



July 26, 2021

Dr. Jennifer McLain
Office of Groundwater and Drinking Water
U.S. Environmental Protection Agency
1200 Pennsylvania Ave NW
Washington, DC 20009

Re: Additional Input from ASDWA on Potential Lead and Copper Rule Revisions (LCRR) on Lead Action and Trigger Level, Corrosion Control, Water Quality Parameters, Find and Fix, and Source and Treatment Changes

Dear Dr. McLain,

The state and territorial primacy agencies are co-regulators with the Environmental Protection Agency (EPA) in the development and implementation of drinking water regulations. As such, ASDWA's members have a unique relationship with EPA when compared to other drinking water stakeholders such as the regulated community, i.e., the water systems. This relationship provides unique opportunities and challenges in the regulatory development process, especially for complex rules such as the Lead and Copper Rule Revisions (LCRR).

ASDWA's members appreciate the time and resources the Agency has expended on the LCRR, as it is a significant rulemaking that improves public health protection. The final LCRR as promulgated on January 15, 2021, has some areas that deserve additional review and stakeholder engagement. ASDWA's previous comments (dated April 8, 2021) supported the proposed delay of the LCRR effective date to December 16, 2021, as well as the delay of the compliance date to September 16, 2024.

ASDWA supports EPA's ongoing "Regulatory Freeze Pending Review" to allow for additional stakeholder engagement, as well as providing an opportunity for ASDWA to provide additional input on specific topics. This letter addresses issues related to corrosion control, water quality parameters, find and fix, and source and treatment changes provisions based on LCRR review by several states, and review and approval by the ASDWA Board. Future letters will address additional LCRR issues that warrant additional consideration by EPA.

Lead Action and Trigger Levels

EPA attributed, in part, the development of the lead Trigger Level (TL) to [ASDWA's 2018 LCRR Federalism Consultation comments](#), where ASDWA proposed a completely new regulatory

framework that relied on binning water systems based on their 90th percentile results for lead, with the goals of sequential steps to prevent action level exceedances (ALEs) and driving systems towards the lowest level of lead possible. ASDWA appreciates EPA's attempt to incorporate the Association's 2018 recommendations, however, further consideration of the regulatory framework that the Agency formulated in the final LCRR that uses both a lead TL and Action Level (AL) follows a different path than that proposed by ASDWA in 2018. The use of two non-health-based levels increases work for states and water systems but provides only minimal additional public health protection and creates confusion with the public on what is "safe".

The 1991 AL of 15 ppb was based on what was achievable in terms of the corrosion control and limited water system and premise plumbing monitoring data that was available at that time. Recognizing that the MCLG for lead is zero, EPA is balancing the data, present-day technology, health impacts, and costs to finalize the national policy decisions on an AL and a TL. ASDWA recognizes that EPA has the final decision on this important policy decision.

ASDWA surveyed its membership in July 2021 on the AL/TL issue and, not surprisingly, found a diversity of opinions on the numbers. The primacy agencies did not come to consensus on the AL/TL regulatory framework. Thirty-three of ASDWA's 57 state and territorial members responded to the survey. States had strong opinions on the different regulatory frameworks. Of those states, 36% felt the AL for lead should remain at 15 ppb unless the EPA presents new information indicating a lower AL is technologically and economically feasible for water systems to achieve. Another 48% of the responding states supported moving the lead AL to 10 ppb, citing increased rule clarity, more consistent implementation, and improved public health outcomes as justification. No responding states support moving the lead AL to 5 ppb at this point, with several states labeling such a move as impossible to achieve. Finally, 15% of responding states supported a phased approach for the AL, where initially the AL would remain at 15 ppb in the final LCRR, then move to 10 ppb in 3 years, and potentially, 5 ppb in 6 years from the rule's final effective date. The logic for this approach is to give time for utilities to adjust their corrosion control practices as necessary and allow time for removal of at least some lead service lines to help systems meet 10 and 5 ppb levels. Some states, however, felt this rule design would be logistically difficult to implement.

Sample Invalidation

Because CCT is a potentially expensive, complicated, and perpetual treatment, ensuring that water systems are not forced to install CCT based on improper sample results is critical. Within the LCRR, water systems will be incentivized to conduct proper training for homeowner sampling. However, if a system determines that a homeowner failed to follow directions and collected from a tap with extreme stagnation (i.e., outside hose bib, vacant mobile home or apartment, lavatory that is never used, etc.), the state should have the flexibility and authority to determine on whether to allow for invalidation or not. This would not be a decision that the states would take lightly. In these cases where a system has a sample result invalidated due to homeowner sample collection issues, the rule could be amended to require systems on reduced

monitoring back onto six-month monitoring. This would provide verification that there are no corrosion issues and the decision was a proper one. Invalidation of samples can be a slippery slope. ASDWA encourages EPA to provide very specific criteria for invalidation. States are primarily concerned about lead samples that are taken from unused taps or vacant buildings. ASDWA recommends that EPA consider including a recommended (not required) maximum stagnation time for samples (like the 3Ts for lead sampling in schools) in the LCRR. This will make it possible for states and water systems to include a maximum stagnation time on instructional materials for samplers. Recognizing the impossibility of states being able to confirm a sample was taken in the stagnation period, when a water system representative signs the chain of custody forms, they would confirm the sample is valid. At minimum, a discussion between EPA and State water programs of sample invalidation during routine monitoring and find and fix is warranted.

Corrosion Control Treatment

The revised rule includes a new definition for “system without corrosion control treatment” (§141.2) that suggests pH/alkalinity adjustment used as part of a treatment train for any purpose could be considered as existing corrosion control treatment. Systems that modify pH for upstream process such as enhanced coagulation or for CT should not be classified as having corrosion control treatment unless they are purposefully modifying pH/alkalinity for corrosion control and to meet WQPs. ASDWA recommends deleting part (2) of this definition.

ASDWA appreciates that the LCRR provides more flexibility to states in requiring large systems to complete corrosion control steps when their 90th percentile falls between 5 ppb and the TL (§141.82). More flexibility should also be provided for re-optimization if a system has lead service lines, such as increasing existing orthophosphate residual or adjusting pH to an optimal range instead of requiring pipe-loops as the only option, even if the system exceeded the lead AL. Adjusting existing treatment could provide a more rapid initial step in the right direction even if it may not result in optimal set points (§141.81 (d) (1)(ii) and (2)(i)). This flexibility ties into our additional comments below on the requirements for pipe loop studies.

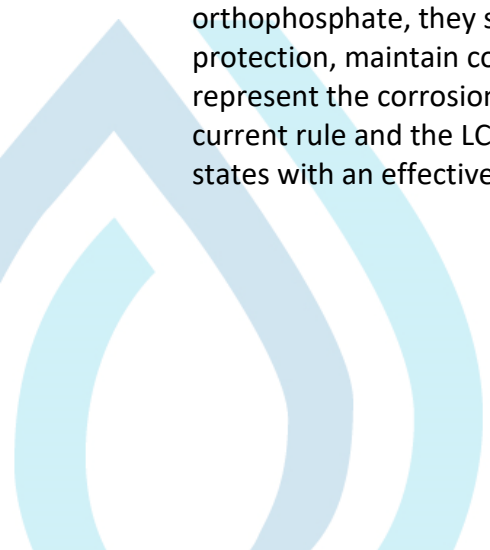
Corrosion Control Studies

ASDWA recommends revising the requirement that all systems with LSLs that exceed the lead AL (initial or re-optimization) conduct pipe loops studies with harvested pipe. Flow-through pipe loop studies with harvested pipe are too complex, time consuming, and expensive for most water systems (especially small community water systems and non-transient non-community water systems) to conduct on their own. This is concerning because ASDWA anticipates an increase in AL exceedances from systems with LSLs with the new 5th liter sampling requirement. ASDWA recognizes pipe loop studies can be very important when CCT re-optimization may involve changing the entire CCT strategy (for example, going from forming lead carbonates using high pH, to adding orthophosphate and forming lead phosphates at much lower pH), or when trying to decide if a water system should or can safely make other significant treatment or source changes without causing unintended consequences. Pipe loop

studies should remain a tool in the toolbox for CCT evaluation, but the requirement to conduct a study should be a determination made by the state, or the LCRR should only require pipe loop studies for appropriate situations such as changing overall CCT strategy or evaluation of significant source/treatment changes. The WRF is currently conducting research on pipe loop studies, including drivers for conducting pipe loop studies, design, operations, and cost considerations. This study is just beginning, and guidance is not yet available. ASDWA also recommends that EPA provide greater definition on the minimum study requirements (e.g. required water quality parameters, test duration, etc.) and an explanation of how to demonstrate what is a compliant testing device (e.g. pipe rig/loop tests with harvested vs. new lead pipe material). Additional guidance from EPA is needed for the primacy agencies outlining when a water system should evaluate (or re-evaluate) CCT; if an evaluation should require a recommendation, study, or alternative evaluation method; implementation or modification of CCT; requirements or recommendations for increased lead and copper tap monitoring, including special purpose sampling; and WQP monitoring, increased OWQP monitoring, or special purpose WQP monitoring.

Water Quality Parameters

ASDWA recommends that EPA require water systems with optimized corrosion control treatment (OCCT) to conduct ongoing water quality parameter (WQP) testing regardless of size or 90th percentile value. This regulatory requirement should apply to water systems required to install CCT due to past lead and/or copper AL exceedances (i.e., those system with OCCT where the State has specified optimal WQPs). Water systems that voluntarily have CCT in place but have no lead or copper AL exceedances should not be required to report their WQP data. Doing so could potentially deter systems from voluntarily installing CCT because it would force them to be under an additional level of compliance. The current rule only mandates WQP testing for small and medium systems if they exceed the AL. The revised rule adds requirements for small and medium systems to conduct WQP monitoring if the TL is exceeded (and treatment is in place), and to continue WQP monitoring during LCR follow-up monitoring. ASDWA supports these modifications. However, because ongoing WQP monitoring is not required for small and medium systems primacy agencies are unable to ensure these systems are properly maintaining and operating their OCCT. If a system has been deemed optimized and installed optimized corrosion control treatment, then they should be required to continue monitoring optimal WQPs that have been designated by the state in order to ensure they are providing public health protection that the optimal CCT represents. At a minimum, these systems should have to monitor for the WQPs relevant to the OCCT. For example, if a small or medium system adds orthophosphate, they should have to monitor ongoing residual or, for more public health protection, maintain compliance with optimal WQPs that have been designated by the state to represent the corrosion control which minimizes lead and copper levels at the tap. Both the current rule and the LCRR do not require this. EPA should also produce guidance that provides states with an effective way of calculating compliance with WQPs.



By reducing WQPs to pH and alkalinity and removing temperature, conductivity, and calcium, EPA has made it more difficult for states not allowed to be more stringent than the Federal rule to require collection of relevant water data in association with applying the appropriate CCT. The final LCRR should clearly provide states with the flexibility to consider additional WQPs that have been demonstrated by EPA to influence corrosion. These may include alkalinity, pH, DIC, buffer intensity, (note that DIC and buffer intensity are calculated parameters, not measured in the field), corrosion inhibitors, hardness (calcium and magnesium), dissolved oxygen, oxidation reduction potential, ammonia, chloride, sulfate, natural organic matter, iron, aluminum, and manganese. These parameters are especially important for water systems exceeding the AL or changing source/treatment to better shape an appropriate CCT evaluation and recommendation. At a minimum, EPA should retain calcium as a required entry point WQP after initial TL or AL exceedance as this can be an important factor when evaluating the type of CCT utilized by a PWS. EPA could add a provision similar to "States may also require the collection of the following WQPs for CCT evaluation" and then list the relevant WQPs states may choose to require collection for. EPA should also update the EPA OCCT manual to include specific guidance on how other WQPs may be used to direct CCT selection.

Find and Fix

ASDWA appreciates the changes EPA made to the final LCRR's Find and Fix provision (141.82(j)), however, ASDWA recommends EPA change the "Find-and-Fix" nomenclature to "Sample Site Assessment" or "Lead Sample Investigation" or another similar term that does not imply that the water system will fix the lead source, specifically lead or brass plumbing in the home.

Additionally, the Find and Fix provision need additional clarifications:

- For Step 1 – In the corrosion control treatment assessment, for systems using orthophosphate, it is unclear if these systems are also required to measure pH to document that it is within the optimal range for orthophosphate performance. For Step 2: Site assessment, EPA should also amend the rule so that water systems are required to monitor the 1st and 5th liter when resampling, regardless of suspected LSL. Other sample volumes and approaches (such as sequential sampling) can be added as needed or appropriate to identify potential sources of lead. For example, the 1st liter can be divided into 250 mL and 750 mL aliquots, as long as a 1st liter calculation can be conducted from the sample pool. Additional liters between 1st and 5th, or beyond 5th can also be collected.
- For Step 3, modify wording so that distribution system actions to improve localized water quality are investigated first. Water systems should not change their CCT based on results of household-specific lead investigations, unless results from Step 1 indicate region-wide or area-wide issues with maintaining WQPs. There should be multiple factors explored and considered before changes are made to CCT or WQPs.

Source and Treatment Changes

The drinking water community knows that source and treatment changes can have large impacts to the water quality and stability of scale from incidents in Flint, Michigan and

Washington, D.C. While EPA is proposing that all PWSs notify their primacy agency prior to making a source or treatment change, the onus will remain on the states to determine the impact of potential changes and any required actions for the PWS. There has been very little Federal support in developing resources to aid in primacy agency determinations regarding source and treatment changes. While some states have been forced to develop their own guidance, EPA should collaborate with ASDWA to develop more detailed and specific information in guidance.

States request EPA develop guidance that includes a thorough list or matrix beyond what is buried within §141.90(a), of types of source and treatment changes that would require an evaluation of CCT, including:

- The level of review needed for primacy agencies in evaluating design criteria for source or treatment changes and the effects on corrosion control;
- If the primacy agency should require WQP monitoring (even if not currently required), or additional WQP monitoring beyond OWQP monitoring for those systems with OCCT (for example, ORP, chloride, sulfate, etc.);
- If a PWS has designated OCCT, should the primacy agency require a reevaluation and re-designation of OCCT and OWQPs as a result of the change in source or treatment.
- If the primacy agency should require a formal CCT recommendation or study, or an alternative evaluation of the effects of the proposed change;
- Considerations for systems without CCT installed and if installation would be recommended in conjunction with the proposed source or treatment change
 - If a primacy agency requires the installation of CCT, would it be considered OCCT and subject to OWQPs?
- Examples of source and treatment changes that would not require an evaluation of CCT;
- Recommendations or requirements for consecutive systems
 - Do wholesalers need to consider the consecutive in a CCT evaluation?
 - Would a consecutive be required to conduct a CCT recommendation or study as a result of a change made by a supplier?
 - What are the requirements for a wholesale system to notify their consecutive of a change?
 - Are consecutive systems subject to increased lead and copper monitoring or WQP monitoring following an approved change?

The Ohio EPA developed [guidance to determine what constitutes a significant change to source or treatment](#) and is developing internal decision matrices for determining the extent of CCT evaluation required, modification or installation of CCT, additional monitoring requirements, and requirements for consecutive systems, depending on the proposed change to source or treatment. The EPA should collaborate with states and look to these resources as models of what states need.

Increased sampling following a source or treatment change is a reactive approach that may alert a water system and state of lead release in the distribution system but will not prevent major water quality disruptions. EPA should develop comprehensive criteria for primacy agencies to evaluate potential impacts of source and treatment changes such as potential impact of proposed change on important CCT water quality parameters; the system's historical 90th percentile values for both lead and copper; distribution system materials, including absence or presence of LSLs; absence, presence, and type of CCT; water system size and population served; and regional impacts of proposed changes.

Copper

ASDWA remains concerned that copper did not receive the appropriate regulatory focus in the LCRR. This regulation is meant to address lead and copper, not just lead. While exposure to lead in drinking water warrants significant regulatory actions and substantial Federal, state, and local investments, copper should not be left behind in the LCRR. The new tap sample tiers in the LCRR present challenges in identifying copper issues in water systems and copper action level exceedances. As recommended in our previous letter to the Agency on monitoring and sampling, EPA should consider adding a tier one prioritization for homes with lead service lines and copper plumbing. ASDWA encourages further conversation on this topic between State water programs and EPA.

ASDWA appreciates the opportunity to provide this additional input in the LCRR review process and more letters will be forthcoming. If you have any questions about these comments, please feel free to contact myself (aroberson@asdwa.org) or Wendi Wilkes (wwilkes@asdwa.org).

Sincerely Yours,



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Executive Director

Cc: Anita Thompkins – EPA OGWDW
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