What You Need to Know About the Service Line Inventory

The service line inventory is meant to ***act as a living dataset that is continuously updated*** *as new information is gathered and LSLs are replaced.*

In December of 2021, the United States Environmental Protection Agency (USEPA) finalized Lead and Copper Rule Revisions (LCRR) to the 1991 Lead and Copper Rule (LCR) to further protect children and communities from lead exposure in our nation's drinking water. The foundation of this rule requires all water systems to develop a comprehensive service line inventory that is continuously updated as new information is gathered and as service lines are replaced.

Below, we've outlined some of the most vital information related to the service line inventory to help systems break down the details of the ruling and further understand how to meet compliance.

INVENTORY

On top of the extensive LCRR guidelines, the USEPA released detailed inventory guidelines in August of 2022 to provide more in-depth information on the regulatory expectations for the service line inventory portion of the updates specifically. We'll discuss what must be included in the inventory, how materials must be classified, what records can be used to inform your inventory and what recommendations the USEPA is making to "future-proof" utilities for other regulations, such as the proposed Lead and Copper Rule Improvements (LCRI).

What must be included in the inventory?

The service line inventory is intended to be an extensive documentation that informs where lead may be located within your system. To achieve this, the EPA is requiring the following items be included to identify each service line: material classification and a location identifier or exact street address.

All service lines connected to a PWS distribution system (public and private-owned) must be classified as one of the following:

- Lead
- Galvanized Requiring Replacement (GRR)
- Non-Lead
- Unknown

While only lead and galvanized lines are *required* to have their material documented to comply with LCRR, the USEPA recommends systems log material information on all lines

and portions of a service line as they are building their inventory, including goosenecks, pigtails and connectors, and even lead solder, as lead in any of these portions of a line could contribute to lead exposure. It is also recommended (not required) that the actual material of a non-lead line, methods used to verify the material type, and whether it is known or unknown that a GRR was ever downstream of lead be documented.

When providing location information, LCRR only requires systems to include a location identifier for GRR and lead service lines (LSLs) for any public-facing documentation. For internal system documentation, an exact street address is required for GRR and LSLs to ensure compliant reporting and to be able to accurately identify service lines that will require replacement. However, the EPA strongly recommends providing a location identifier (ideally an exact address) for all service lines, not just those that will require replacement, to provide customers with the most accurate information.

Inventories must clarify service line ownership, and if dual ownership exists, materials must be defined on both the PWS and customer-portion of the line to accurately designate a single classification per service line.

How Should Service Lines be Classified?

As mentioned previously, all service lines in a system must be designated as either lead, galvanized requiring replacement, non-lead or unknown. Below are more detailed definitions for each classification:

- **LEAD** = A portion of pipe that is made of lead, which connects the water main to the building inlet
    - *If a lead gooseneck, pigtail, or connector is the only portion of the service line that is lead, then the service line = **Non-Lead***
- **GALVANIZED REQUIRING REPLACEMENT (GRR)** = if the line is or ever was downstream of a LSL
    - *If it cannot be proven the galvanized line was never downstream of a LSL, the line must be presumed to be GRR*
- **NON-LEAD** = If through evidence-based record, method, or technique a service line is classified as a material other than lead (i.e., copper, plastic, or galvanized never downstream of a LSL)
- **UNKNOWN** = if the line material is not known to be Lead, GRR, or Non-Lead

What records can be used to inform the inventory?

Before engaging the community to determine the material of lines, heading out to perform field work such as site visits, potholing or excavating, the USEPA is expecting systems to review various utility or city records that will allow them to build a records-based inventory. Below are several examples of records that may exist within the utility or local municipality (either in print or digitally) that could inform a system's records-based inventory:

- Previous material evaluations

- Construction and plumbing codes/permits
- Water system records
- Distribution system inspection records
- Tax records
- Meter installation records
- Historical records on service line connections
- Standard operating procedures
- Historical capital improvement plans

All of these records may have either material information, local ordinance or code information related to pipe installation, or installation or replacement dates, all of which can inform a system whether lead may or may not be present at that particular location. It is important to consider the source of information, pipe diameter and installation/replacement dates when gathering data, as these can help inform service line material since LSLs are typically 2 inches or less in diameter, and lead pipe usage was banned at the federal level in 1986, and even earlier in some states and local municipalities.

VERIFICATION

After developing a records-based inventory, investigative methods are expected to be used to verify the accuracy of historical records and ensure systems update their inventory correspondingly.

What methods are acceptable to verify the records-based inventory?

Below are several methods outlined by the USEPA to validate a service line inventory, however, utilities are encouraged to check with their State Regulatory Agency prior to performing any investigative methods, as some may require state approval.

- Visual inspections
- Excavation
- Water quality sampling
- Predictive modeling
- Emerging methods

The USEPA is requiring that service line material be identified and documented during normal operations, including:

- Water meter reading, repair or replacement
- Service line repair or replacement
- Water main repair or replacement
- Backflow prevention inspections
- Other street repair or capital projects with excavation

What other requirements are important to know?

Initial (*non-verified*) inventories must be submitted to your state primacy agency no later than October 16, 2024, however, some states have already begun to set earlier deadlines for state submission, so it is vital that systems check with state regulatory agencies on inventory submission deadlines within their state. **In addition to the non-verified inventory, an LSL replacement strategy/plan must be developed based on the service line inventory (if lead or GRR is found in your system) and submitted with your initial inventory by October 16, 2024.**

Once the initial inventory is completed (even if that date is before the October 16th federal deadline), notifications must be sent to residents served by a LSL, GRR or unknown service line within 30 days. Additionally, notifications must be sent to those same residents annually until their service line is replaced and/or known as Non-Lead.

The inventory itself should be continuously updated and must be submitted based on a system's tap monitoring schedule (no more than once a year). As a foundational element to compliance, inventories will also impact sampling pools for tap monitoring, which must be updated with the information found from the service line inventory, and sampling tier structures, prioritizing LSLs over copper pipes with lead solder. Considering this impact on tap monitoring, systems must also be prepared to install or reoptimize CCT if a lead exceedance is discovered (considering the new lead trigger level of 10 ppb).

The impact of the inventory will be felt beyond just assembling and verifying the data, which is why systems must take the time to ensure the information they gather is accurate, and give themselves ample time to do so.

The Time to Start is Now

All PWSs should thoroughly review the requirements of the LCRR and assess how those requirements relate to their system. When planning for the LCRR, PWSs should consider key stakeholders, funding opportunities, and the staff and resources needed to achieve compliance with the LCRR.

In 120Water's experience, supporting the development of service line inventories, we have seen it take an average of 4-6 months to develop a preliminary inventory, and that is if the system has some data already compiled or at least an idea of where to find it. The USEPA LCRR is one of the largest regulatory revisions many PWS stakeholders have seen to date. Achieving compliance with these revisions will by no means be an easy task. PWSs are highly advised to begin preparing, strategizing, and implementing the requirements of the LCRR now to ensure compliance is met.