



## EPA's Final Lead and Copper Rule Improvements Rule Comparison Guide for Public Water Systems and Primacy Agencies October 2024

The United States Environmental Protection Agency (EPA) is finalizing the Lead and Copper Rule Improvements (LCRI) to protect children and adults from lead in drinking water. The final rule builds on the 2021 Lead and Copper Rule Revisions (LCRR) and the 1991 Lead and Copper Rule (LCR). EPA has developed this rule comparison guide to assist water systems and primacy agencies (also referred to as "States" in this document) in understanding the final LCRI. The following table compares the major differences among the pre-2021 LCR, 2021 LCRR, and the final LCRI.

*Note: a similar table can be found in the preamble for the final LCRI, available at <https://www.epa.gov/ground-water-and-drinking-water/lead-and-copper-rule-improvements>. Additional information on the rule can also be found at this website.*

Pre-2021 LCR	2021 LCRR	Final LCRI
<b>Service Line Inventory</b>		
<ul style="list-style-type: none"><li>• Systems were required to complete a materials evaluation by the time of initial sampling.</li><li>• No requirement to regularly update materials evaluation.</li></ul>	<ul style="list-style-type: none"><li>• All systems must develop an initial lead service line (LSL) inventory by October 16, 2024, that includes all service lines, regardless of ownership, categorized as lead, non-lead, galvanized requiring replacement (GRR), and unknown.*</li><li>• The inventory must be made publicly accessible and available online for systems serving &gt; 50,000 persons.*</li><li>• The publicly available inventory must include a locational identifier for each lead and GRR service line.</li><li>• The LSL inventory must be updated based on the system's tap sampling frequency but no more than annually.</li></ul>	<ul style="list-style-type: none"><li>• All systems must review specified information that describes connector materials and locations.</li><li>• Systems must include each identified connector in their baseline inventory by the LCRI compliance date.</li><li>• Connector material categories include lead, non-lead, unknown, and no connector present.</li><li>• The inventory must include a street address with each service line and connector, if available.</li><li>• The inventory must be updated annually.</li><li>• Systems must include in their inventories the total number of each type of service line, the number of lead and unknown connectors, the number of full lead and GRR service line replacements, and the number of partial lead and GRR service line replacements.</li></ul>

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Pre-2021 LCR	2021 LCRR	Final LCRI
		<ul style="list-style-type: none"> <li>• Systems must respond to customer inquiries on incorrect material categorizations within 60 days.</li> <li>• Systems must validate the accuracy of their methods to categorize non-lead service lines in their inventory no later than 7 years after the compliance date by the end of the calendar year unless on a shortened or deferred deadline. <ul style="list-style-type: none"> <li>○ The validation pool includes all non-lead service lines except for those installed after the applicable Federal, State, or local lead ban; visually inspected at a minimum of two points on the pipe exterior; or previously replaced.</li> <li>○ Systems may submit previous validation efforts in lieu of the LCRI requirements if they are at least as stringent as the requirements, and States must review and approve of these previous efforts.</li> </ul> </li> <li>• Systems must identify all unknown service lines by their mandatory service line replacement deadline.</li> </ul>
<b>Service Line Replacement</b>		
<b>Replacement Plan</b> <ul style="list-style-type: none"> <li>• No requirement.</li> </ul>	<b>Replacement Plan</b> <ul style="list-style-type: none"> <li>• All systems with at least one lead, GRR, or unknown service line must develop a lead service line replacement (LSLR) plan by the compliance date.</li> <li>• The plan must include a strategy to prioritize service line replacement.*</li> </ul>	<b>Replacement Plan</b> <ul style="list-style-type: none"> <li>• All systems with at least one lead, GRR, or unknown service line must develop the service line replacement plan by the compliance date. The plan includes the elements from the LCRR as well as two new elements: (1) a strategy to inform customers and consumers (persons served) about the plan and replacement program and (2) an identification of any legal requirements or water tariff agreement provisions that affect a system's ability to gain</li> </ul>

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		<p>access to conduct full service line replacement.</p> <ul style="list-style-type: none"> <li>• The service line replacement plan must include additional plan elements if the system has at least one lead-lined galvanized service line or if the system is eligible for a deferred deadline.</li> <li>• Service line replacement plan must be publicly accessible; and available online for systems serving &gt; 50,000 persons.</li> <li>• The plan must be updated annually to include any new or updated information and submitted to the State on an annual basis.</li> <li>• By the compliance date, systems eligible for and planning to use deferred deadlines must include in the plan information on what the system identifies as the earliest deadline and fastest feasible rate to replace lead and GRR service lines that is no slower than 39 annual replacements per 1,000 service connections.</li> <li>• By the end of the second program year, the State is required to determine in writing whether a system with a deferred deadline is replacing lead and GRR service lines at the fastest feasible rate, either by approving the continued use of that deferred deadline or by setting the fastest feasible rate for the system. In addition to annual updates, systems with deferred deadlines must submit their plan every three years with updated information about why the replacement rate is still the fastest feasible. The State must review this information and determine in writing if the system with a deferred deadline is still replacing lead and GRR service lines at the fastest feasible rate, either by approving the continued use of that deferred deadline or by</li> </ul>

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		setting the fastest feasible rate.
<b>LSLR</b> <ul style="list-style-type: none"> <li>Replacement program requirements are based on the lead 90<sup>th</sup> percentile (P90) lead level, corrosion control treatment (CCT) installation, and/or source water treatment.</li> <li>Systems conducting LSLR must annually replace at least 7 percent of LSLs in their distribution system.</li> <li>Systems must replace the LSL portion they own and offer to replace the private portion. Systems are not required to bear the cost of replacing the private portion.</li> <li>Full LSLR, partial LSLR, and LSLs with lead sample results <math>\leq 0.015</math> mg/L (“test-outs”) count toward the 7 percent replacement rate.</li> <li>Systems can discontinue LSLR after 2 consecutive 6-month monitoring periods at or below the lead action level.</li> <li>Requires replacement of LSLs only (i.e., no GRR service lines).</li> </ul>	<b>LSLR</b> <ul style="list-style-type: none"> <li>Replacement program requirements are dependent on P90 lead level for community water systems (CWSs) serving &gt; 10,000 persons: <ul style="list-style-type: none"> <li>If P90 &gt; 0.015 mg/L: Must fully replace 3 percent of lead and GRR service lines per year based upon a 2-year rolling average (mandatory replacement) for at least 4 consecutive 6-month monitoring periods.</li> <li>If P90 &gt; 0.010 mg/L but <math>\leq 0.015</math> mg/L: Implement a goal-based LSLR program and consult the primacy agency (or State) on replacement goals for 2 consecutive 1-year monitoring periods.</li> </ul> </li> <li>CWSs serving <math>\leq 10,000</math> persons and all non-transient, non-community water systems (NTNCWSs) that select LSLR as their compliance option must complete LSLR within 15 years if P90 &gt; 0.015 mg/L. See the <i>Small System Flexibility</i> section of this exhibit.</li> <li>Annual LSLR rate is applied to the number of lead and GRR service lines when the system first exceeds the trigger or action level plus the number of unknown service lines at the beginning of the year.</li> <li>Only full LSLR (replacement of the entire length of the service line) counts toward mandatory rate* and goal-based rate.</li> <li>All systems must replace their portion of an LSL if notified by consumer of private side replacement within 45 days of notification of the private replacement. If the system cannot replace the system’s portion within 45 days, it</li> </ul>	<b>Service Line Replacement</b> <ul style="list-style-type: none"> <li>Replacement program requirements are independent of systems’ P90 lead levels.</li> <li>All CWSs and NTNCWSs with one or more lead, GRR, or unknown service line in their inventory must replace lead and GRR service lines under their control within 10 years, unless subject to a shortened or deferred deadline.</li> <li>Systems must replace service lines at a cumulative average annual rate of 10 percent, unless subject to a shortened or deferred deadline.</li> <li>Cumulative average replacement rate is applied to the total number of unknown, lead, and GRR service lines in the baseline inventory minus the number of unknown service lines that have been determined to be non-lead since the baseline inventory.</li> <li>Systems that would have to annually replace more than 39 service lines per 1,000 service connections are eligible for deferred deadlines longer than 10 years.</li> <li>States are required to set a shorter deadline for a system where it determines that a shorter deadline is feasible.</li> <li>Where property owner consent is required for a system to access the service line, systems must make a reasonable effort (at least 4 attempts) to engage property owners about full service line replacement.</li> <li>Systems conducting partial service line replacement, if not prohibited by the rule, must make a reasonable effort (at least 4 attempts) to engage property owners about</li> </ul>

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	<p>must notify the State and replace the system's portion within 180 days.*</p> <ul style="list-style-type: none"> <li>• Following each service line replacement, systems must: <ul style="list-style-type: none"> <li>○ Provide pitcher filters or point-of-use devices and 6 months of replacement cartridges to each customer after replacement.* Provide pitcher filters and cartridges before the affected portion of the line or the fully replaced service line is returned to service.*</li> <li>○ Offer to collect a lead tap sample at locations served by the replaced line within 3 to 6 months after replacement.*</li> </ul> </li> <li>• Requires replacement of lead connectors when encountered.*</li> <li>• Systems must make 2 good faith efforts to engage customers about LSLR.</li> <li>• Systems conducting partial LSLR must offer to replace the remaining portion of the service line.</li> <li>• Systems must replace service lines by a shorter deadline if determined feasible by the State.*</li> </ul>	<p>full service line replacements for infrastructure projects that impact service lines and offer to replace the remaining portion of the service line not under their control within 45 days if replaced in coordination with an emergency repair.</p>
<p><b>LSL-Related Outreach</b></p> <ul style="list-style-type: none"> <li>• If a system replaces its portion only: <ul style="list-style-type: none"> <li>○ Provide notification to affected residences within 45 days prior to replacement on possible elevated short-term lead levels and measures to minimize exposure.*</li> <li>○ Include offer to collect lead tap sample within 72 hours of replacement.</li> <li>○ Provide test results within 3 business days after receiving results.</li> </ul> </li> </ul>	<p><b>LSL-Related Outreach</b></p> <ul style="list-style-type: none"> <li>• Notify consumers annually if they are served by a lead, GRR, or unknown service line.*</li> <li>• Provide notice and educational materials to consumers during water-related work that could disturb LSLs.</li> <li>• Provide filters to consumers for disturbances to a lead, GRR, or unknown service line caused by replacement of an inline water meter, water meter setter, or connector.</li> <li>• Systems subject to goal-based program must:</li> </ul>	<p><b>Service Line-Related Outreach</b></p> <ul style="list-style-type: none"> <li>• Provide notice and educational materials during water-related work that could disturb lead, GRR, or unknown service lines, including disturbances due to inventorying efforts, to consumers within 24 hours or before the service line is returned to service, and to customers within 30 days.</li> <li>• Provide filters to consumers for disturbances to a lead, GRR, or unknown service line caused by replacement of an inline water meter, water meter setter, connector, or water main.</li> </ul>

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	<ul style="list-style-type: none"> <li>○ Conduct targeted outreach that encourages consumers with LSLs to participate in the LSLR program.</li> <li>○ Conduct an additional outreach activity if they fail to meet their goal.</li> <li>● Systems required to conduct LSLR must include information about the LSLR program in public education (PE) materials that are provided in response to P90 &gt; action level.*</li> </ul>	<ul style="list-style-type: none"> <li>● If a CWS does not meet the mandatory service line replacement rate, the CWS must conduct additional public outreach activities to encourage customers with lead, GRR, and unknown service lines to participate in the service line replacement program.</li> <li>● Removes goal-based program outreach activities.</li> </ul>
<b>Action Level and Trigger Level</b>		
<ul style="list-style-type: none"> <li>● P90 level above lead action level of 0.015 mg/L or copper action level of 1.3 mg/L requires additional actions.</li> <li>● Lead action level exceedance requires 7 percent LSLR (includes partial replacements), CCT recommendation and possible study and installation, and PE within 60 days after the end of the monitoring period.</li> </ul>	<ul style="list-style-type: none"> <li>● P90 level above lead action level of 0.015 mg/L or copper action level of 1.3 mg/L requires more actions than the previous rule.</li> <li>● Defines lead trigger level as P90 &gt; 0.010 mg/L and triggers additional planning, monitoring, and treatment requirements.</li> <li>● Lead action level exceedance requires 3 percent full LSLR, optimal corrosion control treatment (OCCT) installation or re-optimization, PE, and public notification (PN) within 24 hours.</li> <li>● Trigger level exceedance requires goal-based LSLR and steps taken towards CCT installation or re-optimization.</li> </ul>	<ul style="list-style-type: none"> <li>● Removes the lead trigger level.</li> <li>● P90 level above lead action level of 0.010 mg/L or copper action level of 1.3 mg/L requires actions including installing or re-optimizing CCT, and PE as well as Tier 1 PN (for lead action level exceedances).</li> <li>● Mandatory full service line replacement of lead and GRR service lines is independent of P90 lead levels.</li> </ul>
<b>Lead and Copper Tap Sampling</b>		
<b>Sample Site Selection</b> <ul style="list-style-type: none"> <li>● Prioritizes collection of samples from sites with sources of lead in contact with drinking water.</li> <li>● Highest priority given to sites served by copper pipes with lead solder installed after 1982 or containing lead pipes and sites served by LSLs.</li> <li>● Systems must collect 50 percent of samples from LSLs, if available.</li> </ul>	<b>Sample Site Selection</b> <ul style="list-style-type: none"> <li>● Prioritizes collecting samples from sites served by LSLs. All samples must be collected from sites served by LSLs, if available.*</li> <li>● Equal priority to copper pipes with lead solder, irrespective of installation date.*</li> <li>● Adds 2 tiers to prioritize sampling at lead and GRR service line sites above sites with copper with lead solder.*</li> </ul>	<b>Sample Site Selection</b> <ul style="list-style-type: none"> <li>● Combines the tap sample site selection tiering criteria for CWSs and NTNCWSs.</li> <li>● Removes galvanized service line or premise plumbing formerly downstream of a lead connector from Tier 3 sites.</li> <li>● Removes requirement for replacement sampling sites to be selected within reasonable proximity.</li> </ul>

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		<ul style="list-style-type: none"> <li>Clarifies that sites are considered no longer available for sampling after customer refusal or non-response after two outreach attempts.</li> </ul>
<b>Sample Collection and Inclusion in 90th Percentile Calculation</b> <ul style="list-style-type: none"> <li>Requires collection of the first-liter sample after water has sat stagnant for a minimum of 6 hours.</li> </ul>	<b>Sample Collection and Inclusion in 90th Percentile Calculation</b> <ul style="list-style-type: none"> <li>Requires collection of the fifth-liter sample in homes with LSLs after water has sat stagnant for a minimum of 6 hours.</li> <li>Requires first-liter sample collection in homes without LSLs.*</li> <li>Requires systems with insufficient Tier 1 and 2 sites to meet the minimum number of samples required by calculating the P90 from all Tier 1 and 2 sites and the highest samples from the next highest tier to equal the minimum number required.</li> <li>Prohibits inclusion of samples collected under find-and-fix in the P90 calculation.*</li> <li>Adds requirement that samples must be collected in wide-mouth bottles.*</li> <li>Prohibits sampling instructions that include recommendations for aerator cleaning/removal and pre-stagnation flushing prior to sample collection.*</li> </ul>	<b>Sample Collection and Inclusion in 90th Percentile Calculation</b> <ul style="list-style-type: none"> <li>Requires collection of the first- and fifth-liter samples in structures with LSLs after water has sat stagnant for a minimum of 6 hours.</li> <li>Requires systems with insufficient Tier 1 and 2 sites to meet the minimum number of samples required by calculating the P90 from the highest sample values from the highest tiers sampled equal to the minimum number required.</li> <li>Requires the higher value of the first- and fifth-liter lead concentration in structures with LSLs to be used to calculate the P90 value for lead.</li> <li>Prohibits inclusion of samples following service line replacement in the P90 calculation. Prohibits the inclusion of more than one sample per site in each P90 calculation.</li> <li>Revises the definition of a wide-mouth bottle.</li> </ul>
<b>Monitoring Frequency</b> <ul style="list-style-type: none"> <li>Samples are analyzed for both lead and copper.</li> <li>Systems must collect standard number of samples based on population; semi-annually unless they qualify for reduced monitoring.</li> <li>Systems can qualify for annual or triennial monitoring at reduced number of sites. Monitoring schedule based on the number of consecutive years meeting the following criteria:</li> </ul>	<b>Monitoring Frequency</b> <ul style="list-style-type: none"> <li>Samples are analyzed for lead and copper, only copper, or only lead. This occurs when lead monitoring is conducted more frequently or at more sites than copper, and at LSL sites where a fifth-liter sample is only analyzed for lead.*</li> <li>Lead monitoring schedule for all systems is based on the systems' lead P90 level as follows: <ul style="list-style-type: none"> <li>P90 &gt; 0.015 mg/L: Semi-annually at the standard number of sites.</li> </ul> </li> </ul>	<b>Monitoring Frequency</b> <ul style="list-style-type: none"> <li>Monitoring schedule for all systems is based on the systems' P90 level for both lead and copper. Systems may retain or qualify for reduced monitoring based on the number of consecutive tap monitoring periods: <ul style="list-style-type: none"> <li>P90 ≤ action level for 2 consecutive 6-month periods: Annual monitoring at standard number of sites for lead and reduced number of sites for copper.</li> </ul> </li> </ul>

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<ul style="list-style-type: none"> <li>○ Serves <math>\leq 50,000</math> persons and P90 is at or below the lead and copper action levels.</li> <li>○ Serves any population size, meets State-specified optimal water quality parameters (OWQPs), and P90 <math>\leq</math> lead action level.</li> <li>• Triennial monitoring also applies to any system with lead P90 <math>\leq 0.005</math> mg/L and copper P90 <math>\leq 0.65</math> mg/L for 2 consecutive 6-month monitoring periods.</li> <li>• Based on rule criteria, systems serving <math>\leq 3,300</math> persons can apply for a 9-year monitoring waiver.*</li> </ul>	<ul style="list-style-type: none"> <li>○ P90 <math>&gt; 0.010</math> mg/L but <math>\leq 0.015</math> mg/L: Annually at the standard number of sites.</li> <li>○ P90 <math>\leq 0.010</math> mg/L: Annually at the standard number of sites and triennially at reduced number of sites using same criteria as the LCR except copper P90 level is not considered.</li> <li>• Initial standard monitoring required for systems with lead and GRR service lines, and any system that does not sample under the requirements of the LCRR by the compliance date.</li> <li>• Systems must conduct standard monitoring if they exceed the action level, have a water quality parameter (WQP) excursion, and other criteria.</li> </ul>	<ul style="list-style-type: none"> <li>○ P90 <math>&lt;</math> practical quantitation limit (PQL) for 2 consecutive periods: Triennial monitoring at the reduced number of sites for both lead and copper.</li> <li>• Initial standard monitoring schedule required for most systems with lead and/or GRR service lines in their inventory on the compliance date.</li> <li>• Additional criterion for when systems must start standard monitoring: Systems with no lead or GRR service lines in their inventory on the compliance date must start standard monitoring if they identify a lead or GRR service line in the future.</li> </ul>
Corrosion Control Treatment (CCT) and Water Quality Parameters (WQPs)		
<b>CCT</b> <ul style="list-style-type: none"> <li>• Systems serving <math>&gt; 50,000</math> persons were required to install treatment by January 1, 1997, with limited exception.</li> <li>• Systems serving <math>\leq 50,000</math> that exceed lead and/or copper action level(s) are subject to CCT requirements (e.g., CCT recommendation, study if required by the State, CCT installation). They can discontinue CCT steps if no longer exceed both action levels for 2 consecutive 6-month monitoring periods.</li> <li>• Systems must operate CCT to meet any OWQPs designated by the State that define optimal CCT.</li> <li>• There is no requirement for systems to re-optimize.</li> </ul>	<b>CCT</b> <ul style="list-style-type: none"> <li>• Specifies CCT requirements for systems with P90 lead level <math>&gt; 0.010</math> mg/L but <math>\leq 0.015</math> mg/L: <ul style="list-style-type: none"> <li>○ No CCT: Must conduct a CCT study if required by the State.</li> <li>○ With CCT: Must follow the steps for re-optimizing CCT, as specified in the rule.</li> </ul> </li> <li>• Systems with P90 lead level <math>&gt; 0.015</math> mg/L: <ul style="list-style-type: none"> <li>○ No CCT: Must complete CCT installation regardless of subsequent P90 levels if system has started to install CCT.</li> <li>○ With CCT: Must re-optimize CCT.</li> </ul> </li> <li>• CWSs serving <math>\leq 10,000</math> persons and all NTNCWSs can select an option other than CCT to address lead. See the <i>Small System Flexibility</i> section of this exhibit.</li> </ul>	<b>CCT</b> <ul style="list-style-type: none"> <li>• Systems with P90 lead level <math>&gt; 0.010</math> mg/L: <ul style="list-style-type: none"> <li>○ No CCT: Must install CCT regardless of their subsequent P90 levels if they have started to install CCT.</li> <li>○ With CCT: Must re-optimize OCCT.</li> <li>○ Systems with OCCT and lead and GRR service lines meeting OWQPs need only re-optimize OCCT once after the compliance date, unless required to do so by the State.</li> <li>○ Systems with OCCT that exceed the lead action level after removing all lead and GRR service lines will need to re-optimize again.</li> </ul> </li> <li>• CWSs serving <math>\leq 3,300</math> persons and all NTNCWSs can select an option other than CCT to address lead. See the <i>Small System Flexibility</i> section of this exhibit.</li> </ul>

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		<ul style="list-style-type: none"> <li>Deferred OCCT or re-optimized OCCT for systems that can remove 100 percent of their lead and GRR service lines at an annual minimum rate within 5 years or less of the date they are triggered into CCT steps. Systems with CCT must maintain CCT during the 5-year-or-less service line replacement program.</li> </ul>
<b>CCT Options</b> Includes alkalinity and pH adjustment, calcium hardness adjustment, and phosphate or silicate based corrosion inhibitor.	<b>CCT Options</b> Removes calcium hardness as an option and specifies any phosphate inhibitor must be orthophosphate.*	<b>CCT Options</b> No changes from the LCRR.
<b>WQPs</b> <ul style="list-style-type: none"> <li>No CCT: pH, alkalinity, calcium, conductivity, temperature, orthophosphate (if phosphate-based inhibitor is used), silica (if silica-based inhibitor is used).</li> <li>With CCT: pH, alkalinity, and based on type of CCT either orthophosphate, silica, or calcium.</li> </ul>	<b>WQPs</b> <ul style="list-style-type: none"> <li>Eliminates WQPs related to calcium hardness (i.e., calcium, conductivity, and temperature).*</li> <li>All other parameters are the same as in the LCR.*</li> </ul>	<b>WQPs</b> No changes from the LCRR.
<b>WQP Monitoring</b> <ul style="list-style-type: none"> <li>Systems serving &gt; 50,000 persons must conduct regular WQP monitoring at entry points and within the distribution system.</li> <li>Systems serving ≤ 50,000 persons conduct monitoring only in those periods that exceed the lead or copper action level.</li> <li>Contains provisions to sample at reduced number of sites in distribution system less frequency for all systems meeting their OWQPs.</li> </ul>	<b>WQP Monitoring</b> <ul style="list-style-type: none"> <li>Systems serving &gt; 50,000 persons must conduct regular WQP monitoring at entry points and within the distribution system.</li> <li>Systems serving ≤ 50,000 persons must continue WQP monitoring until they no longer exceed the lead and/or copper action level(s) for 2 consecutive 6-month monitoring periods.</li> <li>To qualify for reduced WQP distribution monitoring, P90 lead level must be ≤ 0.010 mg/L and the system must meet its OWQPs.*</li> </ul>	<b>WQP Monitoring</b> <ul style="list-style-type: none"> <li>Systems with CCT (unless deemed optimized) serving &gt; 10,000 persons must conduct regular WQP monitoring at entry points and within the distribution system.</li> <li>Systems serving ≤ 10,000 persons and systems without CCT serving &gt; 10,000 persons but ≤ 50,000 persons that exceed the lead and/or copper action level(s) must conduct WQP monitoring until they no longer exceed lead and/or copper action level(s) for 2 consecutive 6-month monitoring periods.</li> <li>Systems without CCT serving &gt; 10,000 persons but ≤ 50,000 persons that exceed the lead action level that are required to install CCT, must continue to conduct WQP monitoring.</li> </ul>

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<b>Sanitary Survey Review</b> Treatment must be reviewed during sanitary surveys; no specific requirement to assess CCT or WQPs.	<b>Sanitary Survey Review</b> CCT and WQP data must be reviewed during sanitary surveys against most recent CCT guidance issued by EPA.*	<b>Sanitary Survey Review</b> No changes from the LCRR.
<b>Find-and-Fix</b> No required follow-up samples or additional actions if an individual sample exceeds the lead action level.	<b>Find-and-Fix</b> If individual tap samples > 0.015 mg/L lead, find-and-fix steps include: <ul style="list-style-type: none"> <li>• Conduct WQP monitoring at or near the site &gt; 0.015 mg/L.</li> <li>• Collect tap sample at the same tap sample site within 30 days.* <ul style="list-style-type: none"> <li>○ For LSL, collect any liter or sample volume.*</li> </ul> </li> <li>• Perform needed corrective action.*</li> <li>• Document customer refusal or non-response after 2 attempts.*</li> <li>• Provide information to local and State health officials.*</li> </ul>	<b>Distribution System and Site Assessment (DSSA)</b> <ul style="list-style-type: none"> <li>• Changes the name from “Find-and-Fix” to “Distribution System and Site Assessment” to describe this requirement more precisely.</li> <li>• Requirements from the LCRR affect systems with individual tap samples &gt; 0.010 mg/L lead.</li> <li>• Clarifies that the distribution system sample location must be within a half mile radius of each site with a result &gt; 0.010 mg/L.</li> <li>• Water systems without CCT are not required to collect WQP samples for the DSSA CCT assessment.</li> </ul>
<b>Small System Flexibility</b>		
No provisions for systems to elect an alternative treatment approach but sets specific requirements for CCT and LSLR.	Allows CWSs serving ≤ 10,000 persons and all NTNCWSs to implement an alternate compliance option to address lead with State approval: <ul style="list-style-type: none"> <li>• Systems with lead P90 &gt; 0.010 mg/L recommend CCT, LSLR, provision and maintenance of point-of-use (POU) devices, or replacement of all lead-bearing plumbing materials.</li> <li>• If the system’s P90 lead level &gt; 0.015 mg/L, the system must implement the compliance option.</li> </ul>	Allows CWSs serving ≤ 3,300 persons and all NTNCWSs with P90 levels > lead action level and ≤ copper action level to conduct the following actions in lieu of CCT requirements to address lead with State approval: <ul style="list-style-type: none"> <li>• Choose a compliance option: (1) provision and maintenance of POU devices or (2) replacement of all lead-bearing plumbing materials.</li> <li>• Removes the compliance option to conduct LSLR in 15 years.</li> </ul> Maintains option for systems following CCT requirements: <ul style="list-style-type: none"> <li>• With CCT: Collect WQPs and evaluate compliance options and OCCT.</li> <li>• No CCT: Evaluate compliance options and CCT.</li> </ul>

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Pre-2021 LCR	2021 LCRR	Final LCRI
<b>Public Education and Outreach</b>		
<ul style="list-style-type: none"> <li>• Systems with P90 &gt; lead action level must provide PE to customers about lead sources, health effects, measures to reduce lead exposure, and additional information sources.</li> <li>• Systems with P90 &gt; lead action level must offer lead tap sampling to customers who request it.</li> <li>• Systems must provide lead consumer notice to individuals served at tested taps within 30 days of learning results.</li> <li>• For water systems serving a large proportion of consumers with limited English proficiency, PE materials must contain information in the appropriate language(s) regarding the importance of the materials or information on where consumers can get a translated copy or assistance in other languages.</li> </ul>	<ul style="list-style-type: none"> <li>• Water systems must provide updated lead health effects language in PN and PE materials. CWSs must provide updated health effects language in the Consumer Confidence Reports (CCR).</li> <li>• For water systems serving a large proportion of consumers with limited English proficiency, PE materials must contain information in the appropriate language(s) regarding the importance of the materials or information on where consumers can get a translated copy or assistance in other languages.</li> <li>• If P90 &gt; lead action level: <ul style="list-style-type: none"> <li>○ LCRR PN and LCR PE requirements apply.</li> <li>○ Water systems must offer to sample the tap for lead for any customer who requests it.</li> </ul> </li> <li>• Water systems must provide the lead consumer notice to consumers whose individual tap sample is &gt; 0.015 mg/L lead as soon as practicable but no later than 3 calendar days.</li> <li>• CWSs must provide information to local and State health agencies.*</li> </ul> <p>Also see the <i>Public Notification, Consumer Confidence Report, and LSL-Related Outreach</i> sections of this exhibit.</p>	<ul style="list-style-type: none"> <li>• Revises the mandatory lead health effects language to improve completeness and clarity.</li> <li>• Water systems must provide the updated health effects language in PN and all PE materials. CWSs must provide updated health effects language in the CCR.</li> <li>• For water systems serving a large proportion of consumers with limited English proficiency, all PE materials must contain information in the appropriate language(s) regarding the importance of the materials and information on where consumers can get a translated copy or assistance in other languages.</li> <li>• Water systems must deliver consumer notice of lead and copper tap sampling results to consumers whenever their tap is sampled as soon as practicable but no later than 3 business days after receiving the results, regardless of the level.</li> <li>• If P90 &gt; lead action level: <ul style="list-style-type: none"> <li>○ LCRR PN requirements apply.</li> <li>○ Water systems must conduct PE no later than 60 days after the end of each tap sampling period until the system no longer exceeds the action level unless the State approves an extension.</li> <li>○ Water systems must deliver PE materials to bill paying customers and every service connection address served.</li> </ul> </li> <li>• Water systems with multiple lead action level exceedances (at least 3 action level exceedances in a 5-year period) must conduct additional public outreach activities and make filters available. Water systems must submit a</li> </ul>

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		<p>filter distribution plan to the State within 60 days of the second action level exceedance, and the State will have 60 days to review. The State has discretion to allow the system to discontinue outreach activities and filter provision earlier if it completes actions to reduce lead levels.</p> <ul style="list-style-type: none"> <li>Water systems must offer to sample the tap for lead for any consumer with a lead, GRR, or unknown service line who requests it.</li> </ul> <p>Also see the <i>Public Notification, Consumer Confidence Report, and Service Line Related Outreach</i> sections of this exhibit.</p>
<b>Public Notification</b>		
<ul style="list-style-type: none"> <li>If P90 &gt; action level: <ul style="list-style-type: none"> <li>No PN required for P90 &gt; action level.</li> </ul> </li> <li>Tier 2 PN required for violations to § 141.80 through § 141.85.</li> <li>Tier 3 PN required for violations to § 141.86 through § 141.89.</li> </ul> <p>Also see the <i>Public Education and Outreach</i> section of this exhibit.</p>	<ul style="list-style-type: none"> <li>If P90 &gt; lead action level: <ul style="list-style-type: none"> <li>Systems must notify consumers of P90 &gt; action level within 24 hours (Tier 1 PN). Systems must comply by October 16, 2024.</li> </ul> </li> <li>Tier 2 PN required for violations to § 141.80 (except § 141.80(c)) through § 141.84, § 141.85(a) through (c) and (h), and § 141.93.</li> <li>Tier 3 PN required for violations to § 141.86 through § 141.90.</li> </ul> <p>Also see the <i>Public Education and Outreach</i> section of this exhibit.</p>	<ul style="list-style-type: none"> <li>If P90 &gt; lead action level of 0.010 mg/L: <ul style="list-style-type: none"> <li>LCRR Tier 1 PN requirements apply, but for the LCRI action level of 0.010 mg/L.</li> </ul> </li> <li>Tier 2 PN required for violations to § 141.80 (except § 141.80(c)) through § 141.84, § 141.85(a) through (c) (except § 141.85(c)(3)) and (h) and (j), and § 141.93.</li> <li>Tier 3 PN required for violations to § 141.86 through § 141.90 and § 141.92.</li> <li>Water systems must provide updated lead health effects language in PN.</li> </ul> <p>Also see the <i>Public Education and Outreach</i> section of this exhibit.</p>
<b>Consumer Confidence Report</b>		
<ul style="list-style-type: none"> <li>All CWSs must provide educational material in the annual CCR.</li> </ul>	<ul style="list-style-type: none"> <li>CWSs must provide updated health effects language in the CCR.</li> <li>All CWSs are required to include information on how to access the LSL inventory and how to access the results of all tap sampling in the CCR.</li> </ul>	<ul style="list-style-type: none"> <li>Revises the mandatory lead health effects language and informational statement as well as includes additional information about risk of lead exposure in the informational statement about lead in the CCR to improve completeness and clarity.</li> </ul>

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	<ul style="list-style-type: none"> <li>Revises the mandatory health effects language to improve accuracy and clarity.</li> </ul>	<ul style="list-style-type: none"> <li>CWSs must provide updated health effects language in the CCR.</li> <li>CWSs must include a statement in the CCR about the system sampling for lead in schools and child care facilities and direct the public to contact their school or child care facility for further information.</li> <li>CWSs with lead, GRR, or unknown service lines must include a statement in the CCR about how to access the service line inventory and replacement plan.</li> </ul> <p>Also see the <i>Public Education and Outreach</i> section of this exhibit.</p>
<b>Change in Source or Treatment</b>		
Systems on a <b>reduced</b> tap monitoring schedule must obtain prior State approval before changing their source or treatment.	Systems on <b>any</b> tap monitoring schedule must obtain prior State approval before changing their source or treatment. These systems must also resume a standard lead and copper tap monitoring schedule.*	No changes from the LCRR.
<b>Source Water Monitoring and Treatment</b>		
Periodic source water monitoring for lead and copper is required for systems with: <ul style="list-style-type: none"> <li>Source water treatment; or</li> <li>P90 &gt; action level and no source water treatment.</li> </ul>	States can waive continued source water monitoring for lead and copper if the:* <ul style="list-style-type: none"> <li>System has already conducted source water monitoring for a previous P90 &gt; action level;</li> <li>State has determined that source water treatment is not required; and</li> <li>System has not added any new water sources.</li> </ul>	Updated cross-reference to requirement for conducting standard monitoring when there is a source water addition.
<b>Lead in Drinking Water at Schools and Child Care Facilities</b>		
<ul style="list-style-type: none"> <li>Does not include separate testing and education program for CWSs at schools and child care facilities.</li> <li>Schools and child care facilities that are classified as NTNCWSs must sample for lead and copper.*</li> </ul>	<ul style="list-style-type: none"> <li>CWSs must provide annual public education materials to all schools and licensed child care facilities they serve.*</li> <li>CWSs must conduct sampling at 20 percent of elementary schools and 20 percent of licensed child care facilities they serve per year and</li> </ul>	<p>Expands on LCRR requirements to include:</p> <ul style="list-style-type: none"> <li>Waivers for CWSs to sample in schools and licensed child care facilities they serve during the first 5-year testing cycle if the facility has been sampled between January 1, 2021, and the LCRI compliance date.</li> </ul>

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	<p>conduct sampling at secondary schools on request for first testing cycle (5 years) and conduct sampling on request of all schools and child care facilities thereafter.*</p> <ul style="list-style-type: none"> <li>• Sample results must be provided to each sampled school/child care facility, State, and local or State health department.*</li> <li>• Excludes schools and licensed child care facilities constructed on or after January 1, 2014.</li> <li>• Waives sampling in schools and child care facilities that were sampled under a State or other program after October 16, 2024.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires CWSs to include a statement about the opportunity for schools and licensed child care facilities to be sampled in the CCR.</li> <li>• Excludes schools and licensed child care facilities constructed or that had full plumbing replacement on or after January 1, 2014 and that are also not served by a lead, GRR, or unknown service line.</li> <li>• Includes clarifications on the applicability of the requirements and on the content of public education material CWSs must provide to schools and licensed child care facilities.</li> </ul>
<b>Primacy Agency (or State) Requirements</b>		
<p>States must report information to EPA that includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>• All P90 lead levels for systems serving &gt; 3,300 persons, and only levels &gt; 0.015 mg/L for smaller systems.</li> <li>• Only copper P90 levels above the copper action level for all systems.</li> <li>• Systems that are required to initiate LSLR and the date replacement must begin.</li> <li>• Systems for which OCCT has been designated.</li> </ul> <p>States must keep records on information that includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>• Records of the currently applicable or most recent State determinations, including all supporting information and an explanation of the technical basis for each decision.</li> </ul> <p>State primacy requirements include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Designating OCCT.</li> <li>• Designating source water treatment methods.</li> </ul>	<p>States must report information to EPA that includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>• All lead and copper P90 levels for all system sizes.*</li> <li>• The number of lead, GRR, and unknown service lines for every water system.*</li> <li>• The goal-based or mandatory replacement rate and the date each system must begin LSLR.</li> <li>• OCCT status of all systems including OWQPs specified by the State.*</li> <li>• For systems triggered into source water treatment, the State-designated date or determination for no treatment required.*</li> </ul> <p>States must keep records on information that includes, but is not limited to:</p> <p>LSLR plans.*</p> <ul style="list-style-type: none"> <li>• Compliance sampling pools.*</li> <li>• Determinations related to source water treatment.*</li> <li>• Determinations related to compliance alternatives for small CWSs and NTNCWSs.*</li> </ul>	<p>States must report information to EPA that includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>• The current numbers of lead, GRR, unknown, and non-lead service lines, lead connectors, and unknown connectors in each system's inventory.</li> <li>• The numbers and types of service lines replaced and the replacement rate for every system conducting mandatory service line replacement.</li> <li>• The deadline for the system to complete replacement of all lead and GRR service lines.</li> <li>• The expected date of completion of service line replacement.</li> <li>• The lead P90 levels of systems with an action level exceedance within 15 days of the end of the monitoring period or, if earlier, within 24 hours of receiving the notice from the system.</li> <li>• The result of the State's determination as to whether the deferred deadline is the fastest</li> </ul>

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<ul style="list-style-type: none"> <li>Verifying service line replacement schedules.</li> </ul>	<ul style="list-style-type: none"> <li>LSL inventories.*</li> </ul> <p>State primacy requirements include, but are not limited to:</p> <ul style="list-style-type: none"> <li>Reviewing service line inventory.*</li> <li>Approving LSLR goals.</li> <li>Determining if a faster LSLR rate is feasible.*</li> <li>Defining school and child care program and determining if State or local testing program is at least as stringent as Federal requirements.</li> <li>Verifying compliance with “Find-and-Fix” requirements.*</li> <li>Reviewing any change in source water treatment.*</li> </ul>	<p>feasible, the deadline at the fastest feasible rate, and the reasons for the State’s decision.</p> <p>States must keep records on information that includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>Samples that do not meet the six-hour minimum stagnation time.</li> <li>Determinations concerning systems eligible for deferred deadlines for service line replacement.</li> </ul> <p>State primacy requirements include, but are not limited to:</p> <ul style="list-style-type: none"> <li>Identify State laws that pertain to a water system’s access to conduct full service line replacement.</li> <li>Make determinations about systems eligible for service line replacement deferred deadlines.</li> <li>Make determinations about which water systems serve a large proportion of consumers with limited English proficiency and provide technical assistance to those systems required to meet the requirements to provide translated PE or translation assistance to their consumers.</li> <li>Review and approve inventory validations.</li> </ul>

**Acronyms:** CCR = consumer confidence report; CCT = corrosion control treatment; CWS = community water system; DSSA = Distribution System and Site Assessment; EPA = Environmental Protection Agency; GRR = galvanized requiring replacement; LCR = Lead and Copper Rule; LCRI = Lead and Copper Rule Improvements; LCRR = Lead and Copper Rule Revisions; LSL = lead service line; LSLR = lead service line replacement; NTNCWS = non-transient non-community water system; OCCT = optimal corrosion control treatment; OWQP = optimal water quality parameter; P90 = 90th percentile; PE = public education; PN = public notice; POU = point-of use; WQP = water quality parameter.

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**Disclaimer:** This document is being provided for informational purposes only to assist members of the public, States, Tribes, and/or public water systems in understanding the Lead and Copper Rule Improvements (LCRI). It includes descriptions of regulatory requirements. In the event that there are any differences, conflicts, or errors between this document and the LCRI, States, Tribes, and/or public water systems should refer to the LCRI. This document does not impose any legally binding requirements on the EPA, States, Tribes, or the regulated community. Further, this document does not confer legal rights or impose legal obligations on any member of the public. In the event of a conflict between the discussion in this fact sheet and any statute or promulgated regulation, the statute and any promulgated regulations are controlling.