Appendix I

Chapter 4 Lead/Copper Rule
Lead Service Line Replacement (LSLR)

- Lead Service Line Replacement (LSLR) Requirement Overview (Pg. I-2)
- Collecting Lead Service Line Sample Instructions (Pg. I-4)
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- Lead Service Line Materials Evaluation and Replacement Schedule Form (Pg. I-9)
- Lead Service Line Removal Form (Pg. I-11)
- Partial LSLR Homeowner “Opt From” Template (Pg. I-12)
Lead Service Line Replacement (LSLR) Requirement Overview

A CWS must begin replacing lead service lines if they continue to exceed the lead action level after installing corrosion control treatment and/or source water treatment. LSLR requirements are summarized below.

LSLR activities must immediately begin on the first day following the end of the monitoring period in which the lead action level was exceeded after installing the required treatment(s).

First Time Triggered into LSLR

Within the first 12 months, the CWS must submit to the Illinois EPA a material evaluation of their entire distribution system and a lead service line replacement schedule. The CWS is required to only replace the portion of the service line it owns (See Page I-3). You may use the “Lead Service Line Materials Evaluation and Replacement Schedule Form” when reporting this information.

AND

*Within the first 12 months, the CWS must replace (or sample to demonstrate line does not contribute to more than 0.015 mg/L lead) at a minimum of 7% of the total number of lead service lines owned (and partially owned) by the water supply.

AND

*At the end of the first 12 months, submit a letter to the Illinois EPA stating for the previous year, the number of lines scheduled to be replaced, the number and location of lines actually replaced, and if measured, the water lead concentration and location of each lead service line sampled, the sampling method, and the date of sampling. You may use the Illinois EPA “Lead Service Line Removal Form” when reporting this information.

After First Year of LSLR

You must continue to submit an annual letter to the Illinois EPA stating for the previous year, the number of lines scheduled to be replaced, the number and location of lines actually replaced, and if measured, the water lead concentration and location of each lead service line sampled, the sampling method, and the date of sampling. You may use the Illinois EPA “Lead Service Line Replacement Form” when reporting this information.

*Once you meet the lead action level during two consecutive monitoring periods, LSLR activities can stop. You must again start these activities immediately on the first day following the end of the monitoring period in which the lead action level is again exceeded. In addition, you must reconsider any lines previously determined to not require replacement (i.e., “replaced through testing”). Specifically, you must update your inventory of lead service lines to include those that were classified as “replaced through testing.” You will not be required to resubmit the materials evaluation.
Important Information for those Conducting Partial Lead Service Line Replacement

As mentioned on the previous page, the LCR requires you to replace the portion of the lead service line that you own. You must offer to replace the customer’s portion of the line at his/her expense. You are not required to replace the privately-owned portion of the line if the owner chooses not to pay the cost of replacing the privately-owned portion. In those instances where you do not replace the privately-owned portion of the line (i.e., conduct partial lead service line replacement), a temporary increase in lead levels may occur. Therefore, in addition to the requirements on the previous page, you must:

- Notify all residents served by the line you are replacing at least 45 days prior to partial replacement. The Illinois EPA can allow you to provide less advanced notice if the line is being replaced in conjunction with emergency repairs.

- Collect at your expense one representative service line sample for each replaced lead service line within 72 hours of removing the line.

- *Report sample results to the building owner(s) and the resident(s) served by the partially replaced line within three business days of receiving these results. You must notify residents by mail. However, for multi-family dwellings you can post the notification in a conspicuous common-use area of the building.

*You do not have to routinely submit this particular result data/information notice to the Illinois EPA. However, the Illinois EPA reserves the right to request this information at any time to verify it was correctly completed.*
Collecting Lead Service Line Samples

You can collect a lead service line sample using one of the following procedures. For each procedure, collect a 1-liter sample from the tap by filling the sample bottle to the 1-liter mark, then cap immediately.

- **Flushing a Specified Volume** - The sample should be collected from the building tap which is closest to the portion of the lead service line that was not replaced (i.e., the first tap in the building, most likely a kitchen or bathroom tap on the first floor). Flush the estimated volume of water between the service connection and the sample tap. You can estimate the volume of water by using Exhibit 1 (below), Pipe Volume Table. EPA recommends selecting the pipe diameter that is one size larger than the actual pipe size, since pipe material thickness can vary, affecting the interior diameter and the actual volume of water. You can also estimate the volume by measuring the length and diameter of piping from tap to connection and the length and diameter of the service connection itself into a graduated beaker or cylinder to ensure that you have collected the correct volume, and then close the tap.

- **Direct Service Line Samples** - In communities where the meters are located outside the buildings (or unmetered areas) service line taps may already exist. Prior to sampling, water should be run to flush the pipe that connects the faucet and the service line. If no tap exists, but the lead service line can be made accessible, a tap constructed of lead-free materials can be installed directly into the line for sample collection purposes. However, because installation of a tap directly into the lead service line could induce additional corrosion activity and is an expensive process as well, this option is not recommended when there are existing service line taps.

- **Temperature Variation** - This method is recommended if the temperatures of lead service line and interior piping are easily distinguishable (for example in a single-family home). A tap sample should be collected by gently opening the tap and running the water at a normal flow rate, keeping a hand/finger under the flowing water. When a change in water temperature is detected, a 1-liter sample should be collected by filling the sample bottle to the appropriate level and capping.

### Exhibit 1: Pipe Volume Table (Volumes Listed in Liters)

<table>
<thead>
<tr>
<th>Pipe Length (Feet)</th>
<th>3/8</th>
<th>1/2</th>
<th>5/8</th>
<th>3/4</th>
<th>1</th>
<th>1-1/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0.06</td>
<td>0.09</td>
<td>0.14</td>
<td>0.19</td>
<td>0.32</td>
<td>0.50</td>
</tr>
<tr>
<td>3</td>
<td>0.09</td>
<td>0.14</td>
<td>0.21</td>
<td>0.29</td>
<td>0.49</td>
<td>0.74</td>
</tr>
<tr>
<td>4</td>
<td>0.11</td>
<td>0.18</td>
<td>0.27</td>
<td>0.38</td>
<td>0.65</td>
<td>0.99</td>
</tr>
<tr>
<td>5</td>
<td>0.14</td>
<td>0.23</td>
<td>0.34</td>
<td>0.48</td>
<td>0.81</td>
<td>1.24</td>
</tr>
<tr>
<td>6</td>
<td>0.17</td>
<td>0.27</td>
<td>0.41</td>
<td>0.57</td>
<td>0.97</td>
<td>1.48</td>
</tr>
<tr>
<td>7</td>
<td>0.20</td>
<td>0.32</td>
<td>0.48</td>
<td>0.67</td>
<td>1.14</td>
<td>1.73</td>
</tr>
<tr>
<td>8</td>
<td>0.23</td>
<td>0.36</td>
<td>0.55</td>
<td>0.76</td>
<td>1.30</td>
<td>1.98</td>
</tr>
<tr>
<td>9</td>
<td>0.26</td>
<td>0.41</td>
<td>0.62</td>
<td>0.86</td>
<td>1.46</td>
<td>2.22</td>
</tr>
<tr>
<td>10</td>
<td>0.28</td>
<td>0.45</td>
<td>0.69</td>
<td>0.95</td>
<td>1.62</td>
<td>2.47</td>
</tr>
</tbody>
</table>
## Exhibit 1: Pipe Volume Table (Volumes Listed in Liters)

<table>
<thead>
<tr>
<th>Pipe Length (Feet)</th>
<th>Pipe Diameter (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3/8</td>
</tr>
<tr>
<td>11</td>
<td>0.31</td>
</tr>
<tr>
<td>12</td>
<td>0.34</td>
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<tr>
<td>13</td>
<td>0.37</td>
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<td>14</td>
<td>0.40</td>
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<td>16</td>
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<td>17</td>
<td>0.49</td>
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<td>18</td>
<td>0.51</td>
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<td>19</td>
<td>0.54</td>
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<td>0.57</td>
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<td>25</td>
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<td>0.86</td>
</tr>
<tr>
<td>35</td>
<td>1.00</td>
</tr>
<tr>
<td>40</td>
<td>1.14</td>
</tr>
<tr>
<td>60</td>
<td>1.43</td>
</tr>
</tbody>
</table>

**Notes:**
1. Volumes can be added together for pipe lengths not listed.
2. Liters can be converted to gallons by dividing by 3.785.
3. EPA recommends selecting the pipe diameter that is one size larger than the actual pipe size, since pipe material thickness can vary, affecting the interior diameter and the actual volume of water.
Material Evaluation Instructions
Lead and Copper Rule

Distribution System Materials Evaluation and Replacement Schedule

Before your supply began monitoring for lead and copper, a materials survey of the distribution system was required in order to identify a pool of targeted sampling sites, i.e., lead service lines. The material evaluation picks up from where the initial materials survey left off. To complete the material evaluation, you will need to do **four** activities:

1. Identify the number of “initial” lead service lines in the distribution system. The initial number of lead service lines is the number of lead lines in place at the time the replacement program begins.
2. Identify the “owner” of each lead service line.
3. Establish a schedule for replacing lead service lines (7 percent of the total annually).
4. Complete and return the Illinois EPA Material Evaluation & Replacement Schedule reporting form to the Illinois EPA.

1. Identifying the number of lead service lines in the distribution system

The first step of the material evaluation is to identify the number of lead service lines within the distribution system. Use the potential sources of information listed below to assist in identifying the locations of the lines. The sources marked with an asterisk (*) are sources that must be researched.

- **Utility Records***
  Historical and current records including maps, record drawings, maintenance records, meter installation records, historical documentation, and capital improvement master plans maintained by the supply could provide an excellent source of information on service line and connection materials in the distribution system.

- **Materials Evaluation for Lead/Copper Sample Site Plan***
  Information collected for the selection of lead and copper sample sites. This material evaluation was required to be conducted at the beginning of the lead and copper monitoring program.

- **Permit Files***
  Permit files should be reviewed to determine the presence and location of lead service lines. Pre-1940 documents are especially important. Recent records should also be reviewed to ascertain service line replacements and/or repairs.

- **Senior Personnel and Retirees***
  CWS personnel experienced in the operation, maintenance, or material usage within the distribution system should be consulted. Additionally, local contractors or developers may have reliable information on the service line construction materials.
Material Evaluation Instructions continued

- **Community Survey**
  A community survey may be helpful in identifying lead service line connections.

- **Other Sources**
  Other sources, (i.e., piping suppliers, historical USGS maps, and aerial photography) may be available to the supply, and may be helpful in identifying the materials used in the distribution system.

In no instance are systems expected to use excavation as a means of identifying lead service lines.

If additional lead service lines are discovered after you have already submitted your initial material evaluation and replacement schedule form, a new evaluation and schedule form will be required with the annual LSLR removal verification form.

2. Identifying the “owner” of each lead service line

After identifying all lead service lines, you will need to identify relevant legal authorities (e.g., contracts, local ordinances) regarding the portion of each lead service line owned by the water supply. It is understood that the ownership and/or control of lead service lines are often split between the supply and the property owner. Depending on state laws or municipal ordinances, supplies may only own or control connections up to the property line, curb, or building. Others may own the entire service line.

On the material evaluation, each lead service line (LSL) should be classified in one of three ways:

1. LSL is entirely owned by the water supply.
2. LSL is partially owned by the water supply.
3. LSL is entirely owned by the home/building owner.

For all LSLs that are **not entirely owned by the water supply**, the supply must submit documentation/explanation that verifies the supply **does not** entirely own the lead line (as defined by state statutes, municipal ordinances, public service contracts or other applicable legal authority). This summary of documentation needs to be submitted with the material evaluation form.

3. Establishing a schedule for replacing lead service lines

Along with the material evaluation, the supply must also provide an “initial” replacement schedule for annually replacing at least 7 percent of the lead service lines **regardless of ownership**. The initial number of lead service lines is the number of lead lines in place at the time the replacement program begins.

The Lead and Copper Rule presumes all lead service lines contribute greater than 0.015 mg/l of lead to tap water and therefore need to be replaced.

**For example,** if a supply had identified 1500 lead service lines, the supply would have to choose 105 locations to be replaced each year (1500 x 0.07 = 105).
The supply will have the opportunity (if desired) to demonstrate which lead service lines do not contribute more than 0.015 mg/l of lead to tap water levels by collecting a service line sample. If the result is below 0.015 mg/l, the line will not have to be replaced at that time. However, even though the line is no longer required to be replaced, it will still be used when calculating the total number of lead service lines replaced for the year.

For example, a supply had identified 1500 lead service lines in their material evaluation and would have to replace 105 lead service lines each year. At the beginning of the year, the supply sampled all 105 sites to determine whether or not the lines contribute more than 0.015 mg/l to tap water lead levels. The results indicated that 60 service lines had lead concentrations above 0.015 mg/l and need to be replaced by the end of the year. The other 45 sites were below 0.015 mg/l and would not have to be replaced. For each following year, the supply would sample the next 105 locations.

If the supply has demonstrated that they do not “own” the lead service line, the supply must offer to replace the line for the owner, but the supply is not required to bear the cost.

Again, if a system meets the lead action level for two consecutive six-month monitoring periods, and has properly submitted the results to the Illinois EPA, the system can stop the LSLR program regardless of what has been completed.

4. Completing the Illinois EPA Material Evaluation and Replacement Schedule reporting form

Attachment A of this document contains the LSLR Material Evaluation and Replacement Schedule reporting form. This form must be returned by the due date identified in your LSLR notification letter. This form is intended to summarize your material evaluation and replacement schedule. It is required that you maintain the following information for each lead service line location:

1. Lead service line address/location
2. Ownership of the service line (full, partial, or none)
3. Scheduled year of replacement (1st year, 2nd, 3rd, etc.)
4. Date lead service line replaced (if and when applicable)
5. Lead service line sample result (if and when applicable)

In addition to the material evaluation/ replacement schedule reporting form, if your supply does not fully “own” any of the lead service lines identified in the material evaluation, you will also be required to submit documentation/explanation that verifies your supply does not entirely own the lead line.

The form and any additional documentation should be sent to: Lead/Copper Coordinator
DWCU #19
1021 North Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
Lead Service Line Materials Evaluation & Replacement Schedule

Please complete and return to: Illinois EPA, Drinking Water Compliance Unit #19, 1021 North Grand Ave. East, P.O. Box 19276, Springfield, IL 62794-9276    (217) 785-0561

Facility Number_______________________ PWS Name__________________________________

Form prepared by______________________ Telephone number (____)____________________

The following resources have been explored to determine or estimate the number of lead service lines in the distribution system.

<table>
<thead>
<tr>
<th>Date Completed (insert date)</th>
<th>Explored Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Distribution Systems Maps and Record Drawings</td>
</tr>
<tr>
<td></td>
<td>Materials Evaluation for Lead/Copper Sample Site Plan. Information collected for the selection of lead and copper sample sites.</td>
</tr>
<tr>
<td></td>
<td>Capital improvements plans and/or master plans for distribution system development</td>
</tr>
<tr>
<td></td>
<td>Current and historical standard operational procedures and/or operation and maintenance (O&amp;M) manuals for the type of materials used to install service connections</td>
</tr>
<tr>
<td></td>
<td>Utility records including meter installation records, customer complaint investigations and all historical documentation which indicate and/or confirm the location of lead service connections</td>
</tr>
<tr>
<td></td>
<td>Existing water quality data for indicators of “trouble areas” (i.e., high lead results)</td>
</tr>
<tr>
<td></td>
<td>Review permit files</td>
</tr>
<tr>
<td></td>
<td>Interviews with senior personnel (if available)</td>
</tr>
<tr>
<td></td>
<td>Perform community surveys (if needed)</td>
</tr>
<tr>
<td></td>
<td>Review USGS maps and records (if needed)</td>
</tr>
<tr>
<td></td>
<td>Interview pipe suppliers, contractors, and/or developers (if needed)</td>
</tr>
</tbody>
</table>

After exploring the resources above, it has been determined that the total number of “initial” lead service lines identified within our distribution system is__________________ (insert number of lead service lines). The initial number of lead service lines is the number of lead lines in place at the time the replacement program begins.

Page 1 of 2

This Agency is authorized to require this information under Illinois Revised Statutes, 1987, Chapter 111 1/2, Section 1004(H). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $10,000.00 and an additional civil penalty up to $1,000.00 for each day the failure continues, a fine up to $1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center

IL532-2680
PWS271 6/2000
Lead Service Line Inventory

<table>
<thead>
<tr>
<th>Category</th>
<th>Insert number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Lead Service Lines (LSL)</td>
<td></td>
</tr>
<tr>
<td>Number of LSL <strong>entirely</strong> owned by PWS</td>
<td></td>
</tr>
<tr>
<td>Number of LSL <strong>partially</strong> owned by PWS*</td>
<td></td>
</tr>
<tr>
<td>Number of LSL <strong>not</strong> owned by PWS*</td>
<td></td>
</tr>
</tbody>
</table>

*For all LSLs that are **not** entirely owned by the water supply, the supply must submit documentation that verifies the supply **does not** entirely own the lead line (as defined by state statutes, municipal ordinances, public service contracts or other applicable legal authority). This summary of documentation needs to be submitted with this material evaluation form.

Lead Service Line Replacement Schedule

Complete the following table:

<table>
<thead>
<tr>
<th>Total number of LSL</th>
<th>7% replacement per year</th>
<th>Total number of LSL required to be replaced each year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: 25,000</td>
<td>x 0.07</td>
<td>1,750</td>
</tr>
<tr>
<td></td>
<td>x 0.07</td>
<td></td>
</tr>
</tbody>
</table>

Enter the total number of LSLs and multiply by 0.07.

Lead Service Line Records Kept by PWS

Your supply is required to maintain the following information for each lead service line location:

6. Lead service line address/location**
7. Ownership of the service line (full, partial, or none)**
8. Scheduled year of replacement (1st year, 2nd, 3rd, etc.)**
9. Date lead service line removed (if and when applicable)**
10. Lead service line sample result (if and when applicable)**

**You are not required to submit this information. However, the Illinois EPA reserves the right to request this information at any given time.

Signatures of Owner (or Official Custodian) and ROINC

To the best of my knowledge, I certify that the information contained in this document is correct and consistent with 40 CFR 141.84 (Lead Service Line Replacement) and 40 CFR 141.86 (a)(2) (Material Evaluation Requirements).

Owner’s Signature_________________________ Date____________________
ROINC’s Signature________________________ Date____________________
Lead Service Line Removal Form

When triggered into LSLR, this form is due every 12 months. The form is used to document the removal of lead service lines. Please complete and return to: Illinois EPA, Drinking Water Compliance Unit #19, 1021 North Grand Ave, East, P.O. Box 19276, Springfield, IL 62794-9276 (217) 785-0561

Facility Number: _____________________ Name: _________________________________________
Prepared by: ________________________ Title:   _________________________________________
Date: _____________________________ Telephone Number: ______________________________

Our Water System is required to replace (or sample) _________ per 12 months.

Below, please record the lead service line locations that were replaced starting from _________ (MM/DD/YY) and ending _____________ (MM/DD/YY)

<table>
<thead>
<tr>
<th>Date Completed</th>
<th>Address of Lead Service Line Replaced or Tested</th>
<th>Record result in this column if site was sampled &amp; result was below 0.0154 mg/l</th>
<th>Place an “X” in this column if lead service line was physically removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex. 1 10/1/08</td>
<td>1021 North Grand Ave East</td>
<td>0.010</td>
<td></td>
</tr>
<tr>
<td>Ex. 2 10/7/08</td>
<td>271 Johnson Street</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Add more pages as needed.

This Agency is authorized to require this information under Illinois Revised Statutes, 1987, Chapter 111 1/2, Section 1004(H). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $10,000.00 and an additional civil penalty up to $1,000.00 for each day the failure continues. a fine up to $1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center. DRAFT 07/02

Page ____ of ____
Partial LSLR Homeowner “Opt From” Template

The LCR requires you to replace the portion of the lead service line that you own. You must offer to replace the property owner’s portion of the line at his/her expense. In addition, you are not required to replace the privately-owned portion of the line if the owner chooses not to pay the cost of replacing the privately-owned portion. In those instances where you do not replace the privately-owned portion of the line (i.e., conduct partial lead service line replacement), a temporary increase in lead levels may occur. Therefore, you must:

- Notify all residents served by the line you are replacing at least 45 days prior to partial replacement. The Illinois EPA can allow you to provide less advanced notice if the line is being replaced in conjunction with emergency repairs.
- Collect at your expense one representative service line sample for each replaced lead service line within 72 hours of removing the line.
- Report sample results to the building owner(s) and the resident(s) served by the partially replaced line within three business days of receiving these results. You must notify residents by mail. However, for multi-family dwellings you can post the notification in a conspicuous common-use area of the building.

It is recommended that the homeowner sign an acknowledgement of having the opportunity to have their portion replaced as well as the water supply’s portion; however, they have refused the service because they do not want to pay for it. Below is a template that you may wish to use to document that the homeowner was asked but refused and was informed of the hazards of lead.

…………………………………………………………………………………………………………….

Lead Service Line Informational Form

PWS ID Number ______________________ Name ______________________________________

I ______________________________________ (print name) hereby state that I have been informed by the water supply ______________________ (list water system), on this day ______________, that my residence located at ____________________________, has a lead service line. I was informed of the hazards of lead in drinking water and the given the option of replacing the part of the lead service line I own at my own cost. However, I have opted to not have this part of my lead service line replaced.

Signature_______________________________________
Homeowner