

ATTACHMENT 1 - COMPARISON OF RULE ELEMENTS (CURRENT, PROPOSAL, AND FINAL)

Based on EPA summaries with modifications.

AWWA Webinar: Final Lead and Copper Rule Revisions – a recording may be accessed at www.awwa.org/lead under the ‘[Technical Resources](#)’ tab.
Please enter your name & email when prompted and the video will begin to play.

CURRENT LCR	PROPOSED LCR REVISIONS	FINAL REVISED LCRR
Action Level (AL) and Trigger Level (TL)		
<ul style="list-style-type: none"> 90th percentile (P90) level above lead AL of 15 µg/L or copper AL of 1.3 mg/L requires additional actions. 	<ul style="list-style-type: none"> 90th percentile (P90) level above lead AL of 15 µg/L or copper AL of 1.3 mg/L requires more actions than the current rule. Defines trigger level (TL) of P90 > 10 and ≤15 µg/L that triggers additional planning, monitoring, and treatment requirements 	<ul style="list-style-type: none"> 90th percentile (P90) level above lead AL of 15 µg/L or copper AL of 1.3 mg/L requires more actions than the previous rule. Defines lead trigger level (TL) of 10 < P90 ≤15 µg/L that triggers additional planning, monitoring, and treatment requirements.
Lead and Copper Tap Monitoring		
<p>Sample Site Selection</p> <ul style="list-style-type: none"> Prioritizes collection of samples from sites with sources of lead in contact with drinking water. Highest priority given to sites served by copper pipes with lead solder installed after 1982 but before the state ban on lead pipes and/or LSLs. Systems must collect 50% of samples from LSLs, if available. 	<p>Sample Site Selection</p> <ul style="list-style-type: none"> Changes priorities for collection of samples with a greater focus on lead service lines. Prioritizes collecting samples from sites served by LSLs. No distinction in prioritization of copper pipes with lead solder by installation date. Systems must collect all samples from sites served by LSLs, if available. 	<p>Sample Site Selection</p> <ul style="list-style-type: none"> Changes priorities for collection of samples with a greater focus on LSLs. Prioritizes collecting samples from sites served by LSLs –all samples must be collected from sites served by LSLs, if available. No distinction in prioritization of copper pipes with lead solder by installation date. Improved tap sample site selection tiering criteria.
<p>Collection Procedure</p> <ul style="list-style-type: none"> Requires collection of the first liter sample after water has sat stagnant for a minimum of 6 hours. 	<p>Collection Procedure</p> <ul style="list-style-type: none"> Adds requirement that samples must be collected in wide-mouth bottles. Prohibits sampling instructions that include recommendations for aerator cleaning/removal and pre-stagnation flushing prior to sample collection. 	<p>Collection Procedure</p> <ul style="list-style-type: none"> Requires collection of the fifth-liter sample in homes with LSLs after water has sat stagnant for a minimum of 6 hours and maintains first-liter sampling protocol in homes without LSLs. Adds requirement that samples must be collected in wide-mouth bottles. Prohibits sampling instructions that include recommendations for aerator cleaning/removal and pre-stagnation flushing prior to sample collection.

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<p>Monitoring Frequency</p> <ul style="list-style-type: none"> • Samples are analyzed for both lead and copper. • Systems must collect standard number of samples, based on population; semi-annually unless they qualify for reduced monitoring. • Systems can qualify for annual or triennial monitoring at reduced number of sites. Schedule based on number of consecutive years meeting the following criteria: <ul style="list-style-type: none"> ○ Serves $\leq 50,000$ people and \leq lead & copper ALs. ○ Serves any population size, meets state-specified optimal water quality parameters (OWQPs), and \leq lead AL. • Triennial monitoring also applies to any system with lead and copper 90th percentile levels ≤ 0.005 mg/L and ≤ 0.65 mg/L, respectively, for 2 consecutive 6-month monitoring periods. • 9-year monitoring waiver available to systems serving $\leq 3,300$. 	<p>Monitoring Frequency</p> <ul style="list-style-type: none"> • Some samples may be analyzed for lead only when lead monitoring is conducted more frequently than copper. • Copper follows the same criteria as the current rule. • Lead monitoring schedule is based on P90 level for all systems as follows: <ul style="list-style-type: none"> ○ P90 > 15 $\mu\text{g/L}$: Semi-annually at the standard number of sites. ○ P90 > 10 to 15 $\mu\text{g/L}$: Annually at the standard number of sites. ○ P90 ≤ 10 $\mu\text{g/L}$: <ul style="list-style-type: none"> ▪ Annually and triennially at reduced number of sites using same criteria as current rule except copper 90th percentile level is not considered. ▪ Every 9 years based on current rule requirements for a 9-year monitoring waiver. 	<p>Monitoring Frequency</p> <ul style="list-style-type: none"> • Some samples may be analyzed for only lead when lead monitoring is conducted more frequently than copper. • Copper follows the same criteria as the current rule. • Lead monitoring schedule is based on P90 level for all systems as follows: <ul style="list-style-type: none"> ○ P90 > 15 $\mu\text{g/L}$: Semi-annually at the standard number of sites. ○ P90 > 10 to 15 $\mu\text{g/L}$: Annually at the standard number of sites. ○ P90 ≤ 10 $\mu\text{g/L}$: <ul style="list-style-type: none"> ▪ Annually at the standard number of sites and triennially at reduced number of sites using same criteria as previous rule except copper 90th percentile level is not considered. ▪ Every 9 years based on current rule requirements for a 9-year monitoring waiver.
<p>CCT</p> <ul style="list-style-type: none"> • Systems serving > 50,000 people were required to install treatment by January 1, 1997 with limited exception. • Systems serving $\leq 50,000$ that exceed lead and/or copper AL are subject to CCT requirements (e.g., CCT recommendation, study if required by primacy agency, CCT installation). They can discontinue CCT steps if no longer exceed both ALs for two 	<p>CCT</p> <ul style="list-style-type: none"> • Specifies CCT requirements for systems with P90 level > 10 to ≤ 15 $\mu\text{g/L}$: <ul style="list-style-type: none"> ○ No CCT: must conduct a CCT study if required by Primacy Agency. ○ With CCT: must follow the steps for re-optimizing CCT, as specified in the rule. • Systems with P90 level > 15 $\mu\text{g/L}$: <ul style="list-style-type: none"> ○ No CCT: must complete CCT installation regardless of their subsequent P90 levels. 	<p>CCT</p> <ul style="list-style-type: none"> • Specifies CCT requirements for systems with 10 < P90 level ≤ 15 $\mu\text{g/L}$: <ul style="list-style-type: none"> ○ No CCT: must conduct a CCT study if required by primacy agency. ○ With CCT: must follow the steps for re-optimizing CCT, as specified in the rule. • Systems with P90 level > 15 $\mu\text{g/L}$: <ul style="list-style-type: none"> ○ No CCT: must complete CCT installation regardless of their subsequent P90 levels.

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<p>consecutive 6-month monitoring periods.</p> <ul style="list-style-type: none"> Systems must operate CCT to meet any primacy agency-designated OWQPs that define optimal CCT. There is no requirement for systems to re-optimize. 	<ul style="list-style-type: none"> With CCT: must re-optimize CCT. CWSs serving $\leq 10,000$ people and non-transient water systems (NTNCWSs) can select an option other than CCT to address lead. <i>See Small System Flexibility.</i> 	<ul style="list-style-type: none"> With CCT: must re-optimize CCT. CWSs serving $\leq 10,000$ people and non-transient water systems (NTNCWSs) can select an option other than CCT to address lead. <i>See Small System Flexibility.</i>
<p>CCT Options: Includes alkalinity and pH adjustment, calcium hardness adjustment, and phosphate or silicate-based corrosion inhibitor.</p>	<p>CCT Options: Removes calcium hardness as an option and specifies any phosphate inhibitor must be orthophosphate.</p>	<p>CCT Options: Removes calcium hardness as an option and specifies any phosphate inhibitor must be orthophosphate.</p>
<p>Regulated WQPs:</p> <ul style="list-style-type: none"> No CCT: pH, alkalinity, calcium, conductivity, temperature, orthophosphate (if phosphate-based inhibitor is used), silica (if silica-based inhibitor is used). With CCT: pH, alkalinity, and based on type of CCT either orthophosphate, silica, or calcium. 	<p>Regulated WQPs:</p> <ul style="list-style-type: none"> Eliminates WQPs related to calcium hardness (i.e., calcium, conductivity, and temperature). 	<p>Regulated WQPs:</p> <ul style="list-style-type: none"> Eliminates WQPs related to calcium hardness (i.e., calcium, conductivity, and temperature).
<p>WQP Monitoring</p> <ul style="list-style-type: none"> Systems serving $\geq 50,000$ people must conduct regular WQP monitoring at entry points and within the distribution system. Systems serving $\leq 50,000$ people conduct monitoring only in those periods $>$ lead or copper AL. Contains provisions to sample at reduced number of sites in distribution system less frequency for all systems meeting their OWQPs. 	<p>WQP Monitoring</p> <ul style="list-style-type: none"> Systems serving $\geq 50,000$ people must conduct regular WQP monitoring at entry points and within the distribution system. Systems serving $\leq 50,000$ people must continue WQP monitoring until they no longer $>$ lead and/or copper AL for two consecutive 6-month monitoring periods. To qualify for reduced WQP distribution monitoring, P90 must be $\leq 10 \mu\text{g/L}$ and the system must meet its OWQPs. 	<p>WQP Monitoring</p> <ul style="list-style-type: none"> Systems serving $\geq 50,000$ people must conduct regular WQP monitoring at entry points and within the distribution system. Systems serving $\leq 50,000$ people must continue WQP monitoring until they no longer $>$ lead and/or copper AL for two consecutive 6-month monitoring periods. To qualify for reduced WQP distribution monitoring, P90 must be $\leq 10 \mu\text{g/L}$ and the system must meet its OWQPs.

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<p>Sanitary Survey Review:</p> <ul style="list-style-type: none"> • Treatment must be reviewed during sanitary surveys; no specific requirement to assess CCT or WQPs. 	<p>Sanitary Survey Review:</p> <ul style="list-style-type: none"> • CCT and WQP data must be reviewed during sanitary surveys against most recent CCT guidance issued by EPA. 	<p>Sanitary Survey Review:</p> <ul style="list-style-type: none"> • CCT and WQP data must be reviewed during sanitary surveys against most recent CCT guidance issued by EPA.
<p>Find-and-Fix: No required follow-up samples or additional actions if an individual sample exceeds 15 µg/L.</p>	<p>Find and Fix: If individual tap sample > 15 µg/L, systems must:</p> <ul style="list-style-type: none"> • Collect a follow-up sample at each location > 15 µg/L. • Conduct WQP monitoring at or near the site > 15 µg/L. • Perform needed corrective action. 	<p>Find-and-Fix: If individual tap samples > 15 µg/L.</p> <ul style="list-style-type: none"> ○ Find-and-fix steps: <ul style="list-style-type: none"> ○ Collect tap sample at the same tap sample site within 30 days. ○ For LSL, collect any liter or sample volume. ○ If LSL is not present, collect 1 liter first draw after stagnation. ○ For systems with CCT <ul style="list-style-type: none"> • Conduct WQP monitoring at or near the site > 15 µg/L. • Perform needed corrective action. • Document customer refusal or nonresponse after 2 attempts. ○ Provide information to local public health officials.
<p>Initial LSL Program Activities:</p> <ul style="list-style-type: none"> • Systems were required to complete a materials evaluation by the time of initial sampling. No requirement to update materials evaluation. • No LSLR plan is required. 	<p>Initial LSL Program Activities:</p> <ul style="list-style-type: none"> • All systems must develop an LSL inventory or demonstrate absence of LSLs within first 3 years of final rule publication. • LSL inventory must be updated annually. • All systems with known or possible LSLs must develop an LSLR plan. 	<p>Initial LSL Program Activities:</p> <ul style="list-style-type: none"> • All systems must develop an LSL inventory or demonstrate absence of LSLs within 3 years of final rule publication. • All systems serving >50,000 must make inventory available on-line • LSL inventory must be updated annually or triennially, based on their tap sampling frequency. The number of LSLs required to be replaced if triggered must be updated annually. • All systems with known or possible LSLs must develop an LSLR plan.

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<p>LSLR:</p> <ul style="list-style-type: none"> ● Systems with LSLs with P90 > 15 µg/L after CCT installation must annually replace ≥7% of number of LSLs in their distribution system when the lead action level is first exceeded. ● Systems must replace the LSL portion they own and offer to replace the private portion at the owner’s expense. ● Full LSLR, partial LSLR, and LSLs with lead sample results ≤15 µg/L (“test-outs”) count toward the 7% replacement rate. ● Systems can discontinue LSLR after 2 consecutive 6-month monitoring periods ≤ lead AL. 	<p>LSLR:</p> <ul style="list-style-type: none"> ● Rule specifies replacement programs based on P90 level for CWSs serving > 10,000 people: <ul style="list-style-type: none"> ○ If P90 > 15 µg/L: Must fully replace 3% of LSLs per year (mandatory replacement) for 4 consecutive 6-month monitoring periods. ○ If P90 > 10 to 15 µg/L: Implement an LSLR program with replacement goals in consultation with the Primacy Agency for 2 consecutive 1-year monitoring periods. ● Small CWSs and NTNCWSs that select LSLR as their compliance option must complete LSLR within 15 years if P90 > 15 µg/L. See Small System Flexibility. ● Annual LSLR rate is based on number of LSLs when the system first exceeds the action level plus the current number of service lines of unknown materials. ● Only full LSLR (both customer-owned and system-owned portion) count toward mandatory rate or goal-based rate. ● All systems must replace their portion of an LSL if notified by consumer of private side replacement within 3 months of the private replacement. ● Following each LSLR, systems must: <ul style="list-style-type: none"> ○ Provide pitcher filters/cartridges to each customer for 3 months after replacement. Must be provided within 24 hours for full and partial LSLRs. ○ Collect a lead tap sample at locations served by replaced line within 3 to 6 months after replacement. 	<p>LSLR:</p> <ul style="list-style-type: none"> ● Rule specifies replacement programs based on P90 level for CWSs serving > 3,300 people: <ul style="list-style-type: none"> ○ If P90 > 15 µg/L: Must fully replace 3% of LSLs per year based upon a 2-year rolling average (mandatory replacement) for at least 4 consecutive 6-month monitoring periods. ○ If P90 > 10 to 15 µg/L: Implement an LSLR program with replacement goals in consultation with the primacy agency for 2 consecutive 1-year monitoring periods. ● Small CWSs and NTNCWSs that select LSLR as their compliance option must complete LSLR within 15 years if P90 > 15 µg/L See Small System Flexibility. ● Annual LSLR rate is based on number of LSLs and galvanized requiring replacement when the system first exceeds the action level plus the current number of lead status unknown service lines. ● Only full LSLR (both customer-owned and system-owned portion) count toward mandatory rate or goal-based rate. ● All systems 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 must notify the state and replace the system’s portion within 180 days. ● Following each LSLR, systems must: <ul style="list-style-type: none"> ○ Provide pitcher filters/cartridges to each customer for 6 months after replacement. Provide pitcher filters/cartridges within 24 hours for full and partial LSLRs. ○ Collect a lead tap sample at locations served by replaced line within 3 to 6

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		<p>months after replacement.</p> <ul style="list-style-type: none"> Requires replacement of galvanized service lines that are or ever were downstream of an LSL.
<p>LSL-Related Outreach:</p> <ul style="list-style-type: none"> When water system plans to replace the portion it owns, it must offer to replace customer-owned portion at owner's expense. If system replaces its portion only: <ul style="list-style-type: none"> Provide notification to affected residences within 45 days prior to replacement on possible elevated short-term lead levels and measures to minimize exposure. Include offer to collect lead tap sample within 72 hours of replacement. Provide test results within 3 business days after receiving results. 	<p>LSL-Related Outreach:</p> <ul style="list-style-type: none"> Inform consumers annually that they are served by LSL or service line of unknown material. Systems subject to goal-based program must: <ul style="list-style-type: none"> Conduct targeted outreach that encourages consumers with LSLs to participate in the LSLR program. Conduct an additional outreach activity if they fail to meet their goal. Systems subject to mandatory LSLR include information on LSLR program in public education (PE) materials that are provided in response to P90 > AL. 	<p>LSL-Related Outreach:</p> <ul style="list-style-type: none"> Inform consumers annually that they are served by LSL or lead status unknown service line. Systems subject to goal-based program must: <ul style="list-style-type: none"> Conduct targeted outreach that encourages consumers with LSLs to participate in the LSLR program. Conduct an additional outreach activity if they fail to meet their goal. Systems subject to mandatory LSLR include information on LSLR program in public education (PE) materials that are provided in response to P90 > AL.
Small System Flexibility		
<p>No provisions for systems to elect an alternative treatment approach but sets specific requirements for CCT and LSLR.</p>	<p>Allows CWSs serving ≤ 10,000 people and all NTNCWSs with P90 > 10 µg/L to select their approach to address lead levels at P90 > 15 µg/L with Primacy Agency approval:</p> <ul style="list-style-type: none"> Systems can choose CCT, LSLR, or provision and maintenance of point-of-use devices. NTNCWSs can also elect to replace all lead-bearing materials. 	<p>Allows CWSs serving ≤ 10,000 people and all NTNCWSs with P90 > 10 µg/L to select their approach to address lead with primacy agency approval:</p> <ul style="list-style-type: none"> Systems can choose CCT, LSLR, provision and maintenance of point-of-use devices; or replace all lead-bearing plumbing materials.

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Public Education and Outreach		
<ul style="list-style-type: none"> ● All CWSs must provide education material in the annual Consumer Confidence Report (CCR). ● Systems with P90 > AL must provide PE to customers about lead sources, health effects, measures to reduce lead exposure, and additional information sources. ● Systems must provide lead consumer notice to individuals served at tested taps within 30 days of learning results. ● Customers can contact the CWS to get PE materials translated in other languages. 	<ul style="list-style-type: none"> ● CWSs must provide updated health effects language and information regarding LSLR program in the CCR. ● If P90 > AL: <ul style="list-style-type: none"> ○ Current PE requirements apply. ○ Systems must notify customers of P90 > AL within 24 hours. ● In addition, CWSs must: <ul style="list-style-type: none"> ○ Improve public access to lead information including LSL locations and respond to requests for LSL information. ○ Deliver notice and educational materials to customers during water-related work that could disturb LSLs. ○ Provide increased information to healthcare providers. ○ Provide lead consumer notice to customers whose individual tap sample is > 15 µg/L within 24 hours. ● <i>Also see LSL-Related Outreach in LSLR section of table.</i> 	<ul style="list-style-type: none"> ● CWSs must provide updated health effects language in all PE materials and the CCR. <ul style="list-style-type: none"> ○ Customers can contact the CWS to get PE materials translated in other languages. ● 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. ● Revises the mandatory health effects language to improve accuracy and clarity. ● If P90 > AL: <ul style="list-style-type: none"> ○ Current PE requirements apply. ○ Systems must notify consumers of P90 > AL within 24 hours. ● In addition, CWSs must: <ul style="list-style-type: none"> ○ Deliver notice and educational materials to consumers during water-related work that could disturb LSLs. ○ Provide information to local and state health agencies. ○ Provide lead consumer notice to consumers whose individual tap sample is > 15 µg/L as soon as practicable but no later than 3 days. <p><i>Also see LSL-Related Outreach section of table.</i></p>
Change in Source or Treatment		
<p>Systems on a reduced tap monitoring schedule must obtain prior primacy agency approval before changing their source or treatment.</p>	<p>Systems on any tap monitoring schedule must obtain prior Primacy Agency approval before changing their source or treatment.</p>	<p>Systems on any tap monitoring schedule must obtain prior primacy agency approval before changing their source or treatment. These systems must also conduct tap monitoring biannually.</p>

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Source Water Monitoring and Treatment		
<ul style="list-style-type: none"> ● Periodic source water monitoring is required for systems with: <ul style="list-style-type: none"> ○ Source water treatment; or ○ P90 > AL and no source water treatment. 	<ul style="list-style-type: none"> ● Primacy Agencies can waive continued source water monitoring if the: <ul style="list-style-type: none"> ○ System has already conducted source water monitoring for a previous P90 > AL; ○ Primacy Agency has determined that source water treatment is not required; and ○ System has not added any new water sources. 	<ul style="list-style-type: none"> ● Primacy Agencies can waive continued source water monitoring if the: <ul style="list-style-type: none"> ○ System has already conducted source water monitoring for a previous P90 > AL; ○ primacy agency has determined that source water treatment is not required; and ○ System has not added any new water sources.
Lead in Drinking Water at Schools and Child Care Facilities		
<ul style="list-style-type: none"> ● Does not include separate testing and education program for CWSs at schools and child care facilities. ● Schools and child cares that are classified as NTNCWSs must sample for lead and copper. 	<ul style="list-style-type: none"> ● CWSs must conduct lead in drinking water testing and PE at 20% of K-12 schools and licensed child cares in service area every year. ● Sample results and PE must be provided to each sampled school/child care, Primacy Agency and local or State health department. ● Excludes facilities built after January 1, 2014. 	<ul style="list-style-type: none"> ● CWS must conduct sampling at 20% of elementary schools and 20% of child care facilities per year and conduct sampling at secondary schools on request for 1 testing cycle (5 years) and conduct sampling on request of all schools and child care facilities thereafter. ● Sample results and PE must be provided to each sampled school/child care, primacy agency and local or state health department. ● Excludes facilities built or replaced all plumbing after January 1, 2014.
Primacy Agency Reporting		
<p>Primacy Agencies must report information to EPA that includes but is not limited to:</p> <ul style="list-style-type: none"> ● All P90 levels for systems serving > 3,300 people, and only levels > 15 µg/L for smaller systems. ● Systems that are required to initiate LSLR and the date replacement must begin. ● Systems for which optimal corrosion control treatment (OCCT) has been designated. 	<p>Expands current requirements to include:</p> <ul style="list-style-type: none"> ● All P90 values for all system sizes. ● The current number of LSLs and service lines of unknown material for every water system. ● OCCT status of all systems including Primacy Agency-specified OWQPs. 	<p>Expands current requirements to include:</p> <ul style="list-style-type: none"> ● All P90 values for all system sizes. ● The current number of LSLs and lead status unknown service lines for every water system. ● OCCT status of all systems including primacy agency-specified OWQPs.

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