

Subpart I—Control of Lead and Copper

SOURCE: 56 FR 26548, June 7, 1991, unless otherwise noted.

§ 141.80 General requirements.

(a) *Applicability, effective date, and compliance deadlines.* The requirements of this subpart constitute the national primary drinking water regulations for lead and copper.

(1) The provisions of this subpart apply to community water systems and non-transient, non-community water systems (in this subpart referred to as “water systems” or “systems”) as defined at § 141.2.

(2) The requirements of this subpart are effective as of December 16, 2021.

(3) Community water systems and non-transient, non-community water systems must comply with the requirements of this subpart no later than October 16, 2024, except where otherwise specified in §§ 141.81, 141.84, 141.85, 141.86, and 141.90, or where an exemption in accordance with 40 CFR part 142, subpart C or F, has been established by the Administrator.

(4)(i) Between December 16, 2021, and October 16, 2024, community water systems and non-transient, non-community water systems must comply with 40 CFR 141.80 through 141.91, as codified on July 1, 2020.

(ii) If an exemption from subpart I of this part has been issued in accordance with 40 CFR part 142, subpart C or F, prior to December 16, 2021, then the water systems must comply with 40 CFR 141.80 through 141.91, as codified on July 1, 2020, until the expiration of that exemption.

(b) *Scope.* The regulations in this subpart establish a treatment technique that includes requirements for corrosion control treatment, source water treatment, lead service line inventory, lead service line replacement, public notice, monitoring for lead in schools and child care facilities, and public education. Several of the requirements in this subpart are prompted by the lead and copper action levels or the lead trigger level, specified in paragraph (c) of this section, as measured in samples collected at consumers’ taps. The requirements for sampling

for lead in schools and child care facilities and public education requirements in this subpart apply to all community water systems regardless of the results of the compliance tap sampling.

(c) *Lead trigger level, lead action level, and copper action level.* Trigger levels and action levels must be determined based on tap water samples collected in accordance with the tap sampling monitoring requirements of § 141.86 for the purpose of calculating the 90th percentile and tested using the analytical methods specified in § 141.89. The trigger level and action levels described in this paragraph (c) are applicable to all sections of subpart I of this part. Trigger level and action levels for lead and copper are as follows:

(1) The *lead trigger level* is exceeded if the 90th percentile concentration of lead as specified in paragraph (c)(4) of this section is greater than 10 µg/L.

(2) The *lead action level* is exceeded if the 90th percentile concentration of lead as specified in paragraph (c)(4) of this section is greater than 15 µg/L.

(3) The *copper action level* is exceeded if the 90th percentile concentration of copper as specified in paragraph (c)(4) of this section is greater than 1.3 mg/L.

(4) For purposes of this subpart, the *90th percentile concentration* shall be computed as follows:

(i) For systems that do not have lead service line sites and only have sites identified as Tier 3, 4, or 5 under § 141.86(a).

(A) The results of all lead or copper samples taken during a tap sampling period shall be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. Each sampling result shall be assigned a number, ascending by single integers beginning with the number 1 for the sample with the lowest contaminant level. The number assigned to the sample with the highest contaminant level shall be equal to the total number of samples taken.

(B) The number of samples taken during the tap sampling period shall be multiplied by 0.9.

(C) The contaminant concentration in the numbered sample yielded by the calculation in paragraph (c)(4)(i)(B) of

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this section is the 90th percentile concentration.

(D) For water systems serving fewer than 100 people that collect 5 samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration.

(E) For a public water system that has been allowed by the State to collect fewer than five samples in accordance with §141.86(c), or has failed to collect five samples, the sample result with the highest concentration is considered the 90th percentile value.

(ii) For public water systems with lead service lines with sites identified as Tier 1 or 2 under §141.86(a) with enough Tier 1 or 2 sites to meet the minimum number of sites listed in §141.86(c):

(A) The results of all lead or copper samples taken at Tier 1 or Tier 2 sites during a tap sampling period shall be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. Sample results from Tier 3, 4, or 5 sites shall not be included in this calculation. Each sampling result shall be assigned a number, ascending by single integers beginning with the number 1 for the sample with the lowest contaminant level. The number assigned to the sample with the highest contaminant level shall be equal to the total number of samples taken.

(B) The number of samples taken at Tier 1 or Tier 2 sites during the tap sampling period shall be multiplied by 0.9.

(C) The contaminant concentration in the numbered sample yielded by the calculation in paragraph (c)(4)(ii)(B) of this section is the 90th percentile concentration.

(D) For water systems serving fewer than 100 people that collect 5 samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration.

(E) For a public water system that has been allowed by the State to collect fewer than five samples in accordance with §141.86(c), or has failed to collect five samples, the sample result with the highest concentration is considered the 90th percentile value.

(iii) For systems with lead service lines with sites identified as Tier 1 or 2 under §141.86(a) with insufficient number of Tier 1 or 2 sites to meet the minimum number of sites listed in §141.86(c):

(A) The results of all lead or copper samples taken at Tier 1 or Tier 2 sites along with the highest results from Tier 3, 4, or 5 sites sufficient to meet the minimum number of sites shall be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. Sample results from any remaining Tier 3, 4, and 5 sites shall not be included in this calculation. Each sampling result shall be assigned a number, ascending by single integers beginning with the number 1 for the sample with the lowest contaminant level. The number assigned to the sample with the highest contaminant level shall be equal to the total minimum number of sites listed in §141.86(c).

(B) The required minimum number of sites listed in §141.86(c) shall be multiplied by 0.9.

(C) The contaminant concentration in the numbered sample yielded by the calculation in paragraph (c)(4)(iii)(B) is the 90th percentile concentration.

(D) For water systems serving fewer than 100 people that collect 5 samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration.

(E) For a public water system that has been allowed by the State to collect fewer than five samples in accordance with §141.86(c), or has failed to collect five samples, the sample result with the highest concentration is considered the 90th percentile value.

(d) *Corrosion control requirements.* (1) All water systems shall install and operate corrosion control treatment in accordance with §§ 141.81 and 141.82, and that meets the definition of *optimal corrosion control treatment* at § 141.2.

(2) Any water system that complies with the applicable corrosion control treatment requirements specified by the State under §§ 141.81 and 141.82 shall be deemed in compliance with the treatment requirement contained in paragraph (d)(1) of this section.

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(3) Any small or non-transient non-community water system that complies with the applicable small system compliance flexibility requirements specified by the State under §§141.81(a)(3) and 141.93 is deemed to be in compliance with the treatment requirement in paragraph (d)(1) of this section.

(4) Any water system 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 §141.90(a)(3). 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 water system to conduct additional monitoring or to take other action the State deems appropriate to ensure that such water system maintains minimal levels of corrosion control in its distribution system.

(e) *Source water requirements.* (1) Any system exceeding the lead or copper action level shall implement all applicable source water treatment requirements specified by the State under §141.83.

(2) Any system that changes their source water or makes long-term treatment changes shall submit written documentation to the State describing the change in accordance with §§141.81(a)(3), 141.86(d)(2)(iv), and 141.90(a)(3). The State must review and approve the change before it is implemented by the water system.

(f) *Lead service line replacements and inventory.* Lead service line replacements must be conducted as follows:

(1) Any water system exceeding the lead action level specified at paragraph (c) of this section must complete mandatory lead service line replacement. Lead service line replacement must be conducted in accordance with §141.84(g) and must include public education pursuant to §141.85(a) and (b).

(2) Any water system exceeding the lead trigger level specified at paragraph (c) of this section must complete goal-based lead service line replacement pursuant to §141.84(f) and public education pursuant to §141.85(g) and (h).

(3) All water systems must prepare an inventory of service lines connected to its distribution system, whether or not they are owned or controlled by the water system, to identify those service lines that are made of lead or of unknown material. The inventory must be prepared in accordance with §141.84(a).

(g) *Public education and notification requirements.* Pursuant to §141.85(d), all water systems must provide notification of lead tap water monitoring results to persons served at the sites (taps) that are tested. All community water systems must conduct annual outreach to local and State health agencies pursuant to §141.85(i). In addition:

(1) Any water system exceeding the lead action level specified at paragraph (c) of this section shall implement the public education requirements in accordance with §141.85(a) and (b).

(2) Any water system exceeding the lead trigger level specified at paragraph (c) of this section shall provide notification to all customers with a lead service line in accordance with §141.85(g).

(3) Any water system exceeding the lead action level specified at paragraph (c) of this section shall notify the public in accordance with the public notification requirements in subpart Q of this part.

(4) Any water system with lead service lines, galvanized requiring replacement or lead status unknown service lines in their inventory as specified in §141.84(a) shall inform all consumers with a lead service line, galvanized requiring replacement, or a lead status unknown service line in accordance with §141.85(e).

(5) Any water system that fails to reach its goal lead service line replacement rate as required under §141.84(f) shall conduct outreach activities in accordance with §141.85(h).

(h) *Monitoring and analytical requirements.* Tap water monitoring for lead and copper, monitoring for water quality parameters, source water monitoring for lead and copper, and analyses of the monitoring results under this subpart shall be completed in compliance with §§141.86, 141.87, 141.88, and 141.89.

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(i) *Reporting requirements.* Systems shall report to the State any information required by the treatment provisions of this subpart and § 141.90.

(j) *Recordkeeping requirements.* Systems shall maintain records in accordance with § 141.91.

(k) *Violation of national primary drinking water regulations.* Failure to comply with the applicable requirements of this section and §§ 141.81 through 141.93, including requirements established by the State pursuant to the provisions in this subpart, is a violation of the national primary drinking water regulations for lead and copper.

(l) *Testing in schools and child care facilities.* All community water systems must collect samples from all schools and child care facilities within its distribution system in accordance with § 141.92.

[56 FR 26548, June 7, 1991; 57 FR 28788, June 29, 1992, as amended at 72 FR 57814, Oct. 10, 2007; 86 FR 4282, Jan. 15, 2021; 86 FR 31947, June 16, 2021]

§ 141.81 Applicability of corrosion control treatment steps to small, medium, and large water systems.

(a) *Corrosion control treatment.* This section sets forth when a system must complete the corrosion control treatment steps for § 141.81, June optimize corrosion control treatment based on size, whether the system has corrosion control treatment, and whether it has exceeded the lead trigger and/or action level and/or the copper action level.

(1) *Large water system (serving >50,000 people).* (i) Large water systems with corrosion control treatment that exceed either the lead trigger level or copper action level shall complete the corrosion control treatment steps specified in paragraph (d) of this section.

(ii) Large water *systems without corrosion control treatment* with 90th percentile results as calculated in accordance with § 141.80(c)(4) that exceed either the lead practical quantitation level of 0.005 mg/L or the copper action level shall complete the corrosion control treatment steps specified in paragraph (e) of this section.

(iii) Large water systems with corrosion control treatment with 90th percentile results as calculated in accordance with § 141.80(c)(4) that exceed the

lead practical quantitation level but do not exceed lead trigger level or the copper action level may be required by the State to complete the corrosion control treatment steps in paragraph (d) of this section.

(2) *Medium-size water systems (serving >10,000 and ≤50,000 people).* (i) Medium-size water systems with corrosion control treatment that exceed either the lead trigger level or copper action level shall complete the corrosion control treatment steps specified in paragraph (d) of this section.

(ii) Medium-size water *systems without corrosion control treatment* that exceed either the lead or copper action level shall complete the corrosion control treatment steps specified in paragraph (e) of this section.

(iii) Medium-size water *systems without corrosion control treatment* that exceed the lead trigger level but do not exceed the lead or copper action levels shall complete the treatment recommendation step specified in paragraph (e)(1) of this section (Step 1). The water system shall complete the remaining steps in paragraph (e) of this section if it subsequently exceeds either the lead or copper action level.

(3) *Small water systems (serving ≤10,000 people) and non-transient, non-community water systems.* (i) Small and non-transient non-community water systems with corrosion control treatment that exceed the lead trigger level or the lead action level but do not exceed the copper action level, shall complete the corrosion control treatment steps specified in paragraph (d) of this section, if corrosion control treatment is approved by the State as a compliance option under § 141.93(a).

(ii) Small and non-transient, non-community water systems with corrosion control treatment that exceed the copper action level shall complete the corrosion control treatment steps specified in paragraph (d) of this section.

(iii) Small and non-transient, non-community water *systems without corrosion control treatment* that exceed the lead action level shall complete the corrosion control treatment steps specified in paragraph (e) of this section if corrosion control treatment is approved by the State as a compliance option under § 141.93.