

**Summary of City of Flint (City) Actions
In Response to the
EPA Emergency Administrative Order
Updated: July 29, 2016**

Chapters 52, 57, 59a & 59b: Weekly Conference Call Regarding Flint Water Plant Operations July 28, 2016.

EPA Order Due Date: Weekly

MDEQ and the Flint Water Treatment Plant staff held the weekly meeting on July 28th to review and discuss the summary of water quality and corrosion control parameters reported on the City's July operation report completed to date, a summary of water quality parameters collected on July 24th 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 2.22 and 2.28 milligrams per liter (mg/l). The phosphate residuals measured at the plant tap ranged from 3.23 to 3.60 mg/l entering the distribution system.
- One of the weekly distribution system sites (Distribution System Location #6) reported a residual below 3.1 mg/l (3.01 mg/l). Otherwise, the weekly sites ranged between 3.25 and 3.61 mg/l 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 7.34 to 7.41 in the water received from Great Lakes Water Authority (GLWA) and from 7.34 to 7.43 at the 10 distribution system sites.
- Iron levels at EWQM sites ranged from 0.01 to 0.09 mg/l. Plant tap iron concentrations ranged from 0.01 to 0.02 mg/l in the last week.
- Lead results from the EWQM sites were not yet available from the City; this report will be revised and re-posted when the data is provided.
- The chlorine feed at Control Station #2 was consistently maintained at 0.70/0.80 mg/l. The free chlorine residuals at the 10 EWQM sites ranged from 0.29 to 1.63 mg/l.
- The Flint WTP operators continue to adjust the hypochlorite feed rate to maintain the same feed rate based on the flow rate from the GLWA. DEQ staff is working with the WTP staff to maintain a plant tap free chlorine residual of 1.5 to 1.7 mg/l.
- A combined, single spreadsheet is being developed for the inclusion of all chlorination information.
- The Flint WTP is assessing the laboratory equipment and staff training necessary to initiate additional corrosion control monitoring as recommended by DEQ staff.
- The City worked with HACH Chemical Company this week to review instrumentation for possible installation at the plant and in the distribution system for water quality monitoring. An automatized display tied to one of the new HACH multichannel instruments will be installed in the water treatment plant lab. The various channels will record the free and total chlorine residual, total phosphate, pH temperature, UV254, chloride and Dissolved Oxygen.
- A similar system, with fewer channels will be added to at least four locations in the distribution system. All of these HACH instruments will be sending the data to the plant's SCADA system.

- The HACH representative will also check on the possibility of adding a sulfate monitoring system as well.
- WTP staff continues to work with DEQ staff to modify bench sheets with the goal of improving data evaluation.

The following information was provided through daily operation summary reports by DEQ staff. DEQ staff will continue to work with City staff for an undetermined amount of time in the future.

West Side:

A water meter was installed on the pellet chlorination system water feed, all equipment, except for the feed pump head and injection quill, has been installed to feed sodium hypochlorite. Electrical work was being done for installation of the second CL17 chlorine analyzer. The mounting board has been installed.

Cedar Street:

A water meter was installed on the pellet chlorination system water feed, all equipment, except for the feed pump head and injection quill, has been installed to feed sodium. The second CL17 was installed and working. The operators were calibrating it the morning of July 28, 2016. A hard-piped drain line will be installed once the parts are available. For now, water from the analyzer is running to a floor drain. The pellet chlorinator still does not function all that well, although it was recently dismantled and checked, and there were no obvious problems. It is possible that the current injection quill is plugged. Perhaps the newly-installed water meter will tell us if there is some sort of flow restriction.

Water Plant:

A PO has been executed for totes of sodium hypochlorite. The CL17 in the basement is now reading on the SCADA in the Operations Center. WTP staff were instructed to continue to make comparisons (visual read vs. SCADA) during their normal rounds. Staffing issues were discussed related to increased operator activities, open positions, unexpected absences and planned leave.

In addition to the above comments and observations, DEQ staff continue to document daily operations at the Flint Water Treatment Plant. This includes reservoir filling and chlorine residual analysis, observation and dosage of the orthophosphate feed system, free/total chlorine residual analysis of water received from GLWA and plant tap, target for applied dose range at CS-2, and observation of free chlorine residual at locations where continuous CL2 analyzers are available (i.e. currently upstream of CS-2, downstream of CS-2, West Side reservoir, Cedar Street reservoir).

Results of water quality parameters and daily observations of system operations demonstrate the City's corrosion control efforts and that the City is providing acceptable water quality.