UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

WSG 200
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OFFICE OF
WATER

**MEMORANDUM**

SUBJECT: Implementation of the Lead and Copper Rule Provisions Related to Sample Site Selection and Triennial Monitoring

FROM: Peter C. Grevatt, Director
Office of Ground Water & Drinking Water

TO: Water Division Directors
Regions I-X

As part of EPA's on-going oversight responsibilities, the Office of Ground Water and Drinking Water (OGWDW) has worked with the Regions to conduct a thorough review of implementation of the Lead and Copper Rule (LCR). One area that requires additional attention relates to compliance sampling site selection and the use of tier 1 sites by community water systems (CWSs). I ask that you and your primacy agencies ensure that implementation of the LCR is consistent with the rule requirements discussed below and that this information is well-documented. I also request that you and your primacy agencies pay close attention to the documentation the agency will expect to have available during program reviews regarding future primacy agency decisions to approve requests from public water systems seeking to return to triennial monitoring[1] after a lead action level exceedance.

Tier 1 Sample Site Selection

Under the current LCR, the CWSs are required to identify and use tier 1 sites for their compliance monitoring under 40 CFR §141.86. 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.

[1] Systems serving more than 50,000 persons and small and medium systems with state-defined optimal water quality parameters must receive written approval from the primacy agency to return to reduced monitoring after a lead action level exceedance. 40 CFR § 141.(86)(d)(4)(vi)(B).

Tier 1 sampling sites are defined in the LCR as "single family structures[2]" that contain "copper pipes with lead solder installed after 1982 or contain lead pipes; and/or served by a lead service line."[3] As required under 40 CFR §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." The phrase "insufficient tier 1 sampling sites" refers to sites in the distribution system. It does not refer to the sites currently in the sample pool.

Under the LCR, CWSs are required to identify a pool of targeted sampling sites that is sufficiently large to ensure the water system can collect the number of samples required in §141.86(c). The regulations at 40 CFR §141.86(a) (1) and §141.42(d) in Subpart E of Part 141, require water systems to develop a materials evaluation to identify the requisite number of tier 1 sites. The regulations at 141.86(a)(2) also state that the system is required to take additional measures "in order to identify a sufficient number of sampling sites" if the materials evaluation is insufficient. Specifically, the regulations state "… 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 water meters or performing maintenance activities): (i) All 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; (ii) 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 (iii) 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."

In some cases, materials evaluations may not have been sufficiently robust to meet the targeted sampling site requirements of the rule or they may need to be updated. To ensure that a public water system is able to accurately identify the presence of tier 1 sites, the public water system should periodically update its materials evaluation to capture any recent changes to the available sites for sampling. For example, such updates would be opportune when distribution system maintenance projects occur. Several states have informed us that they are already requiring their public water systems to update their materials evaluations. EPA strongly recommends that public water systems maintain and submit upon request to their primacy agency documentation to confirm that the system periodically updates its materials evaluation including a description of the sources used to update this information.

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[2] Where multi-family structures make up more than 20 percent of the structures served by the system, those types of structures may be used instead of single family structures.

[3]Congress enacted the Safe Drinking Water Act Amendments of 1986 that included a prohibition on the use of pipe, solder, or flux that are not lead free in potable applications, including public water systems . Existing EPA guidance clarifies that tier 1 sites for solder generally should have ages between 1982 and the effective date of the lead ban in States (42 U.S.C. 300g-6). *Lead and Copper Rule Monitoring and Reporting Guidance for Public Water Systems, page 25: Document # EPA 816-R-10-004, March 2010*

Eligibility for Triennial Tap Monitoring for Lead after an Action Level Exceedance

Any water system approved for reduced tap monitoring must return to standard monitoring if it exceeds the action level according to 40 CFR §141.86(d)(4)(vi). To return to triennial monitoring, public water systems will need to complete two rounds of 6-month sampling and two years of annual monitoring with 90$^{th}$ percentile results below the action level.[4] For systems serving more than 50,000 persons and small and medium systems with state-defined optimal water quality parameters, the primacy agency must provide written approval for a system to return to reduced monitoring per 40 CFR §141.86(d)(4)(vi)(B).

EPA Regions should act in their oversight capacity, to clearly communicate the expectation that primacy agencies will critically consider relevant aspects of a water system's LCR program including corrosion control treatment and historical performance before granting triennial monitoring. In addition, where the primacy agency finds that a public water system is lacking in technical, managerial, and financial capacity, the primacy agency could decide to keep the system on an annual LCR monitoring schedule. Regions should communicate the expectation that primacy agencies will be prepared to provide appropriate documentation of the relevant factors taken into consideration when making decisions to approve or disapprove triennial monitoring for those systems subject to primacy agency approval. Regions should also communicate the importance of primacy agencies maintaining existing documentation supporting past decisions to approve a reduced monitoring schedule for systems that are required to obtain state written approval and have previously experienced concerns with lead in drinking water, such as systems that were approved for a reduced monitoring schedule soon after they had reported an action level exceedance. In accordance with 40 CFR §142.14(d)(5), primacy agencies must retain records of their monitoring frequency decisions, including the monitoring results and other data supporting the decision, the primacy agencies' findings based on the supporting data and any additional bases for such decision. Additional primacy agency record keeping requirements specific to the LCR are located at 40 CFR §142.14(d)(8).

EPA Regions should also communicate the expectation that the primacy agency will work with the water system to ensure they are identifying and addressing the root cause(s) of action level exceedances before the system commences or returns to triennial monitoring. For those systems which require written state approval, EPA expects that primacy agencies will be prepared to provide documentation demonstrating that they have reviewed those systems prior to approving a reduced monitoring schedule, to determine whether any additional factors exist that call into question the appropriateness of reduced monitoring, and to revise a system's eligibility as necessary for ensuring public health protection.

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[4] If a system has 90$^{th}$ percentile lead levels of less than or equal to 0.005 mg/L and 90$^{th}$ percentile copper levels of less than or equal to 0.65 mg/L for two consecutive six-month monitoring periods, they may resume triennial monitoring sooner in accordance with 40 CFR 141.86(d)(iv)(A) or (B) and 40 CFR 141.86(d)(4)(v).

Conclusion

EPA Regions, primacy agencies and public water systems should work together to ensure robust implementation of the current LCR. OGWDW will continue to support the Regions in these efforts, including promoting innovative approaches to identify lead service lines and lead components in drinking water distribution systems. Please share these technical recommendations with your primacy agencies' drinking water program directors. If you have any questions, please contact Anita Thompkins at thompkins.anita@epa.gov.