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**From:** Benzie, Richard (DEQ)  
**Sent:** Saturday, May 02, 2015 10:35 AM  
**To:** Shekter Smith, Liane (DEQ)  
**Subject:** Fw: Flint Corrosion Control?

FYI

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**From:** Cook, Pat (DEQ)  
**Sent:** Friday, May 1, 2015 11:38 AM  
**To:** Deltoral, Miguel  
**Cc:** Porter, Andrea; Crooks, Jennifer; Poy, Thomas; Benzie, Richard (DEQ); Busch, Stephen (DEQ)  
**Subject:** RE: Flint Corrosion Control?

Hi Miguel - sorry, I should have been more specific in my previous email. The rules you stated below allow large systems to be considered having optimal corrosion control if they have data from two consecutive 6 month monitoring periods that meet specific criteria. DEQ-ODWMA has not made a formal decision as to whether or not the City of Flint meets the exemption criteria or will be required to do a corrosion control study since Flint has only completed one round of 6 month monitoring. The City of Flint's second round of monitoring will be completed by June 30, 2015, and we will make a formal decision at that time. If my memory is correct, this is consistent with the process followed in the early 1990's for large systems when the Pb/Cu rule was first implemented. The Department waits until large systems complete both rounds of full scale, 6 month monitoring before making a decision about optimal corrosion control. If it is determined that Flint has to install corrosion control treatment, the rule allows up to 2 years to complete a study and 2 additional years to install the treatment unless we set a shorter time frame.

As Flint will be switching raw water sources in a just over one year from now, raw water quality will be completely different than what they currently use. Requiring a study at the current time will be of little to no value in the long term control of these chronic contaminants.

Finally, the City of Flint's sampling protocols for lead and copper monitoring comply with all current state and federal requirements. Any required modifications will be implemented at the time when such future regulatory requirements take effect.

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**From:** Deltoral, Miguel [<mailto:deltoral.miguel@epa.gov>]  
**Sent:** Saturday, April 25, 2015 10:11 AM  
**To:** Cook, Pat (DEQ)  
**Cc:** Porter, Andrea; Crooks, Jennifer; Poy, Thomas  
**Subject:** Re: Flint Corrosion Control?

Hi Pat,

I'll be heading out to MI for RTCR tomorrow and won't see email until next Tuesday, but I wanted to follow up on this because Flint has essentially not been using any corrosion control treatment since April 30, 2014 and they have LSLs. Given the very high lead levels found at one home and the pre-flushing happening at Flint, I'm worried that the whole town may have much higher lead levels than the compliance results indicated, since they are using pre-flushing ahead of their compliance sampling.

If the source water lead is non-detect (zero), then according to 141.89(a)(3) they should use zero for that source water value:

"All lead and copper levels measured between the PQL and MDL must be either reported as measured or they can be reported as one-half the PQL specified for lead and copper in paragraph (a)(1)(ii) of this section. All levels below the lead and copper MDLs must be reported as zero."

As far as the treatment determination, there are only two scenarios for a large system to be deemed to have optimized corrosion control without treatment and Flint does not appear to meet either:

The first is at 141.81(b)(3)

Any water system is deemed to have optimized corrosion control if it submits results of tap water monitoring conducted in accordance with § 141.86 and source water monitoring conducted in accordance with § 141.88 that demonstrates for two consecutive 6-month monitoring periods that the difference between the 90th percentile tap water lead level computed under § 141.80(c)(3), and the highest source water lead concentration is less than the Practical Quantitation Level for lead specified in § 141.89(a)(1)(ii).

If Flint's highest source water lead was zero, and their 90th percentile was 0.006, then Flint does not meet this criteria, because the difference must be LESS THAN the PQL (i.e., 0.004 or less).  $0.006 - 0 = 0.006$ .

The second is at 141.81(b)(3)(i):

Those systems whose highest source water lead level is below the Method Detection Limit may also be deemed to have optimized corrosion control under this paragraph if the 90th percentile tap water lead level is less than or equal to the Practical Quantitation Level for lead for two consecutive 6-month monitoring periods.

Although Flint's source water lead was non-detect (zero), the 90th percentile lead level is 0.006 which is above the PQL of 0.005, so Flint would not meet this criteria either.

Am I missing something?

Miguel A. Del Toral  
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**From:** Cook, Pat (DEQ) <COOKP@michigan.gov>  
**Sent:** Friday, April 24, 2015 12:45 PM  
**To:** Deltoral, Miguel  
**Subject:** RE: Flint Corrosion Control?

Total Lead collected from the plant tap on 5/22/14 was zero.

pat

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**From:** Deltoral, Miguel [<mailto:deltoral.miguel@epa.gov>]  
**Sent:** Friday, April 24, 2015 11:59 AM  
**To:** Cook, Pat (DEQ)  
**Cc:** Poy, Thomas; Porter, Andrea  
**Subject:** Re: Flint Corrosion Control?

What was the source water lead level?

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**From:** Cook, Pat (DEQ) <[COOKP@michigan.gov](mailto:COOKP@michigan.gov)>  
**Sent:** Friday, April 24, 2015 10:43 AM  
**To:** Deltoral, Miguel  
**Cc:** Poy, Thomas; Porter, Andrea  
**Subject:** RE: Flint Corrosion Control?

Hi Miguel - Flint is currently not practicing corrosion control treatment at the WTP. When they started treating water at their WTP last spring, we placed them on full chart (100 sites) Pb/Cu monitoring for two consecutive 6 month periods. WQ monitoring is also being conducted. The first round of samples after switch-over from DWSD (July 1, 2014 – Dec 31, 2014) had 90th percentiles of 6 ppb for Lead and 110 ppb for Copper. The second round of samples (Jan 1, 2015 – June 30, 2015) is underway with approximately 20 of the 100 sample site results in. The highest lead result out of the 20 received thus far is 13 ppb.

Based on the matrix of recommended corrosion control study components for Large PWS's for both Lead and Copper, there are no additional requirements for the City of Flint based on the levels of lead and copper in the current source water and the results of the lead and copper distribution monitoring. The only provision of the Lead & Copper Rule which classifies the existing treatment of large PWSs as optimized for corrosion control is when the difference between the 90% Pb-TAP and Pb-POE is less than the lead practical quantitative level (PQL) for each six-month period of the initial monitoring program. By definition, the PQL for lead is 0.005 mg/L; and the lead value for the source water used in this determination is the highest source water lead concentration. If this condition is met, then no study or testing is required. We believe this condition has been met for Flint. However, we will re-evaluate this after the 2<sup>nd</sup> round of 6 month sampling is completed.

If you have any further questions, please contact the Lansing District Supervisor, Steve Busch at (517) 643-2314 or at [buschs@michigan.gov](mailto:buschs@michigan.gov).

Have a good (and hopefully warm) weekend!

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**From:** Deltoral, Miguel [<mailto:deltoral.miguel@epa.gov>]  
**Sent:** Thursday, April 23, 2015 12:33 PM  
**To:** Cook, Pat (DEQ)  
**Cc:** Poy, Thomas; Porter, Andrea  
**Subject:** Flint Corrosion Control?

Hi Pat,

What's Flint doing now (post Detroit) for corrosion control treatment?

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