

## **Jasper Water Utilities Citywide Boil Order of September 17-September 21, 2014**

### **Review of incident**

On September 15, 2014, the Jasper Water Filtration Plant noticed that the chlorine residual in the treated water was dropping below the normal range. At the same time the plant was noticing the KMNO<sub>4</sub> (Potassium permanganate) level was dropping in the raw water. The plant immediately started to add more chlorine and KMNO<sub>4</sub> as protocol dictated. That evening at approximately 8 p.m. Tim Doersam, Filter Plant Foreman, returned to the plant and reevaluated the situation. The filter plant operators continued to monitor the chlorine and KMNO<sub>4</sub> and noticed the levels were returning to an acceptable range. On the morning of September 16<sup>th</sup> the filter plant operators noticed that the KMNO<sub>4</sub> level was dropping again, so they increased the rate at which KMNO<sub>4</sub> was being added. Again levels returned to an acceptable range. On the evening of Sept. 16<sup>th</sup>, the filter plant operators noticed high turbidity (cloudy water) in the filter clear well. The cause of the turbidity was not apparent. Operators continued to monitor all levels. In addition, Tim Doersam went to his residence and drew a water sample and brought it back to the plant for testing. At 2 a.m. on September 17, 2014, he determined that a city wide boil order was necessary. Mr. Doersam's action went beyond protocol and resulted in discovery of below acceptable levels of chlorine in our distribution water.

### **Historical perspectives of water boil orders**

The last time a city wide boil order was issued was during the demolition of the old water filtration plant in 2004. A main feeder line was ruptured during demolition. The pipe had to be shut completely off and a section had to be replaced, which facilitated a city wide boil order.

### **Internal response**

When Tim Doersam decided that we needed to initiate a city wide boil order, he called Ernest Hinkle, manager of Gas & Water, Bud Hauersperger, General Utility Manager, and Terry Seitz, Mayor. After meeting at the plant and accessing the situation, it was decided to enact the boil order. Tim Doersam contacted I.D.E.M. and informed them of the situation. Midwestern Engineers was also called for assistance.

## External response

Mayor Seitz and Jasper Utilities General Manager, Bud Hauersperger, were notified early in the morning of September 17 and both responded to the Gas & Water Department. At approximately 3:30AM, each began calling government entities, schools, media, large employers and restaurants open for breakfast. The callouts continued until 7:00AM.

Mayor Seitz called an emergency meeting on the issue for 9:30AM. In addition to the mayor and Mr. Hauersperger, represented at the meeting were Gas & Water personnel, the Chairman of the Utility Service Board, Councilman Tom Schmidt, Jasper Police Department, Jasper Fire Department, the Personnel/Safety/Loss Control Department, Dubois County Health Department and the Dubois County Emergency Management Agency.

An outcome of this meeting was a news conference on the matter later that morning at Jasper City Hall. Following the news conference the City delivered media updates three times daily through Friday, September 19<sup>th</sup> and twice on Sunday, September 21 and these were also shared on the City's website, via Facebook and Twitter. The Jasper Police Department followed the same pattern with the cable interrupter and included Saturday, September 20 as well.

In review of our response the following has occurred or is occurring:

- A review of other new technologies for delivering urgent and/or time-sensitive messages
- Updating of internal City call lists
- Solicited input from media about our communication effort – to-date, we have received positive responses from the media concerning our efforts to keep them informed.

## Feedback

I.D.E.M. has determined, that due to an inversion of the Patoka River, there was a higher than normal level of Manganese in the water supply. While Manganese is not a dangerous material in drinking water it does have an impact on chlorine levels. The



filter plant operators could not add enough chlorine into the water to counteract the effect of higher Manganese levels. I.D.E.M. has made some suggestions that we have already implemented; including, use of an ultra-low level Manganese testing kit to get a finely tuned reading on the Manganese levels in the river and testing during every shift instead of once a day. Other suggestions, that we are researching, include adding Sodium Permanganate instead of the KMN04 which may have a better effect on the Manganese. The Water Department will continue to research options in order to make our water system as safe and reliable as possible.