



Department of Health

Lead and Copper Rule Regulatory Amendments


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DISCLAIMER

This presentation is an overview of the lead and copper rule and does not represent a complete summary of regulatory requirements. It should be used for information purposes only.



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LEAD AND COPPER RULE HISTORY




Lead and Copper Rule (LCR) 1991	<ul style="list-style-type: none"> Replaced existing lead standard of 50 ppb measured at entry point. Established 15 ppb action level for lead and 1.3 ppm action level for copper. Established a maximum contaminant level goal (MCLG) of zero for lead in drinking water. Established a treatment technique to reduce corrosion of lead and copper within the distribution system. Established lead service line replacement requirements. Require public education of lead action level exceedances.
Minor Revisions (MR) 2006, 2004	<ul style="list-style-type: none"> Addressed legal challenges to the 1991 rule. Streamlined and reduced monitoring and reporting burden. Clarified optimized corrosion control treatment requirements. Allowed flexibility to public education delivery methods. 2004 revisions added mistakenly omitted text from the original rule.
Short Term Revisions (STR) 2007	<ul style="list-style-type: none"> Enhanced implementation in monitoring, corrosion control treatment, consumer awareness and lead service line replacement. Enhanced public education requirements to ensure consumers receive meaningful, timely and useful information.
Revisions (LCRR) 2021	<ul style="list-style-type: none"> Required service line inventories. Enacted a trigger level of 10 ppb for lead and retains 15 ppb action level. Incorporated requirements for testing schools and childcare facilities. Enhanced public notification for consumers with lead service lines, galvanized service lines requiring replacement and service line material unknown. Requires 24-hour public notification when there is a lead action level.
Improvements (LCRI) 2024	<ul style="list-style-type: none"> Effective in 2027. Lowered action level from 15 ppb to 10 ppb and eliminates trigger level. Significantly changes tap sampling requirements.

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LEAD AND COPPER RULE PRIMER


- The Lead and Copper Rule (LCR) is a federal regulation that limits lead concentration at consumer's tap, establishes performance standards for treatment to minimize pipe corrosion, and requires public water systems (PWS) to provide education to the public about lead.
- The LCR was adopted in 1991 and has been revised five times, most recently in 2024.
- The LCR is a treatment technique (TT) rule. There is no maximum contaminant level (MCL) for lead or copper.
 - A TT is an enforceable procedure or level of technological performance which public water systems must follow to ensure control of a contaminant.
 - EPA establishes a TT rule when there is no reliable method that is economically and technically feasible to measure a contaminant at concentrations to indicate there is not a public health concern. The Safe Drinking Water Act requires that EPA establish rules that are economically and technically feasible.



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LEAD AND COPPER RULE PRIMER


- New York State will enforce the provisions of 10 NYCRR Subpart 5-1, Sections 5-1.40-5-1.48 until the federal rule compliance date in 2027.
- However, several provisions of the 2021 rule (LCRR) were retained and are in effect. These provisions fall under federal enforcement authority.
 - Initial service line inventory.
 - Service line material notification.
 - Tier 1 public notification of a lead action level exceedance.
- Public water systems will transition directly from the LCR to the 2024 revisions, also known as the Lead and Copper Rule Improvements (LCRI), with the exception of the 3 items retained from the 2021 rule.



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LEAD AND COPPER RULE PRIMER


- There are 9 main components of LCR and 5 subsequent amendments:
 - Materials evaluation and inventory.
 - Sample pool identification.
 - Consumer tap sampling.
 - 90th percentile determination.
 - Consumer notification and public education.
 - Corrosion control treatment steps.
 - Lead service line replacement.
 - Monitoring in schools and childcare facilities
 - Compliance and enforcement



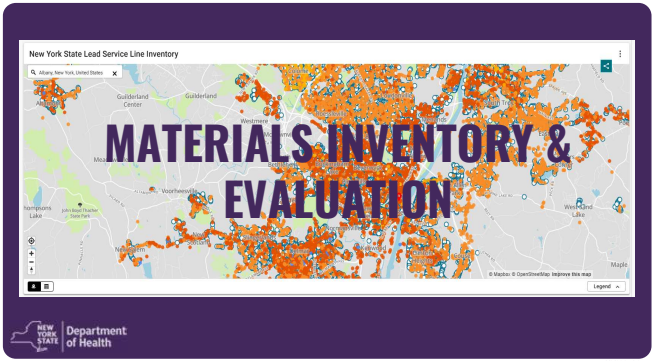
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LEAD AND COPPER RULE PRIMER

- The LCRI, which has a compliance date of 2027, expands on the previous rules by:
 - Locating legacy lead pipes.
 - Requiring lead service line replacement within 10 years.
 - Modifying tap sampling requirements.
 - Lowering the action level from 15 ppb to 10 ppb.
 - Requiring filters under the following conditions:
 - Service line replacement.
 - Lead connector replacement.
 - When water systems have multiple action level exceedances.
 - Following meter replacement or water main replacement at service connections with lead service lines, galvanized service lines requiring replacement or lead status unknown.
 - Following disturbances that could dislodge pipe scale at service connections with lead service lines, galvanized service lines requiring replacement or lead status unknown.
- Improving communication.




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New York State Lead Service Line Inventory


MATERIALS INVENTORY & EVALUATION



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MATERIALS EVALUATION & INVENTORY



- The 1991 LCR required each public water system complete a materials evaluation.
 - Public water systems were required to review plumbing codes, building permits, distribution system maps, meter installation records, etc. to inform which locations are eligible to be consumer tap sampling sites.
 - Sampling locations need to be evaluated on an ongoing basis to ensure there were enough sites to maintain an eligible sampling pool.
- The 2021 LCR Revisions required public water systems to prepare an inventory that includes all service lines, regardless of ownership, and submit the inventory to the primacy agency. The inventory must be:
 - Publicly accessible.
 - Available online for water systems serving over 50,000 people.



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MATERIALS EVALUATION & INVENTORY

- The NYS Lead Right to Know Act (Public Health Law 1114-B) strengthens federal requirements by:
 - Authorizing the New York State Department of Health (NYS DOH) to require public water systems utilize a specific inventory format.
 - Requiring NYS DOH to post inventories, inventory summaries and service line inventory maps on its public website.
- Inventories were due on October 16, 2024. Inventories and summaries that meet the formatting and quality requirements have been posted on health.data.ny.gov and are available to the public.

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SAMPLING POOL IDENTIFICATION




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SAMPLING POOL IDENTIFICATION - CURRENT

- Until 2027, all consumer tap sample sites must be categorized as Tier 1, Tier 2 or Tier 3. Tiered sampling sites must be exhausted in numerical order.

Tier 1 ^{1,2}	Tier 2 ²	Tier 3
<ul style="list-style-type: none"> Single family structures that contain copper pipes with lead solder installed after 1982. Single family structures with premise plumbing made of lead and/or served by a lead service line. 	<ul style="list-style-type: none"> Buildings, including multiple-family residences, that contain copper pipes with lead solder installed after 1982. Buildings, including multiple-family residences, with premise plumbing made of lead and/or served by a lead service line. 	<ul style="list-style-type: none"> Representative sites that contain plumbing materials commonly found throughout the water system's distribution system.

1 A Multiple-family residence may be a Tier 1 site where at least 20 percent of the structures served by the water system are multiple-family residences once single-family residences are exhausted.
 2 Any water system whose distribution system contains lead service lines shall draw 50 percent of the samples it collects during each monitoring period from sites that contain lead pipes, or copper pipes with lead solder, and 50% of the samples from sites served by a lead service line.



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SAMPLING POOL IDENTIFICATION-2027

- In 2027, all consumer tap sample sites must be categorized as Tier 1, 2, 3, 4 or Tier 5.


Tier 1 ²	Tier 2 ^{1,2}	Tier 3	Tier 4	Tier 5
Single family structures with premise plumbing made of lead and/or served by a lead service line.	Buildings, including multiple-family residences, with premise plumbing made of lead and/or served by a lead service line.	Single family structures served by a lead connector. Single family structures served by a galvanized service line or containing galvanized premise plumbing identified as ever having been downstream of a lead service line.	Single family structures that contain copper premise plumbing with lead solder installed before the effective date of the State's lead ban on June 19, 1986.	Sites that are representative of sites throughout the distribution system. A representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the water system.

1 For water systems where Tier 2 sites comprise at least 20 percent of the residential structures served by the community water system, Tier 2 sites may be sampled even when Tier 1 sites are available.
2 A water system serving sites with premise plumbing made of lead and/or that are served by a lead service line must collect all samples for monitoring under this section from sites with premise plumbing made of lead and/or served by a lead service line.

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SAMPLING POOL IDENTIFICATION-2027

- Water systems must submit a site sample plan to the State that identify sampling locations that meet the tiering criteria. These sites are most likely to contain lead.
- Each water system must identify a pool of tap sampling sites that will allow the water system to collect the minimum number of samples.
- Sampling sites cannot include sites with installed treatment devices designed to remove inorganic contaminants unless the devices are used at all taps.
- Sampling sites are considered available unless a customer refuses to participate in sampling or a system has made at least two outreach attempts at a site and has not received a response.
- Tiered sample sites must be exhausted in numerical order, meaning a water system must have sampled or determined a site is inaccessible for all Tier 1 locations before moving onto subsequent tiers.



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CONSUMER TAP SAMPLING



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CONSUMER TAP SAMPLING - CURRENT



- Until 2027, all tap samples collected must be 1 liter and have stood motionless in the plumbing system and/or service line of each sampling site for at least 6 hours. Samples must be collected from an interior kitchen or bathroom sink cold-water tap.
- If a system allows members of the public to sample, the system cannot challenge the accuracy of the sampling results based on alleged sample errors on analyzed.
- A water system shall collect each first draw sample from the same sampling site from which it collected a previous sample. If the water system cannot gain entry to a sampling site, the system may collect the follow-up tap sample from another sampling site within its sampling pool if the new site meets the same tiering criteria and is within reasonable proximity of the original site.

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CONSUMER TAP SAMPLING - 2027


- In 2027, all tap samples collected from a Tier 1 or Tier 2 sample site must include an additional fifth-liter sample collected at the same time as the first liter sample. The sample collected must be 1 liter in volume and have stood motionless in the plumbing system and/or service line of each sampling site for at least 6 hours.
- Samples from residential housing must be collected from an interior kitchen or bathroom sink cold-water tap.
- If a system allows members of the public to sample, the system cannot challenge the accuracy of the sampling results based on alleged sample errors.

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CONSUMER TAP SAMPLING - 2027

- Systems must prioritize sampling at the same sites that were sampled in the previous tap sampling period. If a site no longer qualifies or if the water system cannot gain access to the sampling site, the system must collect a tap sample from another site in its sample plan that meets the original tiering criteria. Systems must report any change in sites from the previous tap sampling period and include an explanation of why the sampling sites have changed.



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90TH PERCENTILE DETERMINATION

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90TH PERCENTILE DETERMINATION - CURRENT

- The lead action level is determined based on the 90th percentile of all sample results from the water system's sampling pool.
- The NYS DOH has developed a template to assist with the calculation.
- To calculate the 90th percentile:
 - Put the results in order from lowest to highest with 1 being the lowest value.
 - Multiply the total number of samples by 0.9 ($20 \times 0.9 = 18$).
 - The 90th percentile is the number that corresponds to the total number of samples multiplied by 0.9.
 - If the 90th percentile is greater than 0.015 ppm (15 ppb), the water system has an action level exceedance.

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90TH PERCENTILE DETERMINATION - 2027

- The process to calculate the 90th percentile will remain the same at Tier 3, 4 and 5 sample sites.
- For Tier 1 or Tier 2 sites, select the highest of the first liter or fifth liter result.
- To calculate the 90th percentile:
 - Put the results in order from lowest to highest with 1 being the lowest value.
 - Multiply the total number of samples by 0.9 ($20 \times 0.9 = 18$).
 - The 90th percentile is the number that corresponds to the total number of samples multiplied by 0.9.
 - If the 90th percentile is greater than 0.015 ppm (15 ppb), the water system has an action level exceedance.

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CONSUMER NOTIFICATION & PUBLIC EDUCATION

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CONSUMER NOTIFICATION & PUBLIC ED

- The content and language used in consumer notification and public education documents is prescriptive and incorporated into the federal regulations.
- Public notification is required annually for customers with a lead service line, galvanized service line requiring replacement or service line status unknown.
- Consumer notice of lead tap water monitoring results is currently required within 30 days. In 2027, results must be provided as soon as practicable but no later than three business days after the water system learns of the tap monitoring results.
- Beginning in 2027, all community water systems must provide information to local and State health agencies about Distribution System and Site Assessment activities.

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CONSUMER NOTIFICATION & PUBLIC ED

- Beginning in 2027, water systems that cause disturbance to a lead, galvanized requiring replacement, or lead status unknown service line must provide customers and the persons served by the water system at the service connection with information about the potential for elevated lead levels in drinking water as a result of the disturbance.
- Public education is required when a public water system exceeds the lead action level. Public education is in addition to the 24-hour Tier 1 notice and requires water systems to deliver written materials as well as select educational activities from a menu of options listed in the regulation within 60 days of the action level exceedance. In 2027 there are additional delivery requirements.
- A water system that exceeds the lead action level is required to make public notice within 24 hours of learning of the action level exceedance. This requirement went into effect on October 16, 2024.

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CORROSION CONTROL TREATMENT STEPS

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CORROSION CONTROL TREATMENT STEPS

- Corrosion control is treatment that reduces the corrosivity of water and/or reduces metals release from piping. Corrosion control treatment can be accomplished by:
 - pH adjustment using chemicals such as soda ash or sodium hydroxide.
 - Adding a corrosion inhibitor such as orthophosphate or sodium silicate.
- The corrosion control treatment steps in the existing rule must be followed any time a public water system exceeds the lead action level.
- Corrosion control treatment steps include:
 - Step 1/2: Initiate pipe loop, corrosion control treatment study or treatment recommendation.
 - Step 3: Complete study.
 - Step 4: State approval.
 - Step 5: Install treatment.
 - Step 6: Follow-up monitoring.
 - Step 7: State designates optimal water quality parameters.

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CORROSION CONTROL TREATMENT STEPS

- The public water system must follow the specific process within the timelines established by the regulations.
- A public water system that has exceeded the action level and is undergoing corrosion control treatment steps must continue to provide public education.
- Once corrosion control treatment is installed, public water systems are required to monitor for the following water quality parameters:
 - pH
 - Alkalinity
 - Orthophosphate/Silicate
 - Any other parameter, such as conductivity or hardness, determined by the State to evaluate the effectiveness in treatment.
- Any results that are outside of the range of values designated by the State is considered a treatment technique violation.

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LEAD SERVICE LINE REPLACEMENT

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LEAD SERVICE LINE REPLACEMENT

- Current lead service line replacement rates remain in effect until 2027.
- Any public water system that has a lead service line, galvanized service line requiring replacement or service line material unknown must submit a service line replacement plan by November 1, 2027.
- All service lines within the water system's control must be replaced within 10 years, at a cumulative annual replacement rate of 10%.

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MONITORING IN SCHOOLS & CHILDCARE FACILITIES

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MONITORING IN SCHOOLS & CHILDCARE

- The provisions of Subpart 67-4: Lead Testing in School Drinking Water will remain in place.
- By November 1, 2027, public water suppliers must make a list of the schools and licensed childcare facilities they serve and submit the list to the State.
- All CWS must conduct annual public education for the schools and childcare facilities on the list.
- All CWSs must sample in all the elementary schools and licensed childcare facilities they serve within the first five-year testing cycle and sample secondary schools on request. Thereafter, CWSs must sample the schools and childcare facilities they serve on request.
- Sampling waivers for alternative State and local sampling programs that meet specific conditions.



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SUMMARY



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SUMMARY

- The Lead and Copper Rule regulates how water systems address lead in drinking water.
- The rule was first promulgated in 1991 and has been amended most recently in 2024.
- The rule requires that public water systems take many actions, including inventorying lead service lines, conducting tap sampling and providing public education when a lead action level is exceeded.
- Corrosion control treatment is used to reduce levels of lead at the tap and must be properly monitored and maintained to be effective.
- Beginning in 2027, public water systems are required to remove all lead service lines within 10 years.



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