



**DEPARTMENT OF PUBLIC WORKS  
AND UTILITIES  
Water Plant**

**Dr. Karen Weaver**  
Mayor

**Sylvester Jones Jr.**  
City Administrator

**JoLisa McDay**  
Utilities Administrator

August 3, 2016

VIA EMAIL

Mr. Mark Pollins, Director  
Water Enforcement Division  
Office of Civil Enforcement  
Office of Enforcement and Compliance Assurance  
United States Environmental Protection Agency  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, NW (2243A)  
Washington, DC 20460

Mr. Keith Creagh, Director  
Michigan Department of Environmental Quality  
Constitution Hall  
525 West Allegan Street  
P.O. Box 30473  
Lansing, Michigan 48909-7973

Dear Director Pollins and Director Creagh,

In response to the July 19<sup>th</sup> and July 26<sup>th</sup> communications from the EPA and MDEQ, respectively, the Department of Utilities acknowledges your concerns and is working diligently with staff from MDEQ to improve chlorine residuals, as free and total chlorine, in the City of Flint's water distribution system. The City of Flint also regards that optimizing corrosion control in the distribution system is critical. To express our urgency in attending to this matter, the City of Flint is allocating nearly \$150,000 to the procurement and installation of equipment that was permitted by MDEQ for the more permanent, yet temporary chemical feed systems. This is in addition to more than \$50,000 that was expended on engineering design services required by the MDEQ permit process for those same systems.

However, I am deeply concerned about the information that EPA is receiving from members of its team in Flint that are neither working collaboratively nor directly with team members at the water treatment plant. It has been discussed at weekly meetings that the City of Flint is transitioning to sodium hypochlorite for disinfection. It was also communicated to EPA through MDEQ that the mode of operating the chlorinators was ineffective and that the practice in use at that time should

be discontinued. While calcium hypochlorite can be used for disinfection, sodium hypochlorite is overwhelmingly used for disinfection by water utilities that serve populations equal to or greater than that of Flint. Sodium hypochlorite was on hand at the plant. It was to be diluted and dosed accordingly. Since EPA has mandated the use of calcium hypochlorite, we quickly obtained five buckets from the Alma Water Treatment Plant with the assistance of the vendor. The City of Flint did maintain supplies of chlorine for disinfection for the timeframe mentioned in the July 19<sup>th</sup> letter and the City of Flint maintained the resources, though not optimal, for dosing the chlorine to drinking water. The City of Flint is maintaining supplies of chlorine as calcium hypochlorite and sodium hypochlorite for disinfection at the plant and the Cedar Street and Westside reservoirs. To the City of Alma, I express my deepest gratitude for your support and quick response.

I am also concerned that there is no documented plan of action for dosing sodium hypochlorite, calcium hypochlorite, or sodium hydroxide into water leaving the water plant or water that is amended at a city reservoir. Guided by the regulatory agencies, the City of Flint is dosing chlorine to achieve a free chlorine residual of 1.5 mg/L (+/- 10%) leaving the plant and at both reservoirs. Yet, it is not known why that level is acceptable. It is not known if and when that dose should be increased or decreased. It is known that the distribution system is oversized and that water age is exceedingly high in some areas. The water plant began cycling the reservoirs and an improvement in chlorine residuals was acknowledged by representatives from EPA and MDEQ prior to increasing levels of chlorine in finished water. Optimizing the operation of the distribution system is regarded as urgent by all entities. The City of Flint has been proactive in deep cycling its reservoirs and increasing the frequency of distribution system flushing for improving water quality.

While adding more chemicals is a convenient means to address concerns about bacterial growth, it is not the optimal solution for improving water quality throughout the distribution system. According to the EPA's March 2016 guidance on corrosion control, adding more chemicals can cause pinhole leaks in plumbing and it may even cause the scale that has been formed to flake away. It should be noted that a compromise of the developed scale may not be readily evident. The guidance clearly states that caution should be exercised, but there is no plan that has been communicated with the City of Flint that demonstrates the caution that regulatory agencies are taking in the application of the chemicals currently in use at the water treatment plant. I am deeply concerned that customers closer to reservoirs and the water plant will be negatively impacted as residual chlorine in the water for those customers will be significantly higher than in the outlying areas that both MDEQ and EPA have regarded as areas of concern. At the time of this communication, the City of Flint is still forced to apply chemicals without a written and comprehensive strategy. The City of Flint is consistently told that a plan will come from the engineering firm that will perform distribution optimization and provide an optimized corrosion control plan for the City of Flint. EPA and MDEQ have well-trained and highly educated engineers and practitioners that can offer their expertise in a codified format that will better inform the decisions of the utility, educate the public, and support the engineering firm that will develop a long term strategy for the City of Flint.

In May, the City began constructing a temporary system for chlorine feed which was halted until regulatory agencies reviewed and approved of both the temporary system (currently in use) and the more "permanent-temporary" system which will be used until the water plant has a bulk storage facility to accommodate the newly mandated chemical feed systems used in water production.

Acting through the Administrative "Order", MDEQ and EPA have been present in the City of Flint since January of this year. The EPA mandate for having a chlorine feed system was issued in June, 2016. The MDEQ permit for the chemical feed system was approved and issued in June, 2016.

Respectfully submitted,



JoLisa McDay  
Utilities Administrator (Temp.)

Cc: Mr. Robert Kaplan, USEPA  
Mr. Rich Baird, Governor's Office  
Mr. Jim Sygo, Chief Deputy Director, DEQ  
Mr. George Krisztian, DEQ  
Mr. Bryce Feighner, DEQ  
Mayor Karen Weaver, City of Flint  
Mr. Sylvester Jones, City of Flint  
Mrs. Stacy Erwin Oakes, City of Flint  
Ms. Kristin Moore, City of Flint