

**Summary of City of Flint (City) Actions
In Response to the
EPA Emergency Administrative Order
Updated: August 12, 2016**

Chapters 52, 57, 59a & 59b: Weekly Conference Call Regarding Flint Water Plant Operations August 11, 2016.

EPA Order Due Date: Weekly

MDEQ and the Flint Water Treatment Plant staff held the weekly call on August 11th to review and discuss the summary of water quality and corrosion control parameters reported on the city's August operation report completed to date, a summary of water quality parameters collected the week of August 7th in the distribution system, and some other matters pertaining to operation of the city's water supply.

The following observations were noted:

- The supplemental phosphate dosage was consistent and ranged between 2.25 and 2.26 milligrams per liter. The phosphate residuals measured at the plant tap ranged from 3.24 to 3.52 milligrams per liter entering the distribution system.
- All of the established weekly distribution system sites reported a phosphate residual above 3.1 milligrams per liter, ranging between 3.14 and 3.48 milligrams per liter of phosphate.
- All pH measurements were greater than 7.0 at the Enhanced Water Quality Monitoring (EWQM) sites and the Point of Entry (Control Station #2) to the system. The pH levels ranged from 7.37 to 7.53 in the water received from Great Lakes Water Authority (GLWA) and from 7.30 to 7.39 at the 10 distribution system sites.
- We again discussed the need for appropriate response activities should water quality parameters not fall within acceptable ranges, such as low pH values or low phosphate residuals. Guidance in the form of standard operating procedures need to be developed with input from all involved parties that will establish appropriate response protocols.
- Iron levels at EWQM sites ranged from 0.01 to 0.05 milligrams per liter. Plant tap iron concentrations were all measured at 0.01 milligrams per liter in the last week.
- Lead samples taken at the EWQM sites during the week of August 1st all reported no lead detected.
- The supplemental chlorine feed at Control Station #2 ranged from 0.85 to 1.04 milligrams per liter and the plant tap free chlorine residuals ranged from 1.4 to 1.5 milligrams per liter.
- The free chlorine residuals at the 10 EWQM sites in the distribution system ranged from 0.36 to 1.55 milligrams per liter.
- The Flint WTP is assessing the laboratory equipment and staff training necessary to initiate additional corrosion control monitoring as recommended by DEQ staff.
- WTP staff continues to work with DEQ staff to improve data evaluation and inform operational decisions.

The following information was provided through daily operation summary reports prepared by DEQ staff during the week of August 8th and in discussions with Flint staff.

- Incoming water quality from GLWA has been fairly consistent. The incoming pH from GLWA has been slightly lower for the past two days (7.3 vs 7.5).
- Chemical dosages at the Flint WTP were well-controlled. The operators' routine rounds (taking readings, adjusting rates if necessary, etc.) seemed to be completed without any issues.
- At the Cedar Street station, the flow meter reading from the pellet chlorination system was provided by the operators. DEQ staff added conversions to gallons and milliliters so the operators can compare their readings to the expected output of the chemical feed pumps (though it is understood that the accuracy of the feed settings is not great). This comparison may be useful until the sodium hypochlorite feed systems to be activated in the distribution system are functioning.
- Possible re-design of the operators' daily log sheets was discussed with the Operations Foreman and Operations Supervisor. Several new readings are being taken and recorded, making the existing log sheets cluttered and out of logical order. There is some benefit to making the log sheets easier to use. The Operations Supervisor will seek input from staff this weekend and we will look at potential improvements to the layout next week.
- There were also discussions with the Operations Supervisor about working on Standard Operating Procedures. The operations foremen are working collaboratively on developing a standard operating procedure for filling storage tanks and operating the chlorination systems. We discussed the need for procedures on pump operating and tank filling that minimize pressure surges by not rapidly switching between pumping out of a tank and filling it before letting the system reach a steady-state condition.
- The city has completed the installation of a chemical feed system that would allow for the addition of caustic soda at Control Station #2 for pH adjustment. It is a temporary, piece-meal system, but it provides the ability to increase pH if it became necessary.
- Water Treatment Plant employees have submitted all of the information needed to obtain a NPDES permit for discharge of the water in preparation for the WTP's test run and possibly for the discharge of water that has been stored in the offline Dort Reservoir. However, the city is being encouraged to work with their wastewater counterparts to devise an acceptable method of draining the Dort Reservoir into the sanitary sewer system. Region 5 EPA is currently reviewing a draft Certificate of Coverage prepared by the Water Resources Division. The free and total residuals in the Dort Reservoir were 3.1 and 3.2 mg/l at 8:30 AM on Friday, August 5th, and are likely continuing to degrade.