

Summary of City of Flint (City) Actions In Response to the EPA Emergency Administrative Order Updated: September 16, 2016

Chapters 52, 57, 59a & 59b: Weekly Conference Call Regarding Flint Water Plant Operations September 16, 2016.

EPA Order Due Date: Weekly

MDEQ and the Flint Water Treatment Plant staff held the weekly call on September 15th to review and discuss the summary of water quality and corrosion control parameters reported on the City's September operation report completed to date, a summary of water quality parameters collected the week of September 6th 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 2.24 and 2.26 milligrams per liter (mg/l). The phosphate residuals measured at the plant tap ranged from 3.24 to 3.58 mg/l entering the distribution system.
- Four of the established weekly distribution system sites reported a phosphate residual less than 3.1 mg/l, ranging between 3.03 and 3.09 mg/l 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 7.34 to 7.51 in the water received from Great Lakes Water Authority (GLWA) and from 7.35 to 7.50 at the 10 distribution system sites.
- Guidance in the form of standard operating procedures is being developed by Flint WTP and DEQ staff to establish response protocols when the phosphate residual or pH level is unacceptable at any of the EWQM sites that will include resampling and other remedial actions.
- Iron levels at EWQM sites ranged from 0.01 to 0.06 mg/l. Plant tap iron concentrations were consistently measured at 0.01 mg/l in the last week.
- Lead samples taken at the EWQM sites during the week of September 6th all reported no lead detected.
- The supplemental chlorine feed at Control Station #2 ranged from 0.8 to 1.12 mg/l and the plant tap free chlorine residuals ranged from 1.5 to 1.6 mg/l.
- The free chlorine residuals at the 10 EWQM sites in the distribution system ranged from 0.53 to 2.01 mg/l. The low residuals are always at site #6, Salem Housing. The lowest free chlorine residual at the other 9 EWQM sites during the past week was 0.84 mg/l.
- 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 September 11 and in discussions with Flint staff.

- On September 11, DEQ staff reported the residuals at the reservoirs have been consistently below target. The free chlorine residuals at Westside varied from 1.13 to

1.27 mg/l. Low residual prevent Westside from being pumped for more than one hour today.

- On September 12, the on-duty Flint Operations Foremen City staff prepared and submitted the daily report to DEQ staff. DEQ staff contacted the day shift on-duty Foreman by phone to discuss a few items:

Six totes of sodium hypochlorite for CS-2 were ordered last night. The supplier logged the order this morning, and delivery is expected on Thursday, September 15.

Operations staff maintained steady and appropriate chlorine and phosphate residuals leaving CS-2. Incoming pH from GLWA was typical of recent days.

There are still some concerns regarding chlorine residuals leaving the Cedar Street reservoir and pump station. As indicated in DEQs 9/11/16 daily summary, the DEQ is discussing the issue and possible solutions with City staff.

- On September 13, operations personnel prepared and submitted the daily summary and chemical inventory. Follow up on the items below from the summary took place on September 14:
 1. There were a couple of values reported that may be in error (plant tap pH, feed rates into the West Side reservoir). Values will be confirmed.
 2. Operational problems were addressed with the valve actuator at the West Side reservoir. Additional details will be obtained.
 3. Progress toward maintaining stable chlorine residuals at the Cedar Street and West Side reservoirs will be discussed.
- On September 15, DEQ staff observed the chlorine residual in West Side reservoir has been slowly declining in September. The Water Plant Supervisor has implemented a higher (1.8 mg/l) free chlorine residual leaving CS-2 to offset the lower chlorine water that will be pumped from West Side. Once some water is pumped from West Side, it will be refilled with an appropriate incoming boost of chlorine from the sodium hypochlorite feed system to bring the reservoir's free residual toward the goal of 1.5 mg/l.

Six totes of sodium hypochlorite were ordered several days ago, with an expected delivery today. It now appears three totes were coming today, with the other three arriving early next week.