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MEMORANDUM

To: Atty. Charles D. Boddy, Jr., City Attorney

From: Frank McCann, DPW Director 

CC: Michael J. Sullivan, Mayor
Robert T. Fazio, Water Commissioner
Mark J. Andrews, Budget & Finance Director

Date: January 6, 2009

RE: Water Treatment Plant Report

After meeting with Mark Griffin, Plant Supervisor for Water Treatment & Storage, we reviewed the violations for failure to take distribution samples for chlorite in May and August of 2008. Mark, in turn, reviewed the details surrounding the events with the City's Chemist/Lab Technician (Chris MacKay) who is charged with gathering the samples, our contracted plant operator (Woodard & Curran), and our outside laboratory services contractor (Thorstensens's Lab), to determine the cause of the violations. He also reviewed the relevant MA DEP regulations for Chlorite monitoring.

The failure in May was due to a misunderstanding of when the chlorite samples were to be taken. The Chemist/Lab Technician thought that they were quarterly samples, thus not taken in May, the second month of that quarter.

The City was technically eligible for (reduced) quarterly sampling since the new treatment plant had been on line for over one year (See section 22.07E.7.b.2.c.ii attached below.) and this might have obviated the need for May samples. An official application for reduced sampling to MA DEP had not been made and the City was therefore required to take the May samples according to a MA DEP representative. However, a review of that regulation for reduced chlorite sampling does not indicate that any formal request is required. The May samples were not required according to the regulations, despite that not taking them was an oversight. In practice, however, quarterly sampling might not have been reasonable since the system did not run continuously for the previous year and was down for several months. Contributing to the May event was a learning curve for the operator and the lab technician since the operator was starting up that system for the first time in mid-April since taking over operations the previous December.

The August chlorite samples were not taken due to several factors. The samples were scheduled for the fourth week of the month due to a combination of other sampling requirements (some of which were given with little notice) and personnel absences that month. However, the chlorine dioxide system* was down that week due to a mechanical failure and it did not come back on line for the remainder of August. The City planned to take the samples regardless to fulfill the requirements, but a MA DEP representative in an on-site visit noted that the samples could not be taken when the system was off-line. Again, the regulations below do not specifically state this requirement in the section covering chlorite. However, that the system should be running is inferred in the general monitoring requirements but it is not explicitly clear. (See 22.07E.7.a.1 attached.)

Note that as in the case of the May samples, the August samples may also have been obviated by the reduced quarterly samples taken in July. With reduced sampling in effect the August samples were not required.

Department personnel are aware of the required testing and are complying. Part of this issue is attributed to not having W&C completely in charge (New contract has them responsible for all related testing). In the interim under the emergency operations there are two separate entities (City & W&C) working on different parts of compliance issues and sampling. For example, the system was down for the last 8 days of August and it was the responsibility of W&C to get the system repaired, yet it was the City who was fined for not being able to take the samples during that period. Also there have been issues with the contracted certified laboratory, which MA DEP is aware of, that has caused problems with meeting deadlines and contributed to other citing from MA DEP and which may have triggered this most recent issue.

Whereas the circumstances surrounding these events were cumulative in the view of MA DEP and potentially not pointed at this as a specific case, and whereas the regulations do not clearly state where there has been a violation, my opinion is that the City should consider an appeal to this notice of non-compliance. Where there is a question of whether a violation actually took place, the issuance of an ACOP with an accompanying fine seems unreasonable. An appeal, if it does not reverse the violation, may at least reduce or eliminate the fine, or the City might be allowed to apply the amount of the fine to install additional monitoring equipment for the chlorine dioxide system. Specifically, this would apply to the addition of on-line analyzers for chlorine dioxide concentrations at the treated and finished water locations.

*Note chlorite is a byproduct of chlorine dioxide, both generated when the chlorine dioxide system is on line. Both chlorine dioxide and chlorite are measured daily at the plant effluent as per 2.a.i below, but only chlorite is stable enough to potentially remain in the distribution system and therefore requires monthly sampling at several distribution points as per 2.a.ii. It is this monthly distribution sampling that was missed. All daily samples at the plant were taken and showed no chlorine dioxide and no chlorite entering the system. Nonetheless the distribution samples are required to confirm no chlorite entering the system.