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COMMENTS

EPA's National Primary Drinking Water Regulations for Lead and Copper: Improvements (LCRI)
Docket ID No. EPA –HQ–OW –2022 –0801

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Michael S Regan Administrator
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EPA Docket Center
EPA-HQ-OW-2022-0801
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Dear Administrator Regan:

New Jersey Future is pleased to submit comments on the National Primary Drinking Water Regulations for Lead and Copper: Improvements (LCRI), Docket ID No. EPA–HQ–OW–2022–0801.

New Jersey Future believes every New Jerseyan deserves to live with a prosperous, fair economy, thriving communities, and healthy neighborhoods. As a smart growth organization, we promote policies for cost-effective, sustainable water systems in New Jersey and support policies promoting access to clean drinking water nationwide. New Jersey Future played a pivotal role in crafting the comprehensive New Jersey lead service line replacement statute (P.L. 2021, c.183) enacted in 2021 and is proud that our work and partners' work show our collective leadership on this public health issue.

Overview

New Jersey Future acknowledges the dedication and commitment of the US Environmental Protection Agency (EPA) to protecting the public's health and delivering clean, safe drinking water to the nation. However, we offer comments on the equity, efficiency, and cost-effectiveness of the proposed 10-year goal of total lead service line (LSL) replacement, the

proposed reduction in the lead action level from the current 15 ppb to 10 ppb, requirements, treatment, sampling and distribution of lead-certified filters and the requirements for school and childcare facilities.

NJF supports, in addition to recommendations, the following key improvements on EPA's National Primary Drinking Water Regulations for Lead and Copper: Improvements (LCRI)

Inventory Validation Requirements

Definitions

- **Building Outlet:** EPA should clarify the definition of a service line and clearly define the term "outlet" with specific clarification regarding hydrants.
- **Building Inlet:** In some cases, the lead service line portion may extend into the property at a minimum of three (3ft) feet after the inlet.

Annual 10% replacement requirement

- Water systems with few LSLs but many unknowns will not be able to meet the 10% replacement per year. Including unknowns in the total count without including verification for non-lead as "credit" means water systems will fail to meet the requirement. EPA should consider the following equity issues for calculating the replacement rates.
    - **Identification and Verification:** EPA should consider counting the verification of unknowns (not lead) towards the 10% rate.
    - **Replacement:** EPA should consider only counting the 10% replacement of the water systems' known lead based on the count of known LSLs.
    - Prior to the establishment of the first year's replacement rate, EPA should allow utilities to use random sampling of the service lines with completely (both sides) unknown materials to the 95% confidence (300-400 sites) to establish a percentage of lead that would be used for setting a realistic 10% replacement rate goal.

Verifications, Records, and Inspections

- **Validation pool:** EPA should clarify the requirements for **"two points of verification"** and clearly state whether the verification requires: (a) two points on each side or (b) two points total - one on each side to be verified non-lead.

- **Records:** The EPA should clarify what counts as a "record" and what counts as an "inspection." Meter installation records are listed as a record. However, meter installation records account for pipe material information during a meter replacement—which may be inside and only account for the interior customer

side. In that case, the EPA should clarify whether other types of inspections recorded in a database are also considered records.

- **Filters:** EPA should clarify which inventory activities require a post-disturbance filter.
- **Minimum % accuracy:** EPA should guide random sampling of each type of record (or overall set if the type of record is not known) to clarify a minimum percent accuracy that is acceptable, less than 100%, and with an obligation to replace LSLs whenever they are encountered.
- **Inspections by emerging methods**: EPA should guide how an emerging method can be deemed acceptable at the water system level, such as comparing the emerging method results against another type of physical verification. If the emerging method has no false negative results for lead/galvanized and/or an accuracy greater than 90% with a 95% confidence, it can be valid for use by the water system. Also, if this guidance is followed and meets acceptance criteria for a particular emerging method as a valid inspection tool for the water system, the non-lead results from this method can be excluded from the validation pool.

Lead Service Line Replacements

Cost-Sharing

- **EPA should encourage states to provide statutory authority for water systems to access private property.** LSLs are typically jointly owned: the water system owns the portion from the water main to the curb stop, and the property owner owns the portion from the curb stop to the home. The places nationwide with the highest concentrations of LSLs tend to be lower-income communities and communities of color, where a majority of residents are renters. As such, many residents must rely on absentee property owners to consent to make their properties available for work and to coordinate LSL replacements.

- In addition, **removing the access to private property barriers is essential for water systems to comply with the proposed ban on partial replacements**. The ban on partial replacements introduces coordination challenges for the water system as they work with paving jurisdictions when access to private property is limited. The water systems face difficulties in coordinating the replacement of the private portion with these barriers. Without removing the access to private property barriers, the water systems would have to remove the street portion and then return and do the customer side later, or consequently, the water system will be hemmed in by road opening moratoriums (5 years after paving in many areas). The water system may lose the autonomy and cost savings of being able to

coordinate with other large-scale capital projects or, most importantly, delay replacement until the moratorium expires.

- **EPA should prohibit water systems from charging a customer cost-share.** To remove the barrier property owners pose to replacing LSLs, we recommend a provision prohibiting a customer cost share, enabling all customers to participate in the program. Water systems will only achieve the goal of replacing all LSLs efficiently and cost-effectively within ten years if it is at no cost to customers. Many LSLs will need more funding for private side replacements since many families in disadvantaged areas cannot pay for private side replacements. Regardless of whether the water system serves an underserved community, an urban area with an abundance of absentee landowners, or a more affluent neighborhood, investor and government-owned water utilities encounter a high percentage of property owners who simply refuse to participate if they are required to pay a cost share. Consequently, water utilities waste time on outreach, replacing far fewer pipes at a significantly higher cost.

- **EPA should recommend that states allow water systems to use ratepayer funds to remove private-side LSLs.** In most states, water systems believe they need to find a way to use the Infrastructure Investment and Jobs Act, also known as the Bipartisan Infrastructure Law, loan money for private-side replacements since they must repay the loan with ratepayer funds. A federal or state law may be needed to allow water systems to use ratepayer funds to remove private-side LSLs in the interest of public health for the greater public good. Without free LSL replacements for water customers, the only LSLs remaining will be those in lower-income areas, exacerbating equity concerns.

- **EPA should re-evaluate the proposed 10,000 lines per year criterion for LSL replacements.** Achieving 10,000 LSL replacements per year can only occur under the best circumstances. This only happened in one year of the Newark program and under the most optimal of conditions, i.e., high level of media attention, an emergency declaration due to the high lead levels, city council and mayor aligned and supportive of the program, a smaller city that was able to pause their own rules and regulations regarding permitting and fees; delay of other priorities and paving programs and ignoring moratoriums; funding of the private side from a timely settlement with the Port Authority, such that ratepayer funds weren't used; two mild winters allowing for work to progress year-round service lines that are only 3 feet deep that do not require a trench box/excavation support; and a densely

populated area with significant contractor capacity. If any of the conditions described regarding Newark's LSL Replacement Program are not met year after year, the water system will not achieve this high LSL replacement rate. Furthermore, reduction of the barriers discussed above must occur, such as mandating replacement, no cost to customers, access to private sides, and assurance of funding through the end of the water system's LSL replacement program.

- **EPA should propose 8,000 lines per year as a more realistic replacement criterion for time extensions of LSL replacements.**
  Under typical circumstances that most cities will face, 8,000 LSL replacements per year is a more reasonable and realistic goal. However, it is still very challenging to meet even under the most ideal conditions. Cities and towns with harsh winters, deeper service lines requiring trench boxes, or less contractor capacity would likely be able to meet the 8,000/year target if they also try to replace the private side of the line.

- **EPA should consider removing the requirement for utilities to replace the utility side of the service line within 45 days of a customer-side replacement**.
  This requirement undermines the Environmental Justice component of the work because wealthier customers can change their own line, report it to the water company, and then essentially "jump the line" to the front of the scheduled utility side replacements because the water company has a limited time to respond by changing the utility side. The scenario could arise where LSL replacements are planned in a poorer community first, and wealthier customers begin changing their lines. This introduces chaos into the LSL replacement project planning if water systems have to continually accommodate customers who just changed their side of the service line.

Disturbances

Definitions

- **EPA defines the replacement of a water meter as a major disturbance activity requiring a filter to be provided to the consumer along with educational materials and flushing instructions. The EPA should consider defining only water meter replacements that connect to service lines made of lead or galvanized materials as major disturbances.**
  The portion of a service line that does not connect to a meter experiences much less of a disturbance/vibration. For example, in many locations throughout NJ, the water meter is inside the building and only connects to the customer side of the service line. Removal and replacing the meter only vibrates the customer side of

the service line. If the customer side of the service line is not lead or galvanized, requiring replacement, and the meter is only connected to the customer side, consider reducing this scenario to a minor disturbance that does not include providing the customer with a water filter. Similarly, if the curb valve and exterior meter are separated from each other by the length of the pipe, then the meter replacement would only vibrate the customer side and the short pipe between the meter and the curb valve. The utility side beyond the curb valve would not be affected. If the only portion of the lead service line is the utility side upstream of the curb valve, consider reducing this scenario to a minor disturbance that does not include providing the customer with a water filter.

Water Quality and Sampling

- **EPA should specify that electronic notification be provided within three business days, not calendar days.**
  The logistics of reporting a result to a customer by postmarked letter within three calendar days will be very challenging within water systems, particularly smaller systems with less full-time staff. If the person who handles this procedure goes on vacation, the notification will be delayed. If the water system receives the results on a Thursday or Friday during a busy time, the notification timing will extend beyond three days, especially if post offices are closed for weekend days and/or holidays. As an unintended consequence of this three-day requirement, water systems will instruct their outside laboratories to only report their results on Mondays and Tuesdays. If using an in-house laboratory, the analyses of water samples for lead will only be conducted on Mondays and Tuesdays. Both of these scenarios will extend the time that samples are analyzed after collection and/or the time that the results are reported to the water system staff.

  As a replacement for the three-day notification requirement, the EPA should consider reducing the hold time between sample collection and sample submission to the laboratory and/or sample analysis to provide more timely results to consumers. Currently, samples collected from customer taps can be held for weeks or months before being delivered to the laboratory in a batch.

Corrosion Control Treatment (CCT)

Sodium Silicate

- **EPA should prohibit the use of sodium silicate as a corrosion control treatment option for the control of lead.**
- **Lack of Evidence:** No evidence has demonstrated that silicates form insoluble (or low solubility) phases with lead to immobilize lead into protective pipe scales.

The likely benefit of silicates is the resulting boost in pH, which promotes the formation of lead carbonate scales or a dense silica scale to form a barrier against lead release.

- **Newark, NJ:** CDM Smith's 2019 study for Newark, New Jersey, found a silica crust (SiO2) on all three lead service lines examined from a portion of the system that had utilized sodium silicate (varying dose range of 8 – 15 mg/L) as its CCT for many years (since the mid-1990s). The silica crust was relatively porous and did not act as an effective barrier against the outward flux of lead released from the pipe as the passivating lead layers (mainly plattnerite and hydrocerussite) were found behind the silica crust.
- **Alkalinity:** Because silicates are highly alkaline, the primary corrosion protection offered by silicates is believed to be the increase in pH that comes from adding the chemical, particularly in low alkalinity waters. When pH was controlled for as a variable in studies that evaluated sodium silicate as a corrosion inhibitor, most studies showed no benefit for sodium silicate beyond its increase in pH (Li, Trueman, Dore, & Gagnon, 2021). One exception was a recent study with pipes that had an appreciable aluminum-rich layer of the pipe scale overlying lead-rich layers. The action of the silicate in that study may have been to make the aluminum-rich layer a better barrier and still did not involve any direct interaction of the silicate with the lead materials in the pipe or its scale (Mishrra, Wang, Sidorkiewicz, & Giammar, 2021). Increased pH is beneficial as it promotes the formation of low-solubility lead carbonate mineral phases, as discussed above. However, increasing pH using standard chemicals such as lime or sodium hydroxide would be more economical.

- **EPA should consider the findings of the recent studies below to re-evaluate the use of sodium silicate as a corrosion control treatment option for lead control.**
    - **Mishrra et al. (Water Res. 2021**) tried to isolate the effect of silicate from pH increase in a pipe loop study. Sodium silicate was added to the water, and then acid was immediately added to adjust pH to 7.7, the level before the sodium silicate addition. Silicate mass balance and scale analysis were conducted, and the data showed a reduction in concentration for both dissolved and total lead. The authors speculated that the reduced lead release may be caused by silicate reacting with lead or aluminum to form an amorphous compound or precipitating as amorphous silica within the scale layer. Further studies would be needed to confirm these findings. If some benefits of silicate were to be confirmed, it would have limited applicability as it would be unrealistic in actual water treatment practice to lower pH after silicate application.

- **Li et al. (Environ. Sci. Technol. 2021)** critically reviewed the data from 11 peer-reviewed studies on silicate-based corrosion inhibitors, including the Mishrra et al., 2021 research mentioned above. The review concluded that pH increase resulting from silicate addition appears to be the primary mechanism of controlling lead release. Based on current understanding, silicate is not an effective corrosion control inhibitor for lead. Including the LCRI as an acceptable CCT technology will only lead to continued confusion and misunderstanding by water utilities and some consultants.

Compliance Dates and Timelines

Lead and Copper Rule Revisions (LCRR)

- **EPA should clarify the compliance timelines for the LCRR.**
  If the final LCRI is delayed beyond October 16, 2024, water systems will need time for implementation, including the preparation of the Lead Service Line Replacement Program Plan. EPA should consider extending the compliance deadline for the LCRR if there is a delay.
- **EPA should restate, in a separate Federal Register action, the delay of milestones described in the proposed LCRI.**

Schools and Childcare Centers

Lead Action Level

- **EPA should strengthen the requirements for schools and childcare centers, including lowering the lead action level to 5 ppb.**
  EPA should further reduce the action level for lead in drinking water for schools and childcare facilities to 5 ppb. The current action level of 15 ppb and subsequent proposal for 10 ppb set by the federal LCR and proposed by the LCRI is not a health-based standard but rather a technology treatment measure that gauges the effectiveness of corrosion control treatment, which minimizes lead leaching. Since exposure to small amounts of lead can seriously impact children's health and cognitive development, and current science cannot identify a safe level of exposure, lead concentrations in drinking water at schools and childcare facilities should be kept as low as reasonably achievable.

Sampling

- **EPA should encourage schools and childcare facilities to do voluntary sampling immediately.** Children are most vulnerable to lead health effects, so timely water sampling and remediation are important. There are many great free or reduced-cost water sampling and remediation programs available to schools and childcare facilities through voluntary programs, such as those funded by EPA's Water Infrastructure Improvements for the Nation Act grant program.

Starting in 2025, the EPA should require water systems to notify schools and childcare facilities of voluntary water sampling programs available to them. To do so, the EPA should also require water systems to develop a list of schools and childcare facilities served by them with available contact information by October 16, 2024.

- **EPA should include registered and/or listed childcare facilities in the childcare facility sampling requirements.**
  States regulate childcare facilities in different ways using different nomenclature. By only including "licensed" childcare facilities, many childcare facilities are left off future sampling lists. No childcare facility should be skipped because it is registered instead of licensed, such as church-based childcare facilities in the State of Virginia, where the licensing status has to do with curriculum oversight, not health oversight.

Filters

- **EPA should strengthen the filter provisions for schools and childcare facilities.**
  There is no safe level of lead exposure. Though lead exposure poses a risk to people of all ages, children are most vulnerable. Even in small doses, infants, toddlers, and pre-schoolers up to age six are particularly susceptible, as their growing bodies absorb lead much faster than adults. For children, prolonged exposure can cause irreversible damage to the brain and nervous system, slowing growth and development and prompting behavioral, hearing, and speech problems. And the long-term damage is not just physical. Lead exposure can also trigger severe learning disabilities, as well as emotional and social health impacts. EPA should mandate point-of-use filters to reduce lead and particulate at all fixtures intended to supply water for drinking, food preparation, or baby formula in schools and childcare facilities.

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