



December 12, 2019

Mr. David Ross
Assistant Administrator
Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Mail code: 4101M
Washington, DC 20460-0001

RE: Comments regarding the lead service line definition and inventory aspects of the agency's proposed revisions to its Lead and Copper Rule in the National Primary Drinking Water Regulations, Docket No. EPA-HQ-OW-2017-0300

Dear Assistant Administrator Ross:

Environmental Defense Fund (EDF) respectfully submits the following comments regarding the lead service line (LSL) definition and inventory aspects of the Environmental Protection Agency's (EPA) proposed revisions to its Lead and Copper Rule (LCR). The agency published proposed revisions in the November 13, 2019, *Federal Register* at 84 Fed. Reg. 61,684 and is accepting comments at Docket No. [EPA-HQ-OW-2017-0300](https://www.regulations.gov/docket/EPA-HQ-OW-2017-0300).

EDF's mission is to preserve the natural systems on which all life depends. We have more than two million members and a staff of 700 scientists, economists, policy experts, and other professionals around the world. Guided by science and economics, we find practical and lasting solutions to the most serious environmental problems. This has drawn us to areas that span the biosphere: climate, oceans, ecosystems and health. Our Health Program seeks to safeguard human health by reducing exposure to toxic chemicals and pollution, including accelerating LSL replacement to reduce lead in drinking water.

I. Summary of Comments and Recommended Changes to Proposed Rule

In this comment, we are focused on changes that EPA should make to the definition of an LSL, the requirements for water systems to develop LSL inventories, and the notification of individual consumers who are drinking water that passes through an LSL. We will address other issues in separate comments.

EPA's proposed change to the current definition of an LSL at 40 CFR § 141.2 is flawed because it continues to exempt goosenecks, pigtails, or other connectors made of lead. These connectors are a major source of lead in drinking water not just because they are made of lead, but because they can release significant amounts of lead particulate into water as they flex with temperature, are scoured by turbulent water flow, and as other conditions change.

The exemption of these connectors from the definition of an LSL would render a water system's LSL inventory and periodic notices to customers misleading because service lines described as "non-lead" may

actually have some lead pipe in them. This will give residents a false sense of security. We recommend that the agency modify the proposed definition by deleting the exemption and explicitly stating that goosenecks, pigtails and connectors made of lead are LSLs.

With regard to a service line inventory, we share EPA's view that an LSL inventory is a critical aspect of an overall program designed to reduce lead in drinking water. A good inventory can better inform decision-making and priority setting not only by the water system and the state, but also homeowners and others who drink the water that passes through the LSL.

In general, we support EPA's approach to developing and communicating an LSL inventory at § 141.84(a), particularly:

- Explicitly including the entire service line regardless of ownership;
- Including "unknown" along with "lead" and "non-lead" as reporting categories for the inventory;
- Requiring a "location identifier" for each LSL;
- Requiring that the inventory be made publicly accessible and, for systems serving more than 100,000 persons, also electronically available; and
- Requiring that the inventory be updated at least annually.

We recommend that EPA make several changes to the proposed inventory requirements to strengthen the approach and improve the effectiveness of the final rule. Specifically, we ask that the agency modify the proposed rule by:

- Allowing states to identify additional sources of information for categorizing service lines without modifying their version of the LCR;
- Recognizing the uncertainties in the assignment of each service line to the "lead" and "non-lead" categories by explicitly providing criteria – such as 90% confidence – to the decision;
- Making it clear that each service line must be categorized; and
- Directing the state to make the locations of LSLs publicly accessible and integrate the inventories into an online tool.

Finally, the proposed rule requiring water systems to notify each consumer who drinks water that passes through an LSL needs to be clarified. The proposal would require notification to a wide-ranging list of people, from tenants in residential units, to office tenants, to restaurant patrons, to children at a child care facility. We recommend that EPA carefully consider how different types of water systems should notify consumers in the most common situations and create explicit requirements for these water systems to provide the most effective notices.

II. Lead Service Line Definition – Recommended Changes and Reasoning

EPA's proposed change to the current definition of an LSL at 40 CFR § 141.2 is flawed. Without explanation or justification, the agency continues to exempt goosenecks, pigtails, or other connectors made of lead. These connectors are a significant source of lead in drinking water not just because they are made of lead, but because they are designed to flex when the main under the street contracts or expands along its axis with changing temperatures. The flexing undermines the protective coating provided by corrosion control and can release lead particulate into the water. The agency acknowledges the risk at proposed § 141.84(c) by requiring water systems to replace the connectors when they encounter those that they own during emergency repairs or planned water system infrastructure work.

As a result of the exemption of these connectors from the definition of an LSL, a water system's LSL inventory and periodic notices to customers will be misleading because service lines described as "non-

lead” may actually have lead pipe in them. This will give residents a false sense of security. We recommend that the agency modify the proposed definition by replacing the last sentence as follows:

Lead service line means a service line made of lead, which connects the water main to the building inlet. A lead service line may be owned by the water system, owned by the property owner, or both. For the purposes of this subpart, a galvanized service line is considered a lead service line if it ever was or is currently downstream of any lead service line or service line of unknown material. It includes a gooseneck, pigtail or connector made of lead, even where there is no other lead pipe in the service line. ~~If the only lead piping serving the home or building is a lead gooseneck, pigtail, or connector, and it is not a galvanized service line that is considered an LSL, the service line is not a lead service line.~~

To understand why our recommended change is critical, we explain: A) the problem with the current LSL definition; B) how EPA’s proposed change to the definition does not adequately address that problem; C) how Congress and other states that have considered the definition of an LSL have addressed it; and D) how our recommendation addresses the problem in a manner consistent with the rule’s goal.

A) The problems with the current LSL definition

EPA’s current definition of an LSL at § 141.2 says:

Lead service line means a service line made of lead which connects the water main to the building inlet and any lead pigtail, gooseneck or other fitting which is connected to such lead line.

While it is not obvious, the current definition exempts service lines that have lead goosenecks, pigtails, or other fittings as long as the remainder of the line is not made of lead. If the composition of the remainder of the line is unknown or a material other than lead, the entire service line would not be an LSL even though it contains lead pipe.

The confusion results partly from EPA’s failure in the current rule to define a “service line.” The agency implicitly treats these short sections of piping, usually one to two feet long that are directly connected to the drinking water main, as not part of the service line and, therefore, not part of an LSL. They appear to fall in a definitional gap between the main and the service line. We think these connectors are properly considered as part of the service line.

The primary purpose of goosenecks, pigtails, and similar connectors is to allow the service line to flex in response to subtle movements between the rigid main (often ductile iron) under the street and a rigid service line (typically galvanized steel) that connect at right angles. These subtle movements can occur for a variety of reasons, most commonly as the temperature of water in the pipe changes. An increasing temperature will cause the pipe to expand. A dropping temperature will do the opposite. For short runs of pipe, the changes are not particularly important. But for a main under a long street, they add up to significant movement along the axis of the main. Connections between mains are designed to accommodate these shifts. When a lead gooseneck, pigtail, or other connector flexes, it is likely to release lead into drinking water going to the home or building, especially in particulate form, as the protective coating from corrosion control is disturbed.

B) How the proposed change to the definition does not adequately address that problem

In its proposed revisions to the LCR, EPA adopts a definition of LSLs as follows:

Lead service line means a service line made of lead, which connects the water main to the building inlet ~~and any lead pigtail, gooseneck or other fitting which is connected to such lead line.~~

A lead service line may be owned by the water system, owned by the property owner, or both. For the purposes of this subpart, a galvanized service line is considered a lead service line if it ever was or is currently downstream of any lead service line or service line of unknown material. If the only lead piping serving the home or building is a lead gooseneck, pigtail, or connector, and it is not a galvanized service line that is considered an LSL the service line is not a lead service line.

While EPA did not define a “service line” in its proposed rule, it did add helpful and appropriate definitions of a gooseneck, pigtail, or connector and of a galvanized service line to § 141.2.

Gooseneck, pigtail or connector is a short section of piping, usually one to two feet long, which can be bent and used for connections between rigid service piping.

Galvanized service line generally means iron or steel piping that has been dipped in zinc to prevent corrosion and rusting.

The proposed change to the LSL definition would continue to exempt lead goosenecks, pigtails, and connectors. However, it appears to narrow the exemption if the device is upstream of a galvanized service line. This change is good but insufficient. It is also confusing because it uses the term LSL in the definition of LSL creating what appears to be circular logic.

In the preamble to the proposed rule, the agency provides no explanation for the change to the LSL definition or what alternatives it considered. Nonetheless, the agency clearly recognizes that lead goosenecks, pigtails, and connectors are a significant source of lead in drinking water. Proposed § 141.84(c) requires that “[t]he water system must replace any lead gooseneck, pigtail or connector it owns when encountered during emergency repairs or planned water system infrastructure work” regardless of the system’s 90th percentile lead level.

The agency justifies this requirement to replace these connectors by stating that:

EPA expects that mandatory replacement of these connectors as they are encountered would provide a beneficial and lower burden opportunity for the water system to remove a lead source from its distribution system. The water system is encouraged but not required to engage with the customer to coordinate replacement of a customer-owned lead gooseneck, pigtail, or connector; however, the water system would not be required to bear the cost of replacement of the customer-owned materials under this proposal. Replacement of a lead gooseneck, pigtail, or connector regardless of ownership would not count towards goal-based or mandatory LSLR rates.¹

The agency explains that “[t]his proposed requirement was recommended by the National Drinking Water Advisory Council (NDWAC, 2015).”² However, NDWAC’s Lead and Copper Rule Work Group Report actually said that EPA’s revisions to the LCR should include “Modifying the definition of lead service lines to include any service line where any portion, including a lead pigtail, gooseneck or other fitting, is made of lead.”³ The requirement falls short of including all of these connectors in the definition of an LSL.

C) How Congress and other states that have considered the definition of an LSL have addressed it

¹ 84 Federal Register 61697.

² 84 Federal Register 61697.

³ [NDWAC Lead and Copper Rule Work Group August 2015 Report](#) which was incorporated by reference into [NDWAC’s December 2015 recommendations](#).

In 2017, Congress implicitly rejected the exemption for lead goosenecks, pigtails, and other fittings from the definition of an LSL when it enacted the [Water Infrastructure Improvements for the Nation \(WIIN\) Act](#) (P.L. No. 114-322). Section 2105(b)(4) of WIIN⁴ established a broad definition of an LSL for purposes of a grant program for lead reduction projects. The definition states that:

The term ‘lead service line’ means a pipe and its fittings, which are not lead free (as defined in section 1417(d)), that connect the drinking water main to the building inlet.

By referencing [Section 1417 of the Safe Drinking Water Act \(SDWA\)](#), Congress’ definition of an LSL includes any service line fitting that contains more than 0.2 percent lead in solder and flux or has a weighted average of more than 0.25 percent lead in the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. Congress’ definition would include copper service lines with lead solder installed before 1986 and any service line that contains a brass or bronze valve with more than 0.25% installed before 2014.

Two states, Michigan and California, that have explicitly considered the scope of LSLs have included lead goosenecks, pigtails and other connectors in the definition of an LSL. We recommend that EPA follow the lead of Michigan and California.

- **Michigan:** In 2018, the Michigan Department of Environment, Great Lakes, and Energy significantly strengthened its LCR. The rules at [R 325.10105\(r\)](#) define an LSL to mean “either a service line which is made of lead or any lead pigtail, lead gooseneck, or other lead fitting that is connected to the service line, or both.”
- **California:** The California Water Board defines a user service line⁵ to mean pipe, tube, and fittings connecting a water main to an individual water meter or service connection. In 2016, the California legislature adopted [Senate Bill 1398](#) that required community water systems to compile an inventory of lead user service lines in use in its distribution system and submit it to the Water Board. The Water Board provided [guidance to community water systems](#)⁶ that explicitly includes in the definition of a lead user service line any fittings made of lead and provides goosenecks and pigtails as examples. It exempted brass and bronze fittings because they are not lead and did the same for solder in copper pipe because it is not a fitting.

We note that the Illinois legislature may have considered the issue when it enacted in 2017 [Senate Enrolled Act 550](#)⁷ requiring community water systems to submit a “water distribution system inventory” to Illinois EPA (IEPA) in 2018 and update it annually thereafter. IEPA posts the [inventory reports online](#) and provides [guidance](#) for systems to prepare the reports. The Illinois law and the guidance do not address the issue of whether lead goosenecks, pigtails and other connectors are part of the LSL. Presumably, the state uses the current federal definition of an LSL.

In addition, as noted earlier, EPA’s NDWAC recommended that the agency should revise the LCR by “Modifying the definition of lead service lines to include any service line where any portion, including a lead pigtail, gooseneck or other fitting, is made of lead.”⁸

⁴ Adds new section 1495B to the Safe Drinking Water Act. That section was codified at [42 U.S.C. §300j-19b\(b\)\(4\)](#).

⁵ California Code of Regulations [22 CA ADC § 64551.60](#).

⁶ See

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/leadserviceineinvpws/faqs_lsl_pws_v24.pdf and

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/lead_service_line_inventory_pws.html.

⁷ Codified at [415 ILCS 5/17.11](#).

⁸ [NDWAC Lead and Copper Rule Work Group August 2015 Report](#) which was incorporated by reference into [NDWAC’s December 2015 recommendations](#).

D) How our recommendation addresses the problem in a manner consistent with the rule’s goal

Rather than a confusing last sentence in the definition of an LSL at § 141.2, EPA should delete the sentence and replace it with one that says, “It includes a gooseneck, pigtail or connector made of lead, even where there is no other lead pipe in the service line.” This sentence would make clear that EPA is eliminating the current rule’s exemption for these connectors and avoid the potential confusion.

With this change, water systems must:

- Categorize all lead goosenecks, pigtails, or connectors as “lead” instead of “non-lead” for purposes of the LSL inventory at § 141.84(a)(3) that must be made publicly accessible pursuant to § 141.84(a)(6);
- Explicitly describe their operating procedures for these connectors in their LSL replacement plan pursuant to § 141.84(b);
- Notify the following that they have these lead connections, pursuant to § 141.85(e):
 - Consumers annually by mail or other approved means;
 - New customers at the time of service initiation; and
 - Consumers when there is a disturbance to the connector.

We recognize that this change would increase the number of LSLs that must be replaced pursuant to 40 CFR § 141.84. However, as we will explain in other comments, that issue is best resolved by strengthening the proposed rule’s requirements to replace LSLs.

III. Lead Service Line Inventory – Recommended Changes and Reasoning

We share EPA’s view that an LSL inventory is a critical aspect of an overall program designed to reduce lead in drinking water. A good inventory can better inform decision-making and priority setting by not just the water system, but also the state, homeowners, and others who drink the water that passes through the LSL.

In general, we support EPA’s approach to developing and communicating an LSL inventory at § 141.84(a), especially:

- Explicitly including the entire service line regardless of ownership;
- Including “unknown” along with “lead” and “non-lead” as reporting categories for the inventory;
- Requiring a “location identifier” for each LSL;
- Requiring that the inventory be made publicly accessible and, for systems serving more than 100,000 persons, also electronically available; and
- Requiring that the inventory be updated at least annually.

We recommend that EPA make changes to the proposed inventory requirements to strengthen the approach and improve the effectiveness of the final rule. Specifically, we ask that the agency modify the proposed rule by:

- Allowing states to identify additional sources of information for categorizing service lines without modifying their version of the LCR;
- Recognizing the uncertainties in the designation of each service line to the “lead” and “non-lead” categories by explicitly providing criteria – such as 90% confidence – to the designation;
- Making it clear that each service line must be categorized; and
- Directing the state to make the locations of LSLs publicly accessible and integrate the inventories into an online tool.

We explore each of these recommendations in more detail below.

A) Allowing states to identify additional sources of information for categorizing service lines without modifying their version of the LCR

We agree with EPA's approach in § 141.84(a)(2) of explicitly requiring water systems to consider three types of information sources to develop the inventory: 1) plumbing codes, permits, and records in the files of the building departments; 2) water system records; and 3) inspection and records of the distribution system.

We also support EPA's decision in § 141.84(a)(2)(iv) to allow the state to require additional resources. However, the word "requirement" indicates it must be in the state's version of the LCR. We encourage, EPA to replace "required by the State" with "provided or required by the State." This change will make it easier for the state drinking water agency to systematically implement the lessons learned from the annual inventory updates submitted by water systems as well as incorporate evolving tools to assess and categorize service lines.

(a)(2)(iv): Any resource provided or required by the State to assess service line materials for structures built prior to 1989.

B) Recognizing the uncertainties in the designation of each service line to the "lead" and "non-lead" categories by explicitly providing criteria – such as 90% confidence – to the designation

One significant concern we have with the process EPA proposes that water systems must use to develop the inventory is how it handles the inherent uncertainties with designating a service line as "lead" or "non-lead" pursuant to § 141.84(a)(3). With the tools we currently have available, unless a water system excavates the entire service line, it cannot know its composition with absolute certainty. We think that it is impractical for a water system to conduct these excavations for each service line, especially when the excavation disturbs the LSL and may result in increased exposure to lead particulate in consumer's drinking water. It would also be counterproductive to categorize all service lines as "unknown" because of the uncertainty.

EPA acknowledges the challenge in the preamble when it stated that:

This requirement follows the recommendation provided to the EPA by the NDWAC, to grant water systems the flexibility to create an inventory that allows for the uncertainty of service line materials that cannot be verified by records or other means within three years, while at the same time ensuring that consumers potentially served by an LSL are provided adequate protections.⁹

However, we do not think the agency has adequately addressed the issue in its proposed rule. We think that EPA should explicitly provide standard performance-based criteria for designating a service line as "lead" or "non-lead." This approach would:

- Allow utilities to take advantage of statistical models that predict the likelihood of an individual service line being lead or non-lead;
- Provide a standard measure for all utilities to make the designation; and
- Better communicate to customers, consumers, residents, and the public the uncertainties that underlie the designation so they are prepared if an LSL ends up not being lead after all or that a service line designated as non-lead ends up having a portion that is lead.

⁹ 84 Federal Register 61696.

We suggest that 90% confidence would be a reasonable criterion at this time but recognize that EPA may want to modify it in the future. Therefore, we recommend that EPA insert a new paragraph after § 141.84(a)(3) as follows:

- (4) A service line must be designated as lead in subparagraph (3)(i) or non-lead in subparagraph (3)(ii) if the water system is 90 percent confident that the designation is appropriate. The designation may be based on a statistical analysis of the information gathered in paragraph (2).

Consistent with this change, paragraph (b) should be modified so the water system would be required to explain how it made the designation. Specifically, we recommend:

Lead service line replacement plan. All water systems with lead service lines in their distribution system shall, by [INSERT DATE 3 YEARS AFTER PUBLICATION OF FINAL RULE IN FEDERAL REGISTER], submit a lead service line replacement plan and lead service line inventory to the primacy agency described in paragraph (a) of this section. The plan must include a description of resources and methods used to designate service lines as lead or non-lead; procedures to conduct full lead service line replacement, a strategy for informing customers before a full or partial lead service line replacement, a lead service line replacement goal rate in the event of a lead trigger level exceedance, a pitcher filter tracking and maintenance system, a procedure for customers to flush service lines and premise plumbing of particulate lead, and a funding strategy for conducting lead service line replacements.

C) Making it clear that each service line must be categorized

We are concerned that proposed paragraph (3) in § 141.84(a) does not explicitly require that the water system categorize each service line into one of the three categories. While the preamble conveys this point, we think it is important to be clear.

Similarly, § 141.84(a)(6) requires that the LSL inventory be made publicly accessible, but only requires that the location of LSLs be identified. We recommend that it explicitly include “unknown” lines. The recommended changes are as follows:

- (3) The initial 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 would include both the portion of the service line owned by the water system and the customer- owned portion of the service line). Each service line ~~Service lines~~ shall be categorized in the following manner:
- (6) (i) The inventory must include a location identifier, such as a street, intersection, or landmark, served by each service line categorized as lead or unknown in paragraph (3). ~~lead service line.~~

D) Directing the state to make the locations of LSLs publicly accessible and integrate the inventories into an online tool

Given the variety and capability of water systems across the country and within a state, we think it would be beneficial and appropriate for the state to also make the inventory, including the location identifier, publicly accessible. While this could happen through requests filed by citizens pursuant to state public

records and state Freedom of Information Act requirements, we recommend that EPA make it explicit in order to enable the public to get the information when the water system is unwilling to make it readily accessible.

We also think EPA should direct the states to integrate the location information from the inventories into an online tool that the public could more easily use. An integrated inventory would also benefit the state in assessing the need and setting priorities. It would also reduce the burden on small systems in responding to requests from the public, such as prospective home buyers or renters, for information on the presence of an LSL at specific locations.

Therefore, we recommend that § 142.16(d) that addresses requirements for states to adopt 40 CFR Part 141, Subpart I – Control of Lead and Copper be modified to include a new subparagraph as follows:

(d)(9) Section 141.84(a) — Ensuring the lead service line inventories are publicly accessible through an integrated, on-line, publicly-accessible tool.

IV. Consumer Notice of LSLs – Recommended Changes and Reasoning

EPA’s proposed revisions to the LCR would require water systems to deliver many notices to its customers and consumers. Some of those notices are broad public education and others are very specific. In this comment, we are focused on the four types of notices that must be delivered to customers who own service lines of lead or unknown material or to consumers who drink water that passes through these lines and how they can be clarified to be more useful.

A) Varying difficulties in reaching four types of people who must be notified of LSLs

EPA’s proposed revisions to §§ 141.84 and 85 require a variety of notices to be delivered to four categories of people directly affected by a service line with lead or unknown material: 1) customers; 2) owners of service lines; 3) residents; and 4) consumers. Each type represents a progressively difficult challenge for water systems to identify and notify as discussed below:

1. **Customers:** Proposed § 141.2 defines a customer as a person who is “a paying user of a public water system.” While EPA’s preamble to the proposed rule often discusses customers as if they are homeowners, the term would include those who own schools, child care facilities, restaurants, office buildings, government operations, and industrial operations. Homeowners are only a subset, albeit an important one, of total customers a water system may have. Despite the variety, because the water system has a financial relationship with a customer, we would not expect it to have any difficulty providing required notices in a timely manner.
2. **Owners of service lines:** The proposed rule does not define who owns a service line.¹⁰ The preamble usually equates customers and owners of service lines as the same. While that is likely the most common scenario, there may be variations. For purposes of this comment, we assume that the owner of the service line is also the customer.
3. **Residents:** The proposed rule does not define “resident,” so we presume it means a person living in housing that is more than a hotel. Several provisions of the rule would require a water system to notify residents of various information such as tap sampling and LSL disturbances it conducts. A water system may elect to post the information at a conspicuous location instead of providing

¹⁰ At 84 Federal Register 61697, EPA states that “This section must also include a clear explanation of how the water system defines ownerships of lead service lines, who has financial responsibility for the replacement, and the legal basis for that determination.” However, we were unable to identify the specific requirement to provide that explanation. We would support such a requirement in the LSL replacement plan requirements at § 141.84(b).

individual notification to all residents. Given the narrow circumstances for this notice, we assume that water systems will not have a significant difficulty providing required notices in a timely manner.

4. **Consumers:** Proposed § 141.2 defines consumers to mean “customers and other users of a public water system.” The definition is broad and would include residents in housing, patrons in restaurants or stores, tenants in office buildings, children at child care facilities, students at schools, and employees in a workplace. As discussed below, in certain cases these consumers will be difficult to identify and hard to adequately notify, especially when they are transient.

B) Requirement to notify “consumers” who use water from LSLs

Proposed § 141.85(e) would require water systems to annually notify each consumer who is expected to drink water that has passed through an LSL. A consumer must be notified within 30 days of completion of the initial LSL inventory required by proposed § 141.84(a). The consumer must receive annual updates thereafter until the customer (the person paying the water bill) no longer has an LSL. The notice must be delivered by mail or another method approved by the primacy agency.

For consumers with a confirmed LSL, proposed § 141.85(e)(3)(i) requires that the notice include:

- A statement that the consumer’s service line is lead;
- An explanation of the health effects of lead;
- Steps consumers can take to reduce exposure to lead in drinking water;
- Information about opportunities to replace lead service lines;
- Information about programs that provide innovative financing solutions to assist consumers with replacement of their portion of a lead service line; and
- A statement that the water system is required to replace its portion of a lead service line when the consumer notifies the water system that they are replacing their owned portion of the lead service line.

For customers, but not other consumers, with a service line of unknown material that may be lead, proposed § 141.85(e)(3)(ii) requires that the notice include:

- A statement that the customer’s service line is of unknown material that may be lead;
- An explanation of the health effects of lead;
- Steps customers can take to reduce exposure to lead in drinking water; and
- Information about opportunities to verify the material of the service line.

In addition, proposed § 141.85(e)(5) would require that a water system notify a consumer of water passing through an LSL whenever they cause a disturbance to the LSL that results in the water being shut off. The notice must happen before the water is turned back on. If the disturbance involves replacement of a water meter; lead gooseneck, pigtail, or connector; or any portion of the lead pipe, the water system must also provide consumers with:

- A pitcher filter certified to remove lead;
- Instructions to use the filter; and
- Three months of filter replacement cartridges.

C) EPA’s reasoning for requiring each consumer be notified

In the preamble to the proposed rule, EPA explains that its notice to consumers will empower them to take action to reduce exposure and prompt communication between occupants and landlords to replace LSLs. Specifically, EPA made the following statements:

The EPA believes that these proposed notification requirements have value for both occupants of rental properties as well as homeowners. Information regarding the existence of an LSL will provide important information for renters on potential lead exposure in their home and could prompt a communication with their landlord regarding lead service line replacement. Occupants of rental properties will also benefit from the information on other actions they can take to reduce lead exposure in drinking water. The CWS must provide the same information noted above and include an invitation to participate in the LSLR program and repeat the notice annually until it is at or below the lead trigger level.¹¹

Moreover, an LSL inventory will lead to increased awareness of consumers regarding whether they are served by an LSL, which could improve public health protection if affected consumers take action to reduce their exposure to lead in drinking water.¹²

For example, consumers will learn from their water system if they are served by an LSL, about the risks of lead in drinking water, and about the actions they can take to reduce lead in drinking water and remove their LSL. Some of these customers are expected to voluntarily initiate LSLR, regardless of the water system's 90th percentile lead level. These provisions are expected to result in approximately 214,000 to 350,000 LSLRs over the next 35 years.¹³

D) Recommendation to clarify how the notices to consumers must be delivered

We agree with EPA's assessment of the value of these notices and encourage the agency to keep them in a final rule. EDF has published two behavioral studies demonstrating the value of and assessing best practices for disclosing the presence of LSLs to potential homebuyers and renters.^{14,15} For reference, we have added those studies to the docket.

However, we are concerned that in its proposed rule, EPA has not fully explained how the notices will be delivered. For example, annual mailings make no sense for a transient population. In addition, water systems may not have a means to notify occupants and residents in situations where it is not entering the property. They also may lack the authority to require property owners to provide contact lists or post notices in conspicuous locations for residents and occupants to read.

We recommend that EPA carefully consider how different types of water systems should notify consumers in the most common situations and create incentives for these water systems to provide the most effective notices.

V. Conclusion

In this comment, we ask that EPA consider our recommendations to improve the LCR by:

- Modifying the definition of an LSL to explicitly include a gooseneck, pigtail, or connector made of lead. This change will avoid misleading consumers that service lines designated as "non-lead"

¹¹ 84 Federal Register 61702.

¹² 84 Federal Register 61695.

¹³ 84 Federal Register 61700.

¹⁴ Lu, H., Romero-Canyas, R., Hiltner, S., Neltner, T., McCormick, L., and Niederdeppe, J. (2019) "Research to Move Toward Evidence-Based Recommendations for Lead Service Line Disclosure Policies in Home Buying and Home Renting Scenarios," *Int. J. Environ. Res. Public Health*, 16(6): 963.

¹⁵ Hiltner, S., Romero-Canyas, R., McCormick, L., and Neltner, T. (2019). "Using online tools to publicize lead service line locations and promote replacement," *AWWA Water Science*, 1(1).

do not contain these items. It will also avoid conveying a false sense of security about that designation.

- Revising the LSL inventory provisions in four specific ways to strengthen the proposed approach and improve the effectiveness of the final rule by:
 - Allowing states to identify additional sources of information for categorizing service lines without modifying their version of the LCR;
 - Recognizing the uncertainties in the designation of each service line to the “lead” and “non-lead” categories by explicitly providing criteria – such as 90% confidence – to the designation;
 - Making it clear that each service line must be categorized; and
 - Directing the state to make the locations of LSLs publicly accessible and integrate the inventories into an online tool.
- Carefully considering how different types of water systems should notify consumers in the most common situations and create incentives for these water systems to provide the most effective notices.

Thank you for considering this request. If you have any questions, please contact Tom Neltner at tneltner@edf.org or 202-572-3263.

Sincerely,



Tom Neltner, JD
Chemicals Policy Director



Lindsay McCormick, MPH
Program Manager, Chemicals and Health



Sam Lovell
Project Manager, Health Program