

Important State LCR Authorities

And When to Use Them
[Reference]

Region 5 EPA

April 2018

Purpose of State LCR Authorities

There are many places in the LCR that provide States with authorities and discretion to customize LCR requirements for water systems because some provisions may or may not be relevant to a particular system and actions to be taken by systems can depend on their specific circumstances. These authorities are provisions intended for States to use in the manner that makes the most sense given the system and/or situation. In addition, new information and scientific updates may indicate a need for approaches that are not specifically outlined in the LCR.

For this reason, EPA has included specific language in the LCR to ensure that States have the best tools and information possible to protect public health and to ensure that any system-specific requirements specified by the State using these provisions are enforceable (see next slide).

Purpose of State LCR Authorities

There are three key provisions in the LCR that provide broad overarching authority for States

- **§141.80 (k):** Violation of national primary drinking water regulations. Failure to comply with the applicable requirements of §§141.80–141.91, **including requirements established by the State pursuant to these provisions, shall constitute a violation of the national primary drinking water regulations for lead and/or copper.**
- **§141.81(b):** Any such system deemed to have optimized corrosion control under this paragraph, and which has treatment in place, shall continue to operate and maintain optimal corrosion control treatment **and meet any requirements that the State determines appropriate to ensure optimal corrosion control treatment is maintained.**
- **§141.82 (h):** Modification of State treatment decisions. **Upon its own initiative or in response to a request by a water system or other interested party, a State may modify its determination of the optimal corrosion control treatment under paragraph (d) of this section or optimal water quality control parameters under paragraph (f) of this section...**The State may modify its determination where it concludes that such change is necessary to ensure that the system continues to optimize corrosion control treatment.

Use of State LCR Authorities

- The authorities on the following slides are listed in the order that they appear in the federal LCR.
- Multiple authorities can be used together to accomplish what is needed, and some can serve multiple purposes.
- Questions for States to ask:
 - What should you know?
 - What do you know?
 - What do you need?
 - Are additional requirements appropriate/needed?
 - What State authorities can you use?

State LCR Authorities by Subject

- **Optimal Corrosion Control Treatment**

- §141.80(k); §141.81(b); §141.81(c); 141.81(e)(2); §141.82(b); §141.82 (d)(1); §141.82(d)(2); §141.82 (f)(3); §141.82 (f)(5)

- **Setting of Optimal Water Quality Control Parameters**

- §141.82 (f)(5)

- **Evaluating Long-term Source and/or Treatment Changes**

- §141.81(b)(3)(iii); §141.86(d)(4)(vii); §141.86(g)(4)(iii); §141.90 (a)(3) ; 141.90(e)(4)

- **Re-evaluating OCCT and/or OWQPs**

- §141.82 (h)

Note: States can check LCR primacy crosswalks for equivalent State citations

State LCR Authorities by Subject

- **Lead and Copper Monitoring**

- §141.86(a); §141.86(c); §141.86(d)(4)(ii); §141.86(d)(4)(iii); §141.86(d)(4)(iv)(A); §141.86(d)(4)(iv)(B)(1); §141.86(d)(4)(iv)(B)(2); §141.86(e); §141.90(g)
- Waiver Approval Criteria: 141.86(g)(3)

- **Water Quality Parameter Monitoring**

- §141.82(a); §141.82 (f)(5); 141.82(g); 141.87(f); §141.90(g)

- **Lead Service Line Replacement**

- §141.84(a); §141.84(e); §141.90 (e)(4)

Note: States can check LCR primacy crosswalks for equivalent State citations

State LCR Authorities – Example

- **What Should you Know?**

- Are there LSLs in the system? If so, where?
- Is water quality consistent across DS
 - If State has insufficient data, use authorities to require additional monitoring, monitoring for additional parameters, or monitoring at specific sites (for systems on reduced monitoring)
- Is pH in right range for optimal orthophosphate/silicate treatment?
- Has system tried higher orthophosphate/silicate dosages?
- If orthophosphate is not used, are pH/alkalinity in the right range for optimal treatment?
 - Is calcium carbonate precipitation an issue? If so, what is being done?
- Is there iron/manganese in the system?
- Any other WQ red flags?

State LCR Authorities – Example

- **What Do you Know?**

- Limited WQP data and DS system information
- System has LSLs and LCR tap results (i.e., 1st draw samples) can significantly underestimate actual lead levels present in systems with LSLs
 - Actual lead levels lines can be 4 to 8 times higher than 1st draw/90th percentile values
 - Some systems may not be sampling highest risk homes.
- System has ‘red water’ issues. Studies published after the original LCR indicate that iron and manganese can transport lead
- Some long-term source and treatment changes can affect lead levels at the tap

State LCR Authorities - Example

How and When to Use Them

- **Which authorities can you use for the following?**
 - Acquiring more or additional on LSL locations and whether they are full or partial LSLs or lead goosenecks;
 - Acquiring additional information on sources, source usage;
 - Requiring more frequent Pb/Cu tap monitoring;
 - Monitoring for an expanded list of water quality parameters and/or more frequent monitoring or additional monitoring sites for WQPs;
 - Requiring details (spec sheets) for CCT chemical(s), restricting use to specific product unless approved in advance;
 - Action if orthophosphate level and/or pH is too low; and
 - Requiring corrosion control study.
 - If the system has LSLs, consider the use of pipe loops to evaluate the optimization of corrosion control treatment.

Important State LCR Authorities

- **§141.80 (k):** Violation of national primary drinking water regulations. Failure to comply with the applicable requirements of §§141.80–141.91, **including requirements established by the State pursuant to these provisions, shall constitute a violation of the national primary drinking water regulations for lead and/or copper.**
- **§141.81(b):** Any such system deemed to have optimized corrosion control under this paragraph, and which has treatment in place, shall continue to operate and maintain optimal corrosion control treatment **and meet any requirements that the State determines appropriate to ensure optimal corrosion control treatment is maintained.**

Important State LCR Authorities

- **§141.81(b)(3)(iii)**: Any water system deemed to have optimized corrosion control pursuant to this paragraph shall notify the State in writing pursuant to §141.90(a)(3) of any upcoming long-term change in treatment or addition of a new source as described in that section. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The State may require any such system to conduct additional monitoring or to take other action the State deems appropriate to ensure that such systems maintain minimal levels of corrosion in the distribution system.

Important State LCR Authorities

- **§141.81(c):** ... The State may require a system to repeat treatment steps previously completed by the system where the State determines that this is necessary to implement properly the treatment requirements of this section.
- **§141.81(e)(2):** Step 2: Within 12 months after the end of the monitoring period during which a system exceeds the lead or copper action level, the State may require the system to perform corrosion control studies (§141.82(b)). If the State does not require the system to perform such studies, the State shall specify optimal corrosion control treatment (§141.82(d)) within the following time-frames:

Important State LCR Authorities

- **§141.82(a):** System recommendation regarding corrosion control treatment. Based upon the results of lead and copper tap monitoring and water quality parameter monitoring, small and medium-size water systems exceeding the lead or copper action level shall recommend installation of one or more of the corrosion control treatments listed in paragraph (c)(1) of this section which the system believes constitutes optimal corrosion control for that system. **The State may require the system to conduct additional water quality parameter monitoring in accordance with §141.87(b) to assist the State in reviewing the system's recommendation.**

Important State LCR Authorities

- **§141.82(b):** ...The State may require any small or medium-size system that exceeds the lead or copper action level to perform corrosion control studies under paragraph (c) of this section to identify optimal corrosion control treatment for the system.
- **§141.82 (d)(1):** ...the State shall either approve the corrosion control treatment option recommended by the system, or designate alternative corrosion control treatment(s) from among those listed in paragraph (c)(1) of this section.
- **§141.82(d)(2)** ...If the State requests additional information to aid its review, the water system shall provide the information.

Important State LCR Authorities

- **§141.82 (f)(3)**: If a corrosion inhibitor is used, a minimum concentration or a range of concentrations for the inhibitor, measured at each entry point to the distribution system and in all tap samples, **that the State determines is necessary** to form a passivating film on the interior walls of the pipes of the distribution system;
- **§141.82 (f)(5)**: ...**The State may designate values for additional water quality control parameters determined by the State** to reflect optimal corrosion control for the system.

Important State LCR Authorities

§141.82(g): Continued operation and monitoring.

All systems optimizing corrosion control shall continue to operate and maintain optimal corrosion control treatment, including maintaining water quality parameters at or above minimum values or within ranges designated by the State under paragraph (f) of this section, in accordance with this paragraph for all samples collected under §141.87(d) through (f). Compliance with the requirements of this paragraph shall be determined every six months, as specified under §141.87(d). A water system is out of compliance with the requirements of this paragraph for a six-month period if it has excursions for any State-specified parameter on more than nine days during the period. An excursion occurs whenever the daily value for one or more of the water quality parameters measured at a sampling location is below the minimum value or outside the range designated by the State. Daily values are calculated as follows. States have discretion to delete results of obvious sampling errors from this calculation.

Important State LCR Authorities

- **§141.82 (h)**: Modification of State treatment decisions. **Upon its own initiative** or in response to a request by a water system or other interested party, **a State may modify its determination of the optimal corrosion control treatment under paragraph (d) of this section or optimal water quality control parameters under paragraph (f) of this section...**The State may modify its determination where it concludes that such change is necessary to ensure that the system continues to optimize corrosion control treatment.

Important State LCR Authorities

- **§141.84(a):** ...If a system is in violation of §141.81 or §141.83 for failure to install source water or corrosion control treatment, the State may require the system to commence lead service line replacement under this section after the date by which the system was required to conduct monitoring under §141.86(d)(2) has passed.
- **§141.84(a)(2):** ...For those systems that have completed a 15-year lead service line replacement program, the State will determine a schedule for replacing or retesting lines that were previously tested out under the replacement program when the system re-exceeds the action level.

Important State LCR Authorities

- **§141.84(e):** The State shall require a system to replace lead service lines on a shorter schedule than that required by this section, taking into account the number of lead service lines in the system, where such a shorter replacement schedule is feasible...
- **§141.86(c):** ...States may specify sampling locations when a system is conducting reduced monitoring.

Important State LCR Authorities

- **§141.86(a)(1)**: By the applicable date for commencement of monitoring under paragraph (d)(1) of this section, each water system shall complete a materials evaluation of its distribution system in order to identify a pool of targeted sampling sites that meets the requirements of this section, and which is sufficiently large to ensure that the water system can collect the number of lead and copper tap samples required in paragraph (c) of this section. All sites from which first draw samples are collected shall be selected from this pool of targeted sampling sites. Sampling sites may not include faucets that have point-of-use or point-of-entry treatment devices designed to remove inorganic contaminants.

[continued on next slide]

Important State LCR Authorities

- **§141.86(a)(2):** A water system shall use the information on lead, copper, and galvanized steel that it is required to collect under §141.42(d) of this part [special monitoring for corrosivity characteristics] when conducting a materials evaluation. **When an evaluation of the information collected pursuant to §141.42(d) is insufficient to locate the requisite number of lead and copper sampling sites that meet the targeting criteria in paragraph (a) of this section, the water system shall review the sources of information listed below in order to identify a sufficient number of sampling sites. In addition, the system shall seek to collect such information where possible in the course of its normal operations (e.g., checking service line materials when reading water meters or performing maintenance activities):**
 - (i) **All plumbing codes, permits, and records in the files of the building department(s) which indicate the plumbing materials that are installed within publicly and privately owned structures connected to the distribution system;**
 - (ii) All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system; and
 - (iii) **All existing water quality information, which includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead or copper concentrations.**

Important State LCR Authorities

- **§141.86(c):** *Number of samples...* States may specify sampling locations when a system is conducting reduced monitoring...
- **§141.86(d)(4)(ii):** Any water system that meets the lead action level and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the State under §141.82(f) during each of two consecutive six-month monitoring periods may reduce the frequency of monitoring to once per year and reduce the number of lead and copper samples in accordance with paragraph(c) of this section **if it receives written approval from the State. ..The State shall review monitoring, treatment, and other relevant information submitted by the water system in accordance with §141.90, and shall notify the system in writing when it determines the system is eligible to commence reduced monitoring pursuant to this paragraph. The State shall review, and where appropriate, revise its determination when the system submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available.**

Important State LCR Authorities

- **§141.86(d)(4)(iii):** ...Any water system that meets the lead action level and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the State under §141.82(f) during three consecutive years of monitoring may reduce the frequency of monitoring from annually to once every three years if it receives written approval from the State. ...**The State shall review monitoring, treatment, and other relevant information submitted by theater system in accordance with§141.90, and shall notify the system in writing when it determines the systemic eligible to reduce the frequency of monitoring to once every three years. The State shall review, and where appropriate, revise its determination when the system submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available.**
- **§141.86(d)(4)(iv)(A):** The State, at its discretion, may approve a different period for conducting the lead and copper tap sampling for systems collecting a reduced number of samples.

Important State LCR Authorities

- **§141.86(d)(4)(iv)(B)(1):** The system may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in paragraph (c) of this section after it has completed two subsequent six-month rounds of monitoring that meet the criteria of paragraph (d)(4)(ii) of this section **and the system has received written approval from the State that it is appropriate** to resume reduced monitoring on an annual frequency.
- **§141.86(d)(4)(iv)(B)(2):** The system may resume triennial monitoring for lead and copper at the tap at the reduced number of sites after it demonstrates through subsequent rounds of monitoring that it meets the criteria of either paragraph(d)(4)(iii) or (d)(4)(v) of this section **and the system has received written approval from the State that it is appropriate** to resume triennial monitoring.

Important State LCR Authorities

- **§141.86(d)(4)(vii):** Any water system subject to a reduced monitoring frequency under paragraph (d)(4) of this section shall notify the State in writing in accordance with §141.90(a)(3) of any upcoming long-term change in treatment or addition of a new source as described in that section. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The State may require the system to resume sampling in accordance with paragraph (d)(3) of this section and collect the number of samples specified for standard monitoring under paragraph (c) of this section **or take other appropriate steps such as increased water quality parameter monitoring or re-evaluation of its corrosion control treatment given the potentially different water quality considerations.**

Important State LCR Authorities

- **§141.86(e)**: Additional monitoring by systems. The results of **any monitoring conducted in addition to the minimum requirements of this section** shall be considered by the system and the State in making any determinations (i.e., calculating the 90th percentile lead or copper level) under this subpart.
- **§141.87(f)** Additional monitoring by systems. The results of **any monitoring conducted in addition to the minimum requirements of this section** shall be considered by the system and the State in making any determinations (i.e., determining concentrations of water quality parameters) under this section or §141.82.

Important State LCR Authorities

- **§141.86(g)(3):** State approval of waiver application. ...As a condition of the waiver, the State may require the system to perform specific activities (e.g., limited monitoring, periodic outreach to customers to remind them to avoid installation of materials that might void the waiver) to avoid the risk of lead or copper concentration of concern in tap water. The small system must continue monitoring for lead and copper at the tap as required by paragraphs (d)(1) through (d)(4) of this section, as appropriate, until it receives written notification from the State that the waiver has been approved.
- **§141.86(g)(4)(iii):** Any water system with a full or partial waiver shall notify the State in writing in accordance with §141.90(a)(3) §141.86 of any upcoming long-term change in treatment or addition of a new source, as described in that section. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The State has the authority to require the system to add or modify waiver conditions (e.g., require recertification that the system is free of lead-containing and/or copper-containing materials, require additional round(s) of monitoring), if it deems such modifications are necessary to address treatment or source water changes at the system.

[Note: Most likely not applicable in Region 5, as EPA understands that Region 5 states are not using the 9-year waivers]

Important State LCR Authorities

- **§141.90 (a)(3):** *At a time specified by the State*, or if no specific time is designated by the State, then as early as possible prior to the addition of a new source or any long-term change in water treatment, *a water system deemed to have optimized corrosion control under §141.81(b)(3), a water system subject to reduced monitoring pursuant to §141.86(d)(4), or a water system subject to a monitoring waiver pursuant to §141.86(g), shall submit written documentation to the State describing the change or addition.* The State must review and approve the addition of a new source or long-term change in treatment before it is implemented by the water system. Examples of long-term treatment changes include the addition of a new treatment process or modification of an existing treatment process. Examples of modifications include switching secondary disinfectants, switching coagulants (e.g., alum to ferric chloride), and switching corrosion inhibitor products (e.g., orthophosphate to blended phosphate). Long-term changes can include dose changes to existing chemicals if the system is planning long-term changes to its finished water pH or residual inhibitor concentration. Long-term treatment changes would not include chemical dose fluctuations associated with daily raw water quality changes.

Important State LCR Authorities

- **§141.90 (e)(4)**: Any system which collects lead service line samples following partial lead service line replacement required by §141.84 shall report the results to the State within the first ten days of the month following the month in which the system receives the laboratory results, or as specified by the State. States, at their discretion may eliminate this requirement to report these monitoring results. Systems shall also report **any additional information as specified by the State, and in a time and manner prescribed by the State**, to verify that all partial lead service line replacement activities have taken place.
- **§141.90 (g)**: Reporting of additional monitoring data. Any system which collects sampling data **in addition to that required by this subpart** shall report the results to the State within the first ten days following the end of the applicable monitoring period under §§141.86, 141.87 and 141.88 during which the samples are collected.

Questions



Miguel A. Del Toral
U.S. EPA Region 5
deltoral.miguel@epa.gov
(312) 886-5253

Andrea Porter
U.S. EPA Region 5
porter.andrea@epa.gov
(312) 886-4427