



**American Water Works
Association**

Dedicated to the World's Most Important Resource™

Government Affairs Office
1300 Eye Street NW
Suite 701W
Washington, DC 20005-3314
T 202.628.8303
F 202.628.2846

February 2, 2024

The Honorable Michael Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

FOR ELECTRONIC DELIVERY

RE: National Primary Drinking Water Regulations for Lead and Copper: Improvements (Docket
Id#: EPA-HQ-OW-2022-0801)

Dear Administrator Regan,

The American Water Works Association (AWWA) appreciates the opportunity to comment on the Proposed Lead and Copper Rule Improvements (LCRI or Proposed Rule).¹ AWWA is a proponent of strong protections for water consumers today while we work for a future when lead is no longer in contact with drinking water.

The Proposed Rule contains a number of positive developments that AWWA strongly supports, especially the U.S. Environmental Protection Agency's (EPA) decision to continue the use of a treatment technique-based primary standard for lead and copper. AWWA also supports the decision to make service line replacement a separate requirement from triggered actions following a lead action level exceedance. We remain a strong proponent of the complete removal of all lead service lines – in their entirety – through a reasonable approach over time.

However, AWWA has significant concerns that the requirements, as proposed, are not feasible to implement. By EPA's own estimate, the cost (\$3.0 – 4.9 billion annualized) associated with the LCRI is higher than virtually all prior Safe Drinking Water Act (SDWA) rulemakings. We are concerned that most, if not all regulated systems will not have the resources needed to meet EPA's ambitious timeline for lead service line removals. We are also concerned with the potential impacts on households that cannot afford higher water bills, as increased compliance costs are directly passed on to customers in many cases.

In finalizing the LCRI, EPA has the opportunity to revise the current proposal so that it enhances the protection of public health, builds public confidence in the regulation of water systems, and allows for efficient oversight and enforcement. The public is best served by a lead and copper regulation that is practical to implement and legally sound. A final rule that is feasible for public water systems and states

¹ 88 Fed. Reg. at 84,878 (Dec. 6, 2023).

to implement is essential to achieving our shared goal of reducing the risk of lead from drinking water. Community water systems and the public are ill-served by shifting and uncertain legal requirements, which can cause systems to spend limited resources inefficiently or distract from other urgent public health concerns.

The Safe Drinking Water Act requires that the LCRI be “feasible,” and in finalizing the LCRI requirements, EPA must also consider the nature of the entities that it is regulating: many public water systems (PWSs) are small, rural, public, or quasi-public entities with limited resources, complex budgeting and contracting procedures, and aging infrastructure. They are being asked to simultaneously implement a number of new EPA regulatory proposals that are capital and resource intensive. These entities will face significant logistical, financial, and practical challenges to securing the qualified personnel they need to complete this work, as well as to obtain and deploy any grant money that may be available to assist them. We are concerned that many of the regulated PWSs will simply be unable to comply.

AWWA supports EPA’s proposal to largely transition directly from the 1991 Lead and Copper Rule (LCR) to the LCRI, which will prevent regulated systems and states with primacy from inefficiently spending resources on regulatory requirements that will soon be superseded by a fundamentally different set of requirements. As EPA has correctly recognized, preparing for and implementing the Lead and Copper Rule Revisions (LCRR) will not help water systems or states be further prepared for the LCRI but will instead detract and distract from their ability to do so. However, we further urge EPA to immediately postpone the compliance dates for the LCRR not otherwise continuing under the LCRI. Given the substantial changes proposed in the LCRI and the fact that the compliance date for the LCRR is October 16, 2024, local resources may be inefficiently spent on complying with the LCRR rather than toward compliance with the LCRI.

The following detailed comments contain suggestions that (1) clarify, (2) simplify, and (3) revise the Proposed Rule with the specific goals of increasing the efficiency of public health risk reduction and reducing the burden of rule implementation on states, water systems and customers.

AWWA is concerned that there are elements of the proposed LCRI that violate the SDWA and Administrative Procedure Act (APA) and will not withstand legal scrutiny in the courts. If these and other considerations are not addressed in the final rule, water systems will be faced with more uncertainty going forward. The attached detailed comments point out a number of issues that EPA must address in finalizing the LCRI, but the most critical are

1. The proposed LCRI inaccurately equates community water systems having “access” to private property with a system having “control” over the service line on private property as described in the SDWA.
2. The proposed LCRI asserts without demonstration in the record that the rule is feasible as proposed. Particularly, EPA has not demonstrated the feasibility of:
 - a. Replacing all lead and galvanized requiring replacement service lines within 10 years without substantial and currently unavailable federal subsidies and
 - b. Lowering the lead action level to 10 µg/L, while also substantially altering the dataset on which the lead action level exceedance is determined


AWWA agrees that water systems, communities, states, and the federal government should be striving to fully remove all lead service lines in their entirety and that water systems should be actively managing the corrosivity of the water they distribute. The regulatory requirements aimed at reaching those goals must be reliably achievable. Timeframes for required actions must be possible within the resources reasonably available to water systems, and complying with this regulation should not negatively impact the time and resources required to address other high priority risks and system improvements.

Over the last several decades, the drinking water community has made tremendous strides in reducing lead levels in drinking water. More can and should be done. The next steps in drinking water policy to further lead risk reduction must be credible, legally sound, truly feasible, and appropriate to the challenge at hand. AWWA hopes that these comments will assist EPA as it formulates a final LCRI that achieves additional risk reduction while recognizing the additional resource-intensive challenges facing water systems, including per- and polyfluoroalkyl substances (PFAS), cybersecurity, climate change and aging infrastructure.

If you have any questions regarding this correspondence, please contact me at your convenience.

Best regards,

SUBMITTED ON BEHALF OF AWWA



G. Tracy Mehan, III

Executive Director for Government Affairs

cc: Bruno Pigott, EPA/OW
Jeffrey Prieto, EPA/OGC
Jennifer McLain, EPA/OGWDW
Eric Burneson, EPA/OGWDW
Hannah Holsinger, EPA/OGWDW/SRMD
Jeffrey Kempic, EPA/OGWDW/SRMD
Michael Goldberg, EPA/OGWDW/SRMD

Attachments (1 with appendices)

Who is AWWA

The American Water Works Association (AWWA) is an international, nonprofit, scientific and educational society dedicated to providing total water solutions assuring the effective management of water. Founded in 1881, the Association is the largest organization of water supply professionals in the world. Our membership includes more than 4,000 utilities that supply roughly 80 percent of the nation's drinking water and treat almost half of the nation's wastewater. Our 50,000-plus total membership represents the full spectrum of the water community: public water and wastewater systems, environmental advocates, scientists, academicians, and others who hold a genuine interest in water, our most important resource. AWWA unites the diverse water community to advance public health, safety, the economy, and the environment.

Attachment 1

**FORMAL COMMENTS ON THE
NATIONAL PRIMARY DRINKING WATER REGULATIONS FOR LEAD AND COPPER:
IMPROVEMENTS PROPOSED RULE**

88 Federal Register 84878, December 6, 2023

Docket Id#: EPA-HQ-OW-2022-0801

Prepared by:
American Water Works Association
1300 Eye Street, NW, Suite 701W
Washington, DC 20005

February 2, 2024

TABLE OF CONTENTS

Executive Summary.....	i
1 Introduction	1
2 General Comments	2
2.1 Positive Aspects of LCRI Proposal	2
2.2 Critical Revisions Essential to Rulemaking.....	3
2.3 Essential Policy Support Needed	5
2.4 Affordability	6
2.5 Opportunities for Greater Clarity.....	11
2.6 Guidance to Support Rulemaking	13
2.7 Public Education – Required Communication	13
2.8 Corrections to Avoid Misinterpretation.....	15
2.9 Opportunity for Future Improvement	16
3 Requested Comments	17
3.1 General Matters.....	17
3.2 Reduce Burden.....	19
3.3 Prompt, Fair, and Equitable Enforcement	23
3.4 Service Line Replacement	26
3.5 Tap Sampling for Lead and Copper.....	49
3.6 Service Line Inventory and Service Line Replacement Plan.....	56
3.7 Lead Action and Trigger Levels	61
3.8 Corrosion Control.....	65
3.9 Compliance Alternatives for Lead Action Level Exceedance by a Small CWS or NTNCWS.....	69
3.10 Public Education.....	70
3.11 Additional Requirements for Systems with Multiple Lead Action Level Exceedances.....	78
3.12 Lead Sampling in Schools and Child Care Facilities.....	83
3.13 Reporting and Recordkeeping	86
3.14 Compliance Dates	90
3.15 Consumer Confidence Report.....	93
3.16 Definitions.....	94
3.17 Questions from within Preamble.....	95
4 Legal Review.....	97
4.1 Introduction to Legal Section.....	97

4.2	Legal Standard	99
4.3	EPA Reasonably Determined Not to Set an MCL for Lead Because it Remains Infeasible to Do So.....	100
4.4	A Treatment Technique-Based Rule Remains the Most Sound Approach for Regulating Lead in Drinking Water and EPA is Within its Discretion to Continue to Use This Approach.	104
4.5	A more stringent regulatory regime or implementing LCRR until LCRI goes into effect would not be feasible.....	105
4.6	EPA Reasonably Interpreted the SDWA’s Anti-Backsliding Provision in Light of the Treatment Technique Approach	111
4.7	The SDWA does not allow regulation of private property outside of public water systems and “control” cannot be equated with “access.”	113
4.8	The Proposed Rule creates federalism concerns and risks creating unnecessary conflicts with state and local laws.....	121
5	Economic Analysis	122
5.1	Estimate of Lead Risk Reduction is Not Substantiated	122
5.2	Health Burdens (Costs) Not Addressed in Analysis.....	125
5.3	Distributing Cost over Time	128
5.4	Cost of Service Line Replacement.....	129
5.5	Likelihood of Additional WQP Sampling Site	133
5.6	Assuming No Reduction in Lead Exposure.....	134
5.7	Understanding Post-Partial Lead Concentrations.....	135
5.8	Costing Expectations for CCT Decision-making	135
5.9	Analysis Misjudges the Impact of Orthophosphate Addition on Cost.....	135
5.10	Alternative Definition of Lead Content Service Lines to be Replaced	137

APPENDICES

Appendix A	Implications of the Draft EPA Lead and Copper Rule Improvements: Human Health Risk and Benefits
Appendix B	Full Lead Service Line Replacement Guidance (WRF 4713) (copyrighted)
Appendix C	AWWA Comments on Lead and Copper Rule Improvements (EPA-HQ-OW-2017-0300-1012)
Appendix D	Corrosion Control Treatment Training (copyrighted)
Appendix E	When and How to Evaluate Corrosion Control Treatment When Conditions Change (WRF 5032) (copyrighted)

- Appendix F Guidance for Using Pipe Rigs to Inform Lead and Copper Corrosion Control Treatment Decisions (WRF #5081) (copyrighted)
- Appendix G Strategies for assessing optimized corrosion control treatment of lead and copper (copyrighted)
- Appendix H Analysis of Impacts of Corrosion Control Treatment on Lead and Copper Levels over Time
- Appendix I Comparing the Cost of Bottled Water vs In-Home Filter Provision for a Lead Action Level Exceedance and Review of Filter Cost Estimates for LCRI
- Appendix J ANSI/AWWA C810 - Replacement and Flushing of Lead Service Lines (copyrighted)
- Appendix K CDM Smith Final Report. Considerations when Costing Lead Service Line Identification and Replacement.

GLOSSARY OF ABBREVIATIONS

ABC	Associated Builders and Contractors
ALICE	Asset Limited, Income Constrained, Employed
APA	Administrative Procedures Act
ASDWA	Association of State Drinking Water Administrators
AWWA	American Water Works Association
BIL	Bipartisan Infrastructure Law
BIOPOC	Black, Indigenous, and People of Color
BLL	Blood Lead Level
BOY	Beginning of Month
CCR	Consumer Confidence Report
CCT	Corrosion Control Treatment
CDC	Centers for Disease Control and Prevention
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIFA	Council of Infrastructure Financing Authorities
CPI	Consumer Price Index
CVP	Cardiovascular and Pulmonary
CWA	Clean Water Act
CWS	Community Water System
DWINSA	Drinking Water Infrastructure Needs Survey and Assessment
DWSRF	Drinking Water State Revolving Loan Fund
EOY	End of Year
EPA	U.S. Environmental Protection Agency
EUM	Effective Utility Management
FOIA	Freedom of Information Act
GDP	Gross Domestic Product
GIS	Geographic Information System
GRRSL	Galvanized Requiring Replacement Service Line
IQ	Intelligence quotient
IRS	Internal Revenue Service
ISA	Integrated Science Assessment for Lead
IESWTR	Interim Enhanced Surface Water Treatment Rule
LCR	Lead and Copper Rule
LCRI	Lead and Copper Rule Improvements
LCRR	Lead and Copper Rule Revisions
LSL	Lead Service Line
LSUSL	Lead Status Unknown Service Line
LT2ESWTR	Long-Term 2 Enhanced Surface Water Treatment Rule
MCL	Maximum Contaminant Level

MCLG	Maximum Contaminant Level Goal
M/DBP	Microbial / Disinfection Byproduct Rulemakings
NHANES	National Health and Nutrition Examination Survey
NPDWR	National Primary Drinking Water Regulation
NTNCWS	Non-transient Noncommunity Water System
OCCT	Optimized Corrosion Control Treatment
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
POTW	Publicly Operated Treatment Works
PQL	Practical Quantitation Level
PUC	Public Utility Commission
PWS	Public Water System
SBREFA	Small Business Regulatory Enforcement Fairness Act
SDWA	Safe Drinking Water Act
Stage 2 DBPR	Stage 2 Disinfection and Disinfection Byproduct Rule
TWA	Time-weighted Average
UMRA	Unfunded Mandates Reform Act
VSL	Value of a Statistical Life
WQP	Water Quality Parameter
WRF	Water Research Foundation (aka AWWARF, AwwaRF, WaterRF)

**FORMAL COMMENTS BY THE
AMERICAN WATER WORKS ASSOCIATION
ON THE
NATIONAL PRIMARY DRINKING WATER REGULATIONS FOR LEAD AND COPPER:
IMPROVEMENTS PROPOSED RULE**

88 Federal Register 84878, December 6, 2023

Docket Id#: EPA-HQ-OW-2022-0801

EXECUTIVE SUMMARY

The American Water Works Association (AWWA) appreciates the opportunity to comment on the Proposed Lead and Copper Rule Improvements (LCRI).² AWWA is a proponent of strong protections for water consumers today while we work for a future when lead no longer is in contact with drinking water.

The U.S. Environmental Protection Agency (EPA) has proposed a rule framework that addresses a number of stakeholder concerns. The proposal is an important step toward developing a clear regulatory framework that the drinking water community can implement for the benefit of the public we serve.

Lead is a serious and well-recognized public health concern. Our nation's history of reducing environmental lead exposure is a tremendous success story, including the reduction of lead in drinking water accomplished under the Safe Drinking Water Act (SDWA). In revising the Lead and Copper Rule (LCR), the next major opportunity for reducing lead release is taking steps to ensure there is less lead in contact with drinking water. Further reductions in lead in water must recognize the practical realities facing regulated systems and state primacy agencies be accomplished within the technical, managerial, and fiscal means of local communities. Proactive, incremental risk reduction measures like lead service line (LSL) replacement and improved corrosion control treatment (CCT) should not come at the cost of delaying essential infrastructure investments in any community water system (CWS).

A SIGNIFICANT STEP MISSING IN LCRI RULEMAKING

As EPA has correctly recognized, preparing for and implementing the Lead and Copper Rule Revisions (LCRR) will not cause water systems or states to be further prepared for the LCRI but will instead detract and distract from their ability to do so. Given the substantial changes proposed in the LCRI, EPA must immediately postpone the compliance dates for the LCRR through a separate, targeted rulemaking. The compliance deadlines for the LCRR are set to go into effect on October 16, 2024. Despite the fact that EPA has proposed removing many of these compliance requirements through the finalized LCRI prior to the October 2024 compliance deadline, until EPA changes the federal regulation with which water systems must comply, local resources must continue be spent on complying with the LCRR rather than toward compliance with the LCRI.

As EPA weighed whether to pursue the LCRI rulemaking, the agency delayed the effective date and compliance dates of the LCRR, but then let the rule become effective. Today, water systems must assume that the LCRR is a binding regulation and must spend resources to focus on complying with that

² 88 Fed. Reg. at 84,878.

rule's October 2024 and January 2025 milestones, regardless of EPA's new proposal to remove those requirements prior to the LCRR compliance deadline. Had EPA not so substantially altered the structure of the LCR in its proposal, this step might not have been needed, but the LCRI proposal makes clear that postponing LCRR compliance dates except for those described in Proposed § 141.80(a)(4)(d)(i) is a necessary and urgently needed action.

ELIMINATING BARRIERS TO SUCCESS

The proposed LCRI has two fundamental objectives (1) removing lead service lines (LSLs) and galvanized requiring replacement service lines (GRRSLs) that may contribute lead to consumer's taps and (2) bringing additional focus to CCT where it is not reliably limiting soluble lead to very low concentrations. These are both sound goals. It is important that the final LCRI be crafted with these goals and practical implementation in mind. Steps that EPA can easily take in finalizing the rule include:

1. Focus service line replacement requirements on replacing service lines where there is the potential for real risk reduction (i.e., service lines that are in active use providing water to drinking water taps in structures) and revise the definition of service line to prevent misinterpretation of customer-owned pipe networks as "*service lines*" subject to the LCRI requirements.
2. More clearly recognize that systems with a very low probability of LSLs or GRRSLs should have a clear, simple path to compliance, focused on having field and communication protocols for the unlikely situation where a LSL or GRRSL is encountered.
3. Eliminate the Proposed Rule's annual replacement rate as a regulatory metric.
4. Simplify and eliminate public water system (PWS) reporting and state record retention requirements that are of limited value for rule implementation or oversight.
5. Simplify customer notification requirements, allowing PWSs to target communication effectively, work within practical timeframes, and use electronic notification strategies that are auditable.
6. Clearly establish in regulatory text that good-faith outreach efforts are adequate to meet treatment technique requirements for service line characterization and replacement.
7. Affirm that community water systems (CWSs) can include lead observations from Tier 3, 4, or 5 sample sites when good-faith system outreach to remaining Tier 1 and 2 sample sites in the approved monitoring plan do not produce sufficient Tier 1 and 2 sample site observations.
8. Require tracking of lead connectors within the LCR's materials evaluation requirement rather than within the service line inventory requirements.
9. Assure that efforts that occurred prior to the LCRR and LCRI effective dates are properly credited. Specifically, appropriately accomplished proactive efforts—including corrosion control pipe rig studies and school and child-care facility monitoring—should "count" toward compliance with the final rule even if they take place now.
10. The rule should not include any ban on partial replacement of LSLs or GRRSLs when risk reduction measures are implemented, including replacement practice in keeping with the

notification provisions of the LCRI and practices described in ANSI/AWWA C810 - Replacement and Flushing of Lead Service Lines.³

AWWA's comments include additional opportunities to streamline the Proposed Rule so that it more efficiently delivers the desired increased public health protection and is more readily implemented by states and PWSs.

COMPLY WITH RELEVANT STATUTES AND LEGAL LIMITS

EPA, states, and PWSs must achieve policy objectives within the boundaries of all applicable and relevant laws and regulations. The SDWA requires that the Proposed Rule be "feasible." EPA must craft a rule that takes into account the resource constraints and other challenges simultaneously facing PWSs. As drafted, EPA's proposed requirements ignore the shortages on available personnel to perform the required work and constraints on systems' budgets and ability to pass on compliance costs, while overestimating the ability of systems to timely receive grant money that can make up for the significant financial impacts of the Proposed Rule. Drafting a rule that many, if not almost all of the targeted PWSs, cannot accomplish not only violates the SDWA but creates a greater public health risk by distracting from other more pressing concerns. While AWWA recommends that EPA scale back the more burdensome requirements and extend the timeline for service line removal, at the very least the final regulation must have off-ramps in instances when the underpinning assumptions for EPA's projection of the rule's feasibility prove to be unsound.

EPA is also proposing a definition of "control" that goes beyond the bounds of the SDWA. Specifically, the Proposed Rule takes the unsupportable position that a PWS having "access" to private property is equivalent to having "control" as defined by the SDWA. Water systems as described in SDWA do not include piping not owned by the water system, even when actual owners use their "control" to grant "access" to water systems. This aspect of the Proposed Rule is not legally sound.

The federal government, states, and local government all have a role in ensuring that the portions of service lines on private property warranting replacement are adequately addressed. EPA should finalize the LCRI within the bounds of current applicable laws and regulations. And importantly, EPA, states and the water sector should work collaboratively to identify and remove barriers to full-service line replacement beyond EPA's immediate jurisdiction under SDWA.

REFLECT FEDERAL FUNDING BARRIERS IN RULEMAKING

One of the significant barriers to achieving the goals of the LCRI is available discretionary funding. In proposing the Lead and Copper Rule Improvements (LCRI), EPA estimated that nationally, PWSs will need to expend \$3–4.9 billion annually to comply with the proposal. While AWWA's analysis indicates EPA has underestimated the cost of Proposed Rule requirements, the financial challenge is very large, by the agency's own analysis. This cost will be borne by thousands of water systems, but will primarily be supported by the water rates charged to households in about 4,400 CWSs. Moreover, most of the increased capital and operating expenses from the proposal that CWSs and individual households will incur occurs in the first 13 years of rule implementation, rather than the 35-year span over which EPA annualized the cost of the Proposed Rule.

³ ANSI / AWWA. C810 - Replacement and Flushing of Lead Service Lines. (2017) (copy enclosed in Appendix J)

EPA should work with the water sector to develop a more robust estimate of the cost of service line replacement and CCT changes likely to result from the rule—in particular the cost of service line replacement on private property. Such an estimate would inform the administration’s budget request and legislative agenda for federal funding support and help define an achievable milestone for replacing all LSLs and GRRSLs.

EPA should also prompt the Internal Revenue Service (IRS) to provide clarity to EPA, states, communities, and individual taxpayers regarding the tax consequences of a publicly funded service line replacement. Individual taxpayers can ill afford additional tax consequences from receiving publicly funded replacements. This is an especially troubling issue for taxpayers for whom a taxable benefit would impact their access to the nation’s social safety net programs.

RECOGNIZING PROPOSED IMPROVEMENTS

EPA made several important and sound policy decisions in this most recent review of the LCR. Those decisions warrant attention and support. For example, the agency:

1. Properly chose to continue to regulate these contaminants through a treatment technique after carefully reviewing options to regulate lead and copper using a Maximum Contaminant Level (MCL) or treatment technique.
2. Delayed implementation of ancillary aspects of the LCRR, such as changes in requirements for monitoring, public education, sampling in schools, and associated reporting, so that work can proceed in an organized and efficient manner.
3. Established a separate requirement for LSL and GRRSL replacement with the objective of full replacement to the extent feasible so that PWSs can pursue service line replacement in an appropriately planned approach.
4. Recognized that CCT changes resulting from the rule should, where possible, be delayed until LSLs and GRRSLs are removed.
5. Recognized that the lead action level is not a health-based concentration of lead in water that should guide individual household actions.

FINALIZING THE LCRI

Public health is best protected when regulations are based on a sound premise and regulated entities are focused on meaningful opportunities for risk reduction that are actually feasible for PWSs and the state primacy agencies to implement. In finalizing the LCRI, EPA should revise the Proposed Rule requirements and supporting documentation to that end. AWWA hopes that its comments will assist EPA in doing so.

**FORMAL COMMENTS BY THE
AMERICAN WATER WORKS ASSOCIATION
ON THE
NATIONAL PRIMARY DRINKING WATER REGULATIONS FOR LEAD AND COPPER:
IMPROVEMENTS PROPOSED RULE**

88 Federal Register 84878, December 6, 2023

Docket Id#: EPA-HQ-OW-2022-0801

1 INTRODUCTION

The Lead and Copper Rule Improvements proposal (LCRI or Proposed Rule) represent an important step for the U.S. Environmental Protection Agency (EPA). In making revisions to the Lead and Copper Rule (LCR) as modified in 2021 by the Lead and Copper Rule Revisions (LCRR) EPA acknowledged that the long-term goal of removing sources of lead in contact with drinking water, particularly lead service lines (LSLs), is an important opportunity to reduce the potential for lead release to drinking water. EPA also correctly recognized that that public water systems (PWSs) should not alter corrosion control practice that is already performing well until large sources of lead that influence corrosion control practice selection are removed. In these respects, EPA's current proposal is aligned with AWWA's policy statements on Drinking Water Quality, Lead Service Line Management, and Distribution System Water Quality. EPA and the drinking water community are united in the goal to replace all LSLs completely and to effectively manage water's corrosivity to the materials used to deliver that water to customers.

While AWWA supports the overall goal of EPA's Proposed Rule, the proposal asks more of community water systems (CWS) than will be achievable by many systems and is therefore not feasible. If finalized as drafted:

1. In the absence of substantial additional federal and state funding CWSs will be forced to defer important water infrastructure investments.
2. There are not sufficient federal or state infrastructure funding assistance to enable CWSs to achieve the service line material characterization and replacements required by the Proposed Rule. The associated increases in household water rates (i.e., costs to consumers) in some communities will be substantial.
3. The public education requirements will result in high violation rates because the expectations for performance are not achievable within the LCRI's proposed structure even when a water system makes best efforts to comply.
4. CWSs with many lead status unknown service lines (LSUSLs) and few LSLs could be out of compliance with the minimum 10% replacement rate and expend limited resources trying to "prove" LSUSLs are not lead.

Importantly, the Proposed Rule will create an environment where EPA, state primacy agencies, and CWSs are in repeated and ongoing conflict with the communities they serve. Delivering information and making demands of private citizens and rate payers that will erode public trust in both CWSs and the government agencies overseeing the rule's implementation.

In finalizing the LCRI, EPA has the opportunity to revise the current proposal so that it instead builds public confidence in the regulatory oversight of water systems, enhances existing strong public health protections, and allows for efficient oversight and enforcement. AWWA also notes that the public is best served by a regulation of lead and copper that is practical to implement and legally defensible as such a rule will allow PWSs to be able to address the issue of lead in drinking water. CWSs and the public are ill-served by shifting and uncertain legal requirements, which force systems to mis-allocated limited resources in response to changing regulatory regimes. AWWA is particularly concerned that because the Proposed Rule violates the Safe Drinking Water Act (SDWA) and Administrative Procedure Act (APA), it will not withstand legal scrutiny in the courts, creating even more uncertainty going forward. AWWA offers the following recommendations with these concerns in mind.

2 GENERAL COMMENTS

If EPA's goal is to protect public health, it must craft regulations that take into account the nature of entities it is regulating, as well as the primacy agencies responsible for implementing those regulations. EPA must also take into account the rate-based structures of these systems, which means that compliance costs will be directly passed on to local customers, many of which are individual households. It is useful to keep the following in mind when considering the burdens associated with the Proposed Rule and when considering how to improve the agency's Proposal:

1. There are almost 70,000 CWSs and non-transient noncommunity (NTNCW) systems subject to the LCR and supervising compliance of all of these systems falls on primacy agencies.
2. The vast majority PWSs that must comply with the LCR serve less than 10,000 persons (67% of PWSs and 91% of CWSs subject to the rule). More than 40,000 of the CWSs managed under the LCR serve less than 3,300 persons.

As EPA has structured the proposed LCRI, the vast majority of the costs and implementation challenges fall on just 4,390 CWSs and the greatest system-level burden falls on an even smaller group of 1,016 CWSs serving more than 50,000 persons. Said differently, the \$3 – 4.8 billion in annualized burden on PWSs EPA estimates for implementing the proposed LCRI fall primarily on roughly 4,400 CWS that each must comply within the means of their local community's ability to pay for expenses associated with this rulemaking while also making investments in infrastructure, personnel, and operations to assure safe and reliable water service in all other respects. The cost of implementing the rule is not equally distributed across the United States but rather highly localized.

2.1 Positive Aspects of LCRI Proposal

The proposed LCRI would make several important improvements over the current codified requirements of 40 CFR 141. AWWA supports the inclusion of these aspects of the Proposal in the final LCRI. Improvements of note include:

1. Retaining the treatment technique regulatory framework for the control of lead and copper in drinking water
2. Moving lead service line replacement from a triggered requirement to a sustained program, separate from reliably maintaining observed lead levels below the action level

3. Recognizing that the lead action level is not a health-based concentration of lead in water that should guide individual household actions.
4. Recognizing the importance of delaying changes to optimized corrosion control until lead service line materials are replaced as directed by the LCRI are achieved
5. Continuing recognition that CWSs face legal constraints over and above the SDWA that limit their ability to accomplish full-lead service line replacement
6. Recognizing the importance of customer education with respect to achieving effective lead risk reduction
7. Delaying implementation of ancillary aspects of the LCRR such as changes in requirements for monitoring, public education, sampling in schools, and associated reporting so that work can proceed in an organized and efficient manner
8. Recognizes the importance of simplifying the rule in order to facilitate correct and effective implementation

The proposed LCRI also takes steps toward making regulatory requirements of the LCRR more implementable. Adherence to the rule requirements is documented through annual certifications rather than extensive documentation submissions for:

1. The number of service lines not replaced due to a lack of consent⁴
2. Offer to inspect any incorrectly categorized service lines⁵

2.2 Critical Revisions Essential to Rulemaking

There are provisions in the proposed LCRI that must be changed prior to the rule being finalized. Without these changes water systems will be subject to regulatory requirements that are not legally sound because they are beyond the scope of the SDWA, in tension with many state and local laws, arbitrarily require the significant misuse of community resources, or are impossible to successfully achieve:

1. Given that the compliance dates for the LCRR go into effect on October 16, 2024, and the substantial changes proposed in the LCRI, EPA must act immediately (prior to the intended promulgation of the final LCRI) to extend the compliance dates for the provisions of the LCRR that EPA does not intend to continue under the LCRI. Currently, systems are expending resources to prepare to comply with the LCRR as it is the codified regulation, while EPA is proposing to dramatically change both the substance and deadlines for all but three of the LCRR requirements. Water systems have a duty to comply with applicable regulations and have no assurance EPA will meet its promulgation timeline nor that enforcement discretion will occur should EPA not publish the final rule prior to the LCRR compliance dates.
2. EPA must return to the definition of “control” it adopted in the LCR revisions in 2000, that “control” is based on ownership. The definition of what is “under the control” of water

⁴ Proposed Rule § 141.90(e)(7)(i).

⁵ Proposed Rule § 141.90(e)(14).

systems as described in SDWA does not include piping not owned by the water system, even when the actual owner uses their “control” to grant “access” to a water system.

3. EPA must prepare an economic analysis that is in keeping with the Office of Management and Budget and the agency’s own guidelines for credibility and being fit-for-purpose:
 - a. The calculations of risks and benefits underlying the LCRI analysis use profile data centered around the fifth liter data as the basis for assigning water lead levels. Fifth liter samples are on average approximately a factor of five higher than time-weighted average values presumed in health effects models. If this factor of five is accounted for, both intelligence quotient (IQ) and cardiovascular benefits calculated on the basis of a compliance sample would be reduced by a factor of five and the net benefit to cost ratio considerably reduced.
 - b. The economic analysis annualizes costs that will be accrued over the space of less than 13 years to a period of 35 years misrepresenting the acute economic burden the rule presents for impacted communities because PWSs pass compliance cost on directly to their local customer-base.
 - c. Throughout the economic analysis EPA underestimates the cost of implementation. EPA underestimates the cost of specific required activities, does not include aspects of compliance not specifically enumerated in the regulatory requirement, and underestimates the number of systems impacted or instances when a cost will be incurred.

Without a credible federal estimate of benefits and costs for the final LCRI, neither policy makers at any level of government or the general public will truly understand the magnitude of the tasks that are envisioned in this rulemaking or the likely benefit. This undermines the public’s ability to meaningfully comment on the Proposed Rule. Moreover, without that credible backdrop for future funding and policy conversations, neither decision-makers or the public will support water system and state regulatory agencies as they attempt to fulfill the rule requirements.

4. EPA must recognize in the rule structure that there are two categories of CWSs following the LCRR inventory process. Category 1 operates a distribution system where a recognizable fraction of service lines are LSLs or GRRSLs and Category 2 which operates a distribution system where there is a very low probability that any appreciable number of LSLs or GRRSLs exist.
 - a. The LCRI should not require the latter category to expend resources needlessly. Rather than requiring such Category 2 systems to proceed through the LCRI service line replacement requirements as though they actually have many LSLs and GRRSLs, this group of systems should have a second path to compliance that focuses primarily on (1) having a protocol for the rare instance when a LSL or GRRSL is discovered and (2) the validation study to assure the initial characterization of the system’s inventory is correct.
 - b. Important from the agency’s perspective, this approach incentivizes CWSs to take steps prior to the beginning of the final LCRI compliance window to transition to

Category 2 if they are currently a Category 1 system (e.g., accelerate service line characterization and validation studies). This revision will be very important to smaller CWSs.

2.3 Essential Policy Support Needed

Since early 2021 EPA has focused its lead service line replacement policy work on three facets to the challenge: allotment of state revolving loan fund monies made available by congress, adding technical assistance capacity, and establishing a regulatory requirement for full lead service line replacement. Achieving the goal of full replacement of all LSLs and GRRSLs nationwide will require the Biden Administration to take additional policy actions, beyond those it is currently pursuing:

1. Obtaining congressional appropriations will be necessary to support the regulatory requirements of the LCRI, and at best such funding is uncertain. Achieving the service line replacement objective of the proposed LCRI, removing all LSLs and GRRSLs within a decade will easily cost \$12,000 - \$15,000 per replaced service line, with much of that cost resulting from the replacement of privately-owned service lines if that requirement remains in the final rule.

Removing all lead service lines fully is a goal the water sector shares with the administration but if that goal is to be achieved it will require substantial additional federal funding than is available at present. Moreover, if more federal funds are made available those funds cannot be directed only to disadvantaged communities. Municipally and investor operated water systems of all sizes and financial condition will need assistance to implement the Final LCRI. Proactive, incremental risk reduction measures like LSL replacement should not come at the cost of delaying essential infrastructure investments in any CWS.

EPA's current estimate in the proposed LCRI Economic Analysis is inadequate to support the federal funding required. The sector, including AWWA, would be glad to join in a cooperative effort to develop a sound estimate of the national cost of the required service line replacement, so that the administration and Congress can determine what service line replacement schedule the federal government is prepared to support.

2. Obtain relief for taxpayers who receive federal, state or locally funded LSL or GRRSL replacements. The use of public dollars to benefit an individual property owner (i.e., the replacement of a LSL or GRRSL) could be treated by the Internal Revenue Service (IRS) as taxable income. Taxable income has implications both for individual households annual revenue tax bills, as well as their ability to access income-based elements of our nation's social safety net. This issue has been brought forward to EPA repeatedly without resolution. EPA's successful intervention with its sister agency, the IRS, is necessary to obtain
 - a. A determination that these property owners do not face a tax liability. That IRS exemption is needed immediately to facilitate property owner participation in service line replacement programs.
 - b. A separate, but related, decision by the IRS that the provision of a LSL or GRRSL replacement using public resources does not require preparation of an IRS 1099, a

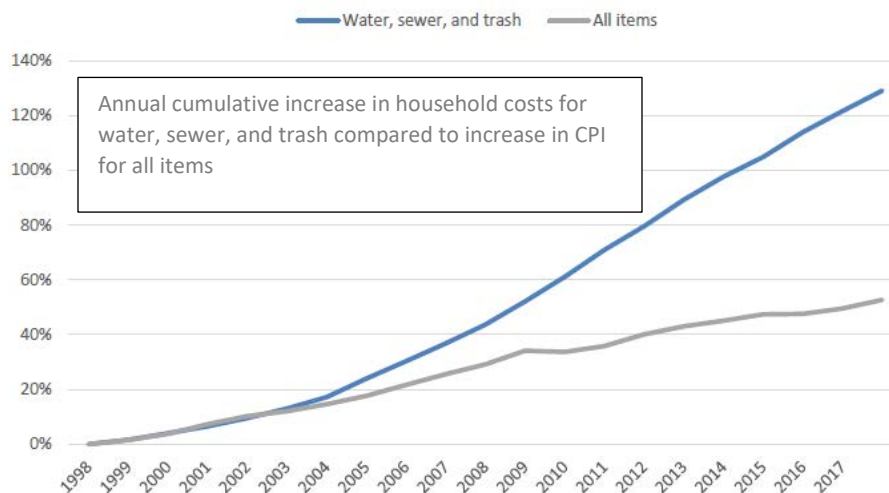
document that to be completed requires the recipient's social security number or business tax identification number.

2.4 Affordability

EPA must take cost into account with setting primary standards including the development of treatment techniques, including the environmental justice implications of these burdens, and has failed to do so in violation of the SDWA, APA, and executive orders.

CWS Ratepayers will Bear Cost of Final LCRI -- The cost impacts of the proposed LCRI are substantial and at present will fall directly on CWS households either in the form of direct charges or through increases in water rates. The cost of drinking water infrastructure is borne almost entirely by the rates and charges paid by the CWS's customers. Even if available, outside funding will not resolve this issue as most federal and state infrastructure funding comes in the form of loans. Also, with few exceptions (e.g., preparation of service line inventories) federal funding is not available to subsidize operational expenses. Consequently, federal infrastructure funding to the degree it is available may reduce the additional burden placed on households but that effect is marginal and limited to a few systems.

Costs of Water Service are Already Rising -- The cost of water services (i.e., drinking water, wastewater, stormwater, and reuse) are rising both to meet new challenges and to repair and replace aging infrastructure. This challenge is familiar to EPA. Awareness rose to the level of EPA's water finance center (now known as the "Water Infrastructure and Resiliency Finance Center") highlighting the need for customer assistance programs in 2016.⁶ More detailed analysis of affordability as a constraint in water infrastructure planning, including regulatory compliance, has been the topic of substantial discussion. Raucher et al.⁷ highlighted relevant trends including the cumulative increase in household cost for water service relative to the consumer price index (CPI) (see following graph).

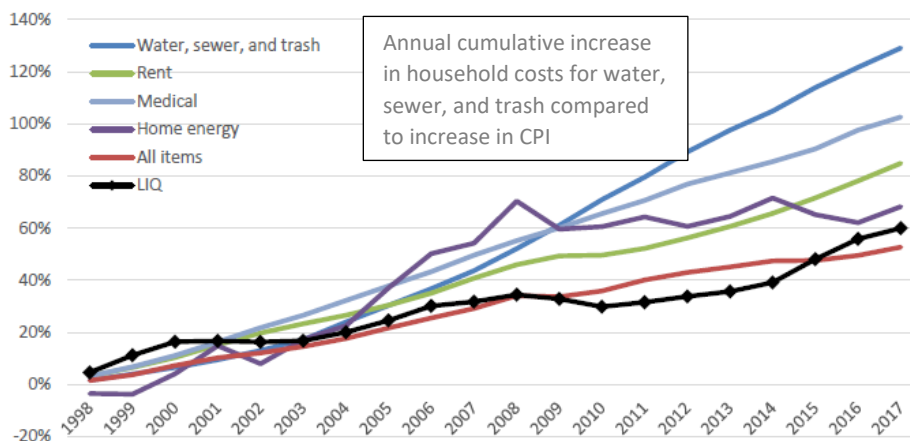


Source: Raucher et al. (2019) citing Bureau of Labor Statistics

⁶ EPA, Drinking Water and Wastewater Customer Assistance Programs (2016).

⁷ Raucher, Robert, J. Clements, E. Rothstein, J. Mastracchio, and Z. Green, Developing a New Framework for Household Affordability and Financial Capability Assessment in the Water Sector (2019).

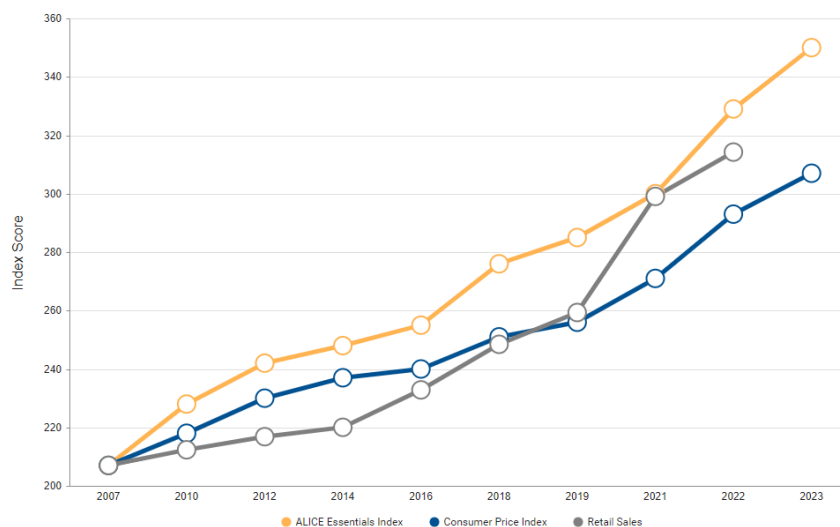
Raucher et al (2019) also describes how water service is increasing as water at the same time as other critical household expenses (see following graph).



Source: Raucher et al. (2019) citing Bureau of Labor Statistics

The above analyses do not reflect the social disruption associated with the COVID pandemic, the economic turmoil associated with recovery from the pandemic, current inflationary pressures, or international events. The affordability challenge has been developing over more than a decade and will continue even in a stable, post-pandemic economy.

While the CPI is a long-standing indicator of price trends. It does not fully capture the affordability challenge of disadvantaged households. An alternative metric Asset Limited, Income Constrained, Employed (ALICE) worker household essentials index. Over the last 15 years the ALICE Essentials Index has increased at a higher rate than the CPI, including the most recent estimates for the 2021 – 2023 period (see following graph).⁸

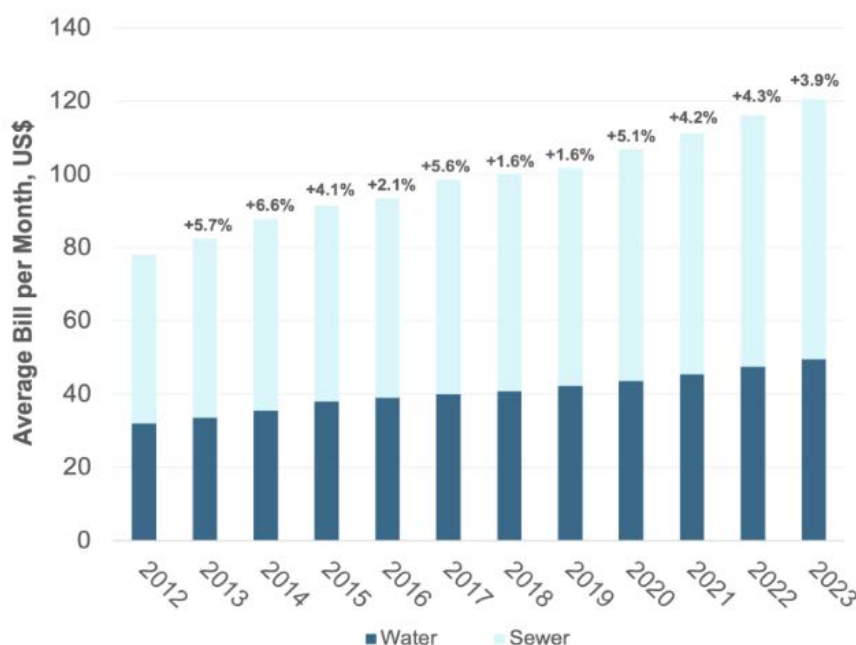


Source: Alice Essentials Index. <https://www.unitedforalice.org/essentials-index>.

⁸ United for Alice. Alice Essentials Index. Measuring Inflation for Basic Needs. 2023 National Report (2023).

United for ALICE estimates that financial hardship is a real concern for not just the 13% of U.S. households below the federal poverty level but another 29% of households that earn less than is required to cover the ALICE household survival budget.⁹

Like the ALICE Index Bluefield Research’s December 2023 report illustrates that specifically water rates are rising (see the following excerpted figure) continuing trends illustrated in previous reports.¹⁰ This figure reflects the combined burden of water and wastewater service for 50 cities found that “combined water and sewer bill for a typical U.S. household has increased by 54.8% since 2012, or on average 4.1% annually.”



Source: <https://www.bluefieldresearch.com/ns/water-challenges-drive-u-s-water-utility-rates/>

Affordability is Already a Challenge for Many Communities – Analyses like those shared with EPA in in 2019¹¹ in support of EPA decision-making and more recently with Congress regarding development of a low-income water customer assistance program are reenforced by recent work from outside the water sector.¹²

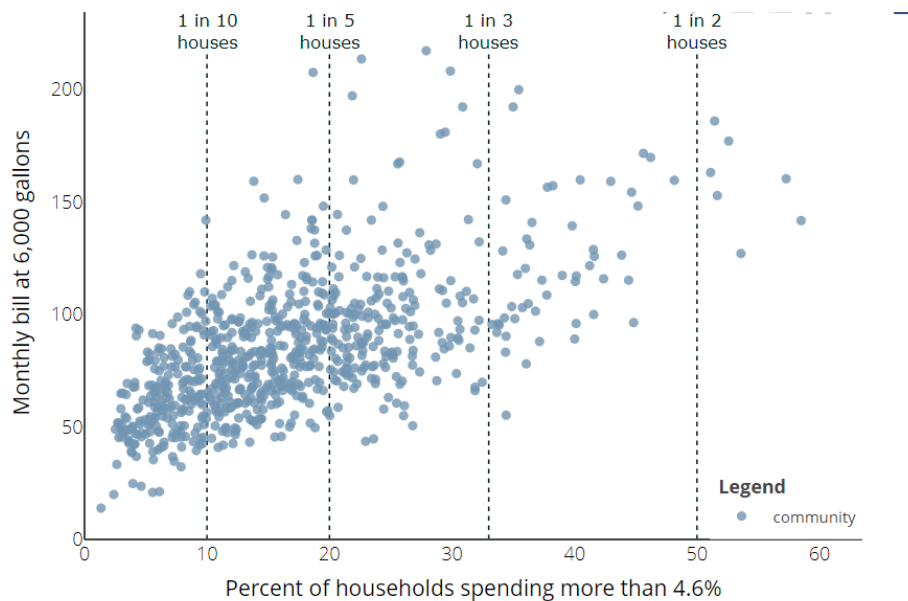
⁹ United for ALICE. ALICE in the Crosscurrents, COVID and Financial Hardship in the United States. (2023).

¹⁰ Bluefield Research. U.S. Municipal Water & Sewer: Annual Utility Rate Index, (Nov. 8, 2023).

¹¹ Raucher, Robert, J. Clements, E. Rothstein, J. Mastracchio, and Z. Green, Developing a New Framework for Household Affordability and Financial Capability Assessment in the Water Sector (2019).

¹² Berahzer, Stacey Isaac, J. Clements, Z. Green, J. Mastracchio, R. Raucher, E. Rothstein, and M. Teodoro, Low-Income Water Customer Assistance Program Assessment (2023).

The following figure illustrates the unaffordability of water services in the United States as analyzed in 2023 by authors at the Nicholas Institute.¹³ The authors note, *“The analysis shows that 28.3 million people in those communities live in households that spend more than one day each month working to pay for water services and sanitation services.”*



Source: <https://today.duke.edu/2023/05/17-percent-us-households-face-growing-water-affordability-challenge>

Proposed LCRI Costs in Larger Context -- Reports like the above referenced prior analyses and EPA’s 7th Drinking Water Infrastructure Needs Survey and Assessment (7th DWINSA) draw attention to the need for investment in distribution system renewal and water infrastructure. The 7th DWINSA estimates the traditional 20-year national drinking water infrastructure need to be \$625 billion.¹⁴ These analyses fall short of reflecting the full range of infrastructure needs associated with constructing additional water supply storage, developing alternative supply, futureproofing water infrastructure in the face of climate change, right-sizing existing facilities to improve water quality, improving long-term sustainability, improving cybersecurity protections, reducing carbon footprint by integrating alternative sources of power, and reducing water loss by systems and customers. The above infrastructure investments are widely recognized and advocated for by EPA in its Drinking Water and Wastewater Resilience programming¹⁵ and Effective Utility Management (EUM) Initiative.¹⁶

¹³ Lauren A. Patterson, Sophia A. Bryson, Martin W. Doyle, "Affordability of Household Water Services Across the United States," PLOS Water (May 10, 2023). DOI: 10.1371/journal.pwat.0000123.

¹⁴ EPA, Drinking Water Infrastructure Needs Survey and Assessment, 7th Report to Congress (2023).

¹⁵ EPA. Undated (website accessed 1/11/2024). Drinking Water and Wastewater Resilience. <https://www.epa.gov/waterresilience>.

¹⁶ EPA. Undated. (website accessed 1/11/2024). Effective Utility Management Practices. <https://www.epa.gov/sustainable-water-infrastructure/effective-water-utility-management-practices#euminitiative>.

Proposed LCRI is One of Several Concurrent Regulatory Burdens -- There are multiple environmental regulations that will require infrastructure investments and increase operating costs. First, at \$3.0 – 4.8 billion EPA underestimates the annualized cost of the proposed LCRI borne by water systems. Second, even if those figures were accurate, standing alone they would be infeasibly high. Third, these costs would come at a time when water systems are also facing similar regulatory costs as a result of other EPA rulemakings, which in the aggregate make these costs particularly infeasible. For instance, EPA is currently:

1. Finalizing a national drinking water standard for per- and polyfluoroalkyl substances – EPA’s proposed primary drinking water standard for per- and polyfluoroalkyl substances (PFAS) is anticipated to entail more than \$3 billion in annual expenses just for installation and operation of required drinking water treatment facilities.¹⁷
2. Finalizing a rulemaking that will place water systems at risk of liability for PFAS in wastes they have previously released to the environment – the cost implications of designating perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) as Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances. EPA did not estimate the cost of CERCLA liability for water systems. An analysis by Hazen and Sawyer estimates the potential impact from shifting waste management practices for drinking water treatment residuals could exceed \$3 billion annually.¹⁸
3. Preparing to propose a regulation that will require PWSs relying on surface water to achieve greater levels of total organic carbon removal—the soon to be proposed Stage 3 Microbial and Disinfection Byproducts rulemakings—which will also be significant.¹⁹

EPA has a duty to ensure that the entirety of its regulatory program is sustainable for regulated entities like CWSs. While under some statutes, a regulation that leads to the insolvency of a regulated entity may be tolerable, EPA cannot impose a cumulative regulatory burden on communities that is not economically sustainable or leads to inadequate resources for other key public health protections.

EPA’s Analysis Under E.O. 12898 -- EPA is required to by E.O. 12898²⁰ to evaluate environmental justice implications of its regulatory actions. EPA’s current environmental justice analysis²¹ does not consider the implications of the Proposed Rule on the affordability of water services or associated disparate water rate impacts on Black, Indigenous, and People of Color (BIPOC) households. EPA must consider not just potential differential effects of specific rule provisions within the proposed LCRI, but also the (1) consequences of increases in household water rates on disadvantaged households, (2) opportunity costs impacting BIPOC households, and (3) negative secondary effects that those requirements will have on households, especially disadvantaged households.

¹⁷ 88 Fed. Reg. at 18,638.

¹⁸ AWWA, Comment submitted by American Water Works Association on Addressing PFAS in the Environment (July 5, 2023), EPA-HQ-OLEM-2022-0922-0079.

¹⁹ National Drinking Water Advisory Council, Letter to the Administrator on Potential Revisions to Microbial and Disinfection Byproducts Rules (Dec. 14, 2023).

²⁰ 59 Fed. Reg. at 7,629.

²¹ EPA, Environmental Justice Analysis for the Proposed Lead and Copper Rule Improvements (2023), EPA 815-R-23-004.

2.5 Opportunities for Greater Clarity

The proposed LCRI is the second major revision of 40 CFR §141 Subpart I and related portions of subparts A, C, O, and Q in less than five years. Over the course of that timeframe the policy discourse around managing lead in water has focused on multiple facets of the LCR, and there has been significant confusion both in the regulated community and amongst the primacy states as to what the new regulations require. As a consequence, the proposed LCRI has multiple opportunities for EPA to provide greater clarity in finalizing the LCRI. The need for clarity is particularly acute given the confusion to-date in this rulemaking and the anticipated implementation timelines and tasks. Such confusion harms public health by detracting limited resources away from the most meaningful compliance efforts as systems instead spend time debating the meaning of vague provisions or taking unnecessary actions in an abundance of caution. Aspects of the Proposed Rule for EPA to state more clearly in the final rule text and preamble include:

1. Completing the outreach efforts described in §141.84(d)(3)(i) for LSLs or GRRSLs: if the final rule retains requirements related to replacing service lines on private property (which it should not), then the final rule should clearly state that four attempts at contact via at least two communication methods is adequate when evaluating service line replacement program success.²² The compliance metric should recognize that a CWS has taken required action while acknowledging that continued efforts will be needed over time to fully replace the service line (e.g., at the end of replacement period a system may report outstanding refusals and still meet the treatment technique requirements).
2. The rule should clearly state that water systems that have made good faith efforts to understand optimized CCT options available to them under the LCRR and now the proposed LCRI, including appropriately constructed pipe rig studies may use those studies to inform LCRI compliance, including if those studies were conducted prior to the LCRI's effective date. Such studies should not have to be repeated after the LCRI effective date.
3. The rule should clarify that the requirement related to the delivery of information about and / or filters that remove lead from drinking water is specifically an instruction to supply information about and / or filters that are certified to meet NSF/ANSI Standard 53 for total lead removal and NSF/ANSI Standard 42 for fine particulates (Class I). The type and number of replacement cartridges provided will be based on average household use, the performance characteristics of a particular vendor's replacement cartridge, and the duration specified in the Proposed Rule. After providing information about filter use and in some instances filters, CWSs do not have further obligations related to filter use.
4. Proposed § 141.80(c)(3)(ii) addresses how to calculate whether a system has exceeded the lead action level. This provision reads,

"For water systems with lead service lines with sites identified as Tier 1 or 2 under §141.86(a) with enough Tier 1 or 2 sites to meet the minimum number of sites listed in §141.86(c) or (d) as applicable: ... Lead or copper sample results from Tier 3, 4, or 5 sites cannot be included in this calculation."

²² See Proposed § 141.84(d)(3)(i).

EPA must clarify that it does not intend to preclude water systems from including Tier 3, 4, or 5 sample sites in compliance datasets when systems have otherwise exhausted necessary efforts to otherwise achieve sampling at Tier 1 and 2 sample sites shown in the monitoring plans submitted to the state prior to compliance monitoring per § 141.90(a)(i). Where systems have attempted but were unable to successfully engage Tier 1 and 2 customers to participate in compliance monitoring, Tier 3 – 5 sample sites should be acceptable in the compliance dataset, even if the service line inventory continues to reflect unsampled homes with LSLs. This clarification will be increasingly important over time as CWSs successfully reduce the number of LSLs in their service area, and the remaining occupants with LSLs are either difficult to reach or uncooperative and where the remaining LSLs are associated with vacant properties. The report required in §141.90(a)(i)(B) provides an opportunity to report the system’s best efforts to comply.

5. The proposed LCRI describes “supplemental monitoring” for purposes of amending the compliance tap sample dataset as monitoring offered to customers in the wake of a lead action level exceedance. The Proposed Rule text is consistent with the proposed LCRI preamble²³ but can be easily misunderstood given the broader emphasis on monitoring in the Proposed Rule. EPA should emphasize in the preamble of the final LCRI and subsequent guidance that supplemental monitoring is limited to customer-requested monitoring in response to required public education efforts following a lead action level exceedance.
6. The requirement for CWSs to engage schools and child care facilities regarding lead includes provisions to (1) notify elementary schools, high schools, and child care facilities regarding the opportunity for sampling requires a good faith effort to notify per Proposed Rule § 141.92(c)(2)), (2) document refusal or nonresponse by these facilities to participate as demonstration of a good faith effort by the CWS to involve the facility,²⁴ provide sampling results and information to facilities.²⁵ These individual tasks are described in terms of interaction with individual facilities because there are independently operated schools and child care facilities. EPA should acknowledge clearly in the final rule preamble and subsequent guidance, that CWSs are not being required to overstep the administrative chain of command in school systems and child care facilities under a single management. Under these provisions engaging the central offices of school systems and child care facilities under a single management is sufficient to comply with these requirements.
7. EPA proposes to include lead connectors in the inventory required by the proposed LCRI. While AWWA recommends EPA not take this step, EPA wisely distinguished lead connectors from service line materials with respect to many facets of the Proposed Rule, notably the LSL / GRRSL replacement rate, mandate to replace all LSL and GRRSL within 10 years, mandate to characterize all LSUSL materials, and the service line validation study. This distinction is apparent in the Proposed Rule text. EPA should retain this distinction in

²³ 88 Fed. Reg. at 84,950.

²⁴ Proposed Rule § 141.92(d)(1)(i)), 141.92(d)(3).

²⁵ Proposed Rule § 141.92(g)(1).

the final LCRI regulatory text and communicate this distinction clearly in the final rule preamble, associated rule guidance, and technical support to states and systems.

There are also facets of the Proposed Rule that require substantial restructuring simply to assure reliable and consistent interpretation, and thus compliance. In particular see Sections 2.7, 2.8, 3.2 and 3.3 of these comments.

2.6 Guidance to Support Rulemaking

In recent SDWA rulemakings, EPA has waited until after the LCRI is final to craft guidance. The lack of guidance for how EPA envisions implementing the provisions of the proposed LCRI makes understanding the import of the Proposed Rule requirements very difficult. In a Proposed Rule as complex as the LCRI, it is impossible to fully quantify either the cost or the benefits of the Proposal without a clear interpretation of the regulatory text. Neither the Proposed Rule preamble nor the associated docket fully describe what CWSs will be required to do to comply with the LCRI if finalized as proposed. Clear explanation in the final rule and preamble itself is essential to ensure that PWSs properly implement the rule and do not waste years of time and resources based on misunderstandings of the requirements.

As EPA prioritizes SDWA program activities following this proposal, it is essential for EPA to turn rapidly to developing associated guidance and to engage stakeholders, particularly, the community of associations that support CWSs in that development process.

While guidance is important, as EPA is aware the agency cannot engage in regulation through guidance. There are already instances where the preamble to the proposed LCRI diverge from the Proposed regulatory text. A number of those instances are described in the balance of these comments. Similarly, EPA's enforcement program cannot re-interpret regulatory text to fit a future change in policy perspective or the exigencies of a specific situations. As EPA prepares guidance and training materials those materials must conform to the regulatory text because is it contrary to law for EPA to establish regulatory expectations through guidance federally. There are also states that adopt federal guidance as though it is in fact binding regulation when it is not.

2.7 Public Education – Required Communication

While AWWA requests more rapid guidance and collaborative development of guidance, the more likely scenario is that EPA will require months, if not years to prepare final guidance following promulgation of the LCRI. As a matter of sound regulatory practice and for the above reasons, EPA should take this opportunity in finalizing the LCRI to craft clear LCRI public education requirements.

Inconsistent and Multiple Names for Targeted Recipients – The proposed LCRI is the latest in a series of rulemakings that have introduced new words and phrases into the LCR that reflect concepts particular to the moment in time when the rule was promulgated. Now the LCRR and proposed LCRI have introduced completely new requirements and the proposed regulatory text that do not clearly identify who CWSs are tasked with contacting, what CWSs are charged with conveying, and how the CWS is expected to communicate. For example, in the course of conveying communication responsibilities in the proposed LCRI, the regulatory text employs at least the 16 words and phrases in the following table. Words and phrases are used in combinations that are inconsistent but in plain English are not clearly distinguishable.

Word / Phrase	Appears in Regulatory Text	Uses with respect to Communication Tasks
Customer	62	28
“receiving a bill”	1	1
Consumer	42	34
Resident	24	3
“Residential unit”	4	4
“Residential customer”	1	1
“Non-residential customer”	1	1
“Non-residential occupant” or “occupants”	10	3
“Non-residential unit”	5	5
“Residence”	4	1
Person served	4	2
“persons served by the water system at the tap that was sampled”	1	1
“Persons served by the water system at the sites that were sampled”	8	6
“Persons served by the water system at the specific sites that were sampled”	2	2
Service connection	11	6
“other service connections”	1	1
“Persons served by the water system at the service connection”	5	5
Owner of the affected service line	2	2
Owner’s authorized agent	2	2
Non-owner occupant(s)	1	1
Household(s)	8	2

EPA should simplify the regulatory text using a select set of phrases that convey consistent intent appropriate to the Proposed Rule requirement. The following table illustrates such a simplification of the current regulatory text.

Context	Target audience	Task / Information Delivered
Lead service line inventory	“service line owners”	<ul style="list-style-type: none"> • Annual service line material notification • Notification of planned construction • Notification that construction has occurred
Construction activity health protective measures	“building unit(s)”	<ul style="list-style-type: none"> • LSL, GRRSL, LSUSL, and lead connector replacement notifications • Notifications of disturbances • Provision of filter instructions, pitcher filters and replacement cartridges (as appropriate)

Context	Target audience	Task / Information Delivered
Lead action level exceedance	“bill paying customers”	<ul style="list-style-type: none"> • Mailed post-exceedance public education materials
Observed lead and / or copper concentrations from sampling	“persons served by sampled tap”	<ul style="list-style-type: none"> • Results from compliance samples • Results from requested samples

EPA’s Environmental Justice Analysis of the proposed LCRI²⁶ points out the role of public education in preventing disparities in outcomes under the proposed LCRI. Including clear regulatory text in the final LCRI is important to achieve this outcome as well as prevent assertions in the future that compliant CWSs had in some way not taken environmental justice considerations into account in their public education efforts.

2.8 Corrections to Avoid Misinterpretation

There are instances where there are currently misinterpretations among drinking water regulators, technical assistance providers, consultants, and advocacy organizations regarding the substance of current and anticipated LCRI requirements.

1. Because the proposed LCRI is being crafted as a replacement for the LCRR, it is important that EPA correct current ongoing misreading of guidance regarding the scope of CWSs’ responsibilities under the LCRR and LCRI. Current misunderstandings and guidance incorrectly lead CWSs to believe they are obligated to include pipes in their inventory that are not in fact a service lines connected to the CWS’s distribution system. This error will have subsequent implications for compliance with lead service line replacement requirements and other facets of the current rulemaking.

Currently EPA guidance emphasizes the broad nature of 40 CFR 141.84(a), which reads “*All water systems must develop an inventory to identify the materials of service lines connected to the public water distribution system.*” Because the inventory is inclusive of “*service lines*” that are on both public and private property, some states and technical assistance providers are misinterpreting this wording to mean that water systems have a duty to:

- a. Incorporate water mains internal to private property as a “service line” (e.g., mains within a campus of buildings)
- b. Incorporate service connections to mains operated by another entity

SDWA defines a public water system.²⁷ Just as CWSs are not responsible for characterizing and replacing the service lines associated with a consecutive CWS, CWSs are not responsible for characterizing campuses and subdivisions that are served by a single metered connection to a CWS. Correction of this misinterpretation in as timely a manner as possible would facilitate both preparation of initial inventories and implementation of the final LCRI. If additional clarity can

²⁶ EPA, Environmental Justice Analysis for the Proposed Lead and Copper Rule Improvements 3-4 (2023). EPA-HQ-OW-2022-0801-0641.

²⁷ 42 U.S.C. § 300f(4), 42 U.S.C. § 300g.

be most efficiently resolved through revising regulatory text, a straight-forward modification of the definition of service line is proposed in Section 3.16 of these comments in response to the agency's request for comments regarding definitions.

2. The clear intent of the definition of GRRSLs is service lines where the prior segment of the service line before the galvanized portion of the service line is or may have been a lead service line at one time.^{28, 29} That is the history and described basis as well as the plain-English reading of the proposed LCRI definition. Unfortunately, the frequent framing of "galvanized downstream of lead" has resulted in some regulatory agency staff, including EPA staff, to instead frame GRRSLs in terms of any and all potential lead construction materials in mains. When the GRRSL definition includes potential historical lead, this misinterpretation can lead to significant expansion of the scope of service lines classified as GRRSLs. The final LCRI text should retain the current clear definition of GRRSLs and the final rule preamble and subsequent guidance should re-affirm that definition.

2.9 Opportunity for Future Improvement

There are important opportunities to learn from this rulemaking going forward. In particular, the failure to provide sufficient time for meaningful public comment and engagement undermines the rulemaking process and does not comply with the letter or spirit of the APA.

1. The Proposed Rule does not provide sufficient time for data collection and technical analysis. Specifically, the Proposed Rule solicits data and technical analysis including modelling while affording the public less than 9 weeks (44 working days) over a series of nationally recognized religious and secular holidays to prepare and file a response to the agency's notice. By contrast, EPA had 485 workdays to prepare the notice requesting this data. In instances where EPA has an interest in technical input, the agency should engage the expert community (e.g., AWWA, Water Research Foundation, etc.) with information needs early in a rulemaking process. Adequate time is necessary to provide cogent analyses and there are limited aspects of this rulemaking about which EPA has been transparent regarding its intent. The requests for comment in the proposed LCRI preamble pertain to facets of the Proposed Rule EPA has not highlighted publicly prior to releasing the Proposed Rule. EPA is held to a high standard by Executive Orders with respect to the data and analysis it includes to support a rulemaking. Preparation of analyses that meet that standard require adequate time to prepare, provide quality assurance, and conduct adequate review, prior to their submittal to the agency.

The proposed LCRI docket (1) does not describe a technical premise for the Proposed Rule requirements and (2) presents an analysis of costs and benefits in a fashion that is not sufficiently transparent for stakeholders to replicate and test the agency's approach in the time available to them.

2. EPA's expectations for what PWSs must do in order to comply with specific rule provisions cannot be discerned from the regulatory text, preamble, and economic analysis. In particular the activities costed in the economic analysis are often very confined aspects of

²⁸ 40 C.F.R. § 141.84(a)(4)(ii).

²⁹ Proposed LCRI § 141.2 - Galvanized Requiring Replacement Service Lines.

wide-reaching regulatory text, and the regulatory text and preamble may or may not be well-aligned. As a consequence, water systems cannot review the docket and discern either what constitutes a violation or what is expected to avoid a violation. EPA could resolve this challenge through incorporating draft guidance documents in the docket for proposed rules. EPA did this in the Stage 1 Microbial / Disinfection Byproduct rulemakings. One of those guidance documents should be the state implementation guidance. The state implementation guidance has historically provided a concise enumeration of what constitutes a violation and the associated violation codes.

When EPA takes a year and one-half or more to craft a proposed rule and provides the public a docket with hundreds of documents many of which are hundreds of pages in length with 60 days or less to prepare comments, EPA owes the public a clear technical explanation of expectations under the rule. Its failure to do so has prevented the public from meaningfully commenting on the Proposed Rule in violation of the APA.

3 REQUESTED COMMENTS

The LCRI Proposal included a number of requests by the agency for comment to which AWWA responds here.

3.1 General Matters

Request for Comment 1: *“Whether the proposed revisions to the LCRR treatment technique are effective to prevent known or anticipated adverse health effects to the extent feasible in accordance with the SDWA.”*

As EPA is aware, the SDWA requires that all national primary drinking water regulations (NPDWRs) be feasible *“taking cost into consideration.”*³⁰ Here, EPA has not demonstrated that the proposed treatment technique as a whole is feasible, either on its own or when viewed in light of all of the additional regulatory burdens EPA is proposing to simultaneously place on PWSs, and as a result it does not comply with SDWA. The proposed LCRI, while providing a more orderly organization of actions than the LCRR it will replace, creates a financial and resource burden on many water systems that endangers sound CWS operations.

Proving Technical Feasibility -- EPA has not described with any rigor in the Proposed Rule or provided analysis in the associated docket that demonstrates that the proposed treatment technique’s optimized CCT element is technically feasible. As a result, the proposed requirements if finalized in their current form would violate both the SDWA and the APA.

The treatment technique as proposed in the LCRI includes: a lower lead action level, a new sampling protocol for homes with lead service lines, a revised sample pool that includes homes with galvanized piping in the home, and retains high-dose orthophosphate addition as the anticipated optimal corrosion treatment.

1. Prior experience under the LCR, including data collected under the State of Michigan 2018 LCR,³¹ does not provide EPA with data to demonstrate that the systems with water

³⁰ 42 U.S.C. § 300g-1(b)(4)(D).

³¹ Michigan Administrative Code. Supplying Water to the Public. Section R 325.10710a

characteristics targeted by the Proposed Rule (e.g., those that were reliably compliant under a lead action level of 15 µg/L but not reliably below a lead action level of 10 µg/L based on the compliance dataset required in the Proposed Rule) can indeed make that transition within the constraints described in the Proposal.

2. The LCR with its action level and sampling construct primarily required controlling soluble lead which is the emphasis of CCT methods outlined in the LCR and now proposed LCRI. Lowering the action level while incorporating lead observations from a fifth liter sample in compliance tap samples makes control of particulate lead control more critical. EPA has not provided analysis demonstrating that known CCT methods including orthophosphate can control particulate lead sufficiently for CWSs to reliably achieve required lead concentrations.
3. Prior to this rulemaking EPA focused the LCR on controlling the solubility of lead and copper. The LCRI rulemaking, for the first time, adds control of iron release to the regulatory corrosion control paradigm, as the stability of iron scales will underpin compliance for those systems sampling from Tier 3 structures. (See additional request for comment responses in Section 3.8 of these comments for additional explanation.)

The proposal also requires many water systems to apply limited local funds, borrowing capacity, field personnel time, and community good will to fulfill the construction and administrative burdens of the proposed LCRI which will not have corresponding benefits to public health, and are therefore arbitrary. Actions that will require re-allocation of resources from other needed investments in infrastructure renewal, assuring an adequate water supply, and improvements to reliably comply with other state and federal regulatory requirements. The Administrator has a duty to take cost into account with establishing a treatment technique, and the Proposed Rule does not adequately consider the cost of the proposed treatment technique requirements. For example, the Proposed Rule requires CWSs to:

1. Replace LSLs and GRRSLs at a rate substantially higher than the nominal 10% per year. (See additional request for comment responses in Section 3.4 in these comments for additional explanation.)
2. Accomplish required service line characterization and replacement in 10-years in the midst of price escalation and logistical difficulties that will result from the nationwide mandate to replace all LSLs and GRRSLs with a 10-year timeframe, such that all water systems across the United States will be competing for the same construction resources (e.g., personnel, equipment, materials, etc.). EPA has not created a record to demonstrate such resources are available and affordable to water systems.
3. Bear the increased cost of main repair and replacement that the rapid pace of service line replacement will require as service line replacement disturbs very old cast iron mains. EPA must account for these increased costs in assessing the feasibility of the Proposed Rule.

Exemplars Do Not Represent Typical Systems -- EPA provided several examples of systems that undertook lead service line replacements on timelines that it asserts demonstrate the feasibility of the proposed timeline in the LCRI. However, these examples do not demonstrate the feasibility of its proposal for several reasons. First, the examples of systems achieving expedited LSL replacement did so, only with the advantage of significant external financial subsidies that will not be available to all

CWSs, likely few CWSs. This is because the examples used by EPA were instances where the system or city exceeded the lead action level or were in the midst of much larger crises. As such, these systems had access to state and federal resources that will not be available to CWSs seeking to comply with the proposed LCRI.

With few exceptions EPA also cited examples of CWSs that had taken steps prior to the 10-year construction window for replacing all LSLs that facilitated faster replacement programs. At least one cited example likely exceeded its authority to enter private property under state law, but was not challenged legally. Also, the cited programs did not have to comply with the administrative burden and associated rigidity of the proposed LCRI framework, where the proposal would establish extensive administrative requirements that are subject to state oversight and enforcement. As a result, EPA has not met its burden to create a record to demonstrate that the Proposed Rule is feasible.

EPA Did Not Consider Opportunity Costs -- To adequately assess whether a rule effectively reduces public health risk, the agency must also consider the opportunity costs associated with regulatory requirements. EPA did not engage in such an analysis and the scope and scale of the proposed LCRI do have the unintended effect of imposing significant opportunity costs in the form of reduced opportunity to address other pressing health risk reduction needs at individual CWSs and the households those CWSs serve. See subsequent more detailed comments on EPA's Proposed LCRI Economic Analysis in Section 5.2 of these comments.

Anticipated Benefit is Overstated -- See Appendix A regarding the Proposed Rule "prevent known or anticipated adverse health effects" for a more detailed response to this question. In short, the benefits analysis falls short of demonstrating the degree to which the Proposed Rule requirements will prevent either recognized or potential adverse health effects. EPA's analysis of benefits associated with avoided IQ decrement is flawed, in that it does not focus on the benefit accrued in the portions of the IQ spectra where the anticipated effect is meaningful (e.g., <3% of children in the U.S.).

Further Expansion of the Treatment Technique is Unsupported -- As described above and in subsequent Sections within these comments, the proposed LCRI tests and for many systems will exceed the bounds of what is technically and economically feasible. EPA has heard public comment encouraging additional measures above and beyond what the agency has already proposed (e.g., lowering the lead action level below 10 µg/L, requiring distribution of pitcher filters under additional rule provisions, expanding monitoring of lead at schools, etc.). These comments include information on the state of the supporting science, cost, logistical constraints, and legal considerations that are relevant to such proposals as well as responding to the agencies requests for comment.

3.2 Reduce Burden

Request for Comment 2: *"Whether there are additional ways EPA could reduce the complexity of the regulatory approach used to address lead in drinking water consistent with the statutory standard for a treatment technique rule in section 1412(b)(7)(A) of SDWA. Specifically, EPA requests comment on ways that the proposed LCRI could be simplified and ways that burden, including paperwork burden, could be reduced without affecting the ability of the rule to prevent known or anticipated adverse health effects."*

There are a number of steps EPA could take that would significantly reduce the burden of the final LCRI by reducing paperwork. These changes would (1) not reduce state capacity to provide appropriate oversight, (2) would not affect the ability of the rule to prevent known or anticipated adverse health

effects, and (3) do not impact the substance of the requirements. If EPA truly wants to achieve full LSL and GRRSL removal on the most expedited timeline that is feasible, it cannot layer on additional burdens that will force water systems and states alike to redirect resources towards undertaking paperwork and administrative oriented tasks that serve little, if any, public health purpose. As noted elsewhere in these comments, paperwork burdens add towards making sustained compliance with the Proposed Rule infeasible for many, if not all, CWSs.

1. Initial inventory and subsequent annual updates are extensive, requiring submission requirements well beyond what is needed for regulatory oversight and representing both a data transfer and data storage challenge for states.³² The final rule should require annual submission of summary information, as otherwise required annual updating of public-facing inventories, reporting on-line links to inventories to the state when such posting is required, and the maintenance of records to document inventory development for auditing by the state.
2. Recurring submission of documentation following each monitoring period when public education materials are distributed are not necessary and should be removed. As currently drafted the regulatory text requires documentation of all requirements of Proposed § 141.85 which include public education following a lead action exceedance but also notification following service line and lead connector disturbances as well as notification of lead and copper monitoring sample results.³³ Reporting to the state of individual activities required by the final LCRI should not be required. Rather an annual summary report and certification of adherence to required protocols with the retention of records to document required processes for auditing by the state, should be sufficient.
3. The public education requirements contained in Proposed § 141.85 could include preparation and submittal of a single public education plan rather than EPA's current public education reporting requirements. That single plan would be subject to state review and approval prior to the first compliance date with the proposed provisions of Proposed § 141.85. The operator in responsible charge would certify annually that that system had complied with the plan as approved. In the event of a change in circumstance (e.g., a system completes replacing all LSLs and GRRSLs) the plan would be updated with the relevant revisions approved by the state.

This approach assures a cohesive set of communication tools, activities, and internal documentation measures by the CWS that can be reviewed by the state during sanitary surveys and in the event a system is being evaluated for a compliance failure. It dramatically reduces the volume of paperwork exchanged with the state at the end of each monitoring period and with that reduction the opportunity for inadvertent monitoring and reporting violations.

4. The annual submittal of the inventory to the state as described in Proposed § 141.90(e)(8) should be reduced to only those requirements in Proposed § 141.90(e)(8)(i)(A – D). The balance of the Proposed § 141.90(e)(8) paragraphs should be reduced to those needed to calculate the annual service line replacement rate if that requirement is retained in the

³² Proposed LCRI § 141.90(e)(8)(i) and § 142.14(d)(9).

³³ Proposed LCRI § 141.90(f).

final rule. The additional data proposed to be submitted, particularly the provision of data about service line material on an address-specific basis should be maintained by the CWS. Other requirements in the Proposed Rule assure that the inventory data will be available to the state as public access to address-specific information is required. Moreover, as CWSs are providing this data to the public via the internet and often in geographic information system (GIS) formats, the data available to the state via this alternative approach will be more useful to the state at a significantly lower cost in state information management expenses.

5. As currently drafted, Proposed Rule § 141.84(g)(3) requires notification in the form of “written notice” which must be provided to “the owner of the affected service line, or the owner’s authorized agent ... as soon as possible but no longer than 24 hours following completion of the replacement” following a full LSL or GRRSL replacement. This requirement does not include a standard of care for delivery to the owner and delivery to the owner is necessary even when the required information is adequately conveyed to the actual occupants of the affected structure. As EPA is aware, LSLs and GRRSLs can be associated with rental properties with absentee landlords who are difficult to reach. Unlike other Proposed Rule requirements, this provision does not address acceptable strategies under such circumstances. Absentee landlords can be difficult to reach and may even be overseas, making written notification in this time period both infeasible and not useful to reaching the actual occupant with concerns. As the proposed LCRI framework does not rely on non-resident owners to notify their tenants, EPA could reduce the burden associated with this provision without reducing the anticipated public health benefit, by eliminating the requirement for this expedited risk communication notification to reach owners and owner’s authorized agents following a replacement.

In addition to the paperwork-specific changes noted above there are changes to the Proposed Rule that are necessary to assure the final LCRI can be implemented and when necessary, enforced in a just and fair way that incentivizes achieving the objectives of the rulemaking. These changes impact the paperwork burden associated with the Proposed Rule but they also change the substance of the proposed requirements. These substantive changes would not affect the ability of the final rule to prevent known or anticipated adverse health effects:

1. The tracking of lead connectors should be an element of the system’s materials evaluation (i.e., Proposed § 141.42(d) as referenced in Proposed § 141.86(a)(i)) rather than an element of the inventory as described in the Proposed Rule at § 141.84.
2. Inventory and service line replacement requirements should be revised to:
 - a. Eliminate the need to include fire service and other service lines used for non-potable applications from the inventory and replacement requirements where there are plumbing codes, terms of service, or other permitting mechanisms to assure that such lines are not re-purposed for potable uses without proper characterization, and if necessary, replacement. Revising this requirement reduces burden without affecting the risk reduction associated with the Proposed Rule. Even if this change in the Final LCRI did not impact the initial inventory submitted in October 2024, the implementation of other aspects of the Proposed

Rule would be simplified. This change would be beneficial in combination with other proposed changes to proposed requirements included in AWWA's comments (e.g., inventory updates, calculation of replacement pool, calculation of replacement percentile, occupant notification, etc.).

- b. Eliminate the need to include service lines for abandoned properties or as yet undeveloped properties, where there is an adequate administrative barrier to use of the service without material characterization and, if necessary, replacement. As with the prior recommendation, this recommendation does not diminish the benefits associated with the rulemaking but facilitates efficient final LCRI implementation and prioritizes risk reduction opportunities. Such prioritization is consistent with EPA's emphasis on timely risk reduction to challenged households, achieving such goals requires finding opportunities for efficiency in the Proposed Rule framework.
3. A requirement to communicate all required monitoring sample results to occupants of buildings where samples were taken by mail that is postmarked within three calendar days after learning of results is not feasible for CWSs (Section 3.10 of these comments). Timely delivery could be assured, and paperwork burden reduced through:
 - a. Lengthening the period post-receipt to 5 business days
 - b. Limiting the duty to deliver sample results via this expedited schedule to observations above the lead action level (10 µg/L)
 - c. Allowing delivery via electronic means (i.e., email, text, data portal access) where the timing of communication with the customer can be logged for subsequent audit
4. If water service lines for nonpotable uses are retained in the service line inventory, then eliminate the requirement to provide pitcher filters / point-of-use devices and public education materials per Proposed § 141.84(h)(1)(i-iv), (2), and (3) when replacing these lines and eliminate similar provisions in Proposed § 141.85(g) for when these lines are disturbed.
5. Revise Proposed § 141.86(d)(2)(ii), which sets conditions for small and medium systems to transition to triennial monitoring, to include large systems with optimized corrosion control treatment (OCCT). At present the current regulatory text does not provide a clear path for large systems with OCCT and reliably below the action levels to obtain monitoring relief unless they maintain 90th percentile lead levels below 5 µg/L.³⁴
6. Revise the Proposed Rule regulatory text such that it is clear that all water systems that make a good faith effort to comply with monitoring site Tiers are eligible for reduced monitoring under Proposed § 141.86(d).
7. Revise Proposed § 141.92(h)(5) to remove requirement that alternative state approved monitoring in schools and child care facilities must occur after January 1, 2021. Some states and systems have moved forward more expeditiously than EPA to conduct

³⁴ Proposed § 141.86(d)(2)(iii).

awareness building lead monitoring at these facilities before and subsequent to the proposal of the LCRR.³⁵ EPA should recognize these more proactive programmatic efforts subject to the other aspects of conformity with the required monitoring program under Proposed Rule § 141.92.

8. Significantly reduce the record retention expectations for states under Proposed §142.14(d)(9) as they are well beyond what is necessary for oversight and represents a significant information management burden for states. Moreover, this requirement eliminates the potential to include incentives for CWSs of all sizes by placing required materials on-line. Lastly, EPA is pursuing an annual submittal to EPA of all compliance records submitted to states.³⁶ EPA is incapable of receiving all of the information generated through this proposed LCRI requirement and managing it in a reliable, quality assured information system that affords meaningful use of the collected data. EPA will not have the capacity to respond to Freedom of Information Act (FOIA) requests for LCRI-related data in a responsible manner within the timescale of primary milestones in the proposed LCRI implementation schedule.
9. There are significant administrative burdens associated with Proposed § 141.81(a)(2)(i), EPA's proposal to require regulatory reporting of water quality parameters for all water systems utilizing corrosion control serving between 10,000 and 50,000 persons regardless of (1) having exceeded the lead or copper action level or (2) instituted OCCT per the LCR (i.e., systems that do not comport with paragraph "2" of Proposed Rule § 141.2 "*System without corrosion control treatment.*" The number of systems in this subset of systems is large and agency efforts to-date have not prepared either states or these systems for this development. As currently drafted the requirement creates a regulatory data stream without a useful context. Two alternatives include:
 - a. Delaying the extension of WQP monitoring and reporting (e.g., six years after initial compliance deadlines in the proposed LCRI). During the intervening period post-initial compliance, medium systems could be tasked with maintaining an internal log of WQP (conceptually a parallel construct to the disinfection profiling and benchmarking in § 141.172 in the Interim Enhanced Surface Water Treatment Rule (IESWTR) and LT2SWTR), documenting training hours specific to CCT and OCCT, and developing a report for submittal to the state outlining current CCT practice and proposing WQP monitoring locations.
 - b. Structure a similar delay in implementation of this provision that integrates a delay of "x" years (e.g., six years) following a rolling transition to the proposed LCRI sample pool / sample protocol based on system size categories.

3.3 Prompt, Fair, and Equitable Enforcement

Regulatory clarity, in the actual regulatory text rather than later guidance, is the best way to promote compliance without the need for an enforcement action. Because of this, AWWA encourages EPA to

³⁵ See Proposed § 141.92(d).

³⁶ 88 Fed. Reg. at 20,092, Consumer Confidence Report Rule Revisions, Proposed § 142.15(b)(3).

implement the recommendations it has provided throughout these comments to clarify the LCRI. Simply put, a water system cannot comply if it does not understand the requirement.

The other significant way to reduce non-compliance is to ensure that the final LCRI is actually feasible and possible for CWSs to implement. Even though EPA has traditionally focused on large municipal and regional water systems when assessing feasibility, the agency should recognize that when the requirements are not feasible within the meaning of the SDWA for smaller or rural systems, then EPA is essentially ensuring noncompliance by those systems. Such non-compliance will detract state and federal enforcement resources from more critical public health concerns. Approximately 91% of the systems that would be regulated under the Proposed Rule are small systems. Successful implementation and compliance with the final LCRI, therefore necessitates crafting the requirements with this in mind rather than setting the bar in a place only a handful of systems can likely reach.

Request for Comment 3: *“Whether the proposed requirements of the rule are enforceable and promote compliance without the need for State or Federal enforcement action. EPA also solicits comment on ways the rule could be modified to better promote compliance.”*

There are also opportunities for EPA to facilitate prompt, fair, and equitable enforcement. These recommendations also assist EPA by avoiding a rule for which enforcement would be deemed arbitrary and capricious. These opportunities include:

1. With the inclusion of the non-lead validation study, clearly communicate to state and EPA oversight and enforcement staff (through the final rule provisions and preamble) that a records-based service line material determination can reflect relevant documented practice associated with service line construction in a community, and not simply records specific to an individual service line. This is consistent with Chapter 4 of EPA’s “Guidance for Developing and Maintaining a Service Line Inventory,” which is cited in the proposed LCRI docket.³⁷ Currently, there is substantial state-to-state variability in implementation of this requirement primarily due to concern that EPA will continue over time to modify its view of what is an adequate demonstration of the materials of construction.
2. The proposed LCRI does not provide a regulatory framework for the instance when random sample sites(s) in a non-lead validation study conducted per Proposed § 141.84(b)(5) contain a LSL or GRRSL. When the CWS submits its study per Proposed § 141.84(b)(5)(v) the system

*“...must submit a list of the locations of any non-lead service lines identified to be a lead or galvanized requiring replacement service line as well as the method(s) used to categorize the service lines, if available ...”*³⁸

There is not a clear outcome from this submittal and it is possible that some may read the proposed special primacy provisions (Proposed § 142.16) to require a renewed service line characterization and replacement program effort. A more appropriate response would be to clarify per Proposed § 141.84(b)(5)(v)(ii) “Table 1 To Paragraph (b)(5)(ii)” to include a third column. That third column would reflect the number of additional random samples

³⁷ EPA, Guidance for Developing and Maintaining a Service Line Inventory (2022), EPA 816-B-22-001.

³⁸ Proposed § 141.90(e)(9).

to be drawn in order to reassess the 95% confidence interval for every LSL or GRRSL discovered in the initial validation sample set. This structure is in keeping with the validation study concept, initiates additional evaluation in keeping with the scope of the prior effort's potential mischaracterization, and allows the CWS to continue focusing on removal of known LSLs and GRRSLs rather than divert resources to a new discovery effort.

3. Specify clear criteria a state must use under Proposed § 141.84 (d)(5)(iv) to assign a shorter deadline (and if provision is retained, an associated replacement rate). While a state may set a different schedule for replacement under state law, if the requirement is to be based in federal law it must be specified in a manner that can be consistently applied.
4. The proposed LCRI CCT requirements³⁹ encourage states to require large systems (> 50,000 person served), both with CCT and those without, and detectable (i.e., > practical quantitation limit) lead levels that are below the lead action level (10 µg/L) to re-evaluate optimized corrosion control. Given the revised lead action level and the mandatory replacement of LSLs and GRRSLs this provision no longer serves a clear purpose in the proposed LCRI. The provision should be deleted, unless EPA can articulate specific criteria under which the federal regulation should lead to water systems being instructed to outperform the treatment technique that EPA has deemed feasible. States will retain the authority to seek additional action by water systems under state law regardless of EPA's inclusion of the provision in the final LCRI.
5. With the proposed changes to the LCRI there are systems that meet the definition of optimized corrosion control⁴⁰ that are not employing corrosion control strategies recognized in Proposed § 141.82(c). Many of these systems will not exceed the lead action level so will not be triggered by the federal rule to revisit their OCCT using the new list of CCT strategies.⁴¹ As these systems are reliably achieving desired OCCT performance and subject to the balance of the Proposed Rule's risk reduction measures, these systems should not be required to revisit their CCT strategy. Revising OCCT carries with it the risks of missteps and lead release, moreover, corrosion control is best achieved through maintaining consistent conditions – an arbitrary instruction to change OCCT misdirects limited resources and creates the opportunity for increased risk. EPA did not attempt to quantify how many systems would be impacted by this facet of the LCRR/LCRI nor the associated cost implications.^{42,43} EPA can address this issue in rule text, preamble text, and guidance as it finalizes the LCRI.
6. As described in more detail elsewhere (see Section 3.4 of these comments) the Proposed Rule is not clear as to what constitutes fulfilling the requirement to replace all LSLs and GRRSL within 10 years. To be fair and just, the final rule framework must recognize best efforts to achieve full replacement when determining compliance.

³⁹ Proposed § 141.81(a)(1)(C)(ii - iii).

⁴⁰ Proposed I § 141.2 - Optimal corrosion control treatment.

⁴¹ Proposed § 141.81.

⁴² EPA, Final LCRR Economic Analysis Appendices, Exhibit B-5 (2023).

⁴³ EPA, Appendices to LCRI Economic Analysis, Exhibit B-9 at B-23 (2023).

7. As described in more detail elsewhere (see Section 3.4 of these comments) the current annual replacement rate metric is not a fair or just enforcement metric. This performance metric must be removed from the final LCRI entirely or replaced with a fair approach.

3.4 Service Line Replacement

Request for Comment 4: *“All aspects of the proposed scope of the replacement requirements, including the criteria used to define a full service line replacement (e.g., cutting the pipe at abandoned properties, replacing the entire service line) and which lead sources are subject to replacement under the mandatory program.*

Addressing abandoned properties -- The expectation that a written policy for not using existing buried service lines that are not removed should only be relevant to service lines going forward from the compliance date in the final LCRI. The use of buried pipes that are discovered unused and neither connected to the source of supply or the customer is not a field practice either water system staff or plumbers would engage in, but there may not be an existing written policy.

The current LCR requirement in Proposed § 141.84(d)(6)(iii)(C) is unnecessarily burdensome as it requires water systems to expend limited resources to locate, identify the materials of construction, and either replace or disconnect LSLs and GRRSLs to abandoned properties. The same effect could be achieved through administrative measures. For example, there could be a requirement that service not be renewed at the property without replacement of the LSL or GRRSL. So long as the service has been terminated at the location, then systems should not be required to consider the service line for purposes of the 10-year service line replacement requirements. Use of such an administrative procedure would both reduce the immediate costs to the water system in the 10-year compliance window for replacement and inform setting the replacement rate for those service lines where removal in a more timely manner would be beneficial.

The alternative to physically disconnecting abandoned properties in the Proposed Rule is to replace the service line in anticipation that a similar structure with a similar potable water and fire service demand would eventually replace the prior abandoned structure. While local land use practices will determine changes in land use over time, with urban renewal there are often significant increases in housing density and greater mixed use development. Such changes in land use can significantly change future water demand when a site is eventually re-developed. Moreover, urban renewal is seldom a steady planned process but one reliant on opportunistic investment of public and / or private capital. Installation of a replacement service prior to understanding the actual demands of future use(s) of abandoned properties will lead to wasted financial resources. As a result, administrative measures to ensure there is no water service until a replacement will more effectively address EPA’s concern and the realities of property development.

The cost of service line replacement must be sound -- For the agency to develop a feasible treatment technique it must fairly represent the costs of service line characterization and replacement. As described in Section 3.4 of these comments, the Proposed Rule’s economic analysis does not reflect the:

1. Typical cost of service line replacement,
2. Anticipated ancillary costs associated with service line replacement,

3. Recent and readily anticipated inflationary pressure on service line replacement program costs, or
4. Uncertainty in its cost estimate in keeping with accepted engineering practice.

Request for Comment 5: *“EPA is seeking comment on whether to prohibit reconnection of any disconnected LSL or GRR service line.”*

EPA’s request for comment is broadly framed and must be broken into practical scenarios to evaluate soundly. The first scenario is an instance where a property is vacant (e.g., unimproved, a structure exists but has been abandoned, a structure had existed but fell into disrepair and was demolished). In such an instance, when the property is improved for a future use, water service will be required. At that time conditions of service would apply and the service will have to meet standards of construction including adequate potable water and fire service for the development that is occurring. In such a scenario, replacement of an existing LSL, GRRSL, or a service line of uncertain condition would be an appropriate element of developing the property. This scenario would not be limited to service lines that have been physically disconnected from the main but would be equally applicable to service lines where access to water service was managed administratively.

The second scenario is the disconnection of LSLs and GRRSLs in the course of infrastructure renewal, service line replacement programs, and emergency repairs. The proposed LCRI acknowledges that LSLs and GRRSLs may be partially replaced and then returned to service in the cases of planned infrastructure work or emergency repairs.⁴⁴ Such construction will entail “disconnecting” the service line and then returning it to service after the LSL or GRRSL has been partially replaced if the property owner of an inhabited / usable structure (property may be residential or commercial under proposed LCRI) does not cooperate to accomplish a full replacement. A prohibition on reconnecting disconnected LSLs and GRRSLs in this case would lead to discontinuation of service to existing inhabited structures with non-cooperating property owners.

Discontinuation of service to inhabited residential and commercial structures is viewed as a public safety and public health hazard. CWS practice, as well as local and state policies are in place to limit the number of instances when service is discontinued. CWSs are concerned that discontinuation of water service practice could result in environmental justice concerns. EPA should be careful to craft the final LCRI to work within the framework of current law while avoiding a new environmental justice concern.

Request for Comment 6: *“EPA is requesting comment on whether the Agency should include lead connectors or galvanized service lines that are or were downstream of a lead connector as part of mandatory replacement.”*

EPA should not include lead connectors or galvanized service lines that are or were downstream of a lead connector as part of mandatory replacement. EPA has not demonstrated that removing GRRSLs as currently defined present a meaningful opportunity to reduce lead exposure. To expand the scope of the final LCRI to include all galvanized service lines with a definition akin to GRRSLs that includes lead connectors would further expand the scope of the replacement task even more with a less certain demonstrable benefit. As AWWA has repeatedly noted, there are already significant concerns with the

⁴⁴ Proposed § 141.84(g).

feasibility of the LCRI as proposed. This additional requirement would amplify the costs and burdens associated with the rule and would not be achievable for water systems.

Adding such a requirement also provides very little health benefit as both the LCRR and the proposed LCRI require the replacement of lead connectors under the control of the water system when encountered.⁴⁵ Consequently, lead connectors will be replaced in the course of LSL and GRRSL replacement as currently required by the Proposed Rule whether that replacement is occurring during routine infrastructure work, a dedicated service line replacement program, a customer-initiated replacement or an emergency repair or replacement. The incremental burden associated with expanding the definition would be large, in that it would:

1. Re-open the validity of prior service line characterizations
2. Require restructuring ongoing service line material verification practice
3. Change the design of service line material validation studies required by the Proposed Rule

All of these burdens are without a demonstrable additional benefit in lead risk reduction given other Proposed Rule requirements.

Request for Comment 7: “Whether a reasonable effort to obtain property owner consent should be more than four times (e.g., five, six, or seven times).”

The specific regulatory provision in the proposal reads:

“A “reasonable effort” must include at least four attempts to engage the property owner using at least two different methods of communication (e.g., in-person conversation, phone call, text message, email, written letter, postcard, or information left at the door such as a door hanger) before the applicable deadline of mandatory service line replacement as described in paragraph (d)(4) of this section. The State may require systems to conduct additional attempts and may require specific outreach methods to be used.”⁴⁶

The request for comment must be considered in the context of the entire requirement. Systems are being required to contact hundreds or thousands of property owners to undertake replacement, and to do so within the span of no more than 10 years. Property owners are not under a legal obligation to reply to the CWS’s outreach and are indeed unlikely to, based on the experience of our members. The proposed regulatory text provides a reasonable list of communication strategies that can be attempted. Four attempts already place a significant resource burden on water systems and should be sufficient to meet regulatory compliance obligations. Individual CWSs would then be free to take additional measures appropriate to their community and the replacement scenario at hand without fear of failing to meet their regulatory obligations.

EPA should either specify clear criteria a state must use to require additional attempts or require specific outreach methods under the federal rule or eliminate this element of the provision. While a state may

⁴⁵ Full Lead Service Line Replacement Guidance, Water Research Foundation 4713 at 66-67. (see Appendix B)

⁴⁶ Proposed § 141.84(d)(3)(i).

set different expectations for CWSs under state law, if the requirement is to be based in federal law it must be specified in a manner that can be consistently applied nationwide.

Request for Comment 8: “Whether the proposed LCRI appropriately interprets “control” for the purposes of the mandatory replacement provision (i.e., require systems to conduct full service line replacement in situations where the system has access to conduct the full replacement).”

EPA cannot define “control” as “access.” Such a definition of control is flawed and problematic from a practical perspective, and not in keeping with the intended meaning of “control” in SDWA. See Section 4.7 of these comments.

The Proposed Rule states that EPA is “not proposing to delineate the prerequisites or elements of “access””^{47, 48} but then goes on to delimit constraints on access to four specific legal barriers in the proposed regulatory text and the preamble.^{49, 50, 51, 52, 53} Those legal barriers are limited to state constitutional requirements, state law, local law, and tariff agreements. The Proposed Rule regulatory text has the effect of delineating the prerequisites and elements of access where the preamble states that the agency is not.^{54, 55, 56}

Proposed Rule cannot require systems to endanger staff or contractors -- As public facing entities, water systems are routinely in contact with the public. As such, there are established training and protocols for managing interactions with the public who are uncooperative or hostile. There are also protocols to assure personnel safety. Such protocols reduce the number of instances where hostile confrontations endanger CWS personnel and contractors. Creating a situation where CWS personnel and contractors are directed to force their way onto private property and into private homes will result in hostile confrontations, and create situations where personnel are on private property without immediate access to aid. Such situations pose a risk to CWS personnel and contractors that is arbitrary and unwarranted.

Proposed Rule does not address limited access in inventory requirements -- EPA recognizes the need to physically access private property with respect to service line replacement and the required validation study⁵⁷ but does not address the issue of access with respect to characterizing service line materials in the inventory requirements in Proposed § 141.84. EPA does not take access into account when establishing the deadlines for characterization of all LSUSLs, calculation of annual replacement rate or the economic analysis for the Proposed Rule.

⁴⁷ 88 Fed. Reg. at 84,920.

⁴⁸ Proposed § 141.84(d)(2)(i).

⁴⁹ 88 Fed. Reg. at 84,884.

⁵⁰ 88 Fed. Reg. at 84,916.

⁵¹ 88 Fed. Reg. at 84,920.

⁵² 88 Fed. Reg. at 84,920.

⁵³ 88 Fed. Reg. at 84,923.

⁵⁴ Proposed § 141.84(c)(1)(viii).

⁵⁵ Proposed § 141.84(d)(2) and (3); (e)(i).

⁵⁶ Proposed § 142.16(d)(8).

⁵⁷ Proposed § 141.84(b)(5)(iii).

Request for Comment 9: *“The proposed minimum replacement rate and replacement deadlines. EPA is seeking comment on whether it is feasible for systems across the nation to complete service line replacement in a shorter timeframe than ten years, such as in six, seven, or eight years.”*

Based on the experience of AWWA’s members and the record before EPA in this rulemaking, a 10-year replacement period is not feasible, and a shorter timeframe would certainly not be feasible, particularly in light of the other expansive requirements in the Proposed Rule. The final LCRI should provide mechanisms for water systems to undertake LSL replacement on a longer time frame than 10 years. The current 10-year timeframe will delay needed infrastructure improvements, negatively impact the borrowing capacity of CWSs, and in some communities result in significant disruption of neighborhoods. EPA has not offered a clear rationale for the proposed 10-year replacement window other than there were several specific examples where systems undertook LSL replacement programs similar to what EPA is contemplating in the proposed LCRI within 10 years.

None of the programs cited in the Proposed Rule preamble complied with the LCRI provisions as described in the proposal. None of the programs cited accomplished the replacement program in 10 years (or anticipated achieving program goals in 10 years) without substantial outside subsidies when the system had an appreciable number of service lines requiring replacement. In other words, the anticipated replacement rate and timeframe is not feasible within the fiscal, managerial, and technical capacity of even large systems. This is particularly true where “large” system is defined as systems that serve more than 10,000 persons served. This population cutoff is the system size that EPA uses for its analysis of “small” system impacts under SBREFA and is also the breakpoint used in SDWA for small systems.⁵⁸ EPA also has not taken into account the fact that there is likely to be a shortage of skilled labor to perform these replacements when all systems are mandated to replace them on the same timeline. A few examples of systems able to complete the work within a 10-year timeframe when they did not have to similarly compete for such labor does not provide a record supporting the feasibility of this timeframe.

Request for Comment 10: *“EPA is seeking comment on the rate construct approach, including how to calculate compliance with a given service line replacement deadline and average annual rate calculated across a rolling three-year period.”*

The proposed LCRI contains a regulatory requirement for all service line materials to be characterized and replaced within 10 years. It also includes provisions for annual reporting of progress toward that objective. Given the regulatory requirement and data accrued by the state for oversight of progress, it is not clear why EPA included a 10% per year replacement rate in the proposed LCRI. Exhibit 1 in the proposed LCRI Technical Support document illustrates that referenceable service line replacement program rates seldom achieve 10% annual rates when substantial numbers of service lines are being replaced. The analysis does not consider the variability in replacement over time in the systems evaluated – such an analysis would be critical to the setting of a regulatory expectation, whether an annual rate or a rolling annual average.

⁵⁸ See, e.g., 42 U.S.C. § 300g–1 (b)(15).

Given that many CWSs are public or quasi-public entities, they will need to seek budget approval through legislative bodies before undertaking LSL and GRRSL removal work. Even investor-owned entities will have to plan their budgets,

1. Accounting for other EPA regulations being simultaneously introduced and consider how to adjust water rates so that they do not rise at too rapid a pace for their customers
2. CWSs will also need to seek subsidized infrastructure funding like the Drinking Water State Revolving Loan Fund (DWSRF) program. DWSRF and other more limited subsidized funding programs employ administrative processes that are protracted, requiring months to complete. Even sound proposals for DWSRF funding may not be selected in certain years given multiple competing proposals or the lack of funding.

Longstanding challenges of DWSRFs being oversubscribed has become more difficult. The Council of Infrastructure Financing Authorities (CIFA) estimates that over the last two years, congressionally directed funding has diverted more than \$2.3 billion in annual federal funding for the SRFs to pay for specific projects. Those funds are not available for CWSs that are in the DWSRF queue for project funding.

3. CWSs must also consider the timeline for other critical infrastructure investments.

There may be shortages of skilled workers at any given time, particularly in light of a nationwide mandate to perform all of this work during the same 10-year time period. These budgeting complexities collectively mean that systems may need to undertake a higher percentage of removals during a particular year or may attempt to coordinate removals alongside other projects to gain efficiencies, while they may have to perform fewer removals in other fiscal years.

EPA offers a single reason for this provision,

“EPA is proposing that systems calculate compliance with service line replacement on a three-year rolling average. This can provide systems with additional time that may be needed to replace service lines at prioritized sites, such as schools and child care facilities throughout the service area or areas with higher lead exposure, as opposed to focusing only on areas with a high LSL density, where replacement may be more efficient.”⁵⁹

EPA is incorrect. The three-year rolling average does not afford an increased opportunity to prioritize service lines that diverge from the goal-based program. In proposing a rule (1) including an inordinately short timeframe for replacement, (2) including an annual 10% replacement metric and (3) requiring replacement rates be calculated using a formula that mischaracterizes programmatic success, EPA is forcing systems to replace service lines at a rate higher than the nominal 10% annual rate it is describing. CWSs in this situation will consider where there are overlapping concerns between environmental justice and service line replacement as required by the LCRR and now the proposed LCRI.⁶⁰ EPA will discourage systems from “one-off” material characterization and line replacement at facilities where (1) the service line is unlikely to actually be a lead service (e.g., a large school building) or (2) unlikely to contribute meaningfully to lead exposure (e.g., a large school building). Moreover, licensed childcare facilities are responsible for the children in their care. Such facilities should already

⁵⁹ 88 Fed. Reg. at 84,928.

⁶⁰ Proposed § 141.84(c)(1)(v).

be taking steps to understand and address lead in drinking water for the children in their care. Where such businesses and nonprofit organizations pursue service line replacement, there are mechanisms in current CWS practice, the LCRR, and the proposed LCRI to assure collaboration in service line replacement.⁶¹ If EPA sought to provide an incentive for preferentially replacing service lines at schools and child care facilities, it should:

1. Pursue application of federal funding to schools and child care facilities through the Department of Education and other federal departments to support replacing these lines fully
2. Engage state child care licensing programs to require such facilities both regularly monitor for lead in drinking water (and other routes of exposure) and review the materials of construction in their facility and service line as a condition of licensure

Simply put, this requirement unnecessarily complicates the proposed LCRI, does not allow systems flexibility to plan their LSL removal programs and budgets, and lacks support or justification in the rulemaking record.

Request for Comment 11: *“EPA also seeks comment on the complexity of the rate construct.”*

As noted above, AWWA strongly recommends that EPA remove the proposed rolling, 3-year average replacement rate of 10% from the final rule. The current calculation is fundamentally unfair and must be revised to avoid creating a rule that is arbitrary and capricious. The proposed LCRI description of the service lines that warrant evaluation is artificially inflated through the definition of GRRSLs, the inclusion of LSUSLs, and the criteria for determining a service line is non-lead. The replacement rate calculation includes in the denominator: known LSLs, known GRRSLs, and all LSLUSLs. Subsequent calculation of the replacement rate is not an accurate reflection of program progress as it only credits the system for full replacements of LSLs and GRRSLs. The calculation should take into account progress in reducing the number of LSLs and GRRSLs, progress reducing LSUSLs, and service lines for which the system has completed its good faith effort to engage the property owner in replacement. Lastly, while EPA’s use of a three-year rolling average was an attempt to recognize the year-to-year variability in replacement rates over the program timeframe, unfortunately, that variability cannot be adequately managed by the proposed metric without in some scenarios, the water system having to replace substantially higher percentages than the average rate with which EPA characterizes the Proposed Rule.

Below illustrates reasonably expected implementation scenarios and the resulting impact on system’s capacity to reliably comply with a 10% replacement rate. A simple spreadsheet was developed to illustrate achieving an annual 10% replacement per year criteria. The output does not reflect a three-year rolling average, but a similar pattern would emerge. Most CWSs would prioritize replacement of known LSLs both to save on funds for digging up non-lead lines as well as to maximize the known health benefit. The effect of that logical action is straight forward when there are few or no LSUSLs. EPA did not make this assumption, rather EPA assumed that all systems would characterize LSUSLs at a steady 10% per year beginning year one.⁶²

⁶¹ Proposed § 141.84(f).

⁶² EPA, Proposed LCRI Economic Analysis at 4-182 (2023).

Scenario 1 -- The table below shows a CWS with primarily known LSLs (or GRRSLs) (2,000 LSLs and 200 LSUSLs. In this example the CWS will need to characterize LSUSLs at a rate of 6% per year to meet a 10% annual replacement rate and address all LSUSLs in the initial inventory.

Scenario 2 -- This table illustrates the dilemma for a CWS that has many LSUSLs that are believed to be nonlead. In this example there are 2000 lead lines and 4000 LSUSLs. The CWS will need to begin by replacing all of its 2,000 known lead lines in the first three years to satisfy the 10% replacement rate while also identifying 7% of the unknowns per year. In year four the CWS would not meet the 10% replacement rate unless by that time it had characterized all LSUSLs.

In order to reliably achieve the 10% annual replacement rate the CWS would need to characterize 20% of the LSUSLs per year in addition to removing the required lead lines. All lead lines and unknowns would need to be removed from the pool by the end of year four. The effect of the replacement rate calculation described in the proposed LCRI is to require a much faster replacement period than 10 years. To further illustrate the unfair nature of the proposed calculation, if the CWS only identified 10% of the original LSUSLs per year so all are identified in 10 years by the beginning of year four there would be no known lead lines left to remove but the required calculation would define the replacement pool as still having 2,800 LSUSLs plus the original 2,000 lead lines requiring replacement of 480 lead lines when there are no known lead lines left. To meet the requirements of the calculation all the 2,800 unknowns would need to be characterized and removed in a single year.

If the final LCRI were to include an annual replacement rate calculation, then EPA should use a different approach that is both fair and easily calculated. One such option is the following:

1. An approach based on two parallel metrics, (1) a cumulative percentage of LSLs and GRRSLs replaced and (2) a cumulative percentage of LSUSLs that are characterized
2. The numerator in the cumulative percentage of LSLs and GRRSLs replaced would be the total number of lines replaced and the denominator would be the sum of LSLs and GRRSLs in the initial inventory plus those discovered in prior years.
3. The final rule could include cumulative percentages like the following:

Metric	Years After Compliance Date									
	1	2	3	4	5	6	7	8	9	10
% of LSLs and GRRSLs replaced	--	--	30%	40%	50%	60%	70%	80%	90%	100%
% of LSUSLs characterized	--	--	30%	40%	50%	60%	70%	80%	90%	100%

Scenario 1 - Simple Inventory Simulation for a CWS (Not Deferred, few LSUSLs, 7% of LSUSLs characterized per year)

Year (i)	0	1	2	3	4	5	6	7	8	9	10
	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037

Initial Inventory

Lead	2,000
Lead Status Unknown	200
Non-Lead	
Total	2,200

Updates (BOY) – Characterizing 7% of initial LSUSL pool each year

Initial Number of LSUSLs	200	186	172	158	144	130	116	102	88	74
Number Eliminated	14	14	14	14	14	14	14	14	14	14
Remaining Unknowns	186	172	158	144	130	116	102	88	74	60

Required Replacements

Replacement Pool (BOY)	2,200	2,186	2,172	2,158	2,144	2,130	2,116	2,102	2,088	2,074	
Percent Replacement	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
Lead Lines Left from Previous Year		1,780	1,561	1,344	1,128	914	701	489	279	70	0
Pipes to Replace	220	219	217	216	214	213	212	210	209	207	
Status of Compliance Calculation		Calc. OK	Calc. OK	Calc. OK	Calc. OK	Calc. OK	Calc. OK	Calc. OK	Calc. OK	Calc. OK	
Available Pipes in Replacement Pool (End of Year)	1,980	1,952	1,719	1,488	1,258	1,030	803	381	158	60	
Lead Lines Left (EOY)	1,780	1,561	1,344	1,128	914	701	489	279	70	0	

Scenario 2 - Simple Inventory Simulation for a CWS (Not Deferred, Many LSUSLs, 7% of LSUSLs characterized per year)

Year (i)	0	1	2	3	4	5	6	7	8	9	10
	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037

Initial Inventory

Lead	2,000
Lead Status Unknown	4,000
Non-Lead	
Total	6,000

Updates (BOY) – Characterizing 7% of initial LSUSL pool each year

Initial Number of LSUSLs	4,000	3,720	3,440	3,160	2,880	2,600	2,320	2,040	1,760	1,480
Number Eliminated	280	280	280	280	280	280	280	280	280	280
Remaining Unknowns	3,720	3,440	3,160	2,880	2,600	2,320	2,040	1,760	1,480	1,200

Required Replacements

Replacement Pool (BOY)	6,000	5,720	5,440	5,160	4,880	4,600	4,320	4,040	3,760	3,480	
Percent Replacement	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
Lead Lines Left from Previous Year		1,400	828	284	0	0	0	0	0	0	0
Pipes to Replace	600	572	544	516	488	460	432	404	376	348	
Status of Compliance Calculation		Calc. OK	Calc. OK	Calc. Does not work	Calc. Does not work	Calc. Does not work	Calc. Does not work	Calc. Does not work	Calc. Does not work	Calc. Does not work	
Available Pipes in Replacement Pool (EOY)	5,400	4,840	3,988	3,164	2,600	2,320	2,040	1,760	1,480	1,200	
Lead Lines Left (EOY)	1,400	828	284	0	0	0	0	0	0	0	

Scenario 3 - Simple Inventory Simulation for a CWS (Not Deferred, Many LSUSLs, 10% of LSUSLs characterized per year)

Year (i)	0	1	2	3	4	5	6	7	8	9	10
	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037

Initial Inventory

Lead	2,000
Lead Status Unknown	4,000
Non-Lead	
Total	6,000

Updates (BOY) – Characterizing 10% of initial LSUSL pool each year

Initial Number of LSUSLs	4,000	3,600	3,200	2,800	2,400	2,000	1,600	1,200	800	400
Number Eliminated	400	400	400	400	400	400	400	400	400	400
Remaining Unknowns	3,600	3,200	2,800	2,400	2,000	1,600	1,200	800	400	0

Required Replacements

Replacement Pool (BOY)	6,000	5,600	5,200	4,800	4,400	4,000	3,600	3,200	2,800	2,400	
Percent Replacement	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	
Lead Lines Left from Previous Year		1,400	840	320	0	0	0	0	0	0	0
Pipes to Replace	600	560	520	480	440	400	360	320	280	240	
Status of Compliance Calculation		Calc. OK	Calc. OK	Calc. Does not work	Calc. Does not work	Calc. Does not work	Calc. Does not work	Calc. Does not work	Calc. Does not work	Calc. OK	
Available Pipes in Replacement Pool (EOY)	5,400	4,600	3,640	2,720	2,000	1,600	1,200	800	400	0	
Lead Lines Left (EOY)	1,400	840	320	0	0	0	0	0	0	0	

Request for Comment 12: *“EPA also seeks comment on whether systems should be required to meet a minimum replacement rate in the first three years after the compliance date to give States an opportunity to enforce replacement rate progress sooner than three years after the compliance date.”*

Systems should not be required to meet a minimum replacement rate in the first three years after the compliance date. Neither of these provisions are necessary as states have the authority under state law to establish additional performance criteria for water systems. If such provisions were to be included in the final federal rule, EPA would have to articulate criteria when more rapid initial replacement rates were warranted and a basis for enforcing replacement rate progress sooner. EPA would have to justify those criteria in keeping with the provisions of 42 U.S.C. § 300g–1(b)(3), a task that is not supported by the current agency arguments for the proposed treatment technique or the record before the agency.

As a practical matter, the characterization and replacement of LSLs and GRRSLs in the targeted 10-year timeframe will require substantial local and state policy actions by elected and administrative bodies as well as federal funding appropriations. This is particularly true given the goal of full service line replacement. EPA does not have a basis at this time to determine either (1) what shorter timelines are indeed possible or (2) under what circumstances state action to hold an individual CWS accountable such shorter timelines is appropriate.

And as noted previously in these comments, specific minimum replacement rates within the timeframe for full replacement will cause additional and unnecessarily burdens on water systems as they attempt to balance budgeting challenges and other regulatory requirements that EPA is simultaneously imposing under other forthcoming and recently finalized regulations. Minimum replacement rates within the allowable timeframe for replacement are not feasible. If EPA truly wants to achieve full LSL removal on the most expedited timeline that is feasible, it cannot layer on additional burdens in the process that will force water systems and states alike to redirect resources towards meeting interim goals and undertaking paperwork and administrative tasks.

Request for Comment 13: *“EPA is taking comment on whether States, as a condition of primacy, or EPA when it is directly implementing the program, should be required to set initial shortened deadlines by a certain timeframe, such as no later than 60 days after the compliance date.”*

Neither states or EPA should be required to set initial shortened deadlines by a certain timeframe because neither states nor EPA have objective criteria that could be reasonably applied to all CWSs that must comply with the proposed LCRI such that an alternative timeframe could be set by EPA or the State. The rulemaking docket does not include information about the practical steps CWSs must undertake to implement a program such that EPA would have a factual basis for finalizing an approach to setting interim milestones for CWS lead service line characterization, validation, and replacement activities. Moreover, as EPA has acknowledged there are numerous variables specific to each CWS that will determine how it will pursue program implementation and which elements will be prioritized over another in a particular CWS’s program timeline. Variations include CWSs that:

1. Face severe financial hardship will need to focus on financing more so than systems that have available funds or a smaller number of service lines subject to the Proposed Rule provisions

2. Have a significant percentage of their service lines that are LSUSL due to a lack of information about customer-owned service line materials
3. Are attempting to overcome barriers to program implementation that require changes in local or state law
4. Are part of a community which faces competing infrastructure investment demands (e.g., Clean Water Act (CWA) consent orders, school construction, bridge replacement, economic development, etc.) that are simultaneously vying for available borrowing capacity

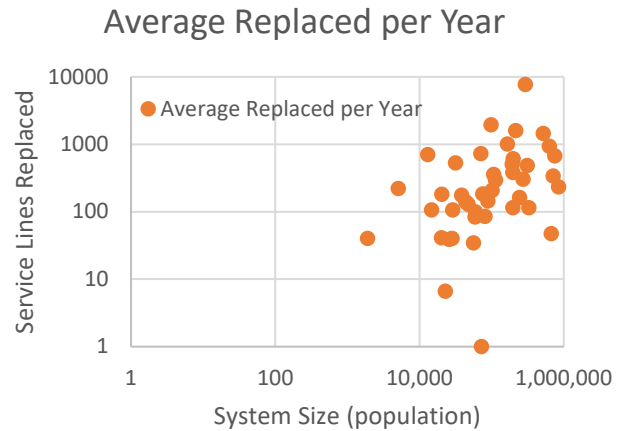
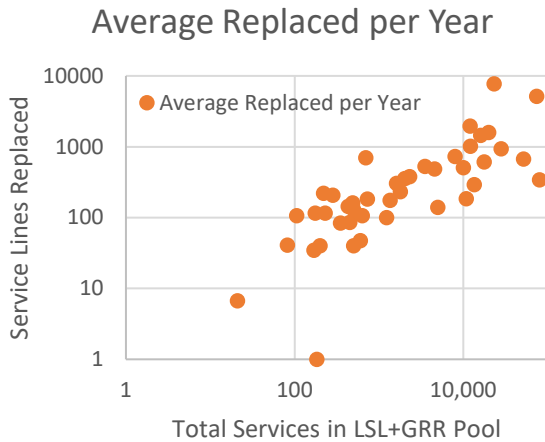
If EPA were to direct or allow states to set abbreviated schedules or impose specific milestones, EPA would have to:

1. Require states to respond to CWS submittals of their replacement plans within 60 days of receipt with an alternative schedule and a system-specific basis for the alternative schedule.
2. Require states to make provision for the alternative schedule to be subject to appeal to an appropriately qualified panel of drinking water professionals with relevant expertise within 60 days of an appeal from the CWS.
3. Include provisions for state primacy packages to include specific criteria that would trigger such an alternative schedule and safeguards that the state can meet the timelines above.
4. Include the above process safeguards in early implementation agreements for the final LCRI.

Request for Comment 14: *“The overall approach and basis to offer deferred service line replacement to systems with a high proportion of LSLs and GRR service lines in their distribution system relative to their total number of households served. EPA is requesting comment on its proposed threshold of 0.039 average annual number of replacements per household served, which is used to calculate the number of years that systems can defer.”*

It is appropriate to include a mechanism for water systems to seek an extended LSL replacement program. For all the reasons described elsewhere in these comments many systems will find replacing all LSLs and GRRSLs within 10 years infeasible.

Underlying Premise is Not a Sustainable or Feasible Rate -- EPA explains that it estimates that water systems are capable of replacing 10,000 service lines per year. To achieve this rate EPA assumes CWSs are capable of replacing 100 service lines per day in 100 working days each year. This rate is not consistent with sustainable water infrastructure construction practice, drastically overestimates what is possible based on AWWA’s members’ experience, and EPA does not provide support in the current rulemaking record for its estimate. The following figure is a graph of the data EPA presents in the Economic Analysis for the Proposed Rule to support service line replacement rates as a function of the size of the pool of service lines to be replaced and service area population. Observed removal rates rarely approach 10,000 and seldom break 1,000 service lines per year. The pace of replacement is more a reflection of the challenge before the system than the population / service area of the system. Said another way, the LSL replacement is a slow, cumbersome process that requires extensive coordination and the collaboration of multiple parties; it simply takes time.



Source: Prepared using data collected by EPA and reported in EPA-HQ-OW-2022-0801-0053

Considering the data that EPA curated for the Proposed LCRI Economic Analysis the 90th percentile annual average replacement tally in the dataset was 1,316 and there is considerable scatter in the number of service lines replaced annually at the upper end of LSL/GRRSL pool size. EPA's dataset suggests that a sustainable replacement program is much lower than 10,000 or even 8,000 service lines per year. Moreover, EPA should consider that the overwhelming majority of water systems that will be characterizing and replacing significant numbers of LSLs and GRRSLs serve fewer than 10,000 persons and the next largest group of systems serve less than 100,000 persons.

Even a Practical Replacement Rate Requires More Than Available Resources -- Systems with practical experience note that on average a single field crew can replace three service lines per workday. Construction would not occur during early morning or during evening hours in order to minimize disruption to neighborhoods. Given winter moratoriums limiting in-street construction, there are 167 weekdays (244 calendar days) available for construction without accounting for:

1. Gaps in successful replacement program preparation (e.g., permits, easements, required notifications, subcontractor scheduling, etc.)
2. Community holidays
3. Inclement and increasingly unpredictable weather
4. Logistical challenges (e.g., equipment, personnel, material shortages, coordination with other utilities)
5. No-cut pavement restrictions
6. Conflicting local public works projects
7. Major traffic constraints
8. Diversion of crews to emergency work
9. Mis-communication with property owners or inability to effectively communicate with occupants regarding access

10. Hazards to personnel / impediments to replacement within a structure (e.g., ability to physical access service line entry to building (location of water piping and plumbing, hording, etc.), illegal activities in the structure, etc.)

11. Site-specific challenges (e.g., inadvertent breaks in other utilities, etc.)

If productive workdays total 200 days per year per crew (assuming higher pay for weekend work) then one crew can replace 600 service lines per year. So, a CWS with a total of 10,000 LSLs and GRRSLs to replace would require two full-time crews for 10 years, just for replacement. Accelerating replacement by adding more crews also reaches a breaking point as for each crew all of the above daily challenges impact logistics even when there is an in-office support team providing engineering, permitting, logistical and management support prior to each replacement, compliance documentation and reporting, and customer interaction. There would also need to be crews for service line characterization, and validation study, which would be occurring in parallel with replacement. These crews also require the above in-house support.

Others have grappled with the conundrum of how to move forward at a reasonable pace of replacement while recognizing that CWSs with large numbers of service lines to replace will need to distribute that task over time. One example is Illinois (see following Table). Importantly, Illinois calculates a replacement rate without including LSUSLs in the denominator.

Number of Service Lines to be Replaced	Annual Replacement Rate	Timeline for Completion	Effective Maximum Required Number of Replacements Per Year (<i>calculated</i>)
<1,200	7%	15	84
1,200 - 4,999	6%	17	300
5,000 - 9,999	5%	20	500
10,000 - 99,999	3%	34	3,000
≥100,000	2%	50	--

Due to the complexity of the Proposed Rule and the infeasibility of the current replacement timeline for many, if not all, systems, EPA should provide a broader framework for deferral to ensure that systems that are using best efforts to replace lines are not unfairly penalized when their lack of resources means that they will need additional time to comply with the replacement requirements. This is particularly true when systems are relying on subsidized federal or state funding that may not be immediately available.

Household Term in Deferred Deadline Calculation – The proposed LCRI preamble describes including the number of households served by a water system in the deferred deadline calculation as a proxy for rate-paying customers.⁶³ While states maintain descriptive data on CWSs that they supervise, and the number of persons served is one of those fields, states take different strategies for assigning service populations and there is not nationwide consistency in the frequency with which this data field is managed. Rather than rely on a surrogate measure, the final rule could specify bill-paying connections,

⁶³ 88 Fed. Reg. at 84,913

or residential bill-paying connections. CWSs pursuing a deferred deadline would have ready access to a count of their customers.

Request for Comment 15: *“Whether to require the State, as a condition of primacy, to approve the use of the deferred deadline provision where the water system qualifies for it and/or whether to require the State, as a condition of primacy, to assess whether it would be feasible for a system to meet the 10-year deadline or a shorter deadline even if the system meets the regulatory criteria for the deferred deadline.”*

AWWA supports the Proposed Rule recognizing the deferred deadline provision in regulatory language as opposed to a special primacy requirements for states. Any water system that qualifies for the deferred provision should qualify by virtue of the LCRI and not require state approval or assessment beyond confirmation of the determination. Allowing systems to qualify directly through the LCRI text will reduce burdens on both the systems and the states and avoid any real or perceived arbitrary application of state discretion. AWWA does not support including, as a condition of primacy, a requirement to assess whether it would be feasible for a system to meet the 10-year deadline. This places an unjustified burden on the states, and creates a great risk of being misapplied, resulting in enforcement risks for regulated systems. As repeatedly noted in these comments, there are CWSs that will not be able to meet the 10-year replacement schedule EPA has proposed. Moreover, as illustrated in these comments (see Section 3.4) the proposed LCRI requires characterization of LSUSLs and replacement of LSLs / GRRSLs at a faster rate than the nominal 10-year window suggests – an even more infeasible expectation.

In order to effectively plan for and finance modifications to current replacement programs, CWSs need regulatory consistency. A federal regulatory structure, like the proposed deferred deadline provision provides a measure of consistency. EPA should hold states accountable to adhering to deferred deadline provision of the federal rule, as it is holding states accountable to implement other rule provisions. If an individual state wishes to set an expedited replacement schedule, that state can do so under state law. Several states have already done so, such an action would be separate from compliance with the federal regulation.

Request for Comment 16: *“Whether there are additional data on service line replacement rates achieved by systems in proactive programs (i.e., excluding programs that only replace service lines in coordination with main replacement or emergency repair).”*

AWWA supports providing additional flexibility to systems and for creating a rule that credits them for the measures they have already taken to address lead in drinking water. EPA’s technical support document and Proposed Rule preamble illustrate the challenge EPA faces in applying data from ongoing programs to the likely costs of a future task occurring within the strictures of regulatory oversight. CWSs implementing proactive replacement programs are undertaking programs that fit their local circumstances rather than adhering to EPA’s view of what a replacement program should entail. This provides much needed flexibility as these systems can invest in different forms of customer interaction that best meet the needs of their system and customers but may not be compliant with the Proposed Rule or meet the proposed standards of documentation and reporting.

Request for Comment 17: *“The proposed use of a maximum threshold of 10,000 annual service line replacements for systems with atypically high numbers of LSLs and GRR service lines as well as seeking*

comment on the alternate threshold of 8,000 annual service line replacements. EPA is also seeking feedback on other thresholds and supporting data.”

See responses to requests for comment 8, 9, 10, 11, 12, 14, and 16 above.

Request for Comment 18: *“EPA is also seeking feedback on if there’s data available that would inform if the maximum threshold for annual service line replacement could increase after ten years, such as if replacement rates could double.”*

There is not data to support the premise that the maximum threshold for annual service line replacement could increase after ten years, such that replacement rates could double. EPA should therefore avoid finalizing any such provision, as it will not be supportable based on the agency’s record. The premise for the deferred replacement schedule is that the scope of the replacement challenge is beyond the means of the system unless it is adhering to longer window of performance. The extended schedule inherently assumes an average replacement rate over the duration of the calculated performance period. EPA or the state de facto assuming that a more aggressive replacement rate is feasible for some portion of that period, is inconsistent with the logic used to derive the performance period.

There is good reason to believe that service line replacement will not peak at the end of the performance period. Each replacement program will go through an initial organizational phase, followed by a period of efficient replacement, followed by a period where the system is addressing more challenging replacements (for example, due to a lack of property owner cooperation, lack of collaborative funding options, etc.).

Neither EPA or states can forecast the availability of funding, speed with which necessary local and state policy changes will be made, or the degree of property owner collaboration systems will face initially or over the course of the performance period. These circumstances will all be fact-specific to individual water systems. Without a means of assessing such constraints EPA would be ill advised to set an arbitrary replacement rate step function in the treatment technique or suggest / authorize states to do so.

Request for Comment 19: *“Whether systems conducting deferred service line replacement should be subject to any additional requirements beyond those for systems that are not replacing service lines in accordance with a deferred deadline.”*

Systems conducting deferred service line replacement should not be subject to any additional requirements beyond those for systems that are not replacing service lines in accordance with a deferred deadline. Systems facing a mandated infrastructure replacement task that is already beyond their means (or they would not be on a deferred schedule) are under sufficient fiscal, managerial, and operational stress without additional regulatory burdens. The administrative and education requirements of the LCRI proposal are already extensive, and any additional burdens would not be feasible for the reasons repeatedly noted throughout this comment letter. The imposition of additional measures beyond those already included in the Proposed Rule could only be viewed as punitive rather than tasks that would meaningfully contribute to successfully achieving the targeted replacements.

Request for Comment 20: *“The requirement for systems to install a dielectric coupling when conducting a partial replacement of an LSL or GRR to separate the remaining LSL or GRR service line and the*

replaced service line unless the replaced service line is made of plastic and other recommended risk mitigation activities.”

While the use of a dielectric coupling as described in the Proposed Rule is good practice and is consistent with established field practice, per ANSI/AWWA C810 - Replacement and Flushing of Lead Service Lines, EPA should ensure the use of dielectric coupling through reference rather than through specific inclusion in the Proposed Rule.

SDWA regulations do not and should not specify specific design and construction standards because identifying specific technologies forecloses improvements in technology. EPA should be wary of taking the step of incorporating specific design and construction standards into federal drinking water standards given the rigidity of SDWA’s regulatory framework and the infrequent nature of individual rule revision. EPA is for example unlikely to revise a rule for a minor technical change due to the expense of the rulemaking for the agency itself. EPA could and should instead as per the National Technology Transfer and Advancement Act, cite and encourage service line replacement in accordance with the ANSI/AWWA C810 standard.

Request for Comment 21: *“The proposed requirement to ban partial lead and GRR service line replacement unless it is conducted in accordance with emergency or planned infrastructure work (excluding planned infrastructure work solely for the purposes of replacing lead and GRR service lines as part of a service line replacement program).”*

For purposes of responding to this request for comment, AWWA notes that it reads the Proposed Rule to not consider a replacement a “partial replacement” any time the property owner has denied access to its portion of a line. However, AWWA is concerned that there is a lack of clarity in how the Proposed Rule is currently drafted, which could lead systems and states to believe that EPA is prohibiting the systems from making any replacement when they have been denied access to the private portion of a line. And for the reasons explained elsewhere in this comment letter, even when a system is granted access to a private portion of a line, AWWA continues to maintain that EPA lacks the legal authority under the SDWA to require a system to remove the private portion of the line or to otherwise count the private portion of the line as part of its LSL or GRRSL replacement obligation.

EPA should not finalize a requirement to ban partial lead and GRR service line replacement unless it is conducted in accordance with emergency or planned infrastructure work. As explained further below, such a ban would violate the APA because it relies on outdated information about the potential negative consequences of partial replacements, and ignores the considerable downsides to imposing such a ban.

AWWA supports EPA’s goal in each instance is to achieve a complete replacement. Full replacement requires successful collaboration with property owners, which is not always possible. The LCRI proposal provides important latitude to CWSs and allows necessary water main infrastructure renewal and rehabilitation to occur even when there are property owners that are unable or unwilling to participate in a full LSL replacement. Inclusion of this flexibility to proceed with partial replacement is essential for ongoing water system infrastructure maintenance and should be retained in the final LCRI.

The decision to ban partial replacements in the instance of LSL/GRRSL replacement programs more broadly should be revisited. Banning partial replacements as a part of replacement programs impedes a

CWS's ability to make incremental improvement by reducing at least the portion of the service line to which it has access.

Exposure Management Due to Partial Replacement -- There has been considerable advocacy calling for a ban on partial LSL replacement. Unfortunately, EPA has not fostered a technical dialogue around the effect of such a ban in practice. While in the past, partial replacement could introduce new risks, the water sector has evolved and introduced new practices. The data EPA continues to use to underpin the proposed ban is outdated and not reflective of the current situation and therefore does not provide a sufficient basis for justifying the requirement. At present the docket and record before the agency does not provide a sound basis for the proposed ban as it is relying on out-of-date information. For example, partial replacements today will include:

1. Use of construction techniques to minimize lead release per the ANSI/AWWA C810 standard
2. Post-replacement flushing per the ANSI/AWWA C810 standard
3. The opportunity to install plastic pipe and / or use a dielectric coupling to prevent galvanic corrosion of the remaining LSL.
4. Provision of a filter to the occupants and six-months of replacement filters per the proposed LCRI
5. Provision of public information material that includes instructions for ongoing measures to reduce lead release per and the proposed LCRI
6. Post-replacement lead concentration data to illustrate if and degree to which lead may continue to be released under a stagnant water, first and fifth liter sample protocol (e.g., worst case sample conditions)

Negative Consequences from Banning Partial Replacement – Not affording CWSs the opportunity to replace the portion of the service line in its control will have the following negative consequences:

1. Forcing CWSs to disturb a LSL/GRRSL and thus potentially release lead to the occupants without any associated benefit
2. Resulting in CWSs engaging in replacement activity multiple times in the same street leading to greater community disruption, loss of efficiency in the construction program, and additional cost inflation due to repeated road cuts and associated re-paving
3. Leaving the length of lead pipe in the CWS's control in contact with water the occupants consume
4. Increasing the potential for a subsequent disturbance of the service line to occur as remaining GRRSLs are often fragile, and the initial construction could lead to the need for additional construction to repair the line after it is first disturbed

Environmental Justice Concern – EPA posits that partial replacements have environmental justice consequences.⁶⁴ Given the above safeguards and practical effects, the ban on partial replacements is as likely to have detrimental effects for this population of occupants as it is to offer risk reduction.

⁶⁴ EPA, Environmental Justice Analysis for the Proposed Lead and Copper Rule Improvements 3-4 (2023).

Moreover, as previously noted compliance costs associated with rules like the LCRI are passed on to customers in the form of higher rates for their drinking water. These environmental justice households are among those in the community that can least afford the cost consequences of unsubstantiated regulatory requirements.

Participation Not Just a Function of Cost -- EPA cannot assume that property owners will engage in full-service line replacement. Nor can EPA assume that the cost of coordinating in a service line replacement is the only social barrier to customer participation in service line replacement. AWWA shares EPA's appreciation for the value of long-term risk reduction measures like LSLR. However, service line replacement is not every household's priority concern. CWS with ongoing programs that offer full replacement at the community's expense still experience high refusal rates even when service line replacement does not impose any costs directly on the property owner.

EPA Representation of Data is Flawed -- EPA cites data from published papers to describe flushing as inadequate to reduce lead release following a partial replacement. First, EPA's summary of the available data described post replacement lead levels, including all tested flushing procedures rather than limiting its analysis to flushing procedures that are currently recommended like the protocol for whole-house high velocity flushing that is now part of the AWWA/ANSI C810 standard. Second, the studies reported post-replacement lead concentration observations using typical sampling protocol rather than an exposure-based sampling strategy. As EPA acknowledges in the Proposed Rule preamble, current monitoring sample strategies are not representative of exposure.

While not addressed in the preamble discussion of partial replacement, EPA's economic analysis includes a characterization of lead levels associated with partial service lines. Ignoring the limitations in the dataset underpinning the agency analysis, the agency's own analysis illustrates that partial replacements do not lead to elevated lead concentrations that initial research suggested might have been a more ubiquitous concern.⁶⁵

Request for Comment 22: *"EPA is seeking comment on whether partial service line replacement should be prohibited during "planned infrastructure work" or with certain types of planned infrastructure work."*

As noted above, while the goal in each instance is to achieve a complete replacement, full replacement requires successful collaboration with property owners, which does not always occur. EPA should not reduce the scope of the exceptions on partial service line replacement, but rather it should expand the scope of those partial replacements as described in the above response to EPA's prior request for comment. Where possible, the final rule should allow for as much flexibility and efficiency in project planning as possible, given that the burdens of the replacement timeline will already make it infeasible for many water systems.

Request for Comment 23: *"The ability of the market to correct for potential shortages in workers and materials to conduct service line replacement, as well to provide sufficient quantities of filters to comply with the service line replacement and other relevant provisions in the proposal."*

⁶⁵ EPA, Proposed LCRI Economic Analysis. Exhibit 5-11 LSL and CCT Scenarios and Simulated Geometric Mean Tap Water Lead Concentrations and Standard Deviations at the Fifth Liter Drawn after Stagnation for Each Combination of LSL and CCT Status 5-18 (2023).

As noted previously in this letter, there are not sufficient workers and materials for EPA's proposed requirements. AWWA also notes that EPA has the burden of demonstrating through substantial evidence in the administrative record that the requirements are feasible. EPA cannot shift the burden the agency faces in determining the feasibility of the Proposed Rule requirements, particularly the viability of the service line replacement element of the treatment technique on to the public. Rather than ask the public to comment (during a short time period and over several national holidays) on the available labor supply for construction four to fourteen years into the future, EPA should have presented an analysis of this limitation in the Proposed Rule Economic Analysis and allow the public to comment on the analysis. EPA has not done so. EPA is aware that there is:

1. A persistent labor shortage in the trained staff of CWSs across the U.S.
2. An aging workforce in the water sector as well as other sectors, including the construction sector generally
3. There is currently a well reported shortfall in available construction workers

Cost of infrastructure construction are rising and construction workforce is not available to meet current infrastructure project needs. The Associated Builders and Contractors (ABC) tracks trends in the general construction sector. Given current shortages in available workforce and other drivers, ABC reported a 8.5 month backlog on projects as of December 2023.⁶⁶ ABC's construction backlog indicator is little changed over the last three years.⁶⁷ CBRE summarized cost and capacity drivers in 2022 as follows,

"...Finding skilled labor continues to remain a major challenge for all aspects of the industry inclusive of shipping and trucking, manufacturing and on-site construction. ...

*The CBRE Construction Cost Index showed a decline in annual escalation from 2022 and is forecast at 6.5% (±2%) for the year. This is still higher than the 10-year average of 3-6% per year."*⁶⁸

Water services construction is a specialized area within the broader construction sector. Consequently, trends in the broader construction sector are even more severe and pronounced in the water sector. In December, Clark et al. reports that *"water supply and sewer construction spending were up 15.3% and 27.2%, respectively in October 2023 from a year ago"*⁶⁹ reflecting increased public sector infrastructure spending over the last two years (see following figure based on Bureau of Census data).⁷⁰ The increased spending on public infrastructure is straining existing capacity.

⁶⁶ ABC, ABC's Construction Backlog Indicator Inches up in November, Contractors Remain Confident (Dec 12,2023).

⁶⁷CBRE, U.S. Construction Cost Trends (2022).

⁶⁸ CBRE, United States Construction Market Trends (2023).

⁶⁹ Clark, Allison, M. Parkhurst, and S. Repucci, "Federal Funds Ease US Water Utilities' Capex Burden but Gap Remains." Fitch Wire, FitchRatings (Dec. 12, 2023).

⁷⁰ U.S. Census Bureau, Total Public Construction Spending: Total Construction in the United States [TLPBLCONS], retrieved from FRED, Federal Reserve Bank of St. Louis (Jan.13, 2024), <https://fred.stlouisfed.org/series/TLPBLCONS>,.



Source: U.S. Census Bureau, Total Public Construction Spending: Total Construction in the United States

Antidotal reports from CWSs soliciting bid packages for construction projects like those required by the proposed LCRI indicate that available, qualified construction firms are not submitting bids on new bid packages because they have already successfully scheduled sufficient work into the future that the risk of committing to additional projects was too high. There is little reason to expect a rapid expansion in construction capacity. The construction sector suffers from well recognized workforce challenges, such as an aging workforce and limited influx of appropriately trained workers.

Access to labor pool is limited – In support of its argument that the 10-year period to remove all LSLs and GRRSLs is feasible, EPA is citing past and ongoing efforts by water systems to remove LSLs. As previously noted, those systems did not procure contractor support in the midst of a nationwide sprint to remove all LSLs and GRRSLs and therefore do not prove or support the idea that sufficient resources exist for all regulated systems to remove these service lines on the proposed timeline. Past and current efforts can tap regional and multi-state pools of construction companies. As more CWSs enter service line replacement there is little reason for contractors that have ready access to projects close at hand to compete for work that requires an extensive mobilization effort for personnel and equipment. When contractors bid for projects that are distant from their base of operations, they must add the cost of that mobilization including the housing of their workforce, leading to greater logistical complexity, higher costs, and potentially lower profit margins, and all of which are a disincentive to compete for more distant work. In addition, because many PWSs are public or quasi-public, they may have additional and more cumbersome contracting processes which can both deter contractors from bidding on the work and also make the process of obtaining skilled labor more time consuming and cumbersome. These issues are discussed in further detail below.

CWS must meet construction goals within federal, state and local government limits on staffing and contracting -- Complying with the proposed LCRI will require systems to (1) revise current infrastructure maintenance and investment priorities and (2) entail aligning personnel and equipment to meet rule timelines within federal, state, and local government requirements. Balancing compliance with all required regulations and policies imposed on water systems constrains making aligning resources to meet EPA's proposed timelines unlikely at best. For example,

1. Federal funds require use of low-bid (or equivalent) contracted services. As a consequence, systems must choose between accessing federal funds for service line

replacement and funding existing in-house staffing of distribution systems maintenance and construction crews.

2. State and local restrictions on water system personnel installing / modifying piping and appurtenances on private property. In some parts of the U.S., policies are in place to assure local markets for particular trades, requiring, for example, the use of local plumbers. This further limits the available labor pool for these PWSs.
3. Procurement policies and practices to assure open competition for government funded projects, preferential contract award to businesses that are an established part of the local economy, preferential award of contracts to firms that are owned by disadvantaged groups (e.g., women-owned, minority-owned, etc.), and other requirements. Such processes are a routine feature of federal, state, and local procurement practice and impact (1) slowing the speed of the procurement process, (2) increasing the cost of services procured, and (3) decreasing the flexibility systems have in accessing available contractors.

Limitations on rate increases – Water systems can only respond to increases in project costs within the limits of their ability to fund those projects (through, for example, pay-go, municipal bonds, private equity, revolving loan funds, etc.). This funding relies on rates and charges for either operating funds or repayment of debt, and such rate and charge increases must be undertaken with care. These increases are also subject to oversight. The most readily illustrated example is the case of investor-owned water systems that are subject to state corporation commission oversight. While these commissions recognize the need to comply with regulatory mandates, they can and do constrain tariffs (rates and charges) regulated water systems may charge. In doing so, they constrain the pace of investment to meet rule requirements by regulated water systems. Similar constraints exist within local government budgeting processes.

EPA's Proposed Rule LCRI economic analysis does not take such limitations into account. EPA is well aware that water systems must limit rate shock in the communities they serve. The previously cited Raucher et al. (2019) report emphasized the necessity of thoughtfully planning rate impacts over time as a key strategy in managing local affordability challenges. EPA incorporated this concept into its "Clean Water Act Financial Capability Assessment Guidance" saying

"Cash flow forecasting is a useful tool that allows communities to determine ... the revenue necessary to cover costs ... and to meet debt covenants over the implementation period. The community should plan and allow for uncertainty when deciding how to adjust water and sewer rate to finance its major capital improvements. ... In evaluating potential rate increases, communities should also balance revenue requirements against the likelihood that users will reduce usage or cease paying utility bills, causing the yield of the revenues from the rate increase to be less than expected or desired, potentially causing the community to experience "rate shock."⁷¹ [emphasis added]

Implications for LCRI Rulemaking -- Stakeholders are ill-equipped to predict the state of the future work force when authoritative organizations differ on the likely state of the nation's economy over the next twelve months. Given this uncertainty, EPA cannot finalize a regulation that does not have off-ramps in

⁷¹EPA, Clean Water Act Financial Capability Assessment Guidance 16 (Feb. 2023).

instances when the underpinning assumptions for its projection of the rule's feasible prove to be unsound. Moreover, there has been ample discussion within the sector and infrastructure finance community that workforce scarcity / maxed out organizational capacity is already leading to (1) significant increases in bids on infrastructure project cost and (2) delays in construction schedules. There is little reason to believe that a regulatory requirement that drives all CWSs to (1) characterize service line materials and (2) replace service lines, and do so within a very compressed timeframe, that also parallels other construction required by federal standards will not have an inflationary effect on the cost of what workforce and organizational capacity exists.

Request for Comment 24: *"The extent to which property owner consent, if required by State or local law or water tariff agreement, might complicate full service line replacement and whether there are additional measures EPA can take to facilitate access through the LCRI."*

Property Owner Consent -- As described in more detail in these comments regarding legal issues inherent to the Proposed Rule (See Section 4.7 of these comments), the Proposed Rule's framing of "access" is contrary to law as it assumes that EPA can legally require systems to replace lines on private property so long as access is granted by the property owner. This is not the case, and such lines are beyond the scope of what Congress intended to regulate under the SDWA. As a result, regardless of what state or local laws or water tariff agreements may be in place, EPA cannot mandate that water systems remove these privately owned lines.

Additional Measures to Facilitate -- As noted previously in Section 2.3 of these comments there are three significant steps to improve access that EPA can take that are policy actions beyond the specifics of the LCRI:

1. Align expectations for service line replacement with appropriation of adequate federal funding from Congress to pay for LSL and GRRSL replacement, particularly LSL and GRRSLs on private property
2. Obtain a finding from the IRS that the value of a lead service line replacement on private property is not taxable income
3. Obtain a finding from the IRS that CWSs are not required to prepare a IRS 1099 for customers receiving a service line replacement on private property

3.5 Tap Sampling for Lead and Copper

Request for Comment 25: *"Comment on the sites included in Tier 3 and whether all of the proposed sites should be included in Tier 3, if additional sites should be included, or if some should be included in a different, lower priority tier, such as Tier 4. Specifically, comment on whether sites served by galvanized service lines or containing galvanized premise plumbing that are identified as ever being downstream of an LSL or lead connector should be included in the same tier as other sites with a current lead connector (e.g., copper service line downstream of a lead connector)."*

Addition of Galvanized Piping to Tiers -- The addition of galvanized piping to the tiering of the LCR sample pool is a new and significant change in the LCR construct. While lead may be released from galvanized pipe scales, the associated mechanism of release is fundamentally based in iron corrosion scale stability. The associated factors affecting lead release and consequently corrosion control are different from managing soluble lead from lead pipe and lead solder in contact with water, which

constitute EPA's prior theoretical framework for the LCR and basis for determining that the treatment technique is feasible with the inclusion of a lead action level of 10 µg/L.

EPA has not illustrated in the preamble or included analysis in the LCRI proposal docket demonstrating that CWSs that have compliance sample pool datasets composed solely of Tier 1 (lead service line/lead plumbing), Tier 2 (multi-family lead service line/lead plumbing), and Tier 3 sites (or just Tier 3) can keep their 90th percentile lead levels below the action level of 10 µg/L as required by the proposed LCRI. Maintaining lead levels below the lead action level as described in the proposed LCRI requires CWSs to do so while:

1. Monitoring on a routine monitoring schedule (6-month sample period and greater number of samples per period than are drawn by many systems are currently on triennial monitoring)
2. Incorporating the higher lead value from first and fifth liter sample volumes when there is LSL at the sample site
3. Including higher values should they occur in customer requested sample data accrued from customers with an interest in lead concentrations in the building they occupy

While data in hand from LCR compliance monitoring is reassuring with mean population-weighted lead concentrations in low single parts per billion, the revised sampling protocol, revised sample tiers and compliance metric (90th percentile) focuses on the most extreme upper bound concentrations water systems observe. The proposed Tier 3, galvanized plumbing, further exaggerates observed lead by targeting a pipe scale that in some circumstances has been seen as prone to particulate release due to factors other than active corrosion control management practice described by the LCR (including LCRR and LCRI) (e.g., oxidation reduction potential).

EPA should revisit whether it can demonstrate the feasibility of the new compliance paradigm and whether adding a sample tier where iron corrosion is the dominant mechanism of action is consistent with the balance of the LCRI construct.

Ever Downstream of Lead Service Line – EPA has included the criteria of “ever downstream of a LSL” in the definition of GRRSLs as a precautionary approach with respect to service line replacement. There is not a strong technical basis for this requirement, nor is there a credible technical basis articulated in either the LCRR or LCRI dockets, and the approach therefore violates the APA. To extend this criterion to the tap sample tiers used to inform corrosion control decision-making would have perverse, unintended effects. EPA can credibly assume that the majority of GRRSLs across the United States are not in fact known lead service pipe followed by known galvanized pipe. Rather, the majority will be galvanized service lines for which records are inadequate to demonstrate a lead service never existed prior to the galvanized service line. Consequently, a sample tier that emphasizes use of GRRSLs would focus sampling on perhaps the most troubled and inconsistently characterized group of service lines in the inventory.

Downstream of a Lead Connector -- The addition of lead connectors to the sample pool tiers would add even greater variability to certainty of proper material characterization than a focus on GRRSLs as previously discussed.

Moreover, given EPA's focus on fully documenting compliance sample sites, EPA cannot direct systems to sample from a particular type of service line that it cannot verify. In the instance of lead connectors, verification would require excavating the lead connector (often involving excavating in a street with associated paving repairs and traffic management considerations) and presumably disturbing the connector. Then leaving that lead connector in place without replacing it.

Request for Comment 26: *"Comment and available data, such as modeling or sampling data, that inform lead corrosion rates over time."*

See responses to individual requests for comment and general comments above.

Request for Comment 27: *"Comment on the applicability of alternate sampling protocols to assess CCT performance, increase customer participation, and other relevant factors."*

Appropriate to Assess CCT Performance -- AWWA's previous comments⁷² to EPA regarding the proposed LCRR remain sound and AWWA reattaches and incorporates them into its comments here (see Appendix C). CWSs and states have an extensive history of evaluating corrosion control for lead and copper based on first-draw, stagnant water samples. Data collected using this sampling protocol, from structures where lead is much more likely to be observed offers a consistent, conservative trigger for re-evaluating corrosion control.

The LCRR introduced sampling of fifth liter samples as a means of (1) motivating CWSs and NTNCWSs to take additional steps to reduce lead concentrations and importantly (2) trigger removal of lead service lines as a risk reduction strategy. Previously under the LCR, LSL replacement was an economic incentive for optimized corrosion control efforts. The LCRI treatment technique creates a programmatic element that specifically requires LSL and GRRSL replacement by a fixed deadline and removes the triggered LSL replacement included in the LCR and LCRR. The LCRI proposal returns the role of lead action level exceedances to its primary focus – optimizing corrosion control. With that role in mind, the first-draw, stagnant-water sample remains the most reliable and appropriate trigger for revised corrosion control.

As EPA is proposing a rule that requires all LSLs and GRRSLs to be removed in 10 years, it is not clear why EPA has retained the first and fifth liter samples from the LCRR. In the LCRR, there was the presumption that only a small percentage of LSLs would be replaced and those would be replaced over more than 30 years. EPA contended that entering a multi-year process to determine a new corrosion control strategy and transitioning to that strategy was effective because lead services may be present for an extended period of time. Retaining the first and fifth liter sample protocol for structures with LSLs results in (1) a substantial bolus of new monitoring plan approvals by states, (2) additional monitoring burden on CWSs, and (3) subsequent requirements for CWSs in the instance of exceedances. As proposed, the LCRI allows systems to postpone pursuing a change in corrosion control practice until LSL and GRRSL replacement has occurred (albeit at an accelerated rate), so EPA recognizes the conundrum in its regulatory framework, but does not describe a basis for not limiting the fifth liter compliance sample to systems where LSL and GRRSL replacement is expected to continue well beyond the 10-year replacement schedule. One possible argument to the contrary might be the remaining homes that are unwilling to participate in full replacement of the LSL. If there are property owners that are unwilling to participate

⁷² AWWA, AWWA Comments on the Proposed Lead and Copper Rule Revisions, Docket No. EPA-HQ-OW-2017-0300 (2020).

in replacement of the LSL it seems unlikely that the CWS will be very successful recruiting them to participate as a sample site for ongoing compliance monitoring.

The LCRI proposal changes multiple variables relevant to the likelihood of a lead action level exceedance, the cumulative effect of which is not well understood. That combination includes: (1) drawing a fifth liter sample from a LSL sample site as well as a first liter sample, (2) using the higher of the observed lead values from the first and fifth liter samples, (3) directing compliance monitoring to structures where lead is most likely to be high, (4) limiting calculation of the compliance metric to the highest observed lead values from both data, and (5) retaining a compliance metric based on the upper-tail of the occurrence distribution (i.e., 90th percentile). So, while EPA rightly assumes that 90th percentiles based on the higher value from a first and fifth sample from a LSL will shift the distribution of observed 90th percentiles upward when such sample sites exist, the agency has not described how the proposed metric is better at “assessing corrosion control.” Assessing corrosion control requires a stable response. In the European Union, corrosion control is assessed through the use of an average lead concentration based on random samples (e.g., without stagnation and without a tiered sample pool). The United Kingdom employs a similar approach to the EU. Given the long-standing practice around the 1st draw, stagnant water sample used in the U.S. and the difficulties encountered in the U.S. obtaining sufficient in-home samples, the LCR 1st draw, stagnant water sample provides stable point-of-departure for triggering corrosion control review in the U.S.

EPA acknowledges in the proposed LCRI preamble that actual lead occurrence is significantly impacted by other factors, in particular the amount and timing of ongoing water use in a structure. Neither the first or fifth liter lead observations are representative of actual exposure.⁷³ So, use of a first liter only protocol that does not introduce the additional site-to-site variability associated with fifth liter samples would be preferable. It also affords the economy of being a single sample for both lead and copper compliance data.

Customer Participation -- Since the initial LCR’s promulgation, roughly three decades ago, CWSs have worked with customers to obtain tap samples for purposes of LCR compliance monitoring. EPA is aware that over the duration of the LCR’s implementation, locating occupants willing to draw samples as specified in the LCR has been an ongoing challenge, as has obtaining compliant samples. This implementation challenge will be much more severe under the proposed LCRI:

1. Many CWSs currently on triennial monitoring will return to routine monitoring necessitating twice as many samples being acquired each monitoring cycle and six times more sampling cycles. For a system serving a population of 10,001, the Proposed Rule increases the minimum number of compliance samples over three years from 30 to 360.
2. Most CWSs will be requesting collaboration in sampling from occupants that are in a small fraction of the homes in their service area. While Tier 3 sample sites represent an expansion of the LCR/LCRR sample site pool, structures with demonstrable LSL / lead plumbing or galvanized service lines / plumbing are a limited subset of homes to repeatedly target for compliance monitoring. Moreover, the LCRI emphasizes sampling at

⁷³ Riblet, Cécile, E Deshommes, L Laroche, M Prévost. True exposure to lead at the tap: Insights from proportional sampling, regulated sampling and water use monitoring. *Water Res.* 2019 Jun 1:156:327-336. doi: 10.1016/j.watres.2019.03.005.

the same home or replacing it with a similar home if the continued collaboration cannot be sustained. Extending the above example of a system serving 10,001 persons, such a system would have on the order of 4,000 services. If 10% of all service lines were LSLs, the system would have a target pool of 400 homes, of which every six months it must find 60 homes to sample.

3. CWSs and occupants are being encouraged by every other facet of this Proposed Rule to remove LSLs and GRRSLs. This has two effects. It encourages some customers that are concerned about lead to replace the service line, such that it is no longer available for the compliance monitoring pool. And, it encourages other customers to be adverse to participating in monitoring as knowledge of observed lead would trigger a real or perceived duty to disclose observed lead concentrations (e.g., a future real estate transaction, use of a structure as a child care facility, use of a structure as rental housing, etc.). Consequently, the monitoring pool must be expanded and maintained against the effect of the balance of the Proposed Rule requirements.
3. The elevated attention to adequately documenting sample site adherence to the LCR sample tiers leads to yet another behavioral barrier to compliance monitoring. Systems must now document more carefully than under prior LCR implementation. Such documentation is intrusive and requires coordination with the household, likely involving a site visit by CWS staff prior to any sample events to document the site.
4. CWS regularly report that participation by customers under the current LCR requires financial remuneration of the household taking a single one liter first-draw, stagnant sample. CWSs routinely provide credits toward customer water bills, gift coupons, and cash payments to encourage participation in the sampling program. The amount offered varies with urban examples reaching \$100 per sample event. Even when remuneration is offered, follow-through by households that agree to take samples and receive sample kits is typically no more than 80%. EPA has not sufficiently considered these costs and the associated burdens of running such monitoring programs when assessing the feasibility of the Proposed Rule.
5. EPA proposes to expand the Tier 1 and 2 sample pools by including actual lead plumbing and creating Tier 3, which includes galvanized plumbing as well as galvanized services. Including lead plumbing and galvanized plumbing in the tiering structure will substantively expand the pool of documentable homes for LCRI compliance monitoring. Lead and galvanized piping within structures has been replaced over time both due to failure, inadequate flow, and other changes associated with renovating older buildings. Finished home interiors conceal pipe materials behind walls and in ceilings, such that a paper record review is not adequate to meet EPA's current expectations for demonstration of adherence to sample pool Tiers. The portions of plumbing that are most accessible (e.g., piping under kitchen faucet or in bathrooms) are also components of household plumbing most likely to have been subject to renovation and changes in plumbing materials.

Other Relevant Factors -- Experience to-date at multiple CWSs indicate that obtaining reliably first and fifth liter data will be challenging.

1. Systems have limited latitude under the LCR, at present, or under the proposed LCRI to invalidate samples due to sampler error, but experience with obtaining first liter samples illustrates that further complication of a first and fifth liter sample will be problematic.
 - a. Current CWS quality control of LCR compliance samples received from customer collected samples include incomplete sample collection / sample loss due to inadequate sample sealing in transit, collection of samples from taps that are not kitchen faucets (or designated alternative sample taps), samples being drawn after prolonged stagnation especially when a monetary reward is provided for sampling, and inadvertent use of water during stagnation period.
 - b. Experience of systems that currently collect first and fifth liter samples find that they must take additional steps beyond the protocol described in Proposed § 141.86(b)(1)(ii) to facilitate successful customer sampling. Steps include using sample bottles that are clearly different in size, shape and / or color from the first and fifth liter samples for collecting the second through fourth samples.
2. The current Tier 2 sample sites are favored most when Tier 1 sample sites are not available. The sampling protocol requires a sample from a building where (1) the sample represents a period of six hours or more of stagnation and (2) a fifth liter that is intended to be representative of the service line to the building. Obtaining samples that meet either the required condition and /or meet the intent of the fifth liter sample in an occupied multi-family structure is challenging. And, from a CWS's compliance perspective, it is very difficult to demonstrate this to the satisfaction of the state.

Request for Comment 28: *“Comment on the proposed updated definition of wide-mouth bottles that is “bottles that are one liter in volume with a mouth, whose outer diameter measures at least 55 mm wide,” and specifically on the availability of qualifying bottles.”*

The proposed definition of a “wide-mouth bottle” is an improvement over the LCRR text.⁷⁴ The change is responsive to the numerous complaints received following promulgation of the LCRR which specified a bottle that did not exist as the text implied an interior diameter of the mouth of the bottle to be greater than 55 mm.

The reworded criteria remain difficult to source from available laboratory supply vendors, and thus not resolving the infeasibility of the requirement. Given the purpose of the requirement is to prevent the use of “small mouthed” bottles that is so narrow as to force the sampler to throttle the flow of water from the faucet during sample collection, a less exact definition would:

1. Reduce the potential for shortages of supply
2. Improve access to bottles made of appropriate plastics that have been manufactured to support low-level metals chemical analysis
3. Allow the purchase of bottles that are both 1 liter in capacity and meet the definition of “wide-mouthed”

⁷⁴ 40 C.F.R. 141.2 -- Wide-mouth bottles.

4. Allow the purchase of bottles that are visually different (e.g., color, material, etc.) so that samplers distinguish first and fifth liter samples from interim collected sample

AWWA therefore recommends the definition be revised as shown below:

“Wide-mouth bottles, for the purpose of subpart I of this part only, means bottles one liter in volume that have a mouth with an inside ~~outer~~ diameter that measures at least 40~~55~~ mm wide.”

There are bottle options available with mouths that meet this criterion. For comparison, “small-mouthed” bottles have inside diameters less than 30 mm and can be much narrower. Inside diameter is suggested because it can be more reliably measured. Also, laboratory supply catalogs may reflect the exterior width inclusive of the closure threads in order to allow the ordering of bottle caps / closures. This may not be readily apparent during ordering from some laboratory supply houses. It also misrepresents the actual diameter of the bottle’s mouth orifice by several millimeters.

Request for Comment 29: *“Comment and any relevant data on the number and tiering of samples used to calculate the 90th percentile lead and/or copper levels for systems with LSLs for purposes of assessing CCT efficacy. Specifically, whether samples from non-LSL sites that have higher lead concentrations than samples from LSL sites should be included and whether these higher values should replace lower values from LSL sites in the 90th percentile calculation.”*

Supplemental monitoring from customer-requested samples following an exceedance serves a much different purpose than the compliance dataset, namely (1) engaging the interested public and (2) providing timely information to occupants. The proposed LCRI describes supplemental monitoring in Proposed § 141.85 as tap samples from any customer and any person served by a LSLs, GRRSLs, or LSUSLs who requests a sample. The Proposed Rule then goes on to describe eligibility in Proposed § 141.85(c) as all customers and it specifies that those customers served by LSLs, GRRSLs, or LSUSLs should have receive *“samples that capture both water in contact with premise plumbing and water in contact with the service line (e.g., first- and fifth-liter samples)”*. In the Proposed Rule § 141.86(e) is revised to explicitly require inclusion of relevant data collected under § 141.85(c) data in the compliance dataset for calculating action exceedances.

In Proposed § 141.82(j)(2) EPA recognized that including samples collected from site assessments would inappropriately bias the dataset being used to evaluate the need to evaluate or re-evaluate corrosion control. This same argument applies with respect to including supplemental monitoring data. In the proposed LCRI EPA appears to be promoting more supplemental monitoring. CWSs want to use the best available data to guide such substantial decisions as changes in corrosion control and increasingly, EPA’s emphasis on documentation of compliance monitoring suggests a similar emphasis.

Consequently, sample sites

1. Will be less well described
2. May, like site assessment sampling, reflect multiple samples from the same structure
3. May compound existing geographic narrowing created by the sample pool tiers

EPA was also deliberate in recognizing that post-exceedance supplemental monitoring may, for a variety of reasons, not utilize the monitoring protocols specified in the LCRI for compliance monitoring data.

In finalizing the LCRI EPA will need to provide additional clarity beyond what seems to be implied by the current requirement, including:

1. Data collected under § 141.85(c) that does not have sufficient data to assure reliable Tier 1 or 2 placement will be excluded from the compliance calculation algorithm
2. Data from sampling protocols other than the specific protocols described § 141.86 will be excluded from the compliance calculation algorithm

In finalizing the LCRI, EPA should not expand this provision to include either samples associated with service line replacement, lead connector replacement, service line disturbances, or general customer requested samples with the defined compliance data set. Proposed Rule provisions beyond § 141.85(c) specify offering sampling with specific instructions, but for a different purpose than OCCT, including after a partial LSL or GRRSL replacement.⁷⁵ Other instances in Proposed § 141.84 include distribution of education materials that promote sampling.

Request for Comment 30: *“Comment on whether State authority to specify sampling locations when a system is conducting reduced monitoring should apply regardless of the number of taps meeting sample site criteria.”*

CWSs and NTCWSs are submitting monitoring plans to the state for review prior to the initiating of monitoring. Implicit in that review is an opportunity for the state to identify LCRI siting criteria that the system has not complied with and directing the system to correct those deficiencies prior to sampling.

States should not be tasked with “specifying sampling locations” either when a system is conducting monitoring on a reduced frequency or under routine monitoring. States have significantly less familiarity than individual CWSs with the distribution systems of the water systems they manage (even in comparison to other water system facilities states oversee, like water treatment plants), states lack an ongoing familiarity with the progress of each system’s lead service line replacement program (most systems are on routine monitoring schedules with two sample sets per year), the feasibility of placing new water quality parameter monitoring locations as required by § 141.85(i)(1), and other practical considerations the water system must consider in developing the monitoring plan.

3.6 Service Line Inventory and Service Line Replacement Plan

Request for Comment 31: *“EPA is proposing a threshold of systems serving greater than 50,000 persons to host the inventory and plan online, which is the required threshold under the LCRR. EPA is seeking comment on the size threshold at which systems must host their publicly accessible inventory, inventory summary data, replacement summary data, and service line replacement plan online, and whether it should be lowered relative to the LCRR requirements.”*

EPA should not re-visit the system size threshold for placing these required documents on-line from the perspective of what minimum system size to set a requirement. Rather, the final LCRI should incentivize on-line posting of these items by eliminating detailed data submittals to the state for all systems, regardless of size, that (1) post this information on-line, (2) update the postings with new information as required by the rule, and (3) provide the website link to these documents to the state.

⁷⁵ Proposed § 141.84(h)(1)(iv) and (3)(iv)

Request for Comment 32: *“EPA is proposing a requirement for systems to validate the accuracy of non-lead service lines in their inventory that were categorized using methods other than records review or visual inspection of at least two points along the line.”*

EPA correctly describes records review and visual inspection of at least two points along the service line as a sound and adequate basis for service line characterization for purposes of the LCRR and LCRI. Because EPA cannot delay CWS efforts and state oversight of ongoing inventory programs further, neither CWSs or states can wait for additional guidance on two-point visual inspection. EPA should

1. Immediately amend the existing LCRR guidance⁷⁶ to clearly describe two-point visual inspection as captured in the proposal and
2. Draft the LCRI final rule preamble and/or regulatory text to clearly describe two-point visual inspection.

The Proposed Rule preamble and regulatory text provide a good description in that the current proposal is:

1. Inclusive of customer assisted visual inspection of interior exposure of the service line
2. Inclusion of combinations of customer provided inspections and CWS inspections of a service line
3. Characterizes two-point visual inspection of a service line for purposes of validation as an external inspection
4. Visual inspection of both the CWS and customer-owned service line where there is shared ownership
5. Visual inspection can be accomplished through a single excavation where there is an opportunity to view the service line materials for both the CWS and customer-owned service line

The sector continues to search for and test alternative techniques to characterize service line materials. The inclusion of a validation study should provide states with a greater openness to CWSs attempting to speed and improve characterization through new techniques. It is not necessary, given the task at hand, to require more than two-point visual inspection as described in the proposal for validation. Nor is it necessary to include service lines characterized based on records as approved by the state primacy agency. The goal of the treatment technique is to take deliberate steps that reduce lead exposure and that is best achieved by focusing on addressing known lead sources in a timely fashion.

The current regulatory text describing the pool of service lines subject to the validation study should be reworded to be clearer. AWWA encourages EPA to adopt the following proposed edit to Proposed § 141.84(b)(5)(i) to align the regulatory text with the description of the agency’s intent in the LCRI preamble:⁷⁷

“(i) The water system must identify a validation pool, consisting of all service lines categorized as “non-lead” excluding non-lead service lines identified by records described in paragraphs

⁷⁶ EPA, Guidance for Developing and Maintaining a Service Line Inventory (2022) EPA 816-B-22-001.

⁷⁷ 88 Fed. Reg. at 84,935.

(b)(2)(i) through (iii) of this section, visual inspection of the pipe exterior at a minimum of two points (e.g., excavation, visual inspection in the meter pit or stop box, or visual inspection inside the home), or previously replaced lead or galvanized requiring replacement service lines from the validation pool. If a water system has no existing record on which to base service line characterization or documentation of a two-point visual inspection that indicates how an individual non-lead service line was categorized, that service line must be included in the validation pool.”⁷⁸

Request for Comment 33: *“EPA is requesting comment on the number of validations required, the proposed 95 percent confidence level approach used to develop the number of validations required, the criteria for which methods used to categorize non-lead service lines should be included in the validation pool (including whether non-lead lines categorized based on records should be subject to validation), and the seven-year timeline for systems on a 10-year replacement deadline to complete the validation requirements.”*

95 Percent Confidence Level -- The table included in Proposed § 141.84(b)(5)(v)(ii) (Table 1 To Paragraph (b)(5)(ii)) correctly represents the sample size required to test the validity of a system’s assignment of service lines to “nonlead” with 95% confidence that the assignment is correct. The use of a 95% confidence interval is ubiquitously used in scientific research as a demarcation of adequate confidence that a finding is worthy (e.g., there is an actual effect, correlation, etc.).

A 95% confidence interval is adequate to the task of validating successful assignment of nonlead characterization to service lines as:

1. EPA and state requirements and guidance have set a high bar for identifying service lines as non-lead
2. In the limited number of instances when a service line is mischaracterized, there are multiple back-stops to reduce lead exposure (e.g., optimized corrosion control where needed, public education, triggered action in the case of subsequent LSL or GRRSL discovery)
3. Either a service line verification performance standard or validation performance standard that relies on physical inspection of all or virtually all service lines lacking clear records misallocates limited resources that could be better focused on replacing actual LSLs or GRRSLs or meeting other local infrastructure needs.
4. Physical inspection of service lines like service line replacement and main renewal involves disrupting neighborhoods, introducing heavy equipment into neighborhoods, altering traffic and pedestrian movement, excavating near other utilities (e.g., cable, gas, electric, etc.). While the water sector has an outstanding safety record, such construction activity is not without risk of accident. Unnecessary construction activity simply creates additional potential for unintended consequences without the prospect of providing meaningful improvement in available data.

A practical validation study mechanism is important to CWSs facing two significant data gaps (1) access to service lines on private property and (2) distribution systems that have no known use of lead service

⁷⁸ Proposed § 141.84(b)(5)(i) with proposed edit.

lines but inadequate historical records for demonstration per the LCRR / LCRI. In the first case, the default is to assume like material where there is knowledge of lead under the control of the CWS, so inferred material characterization on the customer side is inherently biased toward LSL / GRRSL characterization rather than non-lead. In the latter case, validation affords the opportunity to avoid the wasted use of scarce community resources to prove a negative to meet an administrative requirement.

Inclusion of Records Based Characterizations in Validation Pool -- The standard of care for records-based validations is sufficiently high and followed by field verification methods as outlined in EPA's "Guidance for Developing and Maintaining a Service Line Inventory," that the service lines in LCRR / LCRI inventories characterized based on qualified records will be sound.⁷⁹

The validation requirement will apply to post-LCRR inventories that have been supplemented with an additional three years of pre-LCRI compliance service line material verification and replacement program activity. There are communities where the apparent number of LSLs has been reported to increase over initial estimates. These instances do not justify a different validation approach than proposed, as such reports are a reflection of communities:

1. Responding to the evolving definition of service lines of interest, including the addition of characterization of customer-side material characterization
2. Expanding inventories to include GRRSLs as defined in the LCRR and LCRI
3. Improvements in records-based characterizations following due diligence described in the LCRR and EPA's "Guidance for Developing and Maintaining a Service Line Inventory"⁸⁰

The LCRR and now the proposed LCRI are intended to advance LSL and GRRSL replacement. The Final LCRI should not expand the scope of the validation study to re-examining materials characterizations based on existing records. Continued emphasis on re-examining service lines that are unlikely to represent a potential source of lead misdirects resources away from the objective of replacing known LSLs and GRRSLs.

Seven-year Timeframe for Validation – EPA is correct in setting a schedule for validation studies prior to the targeted deadline for replacement of all LSLs and GRRSLs. Seven years allows a three-year period for the CWS to adjust its replacement program if the validation study discovers a significant error in the CWS's service line characterization practice. The final LCRI including state primacy provisions in § 142 and early implementation agreements with states should provide for state:

1. Acceptance of validation studies prior to the required submittal in seven years and
2. Review and response to CWSs as to satisfactory demonstration of service line material characterization within 120 days of receipt of a validation study

Implementation of the LCRR, including the development of initial inventories, was significantly delayed because CWSs in many states lacked a regulatory partner at EPA or with individual states willing to make policy decisions in a timely manner. For the LCRI to be successfully implemented, measures like the two proposed above will be needed to (1) incentivize systems that should be able to move through the compliance process smoothly to do so off-schedule, so that the volume of deadline driven submittals for

⁷⁹ EPA, Guidance for Developing and Maintaining a Service Line Inventory. EPA 816-B-22-001 (2022).

⁸⁰ *Id.*

state review is reduced, (2) systems that are relying more heavily on inferences from available information to characterize service line materials are incentive to assess their approach earlier in the available compliance timeframe, and (3) systems that do discover a need to improve their initial characterizations have more time to make adjustments in both their inventory verification program and their service line replacement program.

Request for Comment 34: *“Comment on establishing a deadline for systems to identify all unknown service lines prior to their service line replacement deadlines.”*

EPA should not establish another compliance requirement within the treatment technique. As AWWA has repeatedly noted throughout these comments, the Proposed Rule already contains provisions that are infeasible for many, if not all, CWSs. Adding additional requirements, particularly when they are administrative or counting exercises, as well as new deadlines, will only distract systems from focusing their resources on replacing LSLs and GRRSLs as rapidly as is feasible.

Furthermore, a one-size-fits-all solution is not appropriate here. While each system will have to address service lines with inadequately characterized materials, the solution will be system-specific. For some systems characterizing LSUSLs will be the most important aspect of meeting the LCRI requirements (e.g., systems that do not have LSLs or GRRSLs but cannot meet LCRR documentation requirements). Other systems have sufficient available records that a program to replace LSLs and GRRSLs that captures the remaining service lines of uncertain materials of construction as an incidental aspect of the replacement program. Consequently, there is not a particular point in this proposed requirement where complete elimination of all LSUSLs is needed.

EPA does not need to add a requirement that further constrains CWS’s approach to inventory and replacement program design. To the degree that states are uncertain whether CWSs are making adequate progress addressing service line characterization, there are already multiple touch points in the Proposed Rule, including (1) initial inventory per LCRI and subsequent inventory per LCRR, (2) LCRI service line replacement plan, (3) nonlead characterization validation study, (4) annual updates on progress of the service line replacement program, and (5) annual updates of the service line inventories. As the LCRR/LCRI rulemaking proceeds implementation will occur during a period when there will be at least five sanitary survey cycles for CWSs subject to the LCR.⁸¹

If EPA were to set a performance criterion for completing characterization of service line materials the agency will need to explicitly recognize how service lines where the property owner is not collaborating to allow full characterization of the service line will be addressed in the compliance metric. The accounting of characterized unknowns should recognize effort by the CWS to engage the property owner as adequate.

Request for Comment 35: *“Comment on a requirement for systems to update their service line replacement plans if there are any changes, such as changes to laws and policies applicable to full service line replacement.”*

The proposed LCRI lays out a 10-year implementation window, which is preceded by a three-year period for preparation. State and federal statutory and regulatory changes that occur during the initial preparatory window will be reflected in the initial plan submission. Similarly, federal and state

⁸¹ 40 CFR 142.16(o)(2)(i)

infrastructure funding program changes during that preparatory window would be considered in the initial submittal. Subsequent revision of the plan should be limited to policy changes that would in the judgement of the CWS operator in responsible charge markedly accelerate or curtail service line material identification and replacement. Submittal and posting on-line an addendum to or revision of the initial replacement plan should not be due any sooner than the next annual inventory update or in 12 months, whichever is longer.

3.7 Lead Action and Trigger Levels

Request for Comment 36: *“EPA is seeking comment on the proposed lead action level of 0.010 mg/L, as well as comment and supporting data on alternative action levels, such as 0.005 mg/L, with regards to generally effective corrosion control treatment and identifying systems most at risk of elevated levels of lead in drinking water.”*

Revising the action level downward is a blunt technique to drive more systems to review corrosion control. It is neither selective for those that are most at risk due to the high degree of variability in the lead occurrence data and the choice of the 90th percentile decision metric, nor is it selective for those systems that can actually modify their water chemistry effectively to further lower lead levels. As detailed further below, EPA’s emphasis on an action level is therefore misplaced and impractical and infeasible for systems.

Proposed Lead Action Level -- As described previously in these comments, EPA has not illustrated in the preamble or included analysis in the LCRI proposal docket demonstrating that CWSs that have compliance sample pool datasets composed solely of Tier 1 (lead service line/lead plumbing), Tier 2 (multi-family lead service line/lead plumbing), and Tier 3 sites (or just Tier 3) can keep their 90th percentile lead levels below the action level of 10 µg/L as required by the proposed LCRI. Maintaining lead levels below the lead action level as described in the proposed LCRI requires CWSs to do so while:

1. Monitoring on a routine monitoring schedule (6-month sample period and greater number of samples per period than are drawn by many systems are currently on triennial monitoring)
2. Incorporating the higher lead value from first and fifth liter sample volumes when there is LSL at the sample site
3. Including higher values should they occur in customer requested sample data accrued from customers with an interest in lead concentrations in the building they occupy

Collectively, these requirements are not feasible for water systems to meet. While data in hand from LCR compliance monitoring is reassuring with mean population-weighted lead concentrations in low single parts per billion, the revised sampling protocol, revised sample tiers and compliance metric (90th percentile) focuses on the most extreme upper bound concentrations water systems observe. The proposed Tier 3, galvanized plumbing, further exaggerates observed lead by targeting a pipe scale that in some circumstances has been seen as prone to particulate release as a result of factors other than active corrosion control management practice described by the LCR (as well as LCRR and LCRI) (e.g., oxidation reduction potential).

The LCR with its action level and sampling construct primarily required controlling soluble lead which is the emphasis of CCT methods outlined in the LCR and now LCRI. Lowering the action level while

incorporating lead observations from a fifth liter sample in compliance tap samples makes control of particulate lead control more critical. EPA has not provided analysis demonstrating that known CCT methods including orthophosphate can control particulate lead sufficiently for CWSs to reliably comply with the lead concentrations required by the proposed LCRI. EPA should revisit whether the agency can demonstrate the feasibility of the new compliance paradigm and whether adding a sample tier where iron corrosion is the dominant mechanism of action is consistent with the balance of the proposed LCRI construct. As currently proposed and based on the current record, these requirements are not feasible.

Alternative Action Level – 5 µg/L or Other Alternative -- EPA's analysis of compliance data to support the lead action level of 10 µg/L does not support the proposed action level for the reasons described above, nor would that or similar analyses justify a lower level. Recommendations that draw on a lower concentration citing examples from Europe would similarly be unconvincing as that compliance data is based on random, day-time samples rather than a highly biased sample as used in the LCR (and LCRR and LCRI). The treatment technique that EPA establishes in the final LCRI must be achievable, not just in some systems, but reliably across the range of likely water qualities that exist in the United States. EPA has not demonstrated that this is possible for an action level of 10 µg/L and therefore there is not a convincing weight-of-evidence that a lower action level of 5 µg/L would be reliably achievable while simultaneously assuring compliance with the Stage 1 Disinfection Byproducts Rule (e.g., disinfection byproduct formation), Surface Water Treatment Rule (e.g., maintenance of a secondary disinfectant residual), or Revised Total Coliform Rule (e.g., incidence of coliform bacteria with loss of secondary residual), or, simultaneously managing water system infrastructure longevity against corrosion. Or, management of secondary drinking water standards in the water reaching customer's taps (e.g., iron, etc.). These concerns regarding managing multiple facets of water quality are important not only under final equilibrium conditions once a system revises corrosion control, but also during the transition from one corrosion control equilibrium to another. EPA is aware from instances like in Flint, Michigan where once water quality becomes unbalanced, correcting the situation can be technically challenging and difficult for the community that the CWS serves.

Alternative Action Level Statistic -- The lead action level is made up of a concentration and a percentile occurrence (the 90th percentile). Burlingame and Sandvig demonstrated that a central tendency estimate would provide a better metric for improving existing corrosion control practice.⁸² After more than 30 years of LCR implementation, the action level should be viewed most often in the context of improving on current CCT.

EPA incorporated the 90th percentile into the treatment technique as a more conservative metric and retained that metric in the proposed LCRI while also expanding other elements of the treatment technique. EPA provided both a technical and policy basis for its use of the 90th percentile in crafting the LCR reflecting the agency's own analysis and the advice of the EPA Science Advisory Board.^{83, 84} Now, the proposed treatment technique would include additional risk reduction measures, including LSL replacement requirements applicable to all CWSs and NTNCWSs. The proposed treatment technique

⁸² Burlingame, G., A. Sandvig. How to Mine Your Lead and Copper Data. Opflow. Vol. 30. Issue 6. (2004). <https://doi.org/10.1002/j.1551-8701.2004.tb01760.x>.

⁸³ EPA. Memorandum, Jeff Cohen, Chief Lead Task Force, Office of Ground Water and Drinking Water to Record, Subject: Sampling Requirements. May 3, 1991.

⁸⁴ 56 Fed. Reg. at 26,479.

would also include public education both in the instance of individual observed lead values and broader community wide lead education (e.g., lead inventories, CCR, public education after an exceedance, customer notifications of service line disturbances, etc.). Utilization of a more conservative percentile metric (e.g., 95th, 99th, or maximum) would further exacerbate the existing conservatism in the compliance metric, which would be even less related to effective CCT and lack a clear public health benefit.

Identifying Systems Most at Risk of Elevated Lead Levels -- The lead action level is one component of a treatment technique. Its purpose is not to identify the systems most at risk of elevated levels of lead. Rather, it's role in the treatment technique is to (1) discern when corrosion control where absent can be introduced and thus moderate lead levels and (2) identify when existing corrosion control should be re-evaluated. The action level is based on a level of control that is "feasible" to reliably achieve in practice.

Importantly, the action level value is part of a provision with many other facets including a monitoring framework (i.e., a defined sample pool from high-risk homes, number of samples per an approved sampling plan, defined sampling protocol) and a compliance calculation (e.g., 90th percentile metric, use of higher of two values from first and fifth liter at homes with LSLs, use of highest observed values including data from supplemental monitoring). The sensitivity of this entire provision determines which systems are most likely to be identified for additional corrosion control. In structuring the LCR, LCRR, and LCRI, EPA has increasingly focused on a relatively small subset of homes with actual lead pipe and now in the LCRI a subset of homes with galvanized pipe. This specificity is driving corrosion control for control of lead release well beyond what is warranted for the majority of the structures served by most CWSs. To-date, EPA has not stepped back and evaluated whether this emphasis "identifies the systems most at risk of elevated lead levels." Recent history in communities like Flint, Pittsburgh, Newark, and others illustrate that greater attention to ongoing system operations by system and state staff would have been much more sensitive to identifying systems at great risk than revision of the lead action level from 15 µg/L to 10 µg/L or 5 µg/L.

Request for Comment 37: "EPA is also seeking comment on the use of the action level to determine when additional public education is required, and the use of the same action level for public education as for the CCT provisions."

Logical consistency within rulemaking -- In stating its intentions for revising the LCR in this rulemaking, EPA indicated that it intended to simplify rule implementation.⁸⁵ One of the facets of the LCRR that EPA states that it is simplifying in response to public comment is eliminating the LCRR trigger level due to the confusion it created.⁸⁶ Now in lowering the lead action level, a lead exceedance under the LCRI at 10 µg/L will both trigger (1) Tier 1 public notice and (2) public education. The LCRR set a lower threshold for technical evaluation of corrosion control to draw attention to corrosion control before determined efforts to communicate with the public about personal risk reduction measures was required. If the public and state regulators found the LCRR construct difficult to understand, then there is little reason to believe that setting a higher or lower threshold for public education distinct from the corrosion control criterion will be understandable.

⁸⁵ 88 Fed. Reg. at 84878.

⁸⁶ 88 Fed. Reg. at 84899.

Non-exceedance public education greatly expanded -- With the LCRR, and now the proposed LCRI, EPA has significantly expanded the public education components of the LCR. Many of the public education components are not triggered by the corrosion control criterion. Examples include information to be conveyed to occupants of structures when a sample is analyzed for lead, materials to be delivered prior to returning service lines to service following partial or full replacement, and monitoring for lead in elementary schools and childcare facilities. In effect the majority of the public education requirements of the Proposed Rule are now divorced from the lead action level. Given the sustained public education elements anticipated for the foreseeable future, there is not an articulatable need to use an alternative action level trigger for public education. And as AWWA has repeatedly noted throughout these comments, adding additional burdens on system will only detract resources away from their ability to remove LSLs as efficiently as is feasible.

More flexibility is needed for crafting public education materials -- Under the LCRR and now proposed LCRI, the requirements⁸⁷ for the public education brochures and pamphlets does not facilitate effective communication. The proposed required specifies that certain information must be presented in a specific, exact order and exactly as presented in the regulatory text. The “order” a brochure or pamphlet that likely entails a multi-column format and hopefully includes graphics requires organizing so that the reader is drawn to read the information provided.

Moreover, the current regulatory text does not reflect the flexibility that is needed for effective communication via electronic communications media, should EPA elect, facilitate use of a broader array of communication tools.

Request for Comment 38: *“EPA is seeking public comment, data, and information on the anticipated benefits and tradeoffs, including for public health and administrative burden on systems and States, if more small and medium systems are required to conduct a detailed OCCT demonstration and take other actions if they exceed the proposed action level of 0.010 mg/L or other lower values, while water systems are simultaneously required to mandatory conduct full service line replacement.”*

SDWA Requires Analysis -- EPA is required by SDWA (42 U.S. Code § 300g–1(b)(4)(E)(2)) to develop a “List of technologies for small systems ... that achieves compliance with the maximum contaminant level or treatment technique” as a part of each rulemaking for a primary drinking water standard. As described in the LCRI preamble, EPA did not conduct the requisite analysis, rather it relied on prior analyses developed to support an earlier LCR treatment technique. That earlier analysis of the viability of corrosion control for small systems did not consider the management of lead release as required by the LCRI proposal. EPA has a responsibility under SDWA to conduct the appropriate analysis to demonstrate the feasibility of corrosion control necessitated by this proposal for systems serving 10,000 persons or less. EPA appears to have only considered alternative technology solutions for systems serving 3,300 persons or less. The feasibility of corrosion control given the distribution of water quality characteristics of small systems and states’ prior experience with oversight of small system compliance with the less challenging performance criteria of the LCR warrants more thorough consideration. Given EPA’s historical reluctance to set a different small system technology standard, this analysis has implications for the viability of the proposed action level / monitoring framework/exceedance calculation proposed in the LCRI.

⁸⁷ Proposed § 141.85.

3.8 Corrosion Control

Request for Comment 39: “The proposed determination that the CTT treatment technique is feasible and prevents known or anticipated adverse health effects to the extent feasible.”

EPA has not described with any rigor in the Proposed Rule Federal Register notice or provided analysis in the associated docket that demonstrates that the proposed treatment technique’s optimized corrosion control treatment element is technically feasible. In this rulemaking that element of the treatment technique includes: a lower lead action level, applies a new sampling protocol for homes with lead service lines, changes the sample pool to include homes with galvanized piping in the home, and retains high-dose orthophosphate addition as the anticipated optimal corrosion treatment.

1. Prior experience under the Lead and Copper Rule (LCR) does not provide EPA with data to demonstrate that the systems with water characteristics targeted by the Proposed Rule (e.g., those that were reliably compliant under a lead action level of 15 µg/L but not reliably below a lead action level of 10 µg/L can indeed make that transition within the constraints described in the Proposed Rule).
2. Prior to this rulemaking EPA has focused the LCR on controlling the solubility of lead and copper. The LCRI rulemaking, for the first time, adds control of iron release to the regulatory corrosion control paradigm, as the stability of iron scales will underpin compliance for those systems sampling from Tier 3 structures.
3. CCT methods reflected in the proposed LCRI and existing EPA corrosion control guidance are designed to address soluble lead through the formation of less soluble lead compounds such as forming hydrocerussite at higher pH or lead phosphate compounds. These CCT strategies do not control particulate lead or iron corrosion. Research by Zhao et al. show that orthophosphate addition can instead increase lead particulate release in lead service lines.⁸⁸

Also see response to Request for Comment 38 above regarding the lack of demonstration that small systems can effectively use corrosion control to comply with the Proposed Rule.

The degree that the revised action level, monitoring protocol, monitoring tiers, and action level exceedance calculation will provide improved public health protection is not clear when (1) the proposed LCRI will require the replacement of all LSLs and GRRSLs and (2) the time required for evaluating and transitioning from one corrosion control treatment approach to another, when LSLs and GRRSLs are present, approaches the timeframe EPA proposes for replacing all such service lines. In particular triggering change to a new CCT based on a fifth liter sample drawn from a LSL which will be removed within 10 years offers a limited period for public health benefit to accrue while requiring a substantial commitment of organizational focus and resources.

To be clear, the available data also do not substantiate the feasibility of an action level lower than 10 µg/L. As EPA is aware there are primary drinking water standards for lead in other countries at lower concentrations (e.g., 5 µg/L) however, those regulatory frameworks do not employ comparable

⁸⁸ Juntao Zhao, Daniel E. Giammar, Jill D. Pasteris, Chong Dai, Yeunook Bae, and Yandi Hu. 2018. Formation and Aggregation of Lead Phosphate Particles: Implications for Lead Immobilization in Water Supply Systems. Environ. Sci. Technol. 2018, 52, 21, 12612–12623. <https://doi.org/10.1021/acs.est.8b02788>.

conservatism in the combination of required sampling protocol, sample site tiers, and exceedance calculation to make regulatory determinations.

Request for Comment 40: *“Comment on whether it would be more appropriate to require water systems to re-optimize again following an action level exceedance regardless of meeting their optimal water quality parameters and to provide the State with the authority to waive this requirement.”*

As described, the provision to not require re-optimization in the Proposed Rule is in the singular case of a system having already re-optimized and (2) the system is meeting required optimal WQPs (i.e., §141.81(a)(1)(A – C), (2)(A – C), and (3)(A-C)). The proposed approach has merit in that re-optimization can involve a protracted process of analysis, preparation of the distribution system for a new or modified CCT strategy, implementation, and then transition to the new CCT strategy.

Moreover, as the trigger for additional action (e.g., the lead action level, targeted sample pool, sampling protocol, exceedance calculation, and monitoring frequency) becomes more sensitive, the challenge of further adjustments to CCT practice becomes more challenging. This is especially true when systems are facing simultaneous compliance challenges (e.g., DBP control), managing corrosion of multiple materials (e.g., lead and iron corrosion control), and consecutive systems (e.g., managing water(s) that others are stabilizing). The emphasis on Tier 1, 2, and 3 sample sites in combination with a decision criterion set at the 90th percentile occurrence create a data stream where a few outliers in the exceedance calculation can significantly effect whether a CWS exceeds the action level of 10 µg/L. This variability stems from factors beyond the CWS’s control. With implementation of the LCRI sampling protocols will further exacerbate this variability.

Request for Comment 41: *“The proposed option for a water system to delay OCCT until after the system has replaced all of its LSLs and GRR service lines, while the system achieves at least 20 percent removal per year and must have no LSLs, GRR service lines, or lead status unknown service lines remaining at the end of the five-year period.”*

Recognizing that CWSs should not be attempting to optimize or re-optimize CCT in the midst of a significant transition in the materials of construction at issue, is an important improvement in the rule. Providing CWSs with the opportunity to remove LSLs and GRRSLs prior to optimization and re-optimization should be included in the final LCRI.

As a practical matter, the standard for receiving this relief as drafted (§ 141.81(f)(1)(ii)) will be too challenging for systems with any appreciable number of LSLs or GRRSLs to achieve, in that:

1. All LSLs and GRRSLs must be fully replaced
2. All LSUSLs must be characterized (and replaced if LSLs or GRRSLs)
3. Every year of the five-year period the CWS must maintain a replacement rate of at least 20%

Consequently,

1. A single uncooperative property owner would be sufficient to prevent a system from obtaining this relief (e.g., unwilling to participate in material identification or unwilling to participate in full service line replacement)

2. CWSs that face legal barriers to full replacement will be unable to utilize this provision
3. CWSs that exceed the action level prior to their replacement program being fully mature will not be able to meet the annual replacement target (e.g., systems that exceed in the initial monitoring rounds under the new LCRI sampling pool and sampling protocol)

Beyond the logistical impediments to using the provision as drafted, the cost of accelerated service line discovery and replacement would be significant. For CWSs with even moderate numbers of LSLs, GRRSLs, and SLUSLs the long-term water quality benefits of delaying optimization cannot be realized due to the cost and logistics of meeting the Proposed Rule requirements. The final LCRI provision providing this relief should be achievable both from a CWS and state oversight perspective, as both the CWS and state will have to (1) agree at the onset that the system can meet the conditions of the delay and (2) manage the situation in the event that the system does not actually meet the conditions.

Prior comments regarding inventory, identification, and replacement would be relevant to improving the feasibility of this provision as well, including:

1. Remove service lines for fire service and other non-potable purposes from the inventory – removing vacant properties from the inventory, identification, and replacement counts
2. Allow administrative measures to prevent the use of a currently unused service line until such time as the service line is fully characterized and, if necessary, replaced – removing vacant properties from the inventory, identification, and replacement counts
3. Recognizing that multiple attempts to engage a property owner in achieving either material characterization and service line replacement is adequate to consider the CWS's duty as fulfilled

The feasibility of the provision would also be enhanced by:

1. Removing the annual replacement target
2. Extending the identification and replacement window to 7 years in keeping with the schedule for a validation study under Proposed Rule § 141.84(b)(5)(i)

Request for Comment 42: *"The treatment recommendation and CCT study process can take multiple years to complete. For systems with existing corrosion control, the system may be able to alter the existing treatment (e.g., increase pH and/or orthophosphate dose) without a new CCT study on a much faster timeframe rather than waiting for study results that may recommend that same change. EPA is requesting comment on whether there are situations and/or conditions where existing treatment modifications may achieve similar lead reductions rather than delaying new treatment for two-and-a-half years while a study is underway."*

Corrosion Control Studies that are Fit-for-Purpose -- EPA is correct, there are instances when corrosion control can, and should, be modified without the delay associated with a pipe rig study. That is not to say that there is a simple list of situations where there is a single no-regrets corrosion control solution, and high dose orthophosphate addition is not a panacea. Rather corrosion control should be assessed through a thoughtful analysis that documents current conditions and evaluates corrosion control options, taking into account other likely changes underway. In some instances, this analysis can be accomplished in days or weeks, and in others it will require supplemental data collection and perhaps

laboratory studies that require weeks or months to accomplish. In the LCRI proposal § 141.82(c) describes corrosion control studies broadly. It is possible to triage analysis and data collection more efficiently than is reflected in the Proposed Rule text. Ideally corrosion control modifications do not involve major changes in corrosion control strategy which necessitate more extensive implementation timeframes.

The Proposed LCRI Economic Analysis assumes that only 33% of systems serving systems between 1,001 and 50,000 with LSLs and no systems serving less than 1,000 will require any CCT study. This is unrealistic given the attention to corrosion control by water systems and state regulators following the Flint, MI crisis (also see following comments in “The Sector Requires Additional Expertise”).⁸⁹

The Sector Requires Addition Expertise – In the LCRI preamble EPA accurately reflected that expertise to determine CCT in the sector is limited. That lack of expertise exists among consulting engineers, water system staff, and regulators. EPA can look at the scarcity of relevant expertise in its own staff to recognize the ubiquity of the shortfall. The answer to this challenge is not create a regulatory framework that encourages corrosion control changes and certainly not to create a rule that encourages such changes without a proper analysis.

There are many instances where making a corrosion control change that seems logical can have unintended results. One such example is raising finished water pH assuming from theory that the scales that will form are hydrocerussite and that raising the pH will lower observed soluble lead. However, many pipes that are predicted by theory to have hydrocerussite actually have cerussite, In these situations at higher pH levels cerussite becomes more soluble and without the counter formation of hydrocerussite the lead release can get much worse. There is a similar situation that can occur with increasing orthophosphate addition. It is often assumed that higher orthophosphate will reduce lead release, or at worst, not have any observable effect. However, when iron is present on pipe scales an increase in orthophosphate can lead to the replacement of the amorphous anions associated with iron and that chemical change leads to the release of soluble lead—sometimes for an extended period of time. Evaluating CCT does not always require conducting a two – three year harvested pipe study as described in AWWA training materials (see Appendix D) and WRF Project 5032 (see Appendix E). There are many instances when a desktop study or a desktop study with ancillary benchtop studies or scale analysis may suffice. But evaluation of CCT should not be skipped by either water systems or state regulatory agencies.

AWWA has prepared an on-line training course outlining such an approach to adjusting corrosion control practice in collaboration with the Association of State Drinking Water Administrators (ASDWA) (See Appendix D). WRF elaborated on this framework in WRF Project 5032 (see Appendix E) and Project 5081 (See Appendix F). AWWA strongly supports the recognition of a corrosion control study as an approach to winnow down the number of situations where corrosion control change is dependent on the pipe rack study described in Proposed Rule § 141.82(c)(3).

AWWA identified the need for this more robust framework as EPA was preparing the LCRR. More importantly, to implement the LCRI corrosion control provisions effectively, a robust training program is needed for state and federal regulators, consulting engineers, and water system operators. AWWA

⁸⁹ Cornwell Engineering Group, Inc. Corrosion Control Study Pipe Loop Study Expanded Executive Summary, Prepared for City of Flint. Jan. 18, 2021. (see Appendix L)

prepared the course referenced above and is revising its Manual of Practice for Internal Corrosion Control M58 to support this need. AWWA requests that EPA work with AWWA and other expert stakeholders to revise EPA's current corrosion control guidance so that EPA's guidance is aligned with the current state of the science and responsible practice in corrosion control optimization and implementation. Integration of sector-developed guidance is not only the most rapid strategy EPA can pursue to update its dated corrosion control guidance, it is the only timely avenue to developing practical guidance. Moreover, the utilization of robust consensus guides is consistent with the Technology Transfer and Advancement Act.

3.9 Compliance Alternatives for Lead Action Level Exceedance by a Small CWS or NTNCWS

Request for Comment 43: *"EPA is proposing that small system flexibilities be limited to CWSs serving 3,300 persons and fewer and all NTNCWSs for the remaining compliance alternatives of point-of-use devices and plumbing replacement. EPA is seeking comment on whether the Agency should allow systems serving up to 10,000 persons (or another threshold) to be eligible to use the small system compliance flexibility provision."*

Compliance alternatives should be equally available to CWSs -- The proposed LCRI small system flexibilities are markedly less than those included in the LCRR. Small system flexibility does not eliminate (1) service line replacement or (2) public education requirements. The proposal's flexibilities are limited to two alternatives to corrosion control, either (1) a permanent POU program or (2) removal of all lead-bearing plumbing. It is highly unlikely that either of these alternatives are feasible for systems that serve as many as 3,300 persons when the PWS is a village, town, city, or investor-owned water company. Conversely, given the two alternative compliance mechanisms, why would EPA set an arbitrary limit based on service area population? The feasibility of either of these strategies is a function of ownership arrangements and materials of construction, and EPA is aware that there are numerous examples of CWSs where the entire facility is under the control of a single entity. EPA did not propose to limit the scope of alternatives available to NTNCWS based on system size; the agency should not place a size restriction on the applicability to CWSs.

Request for Comment 44: *"EPA is also seeking information, data, and analysis on whether point-of-use devices and plumbing replacement are as effective as OCCT at systems serving up to 10,000 persons (or another threshold)."*

EPA's prior analysis of the viability of POU devices at larger system scales remain relevant. This compliance option is limited to those CWS that are (1) an entity which has complete control of its plumbing (e.g., a housing complex with its own water supply) or (2) a CWS with a very small service area (e.g., tens of homes perhaps a bit larger). Larger CWS serving individual customers (e.g., a town, city, county public service authority) might be able to distribute POU devices and obtain consent from most property owners to install a POU device in household kitchens. But, the level of ongoing intrusive entry into every dwelling to provide ongoing maintenance and conduct required monitoring cannot be reliably sustained. Even if such an effort could be sustained, the associated cost is prohibitive to conduct at scale on a permanent basis.

Request for Comment 45: *"EPA is requesting comment on the ability and practicality of point-of-use devices to address multiple contaminants."*

NSF International is the ANSI accredited organization in the United States setting standards to assure POU devices can be adequately tested to meet water quality claims. NSF standards are publicly available to EPA, as are reports from the several organizations that test manufacturer's devices against the NSF/ANSI standards. The NSF/ANSI standards address removal of multiple contaminants by a single POU device. EPA's proposed drinking water standard for PFAS^{90, 91} illustrates how the current POU device testing standards, while robust, tend to trail drinking water standards. In the PFAS rulemaking EPA is requiring PWSs to achieve effluent PFAS concentrations lower than required by the current NSF/ANSI standard and for a larger array of PFAS than the current NSF/ANSI standard includes.

3.10 Public Education

Request for Comment 46: *"The proposed determination that the public education treatment technique is feasible and prevents known or anticipated adverse health effects to the extent feasible."*

The request for comment frames public education as a standalone treatment technique when it is in fact one component of the broader LCR treatment technique. In total, the LCR treatment technique includes optimized corrosion control, lead service line replacement, and public education. While the LCRI appropriately changes the trigger for service line replacement, separating it from OCCT, the three provisions within the treatment technique are deeply interwoven. In order to assess whether the "treatment technique is feasible and prevents known or anticipated adverse health effects to the extent feasible" commenters must consider the entirety of the treatment technique not just the public education provisions in isolation.

The public education provisions of the LCRI proposal contain elements that are not technically feasible as the Proposed Rule is currently drafted. The Proposed Rule requires systems to contact individuals in timeframes that are unachievable in today's property ownership, electronic communications-oriented economy due to restrictions imposed by the rule and practical constraints.

Request for Comment 47: *"Comment and supporting data on the capacity of water systems to conduct some or all of the required public education activities in 30 days, or another period of time that is less than 30 or 60 days, after the end of the tap sampling period in which a systemwide lead action level exceedance occurs."*

The current expectation is that a public education program meet initial distribution requirements within 60 days following the end of the monitoring period is already challenging. Achieving compliance with the LCR public education requirements is already fraught within the current regulatory timeframe.

1. The trigger for public education is actually the state decision that an exceedance has occurred. This decision and notification of the system could occur weeks after the end of the tap sampling period.
2. Provide the state adequate time to review and potentially modify educational materials prior to distribution to any of the targeted entities in the public education requirements. This review includes developing any required translated materials to the satisfaction of the state.

⁹⁰ 88 Fed. Reg. at 18638.

⁹¹ Docket Id. #: EPA-HQ-OW-2022-0114.

3. Procure printing and mailing services for required distribution while complying with applicable local, state, and federal procurement requirements including preferential use of minority and women-owned businesses.
4. Meeting distribution requirements were first conceived when the local phone book reflected an accurate account of the entities listed in § 141.85(b)(2)(ii)(B) located within a system's service area. This is no longer the case further complicating distribution list development and updating.
5. Distribute materials to entities identified by public health agencies (§ 141.85(b)(2)(ii)(A)) in an era of organizational databases with phone, email, and text contact information but not necessarily readily usable addresses for the LCR required delivery of written materials.

The LCRI adds to an already challenging task, in that public education requirements must be met in the wake of a Tier 1 public notice, which for many medium and large CWSs will involve a community-wide notice via press release.

The creation of additional arbitrary deadlines for facets of a public education campaign are unwarranted and unproductive. Internal CWS milestones for public education are already compressed and additional regulatory milestones would further complicate reporting to the state and tracking of compliance by the state.

Request for Comment 48: "Data, analyses, and comments on the proposed determination that water systems are capable of providing consumer notices of individual tap sampling results within three calendar days of obtaining those results, regardless of whether the results exceed the lead or copper action level, or if a longer time frame is needed (e.g., three business days, seven calendar days, 14 calendar days)."

In the preamble EPA describes the proposal as requiring the delivery of sample results collected under §141.86 to the customer within three calendar days, with the option of providing the information electronically if there was a follow-up notification by mail within 30 days. The preamble reads:

*"These are the same delivery options that the LCRR requires for water systems to deliver results that exceed the action level within three days; however, EPA is proposing that water systems that choose to deliver the notice by phone would be required to follow up with a written notice hand delivered or postmarked within 30 days of the water system learning of the results."*⁹²

The actual proposed regulatory text does not match this description. The proposed regulatory text reads:

"Timing of notification. A water system must provide the consumer notice as soon as practicable but no later than three calendar days after the water system learns of the tap monitoring results. Notification by mail must be postmarked within three days of the system learning of the tap monitoring results." (Proposed Rule § 141.85(d)(2))

⁹² 88 Fed. Reg. at 84949.

...

“Water systems must provide consumer notice to persons served at the tap that was sampled. The notice must be provided electronically (e.g., email or text message), by phone, hand delivery, by mail, or another method approved by the State. For example, upon approval by the State, a non-transient non-community water system could post the results in a conspicuous area, such as on a bulletin board, in the facility to allow users to review the information. Water systems that choose to deliver the notice to consumers electronically or by phone must follow up with a written notice to consumers hand delivered or postmarked within three days of the water system learning of the tap monitoring results.” (Proposed Rule § 141.85(d)(4))

There are ample reasons to judge the Proposed Rule as infeasible, as reliably meeting the requirement for a postmarked envelope within three days of receipt of sample results is not feasible, including for the following reasons:

1. The U.S. postal service is both closing post offices and curtailing office hours, making it infeasible for water systems to obtain the required postmarked envelope. While this trend is particularly true in rural America, it also affects the ability of water systems located in urban / suburban areas, as the available remaining facilities in a metropolitan area may not be easily reached. In addition to being closed on Sundays and having limited hours on Saturdays, the postal service is closed on all 11 Federal holidays. Certain locations may be closed for other reasons including staffing shortages or natural disasters. Although it is possible to drop off mail into the postal system without visiting a postal location, a true postmark can only be obtained when a piece of mail enters the postal service’s care. It is unclear what the standard of care is for good-faith compliance. Are the records required, a log of when notice was placed in the mail on a certain date or must the system retain proof of mailing by a certain date from the post office. The latter typically requires a “*certificate of mailing*” (i.e., Postal Service Form 3817, 3665, 3877, 3606, or 3606D) at additional expense and is not available with many classes of postal service.
2. While neither the preamble or Proposed Rule text define “*receipt of*” sample results, virtually any practical description would include the opening of mail, an email, or notification of data being available in an electronic portal at a point in the day where once “received,” the CWS has a number of tasks for which appropriate staff must be present, including:
 - a. Reviewing the laboratory’s work (quality assurance / quality control)
 - b. Matching the sample result with the relevant occupant(s) contact information
 - c. Putting the observed values into the template approved by the state for distribution with the education information required by the Proposed Rule
 - d. Quality review of materials prior to distribution
 - e. Transporting the result to the post office
 - f. Documentation for required state tracking and reporting

EPA is proposing that this process be expedited within 3 calendar days (e.g., Monday, Tuesday, Wednesday, or equally, Friday, Saturday, Sunday). In many, if not all, parts of the country this will not be achievable.

With the above practical challenges in mind AWWA recommended alternative regulatory requirements in Sections 2.7 and 3.2 of these comments).

Request for Comment 49: *“Whether the proposed requirement for water systems to offer lead sampling to consumers with LSLs, GRR service lines, or unknown service lines in the notice of service line material is effective at reducing adverse health effects.”*

Proposed § 141.85 would require a system to “... offer to sample for lead in the tap water of any person served by a lead, galvanized requiring replacement, or lead status unknown service line who requests it ...”. There is related language in § 141.85(c)(2).

If EPA intends the CWS’s duty to be coordinating and dispatching staff or contractors to collect samples, this is very burdensome regulatory responsibility relative to the potential for actual risk reduction. EPA should at a minimum clarify that the CWS is offering a sample kit with instructions to allow interested persons to sample their tap water. EPA did not include the cost of “sampling” in the Proposed LCRI Economic Analysis, rather it assumed that CWSs would provide a sampling kit, collect that kit, and obtain laboratory analysis of the sample.⁹³ Because the sampling protocol required by the proposed LCRI is for a stagnant water sample, scheduling of “sampling” poses a considerable logistical burden well beyond what EPA is assuming in its presentation of the costs of the LCRI.

Also, as this provision applies to structures with unknown service line materials there is the potential that such sampling would be requested by households in apartment buildings and other developments that are very unlikely to have a LSL or GRRSL and for that reason not prioritized for characterization early in the LCRI implementation window. In this instance the burden associated with the requirement exceeds the likely risk reduction achieved through improved CWS access to customer property, the agency’s reason for the requirement.⁹⁴

In smaller structures that do have a LSL or GRRSL and have multiple housing units, the burden similarly exceeds the anticipated benefit as providing a single observation from one unit to a multi-unit dwelling would not suffice to meet this requirement.

The burden of this provision is compounded by the associated proposed requirement that the CWS return the result within three calendar days of receipt and ongoing documentation the CWS’s performance of new responsibilities to the state. CWSs engaged in customer requested sample programs routinely report that a substantial number of the customers that request sample kits do not actually follow through to collect and submit the sample.

Request for Comment 50: *“EPA is also requesting comment on the requirement for water systems to deliver consumer-initiated test results within three days of obtaining those results.”*

⁹³EPA. “Oversee the customer-initiated lead sampling program (hrs_cust_request_oversee_op).” Proposed LCRI Economic Analysis. (2023). Page 4-37.

⁹⁴ 88 Fed. Reg. at 84921.

EPA describes three-day delivery in the Proposed Rule in § 141.85(d)(2) as “*postmarked within three days of the system learning of the tap monitoring results.*” There are multiple barriers to achieving this performance metric reliably, including:

1. The U.S. postal service is both closing post offices and curtailing office hours, making it infeasible for water systems to obtain the required postmarked envelope. While this trend is true of rural America. It also affects the ability of water systems located in urban / suburban areas, as the available remaining facilities in a metropolitan area may not be easily reached.
2. While neither the preamble or Proposed Rule text define “learning of the tap monitoring results” sample results, virtually any practical description would include the opening of mail, an email, or notification of data being available in an electronic portal at a point in day where once “received”, the CWS has a number of tasks for which appropriate staff must be present, including:
 - a. Reviewing the laboratory’s work (quality assurance / quality control)
 - b. Matching the sample result with the relevant occupant(s) contact information,
 - c. Putting the observed values into the template approved by the state for distribution with the education information required by the Proposed Rule
 - d. Quality review of materials prior to distribution including adequate documentation for required state tracking and reporting
 - e. Transporting the result to the post office
3. Delivering sample results within 3 calendar days would entail accessing the postal service not only on holidays (recognized federal holidays tend to create three-day weekends) but also during days of the week when postal office hours are very limited or post offices are closed (e.g., Monday, Tuesday, Wednesday, or equally, Friday, Saturday, Sunday). Although it is possible to drop off mail into the postal system without visiting a postal location, a true postmark can only be obtained when a piece of mail enters the postal service’s care. Furthermore, it is unclear if the requirement is asking that the water system retain records that it placed a notice in the mail on a certain date (which would address some of these issues) or if it is being asked to retain proof of mailing by a certain date from the post office. Proof of mailing typically requires a “certificate of mailing” at additional expense and not available with many classes of service (see <https://faq.usps.com/s/article/Certificate-of-Mailing-The-Basics>).

This requirement has limited value as EPA describes the purpose of this task in the Proposed Rule to be improved CWS access to customer property.⁹⁵ However, the burden of the requirement is substantial (e.g., the logistical challenges, cost, paperwork and public notice for states and systems that accrue violations for failing to meet the delivery timeframe). The likely attributable benefit of this requirement is not warranted particularly when most observed values that are above the practical quantitation level (PQL) (i.e., reported as a numeric value rather than non-detect) are likely to be low microgram per liter

⁹⁵ 88 Fed. Reg. at 84921.

concentrations that are as likely to reassure customers that there is not a problem as they are to heighten interest in collaborating with the CWS.

With the above practical challenges in mind AWWA recommended alternative regulatory requirements in Sections 2.7 and 3.2 of these comments).

Request for Comment 51: *“Whether the types and timing of outreach activities proposed for systems failing to meet the mandatory service line replacement rate are appropriate and whether other activities should be considered.”*

The proposed outreach activities described in § 141.85(h) are appropriate to the situation and in keeping with outreach strategies that CWSs are able to implement at the frequency required (every six-months).

Request for Comment 52: *“Whether EPA should require systems to annually notify consumers if they are served by a lead connector, in addition to notifications for sites with lead, GRR, or lead status unknown service lines.”*

Lead connectors do not warrant annual customer notification. EPA was correct proposing the LCRI without including lead connectors in the definition of a LSL. To require notification of customers about the presence (or potential presence) of lead connectors would similarly misdirect limited CWS resources and draw customer’s attention away from actionable risk reduction measures (Also see responses to Requests for Comment in Section 3.13). Moreover, the combination of a responsibility to notify customers with lead connectors and customers with LSLs, GRRSLs, and LSUSLs would further complicate and potentially lead to duplicative notifications of the same customers.

Request for Comment 53: *“Whether EPA should require additional public education requirements to further encourage swift service line replacement faster than the 10-year replacement deadline. For example, should water systems that have LSLs, GRR service lines, or unknown service lines five years after the compliance date for the LCRI be required to increase the frequency of the notification of service line materials from annual to once every six months?”*

Additional regulatory requirements for specific public education measures later in the service line replacement program would be detrimental to replacement program implementation. First, where systems have significant numbers of service lines to characterize and or remove, program ramp up will take several years, and it is likely that there will be a significant number of LSLs and / or GRRSLs yet to be replaced. Systems facing this challenge will need to maintain an organized and targeted communications effort. The introduction of generic messaging like that described by Proposed § 141.85 would distract from messaging being used to advance local programs, working within local constraints, and specific to local programmatic objectives. In addition, the resources used to meet the distribution requirements of the public education provisions and document that effort per the regulation will be resources that are not otherwise available for needed community communications efforts and other replacement program needs.

Request for Comment 54: *“EPA is seeking information and data on when a system provides translated materials to consumers with limited English proficiency, what resources are used to translate materials (e.g., State resources, community organizations), and what barriers water systems may face in providing accurate translated materials.”*

EPA has proposed requirements around translations and language assistance in its recent proposed updates to the Consumer Confidence Report Rule (EPA-HQ-OW-2022-0260-0015), and AWWA provided detailed feedback about this issue, which it incorporates by reference here.⁹⁶ Although the requirements of notifications under LCRI are not identical to those of the CCR, many of the same issues apply. Furthermore, because many of the requirements under LCRI are triggered by various events, the timeframe to complete and validate a translation will likely be shorter than the CCR. Key challenges include:

1. Identifying when translations are necessary -- There appears to be no clear guideline for when translations are and are not necessary. Although there certainly will be instances where the need for translated materials is more self-apparent than others, there must be some threshold to guide action. With hundreds of potential languages, translations are not possible for all communications for all languages (although it is closer to feasible with automated, on demand translation) and thus there must be clear and reasonable guidelines on when they are and are not needed.
2. Leveraging federal resources for translation accuracy -- EPA required and recommended language tends to be complex and technical, making dialect and culturally-appropriate translations difficult. Developing pre-approved translations of key materials (required language and templates, for example) in the most widely used non-English languages would reduce the burden and increase the likelihood of accurate translations, assuming the pre-approved translations are carefully vetted. Absent this, there could be hundreds to thousands of different translations of roughly the same text, likely of varying accuracy and at much greater overall cost. Even skilled translators will likely have different interpretations of the same words and phrases, meaning that a pre-approved translation is much more likely to be consistent.
3. Understanding compliance of acceptable translations and accuracy -- What counts as an acceptable translation is an essential question. There are a variety of different approaches to translation, each with various advantages and limitations. These include:
 - a. Automated translation is an option, which typically allows for instant availability (and depending on the service, availability in nearly any language) and some studies show that automated translation rivals professional translation.⁹⁷ The primary downside of automated translation is that it is typically not validated by a person and it may struggle with some technical concepts if the program has not previously seen them.
 - b. Professional translation is another option. Although professional translation may be appealing from a regulatory and compliance standpoint, many highly skilled professional translators do not have technical backgrounds that would be required for accurate translation of complex technical materials. Translation of many notices required under LCRI would likely require a specialized technical

⁹⁶ See EPA-HQ-OW-2022-0260-0056.

⁹⁷ One example is Chatzikoumi, E. How to evaluate machine translation: A review of automated and human metrics. *Natural Language Engineering*, Vol 26, Issue 2. (2020 Mar.) Available at <https://doi.org/10.1017/S1351324919000469>.

translator, for which it is unclear if there are enough to be able to meet demand, especially if the translations are needed quickly (a typical service timeline may be about a week, even when arrangements are made in advance).

- c. Translation by a utility employee or relative or outside entity is a third choice. In systems with limited resources or who are otherwise not able to obtain a professional translation, it is possible a utility employee, a relative of a utility employee, or an outside entity (such as a community group) may be willing to assist with a translation. Although this tends to require few resources, the accuracy of the translation can be questionable and difficult to validate. The challenges with this approach lend themselves towards a combination of pre-approved translations and automated translations (for text that cannot be pre-written).

Request for Comment 55: *“Whether the Agency should require States, as a condition of primacy, to provide translation support to water systems that are unable to do so for public education materials to consumers with limited English proficiency.”*

In comments on the Consumer Confidence Report Revisions Rule, ASDWA described states as being opposed to being required to provide translation support to CWSs as a condition of primacy.⁹⁸ ASDWA described that requirement as a conflict of interest with respect to the state’s oversight role. ASDWA recommended that EPA develop resources to support translation of CCRs. A review of the EPA website conducted in late December 2023, did not reveal any substantive resources to assist states or PWSs translate CCRs or other materials like the LCR-related public education materials and now in the LCRI public notice materials.

In reviewing other available federal translation resources, the only substantive tool that seems designed for a similar task is the Federal Bureau of Investigations’ National Virtual Translation Center (NVTC).⁹⁹ While EPA, state drinking water programs, and PWSs do not have access to NVTC, EPA could contact the Bureau to discern the level of funding necessary to follow through on ASDWA’s recommendation for an EPA-provided translation resource.

Request for Comment 56: *“EPA is also requesting comment on additional ways to streamline public education and associated certification requirements (e.g., combine deadlines for systems to conduct public education or submit information to the State).”*

Electronic Delivery -- In revising § 141.85(b)(4) EPA provided the opportunity for NTNCWSs to communicate public education materials electronically, but Proposed § 141.85(b)(2) does not afford CWSs the same latitude. Electronic delivery, when possible, facilitates greater integration of on-line resources into distributed materials. Instructions to CWSs regarding delivery in § 141.85(b)(2) align distribution of public education with distribution of bills. As customer billing is increasingly electronic, it is important that the public education requirements recognize this transition and allow CWSs to leverage the opportunities it creates.

⁹⁸ See EPA-HQ-OW-2022-0260-0058, attachment_1.

⁹⁹ Available at <https://www.fbi.gov/about/leadership-and-structure/intelligence/national-virtual-translation-center>.

Adherence to a Communications Plan – As EPA alludes to in the LCRI preamble and as a number of the AWWA documents referenced in the preamble convey, effective communications requires adequate planning and integration of required rule elements into a cohesive communication effort. A mechanism to both streamline regulatory reporting, better organize required state review of public education materials, and achieve better integration of public education components is:

1. Preparation of a public education plan during the period between the LCRI effective date and first compliance date three-years after promulgation with submittal to the state for review and approval. That plan would include:
 - a. Standard operating practices to log the execution of required public education tasks and to the degree necessary maintaining adequate documentation and records for audit purposes
 - b. Templates that would be used to adhere to the required public education content
 - c. Templates and practices that would be used to adhere to required efforts to assist individuals with limited English proficiency
 - d. Approach to integrating available communication channels include electronic information delivery
2. An annual certification by the operator in responsible charge that the system is adhering to the public education plan
3. Regular review of adherence to the public education plan during sanitary surveys (e.g., every three years for CWSs)
4. A mechanism for updating the public education plan on an ad hoc basis (e.g., a review and update of outreach plans in the event of a lead action level exceedance)

Coordinated Distributions -- The implementation schedule for the LCRI will lead to systems (1) conducting regular annual outreach to customers with LSLs, GRRSLs, and LSUSLs and (2) exceeding the action level in years four and five post-rule promulgation. There will be opportunities at these systems to combine mailings for some or all of their customers. Taking advantage of opportunities to economize on distribution cost and better integrating messaging across these two parallel activities should be encouraged by the rule reporting and recordkeeping requirements.

Reducing Reporting -- Even if the agency does not adopt the above recommendation for the development of a public education plan and annual certification to adherence to that plan in lieu of multiple individual filings and certifications, all of the public education requirements could be reduced to a single annual certification and a record retention requirement that allows the state to audit the certification if necessary and on a regular basis during sanitary survey reviews.

3.11 Additional Requirements for Systems with Multiple Lead Action Level Exceedances

Request for Comment 57: *“Whether water systems should be required to take additional actions when the system exceeds the lead action level multiple times and if so, what actions are appropriate and feasible, and when these additional actions should be required under the LCRI.”*

Focus Should be on CCT -- The LCRI should not require additional actions based on multiple action level exceedances. Almost all of these systems are reliably maintaining lead levels below the current action

level of 15 µg/L. Looking nationally, the 90th percentile population-weighted lead concentration is 2.97 µg/L. Still, available data indicate that under the LCRI regulatory framework on the order of 40% of systems with LSLs will exceed the lowered lead action level given the sampling protocol, sample pool, and exceedance calculation. Systems in this category will be required by the Proposed Rule to adhere to the routine monitoring schedule (i.e., new opportunities to exceed the action level every six months). The systems that find themselves in a single exceedance, will also face the increased potential for sample values from supplemental monitoring data being introduced into their exceedance calculation. This supplemental data is likely to be lower quality data, yet systems will be required to use the portion of this data the state believes is appropriate regardless of data quality concerns. These systems cannot exit routine monitoring for at least two consecutive monitoring periods below the action level. Systems that are allowed to move to reduced monitoring are then on annual monitoring with samples being drawn during June, July, or August, which are prone to higher lead levels. In this monitoring regime, the number of systems that find themselves with multiple exceedances will be significant.

The process of adjusting corrosion control can for multiple reasons be protracted, including (1) analysis to discern how to revise corrosion control, (2) testing one or more options in pipe rigs for an adequate period of time, (3) making adjustments in system operations to slowly transition to the new corrosion control strategy, (4) conducting preparatory steps like additional flushing of the distribution system, (5) implementing and verifying the revised CCT, and (6) when existing facilities are inadequate obtaining necessary financing and undertaking required construction. EPA has not demonstrated that systems with challenging waters can reliably avoid exceedances at an action level of 10 µg/L, we should assume that many systems that exceed the action level and state regulators will be taking a careful approach to revising corrosion control electing to have an ongoing exceedance over multiple monitoring cycles rather than making an inappropriate change. CWSs that are focused on assuring appropriate corrosion control and a smooth transition to that corrosion control strategy should not be penalized by the final LCRI framework.

Requiring additional actions would distract from the Proposed Rule's focus on optimizing corrosion control treatment. As the purpose of the lower action level and related monitoring changes is to improve corrosion control rather than demonstrate compliance with a health-based concentration, there is not health basis for requirements that distract from the intended role of the action level trigger, including making filters available to consumers.

Request for Comment 58: *"Whether EPA should use three action level exceedances in a five-year period for identifying systems with multiple action level exceedances where additional action is warranted and, whether additional actions should be required sooner, or later, than the five-year period, or whether EPA should use a modified metric (number of consecutive action level exceedances in a set time period) or a different metric entirely (i.e., based on one or more factors other than the number of action level exceedances in a set time period)."*

EPA should not require additional actions or pursue an alternative metric to trigger additional action by systems that experience multiple exceedances. See response to the prior Request for Comment 57 for the basis for this comment.

Request for Comment 59: *"The proposed public education activities after a system exceeds the lead action level multiple times. EPA is specifically seeking any information, data, or analysis on whether the proposed public education activities support preventing adverse health effects in this situation."*

As EPA has described in the preamble to the LCRI, the 10 µg/L lead action level is not a health-based value, it is a trigger for greater focus on corrosion control practice. The LCR and now the LCRI contain public education measures that inform the public regularly about additional risk reduction steps they as individuals can take. Because EPA is choosing to lower the action level, multiple exceedances, particularly in the initial implementation period simply reflects the sensitivity of the new trigger for that additional focus, not a health concern. Recall that even using first liter, stagnant water compliance sample observations to represent occurrence, population-weighted lead levels under the current LCR are in the low single digit microgram per liter concentration range. Additional public education measures is an administrative burden that neither (1) affords additional health risk reduction or (2) accelerates improving corrosion control practice.

Request for Comment 60: *“EPA is also requesting comment on whether systems should be required to conduct more than one (e.g., two or three) of the public education activities proposed.”*

EPA should not require additional public education activities by systems that experience multiple exceedances. See responses to the prior Requests for Comment 57 and 59 for the basis for this comment.

Request for comment 61: *“Whether EPA should require water systems to make filters certified to reduce lead and replacement cartridges, along with instructions for use, available to all consumers within 60 days of a system having multiple action level exceedances and whether there are any supporting or contrary data on whether the proposed filter requirement would be protective of public health.”*

EPA should not require water systems that exceed the lead action level multiple times to make filters available to all consumers. Nor should EPA require within the treatment technique the provision to consumers either filters or bottled water in (1) the event of an LCRI lead action level exceedance or (2) prophylactic until such time as LSLs or GRRSLs can be replaced. There may be instances where conditions are such that one of these protective measures are warranted, but that decision should be made based on site-specific facts by the primacy agency in collaboration with the PWS. AWWA has previously provided an analysis of the cost of providing filters and bottled water on a community-wide basis to EPA (See Appendix I).¹⁰⁰ The costs of such a program are substantial, expending resources that could be better applied to control measures emphasized in the rule (e.g., service line replacement and corrosion control).

Filters Not Beneficial to Most Consumers – EPA’s Proposal to require that CWSs make filters available to all consumers would force CWSs to expend resources when typical lead levels are much lower than lead levels observed in the highly biased compliance monitoring data set. Exceeding the action level under the LCRI will occur based on stagnant water samples, from homes with LSLs / lead plumbing or galvanized service lines / galvanized plumbing, which is typically a limited portion of the total number of service lines in a community. Data from systems with LSL that are likely to exceed the Proposed Rule lead action level illustrates that despite the high likelihood of an exceedance very few tap water samples from other service line / plumbing material configurations are likely to be elevated (see following table).

¹⁰⁰ Arcadis, Comparing the Cost of Bottled Water vs In-Home Filter Provision for a Lead Action Level Exceedance (2022).

CWS	LCR Category (Population Served)	EPA Region	Sample Protocol	90 th Percentile Observed Lead (µg/L)
1	>50,000	5	>6 hr. stagnation, 1 st L	ND (< 5) *
2	>50,000	3	>6 hr. stagnation, 1 st and 5 th L	≤ 5.6 *
3	>50,000	1	>6 hr. stagnation, 1 st L	< 3 *
4a	>50,000	3	>6 hr. stagnation, 1 st L	< 1 *
4b	>50,000	3	>6 hr. stagnation, 5 th L	< 5
5	>50,000	2	>6 hr. stagnation, 1 st L	< 3 *

“*” indicates two or more years of data where every year the observed 90th percentile was less than x throughout that period

Action Level Not Health-Based -- EPA stated clearly in the LCRI preamble that the lead action level is not a health-based value, exceeding that value functions solely as a trigger for action by the water system and state to establish or improve optimized corrosion control. Provision of filters to an entire community does not contribute toward achieving the goal of the treatment technique. This proposed requirement does:

1. Foreclose state and system efforts to inform the community about the challenge at hand and how the CWS is resolving that challenge.
2. Contradict longstanding practice that decisions to require CWSs to provide consumers with additional health risk reduction information or measures (e.g., boil water notices, bottled water, filters) rest with the system and state, and that those decisions are fit-for-purpose given the risk at hand, available options for risk mitigation, the scope of the challenge, and other situation specific variables.
3. Conflict with the LCRI construct which is focused almost exclusively on better management of lead release associated with LSLs and GRRSLs. The LCRI revises the sampling protocol, sample pool and compliance metric to emphasize homes where LSLs or GRRSLs are present – exceedance of the action level for lead is intrinsically linked in this rulemaking to those homes not all structures in a community.
4. Fail to recognize ongoing public education measures which are reaching all customers through multiple distribution strategies that contain information about lead risk reduction measures that individual consumers can take based on their circumstances.
5. Place additional stress on the supply of available water filters certified to ANSI/NSF which system are also required to deliver to occupants of structures where there is a LSLR or GRRSL replacement.
6. Pose a substantial logistical challenge and distraction from the Proposed Rule’s priority risk reduction measures – removing LSLs / GRRSLs and improving corrosion control. EPA has underestimated the number of systems that will be triggered into this provision by the Proposed Rule and underestimated the expense of implementation.

7. Present a practical implementation hurdle for very large CWSs or even CWSs of more moderate size, obtaining a supply of filters to make them available to consumers within the required timeframe would face the practical hurdle of inadequate supply and the administrative and financial hurdles of obtaining the supply while also complying with local, state, and potentially federal procurement policies. Note, this is not a declared emergency where administrative requirements can be streamlined because there is a pressing public health risk. This is now a routine aspect of rule implementation where the rule is requiring an additional prophylactic measure which in most instances will not provide actual health risk reduction benefits because typically few homes have sources of lead as severe as the targeted compliance sample pool.

In estimating the cost of this provision EPA also makes several assumptions that should be revised to reflect the cost of the provision more accurately. The current analysis severely underestimates the cost of such a program:

1. EPA should assume that all systems that exceed the lead action level trigger this provision. With the requirement to return to routine monitoring (i.e., every six months), lower action level of 10 µg/L, revised sampling protocol, revised compliance algorithm, addition of highest lead observations from supplemental monitoring, and revised sample tiers not only will a significant number of systems exceed the action level, but they will do so for multiple monitoring periods soon after compliance with the final rule requirements begins.
2. Once triggered into provision of filters the period of performance will represent both (1) the time required to complete the required corrosion control studies, including required pipe rig testing as specified, and (2) the criteria for ending the filter program.
3. The EPA analysis draws on first and fifth liter occurrence data from Michigan's compliance data, but it goes on to apply a multiplier based on the average incidence of exceedances. This approach is inappropriate for estimating the upper tail of the occurrence distribution.
4. The analysis goes on to annualize the cost of the filter program over 35 years when the cost of the program will be borne by the systems under for a much shorter period.
5. The agency analysis appears to discard large cities from its cost estimate when the analysis actually indicates that those systems would be triggered to make filters available.

Request for comment 62: *"The proposed requirements for systems to develop a filter plan and submit to the State after the system has multiple action level exceedances for the first time, and whether EPA should require systems to take additional actions to facilitate filter distribution."*

EPA should not require water systems that exceed the lead action level multiple times to make filters available to all consumers. If EPA finalizes the rule including such a requirement, it should make every effort to minimize the burden the requirement places on water systems.

Request for Comment 63: *"Alternative requirements for systems with multiple action level exceedances to provide filters to their consumers, such as requiring water systems to provide filters and replacement cartridges to consumers served by an LSL, GRR service line, or unknown service line or to all consumers,*

or to require systems to consult with the State upon meeting the criteria for multiple action level exceedances, after which the State determines the appropriate action to reduce lead exposure.”

EPA should not require water systems that exceed the lead action level multiple times to make filters available to all consumers. If EPA finalizes the rule including such a requirement, it should make every effort to minimize the burden the multiple action level exceedances requirement places on water systems. For example, most systems in this situation will be exceeding the action level based on a dataset drawn from a subset of buildings with service line / plumbing material characteristics that are not typical of the bulk of buildings in a CWS’s service area. Consequently, if filters were to be made available there should be a focus on that subset of households rather than “all consumers.” See responses to Requests for Comment 57, 59, and 61 for the basis for this comment.

Request for Comment 64: *“An additional provision providing discretion to States to allow systems with multiple action level exceedances to discontinue the proposed required actions sooner if the system takes actions (e.g., installs optimized or re-optimized CCT, completes mandatory service line replacement) and is at or below the lead action level for two consecutive monitoring periods.”*

If this provision (§ 141.85(j) and associated requirements) is retained in the final LCRI, EPA must specify clear criteria a state must use to “tailor” requirements. If the authority is going to be explicitly included in the federal rule it must have a clear basis that can be consistently applied. The wiser alternative is to eliminate the multiple action level exceedances provision from the final federal rule.

Request for Comment 65: *“Whether, in addition to the proposed requirements, EPA should provide States discretion to determine appropriate action following a multiple action level exceedance that is tailored to meet specific system needs.”*

If this provision (§ 141.85(j) and associated requirements) is retained in the final LCRI, EPA must specify clear criteria a state must use to “tailor” requirements. If the authority is going to be explicitly included in the federal rule it must have a clear basis that can be consistently applied. The wiser alternative is to eliminate the multiple action level exceedances provision from the final federal rule.

3.12 Lead Sampling in Schools and Child Care Facilities

Request for Comment 66: *“Whether CWSs should be required to collect more samples and/or to sample more frequently in schools and child care facilities.”*

EPA should not require CWSs to (1) collect more water samples for lead analysis from individual schools or child care facilities in any one round of monitoring, (2) collect samples from a broader group of schools or child care facilities, (3) collect the required samples in schools more quickly, or (4) participate in additional cycles of monitoring for lead in schools. As discussed in Section 4 of these comments, the current requirements are beyond the intended scope of SDWA.

Facility owners have a duty -- Schools and child care facilities have a responsibility to provide a healthy environment for the children in their care. Most states already have regulatory regimes to assure educational and childcare facilities provide a safe environment for the children in their care. EPA, the Department of Education, the Department of Health and Human Services, and many state agencies have extensive guidance on the management of all environmental hazards at these facilities. These materials guide facilities toward prioritizing and managing risks across multiple media with an emphasis on achieving remediation. Lead in water is no different.

AWWA and EPA have been engaged in a “Memorandum of Understanding on Reducing Lead Levels in Drinking Water in Schools and Child Care Facilities.”¹⁰¹ This voluntary program is not geared toward a few samples but rather a sampling program that is appropriate to the structures being evaluated. Instead, the Proposed Rule, like the previous LCRR, will inappropriately make CWSs responsible for:

1. Sampling in facilities where they do not have authority to enter
2. Implementing sampling protocols that require the cooperation of school and childcare facility staff
3. Providing information to the school that alone is inadequate to guide decision-making for decision-makers responsible for those facilities
4. Placing schools and childcare facilities in a confrontational position with their respective communities
5. Place CWSs in a confrontational position with the schools and childcare facilities they serve

Retention of the LCRR § 141.92 provisions with clarifications is sufficient to draw attention to managing lead in these facilities where it has not already occurred. Imposing additional burden for this task on CWS distracts from the primary purpose of the LCRI and the role of the CWS in the communities they serve.

State Legislatures Have Acted – Schools and day care facilities, while only subject to SDWA in special circumstances (i.e., when the state deems that facility a PWS), they are subject to state law. In February 2023 Environment America and U.S. PIRG Education Fund updated earlier work to reflect lead tap monitoring and other elements of state lead in school drinking water statutes and regulatory requirements. The authors report that 29 states have considered the need for and established monitoring requirements for lead in tap water at schools as well as other measures through state law.¹⁰² Moreover, if Congress had intended for EPA to develop a mandatory monitoring program for lead in schools it would have replaced the Lead Contamination Control Act in the wake of *Acorn vs Edwards*¹⁰³ with such provisions and required schools to undertake tap water monitoring in schools and child care facilities under federal law.

Request for Comment 67: “The proposed provision to allow States to issue waivers to community water systems from the requirement for lead sampling in schools and child care facilities during the five-year period after the LCRI compliance date if the facility was sampled for lead after January 1, 2021 but prior to the LCRI compliance date and the sampling otherwise meets the waiver requirements of § 141.92(h).”

¹⁰¹ EPA. Memorandum of Understanding on Reducing Lead Levels in Drinking Water in Schools and Child Care Facilities (Updating 2005 MOU). (2019). Available at <https://www.epa.gov/ground-water-and-drinking-water/mou-reducing-lead-levels-drinking-water-schools-and-child-care>.

¹⁰² Environment America and U.S. PIRG Education Fund. 2023. Get the Lead Out, Grading the states on protecting kids’ drinking water at school. February 2023.

¹⁰³ Association of Community Organizations for Reform Now et al versus Edwin Edwards et al. U.S. Court of Appeals for the Fifth Circuit. No. 94.30714. April 22, 1996.

Revise § 141.92(h)(5) to remove constraint that alternative state approved monitoring in schools and child care facilities must occur after January 1, 2021. Some states and systems have moved forward more expeditiously than EPA to conduct awareness building lead monitoring these facilities before and subsequent to the proposal of the LCRR (§ 141.92(d)). EPA should recognize these more proactive programmatic efforts subject to the other aspects of conformity with the required monitoring program under § 141.92.

Request for Comment 68: *“Whether or not to allow States to waive the requirements of § 141.92 for CWSs in schools and child care facilities that use and maintain filters certified to reduce lead, and if so, whether the waiver should only be allowed where schools and child care facilities are required by State or local law to install POU devices and maintain them.”*

Where child care and schools have installed and maintain appropriately certified point-of-use devices for drinking water and cooking uses, the facilities have clearly achieved the objective of the LCRR school monitoring program. The facility administration is aware of lead in water as a concern, it has assessed the situation in the facility(ies) under its control, and it has installed and maintains a risk management strategy that EPA recognizes as adequate in both the LCRR and the LCRI for small CWSs and NCWSs. The same attention and action by the facility’s owner / operator is true when steps have been taken to eliminate use of potable water for consumption and where water outlets for drinking and cooking have been updated with modern lead-free compliant fixtures. In these instances, additional monitoring by the CWS is not necessary and should not be required.

Addressing this situation logistically through a “waiver” would be challenging (§ 141.92(h)(1)(ii)). A more efficient mechanism to address this situation is to modify § 141.92(a)(1) – (2) to exclude systems with these risk reduction measures in place. Associated preamble and guidance could speak to the use of local ordinances, school board administrative instructions, and state laws or regulations as a basis for CWS certification of best efforts to compile the list of schools and child care facilities it must sample (§141.90(i)(3)(i)).

Section 141.92(a)(1) – (2) could be revised as follows:

“(a) General requirements. (1) All community water systems must conduct public education and lead monitoring at the schools and child care facilities they serve unless

- (i) those schools or child care facilities were constructed or had full plumbing replacement on or after January 1, 2014 or the date the State adopted standards that meet the definition of lead free in accordance with section 1417 of the Safe Drinking Water Act, as amended by the Reduction of Lead in Drinking Water Act, whichever is earlier, or*
- (ii) Disconnected affected fixtures used for water consumption;*
- (iii) Replaced affected fixtures used for water consumption with fixtures certified as lead free; and*
- (iv) those schools or child care facilities provide water for drinking and food preparation through point-of-use devices meeting NSF/ANSI Standard 53 for total lead removal and NSF/ANSI Standard 42 for fine particulates (Class I).*

(2) The provisions of this section do not apply to a school or child care facility that is regulated as a public water system.”

Request for Comment 69: *“The minimum requirements for States to provide a waiver (e.g., should the waiver be limited to locations where the filter use is required by State or local law; should the waiver be limited to locations where State or local law requires periodic sampling or testing to ensure proper filter use).”*

The regulatory relief that is the topic of this request for comment should not be limited to instances where there is a local or state law requiring the use of filters. See response to Request for Comment 68 for the basis for this comment and an alternative approach.

Request for Comment 70: *“Whether EPA should require CWSs to make school and child care facility sampling results publicly available, and if so, how frequently and in what manner.”*

The Proposed Rule, like the prior LCRR, requires the CWS to obtain the cooperation of school district staff and leadership, school facility staff, and child-care owner/operators and their staff. EPA should not place CWSs in the position of having to disclose observed results publicly. Rather the entities responsible for the care of the children in those facilities should have the opportunity to communicate the results to parents and staff. Usurping the role of communicator further stretches the legal credibility of § 141.92 and importantly creates additional unproductive friction with these facilities, which will lead to lower participation rates in sampling by school and day care facilities.

3.13 Reporting and Recordkeeping

Request for Comment 71: *“EPA is requesting comment on the expansion of the inventory reporting to include lead connectors and non-lead service lines.”*

EPA should not require the addition of lead connectors to the inventory. As described in the following the associated potential health benefit is limited and the associated challenges shift resources from complying with provisions that afford additional risk reduction. Moreover, CWSs will have just completed the inventories required under the LCRR and this requirement would necessitate a new round of records review and field investigations.

Including Lead Connectors in Inventory -- The tracking of lead connectors should be an element of the system’s materials evaluation (i.e., § 141.42(d) as referenced in LCRI at § 141.86(a)(i)) rather than an element of the inventory as described in the Proposed Rule at § 141.84. Lead connectors should not be included in the inventory at all, but if included, need not be categorized in the extraordinary detail included in § 141.84(a)(2)(ii).

Lead connectors, that is a *“short segment of piping not exceeding two feet”* (§ 141.20), are a distraction that CWSs can ill afford when considered in the broader context of replacing LSLs and GRRSLs and doing so within the timeframe EPA proposes in the LCRI. Where lead connectors were not already being replaced in the course of ongoing CWS infrastructure work, the LCRI will require CWSs to replace them when encountered (§ 141.84(e)). Lead connectors will almost exclusively exist where there is a LSL, GRRSL, or galvanized service line that has not been replaced. In many, if not most, CWSs there is little distinction between a GRRSL and a galvanized service line, given the high documentation standard for demonstrating a galvanized service has never been preceded by lead service line. An emphasis on documenting lead connectors to the degree expected for (1) regulatory filings and (2) presentation to

the public shifts limited available resources away from activities that EPA is emphasizing as an important risk reduction measure – identifying and replacing LSLs and GRRSLs. EPA does not have strong basis for include GRRSLs in the LCRR / LCRI inventory and service line replacement requirements. The premise for identifying and proactively targeting these two-foot long or less lengths of lead pipe is weaker still in that these short lengths of pipe will tend to be located at a distance from the building such that drawing water into the building is unlikely to result in a discernable increase in lead concentration. As a result research to-date has not demonstrated a significant effect on observed lead levels from lead connectors.

Including Non-Lead Service Lines in Inventory – Section 141.90 (e)(1), (2), and (4) as proposed limit the system’s duty to report to the LSLs, GRRSLs, and LSUSLs. This is consistent with the currently codified LCRR regulatory text. Because the current proposal requirements for reporting the inventory are so burdensome (i.e., § 141.90(e)(4)), EPA should not require reporting of nonlead service lines. Reducing the reporting to those service lines of interest in the rule

1. Reduces the burden associated with data transfer, especially when states require the use of specific data submittal formats that are not amenable to bulk data submission from existing CWS data systems
2. Reduces the potential for inadvertent errors as even a *de minimus* error rate will be magnified by submittal of a dataset that is ten or more times larger than the dataset actually needed for oversight of the rule
3. Adding nonlead service lines to the inventory would beg the question of the applicability of the requirement and potentially broaden the applicability of this requirement to all CWSs regardless of whether they (a) never had LSLs or GRRSLs or (b) successfully replaced all LSLs and / or GRRSLs. Such an expansion would eliminate the value of regulatory relief provided to such systems within § 141.84(b)(1)(ii) and add additional strain on limited state capacity to (a) manage the data submitted and (b) focus scarce state resources effectively.

As reflected in prior comments above in Sections 3.2 and 3.4 of these comments, the state interest is in total service line counts by category, including nonlead service lines.

Also, the need to report should be distinguished from how a CWS may provide the inventory to the public. As individual property owners and occupants are accessing information about their service line(s), the information provided from the water system will also convey nonlead status in some manner.

Request for Comment 72: *“EPA has heard concern over the ability of States to review all required site sample plans and provide approvals in time for the first tap monitoring period, and is requesting comment on whether EPA should consider a phased approach or alternate approach to reduce the burden on States following the rule compliance date.”*

EPA should revise the LCRI such that the transition to the revised monitoring pool and sampling protocol is phased in over time. There are two ready alternatives

1. Transitioning as systems approach taking their next LCR sample under the current rule (e.g., systems on annual and triennial monitoring stay on their current schedule until the next required monitoring period following the initial compliance date)
2. Transitioning to the new monitoring pool and sampling protocol as a function of system size (e.g., systems serving more than 50,000 persons transition on the next monitoring period following the initial compliance date, systems serving more than 10,000 but less than 50,000 persons transition two – three years later, and systems serving less than 10,000 persons transition a few years later.

The latter option based on system size

1. Affords the greatest consistency in approach nationwide
2. Organizes the transition in a manner that is aligned with states developing capacity and experience overseeing the transition
3. Postpones the transition of the largest number of systems serving the smallest total population until state capacity is ready
4. Best aligns with implementing other facets of corrosion control in the Proposed Rule, like expanding required monitoring of WQPs.
5. Allows smaller systems to focus on characterizing and removing LSLs and GRRSLs during initial final rule implementation.

The second option above is also preferable because it also provides an interval between each group of systems starting the new monitoring requirements. In the Proposed Rule it is a task that must be accomplished within a few months for a significant portion of CWSs and NTNCWSs. Processing monitoring plans is a substantial administrative task, but it is not as daunting a task as managing the subsequent surge in state responsibility when a significant fraction of each cohort of systems exceeds the new lead action level. The Proposed Rule must be changed so that states are not overwhelmed by either task (i.e., review of monitoring plan submittals, oversight of systems in exceedance of the action level).

A staged implementation based on system size has been employed previously to facilitate implementation of an SDWA regulation. Examples include the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)¹⁰⁴ and the Stage 2 Disinfection and Disinfection Byproduct Rule (Stage 2 DBPR).¹⁰⁵

Another benefit of staged implementation is the development of increased laboratory capacity to meet the need for additional sample analysis. The proposed rule will result in a substantial increase in samples, as systems

1. Return to routine monitoring increasing both the number of samples and sampling frequency
2. Are to take samples after replacements

¹⁰⁴ 71 Fed. Reg. at 716.

¹⁰⁵ 71 Fed. Reg. at 415.

3. Are to offer the opportunity for samples to be taken in multiple instances
4. Must initiate monitoring in schools and childcare facilities

As drafted the proposed LCRI requires all systems to implement measure that result in this increase in samples to all occur in a single monitoring cycle (six-month window). While laboratory capacity can grow to accommodate the new demand, changing the rule structure so that increased demand is metered into the certified laboratories such that capacity can development will reduce the potential for:

1. Monitoring and reporting violation due to sample processing backlogs
2. Severe price escalation
3. Inability to utilize entire six months of routine monitoring window to overcome challenges finding appropriate sample site with occupants willing to participate in tap sample monitoring

Where states are active managers of samples or laboratory analyses the potential for state to have to rapidly transition systems to undertaking themselves or purchasing from commercial laboratories would likely have a particularly large impact on small systems.

Request for Comment 73: *“EPA is requesting comment on whether States should be required to maintain records related to distribution system and site assessments conducted by water systems.”*

States should not be required to maintain records related to distribution system and site assessments. EPA has not articulated a purpose for or value associated with states retaining records of these assessments. Retaining such records would impose both a recordkeeping burden on the state and further trivialize such assessments. Greater state recordkeeping burden will lead states to take steps that simplify their responsibilities, like the creation of a specific form or checklist. As these assessments become another paperwork exercise requiring submission of a particular form by a specific deadline they become less thoughtful evaluations.

Moreover, this trivialization of the rule tasks would be reinforced as EPA audits state performance. Such audits emphasize process over substance, again reinforcing the view that what is in reality a challenging task for CWSs to accomplish is merely a paperwork exercise.

Request for Comment 74: *“EPA is requesting comment on whether States should be required to maintain documentation of determinations of more stringent implementation, including but not limited to conditions or approvals related to reduced compliance monitoring and additional information required to conduct a review or designate OCCT.”*

Special Primacy Requirements -- States already have a duty to maintain records with the basis for their decisions both generally, §142.14(a), and specific to the LCR (Subtitle I), §142.14(d)(8). An additional requirement for documentation of LCRI implementation would be redundant with these existing requirements.

More importantly, the LCRI does not describe the criteria a state must adhere to when it is deciding to be more stringent than required by the LCRI. States have the authority under state law to be more stringent than the federal regulation, but if state discretion to require additional stringency is framed in the final federal rule, there must be clear, objective criteria for the imposition of more stringent

requirements. EPA should remove the several provisions from the LCRI that suggest state latitude to be more stringent than the federal rule unless EPA incorporates relevant criteria into the final rule and amends § 142.16 – Special Primacy Conditions, to require states adhere to those criteria.

While EPA underestimates the burden associated with implementing the LCRI, the agency does recognize that the burden is very high. In light of the agency advancing this burdensome a regulation while it is also promulgating and requiring compliance with a primary drinking water standard for PFAS during a similar timeframe, which is also extremely burdensome, EPA should not create additional unjustified or described avenues for additional burden.

Timely policy decisions –Section 2.6 of these comments highlights the importance of timely relevant guidance for effective and efficient rule implementation. Similarly, state practice should entail the timely development of state-specific policies. EPA can facilitate timely development of state policy decisions by:

1. Developing guidance as requested in Section 2.6
2. Timely engagement with states to develop early implementation agreements that incorporate timely state policy development
3. Timely processing of state primacy submittals

Under SDWA, states have at a minimum two years to obtain primacy for new rule requirements and SDWA provides for a two-year extension (a total of four years). In order to pursue LCRI implementation states will need to establish any state specific policies as soon after promulgation as possible and much earlier than the end of the complete primacy application process.

States, like EPA, are better able to develop state-specific policies for SDWA rule implementation when they engage the professional drinking water community. EPA should consider the time needed for state-specific expert discussion and state decision-making when it is planning and budgeting its own work to develop guidance, construct information systems, and evaluate state primacy applications.

3.14 Compliance Dates

Request for Comment 75: *“Whether it is practicable for water systems to implement notification and risk mitigation provisions after full and partial service line replacement (§ 141.84(h)), notification of a service line disturbance (§ 141.85(g)), and associated reporting requirements (§ 141.90(e)(6) and (f)(6)) upon the effective date of the LCRI.”*

Notification of disturbance – Section 141.85(g) is not feasible as written. This provision requires CWSs to

“... provide customers and the persons served by the water system at the service connection with information” including “Public education materials that meet the content requirements in paragraphs (a)(1)(ii) through (iv) of this section” and do so “before any service line that has been shut off or bypassed is returned to service.”

Setting aside that the reference to § 141.85(a) is to a section regarding the content of “written materials.” Systems will not be able to deliver the required notification to “customers” that do not inhabit the structure in time to return the structure to service in a timely fashion that meets the needs of the structure’s occupants. To the degree to which EPA assumes service lines impacted by this provision are rentals and that a significant portion of those rentals will be inhabited by disadvantaged

households, this provision advertently harms the households EPA is most interested in protecting through this rulemaking. It is worth emphasizing that this requirement to provide written notice prior to returning water service also applies to planned and emergency partial and full replacement of service lines.

The only specific description of “delivery” is a footnote on page 4-185 of the Economic Analysis, where EPA assumes that a door hanger will be sufficient. The conundrum is that the anticipated (and costed) compliance strategy is not sufficient to assure compliance with the regulatory text as drafted. EPA did not account for delays in returning water service in its economic analysis. Construction to repair or modify a pipe, meter, or valve will involve returning water pressure to the line prior to filling any associated excavations. If water service cannot be returned to a structure in a timely manner this extends the period of time a work crew will be dispatched to work on a service line but unable to complete their work, reducing the overall efficiency of the crew. EPA requests comment on broadening this notification provision to main construction. The implications of extending outages to achieve required notification would be detrimental to potentially many impacted households.

Successfully providing required information to customers that are not resident at the affected structure within 24 hours of a disturbance that did not involve discontinuing water service is also infeasible for the same reasons as above. Importantly, if the proposed LCRI is not allowing systems to convey information to building occupants by way of the customer, communicating with the customer in this instance is unnecessary. An absentee landlord does not drink the water at a structure they don't occupy, so notifying them within a longer timeframe should be sufficient, as their health is not affected and the Proposed Rule requires the CWS to contact the occupants directly.

Repeated “disturbances” at a single structure – The proposed LCRI treats each “disturbance” as a unique event requiring the provision of information and in some instances pitcher filters. If multiple “disturbances” affect a service line the final rule should provide a mechanism to not require the system provide multiple information packets and additional pitcher filters / replacement cartridges.

Vibration as a disturbance – Section 141.85(g) is proposing that CWSs provide risk mitigation when LSLs, GRRSLs, and LSUSLs are subject to “*physical action or vibration (e.g., mechanical or vacuum excavation during service line material investigations).*”¹⁰⁶ While “e.g.” connotes an example rather than a complete list, the Proposed Rule § 141.85(g) is so broadly drafted that compliance is infeasible and EPA’s economic analysis of the Proposed Rule is inadequate. The Proposed Rule text reads:

“Actions taken by a water system that cause a disturbance include actions that result in a shut off or bypass of water to an individual service line or a group of service lines (e.g., operating a valve on a service line or meter setter, or reconnecting a service line to the main), or other actions that cause a disturbance to a service line or group of service lines, such as undergoing physical action or vibration that could result in pipe scale dislodging and associated release of particulate lead.”

As written, the regulatory text lacks any objective delimitation. Neither the preamble nor the docket provide a technical basis for this requirement. The agency’s economic analysis of the “*physical action or vibration*” trigger condition is limited to disturbances associated with inventorying.

¹⁰⁶ 88 Fed. Reg. at 84925.

EPA has not provided a technical basis for this provision, adequately costed the regulatory requirement, or articulated a demonstrable quantitative benefit. The agency should remove *“or other actions that cause a disturbance to a service line or group of service lines, such as undergoing physical action or vibration that could result in pipe scale dislodging and associated release of particulate lead”* from §141.85(g).

Main Replacement – The provision cannot and should not be applied to encompass main rehabilitation, repair, or replacement. As drafted and evaluated in the Economic Analysis, *“actions taken by water systems”* are singular events rather than multi-day or multi-step processes. As currently drafted, a field crew working on a single block could be tasked with providing the required notice on multiple occasions, reaching occupants prior to restoration of service and reaching “customers” who may not be resident:

1. To all the building units on a block with service lines characterized as LSUSL, LSL, or GRRSL per the LCRI, when initial trenching is done to set up a pipe relay for temporary service
2. To all building units on a block when the main is valved off to insert the relay
3. To each building unit when service is valved off to transfer service to the relay pipe
4. To each building unit prior to returning water service to any service that would still be characterized as LSUSL, LSL, or GRRSL per the LCRI.

In the instance when some or all of the structures have multiple units, the CWS’s crews would have to comply with the LCRI’s expectations that an effort will be made to reach all the affected units. Not only would the field crew need to undertake the above but the efforts undertaken will, per the LCRI, have to be documented.

Time and effort spent engaging building occupants must be used wisely, not just to effectively utilize CWS resources, but to assure that occupants give serious consideration to the information a CWS provides.

Request for Comment 76: *“Whether earlier alternative compliance dates for LCRI are practicable such that water systems transition directly from LCR to LCRI in less than three years (i.e., one or two years) based on the assumption that water systems would comply with the LCR until the LCRI compliance date.”*

The SDWA provides three years following promulgation for implementation of a national primary drinking water regulation unless *“the Administrator determines that an earlier date is practicable”* (42 U.S. Code § 300g–1(b)(10)). The Administrative Procedures Act (APA) requires that final regulations be a logical outgrowth of the proposal. EPA has not described in the preamble or docket a basis for promulgating the final LCRI on an expedited schedule.

While EPA has underestimated the burden (\$3.0 – 4.8 billion annualized) associated with the LCRI, EPA has judged this rulemaking to be much more expensive than any prior SDWA rulemaking. The agency’s annualized cost reflects annualizing over 35 years the capital and operational costs that will accrue in communities across the U.S. in a brief 10-year period. These costs are compared against highly theoretical benefits. There is neither an expectation that 1, 2, or 3 year earlier implementation of the final LCRI would significantly increase any actual health risk reduction nor is there an expectation that earlier implementation would significantly reduce the cost burden on communities and individual household water rates. Moreover, if the incremental benefits of more rapid implementation were

defensible, EPA would have promulgated the LCRR more rapidly and the current administration would have proposed this rule in a more timely manner, as well as, actively sought the infrastructure funding necessary to implement the rule. It is unreasonable for the Administrator to accelerate LCRI implementation when the agency is not yet prepared to provide the support that communities have repeatedly sought over the course of this and prior rulemakings, including:

1. Collaborate in the timely preparation of guidance to support aspects of the rulemaking, like corrosion control treatment, that could already be in preparation
2. Develop and field in the foreseeable future a data system adequate to support states receiving all of the information transfers anticipated by the LCRI
3. Provide translation services support that has been requested by states and water systems to facilitate required outreach to individuals for whom English is not their primary household language
4. Provide funding for full-lead service line replacement adequate to meaningfully support the replacement of service lines on private property at the scale required by the LCRI
5. Provide useful risk communication support that fairly communicates the risk posed by environmental exposures to lead (e.g., model lead exceedance brochures required by Proposed Rule § 141.85(a)(1))

Request for Comment 77: *“Whether there are other LCRR provisions besides the initial inventory and notifications of service line material for which the October 16, 2024, compliance date should be retained.”*

EPA must act immediately (prior to the intended promulgation of the LCRI) to extend the compliance dates for the provisions of the LCRR that EPA does not intend to continue under the LCRI. Currently, systems are expending resources to comply with the LCRR as it is the codified regulation, while EPA is proposing to dramatically change both the substance and deadlines for all but three of the LCRR requirements. Water systems have a duty to comply and have no assurance EPA will meet its promulgation timeline nor that enforcement discretion will occur should EPA not publish the final rule prior to the LCRR compliance dates.

3.15 Consumer Confidence Report

Request for Comment 78: *“EPA is requesting comment on the proposed requirement for systems to provide an informational statement in the CCR about the school sampling requirements with the information that consumers can contact the school or child care facility about any potential sampling results.”*

The consumer confidence report (CCR) is already a complicated document containing information that is difficult to convey within the confines of the CCR rule. To add an additional component regarding in-school lead sampling would be a further and substantial complication. The CCR must already capture and characterize compliance monitoring which reflects parameters from both finished water and distribution system monitoring. That data includes monitoring from LCR compliance monitoring. Within the service area there may be multiple school systems and likely multiple child care centers, some of which will be engaged in monitoring in each of years one through five of the LCRI school and child care monitoring program. There could also be requested monitoring, and there may be additional

monitoring required by state law. Introducing this complexity into the CCR only serves to create confusion in the community the water system serves rather than a clear targeted communication of relevant information.

3.16 Definitions

Request for Comment 79: *“EPA is seeking comment on all aspects of the proposed definitions, and specifically the following: b. EPA is proposing to define a two-foot maximum length of connectors. EPA proposes that “connectors” that exceed two feet in length be treated as a service line. EPA is requesting comment on the defined length of a connector.”*

Service line -- The definition of a service line at § 141.2 of the proposed LCRI is incomplete and will be misconstrued. The current definition reads:

“Service line, for the purpose of subpart I of this part only, means a portion of pipe which connects the water main to the building inlet. Where a building is not present, the service line connects the water main to the outlet.”

The definition should be revised to read:

“Service line, for the purpose of subpart I of this part only, means a portion of pipe which directly connects the community water system’s water main to the building inlet first fitting inside the building (i.e., connecting the service line to the building water system). Relevant service lines are those that supply water for drinking and cooking in the building. The term service line does not include private water mains. ~~Where a building is not present, the service line connects the water main to the outlet.~~ Where a private main exists between the community water system main and a building, associated service lines are not subject to subpart I.”

CWSs should not be responsible for (1) diagramming on-site distribution system piping networks or (2) taking responsibility for “distribution systems” maintained by others and only connected to the water system by virtue of the sale of water through a mass meter. Many, if not most, of these situations either are state-recognized public water systems or are public water systems as defined by SDWA.¹⁰⁷ Their status as unregulated (or less regulated) PWSs should not lead to a burden on regulated PWSs.

Vacant and unimproved lots are addressed through other comments in this submission that recommend that service lines associated with such lots be addressed through administrative mechanisms rather than the Proposed Rule requirements (see Section 3.4 of these comments). If EPA believes it must include instances where a building is not present in this definition then, the current text should be modified to read, *“Where a building is not present, the service line connects the water main to the first outlet.”* Or similarly revised to match the same intent if EPA revises the definition of service line as recommended in Section 3.16 of these comments.

Description of Full-Replacement -- The Proposed § 141.84(d)(6)(iii)(B) description of a full-replacement is currently unclear and can be misconstrued. As proposed, the pipe being replaced will also have to be disconnected from the customer’s side of the connection.

¹⁰⁷ 42 U.S. Code § 300f(4)

3.17 Questions from within Preamble

Request for Comment 80: *“A system’s existing authority to access the service line and complete the full service line replacement might provide the system with the legal authority to conduct the service line replacement over the objection of the property owner or resident. However, as some stakeholders noted, requiring service line replacement at properties where customers object to their replacement could create potential safety concerns for utility staff. EPA is seeking comment on whether the proposed LCRI should either allow systems to treat those service lines as not under the control of the system and forego replacement of the lines or require systems to conduct full service line replacement in situations where the system has legal access to conduct the full replacement but property owners or residents deny physical access.”*

See comments in Legal Review section of these comments (see Section 4.7).

Request for Comment 81: *“While EPA is not proposing to establish a maximum stagnation time in the LCRI because the Agency is concerned about samples being invalidated solely because the sample result is high, EPA is seeking comment and data, including modeling and sampling data, on potential maximum stagnation times, and specifically how stagnation times inform corrosion rates.”*

EPA should utilize this rulemaking as an opportunity to improve the clarity of the current model household sampling protocol instruction and incorporate elements to support final rule implementation. Through this rulemaking, EPA must provide the required sampling protocol instructions so that water systems can implement sampling without fear that their best efforts are second-guessed by state or federal regulators. This will require updating the current EPA model instructions to support the final rule provisions. EPA should work with AWWA and CWSs to ensure the protocol supports implementation as well as assure the understandability of the instructions through focus groups and/or consultation with experts in public health communication.

EPA is well aware that at very long periods of protracted stagnation water quality is impacted by a number of chemical and biological processes, hence among other activities, the M/DBP rulemaking that is now underway. The more relevant question is whether a stagnation timeframe of a few days leads to meaningfully different lead observations from a 6, 10 or 12 hour stagnation period. The Proposed Rule Tiers includes galvanized piping as well as multi-family building sample sites. Sample sites can include both kitchen and bathroom faucets, even when a faucet (like a second or third bathroom) is not in routine use. Systems are striving to accrue sufficient samples to meet the required number of routine monitoring sample sites and thus prompting households to sample even when a housing unit has been uninhabited (e.g., on return from a vacation or business travel). There is clearly the possibility that water could be stagnant for protracted periods, sufficient to warrant simple measures to help assure some degree of trust that the sample result reflects what it is intended to represent. Such measures can be included in the household sampling protocol instructions. Measures like:

1. Draw the sample from a faucet that is routinely used and has been used regularly in the last several days
2. If a faucet has a single control for hot and cold make sure its last routine use was with cold water before starting the stagnation period
3. If a faucet has not been used in the last 18 hours wait and initiate the stagnation period after more regular use is occurring

The LCR provides very limited opportunity to invalidate samples once accepted. So, adherence to household tap sample instructions should be captured in the chain of custody tracking for the sample, such that when a sampler documents inappropriate sample practice, the sample can be recognized as problematic, discarded, and re-sampling attempted.

Request for Comment 82: *“EPA is seeking comment about the potential inclusion of samples from lower-priority tiers (i.e., Tiers 3 through 5) that have a higher lead or copper concentration than samples from Tier 1 and 2 sites for calculation of the 90th percentile for systems that do not have a sufficient number of samples from Tier 1 and 2 sites. Additionally, EPA is seeking comment on whether to require systems to use samples with the highest lead and copper concentration regardless of sampling tiers, such as including samples from lower-priority tiers (i.e., Tier 3 through 5) in the 90th percentile calculation for systems that are collecting compliance samples from all Tier 1 and 2 sites.”*

Incorporating Tier 3 – 5 Sample Results in Exceedance Calculation -- In calculating whether a system has exceeded the lead action level, § 141.80(c)(3)(ii), reads,

“For water systems with lead service lines with sites identified as Tier 1 or 2 under § 141.86(a) with enough Tier 1 or 2 sites to meet the minimum number of sites listed in § 141.86(c) or (d) as applicable: ... Lead or copper sample results from Tier 3, 4, or 5 sites cannot be included in this calculation.”

EPA cannot intend to preclude systems from including Tier 3, 4, or 5 sample sites when the CWS has otherwise exhausted necessary efforts to otherwise achieve sampling at Tier 1 and 2 sample sites shown in the monitoring plan submitted to the state prior to compliance monitoring per § 141.90(a)(i). Where systems have attempted but failed to successfully engage Tier 1 and 2 customers in compliance monitoring, Tier 3 – 5 sample sites should be acceptable in the compliance dataset, even if the service line inventory continues to reflect unsampled homes with lead services. This clarification will be increasingly important over time as CWSs successfully reduce the number of lead service lines in their service area, and the remaining occupants with LSLs are either difficult to reach or uncooperative and where the remaining LSLs are associated with vacant properties. The report required in § 141.90(a)(i)(B) provides an opportunity to report the system’s best efforts to comply.

Highest Lead and Copper Concentration Regardless of Sampling Tiers – EPA is now in its second rulemaking in three years for the singular purpose of emphasizing controlling lead release from LSLs and GRRSLs. The current exceedance calculation involves:

1. Prioritizing Tier 1 and 2 sample sites
2. If needed to complete the compliance dataset adding the highest values from supplemental monitoring data that fit Tier 1 and 2 sample sites and sample protocol requirements
3. Then adding the highest values from Tiers 3, 4, and 5.

The sampling pool for the Tier 1 – 5 samples other than supplemental monitoring data points reflect a sample plan approved by the state. In this construct, the proposed incorporation of high lead and copper observations from Tier 3 – 5 will be necessary as pointed out in the comment response above.

A revised construct that brings Tier 3 – 5 observations forward preferentially should be accompanied by removal of the supplemental monitoring dataset from the exceedance calculation. The supplemental monitoring dataset will likely be lower quality data in that it will be less well curated than the compliance data set in the approved monitoring plan. This critical calculation should use the more curated dataset.

Request for Comment 83: *“A deadline for inventory completion that precedes the deadline for mandatory service line replacement could reduce the possibility of non-compliance with the replacement deadline, but it would not have the advantages of a consolidated deadline as described above. EPA seeks comment on its rationale for the consolidated deadline approach as compared to an earlier deadline for identifying unknown service lines.”*

The docket does not include information that captures the practical steps CWSs must undertake to implement a program such that EPA would have a factual basis for setting an alternative deadline for inventory completion. CWS are balancing lead service line characterization, validation, and replacement activities. EPA has acknowledged there are numerous variables specific to each CWS that will determine how each CWS will pursue program implementation and which elements will be prioritized over another in a particular CWS’s program timeline. For example, there will be CWSs that:

1. Have a significant percentage of their service lines that are LSUSLs due to a lack of information about customer-owned service line materials
2. Are attempting to overcome barriers to program implementation that require changes in local or state law (e.g., access issues that EPA has alluded to in the preamble)
3. The number of replacements required are more daunting than the remaining effort to complete the inventory and warrant an early focused effort on known LSLs
4. Systems that are reliant on a successful validation study to assure state acceptance of their inventory (and the subset of those systems which have validation studies that fail)

Request for Comment 84: *“While water systems are required to notify consumers of disturbances resulting from water main replacement under these proposed requirements, EPA is also requesting comment on whether to require distribution of filters for this type of disturbance.”*

Disturbances as described in § 141.85(g) is so broad a scope of potential “actions” as drafted that providing the information Proposed Rule compliance is infeasible (see comment above in Section 2.7).

The addition of the burden of providing filters would further complicate the logistics of field activities by requiring CWSs to implement a measure in additional instances that EPA has not demonstrated will afford any meaningful additional risk reduction beyond protections that already occur or are already incorporated into the Proposed Rule. See related responses to Requests for Comment 55, 57, 59, and 73 regarding the value of filter distribution in this scenario as well.

4 LEGAL REVIEW

4.1 Introduction to Legal Section

The proposed LCRI revision raise serious policy and legal questions relating to the scope of EPA’s authorities under the SDWA and does not comply with the Agency’s obligations under the APA. For example, the SDWA provides that EPA can only promulgate national drinking water regulations that are

“feasible.” The SDWA defines “feasible” by reference to treatment techniques that “are available (taking cost into consideration).”¹⁰⁸ When assessing feasibility, EPA’s analysis should be governed by several guiding principles: First, as EPA has previously recognized, inherent in the idea of “feasibility” is the notion that a standard or requirement will not result in widespread non-compliance, particularly for reasons outside of a PWS’s control.¹⁰⁹ This means that even if a requirement might be “possible” for well-resourced systems under unique circumstances, EPA must regulate with an eye towards the nature of those entities it is regulating, taking into account that many are small, rural, public, or quasi-public, and that rate structures result in compliance costs being passed onto customers.

Second, “feasibility” cannot be viewed in a vacuum: EPA must recognize that it has, or is in the process of finalizing a number of additional requirements that it will impose of these same systems during the same time period as this Proposed Rule. When considering what is “feasible” for these systems, EPA must holistically consider the cumulative impacts of these rules in terms of their costs and resource demands so that it does not set these systems up for failure or create undue hardships for customers. Notably, while EPA has underestimated the burden (\$3.0 – 4.8 billion annualized) associated with the LCRI, even by its own under-estimation, EPA has judged this rulemaking to be much more expensive than virtually all prior SDWA rulemakings. And EPA’s annualized cost reflects amortizing over 35 years the capital and operational costs that will accrue in communities across the U.S. in a brief 10-year period. At the same time, EPA is proposing a costly MCL for several PFAS that will also require significant capital expenses for these same water systems.

As explained throughout these comments, many aspects of the Proposed Rule are not feasible. AWWA raises these issues in the hope that they will inform a final rule that can both further public health and stand on a firm legal footing. In addition, the Proposed Rule goes beyond EPA’s statutory authority under the SDWA by attempting to regulate service lines and other facilities not within the control of PWSs.

¹⁰⁸ 42 U.S.C. § 300g-1(b)(4)(D) (defining “feasible” to “mean[] feasible with the use of the best technology, treatment techniques and other means which the Administrator finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are available (taking cost into consideration)”); see *also* National Primary Drinking Water Regulations for Lead and Copper: Improvements (LCRI), 88 Fed. Reg. 84,878, 84,901 (Dec. 6, 2023). When establishing a treatment technique in lieu of an MCL, the Agency must identify those treatment techniques “which, in the Administrator’s judgment, would prevent known or anticipated adverse effects on the health of persons to the extent feasible.” 42 U.S.C. § 300g-1(b)(7)(A). Legislative history of the SDWA indicates that feasibility is relative to the resources of large public water systems: “[T]he Committee intends that the Administrator’s determination of what methods are generally (taking cost into account) is to be based on what may reasonably be afforded by large metropolitan or regional public water systems.” H.R. Rep. No. 93-1185, reprinted in 1974 U.S.C.C.A.N. 6454, 6470–71 (1974); see *also* S. Rep. No. 104–169, at 3 (1995) (feasibility is based on best available technology affordable to “large” systems). In the litigation over the original LCR, the D.C. Circuit found reasonable EPA’s interpretation of “feasible” to mean “capable of being accomplished in a manner consistent with the [Safe Drinking Water] Act.” *AWWA v. EPA*, 40 F.3d 1266, 1271–72 (D.C. Cir. 1994). “[F]easible’ must mean what EPA says it does: technically possible and affordable.” *City of Portland, Or. v. EPA*, 507 F.3d 706, 712 (D.C. Cir. 2007).

¹⁰⁹ 56 Fed. Reg. at 26,476 (EPA recognizing that if it set an MCL for lead, many water systems would be out of compliance and there is “no indication” in the SDWA or in its legislative history that “Congress envisioned establishment of MCLs that would result in widespread noncompliance among water systems because of contamination caused by conditions by their control.”).

Below is a more detailed and extended description of the legal and policy issues that AWWA has identified, focusing on points not specifically addressed in the earlier more technically based comments. We note that because the Agency is required to act in a lawful way that complies with the limits of the SDWA, the Paperwork Reduction Act, the APA, and must not be arbitrary or capricious (such as through inadequate or improper benefit - cost analysis) many of the comments raised throughout this letter also address potential legal infirmities in the Proposed Rule. What follows are additional specific points not addressed in detail elsewhere in this letter.

4.2 Legal Standard

As EPA knows, courts will set aside agency action that is “*arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.*”¹¹⁰ Agency action that violates its organic statute is not in accordance with law within the meaning of the APA,¹¹¹ and to the extent the final LCRI goes beyond EPA’s authority under the SDWA, it therefore also violates the APA. In addition, the APA requires EPA to engage in reasoned decision-making, including to “*consider[] the relevant factors and articulate[] a rational connection between the facts found and choice made.*”¹¹² The LCRI will be set aside if the agency fails to provide a reasonable explanation for its decision, fails to consider an important part of the problem, or provides an explanation that runs counter to the evidence before it.¹¹³ “Conclusory explanations for matters involving a central factual dispute where there is considerable evidence in conflict do not suffice to meet the deferential standards” of arbitrary and capricious review¹¹⁴ and “[m]erely referencing a [statutory] requirement is not the same as complying with that requirement. And stating that a factor was considered—or found—is not a substitute for considering or finding it.”¹¹⁵ In addition, the rule must be supported by substantial record evidence. EPA must also ensure that its benefit - cost analysis for this rule complies with both the SDWA and APA’s requirements.¹¹⁶

¹¹⁰ 5 U.S.C. § 706(2)(A).

¹¹¹ See *Nat. Res. Def. Council v. Regan*, 67 F.4th 397, 411 (D.C. Cir. 2023) (Pan, J., concurring); *Ethyl Corp. v. EPA*, 306 F.3d 1144, 1150 (D.C. Cir. 2002).

¹¹² *City of Portland*, 507 F.3d at 713 (internal quotation marks and citation omitted); see also *Env’t Def. Fund v. FERC*, 2 F.4th 953, 967–68 (D.C. Cir. 2021) (“[T]he overarching question . . . is whether the [agency]’s decision making was reasoned, principled, and based upon the record.” (internal quotation marks and citation omitted) (alteration omitted)); *id.* at 968 (When the agency’s “explanation for a contested action is lacking or inadequate, it will not survive judicial review and the matter will be returned to [the agency] for appropriate action.”).

¹¹³ See *Motor Vehicle Mfrs. Ass’n of the U.S., Inc., v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

¹¹⁴ *Genuine Parts Co. v. EPA*, 890 F.3d 304, 346 (D.C. Cir. 2018) (quoting *Int’l Union, United Mine Workers v. Mine Safety & Health Admin.*, 626 F.3d 84, 94 (D.C. Cir. 2010)).

¹¹⁵ *Cigars Ass’n of Am. v. USDA*, 964 F.3d 56, 62 (D.C. Cir. 2020) (quoting *Gerber v. Norton*, 294 F.3d 173, 185 (D.C. Cir. 2002)); see also *Lindeen v. SEC*, 825 F.3d 646, 657 (D.C. Cir. 2016) (observing that agency action is arbitrary and capricious if the agency fails to consider “a factor the agency must consider under its organic statute” (citation omitted)).

¹¹⁶ Although an agency’s cost-benefit analysis is generally afforded some level of deference, “a serious flaw undermining that analysis can render the rule unreasonable.” *Nat’l Ass’n of Home Builders v. EPA*, 682 F.3d 1032, 1040 (D.C. Cir. 2012); see also *City of Portland*, 507 F.3d at 713 (where SDWA permits or requires cost-benefit analyses, courts “will [not] tolerate rules based on arbitrary and capricious cost-benefit analyses”); *Owner–Operator Indep. Drivers Ass’n v. Fed. Motor Carrier Safety Admin.*, 494 F.3d 188, 206 (D.C. Cir. 2007) (vacating regulatory provisions because the cost-benefit analysis supporting them was based on an unexplained methodology). See also *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1217–22 (5th Cir. 1991) (faulting agency’s cost-benefit analysis for failing to analyze “intermediate state[s] of regulation” and failing to account for risk-risk

4.3 EPA Reasonably Determined Not to Set an MCL for Lead Because it Remains Infeasible to Do So.

The SDWA operates by imposing either MCLs on a water system, or using a treatment-technique-based approach when the EPA finds “it is not economically or technologically feasible to ascertain the level of the [regulated] contaminant.”¹¹⁷ In such a case, the EPA identifies treatment techniques, that in its judgment, “would prevent known or anticipated adverse effects on the health of persons to the extent feasible.”¹¹⁸ If EPA elects to use an MCL for a contaminant, it must set the MCL “as close to the maximum contaminant level goal as is feasible.”¹¹⁹ The maximum contaminant level goal (MCLG) is “the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety.”¹²⁰

Here, it is important to recognize that EPA is not writing on a blank slate, and both the agency and the public water systems have several decades of experience working through the challenges associated with reducing lead levels in drinking water. EPA introduced the first LCR in 1988 and in 1991, EPA set the MCLG for lead at zero solely based on the adverse health effects of lead without consideration of cost or technical feasibility.¹²¹

Since 1991, water systems, states, and EPA have made tremendous progress in reducing lead exposure in drinking water and keeping communities and children safe through the use of a treatment technique-based rule. The number of large water systems that have exceeded the lead action level has dropped by over 90% and the median concentration of lead in children’s blood has dropped 95%.¹²² This progress demonstrates that use of a treatment technique to address lead in drinking water has been successful. AWWA appreciates and recognizes the need to do more to address these issues. However, those who have advocated for an MCL, rather than a treatment technique, fail to understand the complexities of treating lead in drinking water, which is more effectively addressed through a treatment technique.

trade-offs among alternative agency actions); *Bus. Roundtable v. SEC*, 647 F.3d 1144, 1149–54 (D.C. Cir. 2011) (faulting agency’s cost-benefit analysis for failing to “estimate and quantify” certain costs (or stating that such costs could not be estimated), relying on empirical studies that only provided “mixed” support, unduly discounting certain costs, and failing to consider the costs that the rule would be counterproductive to statutory costs). *Cf. Michigan v. EPA*, 576 U.S. 743, 752–53 (2015) (“Agencies have long treated cost as a centrally relevant factor when deciding whether to regulate. Consideration of cost reflects the understanding that reasonable regulation ordinarily requires paying attention to the advantages *and* the disadvantages of agency decisions.”). The SDWA likewise directs EPA to analyze the costs and benefits of its proposals to set national primary drinking water regulations. *See* 42 U.S.C. § 300g-1(b)(3)(C)(ii).

¹¹⁷ 42 U.S.C. § 300g-1(b)(7)(A).

¹¹⁸ *Id.*

¹¹⁹ *Id.* § 300g-1(b)(4)(B).

¹²⁰ *Id.* § 300g-1(b)(4)(A).

¹²¹ *See* Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper, Final Rule, 56 Fed. Reg. 26,460, 26,460 (June 7, 1991). Indeed, EPA typically sets the MCLG at zero for contaminants with carcinogenic effects and for microbial contaminants. ELENA H. HUMPHREYS, CONG. RES. SERV., REGULATING CONTAMINANTS UNDER THE SAFE DRINKING WATER ACT (SDWA) 13 (Jan. 5, 2022) (citing *How EPA Regulates Drinking Water Contaminants*, EPA, <https://www.epa.gov/sdwa/how-epa-regulates-drinking-water-contaminants#standards> (last visited Sept. 26, 2022)).

¹²² National Primary Drinking Water Regulations: Proposed Lead and Copper Rule Revisions, Proposed Rule, 84 Fed. Reg. 61,684 61,685 (Nov. 13, 2019); National Primary Drinking Water Regulations: Lead and Copper Rule Revisions, Final Rule, 86 Fed. Reg. 4,198, 4,199 (Jan. 15, 2021).

While MCL-advocates focus on the rate of lead service line removal, corrosion control provides the most immediate protection to the public and will continue to be necessary even after LSL have been fully removed.

From the beginning, EPA recognized the inherent difficulties of regulating lead in drinking water, as did the U.S. Court of Appeals for the D.C. Circuit when it upheld a challenge to EPA's first LCR.¹²³ EPA has continued to recognize these issues in subsequent rulemakings, including for the LCRR and again in its proposed LCRI. The agency is correct in identifying these challenges, which continue to make an MCL infeasible, and are briefly summarized below.

First, lead contamination results primarily from corrosion of historic lines and plumbing materials through which treated water flows.¹²⁴ While lead is no longer used when new lines are installed, many lead-containing lines and materials remain in place. So unlike other contaminants, which can be treated at water facilities, lead contaminates drinking water post-treatment as it flows through service lines, private lines and fixtures before it reaches the consumer.¹²⁵ Because corrosion from these historic materials is the primary contributor to lead in drinking water, techniques used by water systems to reduce water corrosivity and prevent the leaching of lead from premise plumbing and distribution system components have been the most effective way address lead exposure.¹²⁶

Second, and relatedly, lead was historically used in both service lines, some of which are owned and controlled by water systems, as well as in privately owned service lines and plumbing materials located on property outside of the control of those systems. Congress prohibited the further introduction of plumbing materials that are not "*lead free*" but it did not take the further step of requiring that historic lead-containing materials be removed; as a result, these materials continue to exist in certain older buildings. While PWSs may have the ability to detect and measure lead in tap water for public-owned buildings and structures that they control such as water treatment plants, they do *not* have the authority to control lead in private, customer-owned structures. Thus, it is not technically feasible to set an MCL for lead in PWSs.

¹²³ See *AWWA v. EPA*, 40 F.3d 1266 (D.C. Cir. 1994) See 56 Fed. Reg. at 26,471–73.

¹²⁴ See 88 Fed. Reg. at 84,897 ("Lead can enter drinking water when plumbing materials that contain lead corrode, especially where the water is highly acidic or has a low mineral content that corrodes pipes and fixtures. The most common sources of lead in drinking water are lead pipes, faucets, and fixtures."); 86 Fed. Reg. at 4,199. Corrosion is "the electrochemical interaction between a metal surface such as pipe wall or solder and water." 84 Fed. Reg. at 61,692.

¹²⁵ See 88 Fed. Reg. at 84,906 ("As EPA described in 1991, and is still accurate today, lead and copper do not generally occur in source water, but instead are introduced in drinking water by the corrosive action of water in contact with plumbing materials containing lead and copper."); see also 84 Fed. Reg. at 61,702; 56 Fed. Reg. at 26,473.

¹²⁶ See 88 Fed. Reg. at 84,910 ("Considering the above information and analysis, EPA is determining that the same conditions that prompted EPA to promulgate a treatment technique rule for lead and copper in 1991, still exist today and justify continued use of a treatment technique rule for regulating lead and copper. This includes the nature of lead contamination, where much of the lead in drinking water continues to originate in the distribution system and from sources outside the control of water systems, the condition of water systems' plumbing and distribution system varying from system to system, and the variability of lead and copper levels at the tap."); see also 56 Fed. Reg. at 26,476 ("Water systems can control the main contributor to dissolution of lead . . . plumbing materials – corrosivity of the water."); *id.* at 26,477 ("The [EPA] believes that the treatment technique approach . . . will achieve the public health goals of the SDWA without the problems associated with establishing MCLs.").

Third, even if EPA had the authority to require PWSs to determine or address the level of lead in private homes and other buildings, it is difficult and unpredictable to ascertain the level of lead in drinking water and comparing it to an MCL because lead levels vary significantly across locations, depend on private plumbing materials, and vary over time based on water use. Lead levels in drinking water are highly variable and depend on several factors that affect water corrosivity such as the amount of lead in plumbing materials, temperature, age of plumbing components, chemical and physical characteristics of distributed water, and the length of time water is in contact with lead-bearing materials.¹²⁷ Additionally, source waters of systems vary in the degree of their corrosiveness and the extent to which that corrosivity can be reduced through pH/ alkalinity adjustment, or a corrosion inhibitor.¹²⁸ Developing an effective corrosion control treatment to account for these various conditions is therefore an inherently complex process for individual water systems.¹²⁹ EPA correctly relied on updated studies in this Proposed Rule that demonstrate that these concerns that justified the original determination to use a treatment technique remain true.¹³⁰ Notably, EPA has established a record that affirms that plumbing materials on private property continue to be a source of lead in drinking water and can be a source of particulate lead.¹³¹

Recognizing these complexities, EPA correctly determined in the original LCR that *“water systems should not be held directly responsible for plumbing materials within private home.”*¹³² And EPA correctly reaffirmed this conclusion in the LCRR.¹³³

When the U.S. Court of Appeals for the D.C. Circuit upheld EPA’s use of a treatment technique in a challenge to the first LCR., the Court explained:

*“Because lead generally enters drinking water from corrosion in pipes owned by customers of the water system, an MCL for lead would be neither; ascertaining the level of lead in water at the meter (i.e. where it enters the customer’s premises) would measure the public water system’s success in controlling the contaminant but not the quality of the public’s drinking water (because lead may still leach into the water from the customer’s plumbing), while ascertaining the level of lead in water at the tap would accurately reflect water quality but effectively hold the public water system responsible for lead leached from plumbing owned by its customers.”*¹³⁴

The SDWA grants authority to EPA to promulgate a treatment technique for just such circumstances. Specifically, EPA may do so if it finds that it is not *“economically or technologically feasible”* to determine

¹²⁷ See 56 Fed. Reg. at 26,473.

¹²⁸ See *id.*; 88 Fed. Reg. at 84,936–37; see also *id.* at 84,937 (noting external comments “about the uniqueness of each water system with respect to CCT and that CCT for each water system is different due to the water system’s specific mix of plumbing materials and operations.”).

¹²⁹ EPA correctly reaffirmed in the Proposed Rule that “New information available since the 1991 LCR continues to show that the variability of lead and copper levels make it infeasible to ascertain the level of the contaminant and does not meet the statutory standard for an MCL under SDWA.” See 88 Fed. Reg. at 84,907.

¹³⁰ See 88 Fed. Reg. at 84,907–84,911.

¹³¹ 88 Fed. Reg. at 84,909.

¹³² 56 Fed. Reg. at 26,476.

¹³³ See 86 Fed. Reg. at 4,200 (“Water systems cannot unilaterally implement all of the actions that are needed to reduce levels of lead in drinking water.”).

¹³⁴ AWWA, 40 F.3d at 1271.

the level of lead in a public water system.¹³⁵ The D.C. Circuit was clear over three decades ago that: “EPA is not required by the [SDWA] to set an MCL for lead at the tap,” because the EPA found it was not feasible to do so.¹³⁶ Notably, EPA recognized that if it set an MCL for lead, many water systems would be out of compliance and there is “no indication” in the SDWA or in its legislative history that “Congress envisioned establishment of MCLs that would result in widespread noncompliance among water systems because of contamination caused by conditions by their control.”¹³⁷ Thus, inherent in EPA’s assessment of “feasibility” is the important notion that a standard or requirement is not feasible if it would result in widespread noncompliance. It remains neither technically possible nor affordable to set an MCL for lead because PWSs lack the authority, capabilities, and financial resources to ascertain lead in privately owned lines and other plumbing materials.

Additionally, as EPA recognized in 1991, setting an MCL at the tap for lead is inconsistent with the SDWA’s statutory structure. To set an MCL, EPA must not only determine that it is feasible to measure the contaminant in drinking water; it must also select a level that is as close to the MCLG as “feasible.”¹³⁸ Given lead’s inherent variability across water systems, EPA concluded in 1991 that “there is no precise level at the tap that may generally be considered ‘feasible’ based upon application of the [best available technology] in all water systems across the country.”¹³⁹ While lead levels are dramatically lower and more stable than they were in 1991, there is still a high variability relative to conservative performance criteria that EPA proposes to impose and much of that variability arises due to factors beyond the water system’s control.¹⁴⁰ This variability also explains why an MCL is not only infeasible, but also inconsistent with the SDWA’s objective of preventing “known or anticipated adverse effects on the health of persons to the extent feasible.”¹⁴¹ As EPA correctly explained in the 1991 rulemaking are reaffirmed in this Proposed Rule, the use of an MCL would lead to “unnecessarily high exposures of significant segments of the population” because systems below the MCL “would not be required to install any treatment to be in compliance” even when certain subsets of their customers had lead levels in their drinking water above the MCL.¹⁴² Simply put, an MCL does not offer the same flexibility for EPA to craft a rule that can address variability within a system.

It is also worth noting that the SDWA has been amended since EPA’s 1991 rulemaking, including specific revisions related to the use of lead in plumbing products. While Congress redefined “lead free,” as it applies to lines and plumbing materials, Congress never mandated that EPA set an MCL at the tap, and those post-1991 amendments to the SDWA did not change the fundamental concern that setting an MCL for lead would increase exposure of other drinking water contaminants. In addition, while the SDWA amendments allow EPA to set a higher MCL than otherwise required if necessary to prevent a harmful increase in the concentration of other contaminants, this does not abrogate EPA’s duty to consider what is feasible nor what is within the control of public water systems, nor does it suggest in

¹³⁵ 42 U.S.C. § 300f(1)(C)(ii).

¹³⁶ *AWWA*, 40 F.3d at 1268.

¹³⁷ *Id.*

¹³⁸ See 42 U.S.C. § 300g-1(b)(4)(B).

¹³⁹ 56 Fed. Reg. at 26,473.

¹⁴⁰ See 88 Fed. Reg. at 84,907–09; *id.* at 84,909–10 (“As described above, the variability of lead and copper levels make it ‘technologically infeasible to ascertain whether the lead or copper level at a tap at a single point in time represents effective application of the best available treatment technology.’” (quoting 53 Fed. Reg. at 31,527)).

¹⁴¹ See 42 U.S.C. § 300g-1(b)(7)(A)); 88 Fed. Reg. 84,907.

¹⁴² See 88 Fed. Reg. 84,907 (citing 56 Fed. Reg. 26,477).

any way that EPA must restructure the treatment technique approach that has been successful since 1991. Notably, the SDWA amendments did not remove EPA's discretion to make a reasonable choice between MCLs and treatment techniques. Nothing in the statute or its legislative history show that subsequent amendments changed EPA's discretion and approach to regulating PWSs.

In sum, nothing in the record supports undermining the discretion Congress gave EPA and revisiting the treatment technique approach EPA chose for lead over three decades ago. As such, it would have been arbitrary and capricious for EPA to change its position after so many decades without adequate support in the record to justify this change.¹⁴³ EPA has provided a reasoned explanation based on updated studies and data that fully support its decision to continue to follow this approach. AWWA therefore supports EPA's continued approach to use a treatment technique to address lead through the LCRI.

4.4 A Treatment Technique-Based Rule Remains the Most Sound Approach for Regulating Lead in Drinking Water and EPA is Within its Discretion to Continue to Use This Approach.

EPA's decision to continue to use a treatment technique-based rule is not only within the Agency's discretion but is also a proven and reasonable approach that has successfully reduced lead in drinking water and effectively accounts for the inherent complexities of lead contamination. Unlike an MCL, which mandates a level but does not allow EPA to select specific compliance methods, the use of a treatment technique for lead allows EPA to craft a rule that includes optimizing corrosion control, public education, water quality parameter monitoring, source water treatment, and LSL replacement. This is particularly important for an issue like lead, where presence in private plumbing materials or other factors can result in variability between specific buildings. As previously noted in these comments, a MCL-based rule would mean that a water system could achieve compliance with the standard even when certain subsets of the customer base exceeded the MCL. While no regulatory approach is ever perfect, by instead using a treatment technique approach, EPA can provide a variety of risk reduction strategies that more holistically address this complex issue.

Corrosion remains the primary pathway for lead entering drinking water, and it occurs when treated water reacts with lead-containing plumbing materials and lead is released from plumbing materials and into the water system. To control corrosion, water systems can adjust the treated water's corrosivity to mitigate its potential to leach lead from plumbing materials. As such, corrosion control remains one of the most cost-effective and efficient methods for public water systems to address the complex problem of lead exposure in drinking water. However, corrosion control is complex and effective treatment depends on many factors such as source water quality, composition of distribution system and plumbing, water pH, water alkalinity, temperature, water use patterns, and the presence or absence of protective scales inside pipes. While corrosion control has its own limitations, the LCRI effectively accounts for these variables by providing water systems with the flexibility to consider which corrosion control treatment methods are most effective for particular locations and particular water systems. A treatment technique-based rule that includes corrosion control treatment has demonstrated success in reducing lead exposure as the number of large water systems that has exceeded the lead action level

¹⁴³ See *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009) (agencies must show "that there are good reasons for [a] new policy").

has dropped by over 90% and the median concentration of lead in children's blood has dropped by 95%. AWWA has provided supporting materials as appendices to this comment letter.¹⁴⁴

4.5 A more stringent regulatory regime or implementing LCRR until LCRI goes into effect would not be feasible.

AWWA supports EPA's proposal for public water systems to continue to comply with the LCR requirements, other than specific LCRR provisions for preparation of an inventory, customer notification of service line materials, and public notification, until the LCRI compliance date.¹⁴⁵ Given the myriad of specific differences between the LCRR and LCRI requirements, and the aggressive timeline for LSL and GRRSL removal under the LCRI, it would not only be a tremendous waste of resources for systems to implement the LCRR, but would also be infeasible for systems to do so *and* be prepared to comply with LCRI. As explained further below, EPA has wisely chosen to focus the limited resources of PWSs and the states on preparing to implement the LCRI. Indeed, doing otherwise would have been arbitrary and capricious. As EPA has correctly recognized, preparing for and implementing the LCRR will not cause water systems or states to be further prepared for the LCRI but will instead detract and distract from their ability to do so.

EPA must recognize the monumental difference in regulatory requirements now being proposed for water systems through the LCRI, and in order to make this transition possible, EPA must provide a further delay of the compliance dates in the LCRR (beyond those still required by the LCRI) before finalizing the LCRI. As detailed further below, this will save water systems from the impending need to devote resources to preparing to comply with a rule that EPA has already declare it intends to replace. LCRR compliance should not become a distraction to systems and states as they attempt to prepare for the LCRI. A one-year delay in LCRR compliance would likely provide sufficient time for EPA to finalize the proposed LCRI. With a final LCRI, water systems would clearly understand how LCRI impacts LCRR provisions, and they could make the proper investments to comply with the rule. In doing so, EPA would be following the same approach that it has recently taken for lead and copper rulemakings. In 2021, EPA adjusted the effective date of the LCRR twice in order for the agency to review the rule requirements. In the second of those adjustments, the agency made a reasoned decision to delay the rule compliance dates. Now is the time for EPA to take a similar action.¹⁴⁶

Requiring compliance with the LCRR prior to the LCRI's compliance date would be both infeasible and bad policy. -- PWSs, many of whom are small, public, or quasi-public entities, have limited resources and ability to rapidly respond to changes in regulatory requirements. Due to the public or quasi-public nature of many PWSs, they often need time in advance of new requirements to submit budget

¹⁴⁴ See Brown et al, 2013, Strategies for assessing optimized corrosion control treatment of lead and copper, Journal AWWA:105:5, figure 1, <https://doi.org/10.5942/jawwa.2013.105.0066>, (see Appendix G); see also EPA, "Analysis of Impacts of Corrosion Control Treatment on Lead and Copper Levels over Time" March 2014" Multiple figures, (see Appendix H).

¹⁴⁵ See Proposed § 141.80(4)(i) ("community water systems and nontransient non-community water systems must comply with 40 CFR 141.80 through 141.91, as codified on July 1, 2020, except systems must also comply with 40 CFR 141.84(a)(1) through 141.84(a)(10) (excluding §§ 141.84(a)(7)); 141.85(e); 141.90(e)(1) and 141.90(e)(13); 141.201(c)(3); 141.202(a)(10); and 141.31(d), as codified on July 1, 2023.").

¹⁴⁶ See National Primary Drinking Water Regulations: Lead and Copper Rule Revisions, 86 Fed. Reg. 14,003 (Mar. 12, 2021); Delay of Effective Date National Primary Drinking Water Regulations: Lead and Copper Rule Revisions; Delay of Effective and Compliance Dates, 86 Fed. Reg. 31,939 (June 16, 2021).

proposals to the bodies that approve their budgets. Even investor-owned PWSs will have to plan their budgets, accounting for other EPA regulations being simultaneously introduced and consider how to adjust water rates so that they do not rise at too rapid a pace for their customers. Given these budgeting and operational constraints, responding to EPA regulations, and providing safe, affordable, and reliable drinking water is often a zero-sum game. Every marginal dollar and staff hour spent complying with any given set of regulatory requirements must be shifted away from controlling other contaminants or implementing necessary operational maintenance or improvements. While EPA may compare costs and benefits for the nation as a whole, individual water systems that incur compliance costs must pass those costs directly to that system's local customer base. Those costs can result in higher rates (i.e., household water bills) with no corresponding benefit in water quality or public health. Such costs can be particularly difficult for small systems that serve a limited number of customers.

Congress recognized, and addressed, this very concern when enacting and amending the SDWA.¹⁴⁷ Indeed, the SDWA defaults to a the compliance date three years after the publication of the rule, so that these systems and the states with primacy have the time necessary to make changes to their operations and prepare budgets for the new requirements.¹⁴⁸ This unique aspect of the SDWA stands in contrast to most statutory schemes, where Congress has allowed agencies flexibility to determine appropriate compliance dates, and generally takes no position on whether a rule goes into effect within days or weeks of a rule's promulgation. It demonstrates Congress's recognition of the unique challenges posed to water systems in implementing national drinking water regulations and the Congressional intent to provide those systems with appropriate time to implement new requirements. The statute only allows for a shorter timeline before compliance when *"the Administrator determines that an earlier date is practicable."*¹⁴⁹ Notably, the Administrator has not made any such determination for this or any previous iteration of the lead and copper rule—nor could he, as the costs and complexity of these treatment technique rules would make it not only not practicable but impossible for water systems to begin to comply with a shorter lead time. Because no record can be made to support a shorter period EPA must, at a minimum, retain the three years between the LCRI's promulgation and effective date.

This same default presumption of three years to prepare for compliance is also what makes EPA's decision to largely transition from the LCR to the LCRI so critical: the LCRR and it's now almost certain to be replaced provisions is set to go int effect on October 16, 2024. EPA has wisely recognized that water systems will need the SDWA's default of three years from final publication in order to prepare for the implementation of the final LCRI, and has therefore proposed a compliance date three years from the finalized LCRI's publication.¹⁵⁰ Indeed, AWWA would argue that three years is insufficient time given all of the requirements in the Proposed Rule, and less time would certainly be infeasible and therefore urges EPA to use the authority Congress provided it for just such circumstances by granting a nationwide

¹⁴⁷ See H.R. Rep. No. 104-632, at 9 (1996) (customers "are not willing to pay for complying with drinking water rules that provide only marginal increases in health protection at significant costs" (citation omitted)); See also H.R. Rep. No. 115-380 at 12 ("Most community water systems (82 percent of all CWSs) are relatively small, serving 3,300 people or fewer; but these systems provide water to just 9 percent of the total population served by community water systems. In contrast, 8 percent of all CWSs serve 82 percent of the population served.").

¹⁴⁸ See 42 U.S.C. § 300g1(b)(10).

¹⁴⁹ *Id.*

¹⁵⁰ 88 Fed. Reg. at 84,897.

two-year extension to this deadline because of the capital improvements (in the form of LSL removal) required by the Proposed Rule.¹⁵¹

Likewise, states with primacy have limited resources and budgets which will be better directed at preparing for and implementing LCRI than attempting to comply with interim requirements during a three-year transitional period between LCRR and LCRI. AWWA therefore agrees with EPA that

“[a]llowing water systems to transition from compliance with the LCR to compliance with the LCRI, while requiring systems to prepare the initial LCRR inventory, customer notification of service line materials, and public notification requirements in the interim, would result in more resources being focused on service line characterization and subsequent full service line replacements and thus, broader and faster health risk reduction than if adequate planning for LCRI compliance did not take place because of the diversion of scarce system and State resources towards short-term implementation of the LCRR.”¹⁵²

This is a sound and reasonable approach that recognizes the realities of the challenges that states and public water systems face in addressing this complex and costly problem.

EPA has also correctly recognized a number of places where the LCRR misdirected the limited resources of states and public water systems and AWWA applauds EPA’s revisions which are designed to remove requirements that would detract from focusing those resources on best addressing ways to remove lead from drinking water, including:

1. Revising OCCT requirements because *“resources would be better devoted to other mitigation activities rather than repeating the same steps, as well as the proposed LCRI would require those systems that continue to exceed the action level to conduct additional public education ...”¹⁵³*
2. Recognizing that *“a requirement for the water system to document the material composition of each fitting and all solder in the service line would not be practicable and would divert resources from replacing LSLs and GRR service lines as quickly as feasible as well as likely result in the unnecessary replacement of lead free fittings and solder where documentation of their material is unable to be obtained.”¹⁵⁴*
3. Explaining that *“[e]xcavation efforts to search for lead connectors would draw funding and staffing resources from the identification and replacement of LSLs and GRR service lines, likely delaying elimination of these service lines in the system as quickly as feasible.”¹⁵⁵*
4. Removing pipe loop study requirements because it *“would allow water systems to dedicate more staffing and financial resources to replacing lead and GRR service lines within five years rather than focusing on a pipe loop study with results that may no*

¹⁵¹ 42 U.S.C. § 300g–1(b)(10) (EPA “Administrator, or a State (in the case of an individual system), may allow up to 2 additional years to comply with a maximum contaminant level or treatment technique if the Administrator or State (in the case of an individual system) determines that additional time is necessary for capital improvements”).

¹⁵² 88 Fed Reg at 84,903.

¹⁵³ 88 Fed Reg at 84,902.

¹⁵⁴ 88 Fed Reg 84,917.

¹⁵⁵ 88 Fed Reg 84,936.

*longer be applicable following 100 percent replacement of lead and GRR service lines.*¹⁵⁶

5. Removing the requirement to develop a LSL replacement plan based on the (different) requirements for triggered replacement under the LCRR, when the LCRI introduces a faster rate and mandatory schedule, meaning that the LCRR-based plan would likely be unused and obsolete by the time LCRI is in effects.

In sum, EPA has also correctly recognized why requiring compliance with the LCRR prior to the compliance date for the LCRI is both infeasible and counterproductive. EPA should continue to take this approach in the final LCRI, as it is both reasonable and helps to ensure that the resulting requirements in the LCRI are feasible.

EPA must undertake a separate rulemaking immediately to extend the compliance dates for the LCRR in light of the Proposed Rule. -- In addition to removing the majority of the LCRR-based requirements during the period between the finalization of the LCRI and its compliance date, it is *critical* that EPA undertakes a separate rulemaking in the interim (i.e., before the LCRI is finalized) to extend the compliance dates for the LCRR. This action is necessary to avoid the very situation that EPA's proposed transition directly from the LCR to the LCRI is designed to avoid: namely, water systems currently expending (and wasting) resources on preparing for compliance with the LCRR because there is no assurance that the LCRI will be finalized as proposed, and no assurance that it will be finalized before the October 16, 2024 effective date for the LCRR. This is a small, but absolute necessary change, and AWWA would proposed the following revision to ensure that the LCRR does not go into effect prior to the finalization of the LCRI:

"Between October 16, 2024 and October 16, 2025, community water systems and nontransient non-community water systems must comply with 40 CFR 141.80 through 141.91, as codified on July 1, 2020, except systems must also comply with 40 CFR 141.84(a)(1) through 141.84(a)(10) (excluding §§ 141.84(a)(7)); 141.85(e); 141.90(e)(1) and 141.90(e)(13); 141.201(c)(3); 141.202(a)(10); and 141.31(d), as codified on July 1, 2023."

As noted above, in proposing the LCRI, EPA correctly recognized the challenge PWSs will face transitioning from meeting the current LCRR compliance deadlines and obligations and to simultaneously prepare to comply with new obligations under the LCRI, which differ in many critical respects from the LCRR. AWWA appreciates the agency's recognition that simultaneously complying with the LCRR and preparing for the LCRI is not feasible or productive for public health. However, water systems are now in a difficult position where they must immediately expend resources to ensure they are prepared to comply with LCRR requirements by October 16, 2024, while they await the LCRI promulgation. Those deadlines are not limited to preparing lead service line inventories and meeting Tier 1 public notification requirements following lead exceedances. Instead, systems must continue to prepare lead service line replacement plans, revisit monitoring plans, prepare to initiate monitoring campaigns at child-care facilities and schools, and align operating practices to support customer / resident notification requirements.

Because of the nature of the rulemaking process, water systems also cannot assume that the LCRI will be finalized as proposed, or that EPA will not alter the provisions within LCRR which they are required to

¹⁵⁶ 88 Fed. Reg. at 84,938.

comply before the LCRI's effective date. In order to avoid the untenable position of risking noncompliance and an enforcement action based on an existing regulation, these systems are currently having to make the requisite investments *now* to assure reliable compliance by October 2024, even as EPA proposes to modify compliance timelines. A parallel concern is the burden the current situations places on state primacy agencies, which must simultaneously guide and prepare to process water system LCRR submittal while also preparing for implementation under the LCRI.

EPA also cannot assure that the current rulemaking process will be complete prior to the impending LCRR compliance deadline, a deadline that occurs within eight months of the close of the LCRI comment period. With recent agency rulemakings as a guide, only five months will be available for EPA to compile and consider comments prior to interagency review. Moreover, interagency review may take longer than three months. Most importantly, EPA as a matter of practice does not provide water systems any assurance that compliance deadlines will be changed until the LCRI is actually published in the Federal Register. Water systems will be forced to work toward current requirements, expending resources in an inefficient manner unless EPA immediately undertakes this small separate rulemaking. Based on EPA's own statements in the Proposed Rule, failing to extend the compliance dates would result in an outcome that is infeasible, arbitrary, and just plain bad policy.

In order to avoid these unnecessary and unintended consequences, AWWA proposed that EPA simply do what it has already proposed to do (i.e., remove many of the unnecessary and counterproductive LCRR requirements), but to do so through a small separate rulemaking that will provide water systems and primacy states with the clarity that they need in order to avoid wasting resources during the next eight months. A one-year delay in LCRR compliance would likely provide sufficient time for EPA to finalize the proposed LCRI and to give water systems more clarity about what they need to do in the interim as they await the provisions of the final LCRI. This would be in keeping with the same approach that EPA has recently taken for previous lead and copper rulemakings. For example, in 2021, EPA adjusted the effective date of the LCRR twice in order for the agency to review the rule requirements. In the second of those adjustments, the agency made a reasoned decision to delay the rule compliance dates.¹⁵⁷ Now is the time for EPA to take a similar action to avoid unnecessary costs to customers and distractions for water systems and primacy states as they prepare for the final LCRI.

The proposal to remove all LSLs and GRRSL within 10 years is not feasible and raises environmental justice concerns. -- While some may advocate for a faster LSL and GRRSL removal schedule, it is simply not feasible to mandate complete lead service line replacement on a faster timeline than proposed under the LCRI. Indeed, as AWWA has repeatedly noted throughout these comments, many, if not all systems will be hard-pressed to meet the deadlines set by EPA in the proposed LCRI, especially in light of all the additional requirements layered on top of the deadlines. As noted elsewhere in these comments, most of the success stories cited by EPA as examples of water systems able to complete LSL in less than 10 years were extraordinary circumstances rather than typical scenarios that are indicative of what is feasible for the typical system. EPA's examples involve unique situations where there was a public health crisis, and substantial external funding and technical resources (including from EPA) were introduced to address the problem. By contrast, the removal requirements in the proposed LCRI leaves

¹⁵⁷ See National Primary Drinking Water Regulations: Lead and Copper Rule Revisions, 86 Fed. Reg. 14,003 (Mar. 12, 2021); Delay of Effective Date National Primary Drinking Water Regulations: Lead and Copper Rule Revisions; Delay of Effective and Compliance Dates, 86 Fed. Reg. 31,939 (June 16, 2021).

systems to attempt on their own to secure funding and expertise, and all systems will compete with each other for these same limited resources as all systems nationwide will simultaneously be attempting to comply with the mandated timelines. As noted elsewhere in these comments, EPA has (under)estimated the burden (\$3.0 – 4.8 billion annualized) associated with the LCRI, making it more expensive than virtually all prior SDWA rulemakings. EPA’s annualized cost reflects amortizing over 35 years the capital and operational costs that will actually accrue in communities over a 10-year period based on the proposed implementation timeline.

And even if EPA were to determine that the 10-year timeline, and the LCRI more generally, is feasible for a subset of large, municipal and regional water systems, it would be arbitrary and capricious to finalize a regulatory regime where the agency’s record demonstrates that the requirements cannot be met by a high percent of regulated entities due to limitations in their resources, their size, and the age of their infrastructure (and therefore number of lead service lines in their systems).

Requiring public water systems to go replace service lines more rapidly risks also disproportionate harm to environmental justice communities. When amending the SDWA in 1996, Congress acknowledged the burdens that regulations place on water systems, the states, and ultimately consumers. This is because costs of SDWA compliance are ultimately passed on to ratepayers. Because low-income and overburdened households pay a larger percentage of their income on water and other utilities, this means that increases in rates from regulatory requirements can also disproportionately impact environmental justice communities.¹⁵⁸ And as noted previously in these comments, grants and other forms of funding are not as readily available to address this fiscal concern as the Proposed Rule’s preamble suggests.

AWWA is therefore concerned about, and notes, the inequities borne by racially and economically disadvantaged communities and the increased risks of lead exposure that these communities already face. Setting an even more infeasible regulatory requirement would only increase the financial and social stress caused by this Proposed Rule in these fragile communities for which neither Congress nor EPA has provided an adequate financial safety net. Not only are water systems serving disadvantaged communities at increased risk under a more rapid replacement program schedule, disadvantaged households and businesses within robust communities would also be adversely impacted. Where communities must act quickly to comply with a federal mandate, the community will be forced to pass on the cost of the more accelerated pace to households, including low-income households. And, like EPA and state government, when the timeline for action becomes overwhelming, administrative flexibility decreases. The same would be true of accelerated replacement programs – disadvantaged households, being of limited means, would bear the greatest burden from a loss of program flexibility. AWWA requests that EPA take these concerns into account, in accordance with the presidential directives on environmental justice.¹⁵⁹

¹⁵⁸Diego S. Cardoso and Casey J. Wichman, *Water Affordability in the United States* (2022), available at https://mleead.umich.edu/files/Event_LegislativeForum_2023/Water%20Affordability/Research%20Articles/Water%20Affordability%20in%20the%20United%20States.pdf (“This analysis reveals that the vast majority of households facing unaffordable water service are concentrated in the lowest income deciles.”).

¹⁵⁹ See, e.g., Executive Order on Revitalizing Our Nation’s Commitment to Environmental Justice for All (April 21, 2023).

4.6 EPA Reasonably Interpreted the SDWA's Anti-Backsliding Provision in Light of the Treatment Technique Approach

EPA must periodically review and revise drinking water standards to ensure protection of public health, and each revision shall maintain or provide for greater protection of public health.¹⁶⁰ Through the proposed LCRI, EPA has more than fulfilled its statutory obligation to ensure that it is maintaining or providing greater protection from lead in drinking water. AWWA believes that the proper baseline for comparison is the LCR, but even if it were not, AWWA agrees with the Agency that the LCRI provides meaningful additional requirements to lower lead levels in drinking water. Because the protections in the LCRI are so extensive, this remains true even without requiring interim compliance with the LCRR requirements. EPA is therefore correct that the *“proposed LCRI would improve public health protection more than either the LCR or LCRR in accordance with section 1412(b)(9) of SDWA.”*¹⁶¹

First, as EPA correctly notes,

*“[a]llowing water systems to transition from compliance with the LCR to compliance with the LCRI, while requiring systems to comply with the LCRR inventory requirements in the interim, would result in more full service line replacements and thus, broader and faster health risk reduction than if adequate planning for LCRI compliance did not take place because of the diversion of scarce system and State resources towards short-term implementation of the LCRR.”*¹⁶²

Second, in the LCRI,

*“EPA is proposing to remove the lead trigger level and reduce the lead action level to 0.010 mg/L, which would require more water systems to take public notification and public education actions than under the LCR and LCRR. This change is intended to provide greater health protection at all systems subject to the rule including those without LSLs or GRR service lines as a result of the actions required of a system after an action level exceedance.”*¹⁶³

Congress did not speak precisely on the question of whether the anti-backsliding provision applies to each change in a national drinking water regulation,¹⁶⁴ as Congress did not define a “revision” and therefore, the anti-backsliding provision is ambiguous as to whether it applies to the entire regulation or each individual revision. When the statute is silent or ambiguous, as it is on this question, then the court must uphold the agency’s interpretation of the statute if it is reasonable. This review is a deferential one as courts may not substitute their judgments for that of the agencies.¹⁶⁵ It was reasonable for EPA to interpret the anti-backsliding provision with reference to the entire LCRI instead of individual benchmarks in this case because a treatment technique rule promulgates an integrated set of procedures rather than a single, enforceable compliance level. Notably, EPA has previously determined that it could move from an MCL-based rule to a treatment technique-based rule without

¹⁶⁰ 42 U.S.C. § 300g-1(b)(9).

¹⁶¹ 88 Fed Reg 84,902.

¹⁶² 88 Fed Reg 84,903.

¹⁶³ 88 Fed Reg 84,902.

¹⁶⁴ See 42 U.S.C. § 300g-1(b)(9).

¹⁶⁵ *Department of Commerce v. New York*, 139 S. Ct. 2551, 2561 (2019).

running afoul of the SDWA's anti-backsliding provisions.¹⁶⁶ Specifically, in the Revisions to the Total Coliform Rule, EPA determined that after more than 20 years of using an MCL-based rule, it could (and did) create a treatment technique rule that was more stringent with regard to protecting public health.¹⁶⁷ In that rulemaking as here, EPA appropriately considered the evolving nature of the public health problem and new data available after many years of regulation to help inform its decision on how to best protect public health going forward.¹⁶⁸

The SDWA does not require EPA to compare individual provisions in a treatment technique rule in order to comply with the anti-backsliding provision. Rather the revised rule requirements, as a whole, must result in a more protective rule. EPA has done so here. EPA's approach is also in keeping with the D.C. Circuit's decision in *American Water Works Ass'n v. EPA* because it takes into account "*the purpose of the Act to promote safe drinking water generally.*"¹⁶⁹ Demanding that the EPA perform a backsliding analysis on every individual revision, such as lead service line replacement, is inconsistent with the nature carefully crafted holistic regulations and is not possible with respect to a complex treatment-technique based rulemaking.¹⁷⁰

Even if the SDWA's anti-backsliding provision to apply to each revision of a treatment-technique based rule, the LCRI's LSL replacement revisions maintain or provide for greater protection of public health because the LCRI initiates more LSL replacements on a faster timeline than the LCRR. For example, the LCRI requires more systems to engage in LSL and GRRSL replacement than the LCRR by requiring all CWSs to remove these lines and explicitly removing the small system flexibility provision of the LCRR with respect to service line replacement. In addition, the proposed LCRI anticipates virtual all CWSs to complete required service line replacements within 10 years, which is substantially sooner than the more than 30 year replacement schedule anticipated for triggered replacement in the LCRR, and will result in lines being replaced at a faster rate (even taking into account the period before compliance is required) than under the LCRR.

These changes in the requirements and definitions will also have the net effect of more LSL and GRRSL replacement and more rapid replacement. As previously explained, the LCRI requires all systems to complete service line material characterization in 10 years, and has the practical effect of requiring characterization sooner than 10 years in order to meet other rule requirements. The LCRI require a validation study to assure that service line characterization practice was sufficiently robust to distinguish LSLs and GRRSLs from non-lead service lines. This validation will occur within seven years so that necessary corrections and subsequent replacements can be completed in 10 years.

¹⁶⁶ See EPA, National Primary Drinking Water Regulations: Revisions to the Total Coliform Rule, 78 Fed. Reg. 10,270 (Feb. 13, 2013).

¹⁶⁷ *Id.* at 10,309.

¹⁶⁸ *Id.* at 10,278.

¹⁶⁹ 40 F.3d at 1271.

¹⁷⁰ A treatment technique rule is not analogous to an MCL or to other statutory schemes that involve a specific regulatory level. This difference is made clearer in *NRDC v. EPA*, which explained that the CAA puts states "onto a one-way street whose *only outlet* is attainment of the NAAQS 643 F.3d 311, 322 (D.C. Cir. 2011) (emphasis added). The same cannot be said for states and water systems in the SDWA when it comes to lead because states and water systems do not need to achieve a single standard of lead in drinking water in order to comply with the Act. Their other outlet, in this case, is complying with a treatment technique.

Likewise, the revised flexibility afforded to small water systems does not violate the anti-backsliding provision of the SDWA because the LCRI no longer allows small systems to either replace LSLs and GRRSLs or implement corrosion control (or install and maintain point-of-use filters).

4.7 The SDWA does not allow regulation of private property outside of public water systems and “control” cannot be equated with “access.”

EPA’s proposed definition is not supported by the statutory text. --The SDWA regulates public water systems,¹⁷¹ but does *not* provide EPA with any authority to regulate other entities, such as businesses, landlords, or private residences. Similarly, it does not give EPA authority over private property or other persons, and therefore cannot be used to compel removal of lead in private lines or plumbing fixtures that are private property. By requiring PWSs to inventory and conduct LSR replacements on property that is not part of the PWS, the LCRI exceeds the scope of EPA’s authority under the SDWA and is therefore contrary to law.¹⁷²

Based on the statutory text, it is clear that the definition of “public water systems” does not include portions of the drinking systems under which operators have no “control,” including over private lines and lead in plumbing fixtures in private homes and businesses. Indeed, the Supreme Court has clarified that agencies cannot require regulated entities to go beyond their proverbial fencelines to comply with

¹⁷¹ The SDWA defines a public water system as a “system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly services at least twenty-five individuals.” 42 U.S.C. § 300f(4).

¹⁷² See Proposed § 141.84(a) (“All water systems must develop a service line inventory that identifies the material and location of each service line connected to the public water distribution system. The inventory must include all service lines connected to the public water distribution system regardless of ownership status (e.g., where service line ownership is shared, the inventory includes both the portion of the service line owned by the water system and the portion of the service line owned by the customer).”); Proposed § 141.84(a)(2) (“All water systems must develop an updated initial inventory, known as the ‘baseline inventory’. . . . The baseline inventory must include each service line and connector that is connected to the public water distribution system regardless of ownership status (e.g., where service line ownership is shared, the inventory includes both the portion of the service line owned by the water system and the portion of the service line owned by the customer).”); Proposed § 141.90(d) (“Mandatory full service line replacement. (1) All water systems must replace all lead and galvanized requiring replacement service lines under the control of the water system unless the replacement would leave in place a partial lead service line. (2) Where a water system has access (e.g., legal access, physical access) to conduct full service line replacement, the service line is under its control, and the water system must replace the service line. Where a water system does not have access to conduct full service line replacement, the water system is not required by this rule to replace the line, but the water system must document the reasons that the water system does not have access and include any specific laws, regulations, and/or water tariff agreements that affect the water system’s ability to gain access to conduct full lead and galvanized requiring replacement service line replacement identified pursuant to paragraph (c)(1)(viii) of this section. The water system must provide this documentation to the State pursuant to § 141.90(e)(10)”); Proposed § 141.90(i) (“This rule does not establish the criteria for determining whether a system has access to conduct full service line replacement. Any State or local laws or water tariff agreement requirements to gain access to conduct full service line replacement must be identified in the service line replacement plan as described in paragraph (c) of this section and in the notification provided to persons served by lead, galvanized requiring replacement, and unknown service lines as described in § 141.85(e).”).

federal law when the underlying statute omits such authority.¹⁷³ The definition of “public water systems” in the SDWA limits systems’ responsibility to portions of the distribution system under control of the system as the Act defines PWSs to *include “(i) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (ii) any collection of pretreatment storage facilities not under such control which are used primarily in connection with such system.”*¹⁷⁴ By drawing this distinction between facilities under a PWS’s control, and those which are not, Congress clearly recognized that there are facilities, lines, and other matters that are in some sense connected to drinking water distribution but that nonetheless were not intended to be regulated as part of the PWS. By contrast, there are certain state definitions of a “public water system” that do not contain this same limitation (i.e., only what is under the system’s control) when defining the PWS, demonstrating that this was a clear legislative decision on the part of Congress in drafting the SDWA.¹⁷⁵

Here, EPA proposes to replace the statutory limit (“control”) with its own preferred term (“access”): *“Where a water system has access (e.g., legal access, physical access) to conduct full service line replacement, the service line is under its control, and the water system must replace the service line.”*¹⁷⁶ But as noted above, Congress clearly addresses this issue by delineating between parts of a system under a system’s control and those which are not, and did not offer a third option for other parts of the system that a PWS may access. *“Agencies have only those powers given to them by Congress, and enabling legislation is generally not an open book to which the agency may add pages and change the plot line.”*¹⁷⁷ Indeed, *“an agency literally has no power to act . . . unless and until Congress confers power upon it.”*¹⁷⁸ As a result, EPA cannot alter the definition of a PWS, even if it believes doing so would better meet its policy goals.

EPA’s proposed definition is not supported by the structure or legislative history of the SDWA. -- The structure and legislative history of the SDWA confirm that Congress intended to limited regulatory authority to PWSs, not other persons or property. As EPA recognized before, *“Congress does not appear to have anticipated the problem encountered with corrosion by-products,”* and under such circumstances *“the consequences of setting MCLs for lead and copper at the tap run counter to the purposes and structure of the [SDWA].”*¹⁷⁹ Post-1991 amendments to the SDWA confirm that Congress takes a different approach to handling lead in drinking water from private dwellings by expanding bans

¹⁷³ See *West Virginia v. EPA*, 142 S. Ct. 2587 (2022).

¹⁷⁴ 42 U.S.C. § 300f (emphasis added).

¹⁷⁵ See, e.g., Mo. Stat. § 640.102(6) (“[A] system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days per calendar year. Such system includes any collection, treatment, storage or distribution facilities used in connection with such system.”). But I have yet to find a case interpreting the omission as meaningful.

¹⁷⁶ Proposed § 141.90(d)(2).

¹⁷⁷ *West Virginia*, 142 S. Ct. at 2609 (internal quotation marks omitted).

¹⁷⁸ *Louisiana Pub. Serv. Comm’n v. FCC*, 476 U.S. 355, 374 (1986); see also *Michigan v. EPA*, 268 F.3d 1075, 1081 (D.C. Cir. 2001).

¹⁷⁹ 56 Fed. Reg. at 26,476.

on lead faucets and on the sale of leaded solder and flux.¹⁸⁰ Notably, the provisions of the SDWA providing EPA authority to promulgate this rule only apply to PWSs.¹⁸¹

By contrast, Congress has mandated that other lead-specific requirement apply not just to PWSs, but to all persons and all residential and nonresidential facilities. Specifically, Congress dictated that “No person may use any pipe, any pipe or plumbing fitting or fixture, any solder, or any flux, after June 19, 1986, in the installation or repair of- (i) any public water system; or (ii) any plumbing in a residential or nonresidential facility providing water for human consumption, that is not lead free.”¹⁸² When introducing these provisions, Congress did *not* amend the statutory provisions providing EPA with authority to pass a national drinking water regulation, and did not expand EPA’s authority to determine how PWSs address lead. This clearly demonstrates that Congress both knows how to apply a lead-focused ban to all persons and to ensure it reaches beyond the “public water system” including residential or nonresidential facilities. The differences in the scope of this prohibition highlights that Congress did not make such a choice. Congress also did not take the further step of requiring the removal of any plumbing materials that are not “lead free.” Instead, it allowed those lead-containing material to remain in place and prohibited the further introduction of such materials in installations or repairs. And it is not as though the broader issue of lead in drinking water has escaped Congress’s sight in the years since those amendment: Congress subsequently specifically amended the definition of “lead free” that applied to these pipes plumbing materials.¹⁸³ And despite public attention on lead-related crisis like in Flint, MI, Congress has chosen not taken action to amend the SDWA to extend the authority of EPA beyond those parts of the system under that actual ownership and control of PWSs, or otherwise mandated removal of lead-containing materials outside of PWSs.

Many arguments in favor of a broader definition of “control” advocate that EPA’s current position, which appropriately focuses on ownership, can result in policy outcomes that they see as sub-optimal, such as partial line replacements and customers being required to pay for the costs of replacing their own lines. Even if EPA finds these concerns to be compelling, they do not alter the fact that Congress has simply not authorized a broader statutory authority to mandate removal by PWSs. For better or worse, Congress has determined that national drinking water regulations should apply only to PWSs, and has defined the term in a way that does not allow for EPA’s proposed requirements.

EPA’s proposed definition is not supported by court decisions. -- AWWA has not found any court decisions that would support EPA’s overly broad and flawed reading of the SDWA. In 1991, U.S. Court of Appeals for the D.C. Circuit declined to reach the question regarding the scope of the EPA’s authority under the SDWA to require water systems to enter private property without customer consent.¹⁸⁴ By contrast, in *Bass v. Ledbetter*, the Georgia Supreme Court determined that “[c]learly, the private lines running from the service connections of the distribution facilities into the homes of the residents are not

¹⁸⁰ S. Rep. No. 104–169, at 95.

¹⁸¹ 42 U.S.C. § 300g.

¹⁸² 42 U.S.C. § 300g–6(a)(1)(A).

¹⁸³ See EPA, Use of Lead Free Pipes, Fittings, Fixtures, Solder, and Flux for Drinking Water, available at <https://www.epa.gov/sdwa/use-lead-free-pipes-fittings-fixtures-solder-and-flux-drinking-water>.

¹⁸⁴ See *AWWA*, 40 F.3d at 1275.

within the control of the operator, and consequently, the EPD is charged with no responsibility for those private lines."¹⁸⁵

EPA's proposed definition is not reasonable and contrary to the ordinary meaning of "control." -- Even if Congress had not directly addressed this issue, EPA's attempt to redefine the term "control" is not a reasonable one. There is meaningful distinction between the terms "control" and "access": the former evincing the authority to manage or direct by virtue of ownership (or contract or similar legal mechanism), and the latter requiring authorization by the person or entity with actual control.¹⁸⁶ With respect to property ownership, "control" necessarily encompasses the ability to exclude others (i.e., to grant, deny, or revoke access), as courts have long recognized.¹⁸⁷ EPA, however, would flip this definition on its head by instead equating "control" with a scenario where the party with the actual control and actual ability to exclude has decided not exercise that right. Granting another party access to your property does *not* indicate that you no longer control it; indeed it is a demonstration of your control.

It defies logic to suggest that each time a property owner invites a guest into their home, allows a third party to conduct an inspection, or gives permission for a governmental authority to enter for some limited purpose, that they have ceded "control" over their property to that person or entity.¹⁸⁸ Even where government actors are granted temporary access to property by virtue of law, there are recognized limits (e.g., scope, duration, frequency, location)—not to be equated with a transfer or cessation of control.¹⁸⁹ Indeed, the proposed LCRI implicitly recognizes the material difference between access and control by including proposed provisions for when ownership of a private property changes. Namely, the Proposed Rule suggests that a PWS's "control" of the private property can change when a new owner grants the system "access" to the property. But as this scenario demonstrates, it is the owner and not the PWS with control over the property. It also ignores the fact that a new owner can

¹⁸⁵ 363 S.E.2d 760, 761 (Ga. 1988).

¹⁸⁶ *Compare Control* (noun), Black's Law Dictionary (11th ed. 2019) ("The direct or indirect power to govern the management and policies of a person or entity, whether through ownership . . . ; the power or authority to manage, direct, or oversee), *and Control* (verb), Black's Law Dictionary (11th ed. 2019) ("To exercise power or influence over," or "[t]o regulate or govern," or "[t]o have a controlling interest in"), *with Access*, Black's Law Dictionary (11th ed. 2019) ("A right, opportunity, or ability to enter, approach, pass to and from, or communicate with").

¹⁸⁷ See *Cedar Point Nursery v. Hassid*, 141 S. Ct. 2063, 2072 (2021) ("[T]he right to exclude is 'universally held to be a fundamental element of the property right,' and is 'one of the most essential sticks in the bundle of rights that are commonly characterized as property.'" (quoting *Kaiser Aetna v. United States*, 444 U.S. 164, 176 (1979))); see also *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 435 (1982).

¹⁸⁸ This is often why a sharp distinction is drawn between a license, which is revocable at will and provides no interest in the real property aside from use, and an easement, which is irrevocable and does provide a property interest. See Restatement (First) of Property: Servitudes § 512 (Oct. 2023); see also, e.g., *Seven Lakes Dev. Co. v. Maxson*, 2006 WY 136, ¶ 11, 144 P.3d 1239, 1245 (Wyo. 2006) (describing difference between license and easement).

¹⁸⁹ See, e.g., 29 U.S.C. § 657(a) (authorizing inspections of "any . . . workplace or environment where work is performed" during "regular working hours and at other reasonable times"); 42 U.S.C. § 5413(b) (authorizing inspections anywhere "manufactured homes are manufactured, stored, or held for sale" at "reasonable times and without advance notice"); Miss. Code Ann. § 49-27-63 (authorizing inspections of "coastal wetlands" "from time to time"); Mich. Comp. Laws § 208.1435(5) (authorizing inspections of any "historic resource" "at any time during the rehabilitation process"); *Boise Cascade Corp. v. United States*, 296 F.3d 1339, 1352 (Fed. Cir. 2002) (affirming an injunction requiring property owner to allow government agents to enter its property to conduct owl surveys).

deny access, even when it has been granted by a prior owner. So, for example, if a property was sold while a PWS was in the midst of a replacement, the new owner could block the PWS's access to the private property and thus prevent the replacement. If a PWS had control in the true sense of the word, this would not be the case.

This scenario demonstrates why EPA's proposed definition and provisions regarding changes in ownership are completely unworkable. Under the proposed LCRI, PWSs may check with a property owner four separate times through two separate methods before they can determine that they do not have access to the property and therefore do not need to count the portions of the LSL on that private property towards the LSL removal requirement.¹⁹⁰ But as EPA recognizes, property ownership is unlikely to remain static over a 10-year period. So, any number of properties which denied a system access in year one may be sold by or even in year-10, necessitating that the system restart outreach efforts and readjust its calculation of how many removals have been completed just as it is reaching the end of its allowable time to remove all lines. Ever-shifting property ownership will make it impossible for PWSs to accurately forecast operational budgets for line removals. To make matters worse, EPA puts the onus on water systems to somehow track changes in property ownership so that it can conduct the regulatorily mandated outreach.¹⁹¹ Specifically, the Proposed Rule would give PWSs only six months after a change in ownership to offer to make a full LSL replacement, and only one year to conduct the mandated outreach of four attempts through two different methods.¹⁹² But EPA does not explain how PWSs are to track these changes in ownership with certainty or account for the burden in doing so. While a system is often made aware when there is a change in occupant (and therefore a different customer), for rental properties this will not correspond to a change in ownership. As a result, even if EPA retains the current and unlawful proposed definition, it must remove the requirements that water systems determine a change of ownership and any obligations to again provide outreach must be triggered off of a system being provided with actual notice of the change in ownership through some means other than a notice of change in occupancy.

Another practical problem with EPA's proposed definition is one where a law, regulation, laws, regulations, or water tariff agreement provisions that impacted "access" are changed during the course of the 10-year time period during which water systems are responsible for removing lines. Should, for example, a state law be amended in year 9 of the time period, PWSs could be in the untenable position

¹⁹⁰ See Proposed § 141.84(3) ("Where a water system has legal access to conduct full service line replacement only if property owner consent is obtained, the water system must make a "reasonable effort" to obtain property owner consent. If such a water system does not obtain consent after making a "reasonable effort" to obtain it from any property owner, then the water system is not required by this rule to replace any portion of the service line at that address. (i) A 'reasonable effort' must include at least four attempts to engage the property owner using at least two different methods of communication (e.g., in-person conversation, phone call, text message, email, written letter, postcard, or information left at the door such as a door hanger) before the applicable deadline of mandatory service line replacement as described in paragraph (d)(4) of this section. The State may require systems to conduct additional attempts and may require specific outreach methods to be used.").

¹⁹¹ See Proposed § 141.84(3)(ii) ("Within six months of any change in ownership of the property, the water system must offer full service line replacement to any new property owner and make a 'reasonable effort' to obtain the property owner's consent as described in paragraph (d)(3)(i) of this section within one year of any change in property ownership. If the water system is unable to obtain consent from the current property owner after making a "reasonable effort" to obtain it, the water system is not required under this rule to replace the line. This paragraph continues to apply after a system completes its mandatory service line replacement program.").

¹⁹² See Proposed § 141.84 (d)(3)(ii).

of suddenly needing to contact and attempt removal of many additional lines that they had not accounted for in their planning processes, and that they are not financially or technically prepared to remove. EPA simply cannot regulate over a 10-year time horizon based on an ever-changing target and doing so when there are significant enforcement risks raises due process concerns.

The problem with EPA's proposed definition is further highlighted by the fact that EPA declines to define "access." As EPA recognizes, this will be complex and fact-specific even under the best of circumstances, as it can be impacted by state and local laws and regulations, and/or water tariff agreements.¹⁹³ But rather than attempting to provide answers, EPA instead places additional burdens on PWSs by mandating that they identify *"any laws, regulations, and/or water tariff agreements that affect the water system's ability to gain access to conduct full lead and galvanized requiring replacement service line replacement, including the citation to the specific laws, regulations, or water tariff agreement provisions."*¹⁹⁴ This still does not answer the more fundamental question of what it means to have legal and physical access to a property, including who (the property owner or the occupant) has the right to grant such access, or what a water system should do when, for instance, the owner grants legal access but the occupant denies physical access. And while it leaves this question unanswered, it does highlight the fact that "access" and property rights are matters of state and local law where it is not appropriate—particularly absent any clear directive from Congress—for EPA to assert authority. Put simply, introducing requirements that are beyond the scope of what Congress intended for the SDWA to regulate, EPA has introduced a host of new practical problems, and AWWA therefore urges EPA to remove these requirements from the final LCRI.

EPA has not provided a proper justification or explanation for its change in definition. -- Even if EPA's interpretation of the statute were a permissible one, it has not justified its change in position here.¹⁹⁵ EPA previously equated "control" with "ownership," appropriately recognizing that *"the broader definition of 'control'... could result in unintended delays and other complications."*¹⁹⁶ EPA has not (as it must under the APA) justified this departure from its prior position. EPA provides only a cursory statement that:

"EPA is proposing to treat a service line as under the system's control wherever a water system has adequate access (e.g., legal access, physical access) to conduct full service line replacement . . . EPA is proposing to treat a connector as under the system's control wherever a water system has adequate access (e.g., legal access, physical access) to conduct replacement of the connector. EPA is not proposing to delineate the prerequisites or elements of "access" that a system would need to conduct full service line or connector

¹⁹³ See Proposed § 141.84(c)(1)(viii).

¹⁹⁴ *Id.*

¹⁹⁵ See *Nat'l Cable & Telecommunications Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005) (observing that an "[u]nexplained inconsistency" in agency interpretation could be "a reason for holding an interpretation to be an arbitrary and capricious change from agency practice under the Administrative Procedure Act" (citing *State Farm*, 463 U.S. at 46–57)).

¹⁹⁶ 2000 Lead and Copper Rule Revisions, 65 Fed. Reg. at 1950, 1966 (Jan. 12, 2000) (stating that "EPA has eliminated the 'control' terminology from the Rule" and "revise[d] §141.84(d) to require the water system to replace only the portion of the [lead service line] that it owns.").

replacement because of the wide variation of relevant State and local laws and water tariff agreements as well as the potential for these to change over time.”¹⁹⁷

EPA provides no explanation for why access to these lines, which it readily admits can shift with changes in local laws, agreements, or property ownership, can be fairly equated with the statutory term “control.”

AWWA also notes that EPA’s proposed definition, which would add or remove (and then perhaps re-add) LSL on private property to the definition of “service lines” will, as a practical matter, result in the partial line replacements that EPA seeks to avoid.¹⁹⁸ Specifically, the proposed § 141.84(d)(1) states that “All water systems must replace all lead and galvanized requiring replacement service lines under the control of the water system unless the replacement would leave in place a partial lead service line” and proposed § 141.84(d)(2) states that “Where a water system does not have access to conduct full service line replacement, the water system is not required by this rule to replace the line.” But regardless of how EPA defines or redefines the private portion of the line, the fact remains that the LCRI will create a de facto requirement to conduct a partial LSR removal each time a system is denied access to a private property by mandating that the portion of the line under the actual control of the system is removed to meet the 100% LSL removal requirement. Put simply, by playing with the definitions, EPA can change the requirements, but it cannot change the fact that these properties contain lead, or the risks associated with mandating a partial line removal when they do.

It is also worth noting that it is hard to square general prohibition of partial line replacements with both this de facto partial replacement in the absence of “access,” as well as the exception when the replacements occur “as part of an emergency repair or in coordination with planned infrastructure work, excluding planned infrastructure work solely for the purposes of lead or galvanized requiring replacement service line replacement.”¹⁹⁹ As noted elsewhere in these comments, due to changes in practices, partial line replacements do not generally present the same risks that they may have historically. EPA’s allowance for these exemptions demonstrates the arbitrariness of the more general prohibition on partial replacements and should be revised in the final LCRI.

EPA’s proposed requirements for schools and daycares present similar concerns and are likewise beyond EPA’s statutory authority. -- These same concerns noted above exist with regard to EPA’s proposed provisions related to the proposed school and childcare facility monitoring program, which likewise exceeds EPA’s statutory authority under the SDWA. Indeed, Congress has repeatedly demonstrated its intent for local educational agencies, not PWSs, to oversee testing and remediation of lead contamination in schools and childcare facilities. Furthermore, the program also implicates federalism concerns. AWWA raised many of these concerns when EPA first proposed their inclusion in the LCRR and reincorporates those arguments here for the agency’s further consideration in this rulemaking. As with other LCRR requirements that EPA has revisited and determined to lack a clear legal basis or a demonstrable health benefit, EPA must take this opportunity to revisit the Proposed Rule. While AWWA deeply appreciates the need to keep children safe from exposure to lead in drinking water, schools and

¹⁹⁷ 88 Fed. Reg. at 84,920.

¹⁹⁸ See, e.g., 88 Fed. Reg. at 84,917 (“Research has found that partial LSLR has not been shown to reliably reduce lead levels in the short term and may temporarily increase lead levels due to disruptions of established scales or galvanic corrosion.”).

¹⁹⁹ Proposed § 141.84(g).

daycares are currently highly regulated, primarily at the state and local level, through a complex network of agencies overseeing everything from licensing to health requirements. It is neither appropriate nor beneficial for PWSs to wade into these regimes, and their resources can be far better used when focusing on the area where they do have both the experience and authority to meaningfully impact public health.

First, schools and childcare facilities are not part of the “*public water system*” over which EPA has jurisdiction for the same reasons discussed above. Second, Congress intended that local educational agencies, not PWSs, oversee the type of school monitoring requirements in the proposed rule. It is worth noting that health considerations in schools and childcare facilities are already highly regulated, indicating that this is not an area where Congress has simply failed to take action or intended for EPA to fill in statutory gaps. Indeed, Congress has repeatedly visited these concerns and declined to follow the approach proposed by EPA here. For example, in the Lead Contamination Control Act of 1988, Congress required states to establish programs to assist local educational agencies in monitoring and remediating lead contamination from schools.²⁰⁰ However, the Fifth Circuit found that this requirement violated the Tenth Amendment.²⁰¹ More recently, in the Water Infrastructure Improvements for the Nation Act, Congress directed EPA to “*establish a voluntary school and child care program lead testing grant program to make grants available to states to assist local educational agencies in voluntary testing for lead contamination in drinking water at schools and childcare programs under the jurisdiction of the local educational agencies.*”²⁰² Both times, Congress demonstrated its intent for states and local educational agencies, not PWSs, to oversee testing and remediation of lead contamination in schools and childcare facilities.

The school monitoring program likewise exceeds EPA’s monitoring authority. EPA can require PWSs to “*conduct such monitoring . . . as the Administrator may reasonably require*” to assist in 1) establishing new regulations, 2) evaluating compliance with existing regulations, 3) administering financial assistance, 4) “*evaluating the health risks of unregulated contaminants,*” or 5) “*in advising the public of such risks.*”²⁰³ The last category is most relevant here. The phrase “*advising the public of such risks*” is informed by the preceding clause, which refers to the “*health risks of unregulated contaminants.*” EPA can therefore require water systems to conduct reasonable monitoring to assist EPA in advising the public of the health risks of unregulated contaminants. Lead is not an unregulated contaminant. Thus, EPA’s monitoring authority also does not provide grounds for the school monitoring program proposed here. The proposed school monitoring program exceeds EPA’s authority under the SDWA and is therefore contrary to law. The Proposed Rule assigns this task to PWSs, in contravention of Congress’ demonstrated intent. the school monitoring program raises federalism concerns. Some state public utility commissions (PUCs) prohibit utilities from “*cross-subsidization,*” where certain customers’ rates are used to subsidize other customers’ services.²⁰⁴ A PWS using ratepayer funds to fulfill the school

²⁰⁰ *Acorn v. Edwards*, 81 F.3d 1387, 1388-89 (5th Cir. 1996).

²⁰¹ *Id.* at 1392-94.

²⁰² 42 U.S.C. § 300j-24(d)(2)(A).

²⁰³ 42 U.S.C. § 300j-4(a)(1)(A).

²⁰⁴ By way of example, California law requires “government owned public utility rates be based on the cost of service. This precludes cross subsidies within and among customer classes[.]” EPA, Drinking Water and Wastewater EPA, 2016, Utility Customer Assistance Programs at 18, *available at* https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf.

monitoring requirements would be engaging in cross-subsidization because the program is targeted to benefit a small class of consumers. PWSs in a state that prohibits cross-subsidization will not be able to comply with the school monitoring program and their PUC rules at the same time.

AWWA notes that this does *not* mean there is no solution to the issue. As EPA itself recognizes in the proposed LCRI, regulation over lines and plumbing fixtures on private property and regulation of schools and daycares remain issues of state law and regulatory authority, and the states---almost all of which already have primacy under the SDWA---have the ability to take further steps in this area beyond EPA's authority.

4.8 The Proposed Rule creates federalism concerns and risks creating unnecessary conflicts with state and local laws.

The Proposed Rule takes the unusual and unnecessary step of mandating that:

*"Where the State determines that a shortened replacement deadline is feasible for a water system (e.g., by considering the number of lead and galvanized requiring replacement service lines in a system's inventory), the State must require the system to replace service lines by an earlier deadline than required in paragraph (d)(4) of this section and establish a different minimum replacement rate in accordance with paragraph (d)(5)(iv)(A). The State must make this determination in writing and notify the system of its finding. The State must set a shortened deadline at any time throughout a system's replacement program if a State determines a shorter deadline is feasible. This paragraph also applies to systems eligible for a deferred deadline as specified in paragraph (d)(5)(v) of this section."*²⁰⁵

The SDWA of course gives the states the freedom to pass more stringent water regulations, so long as they do not conflict with federal law and are not otherwise preempted. This allows states and their local constituency the freedom in our democratic system to govern themselves as they see fit and to respond appropriately to local determinations about how to balance competing demands, including those related to public health and the corresponding costs and benefits of taking certain actions. But here EPA proposes to take the additional step of mandating that states set more stringent requirements, based on nebulous criteria, for systems that it determines can feasibly replace lines on a faster timeline. This provision has no basis in the SDWA, places an extraordinary additional burden on states, deprives them of their traditional police powers to oversee public health and welfare, and would cause them to create unnecessary and unjustified enforcement risks for PWSs within their jurisdiction by creating a shifting and unpredictable compliance schedule for service line removal. This provision, and any other provisions mandating that states set stricter requirements must be removed from the final rule.

Likewise, the mandate that *"be required to identify potential barriers to full service line replacement in State laws, including statutes and constitutional provisions, in their application for primacy for the LCRI"*²⁰⁶ has no basis in the SDWA and will only serve to create unnecessary tensions between states and EPA. EPA makes clear that the purpose of this requirement is to create political pressure for states to change their laws:

²⁰⁵ Proposed § 141.84(d)(5)(iv).

²⁰⁶ 88 Fed. Reg. at 84,928.

“By identifying these potential barriers and making the information publicly accessible in the replacement plan, these proposed requirements can better support a community discussion about where barriers exist and how best to address them as part of the replacement program.”²⁰⁷

But pressuring sovereign states into taking actions that align with EPA’s policy goals is not the appropriate role of federal regulation, and is a role best left, if at all, to Congress. Absent a clear congressional directive EPA cannot and should not finalize such a requirement.

EPA’s proposed provisions regarding removal of lines outside of a PWS likewise create unnecessary conflict with state law. For example, some states already have provisions in place addressing when and how utilities may replace public lines. In a scenario where a water system replaces a customer’s portion of a line and does so at the water system’s expense, those costs will likely be passed on to all of a system’s customers in the form of higher water rates. But some state public utility commissions (PUCs) prohibit utilities from “cross-subsidization,” where certain customers’ rates are used to subsidize other customers’ services.²⁰⁸ In such circumstances, a water system may have “access” to a customer’s lines, but if the customer refuses to pay for the removal, then the system would have no way to recover the costs of removal. Other states allow for the replacement of customer-owned lead service lines, but include PUC-approved caps on the number of such lines that can be replaced annually.²⁰⁹ Such caps could easily conflict with the Proposed Rule’s ten year mandatory line replacement provisions unless EPA revises the definition to only include lines within the PWS as defined in the SDWA.

5 ECONOMIC ANALYSIS

EPA’s Economic Analysis of the proposed LCRI contains a number of fundamental flaws.

5.1 Estimate of Lead Risk Reduction is Not Substantiated

To support these comments AWWA obtained an expert review of EPA’s analysis and presentation of the benefits anticipated from the proposed LCRI. That review is attached in whole as Appendix A to these comments. The following is a summary of the detailed recommendations arising from this review:

1. The inclusion of cardiovascular and pulmonary (CVP) mortality significantly increases the estimates of both lifetime health risk and economic benefits of mitigation. That increase, however, is largely dependent on how the analysis treats the value of a statistical life. Greater justification for this value is required to clearly explain the economic benefits and why CVP mortality plays such a large role in the LCRI analyses.

AWWA supports consideration of CVP mortality effects in EPA’s decision-making, and the focus on the studies in Exhibit 21 of the Abt’s 2023 report.²¹⁰ However, AWWA seeks

²⁰⁷ 88 Fed. Reg. at 84,928.

²⁰⁸ By way of example, California law requires “government owned public utility rates be based on the cost of service. This precludes cross subsidies within and among customer classes[.]” EPA, Drinking Water and Wastewater EPA, 2016, Utility Customer Assistance Programs at 18, *available at* https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf.

²⁰⁹ See, e.g., 66 Pennsylvania Consolidated Statutes 1311(b)(2)(vi).

²¹⁰ Abt. “Selection of Concentration Response Functions between Lead Exposure and Adverse Health Outcomes for Use in Benefits Analysis: Cardiovascular-Disease Related Mortality”, Revised Report. (2023) EPA-HQ-OW-2022-0801-0587.

greater clarity on how the decision was taken to now consider the database sufficient to not only claim that lead is a risk factor for CVP mortality, but that it is now scientifically justified to quantify the exposure-response characteristics at levels of lead in drinking water found in homes.

2. The proposed LCRI economic analyses require extrapolation of health effects from high to low levels of exposure (or blood lead levels (BLL)) typical in homes. Total benefits of lead mitigation in the U.S. population contain a large fraction of benefits attributable to mitigation at very low levels of exposure but encompassing large populations.
 - a. The proposed LCRI benefit analysis does not break down the contributions to population benefits by level of lead exposure in water (or BLL), although such information will have been generated at some point during the analysis and would be available to EPA. It would be useful to provide this breakdown so decision makers and the public can better understand how much of the calculated benefit is attributable to benefits at low levels of exposure where questions might arise over the justification for linear extrapolation to zero.
 - b. EPA's most authoritative and current summary of lead health effects²¹¹ does not contain evidence that rules out a threshold for IQ decrement effect, or at least a large degree of non-linearity, below BLLs of 5 µg/dL. Assuming IQ decrement occurs below 5 µg/dL and can be calculated on the basis of linear extrapolation downwards is consistent with policy default assumptions but leaves decision makers with the mistaken impression that the estimates of IQ decrement, and hence the benefits of mitigation, in the large population of children with BLLs below 5 µg/dL is well established by the available scientific data rather than being the result of the policy default assumption.

There is a similar but less severe concern with the extrapolation of CVP mortality. Again, the agency should explain why the risk coefficient from the range of observed effects is appropriate for extrapolation to a lower range of BLLs.

3. Co-benefits are described qualitatively. While the SDWA requires consideration of both quantifiable and nonquantifiable health risks, absent evidence of whether these co-benefits are large or small compared to the primary health risks and benefits underlying decisions on lead mitigation. It is not clear how the co-benefit claims add to the analysis and conclusions of the Proposed LCRI Economic Analysis.
4. In finalizing the economic analysis for the LCRI, EPA should clarify the claim in the current analysis that economic benefits to the total U.S. population from mitigation attributed to CVP mortality are correct. The Proposed Rule analysis does not demonstrate that the economic benefits to an individual in a given home are dominated by CVP mortality. This distinction is important to decision makers determining if and how to finalize the rule requirements as well as to risk communication to the public.
5. Research shows that fifth liter sample lead observations are on average approximately a factor of five higher than time-weighted average (TWA) values presumed in health effects

²¹¹ EPA. Integrated Science Assessment (ISA) for Lead (2024) EPA/600/R-23/375.

models. If this factor of five is accounted for, both the IQ and CVP benefits calculated on the basis of compliance samples would be reduced by a factor of five and the net benefit to cost ratio is considerably less.

EPA's analysis indicates a low scenario benefit of ~\$17 billion and cost of ~ \$2 billion. Reducing the benefit by five due to not using TWA substantially alters the benefit-to-cost ration. Simply comparing an adjusted EPA estimate of benefit accounting for this factor against EPA's estimate of the cost of the proposed LCRI brings the benefit-to-cost ratio closer to one.

6. In summarizing the benefit cost analysis for the proposed LCRI the Federal Register reads *"...the Administrator has determined that the quantified and nonquantifiable benefits of the proposed LCRI NPDWR justify the quantifiable and nonquantifiable costs."*²¹² By including 'nonquantifiable' in this statement, the EPA is implying that the nonquantifiable benefits play some significant role in the judgement that costs are justified; this is not true, and should be stated as such in the LCRI rationale. This distinction is not only important to decision makers determining if and how to finalize the rule requirements but to risk communication to the public.
7. The Proposed LCRI Economic Analysis considers qualitatively the impact of public information and education on effects and benefits, with no attempt to quantify this, including no attempt to show whether public education will have a significant or insignificant impact on effects and benefits. It is notable that there is no review of the extensive literature on 'uptake rates' of behaviors in response to environmental policies, a literature that would inform a decision as to how effective public information can be on behavioral change.
8. EPA proposes an expanded and enhanced program of public education on the risks of lead exposure and the benefits of reducing that exposure. This includes improvements to the Consumer Confidence Reports, capturing the recent advances in understanding risks and benefits. This is appropriate both because the public needs to understand these risks and benefits to take informed decisions, and because the proposed LCRI relies in part on voluntary behavioral changes by consumers. However, the language suggested in the proposed LCRI is inadequate. It speaks too often of vaguely defined terms such as 'no safe level', 'possible effects are...', 'can cause serious health effects in people of all ages'.

The problem here is not that these statements are factually incorrect, but rather that they fail to provide the public sufficient information to take informed decisions.

Simply stating that lead can cause effect "X" is insufficient to inform the public of health risk and associated benefits of mitigation. Comparative risk assessment was developed to help the public understand how the probability and severity of a given stress such as lead in water compares against the universe of other concerns they might have and for which they probably have a better level of understanding and emotional grasp (road safety, smoking, gun violence etc.).

²¹² 88 Fed. Reg. at 85,034.

Consider the case of children exposed at the proposed Action Level of 10 µg/L. As explained previously, this will result in an IQ decrement of 0.4 points. It is necessary to establish whether such a decrement is clinically significant, including whether it will lead to any decrease in the lifetime earnings. Systems for classifying IQ scores generally contain 6 or 7 categories of differential ability on tasks that are expected to influence life chances. Those categories have a width of approximately 10 IQ points. For the vast majority of children (more than 97%), a shift of 0.4 points up or down would leave them in the same category of performance and life chances. The Proposal documentation should at least mention this issue, explaining why small changes in IQ are assumed to produce the levels of change in lifetime earnings per IQ point change that have been developed from studies that examine economic impacts of significantly larger IQ differences.

Language such as that provided in the proposed LCRI required communications, preamble and supporting documents fails to do this, leaving the public improperly informed as to the magnitude of effects and benefits. In addition, the language in the proposed LCRI fails to place waterborne lead into the context of all other sources of exposure to lead. Such an understanding of context would allow the public to better assess whether their primary concern should be on mitigating Pb in water, or dealing with problems of Pb in paint, dust etc.

9. A distinction must be drawn between the economic benefits of IQ decrement and CVP mortality. For IQ, the economic benefits are measurable effects on lifetime earnings (at least at the high values of BLL underlying the studies of this effect). IQ decrement can therefore be described as having an objective economic effect based on market transactions, as they will have an impact on the life chances of an individual child and on the magnitude of the economy (such as per capita gross domestic product (GDP)). By contrast, the CVP mortality benefits in the Proposed LCRI Economic Analysis are based on Value of a Statistical Life (VSL) drawn from willingness to pay surveys and thus are not actual economic impacts, either to the individual consumer or to society. They have no direct impact on the life chances of an individual or the magnitude of the economy, since they involve no economic transactions. The use of VSL's in economic analysis is only sound when it is presented in a manner that appropriately informs decision makers and the public. The proposed LCRI docket contains the factual basis for the benefits analysis but the agency is not forthcoming and transparent in the implications of its approach for policymakers.

5.2 Health Burdens (Costs) Not Addressed in Analysis

While EPA attributes a number of potential health benefits to marginal improvement in lead exposure achieved through the LCRI proposal, the agency does not consider the real-world health risks associated with the rulemaking. EPA encourages regulated entities like CWSs to fully consider the environmental and social impacts of their actions, EPA should hold itself to a similar standard in its economic analyses as is reflected in EPA's "Guidelines for Preparing Economic Analyses,"

"To be complete, an estimate of social cost should include both the opportunity costs of current consumption that will be foregone as a result of the regulation, and the losses that

may result if the regulation reduces capital investment and thus future consumption.”
(Guidelines for Preparing Economic Analyses, 2010 (as amended), page 8-2)²¹³

Where opportunity costs are defined as, “... *the value lost to society of any goods and services that will not be produced and consumed as a result of a regulation.*”²¹⁴ In this instance the lost value is foregone public health protections.

In addition to not comporting with EPA guidance for economic analysis these gaps are at odds with EPA’s efforts to meet the expectations of Executive Order 13045 (Protection of Children from Environmental Health and Safety Risks), Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), and Executive Order 14096 (Revitalizing Our Nation’s Commitment to Environmental Justice for All). By not address opportunity costs EPA neglects analyzing whether the proposed LCRI requirements pose a net benefit to these important groups as directed by Executive Order.

Adverse Impacts of Proposed Rule Provisions -- The current analysis does not consider:

1. The potential loss of fire protection to structures when the LCRI ban on partial replacement and LCRI requirement to provide customer notification prior to return to service prevents water systems from returning water service to a structure. As the LCRI is currently drafted this risk applies to both water service lines that are providing potable water service and to service lines that serve fire suppression systems.
2. The potential illnesses associated with inadequate sanitation when water service is not returned to residences in a timely manner as described above, when the increased cost of service associated with the LCRI leads to a failure to pay for water service and associated shutoffs, and where states and localities to assist CWSs implement the LCRI ban partial replacements more broadly.
3. The pace and nature of accelerated service line replacement programs deteriorating street pavement, such that accidents result.
4. The introduction of heavy equipment and excavations in residential and commercial areas creates the opportunity for vehicular accidents as well as accidents involving pedestrians.

At the scale and pace of LSL and GRRSL replacement reflected in the LCRI, the above risks are not trivial and should be considered in the agency’s analysis.

Alternative Investments of Scarce Resources -- A more challenging analysis that the agency also does not consider is the public health consequences of directing limited available resources toward the requirements of the proposed LRCI. Resources that are expended to meet the agency’s directive to achieve a marginal theoretical health risk reduction at the pace and scale proposed, mean that those resources are not available to for other purposes including:

1. Replace failing distribution system infrastructure with the associated potential fire, flood, and sanitation implications

²¹³ EPA, Guidelines for Preparing Economic Analyses (as amended) (2010)

²¹⁴ *Id.* at 8-1.

2. Investing in maintaining and improving drinking water treatment facilities for currently regulated contaminants of health concern
3. Investing in water infrastructure investments needed to assure a reliable and safe water supply into the future, whether those investments are due to climate change or other factors, such as EPA's failure to protect waters of the U.S. from contaminants like PFAS
4. Investing in water supply infrastructure to assure adequate water supply to continue to provide the fire protection and public health benefits of a centralized water system into the future.

CWS have limited resources and must effectively use those resources to protect public health. EPA is familiar within its own organization with the effects of shifting priorities leading to the loss of funding for important programs. The effect of a federal rule is similar. A sound economic analysis weighs the benefits of action against the missed / foregone risk reduction opportunities expending resources to achieve those risks cause.

Social Cost of Greenhouse Gas – This administration has placed a particular strategic focus on the reduction of greenhouse gases, particularly carbon dioxide. The Proposed LCRI Economic Analysis provides a cursory response to “Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use” but does not attempt to address “Sec. 5. *Accounting for the Benefits of Reducing Climate Pollution*” of “Executive Order 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis.” In September 2022 EPA published “Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances.” The report describes the discounted cost of carbon dioxide for use when evaluating regulatory proposals. EPA has not incorporated the greenhouse gas effects of this rulemaking into its benefit-cost analysis. As EPA describes in other elements of the rule cost analysis there are:

1. Extensive mobilization of staff, contractors, and other service providers to undertake all facets of the LCRI. These mobilizations will require travel using automobiles, trucks, and in some instances require the use of heavy equipment. At present these vehicles will be primarily diesel and gasoline powered. Tasks involving vehicles include:
 - a. Service line material characterization
 - b. Service line material validation study
 - c. Service line replacement
 - d. Public education requirements including delivery of pitcher filters
 - e. Sample kit delivery and collection
2. The anticipated increased use of pH / alkalinity control and the addition of orthophosphate at increased doses to achieve targeted OCCT. There are embedded carbon cost in the anticipated increase in treatment by required by the LCRI proposal, including
 - a. Production, transportation, and use of orthophosphate addition
 - b. Wastewater treatment costs associated with removal of phosphate

- c. Production, transportation, and use of chemical feeds used to adjust pH and alkalinity

The above referenced report was published as part of the economic analysis of “Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review”²¹⁵ which specifically references the above Executive Order. In that rulemaking, EPA estimates the cost of greenhouse gases by discount rate per year with costs per metric ton ranging from \$130 to \$370 at 2.5 and 1.5 percent discount rates, respectively, in 2026.

5.3 Distributing Cost over Time

The Proposed LCRI Economic Analysis (as described by the agency) distributes the Proposed Rule’s financial impacts over time when as a practical matter the fiscal impact of the rule will impact communities in a very small window of time.

While capital costs, particularly large infrastructure capital expenses are funded through debt and debt with interest is paid over a period of years. Many of the costs of the Proposal are operational costs that will be funded as operational expenses. As fiduciaries CWSs will not, except under the most extreme situations, incur debt for operational expenses. Not only is such practice poor financial practice it is at odds with the basic tenants of rate making where rate payers are charged for the services, they themselves receive.

In addition to appropriately representing the period in which expenses are incurred, EPA must consider the bolus of tasks that are required simultaneously by the rule, such that operational expenses are required in the same, and in this rule, limited portion of the period costed. Examples of operational expenses in the rule that EPA cannot annualize over an extended period and to a substantial degree will occur at the same time include:

1. All of the rule’s public education provisions
 - a. Notification to customers of service line materials
 - b. Notification to occupants of service line related construction
 - c. Outreach and notification in the wake of a lead action level exceedance
 - d. Provision of filter instructions and filters associated with service line construction / disturbance
 - e. Making filters available when there is a continuing lead action level exceedances
 - f. Support for customer requested sampling
 - g. Tier 1 public notification
2. It is also inappropriate to annualize costs over a period that exceeds the useful life of the item that has been purchased. The clearest example in the economic analysis being

²¹⁵ EPA. 2021. Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review. EPA Docket EPA-HQ-OAR-2021-0317.

pitcher filters and POU filters when provided following as a prophylactic measure associated with service line construction / disturbance, an action level exceedance.

5.4 Cost of Service Line Replacement

The Proposed LCRI Economic Analysis significantly underestimates the cost of LSL replacement. This underestimate affects the benefit-cost analysis for the Proposed Rule and it underestimates the cumulative cost of replacement programs at the national or state level. The latter being central to decisions regarding federal funding that is needed.

In 2022 AWWA provided EPA with a detailed engineering analysis of actual service line replacement programs.^{216, 217} The AWWA cited CDM Smith Report has costs reported by over 25 CWSs for full LSL replacement and over 20 CWSs for partial replacement. The table below summarizes the costs reported adjusted to 2022 dollars. The replacement costs themselves are actual prices and represent what CWSs have to pay for direct replacement to outside contractors. Also, included are required ancillary costs such as engineering services, permitting, administration, outreach and post-replacement costs. EPA's Proposed Rule also recognized the need for ancillary services. In this analysis ancillary costs are not in the "replacement" costs except restoration. Therefore, the total cost estimates for service line replacement are the bottom-line figures of \$7,600 to \$37,800 with an average cost of \$12,500.

LSLR Component	Minimum Cost (\$/LSLR)	Average Cost (\$/LSLR)	Maximum Cost (\$/LSLR)
Full Replacement (CWS and Private Side)	\$6,000	\$9,900	\$30,000
<i>Restoration</i>	<i>\$1,769</i>	<i>\$2,919</i>	<i>\$8,847</i>
<i>Utility Side Replacement</i>	<i>\$2,300</i>	<i>\$4,990</i>	<i>\$10,000</i>
<i>Private Side Replacement</i>	<i>\$4,150</i>	<i>\$7,150</i>	<i>\$25,000</i>
Engineering Services	\$660	\$1,090	\$3,300
Field Inspection (Per SL)			
<i>Customer Provided Data</i>	--	\$10	--
<i>Door-to-Door Inspections</i>	--	\$69	--
<i>Vacuum Excavation</i>	--	\$320	--
<i>Mechanical Excavation</i>	--	\$1,120	--
Internal Labor Administration	\$175	\$289	\$876
Customer Outreach	\$108	\$178	\$539
Permitting	\$576	\$950	\$2,879

²¹⁶ AWWA, Lead and Copper Rulemaking Improvements Rulemaking (2022), Docket No. EPA-HQ-OW-2022-0813 (Federalism Comments). Attachment 1. CDM Smith. Final Report. Considerations when Costing Lead Service Line Identification and Replacement, (Nov. 2022). (see Appendix K)

²¹⁷ EPA, Proposed LCRI Economic Analysis Appendices at A-6 (2023).

LSLR Component	Minimum Cost (\$/LSLR)	Average Cost (\$/LSLR)	Maximum Cost (\$/LSLR)
Post-Replacement Provisions	\$78	\$118	\$158
<i>Pitcher Style Filter with 6 Months of Cartridges</i>	--	\$58	--
<i>Water Sample</i>	\$20	\$60	\$100
Totals (rounded to nearest hundred)	\$7,600	\$12,500	\$37,800

The cost estimate in the Proposed Rule Economic Analysis is summarized in the table below. The values shown in the economic analysis for minimum and maximum costs were reported as representing the 25th and 75th percentile. No average cost was presented but presumably the modeling resulted in a median cost in the middle of the two values. The Proposed LCRI Economic Analysis notes that the costs include ancillary costs other than those included elsewhere. Note that neither analysis has inspection services for overseeing the replacements which are needed and significant. As an example, it is estimated in the response to Request for Comment 14 above that a crew can replace at best three service lines per day. An inspector cost for one day is approximately \$480 or \$160 per replaced service line. This cost would need to be added to the average cost.

LSLR Component	Minimum Cost (\$/LSLR)	Average Cost (\$/LSLR)	Maximum Cost (\$/LSLR)
Full Replacement (CWS and Private Side)	\$6,507	\$0	\$8,519
<i>Partial Replacement</i>	<i>\$1,920</i>	<i>\$0</i>	<i>\$5,400</i>
<i>GRR Replacement</i>	<i>\$1,920</i>	<i>\$0</i>	<i>\$5,400</i>

Comparing the above tables illustrates the significant underestimate in the costs reflected in the Proposed Rule Economic Analysis. The Proposed Rule economic analysis reflects a maximum cost that is approximately the same as the actual minimum cost for full LSLR, which AWWA provided EPA in December 2022 (in the above table costs extracted from EPA's analysis are in 2020 dollars and CDC Smith report costs are in 2022 dollars). In the Proposed Rule economic analysis EPA eliminated high costs and only used the 75th percentile value at the high end of the replacement cost range. This approach incorrectly eliminates actual costs being paid by CWSs; the upper values are not "statistical outliers".

Appendix A to the Proposed Rule Economic Analysis stated that

"EPA did not utilize the auxiliary cost data due to potential issues with double counting because some auxiliary costs (such as planning, data management, customer outreach, filters, and sampling) are already accounted for elsewhere in the estimated rule costs for the proposed LCRI, and other costs (such as engineering and inspection costs) are already included in the DWINSA data."

However, as can be seen the Proposed Rule Economic Analysis costs are much lower than those in the CDM Smith report. Accounting for the ancillary costs elsewhere does not result in a true cost benefit

analysis of replacement costs and again underestimates (1) the burden associated with the proposed LCRI and (2) the amount of federal funds necessary to achieve the rule requirement. Even when comparing only CDM Smith construction costs to Proposed Rule Economic Analysis costs that include some ancillary items, the economic analysis costs are much lower. The average CDM Smith report construction only cost is \$9,900 compared to the economic analysis maximum cost with some ancillary items of \$8,500.

For comparison purposes the data from the CDM Smith report was analyzed to produce 25th and 75th percentile values as well as 10th and 90th percentiles (in 2022 dollars). The comparison with the Proposed Rule economic analysis is shown in the table below. These costs are only the actual construction costs for the CDM Smith report. Even at 75th percentile values the Proposed Rule economic analysis significantly underestimates actual costs. But again, the upper end costs should not be discarded.

CDM Smith Estimate	10%	25% (Minimum Cost)	75% (Maximum Cost)	90%
Full Replacement (CWS and Private Side)	\$7,053	\$8,113	\$10,537	\$13,329
Partial Replacement	\$4,523	\$4,994	\$8,552	\$11,502
LCRI Proposal	10%	25% (Minimum Cost)	75% (Maximum Cost)	90%
Full Replacement (CWS Private Side)	--	\$6,507	\$8,519	--
Partial Replacement	--	\$1,920	\$5,400	--

EPA presented two arguments for why the Proposed Rule Economic Analysis costs were lower than the CDM Smith report costs and acceptable. One argument was that the economic analysis had a larger data set than did AWWA. However, as shown in Exhibit A-3 the differences are not significant with AWWA having 38 cost estimates and the economic analysis having 43 cost estimates. The second reason given was that the CDM Smith report data was only from systems serving populations larger than 10,000 persons and may not have factored in smaller system costs.²¹⁸ Depending on which exhibit is used in the economic analysis, roughly 85% of all LSLs are in CWSs serving more than 10,000 persons. The cost estimates should not be biased downward for small systems when by far the costs will be borne by larger systems with more issues related to traffic control, coordination, and restoration.

Cost estimates reviewed in preparing these comments indicate that CWSs are facing, still higher replacement costs. Restoration costs in particular are increasing, especially where replacements are not associated with main replacement projects.

In summary

²¹⁸ EPA. Proposed LCRI Economic Analysis Appendices. (2023) A-6.

1. The costs used in the Proposed LCRI Economic Analysis are low and do not reflect true costs.
2. The costs should include ancillary costs to construct a true value for lead line replacements and the total costs should be used in the cost benefit analysis.
3. It is not reasonable to exclude the top 25% of CWS reported costs as these are true costs being borne to replace lead lines.
4. The CDM Smith Report on replacement costs should not have been dismissed as representing systems serving more than 10,000 persons as such systems are burdened with replacing 85% of all the lead lines.

EPA's Estimate is in 2022 Dollars – The agency's Proposed LCRI Economic Analysis and the above described CDM Smith report escalated available cost information to 2022 dollars. The information on replacement costs provided to EPA in 2022 do not yet reflect more recent increases in costs. The above per-line replacement costs do not reflect recent cost trends that are continuing to increase the cost of service line replacement programs:

1. Inflation as an over-arching economic trend
2. Recent rapid increases in spending on public infrastructure construction is resulting in increased demand for available construction resources and with that demand price escalation.
3. Federal funding for infrastructure investment has with it federal cross-cutter requirements including wage, material origin, environmental impact assessment, and other requirements that both directly increase costs and represent additional logistical and administrative burdens, which themselves impose both operating expenses and create opportunity costs by introducing timing delays and uncertainty into project administration.

Even well-established programs funded through CWS resources with established contractor pools are experiencing substantial cost increases. One large CWS in EPA Region 3 received bids for service line replacement in the Fall of 2023 more than one-third higher than pricing reported previously in the CDM Smith report (adjusted to 2022 dollars).

Engineering Standard of Care in Cost Estimation -- The American Association of Cost Engineering describes five classes of cost estimates that are distinguished by maturity level of project definition, end usage, methodology, and the expected accuracy range. A Class 1 estimate represents a level of project definition exceeding 50% where a detailed unit cost and detailed take-off have been used to estimate the costs and the cost could be as much as 15% higher. Alternatively, a Class 5 estimate represents a level of project definition of less than 2% where concepts are being screened and the use of parametric models were used and so the costs could be as much as 100% higher. In consideration of the data that are available for EPA to consider in estimating costs and given that site-specific conditions cannot be factored into the estimate, the EPA LCRI service line replacement cost estimate is likely to be considered a Class 4 or Class 5 estimate where costs could be 50% or 100% higher. EPA's current cost estimate does not incorporate contingency costs or communicate estimate uncertainty in keeping with the recognized

engineering profession standard of care. As a result, (1) the cost of lead service line replacement is likely underestimated and (2) the range of uncertainty is not adequately conveyed to decision makers.

Bipartisan Infrastructure Law (BIL) – EPA notes that BIL provides \$15 billion over five years (i.e., \$3 billion per year in federal fiscal years 2022 – 2026).^{219, 220} In proposing the LCRI the agency estimates that service line replacement will cost more than \$2.4 – 3.5 billion per year when annualized over 35 years. The federal funding afforded CWSs through BIL is important and helpful, but EPA should not hold that funding up as significantly addressing the cost implications of the proposed LCRI.

5.5 Likelihood of Additional WQP Sampling Site

The proposed LCRI changes the sampling pool, returns many systems to routine monitoring, and reduces the concentration of lead in individual compliance samples at which CWSs must conduct WQP assessments. The LCRI also expands ongoing monitoring implications to systems that do not operate under OCCT. As revised, constraints on placement of evaluation sites following a high lead observation are:

1. In the same sized water main
2. In the same pressure zone
3. Within a one-half mile radius of the LCR compliance monitoring site that was elevated

This is a continuing provision of the proposed LCRI, consequently,

1. As initial LCRI implementation proceeds systems will be seeking increasingly scarce Tier 1 and 2 sample sites, and then Tier 3 sample sites
2. Late in the LCRI implementation sample sites will be geographically dispersed as the state directs the compliance monitoring pool to be widely representative across the water system as the system transitions to Tier 4 and 5 sites.

In either scenario there is little reason to assume close proximity between tap sample stations and WQP monitoring stations, as the two monitoring networks are geared toward two different facets of the rule. The compliance tap monitoring sample set as sentinel sites for lead release and the WQP monitoring sites as a check on operational control.

CWSs do not have uniform density. There are CWSs that serve urban centers, but there are also CWSs serving suburban and rural development patterns. EPA does not have a basis for assuming that WQP monitoring stations suitable for a continuing monitoring requirement that meet the above criteria are readily available.

Yet, in the Proposed LCRI Economic Analysis²²¹ EPA assumes that only 10% of the required sample site and distribution system assessments will result in a new WQP monitoring site in a system serving more than 100,000 persons and only 20% for systems serving more than 1,000 but less than 100,000 persons. The basis for this this probability is not explained. For EPA to conduct this economic analysis with

²¹⁹ Infrastructure Investment and Jobs Act (Pub. L. 117–58).

²²⁰ 88 Fed. Reg. at 84881.

²²¹ EPA. Proposed LCRI Economic Analysis. (2023) Page 4-157.

credibility, it should assume that every compliance monitoring sample over 10 µg/L results in a new WQP monitoring station until the system reaches the cap on the number of sites.

Given the requirement for WQP monitoring sites on similar sized mains and in close proximity to the tap sample site, the WQP sites will tend to be in residential areas. CWSs must have reliable access to sample locations for parameters requiring routine monitoring like WQP sampling. EPA should not establish a regulatory requirement that requires systems to rely on poor quality sampling stations like fire hydrants. EPA has not incorporated a mechanism for or the cost of systems transitioning from the sample site used in the required timeframe following a high lead observation and construction of dedicated sampling stations.

5.6 Assuming No Reduction in Lead Exposure

EPA cannot assume that lead exposures will be constant for the duration of the LCRI economic analysis as described in the Proposed Rule Economic Analysis.²²² EPA is conducting this Economic Analysis in the context of:

1. A White House and EPA Administrator led “Lead Pipe and Paint Action Plan” that is intended to be an all of government effort to reduce exposures to environmental sources of lead (see Proposed LCRI Economic Analysis, page 1-2). At EPA alone, there are two completed rulemakings and four rulemakings underway as part of this plan. EPA has the analyses from these rulemakings that the agency can use to inform the LCRI rulemaking.
2. There is a continued ongoing decline in observed lead levels in the U.S. population, including the upper percentile blood lead level concentrations in children. Levels have declined so significantly and to such low levels that the Centers for Disease Control has re-framed both its metric to guide primary exposure reduction and recently once again lowered that reference blood lead level concentration to 3.5 µg/dL (i.e., the 97.5 percentile blood lead level in children one to five years old in the U.S.).

“The geometric mean BLL in U.S. children aged 1–5 years has declined over time from 15.2 µg/dL in 1976–1980 to 0.83 µg/dL in 2011–2016 (Table 2) (8). During the same period among U.S. children aged 6–11 years, the geometric mean BLL declined from 12.7 µg/dL to 0.6 µg/dL.” (Ruckart et al., MMWR, October 29, 2021, Vol. 70, No. 43)

While the National Health and Nutrition Examination Survey (NHANES) does not report a 97.5 percentile geometric mean for children aged one to five the 95th percentile value is 2.02 µg/L.²²³

Both the overall declines in BLLs and the likely doses of environmental lead exposure from multiple media (e.g., water, dust, soil, air, etc.) must be considered when evaluating public policy choices with such large costs for small incremental reductions in lead exposure. Zatarian et al.²²⁴ which underpins

²²² EPA. Proposed LCRI Economic Analysis. (2023) Page 5-22.

²²³ CDC, National Exposure Report Home, Biomonitoring Data Tables for Environmental Chemicals, Blood Lead (2011 - 2018), CAS Number 7439-92-1) (2023) <https://www.cdc.gov/exposurereport/index.html>.

²²⁴ Zatarian V, Xue J, Tornero-Velez R, Brown J. Children’s Lead Exposure: A Multimedia Modeling Analysis to Guide Public Health Decision-Making,” Environmental Health Perspectives. Environ Health Perspect. Sep 12;125(9):097009 (2017).

EPA's lead health risk assessment clearly demonstrates that relative source contribution is a significant factor in lead exposure, even in special scenarios like the case of bottle-fed infants.

5.7 Understanding Post-Partial Lead Concentrations

As noted in the above response to Request for Comment 21, EPA's analysis of lead exposure post-partial replacement does not take into account modern lead service line replacement practice. As seen in Exhibit 5-4: Summary Statistics for Tap Water Lead Concentrations by LSL and CCT Status Combinations, Country, and Citation²²⁵ the dataset underpinning EPA's Economic Analysis predates the 2017 AWWA/ANSI C810 standard for lead service line replacement and subsequent WRF research that inform current practice. EPA does not account for the benefits of the AWWA/ANSI standard in subsequent steps in the analysis.

5.8 Costing Expectations for CCT Decision-making

The Proposed Rule and the associated Economic Analysis project that adapting corrosion control to comply with the LCRI revisions (e.g., action level, sampling protocol, sampling pool, sampling frequency, and action level calculation) merely entails three things (1) a state instruction, (2) in some instances a pipe rack study and (3) installation or adjustment of chemical feeds. The agency analysis does not capture the level of care that must go into either a state issuing instructions or a system discerning how it will cope with:

1. The unintended consequences of complying with the state's direction (e.g., the addition of orthophosphate, ending the application of a polyphosphate, etc.)
2. Preparing the distribution system for a change in corrosion control (e.g., removing sediment, revising water supply diversification practices, etc.)

EPA describes the scope of CCT analysis and CCT adjustment in its Economic Analysis. Note that EPA did include costs for which it does not offer a well-reasoned explanation, such as inclusion of a relatively low-cost activity of spot flushing as a means of improving water quality near LCR sample sites (page 4-151). This is an unlikely approach for most system under the LCRI given the nature of the relevant water quality drivers and an impractical strategy given the uncertain nature of the compliance sample collection process. If EPA utilized this strategy to substantially alter the cost consequences of the rule within the SafeWater model, it should be removed from the economic analysis.

5.9 Analysis Misjudges the Impact of Orthophosphate Addition on Cost

Inclusion In Economic Analysis-- EPA did not include the cost of orthophosphate removal from wastewater in the agency's analysis beyond an informational addition.²²⁶ This is contrary to EPA's internal guidance for the development of Economic Analyses and is inconsistent with the intent of SDWA's requirement that attributable costs of a regulation that will be borne by the households paying for implementing the primary standard be included in the health risk reduction and cost analysis required by the rule.²²⁷ EPA cannot forgo including these costs when weighing the benefit-cost ratio for the Final LCRI because EPA must assume that give CWA policies, the incremental cost burden on wastewater treatment facilities will in most instances be borne by the same customers as the CWS

²²⁵ EPA. Proposed LCRI Economic Analysis. (2023) Page 5-9.

²²⁶ Ibid. Page C-3.

²²⁷ 42 U.S. Code § 300g-1(b)(3)(C)(i)(III)

applying orthophosphate. The Economic Analysis already notes the use of water quality trading as a mechanism for such cost transfers to CWSs where there is not a one-to-one correspondence between the impacted wastewater agency and the CWS.

Analysis Inconsistent with EPA Program Goals -- The Proposed LCRI Economic Analysis conflicts with the greatest programmatic emphasis in EPA's CWA program, the control of nutrients. EPA has had a Nutrient Reduction Strategy across multiple administrations for multiple decades, see epa.gov/nutrientpollution. That strategy includes supporting numeric nutrient criteria and National Pollutant Discharge Elimination System permit conditions under existing narrative criteria. In November 2023 EPA published the *National Rivers and Streams Assessment 2018 – 2019*. In that assessment EPA found “Forty-two percent of the nation’s river and stream miles were in poor condition, with elevated levels of phosphorus, and 44% were in poor condition for nitrogen.” Yet in the Proposed LCRI Economic Analysis, EPA describes the impact of orthophosphate addition as a negligible concern. In short, EPA argues that one of the most sustained regulatory programs under the CWA is irrelevant because,

1. CWA requirements are not a legal or technical constraint on SDWA requiring phosphate addition for corrosion control, because publicly operated treatment works (POTWs) will remove the added phosphate under CWA requirements
2. Currently most POTWs are not subject to phosphate limits so the implications of CWA regulation are only pertinent to a few locales
3. The CWA related costs associated with orthophosphate addition are not significant
4. The incremental difference in phosphate addition between the LCRR and LCRI is small
5. This incremental addition of phosphate to waters of the US is a small marginal addition compared to all other anthropogenic sources

For decades, EPA's CWA policy has been to reduce existing anthropogenic sources of nutrients from every regulated point discharge, prevent new influxes of anthropogenic nutrient pollution, and to utilize regulatory pressure on point dischargers to motivate control of nonpoint nutrient releases. To evaluate the Proposed LCRI as though this decades long CWA regulatory framework will not have meaningful consequences for CWSs and the costs borne by households as a result of the Proposed LCRI is not sound.

A Significant Local Constraint -- This administration did not oversee the decision to issue a variance to Denver Water (December 16, 2019), so it may not be aware of how central a role the issue of nutrient control under the CWA plays in local decision making. A review of the record for that decision in Region 8 would illustrate that addition of orthophosphate for purposes of corrosion control will lead to implications for water systems well beyond EPA's estimated annualized increase of \$4.2 - \$5.9 million. Denver Water operates in a semi-arid environment but federal and state emphasis on nutrient control is a ubiquitous regulatory pressure nationwide. Slabaugh et al. (2015)²²⁸ demonstrated that much less significant changes than those undertaken in the LCRI would account for hundreds of millions of annual costs for phosphate removal.

²²⁸ Slabaugh, RM, RB Arnold Jr., S Chaparro, and CP Hill. National Cost Implications of Potential Long-Term LCR Requirements. Journal AWWA Vol. 107, Issue. 8, Pages 389 – 400 (2015) <http://dx.doi.org/10.5942/jawwa.2015.107.0097>.

5.10 Alternative Definition of Lead Content Service Lines to be Replaced

The Proposed LCRI Economic Analysis both under-estimates the cost and overestimates the public health benefits associated with including galvanized services preceded by a lead connector in the definition of service lines warranting replacement. In Exhibits 8-14 – 8-17 of the Proposed LCRI Economic Analysis²²⁹ EPA presents its “high scenario” annualized cost and health benefit estimates at 3 and 7% discount rates. EPA presents that the expanding the definition of service lines requiring replacement to include “Lead Connectors and Galvanized Lines Downstream or Previously Downstream of Lead Connectors Must be Replaced” would have a substantial net positive benefit (see following table).

Discount Rate	Total Annualized	Difference (\$ Billions [2022 USD])	
		LCRI	Increment
3%	Cost	\$0.20	\$0.20
	Benefit	\$2.07	\$2.07
	Net Benefit	\$1.87	\$1.87
7%	Cost	\$0.24	\$0.24
	Benefit	\$1.25	\$1.25
	Net Benefit	\$1.01	\$1.01

EPA does not describe a defensible basis for estimating any benefit associated with this alternative. Any benefits analysis is constrained by:

1. The alternative definition’s inclusion of “or Previously Downstream of Lead Connectors Must be Replaced” must be assumed, given the information provided, to be similar to EPA’s treatment of potential historical presence of lead service lines in GRRSL definition. In this instance EPA cannot attribute any increased incremental benefit from galvanized pipe preceded by lead connector because EPA has no information on which to base the likely occurrence of actual galvanized service lines preceded by lead.

EPA could attempt to craft such a probability distribution based on the 2023 Needs Survey but that dataset is so troubled that EPA has (1) chosen not to report the lead connector data in the survey and (2) resorted to a supplemental information collection request for the lead service line characterization data previously collected. As illustrated by rows 2 – 4 of the following table, the Needs Survey has marked differences in the occurrence of service line materials (see following table). The differences are as likely to be the result of an inadequately representative sample and a difficult to complete survey questionnaire, as to be credible differences in material occurrence. This concern would likely be especially evident if the data were normalized for date of construction.

²²⁹ EPA. Proposed LCRI Economic Analysis (2023) Pages 8-12 – 8-14.

AWWA demonstrated in information submitted to EPA during the Federalism consultation for the Proposed LCRI.²³⁰ The nature of available records and the distribution of galvanized service lines nationally are such that the states where EPA is otherwise collecting better quality service line material data are not where galvanized service lines are most likely to be found.

Service Line Material	Large and Medium Systems	Small Systems
1. Lead Service Lines	3%	1%
2. Standalone Galvanized Service Lines	5%	1%
3. Lead- and Galvanized-Free Service Lines	18%	61%
4. Unknown Service Lines	56%	37%
5. Unreported Service Lines	18%	0%
Total	100%	100%

2. EPA's definition of service line is such that any analysis of exposure and thus benefits will misrepresent health risk because service lines that are in fact not delivering water to potable water uses in structures are included in the service line replacement requirement.
3. Also described earlier, EPA lacks a demonstrable linkage between lead connectors (i.e., a less than two-foot-long length of lead that is typically located at the main) with elevated lead exposure levels. Just applying back-of-the-envelope comparison of benefits with and without the additional service lines, it appears that EPA treated removing 2 feet of lead as having the same incremental public health benefit as removing an entire lead service line.
4. Because few systems will have strong records for the use of lead connectors, any galvanized service line not otherwise captured in the GRRSL category will have to be included in the cost of:
 - a. Service line characterization
 - b. Service line replacement
 - c. Implications for communities meeting the goal of replacing all targeted service lines in 10-year and annual 10% replacement rate
 - d. Application of all public education provisions associated with replacement or disturbance, including distribution of pitcher filters, customer requested samples, etc.
 - e. Response to requests for replacement

²³⁰ EPA. Summary Report on Federalism and Unfunded Mandates Reform Act (UMRA) Consultation for the Development of the Proposed LCRI National Primary Drinking Water Regulation. (2023) EPA-HQ-OW-2022-0801-0500.