



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUL 24 2018

REPLY TO THE ATTENTION OF

WG-15J

Mr. Eric Oswald, P.E., Chief
Drinking Water and Municipal Assistance Division
Michigan Department of Environmental Quality
525 West Allegan Street
P.O. Box 30473
Lansing Michigan 48909-7973

Mr. Robert Bincsik
Director of Public Works
City of Flint
1101 South Saginaw Street
Flint, Michigan 48502

Re: Clarification of Lead and Copper Rule Compliance Monitoring Requirements

Dear Mr. Oswald and Mr. Bincsik:

Earlier this year during meetings about the implementation of the Safe Drinking Water Act (SDWA) Section 1431 Order in the Flint matter, the Michigan Department of Environmental Quality (MDEQ) and the City of Flint (City) asked the U.S. Environmental Protection Agency for clarification on the requirements related to Paragraph 59(a) of EPA's January 21, 2016 Order, specifically the requirement for Respondents to submit and post for the public a monitoring plan for lead and copper rule compliance (LCR Compliance Plan), and how such a plan is intended to account for turnover in the number of available sampling (monitoring) sites due to ongoing lead service line replacement efforts.

While Region 5 has provided feedback on this requirement during regular meetings regarding the EPA Order, MDEQ asked that the Region consult with EPA Headquarters and provide a written response. I have consulted with EPA Headquarters and the enclosed document provides further details on general LCR monitoring requirements and sample site selection with a focus on the concerns raised by both MDEQ and the City regarding the replacement of lead service lines and the loss of tier 1 sites.

We hope that the enclosed information developed by EPA Headquarters clarifies the sampling pool issues that have been raised by both MDEQ and the City as you have worked to develop the City of Flint Public Water System's LCR Compliance Plan. We can further discuss the contents of the LCR Compliance Plan during our next Order call among EPA, the City, and MDEQ, which is scheduled for August 1, 2018.

Please do not hesitate to reach out to me if you have any further questions.

Sincerely,



Linda Holst
Acting Division Director
Water Division

Enclosures:

1. Clarification of Lead and Copper Rule Compliance Monitoring Requirements
2. Water Supply Guidance 200: Implementation of the Lead and Copper Rule Provisions Related to Sample Site Selection and Triennial Monitoring
3. Lead and Copper Rule Monitoring and Reporting Guidance for Public Water Systems

cc: (via email)

Mr. Steve Branch, City Administrator, City of Flint
Mr. Hughey Newsome, Chief Financial Officer, City of Flint
Ms. Amy Epkey, Environment Deputy Director, MDEQ
Mr. George Krisztian, Assistant Chief, Drinking Water and Municipal Assistance
Division, MDEQ

Clarification of Lead and Copper Rule Compliance Monitoring Requirements
Developed by EPA Headquarters at the Request of EPA Region 5, MDEQ, and City of Flint

EPA regulations at 40 C.F.R. §141.42(d) and §141.86(a), in Subparts E and I, respectively, of Part 141, require public water systems to collect information that is used to develop a materials evaluation. This materials evaluation is used by the water system to identify a pool of targeted sampling sites that: (1) are ‘high risk’ sites, meaning they are particularly susceptible to elevated lead and copper levels; (2) meets all the requirements of 40 C.F.R. § 141.86; and (3) is sufficiently large to ensure that water systems can collect the number of lead and copper tap samples required.

Section 141.42(d) provides that “community water supply systems shall identify whether [certain] materials are present in their distribution system” including lead from piping, solder, caulking, interior lining in distribution mains, alloys and home plumbing; copper from service lines, piping, and alloys and home plumbing; and galvanized service lines and home plumbing. Section 141.86(a)(1) provides that “each water system shall complete a materials evaluation of its distribution system in order to identify a pool of sampling sites that meets the requirements of this section” by the date that systems must begin tap monitoring under 141.86(d)(1).

A system must use the information that it is required to collect under 141.42(d) (40 C.F.R. 141.86(d)(2)). If the evaluation of the materials collected pursuant to §141.42(d) is insufficient to locate the requisite number of sites that meet the targeting criteria in 40 C.F.R. § 141.86, then the water system shall review the following: 1) plumbing codes, permits, and records in the files of the building department(s) which indicate the plumbing materials that are installed within publicly and privately-owned structures connected to the distribution system; 2) all inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system; and 3) all existing water quality information, which includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead or copper concentrations (40 C.F.R. § 141.86(a)(2)). Section 141.86(a)(2) provides further that “[i]n addition, the system shall seek to collect such information where possible in the course of its normal operations (e.g. checking service line materials when reading meters or performing maintenance activities).”

All sites from which first-draw samples are collected shall be from a pool of targeted sampling sites developed from the materials evaluation described above unless there are insufficient tier 1 sites in the distribution system (40 C.F.R. 141.86(a)(1)). Sampling sites selected for the sampling pool shall be tier 1 sites.

For community water systems (CWSs), tier 1 sites are defined as single family structures that contain copper pipes with lead solder installed after 1982 or contain lead pipes, and/or are served by a lead service line. When multiple-family residences comprise at least 20 percent of the structures served by a water system, a system may include these types of structures in its sampling pool (40 C.F.R. § 141.86(a)(3)(ii)).

If a CWS has an insufficient number of tier 1 sampling sites, it shall complete its sampling pool with tier 2 sites, which are defined as buildings, including multiple-family residences, that

contain copper pipes with lead solder installed after 1982 or contain lead pipes, and/or are served by a lead service line (40 C.F.R. § 141.86(a)(4)).

If a CWS has insufficient tier 1 and tier 2 sampling sites, it shall complete its sampling pool with tier 3 sites, which are defined as single family structures that contain copper pipes with lead solder installed before 1983. If a CWS has insufficient tier 1, 2, and 3 sampling sites, the system shall complete its pool with representative sites throughout its distribution system. A representative site is defined as a site in which the plumbing materials used at the site would be commonly found at other sites served by the water system (40 C.F.R. § 141.86(a)(5)). In addition, any water system whose distribution system contains lead service lines shall draw 50 percent of its samples from sites served by a lead service line and 50 percent of its samples from sites that contain lead pipes, or copper pipes with lead solder. Systems that cannot identify a sufficient number of sampling sites served by a lead service line shall collect first-draw samples from all sites identified as being served by such lines (40 C.F.R. § 141.86(a)(8)).

Systems are also required to collect each first-draw tap sample from the same site from which it collected a previous sample. However, if for any reason the system cannot gain entry to a sampling site to collect a follow-up sample, the system may collect a follow-up sample from another sampling site in its sampling pool so long as the new site meets the same targeting criteria as the original site and is in reasonable proximity to the original site (40 C.F.R. § 141.86(b)(4)).

Systems are required to report the results of all tap samples for lead and copper, including the location of each site and the applicable criteria under 40 C.F.R. § 141.86(a)(3), (4), (5), (6), and/or (7) under which the site was selected from the sampling pool (40 C.F.R. § 141.90(a)(1)(i)). If the system does not sample at the same site previously sampled, the system shall designate any site not sampled during previous monitoring periods and include an explanation of why sampling sites have changed (40 C.F.R. § 141.90(a)(v)).

Under 40 C.F.R. § 141.86(a), all sites used for lead and copper compliance tap sampling must be tier 1 sites unless there are "insufficient tier 1 sampling sites." On October 13, 2016, EPA issued a policy memorandum clarifying that this phrase refers to sites in the distribution system. It does not refer to the sites currently in the sample pool; therefore, when a system no longer has enough tier 1 sites in its sample pool to meet the minimum number of samples (e.g., due to plumbing changes or lack of homeowner participation), the system must identify other tier 1 sites to add to its sample pool (see enclosed Water Supply Guidance 200).

The memorandum also noted that, in some cases, materials evaluations may not have been sufficiently robust to meet the targeted sampling site requirements of the rule or may need to be updated. To ensure public water systems can accurately identify the presence of tier 1 sites, the memorandum recommended periodically updating materials evaluations to capture any recent changes to available sampling sites. These recommendations are particularly relevant to the Flint water system's materials evaluation, which likely warrants more frequent updates given the extent to which ongoing lead service line replacement efforts are likely to affect: (1) the number of available lead service line sites in the current sampling pool and (2) the system's ability to meet the requirement discussed above regarding drawing a minimum of 50 percent of samples from sites served by a lead service line. The memorandum also recommended that water systems

maintain, and submit upon request to their primacy agency, documentation to confirm the system periodically updates its materials evaluation, including a description of the sources used to update this information (see enclosed Water Supply Guidance 200).

Finally, in addition to the regulations and Water Supply Guidance mentioned above, you may find EPA's March 2010 *Lead and Copper Rule Monitoring and Reporting Guidance for Public Water Systems* to be a helpful resource. The document can be found at <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100DP2P.txt>. It provides a comprehensive discussion of the monitoring and monitoring-related reporting requirements of the LCR and is thus a helpful resource towards ensuring sampling plans are fully consistent with LCR requirements.