILIARY COMPARTMENT	FUTURE FEEDER	480 VOLT HOUSE SERVICE SUBSTATION NO. 2-1000 KVA	480 VOLT HOUSE SERVICE SUBSTATION NO. 1 - 1500 KVA	GENERATOR AUXILIARY	GENERATOR NO. 1	UNIT NO.

SYNCHRONIZING BRACKET

13.2 KV. METAL CLAD INDOOR SWITCHGEAR

FURNISHED BY GENERAL ELECTRIC CO. UNDER CONTRACT NO. 1435-18

GENERATOR NO. 1 | S.I.G.E. TIE SUBSTATION SUPERVISORY | ELECTRICAL ALARMS & TIE LINE CONTROLLER

AM | AM | AM | TRIP POS. | ANNUN.

WH | WH | FM | WH | WH | WH

FLD VM | FLD AM | TM | VM | VM | VM

VM GEN.

VS | FD

GEN. | AUX. | FLD. RHEO. | SF

SUPERVISORY CONTROL

LOAD RECORDER

RECORDING VOLTMETER

TIE LINE CONTROLLER

80"

UNIT NO. 1 | 2 | 3

28" | 28" | 28"

DUAL SWITCHBOARD

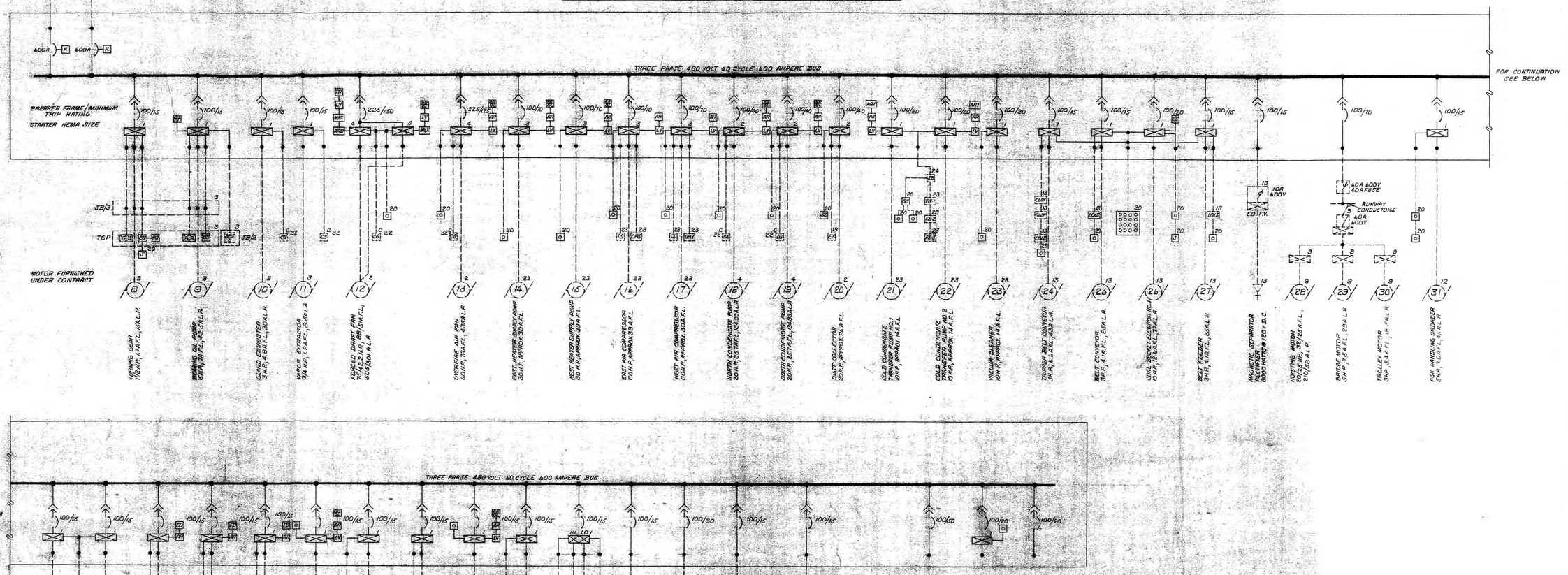
FURNISHED BY GENERAL ELECTRIC CO. UNDER CONTRACT NO. 1438-18

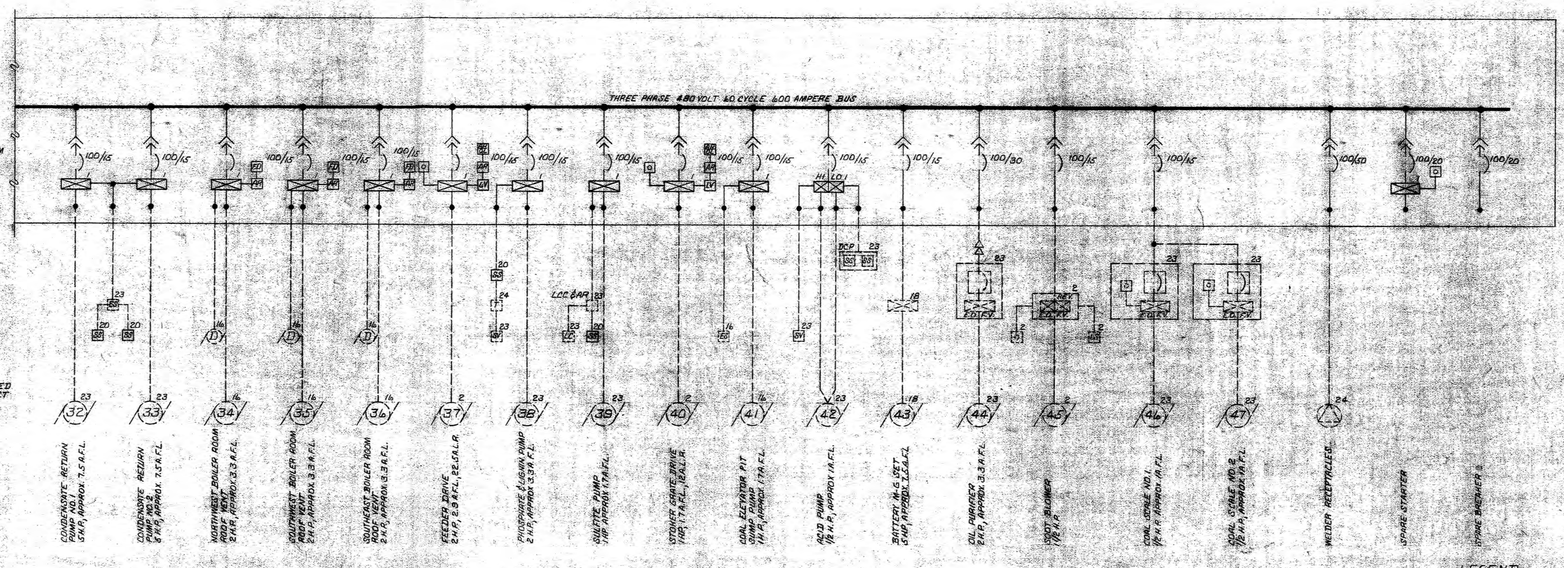
LEGEND

——— NEW CIRCUITS AND EQUIPMENT.
– – – EXISTING CIRCUITS AND EQUIPMENT.
L-L = LINE TO LINE L-N = LINE TO NEUTRAL

CONTRACT NO. 24	·· MUNICIPAL · LIGHT · PLANT · ·CITY · OF · JASPER · INDIANA ··	DETAILED ONE LINE DIAGRAM 13,200 VOLT CIRCUITS	DRAWING E-13 SCALE: NONE	CAMPBELL, DeBOE, GIESE & WEBER ELECTRICAL, MECHANICAL AND STRUCTURAL ENGINEERS TOLEDO, OHIO

ONE LINE DIAGRAM 480 VOLT HOUSE SERVICE MOTOR CONTROL





FRONT VIEW ARRANGEMENT

UNIT NO.	1	2	3	4	5	6
	SPACE FOR SWB. 1D	AR/OL 1B 2E	LV & AR/OL 1B 1B	2E	LV & AR/OL 1A 1B	LV & AR/OL 3T 4D
	9 1C	18 2D	42 3D	25 4D	14 4C	37 4C
	8 1B	19 2C	38 3C	24 4C	5B	40 4B
	INCOMING LINE "NORMAL FEEDER BREAKER" 1A	32 2B	39 3B	27 4B	15 5A	INCOMING LINE "EMERG. FEEDER BREAKER" 4A
		83 2A	23 3A	41 4A		

REAR VIEW ARRANGEMENT

UNIT NO.	6	5	4	3	2	1
			SPACE FOR SIZE 1 REVERSING STARTER 4E	LV & AR/OL 1A 3E	LV & AR 1A 1T 3E	LV & AR 5T 2E 10 1E
	12 6E	13 5E	20 4E	14 3E	21 2E	34 1E
		SPARE SIZE 1 STARTER 5E	31 4H	17 3H	22 2H	35 1H
		WELDER 5D	MAG. 2ER 46 4F	17 3F	11 2G	34 1F
			4.5 4F	4.6 & 4.7 3E	SPARE 2HP. 44 2F	43 1E 2B 29 30

LEGEND

- ARR ALARM RELAY-OVERLOAD
- AR AUXILIARY RELAY
- ARA AUXILIARY RELAY NO. 1
- ARD DECELERATING RELAY
- CS CONTROL SWITCH
- CSR CONTROL SWITCH- CONTROL CONSOLE
- MOTOR OPERATED DAMPER
- D.C.P. DEMINERALIZER CONTROL PANEL
- PS POSITION SWITCH
- FS FLOAT SWITCH
- JS JOG SWITCH
- KI KEY INTERLOCK
- LVR LOW VOLTAGE RELEASE RELAY
- LS LIMIT SWITCH
- LVC LOW LEVEL CONTACT
- LOW LEVEL CONTROL & AUXILIARY RELAYS
- MHR HIGH SPEED AUXILIARY RELAY
- MLR LOW SPEED AUXILIARY RELAY
- DPR DAMPER CLOSED - DAMPER OPEN- FAN ON- SELECTOR SWITCH (SS-1)
- OPS OIL PRESSURE SWITCH
- LALS LANYARD OPERATED LIMIT SWITCH
- OLSF OVERTRAVEL LIMIT SWITCH FORWARD
- OLSR OVERTRAVEL LIMIT SWITCH REVERSE
- PS PRESSURE SWITCH
- PB PUSHBUTTON STATION WITH INDICATING LIGHTS
- IL INDICATING LIGHTS
- SS SELECTOR SWITCH
- SV SOLENOID VALVE
- T TIMER
- TR TIMING RELAY
- TS TEMPERATURE SWITCH

E.O.F.V. ELECTRICAL OPERATED FULL VOLTAGE
DENOTES EQUIPMENT TO BE FURNISHED UNDER THIS CONTRACT UNLESS SPECIFICALLY NOTED OTHERWISE.
DENOTES EQUIPMENT AND CONNECTIONS TO BE FURNISHED BY OTHERS.
JB/2 LOCATED ON OIL TANK
JB/3 LOCATED ON EXHAUST CASING
T6P TURNING GEAR PANEL

480 VOLT HOUSE SERVICE MOTOR CONTROL CENTER

NOTE: NUMBERS IN EACH UNIT REFER TO MOTOR NOS. LISTED ABOVE

CONTRACT NO. 1438-20

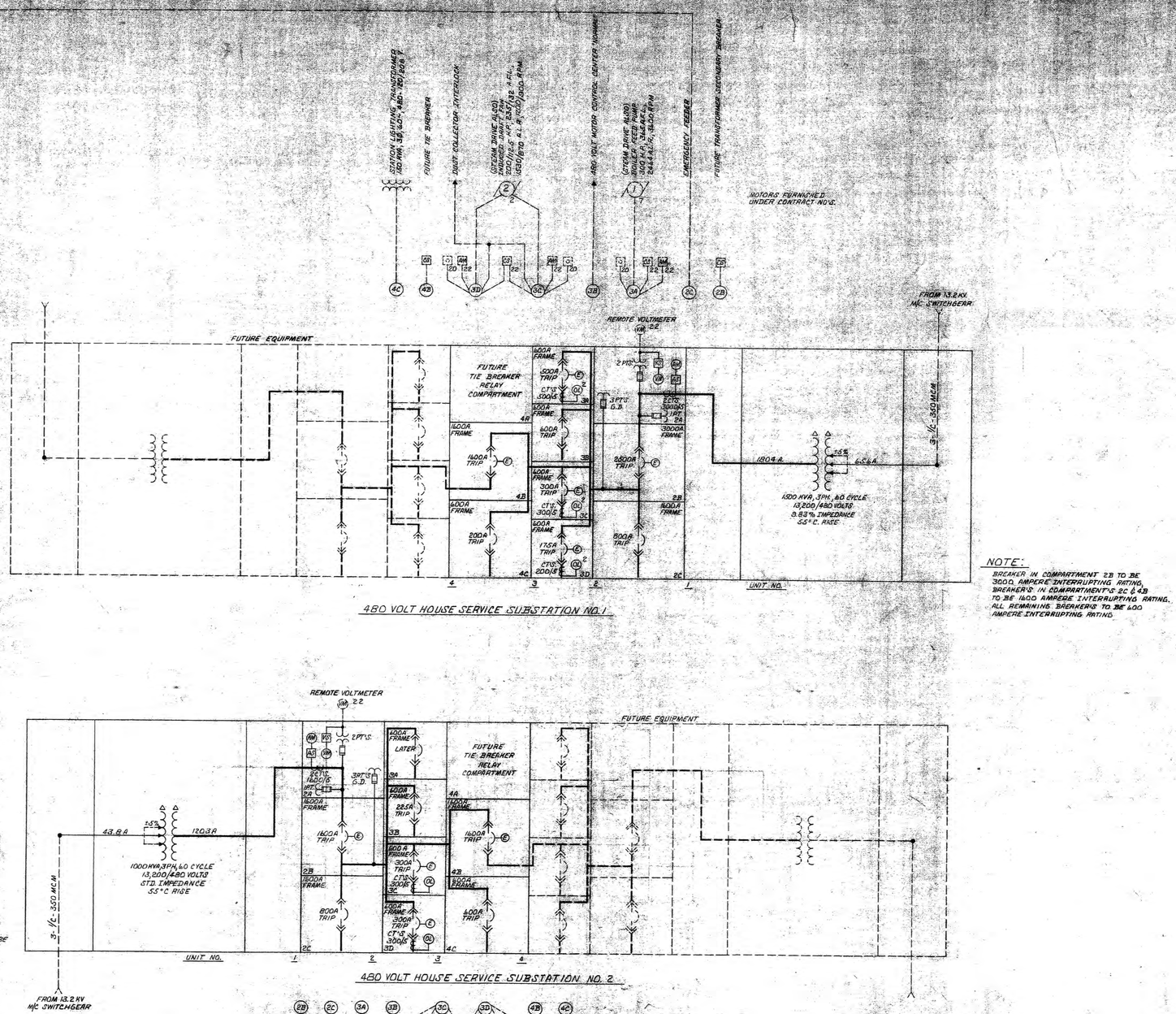
·· MUNICIPAL · LIGHT · PLANT · ·CITY · OF · JASPER · INDIANA ··

ONE LINE DIAGRAM 480 VOLT HOUSE SERVICE MOTOR CONTROL

DRAWN T.P.B. CHECKED APPROVED

CAMPBELL, DeBOE, GIESE & WEBER
ELECTRICAL, MECHANICAL AND STRUCTURAL ENGINEERS
TOLEDO, OHIO

DATE 11-17-47
DRAWING NO. 1439
SHEET E.P. 3-0

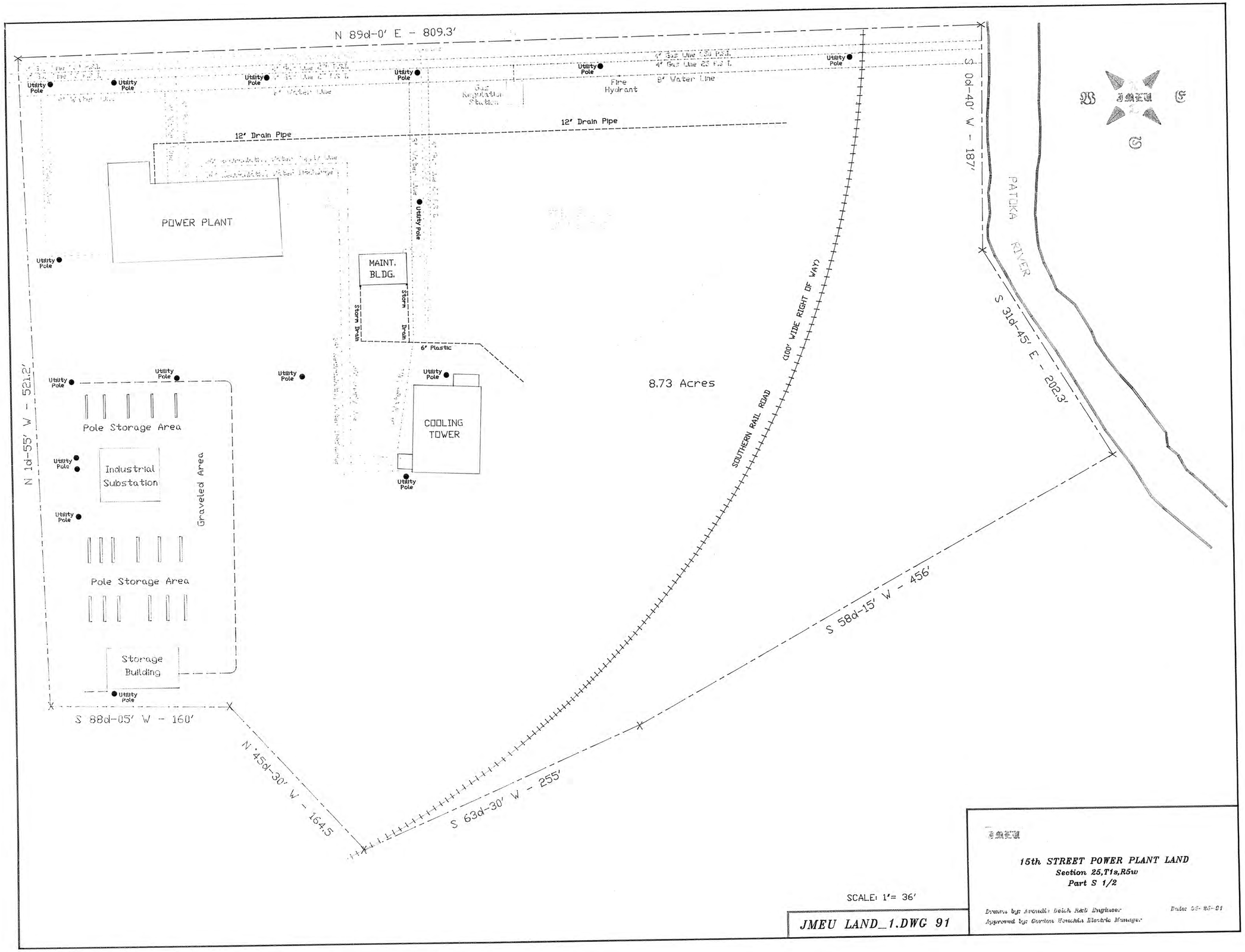


CONTRACT NO. 1438-19

MUNICIPAL · LIGHT · PLANT · CITY · OF · JASPER · INDIANA

ONE LINE DIAGRAM 480 VOLT HOUSE SERVICE SUBSTATION

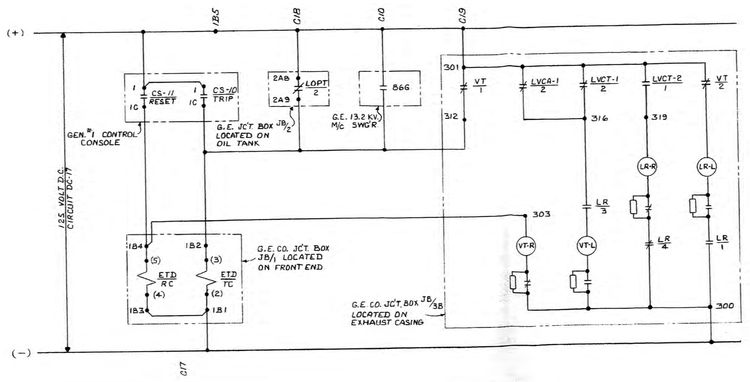
Caldwell, Dietz, Gose & Wilcox
Electrical Engineers and Industrial Planners
Toledo, Ohio



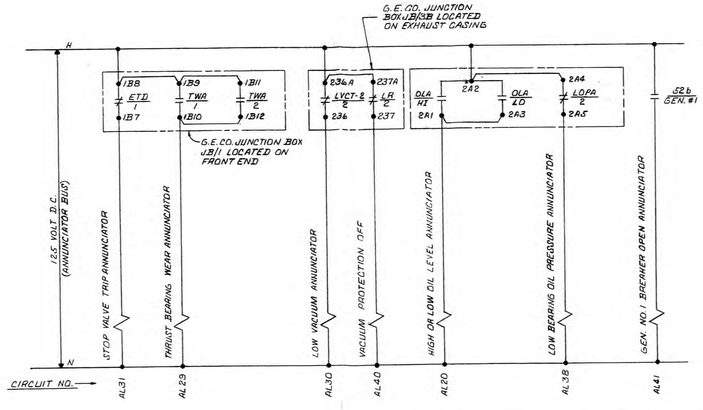
JMEU LAND_1.DWG 91

15th STREET POWER PLANT LAND
Section 25,T1s,R5w
Part S 1/2

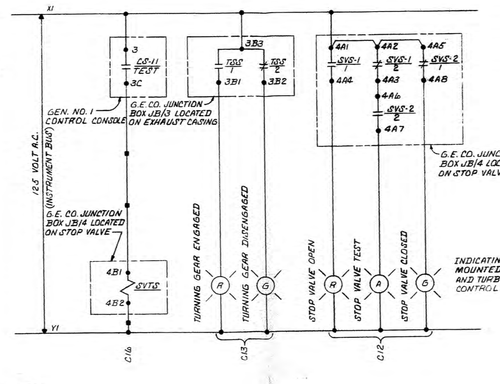
Drawn by: Avondie Deich R&D Engineer
Approved by: Gordon Houchin Electric Manager
Date: 05-25-91



TURBINE TRIPPING CONTROL CIRCUIT



TURBINE ALARM AND INDICATING CIRCUITS



G.E. DEVICE LEGEND

ETD/TC	EMERGENCY TRIP DEVICE- TRIP COIL
ETD/RC	EMERGENCY TRIP DEVICE- RESET COIL
LOPA	LOW OIL PRESSURE SWITCH- ALARM
LOPT	LOW OIL PRESSURE SWITCH - TRIP
LVCA	LOW VACUUM SWITCH
LVCT	LOW VACUUM SWITCH
OLA	OIL LEVEL ALARM SWITCH
SVTS	STOP VALVE TEST SOLENOID
SVS	STOP VALVE SIGNAL SWITCH
TGS	TURNING GEAR SIGNAL SWITCH
TWA/1	THRUST WEAR ALARM - ACTIVE
TWA/2	THRUST WEAR ALARM - INACTIVE
CS	CONTROL SWITCH
LR	LATCHING RELAY
VT	VACUUM TRIP RELAY

CS-10

TURBINE NO. 1 STOP VALVE - MANUAL TRIP

	TRIP	NORMAL AFTER TRIP
1	X	
2		
3	X	X

SPRING RETURN TO NORMAL
LOCK TYPE HANDLE KEY REMOVABLE IN NORMAL POSITION ONLY.
X-DENOTES CONTACTS CLOSED

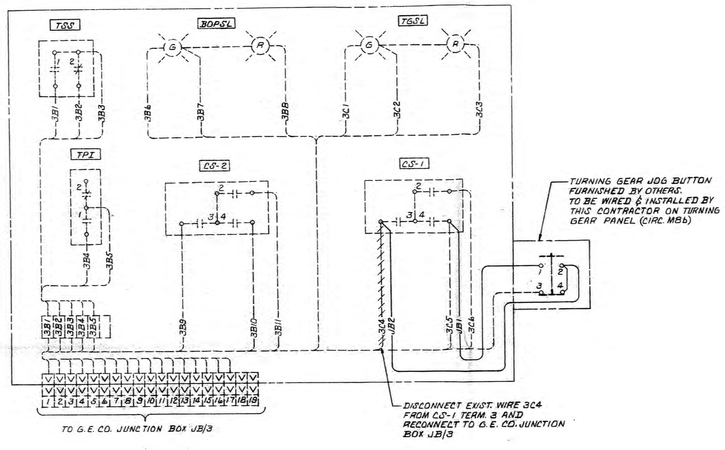
CS-11

TURBINE NO. 1 STOP VALVE POSITION - TEST & RESET

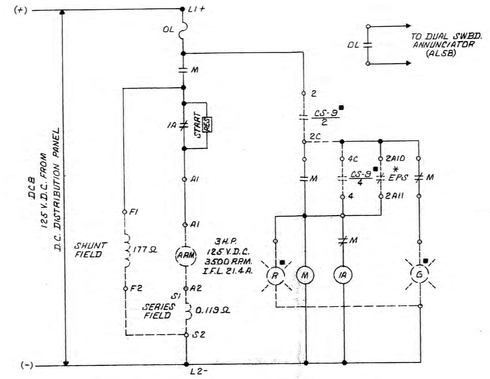
	RESET	NORMAL AFTER RESET	NORMAL AFTER TEST	TEST
1	X			
2	X			
3				X
4				X
5	X	X		
6			X	X

SPRING RETURN TO NORMAL EACH WAY
X- DENOTES CONTACTS CLOSED

NOTE:
CS-10 AND CS-11 TO BE FURNISHED AND INSTALLED BY OTHERS ON BOILER AND TURBINE NO. 1 CONTROL CONSOLE



MODIFICATIONS TO GENERAL ELECTRIC CO. TURNING GEAR PANEL



■ LOCATED ON BOILER & TURBINE NO. 1 CONTROL CONSOLE
✱ LOCATED IN G.E. CO. JUNCTION BOX JB/2

EMERGENCY BEARING OIL PUMP MOTOR NO. 86 SCHEMATIC

CS-9

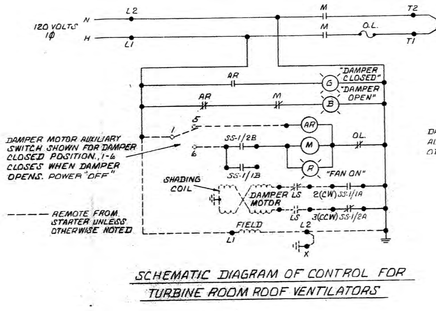
	POSITION		
	RUN	AUTO	STOP
1	X	X	
2	X	X	
3	X		
4	X		

SPRING RETURN TO "AUTO" EACH WAY
PULL OUT IN "STOP" POSITION
X-DENOTES CONTACTS CLOSED

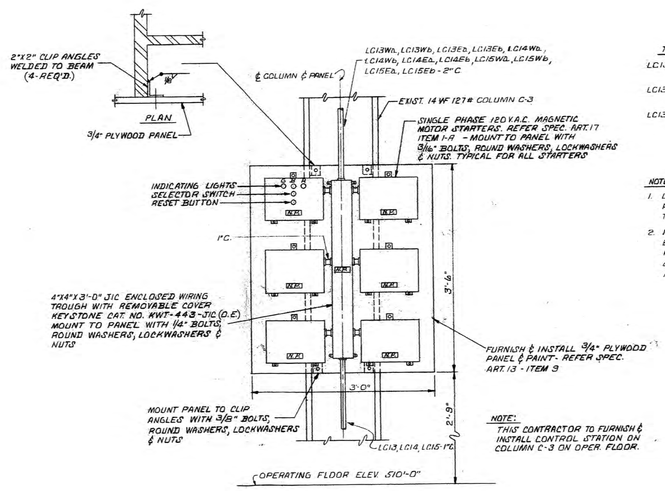
SS-1 (FRONT VIEW)

SWITCH POSITION / CONTACTS	DAMPER CLOSED	DAMPER OPEN	FAN ON
1A		X	X
1B			X
2A	X		
2B			X

TURBINE ROOM ROOF VENTILATORS SELECTOR SWITCH CONTACT ARRANGEMENT



SCHEMATIC DIAGRAM OF CONTROL FOR TURBINE ROOM ROOF VENTILATORS



NOTE:
THIS CONTRACTOR TO FURNISH & INSTALL CONTROL STATION ON COLUMN C-3 ON OPER. FLOOR.

CONTROL STATION FOR TURBINE ROOM ROOF VENTILATOR MOTORS

TYPICAL CIRCUIT DESIGNATION

LC13	LIGHTING PANELBOARD "C" TO MOTOR STARTER
LC13a	MOTOR STARTER TO JUNCTION BOX FOR VENT MOTOR.
LC13b	MOTOR STARTER TO JUNCTION BOX FOR DAMPER MOTOR

NOTES:
1. LC13, LC14, LC15 SHALL BE #10 WIRE FROM LIGHTING PANELBOARD "C" TO MOTOR STARTERS IN 1"C.
2. INSTALL 2-#12 WIRES BETWEEN EACH EACH STARTER AND JUNCTION BOX "A", ROOF VENT FOR VENT MOTOR, AND 2-#12 WIRES BETWEEN EACH STARTER AND JUNCTION BOX FOR DAMPER MOTOR.

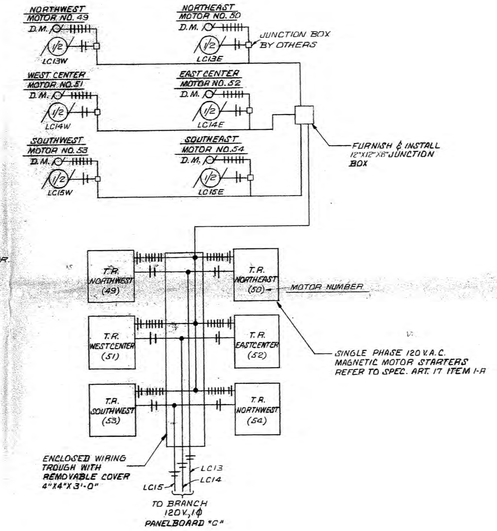


DIAGRAM OF 120 V. A. C. SINGLE PHASE CIRCUITS FOR TURBINE ROOM ROOF VENTILATOR MOTORS

CONTRACT NO. 24

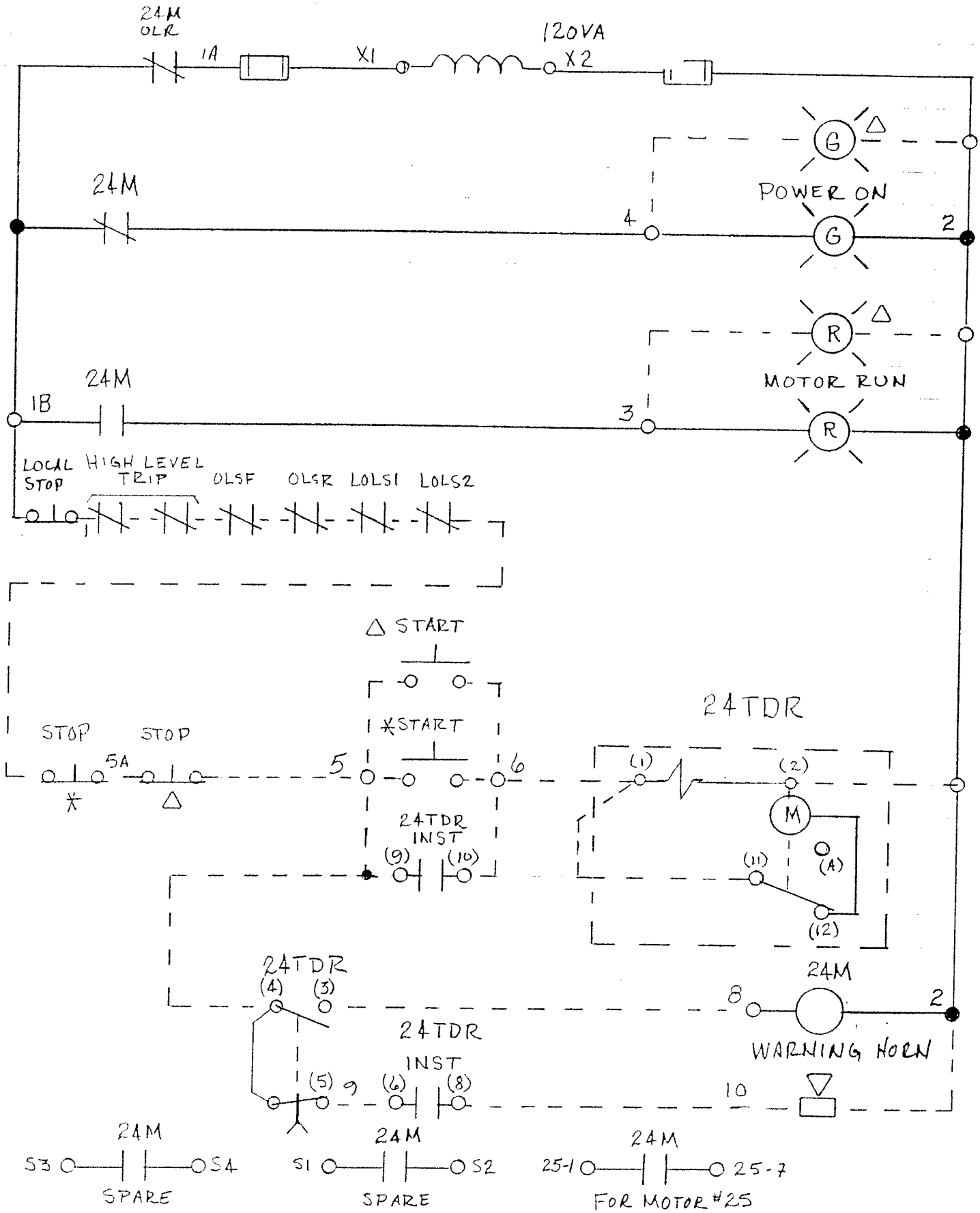
·· MUNICIPAL · LIGHT · PLANT · · CITY · OF · JASPER · INDIANA ··

WIRING DIAGRAMS
SHEET NO. 1
MISCELLANEOUS

DRAWN SBC-TPB
CHECKED
APPROVED

CAMPBELL, DeBOE, GIESE & WEBER
ELECTRICAL, MECHANICAL AND STRUCTURAL ENGINEERS
TOLEDO, OHIO

DATE 9-28-67
ORDER NO. 1438
SHEET E-18-0

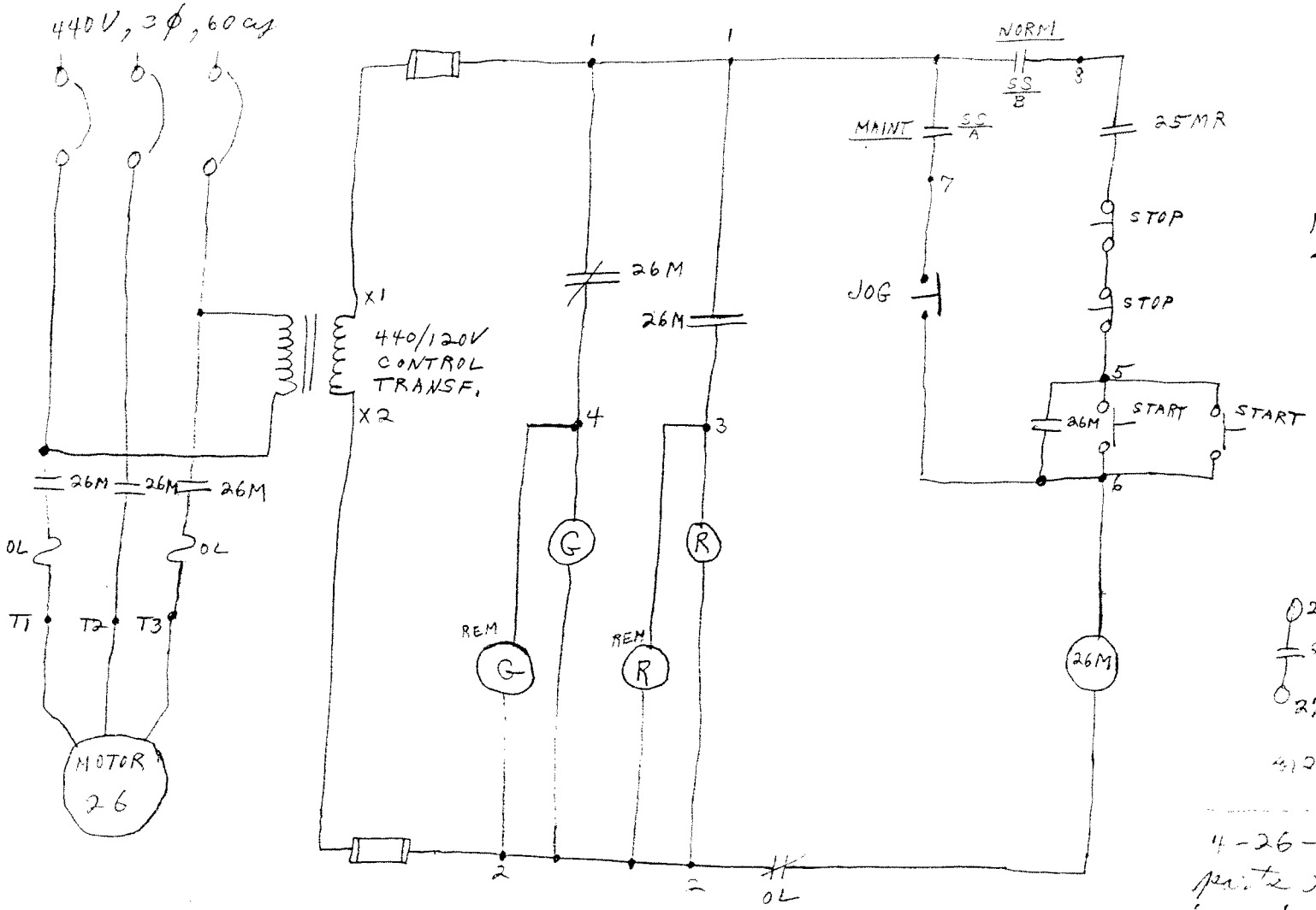


TRIPPER BELT CONVEYOR - MOTOR #24

R.D. BREDHOLD
11/21/94

E & K ELECTRIC, INC
JASPER, IN
812-482-3161

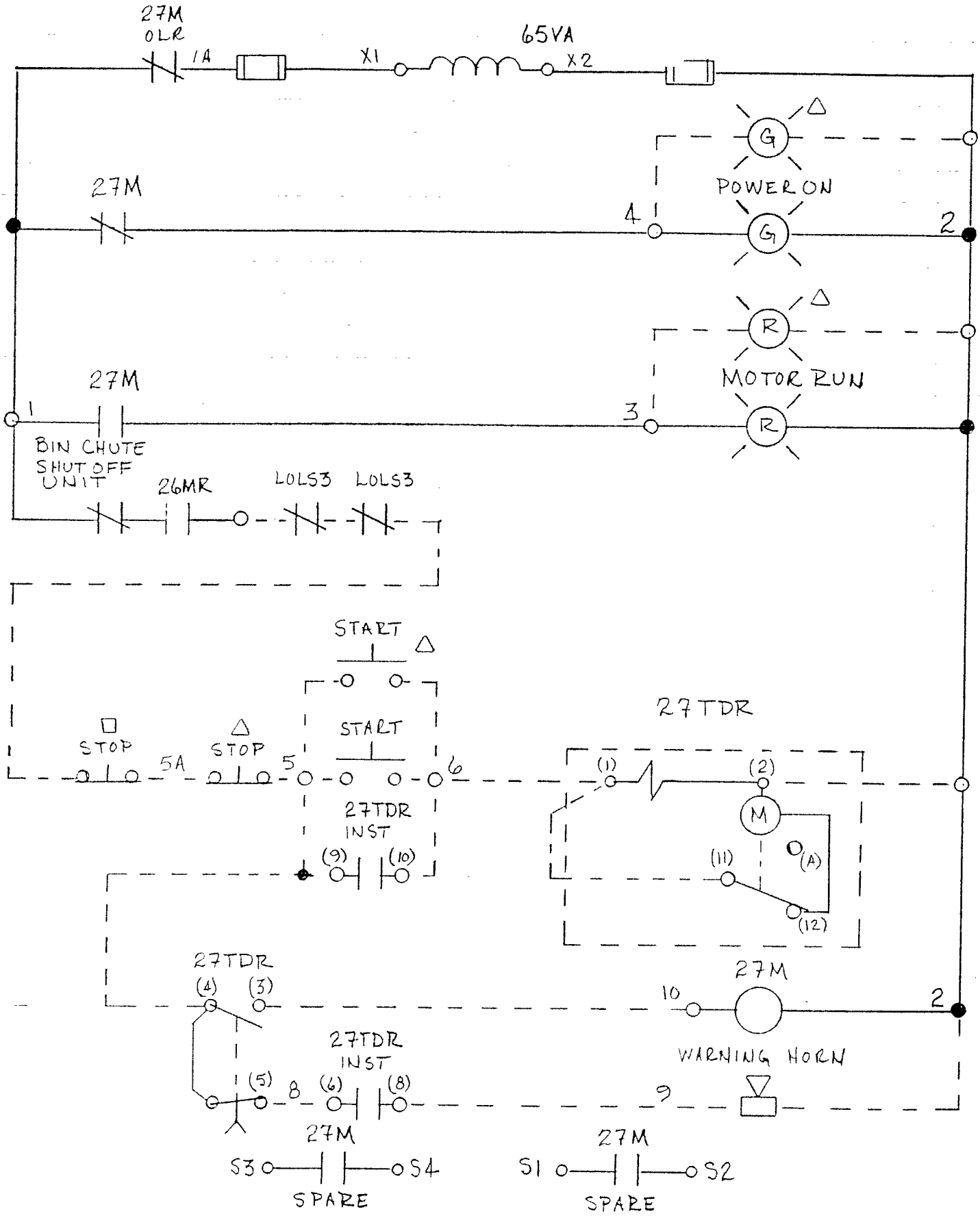
J. MUNICIPAL UTILITIES
GENERATING STATION
JOB NO: P2030 DWG NO: 1192



PB all remote

4-26-83
parts replaced
& rewired

Coal bucket elevator motor no. 26 diag. on D4-51 sh.



BELT FEEDER - MOTOR #27

R.D. BREDHOLD
11/21/94

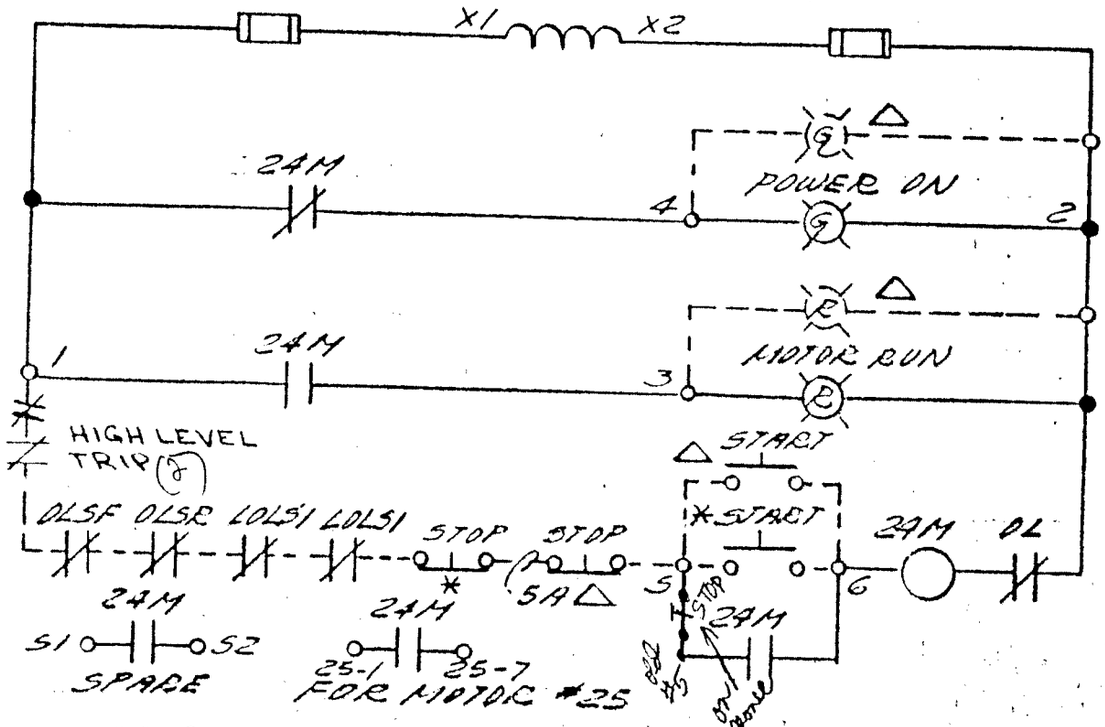
E & K ELECTRIC, INC
JASPER, IN
812-482-3161

J. MUNICIPAL UTILITIES
GENERATING STATION
JOB NO: P2030 DWG NO: 1193

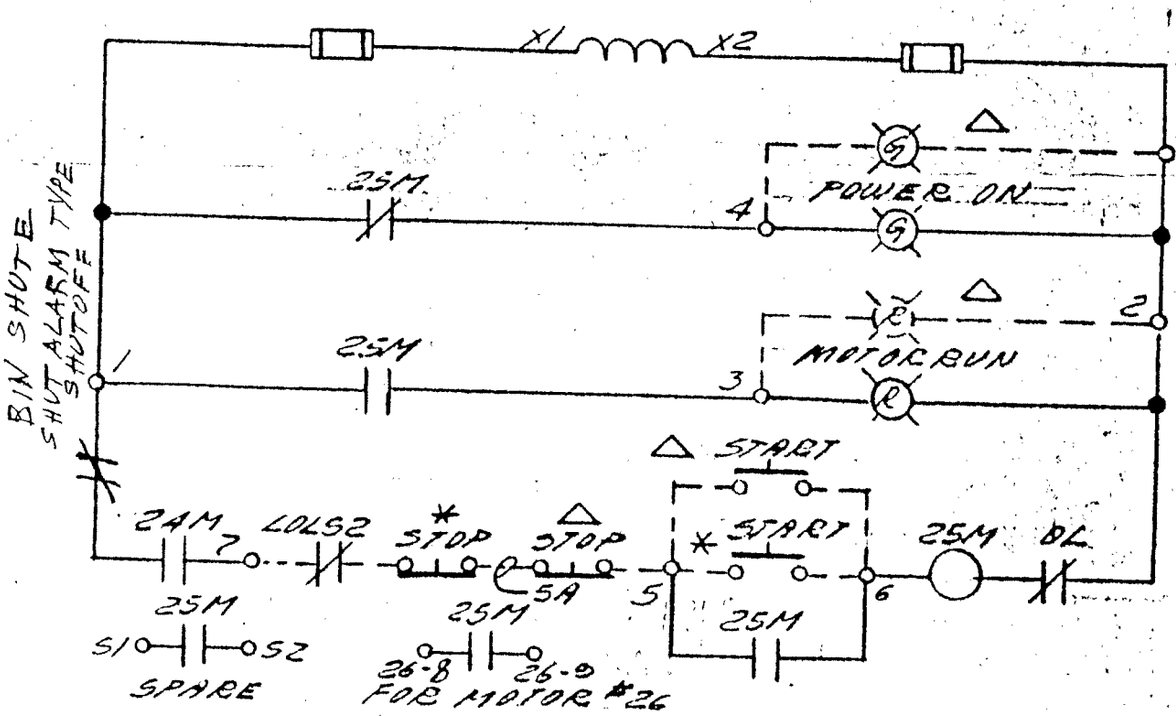
11-80

FIG. 1

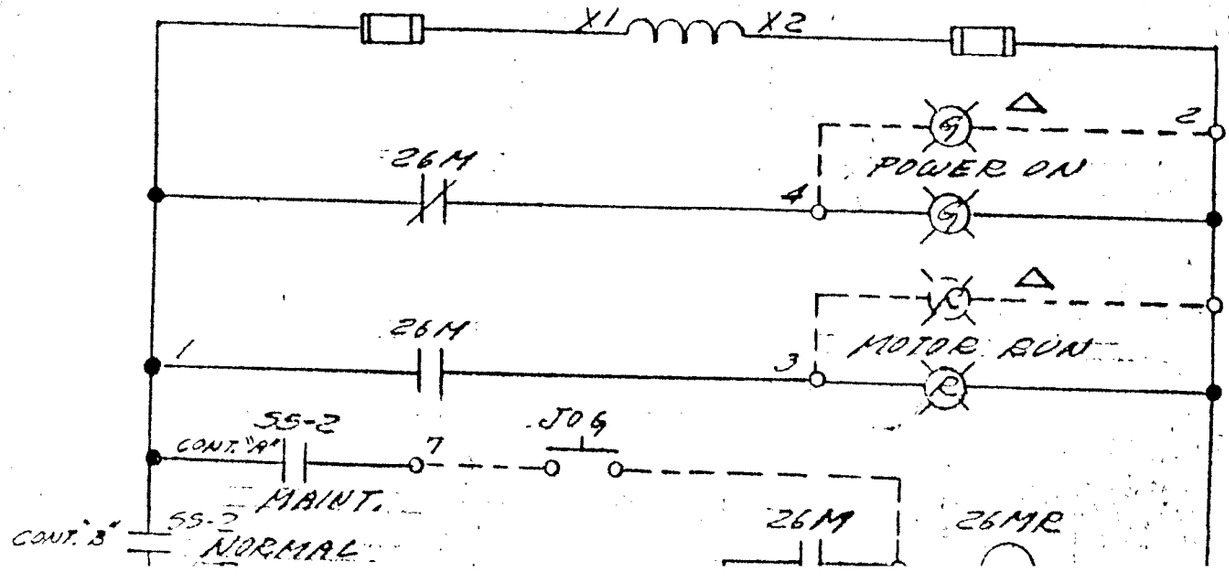
VACUUM C... MOTOR #23

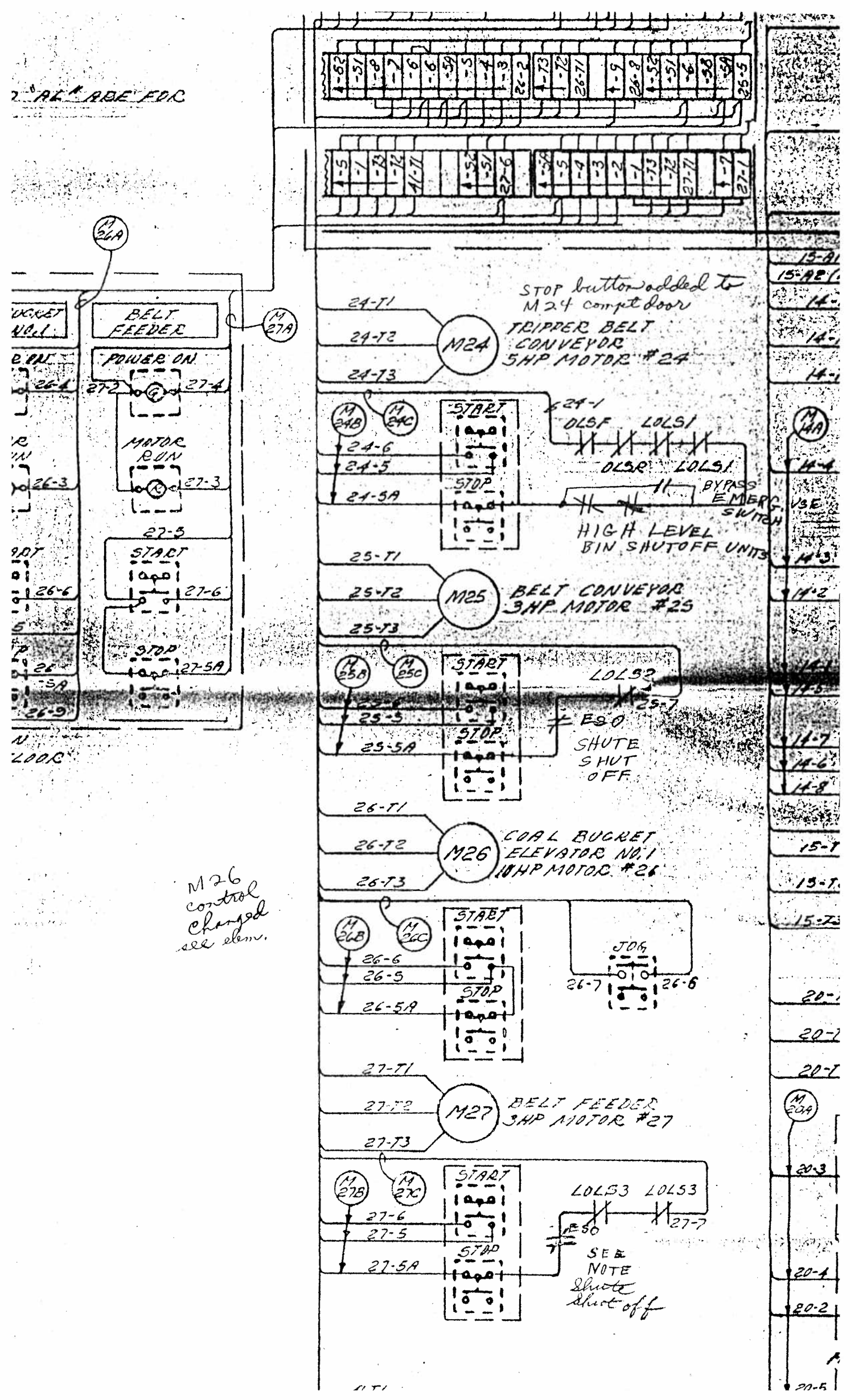


TRIPPER BELT CONVEYOR - MOTOR #24



BELT CONVEYOR - MOTOR #25




STOP button added to M24 compt door
M24
TRIPPER BELT CONVEYOR 5HP MOTOR #24
START
STOP
OLSR LOLS1
BYPASS EMERG. SWITCH
HIGH LEVEL BIN SHUTOFF UNITS
M25
BELT CONVEYOR 3HP MOTOR #25
LOLS2
ESO
SHUTE SHUT OFF
M26
COAL BUCKET ELEVATOR NO. 1 10HP MOTOR #26
JOG
M26 control Changed see elem.
M27
BELT FEEDER 3HP MOTOR #27
LOLS3
SEE NOTE
Shute Shut off
BELT FEEDER
POWER ON
MOTOR RUN

SHIPPING SPLIT

5FA TRIPPER BELT CONVEYOR

FOR INTERNAL CONNS. SEE DIAG. NO. CF623571D1-24

5FB BELT CONVEYOR

FOR INTERNAL CONNS. SEE DIAG. NO. CF623571D1-25

5FC COAL BUCKET ELEVATOR NO.1

FOR INTERNAL CONNS. SEE DIAG. NO. CF623571D1-26

5FD BELT FEEDER

FOR INTERNAL CONNS. SEE DIAG. NO. CF623571D1-27

5FE COAL ELEV. PIT SUMP PUMP

FOR INTERNAL CONNS. SEE DIAG. NO. CF623571D1-41

6FA NIBT... SUPPL...

FOR INTER... SEE DIAG. CF6235...

6FB SAUTH SUPPL...

FOR INTERN... SEE DIAG. N... CF6235...

6FC DUST... COLLE...

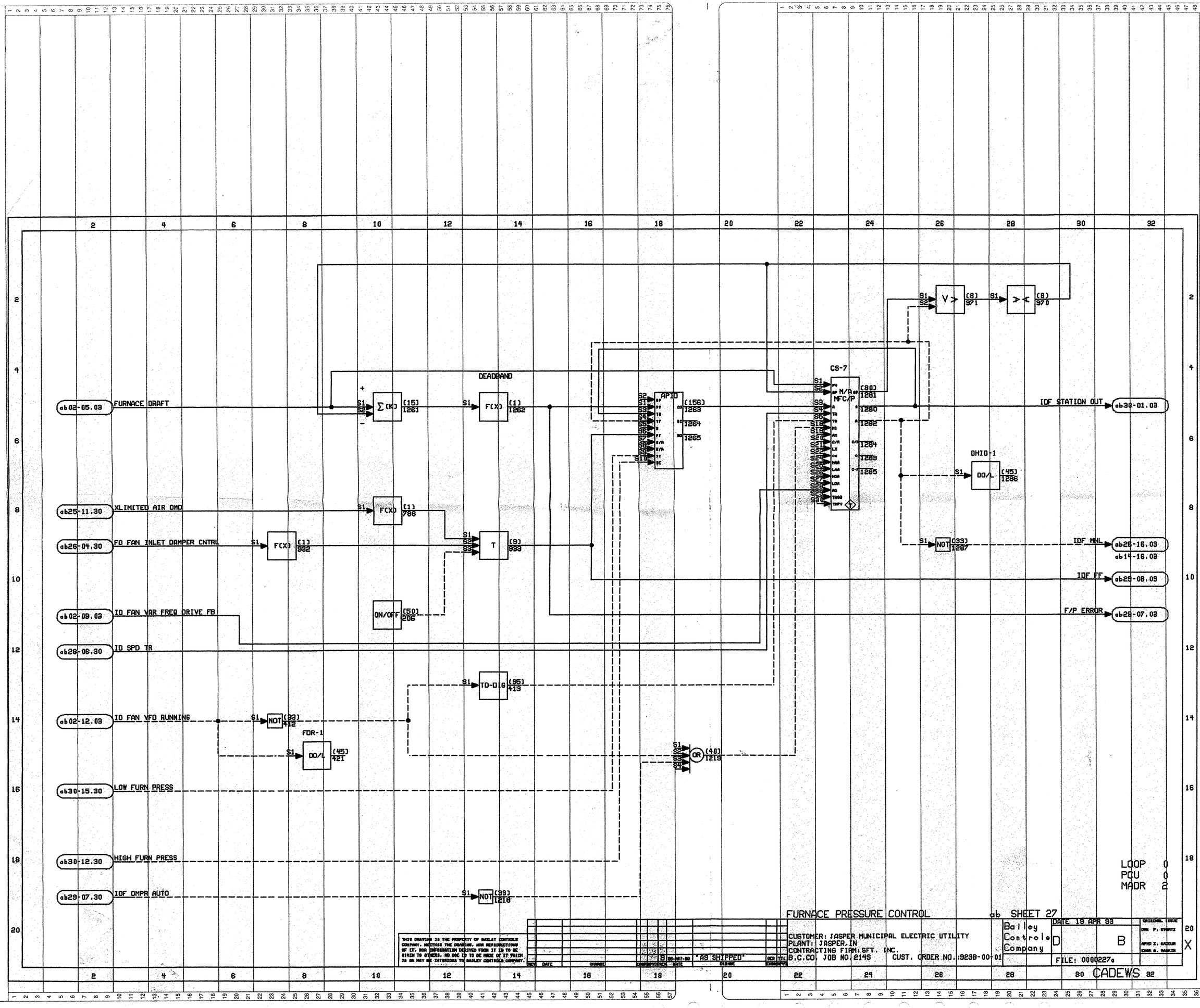
FOR INTERN... SEE DIAG. N... CF6235...

TO: BLACK & VEATCH
11401 LAMAR AVENUE
OVERLAND PARK, KS, 66211 USA
ATTN: MR. JORGE E. VIZCARRA, P.E.

WINDELL TOBY
FROM: JASPER MUNICIPAL ELECTRIC UTILITIES
1163 E. 15TH STREET
P.O. BOX 750
JASPER, IN 47547

HOPE THIS HELPS IT'S ALL WE COULD FINED.

WINDELL TOBY
GENERATION MANAGER


DEADBAND
ab02-05.03 FURNACE DRAFT
ab25-11.30 XLIMITED AIR DMD
ab26-04.30 FD FAN INLET DAMPER CNTRL
ab02-09.03 ID FAN VAR FREQ DRIVE FB
ab28-06.30 ID SPD TR
ab02-12.03 ID FAN VFD RUNNING
ab30-15.30 LOW FURN PRESS
ab30-12.30 HIGH FURN PRESS
ab29-07.30 IDF DMPR AUTO
Σ(K) (15) 1261
F(X) (1) 1262
F(X) (1) 786
F(X) (1) 982
T (9) 983
ON/OFF (50) 206
TD-DLG (95) 413
NOT (33) 412
FDR-1
DO/L (45) 421
NOT (33) 1218
APID (156) 1263 1264 1265
CS-7
M/A or MFC/P (80) 1281 1280 1282 1284 1288 1285
V> (8) 971
>< (8) 970
IDF STATION OUT
ab30-01.03
OHID-1
DO/L (45) 1286
NOT (33) 1287
IDF MNL
ab26-16.03
ab14-16.03
IDF FF
ab29-08.03
F/P ERROR
ab28-07.03
OR (40) 1219
LOOP 0
PCU 0
MADR 2
FURNACE PRESSURE CONTROL ab SHEET 27
CUSTOMER: JASPER MUNICIPAL ELECTRIC UTILITY
PLANT: JASPER,IN
CONTRACTING FIRM: SFT. INC.
B.C.CO. JOB NO. 2145 CUST. ORDER NO. :9238-00-01
Bailey Controle Company
DATE 19 APR 93
FILE: 0000227a
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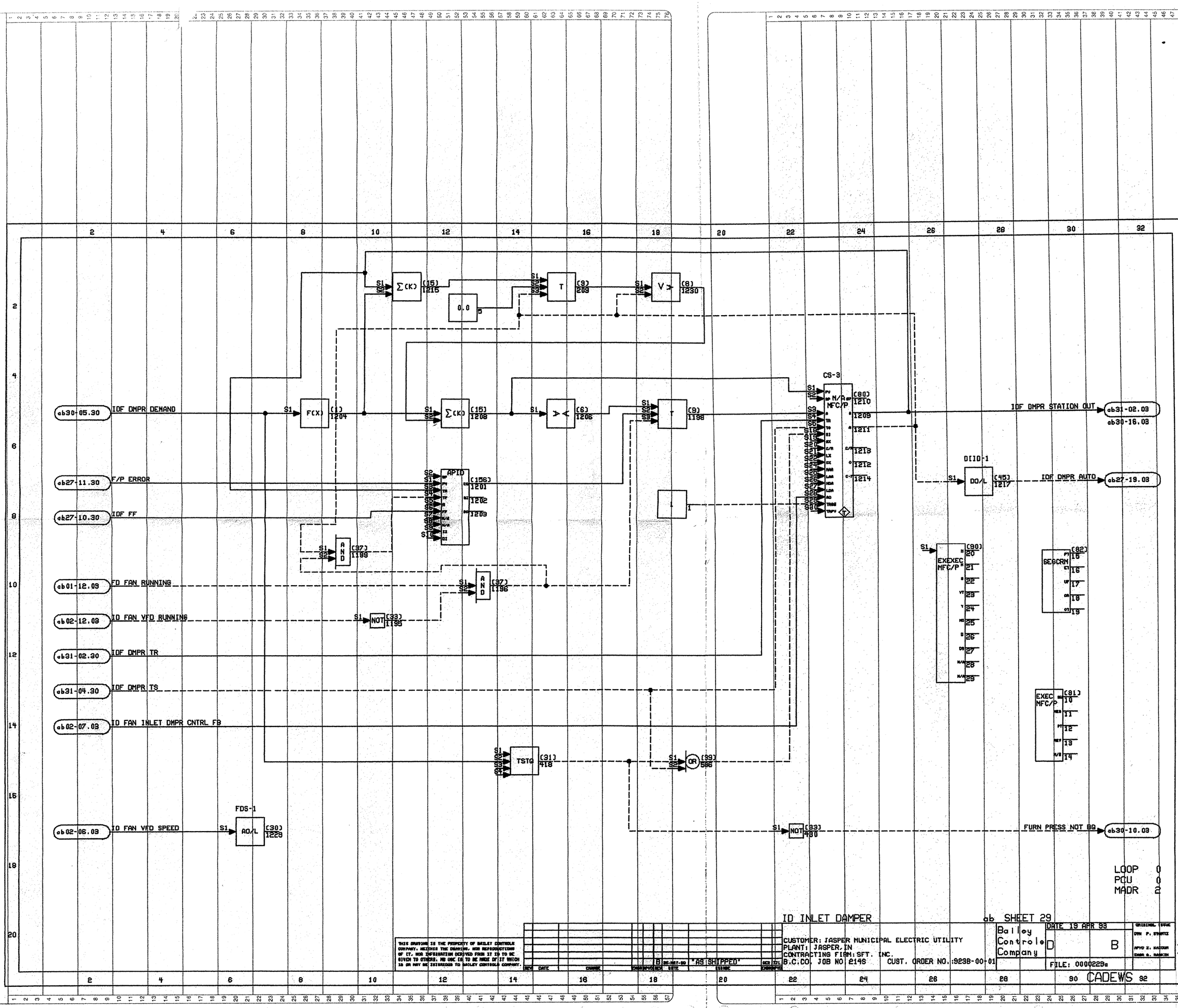
CADEWS

Index	Tag Name	Description		Loop	P	M	Blk	Type
101	PT-1	DRUM PRESSURE		1	1	2	333	Analog
102	FT-1	STEAM FLOW		1	1	2	236	Analog
103	FT-2	FEEDWATER FLOW		1	1	2	230	Analog
104	FT-3	ATTEMPERATOR	SPRAY WTR FLW	1	1	2	392	Analog
105	LT-1	BOILER DRUM	LEVEL	1	1	2	231	Analog
106	GB-2	GAS VALVE OUTPUT		1	1	2	518	Analog
107	PD-1	COAL STOKER OUTPUT		1	1	2	820	Analog
108	FT-6	BOILER AIR FLOW		1	1	2	291	Analog
109	CV-1	MAIN FEEDWATER VALVE		1	1	2	1020	Analog
110	TE-2	SUPERHEATER	INLET TEMP	1	1	2	618	Analog
111	FD-1	ID FAN VARIABLE FREQ DRIVE		1	1	2	1330	Analog
112	CV-2	LOW FLOW FEEDWATER VALVE		1	1	2	1070	Analog
113	DGK-1	GAS KICKER ON		1	1	2	1244	Undef
114	DSF-2	GAS FLOW BQ		1	1	2	281	Digital
115	PT-5	STEAM HEADER PRESSURE		1	1	2	195	Analog
116	PD-2	FD FAN INLET	DMPR DRIVE	1	1	2	931	Analog
117	PD-3	OVERFIRE AIR	DMPR DRIVE	1	1	2	1191	Analog
118	PD-4	ID FAN INLET	DMPR DRIVE	1	1	2	1293	IntAng
119	SP-1	BFP SPEED	CONTROL	1	1	2	380	Analog
120	GB-1	GAS BURNER	INTERFACE	1	1	2	285	Analog
121	CV-5	S.H. SPRAY VALVE OUTPUT		1	1	2	641	Analog
122	CS-1	BOILER MASTER		1	1	2	255	Station
123	CS-2	FD FAN INLET DMPR		1	1	2	913	Station
124	CS-3	ID FAN INLET DMPR		1	1	2	1209	Station
125	CS-6	OVERFIRE AIR DMPR		1	1	2	1180	Station
126	CS-7	ID VAR FREQ DRV		1	1	2	1280	Station
127	CS-8	EXCESS AIR		1	1	2	480	Station
128	CS-9	COAL MASTER		1	1	2	805	Station
129	CS-10	LOW FLOW FEEDWATER		1	1	2	1055	Station
130	CS-11	FEEDWATER REGULATOR VLV		1	1	2	1005	Station
131	CS-12	FEEDWATER BFP SPEED		1	1	2	360	Station
132	CS-5	STEAM TEMP CNTRL		1	1	2	634	Station
133	CS-4	GAS FUEL MASTER		1	1	2	505	Station
134	TE-1	SUPER HEAT STEAM TEMP.		1	1	2	200	Analog
135	PT-2	FURNACE PRESSURE		1	1	2	429	Analog
136				0	0	0	0	Undef
137	FTC-1	COMP STEAM FLOW		1	1	2	733	Analog
138	RCSH-1	STEAM TEMP COMP BYPASSED		1	1	2	668	RCM
139	RCSH-2	STEAM PRESS COMPBYPASSED		1	1	2	681	RCM
140	AMS-1	MAIN STEAM PRESSERROR		1	1	2	267	Analog
141	ATF-1	TOTAL FUEL BTU		1	1	2	740	Analog
142	DCF-1	COAL FLOW BQ		1	1	2	284	Digital
143	DAF-6	FUEL X-LIMIT BY AIR		1	1	2	955	Digital
144	DBM-1	BOILER MSTR TO MANL		1	1	2	1133	Digital
145	RSGC-1	GAS-COAL RATIO		1	1	2	1136	RMSC
146	DGFT-1	GAS FUEL TRIP		1	1	2	315	Digital
147	RCFW-1	SELECT 1/3 ELEM		1	1	2	982	RCM
148	DSFW-1	MAIN VLV SEL		1	1	2	1084	Digital
149	DLFW-1	LOW FW FLOW		1	1	2	344	Digital
150	RCFW-2	FW MSTRS AUT/MANMATCHING		1	1	2	167	RCM
151	RSSH-1	MAN SET SH OUT SET PT		1	1	2	184	RMSC
152	RSSH-2	MAN SET SH INL SET PT		1	1	2	1307	RMSC
153	DSHS-1	SH TEMP APPROACHSATURATION		1	1	2	616	Digital
154	DHFP-1	HIGH FURN PRESS		1	1	2	440	Digital
155	DLFP-1	LOW FURN PRESS		1	1	2	441	Digital
156	MSHID-1	START FAN, CLOSEDAMPER		1	1	2	455	MSDD
157	ASSP-1	SH OUT TEMP SP		1	1	2	706	Analog
158	ASSP-2	SH INL TEMP SP		1	1	2	1314	Analog
159	ATF-2	TOTAL FUEL FL %		1	1	2	743	Analog
160	AAF-1	BOILER AIR FL %		1	1	2	500	Analog
161	DSFW-2	LOW FW VLV SEL		1	1	2	1108	Digital
162	ACF-1	COAL FLOW %		1	1	2	742	Analog
163	FDR-1	ID FAN VFD RUNNING		1	1	2	421	Digital
164	FDF-1	FD FAN RUNNING		1	1	2	420	Digital
165	FDS-1	ID FAN VFD SPEED		1	1	2	1229	Analog

ISA modification
3-3
Control Figure 13.


ab30-05.30 IDF DMPR DEMAND
ab27-11.30 F/P ERROR
ab27-10.30 IDF FF
ab01-12.08 FD FAN RUNNING
ab02-12.08 ID FAN VFD RUNNING
ab31-02.30 IDF DMPR TR
ab31-04.30 IDF DMPR TS
ab02-07.08 ID FAN INLET DMPR CNTRL FB
ab02-06.08 ID FAN VFD SPEED
FDS-1
Σ(K) (15) 1215
0.0
T (9) 209
V> (8) 1230
F(X) (1) 1204
Σ(K) (15) 1208
>< (6) 1206
T (9) 1198
APID (156) 1201
1202
1203
AND (37) 1189
AND (37) 1196
NOT (33) 1195
TSTG (31) 418
OR (99) 586
NOT (83) 430
AO/L (30) 1229
CS-3
M/A MFC/P (80) 1210
1209
1211
1213
1212
1214
IDF DMPR STATION OUT
ab31-02.08
ab30-16.08
DI[O-1
DO/L (45) 1217
IDF DMPR AUTO
ab27-19.08
EXEXEC MFC/P" (90)
SEGCRM (82)
EXEC MFC/P (81)
FURN PRESS NOT BQ
ab30-10.08
LOOP 0
PCU 0
MADR 2
ID INLET DAMPER
ab SHEET 29
CUSTOMER: JASPER MUNICIPAL ELECTRIC UTILITY
PLANT: JASPER,IN
CONTRACTING FIRM: SFT. INC.
B.C.CO. JOB NO 2148 CUST. ORDER NO.:9238-00-01
Bailey Controle Company
DATE 19 APR 93
FILE: 0000229a
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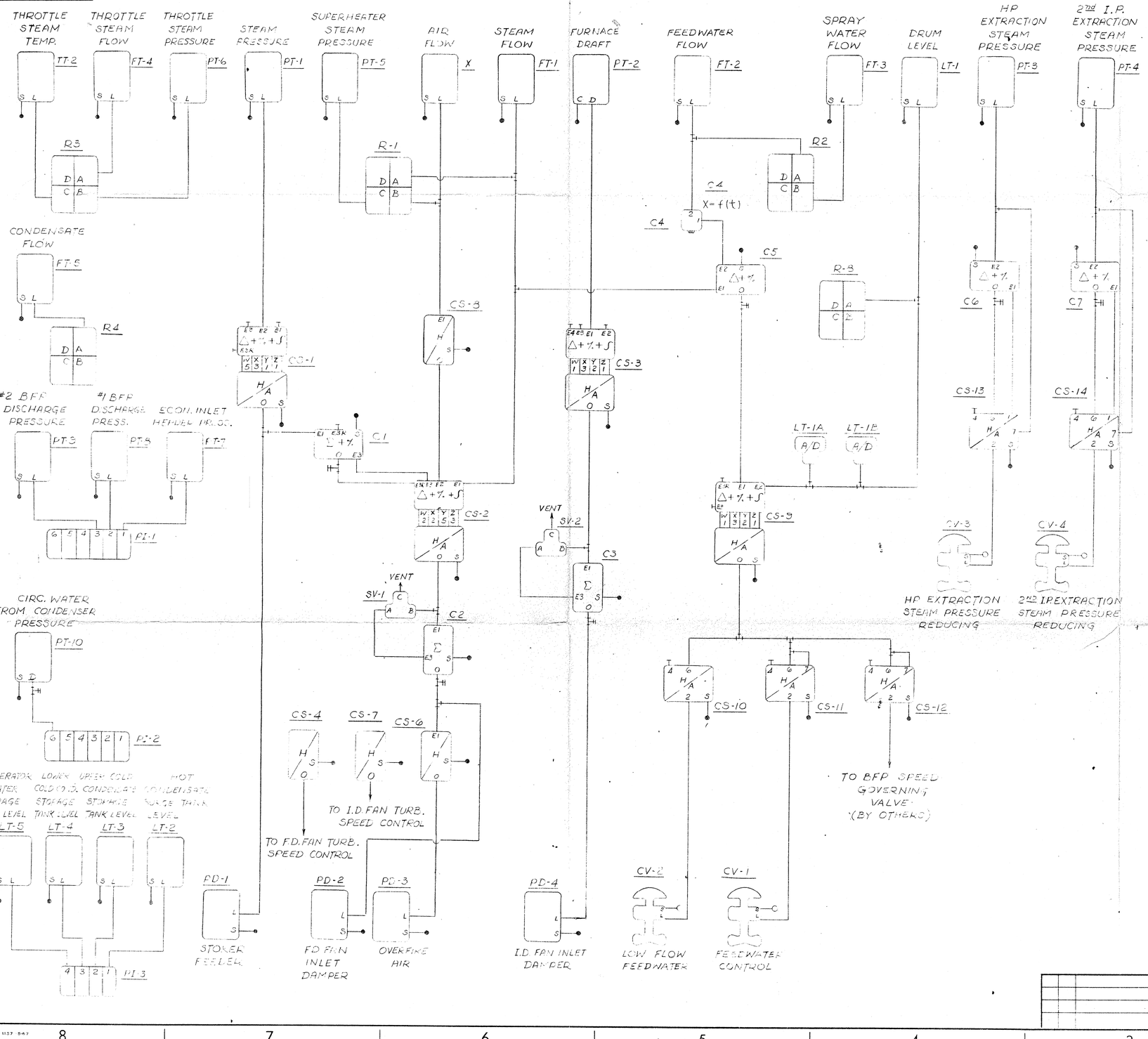
CADEWS

DWG. NO. D5044126



LEGEND

ITEM	IDENTIFICATION	NOMENCLATURE	D-R SW.	MANIFOLD POSITION OR P-P+I SW.
FT-1	FLOW TRANS.	CC		
FT-2	FLOW TRANS.	CC		
FT-3	FLOW TRANS.	CC		
FT-4	FLOW TRANS.	CC		
FT-5	FLOW TRANS.	CC		
X	FLOW TRANS.	BY OTHERS		
PT-1	PRESSURE TRANS.	KP		
PT-2	PRESSURE TRANS.	PG		
PT-3	PRESSURE TRANS.	KP		
PT-4	PRESSURE TRANS.	KP		
PT-5	PRESSURE TRANS.	KP		
PT-6	PRESSURE TRANS.	KP		
PT-7	PRESSURE TRANS.	KP		
PT-8	PRESSURE TRANS.	KP		
PT-9	PRESSURE TRANS.	KP		
PT-10	PRESSURE TRANS.	KD		
TT-2	TEMPERATURE TRANS.	KT		
LT-1	LEVEL TRANS.	LU		
LT-2	LEVEL TRANS.	LK		
LT-3	LEVEL TRANS.	LK		
LT-4	LEVEL TRANS.	LK		
LT-5	LEVEL TRANS.	LK		
R1	RECORDER	KM		
R2	RECORDER	KM		
R3	RECORDER	KM		
R4	RECORDER	MM		
R8	RECORDER	KM		
PI-1	INDICATOR	PM		
PI-2	INDICATOR	PM		
PI-3	INDICATOR	PM		
C1	CONTROLLER	AD	D	P
C2	CONTROLLER	AN	D	TOTALIZING
C3	CONTROLLER	AN	D	TOTALIZING
C5	CONTROLLER	AD	D	P
C6	CONTROLLER	AD	D	P
C7	CONTROLLER	AD	D	P
CS-1	INDICATOR CONTROLLER	AJ	D	P+I
CS-2	INDICATOR CONTROLLER	AJ	D	P+I
CS-3	INDICATOR CONTROLLER	AJ	D	P+I
CS-9	INDICATOR CONTROLLER	AJ	D	P+I
CS-6	SELECTOR STATION	AJ		
CS-10	SELECTOR STATION	AJ		
CS-11	SELECTOR STATION	AJ		
CS-12	SELECTOR STATION	AJ		
CS-13	SELECTOR STATION	AJ		
CS-14	SELECTOR STATION	AJ		
CS-4	MANUAL LOADER	AL		
CS-7	MANUAL LOADER	AL		
CS-8	MANUAL LOADER	AL		
C4	VOLUME CHAMBER W/BLEED			
SV-1	SOLENOID VALVE			
SV-2	SOLENOID VALVE			
LT-1A	PRESSURE SWITCH			
LT-1B	PRESSURE SWITCH			
PD-1	CONTROL DRIVE	AC		
PD-2	CONTROL DRIVE	AC		
PD-3	CONTROL DRIVE	AC		
PD-4	CONTROL DRIVE	AC		
CV-1	CONTROL VALVE	4" VFA		
CV-2	CONTROL VALVE	1" VBA		
CV-3	CONTROL VALVE	4" VFA		
CV-4	CONTROL VALVE	4" VFA		

TUBING TO BE 1/4 IN. O.D. EXCEPT AS SPECIFIED.
EQUIPMENT TUBING CONNECTIONS ARE TO BE VENTED UNLESS SHOWN OTHERWISE.
⊢ TEE AND PLUG FOR TEST GAGE.
△ PANEL TERMINAL IDENTIFICATION NO.
CONNECTIONS ARE SHOWN SCHEMATICALLY AND DO NOT REFLECT ACTUAL LOCATION ON EQUIPMENT.

AIR SUPPLY

AIR SUPPLY TO BE FROM A CLEAN, DRY, WELL-REGULATED SOURCE.
AIR FILTER & PIPING: DWG. _____ NOT BY BMCO.

- ●— 30PSI 4 UNITS MAX USING 1 4 IN. O.D. TUBING
- O— 40PSI 1 UNIT MAX. USING 1 4 IN. O.D. TUBING
- L— 40PSI 2 UNITS MAX. USING 1 2 IN. O.D. TUBING
- ■— 30PSI 2 UNITS MAX USING 1 4 IN. O.D. TUBING

FOR TUBING LENGTH IN EXCESS OF 50FT. USE THE NEXT LARGER SIZE OF TUBING.
FOR ADDITIONAL UNITS OFF COMMON SUPPLY, INCREASE TUBING SIZE PROPORTIONAL TO ABOVE SIZING USING CROSS SECTIONAL AREA
PROVIDE SHUT-OFF VALVE IN SUPPLY LINE TO EACH UNIT.

BMCO Indianapolis, Indiana
RECD AUG 26 1970
COPY FOR CHECK AND RETURN-FILE
BMCO

P.O. NO. 105 # 5656

COMBUSTION, FEEDWATER AND STEAM PRESSURE REDUCING CONTROL SYSTEM FOR CITY OF JASPER, INDIANA MUNICIPAL ELECTRIC LIGHT PLANT

REV.	DATE	CHANGE	APVD
		ADDED CV-3 & CV-4	

BAILEY METER COMPANY
WICKLIFFE, OHIO

DATE AUGUST 17, 1967
DWN [illegible]
CHKD
APVD

D5044126-B

FORM E 1137 5-67