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backwash water, thickener supernatant, or liquids from dewatering processes must return these flows through the processes of a system's existing conventional or direct filtration system as defined in § 141.2 or at an alternate location approved by the State by June 8, 2004. If capital improvements are required to modify the recycle location to meet this requirement, all capital improvements must be completed no later than June 8, 2006.

(d) *Recordkeeping.* The system must collect and retain on file recycle flow information specified in paragraphs (d)(1) through (6) of this section for review and evaluation by the State beginning June 8, 2004.

(1) Copy of the recycle notification and information submitted to the State under paragraph (b) of this section.

(2) List of all recycle flows and the frequency with which they are returned.

(3) Average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes.

(4) Typical filter run length and a written summary of how filter run length is determined.

(5) The type of treatment provided for the recycle flow.

(6) Data on the physical dimensions of the equalization and/or treatment units, typical and maximum hydraulic loading rates, type of treatment chemicals used and average dose and frequency of use, and frequency at which solids are removed, if applicable.

[66 FR 31103, June 8, 2001]

Subpart I—Control of Lead and Copper

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

§ 141.80 General requirements and action level.

(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

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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 30, 2024.

(3) Community water systems and non-transient non-community water systems must comply with the requirements of this subpart no later than November 1, 2027, 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 issued by the Administrator.

(4)(i) Between October 30, 2024, and November 1, 2027, community water systems and non-transient non-community water systems must comply with 40 CFR 141.2, 141.31(d), and 141.80 through 141.91, as codified on July 1, 2020, except systems must also comply with 40 CFR 141.84(a)(1) through (10) (excluding paragraphs (a)(6) and (7)), 141.85(a)(1)(ii) and (e), 141.90(e)(1) and (13), (f)(4), and (h)(3), 141.201(a)(3)(vi) and (c)(3), and 141.202(a)(10); 40 CFR part 141, appendix A to subpart Q, entry I.C.1 (excluding § 141.90, except paragraphs (e)(1) and (13) and (f)(4)) and entry I.C.2; 40 CFR part 141, appendix B to subpart Q, entry D.23; and 40 CFR 141.31(d)(2), as codified on July 1, 2024.

(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 constitute a treatment technique rule that includes treatment techniques to control corrosion, treat source water, replace service lines, and provide public education. The regulations in this subpart include requirements to support the treatment technique including a service line inventory, tap sampling, and monitoring for lead in schools and child care facilities. Some of the requirements in this subpart only apply if there is an exceedance of the lead or copper action levels, specified in paragraph (c) of this section, as measured in samples collected at consumers' taps.

(c) *Lead and copper action levels and method for determining whether there is an exceedance of the action level.* Action levels must be determined based on tap water samples that must be considered for inclusion under §141.86(e) for the purpose of calculating the 90th percentile and tested using the analytical methods specified in §141.89. The action levels described in this paragraph (c) are applicable to all sections of subpart I of this part. Action levels for lead and copper are as follows:

(1) The lead action level is exceeded if the 90th percentile concentration of lead as specified in paragraph (c)(3) of this section is greater than 0.010 mg/L.

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

(3) For purposes of this subpart, the 90th percentile concentration must be derived as follows:

(i) For water systems that do not have Tier 1 and/or Tier 2 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 and eligible for inclusion in the 90th percentile calculation under §141.86(e) must be placed in ascending order from the sample with the lowest concentration of lead or copper to the sample with the highest concentration of lead or copper. Each sampling result must be assigned a number, in ascending order beginning with the number 1 for the sample with the lowest concentration of lead or copper. The number assigned to the sample with the highest concentration must be equal to the total number of samples taken and considered for inclusion in the 90th percentile calculation, in accordance with §141.86(e).

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

(C) The 90th percentile concentration is the concentration of lead or copper in the numbered sample yielded after multiplying the number of samples by 0.9 in paragraph (c)(3)(i)(B) of this section.

(D) For water systems that collect five samples per tap sampling period,

the 90th percentile concentration is the average of the highest and second highest concentration from the results in paragraph (c)(3)(i)(A) of this section.

(E) For a water system that is allowed by the State to collect fewer than five samples in accordance with §141.86(a)(2) or has failed to meet their required minimum number of samples and collected fewer than five samples, the sample result with the highest concentration from the results in paragraph (c)(3)(i)(A) of this section is considered the 90th percentile value.

(ii) For water systems with sites identified as Tier 1 or 2 under §141.86(a) with sufficient Tier 1 and 2 sites to meet the minimum number of sites required in §141.86(c) or (d) as applicable:

(A) For lead, water systems must include the higher of the first-liter and fifth-liter lead sample results at each Tier 1 and 2 site (or first-liter lead sample if tiering is based on premise plumbing) taken during the tap sampling period in paragraphs (c)(3)(ii)(B) through (D) of this section. For copper, water systems must include all first-liter copper samples collected at each Tier 1 and 2 site taken during the tap sampling period. Lead or copper sample results from Tier 3, 4, or 5 sites cannot be included in this calculation.

(B) The results of the lead or copper samples taken during a tap sampling period and eligible for inclusion in the 90th percentile calculation under §141.86(e) identified in paragraph (c)(3)(ii)(A) of this section must be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. Each sampling result must be assigned a number, in ascending order beginning with the number 1 for the sample with the lowest concentration. The number assigned to the sample with the highest concentration must be equal to the total number of samples.

(C) The number of samples identified in paragraph (c)(3)(ii)(B) must be multiplied by 0.9.

(D) The 90th percentile concentration is the concentration of lead or copper in the numbered sample yielded after multiplying the number of samples by 0.9 in paragraph (c)(3)(ii)(C) of this section.

(E) For water systems that collect samples from five sites per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration from the results in paragraph (c)(3)(ii)(B) of this section.

(F) For a water system that is allowed by the State to collect fewer than five copper samples or five first-liter-and-fifth-liter-paired lead samples in accordance with § 141.86(a)(2), or has failed to collect at least five copper samples or five first-liter-and fifth-liter-paired lead samples, the sample result with the highest concentration from the results in paragraph (c)(3)(ii)(B) is considered the 90th percentile value.

(iii) For water systems with sites identified as Tier 1 or 2 under § 141.86(a) with an insufficient number of Tier 1 or 2 sites to meet the minimum number of sites required in § 141.86(c) or (d) as applicable:

(A) For lead, the system must use the higher value of the first-liter and fifth-liter lead sample for each Tier 1 or 2 site (or first-liter lead sample if tiering is based on premise plumbing) and the first-liter lead samples from sites in the next highest available tier (*i.e.*, Tier 3, 4, and 5) to meet the minimum number of sites required in § 141.86(c) or (d) sampled during a tap sampling period for the steps in paragraphs (c)(3)(iii)(B) through (D) of this section. For copper, the system must use all first-liter copper samples collected.

(B) The results of all of the lead or copper samples identified in paragraph (c)(3)(iii)(A) of this section must be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. The water system must reduce this list to only include samples with the highest concentrations such that the number of sample results equals the minimum number of sites required to be sampled by § 141.86(c) or (d), as applicable. From this reduced list, each sampling result must be assigned a number, in ascending order beginning with the number 1 for the sample with the lowest concentration. The number assigned to the sample with the highest concentration must be equal to the minimum number of sites

required by § 141.86(c) or (d), as applicable.

(C) The number of samples identified in paragraph (c)(3)(iii)(B) must be multiplied by 0.9.

(D) The 90th percentile concentration is the concentration of lead or copper in the numbered sample yielded after multiplying the number of samples by 0.9 in paragraph (c)(3)(iii)(C) of this section.

(E) For water systems that collect samples from five sites per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration from the results in paragraph (c)(3)(iii)(B) of this section.

(F) For a water system that is allowed by the State to collect fewer than five copper samples or five first-liter-and-fifth-liter-paired lead samples in accordance with § 141.86(a)(2), or has failed to collect at least five copper samples or five first-and-fifth-liter-paired lead samples, the sample result with the highest concentration from the results in paragraph (c)(3)(iii)(B) is considered the 90th percentile value.

(G) If a water system does not collect enough samples sufficient to meet the minimum number of sites required in § 141.86(c) or (d), the system must calculate the 90th percentile lead and copper levels following the steps in § 141.80(c)(3)(i)(A) through (C).

[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; 89 FR 86626, Oct. 30, 2024]

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

(a) *Corrosion control treatment.* All water systems are required to install, optimize, or re-optimize optimal corrosion control treatment (OCCCT) in accordance with this section. This section sets forth when a system must complete the corrosion control treatment steps under paragraph (d) or (e) of this section based on size, whether the system has corrosion control treatment, and whether it has exceeded the lead practical quantitation limit, lead action level, and/or the copper action level.

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

(A) Has re-optimized OCCT once under paragraph (d) of this section after the compliance date in § 141.80(a)(3);

(B) Is meeting optimal water quality parameters designated by the State; and

(C) Is continuing to operate and maintain corrosion control treatment as required in § 141.82(g).

(ii) The State may require a large water system that does not have to re-optimize under paragraphs (a)(1)(i)(A) through (C) of this section to re-optimize under § 141.82(h).

(iii) A large water system must meet the requirements under paragraph (d) of this section if it exceeds the lead action level at the end of a tap sampling period after completing service line replacement in accordance with the requirements in § 141.84(d) and there are no lead, galvanized requiring replacement, or lead status unknown service lines remaining in the system's inventory.

(iv) Large water systems with corrosion control treatment with 90th percentile results as calculated in accordance with § 141.80(c)(3) that exceed the lead practical quantitation limit of 0.005 mg/L but do not exceed the lead action level or the copper action level may be required by the State to complete the re-optimized OCCT steps in paragraph (d) of this section.

(v) Large water systems without corrosion control treatment with 90th percentile results as calculated in accordance with § 141.80(c)(3) that exceed either the lead practical quantitation limit of 0.005 mg/L or the copper action level must complete steps to study and install OCCT, as specified in paragraph (e) of this section.

(2) *Medium water systems (serving >10,000 and ≤50,000 people)*. (i) Medium water systems with corrosion control treatment that exceed either the lead action level or copper action level must complete the re-optimized OCCT

steps specified in paragraph (d) of this section unless the system:

(A) Has re-optimized OCCT once under paragraph (d) of this section after the compliance date in § 141.80(a)(3);

(B) Is meeting optimal water quality parameters designated by the State; and

(C) Is continuing to operate and maintain corrosion control treatment as required in § 141.82(g).

(ii) The State may require a medium water system that does not have to re-optimize under paragraphs (a)(2)(i)(A) through (C) of this section to re-optimize under § 141.82(h).

(iii) After completing service line replacement in accordance with the requirements in § 141.84(d) and there are no lead, galvanized requiring replacement, or lead status unknown service lines remaining in the inventory, if at the end of a subsequent tap sampling period, the system exceeds the lead action level, a medium water system with corrosion control treatment must meet the requirements under paragraph (d) of this section.

(iv) Medium water systems with corrosion control treatment that do not exceed either the lead action level or the copper action level and do not have optimal water quality parameters designated by the State must complete the steps specified in paragraph (d) of this section starting with step 6 under paragraph (d)(6) of this section unless the system is deemed optimized under paragraph (b)(3) of this section.

(v) Medium water systems without corrosion control treatment that exceed either the lead or copper action level must complete the OCCT steps specified in paragraph (e) of this section.

(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 either the lead action level or the copper action level, must complete the re-optimized OCCT steps specified in paragraph (d) of this section unless the system:

(A) Has re-optimized OCCT once under paragraph (d) of this section

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after the compliance date in § 141.80(a)(3);

(B) Is meeting optimal water quality parameters designated by the State; and

(C) Is continuing to operate and maintain corrosion control treatment as required in § 141.82(g).

(ii) The State may require a small water system that does not have to re-optimize under paragraphs (a)(3)(i)(A) through (C) of this section to re-optimize under § 141.82(h).

(iii) After completing service line replacement in accordance with the requirements in § 141.84(d) and there are no lead, galvanized requiring replacement, or lead status unknown service lines remaining in the inventory, if at the end of a subsequent tap sampling period, the system exceeds the lead action level, a small water system with corrosion control treatment must meet the requirements under paragraph (d) of this section.

(iv) Small and non-transient non-community water systems without corrosion control treatment that exceed either the lead action level or copper action level must complete the corrosion control treatment steps specified in paragraph (e) of this section.

(b) *Systems deemed to have optimized corrosion control.* A system without corrosion control treatment is deemed to have OCCT as defined in § 141.2 if the system meets the requirement of either paragraph (b)(1) or (3) of this section. A system with corrosion control treatment is deemed to have OCCT as defined in § 141.2 or re-optimized OCCT if the system meets the requirements of either paragraphs (b)(1) and (4) or (b)(3) and (4) of this section. Systems must submit documentation of meeting the applicable requirements to the State in accordance with § 141.90(c)(1) by the applicable deadline for submitting tap sampling results under § 141.90(a)(2).

(1) A medium water system without corrosion control treatment or a small water system is deemed to have OCCT if the water system does not exceed the lead action level and copper action level during two consecutive six-month tap monitoring periods and then remains at or below the lead action level and copper action level in all tap sam-

pling periods conducted in accordance with § 141.86.

(i) A small water system with corrosion control treatment is not eligible to be deemed to have OCCT pursuant to this paragraph (b)(1) where the State has set optimal water quality parameters (OWQPs) under paragraph (d) or (e) of this section.

(ii) If a medium water system without corrosion control treatment or a small water system deemed to have OCCT under this paragraph (b)(1) exceeds the lead action level or copper action level, the system must follow the requirements in paragraph (a) of this section.

(2) [Reserved]

(3) A water system is deemed to have optimized or re-optimized corrosion control treatment if it submits tap sampling results in accordance with § 141.86 demonstrating that the 90th percentile lead level is less than or equal to the lead practical quantitation limit of 0.005 mg/L for two consecutive six-month tap monitoring periods, it does not exceed the copper action level for two consecutive six-month tap monitoring periods, and it does not have OWQPs designated by the State under paragraph (d) or (e) of this section.

(i) A system with 90th percentile tap sampling results that later exceeds the lead practical quantitation limit of 0.005 mg/L or copper action level during any tap sampling period is not eligible to be deemed to have optimized OCCT in accordance with this paragraph (b)(3) until the system has completed the treatment steps specified in paragraph (d) or (e) of this section.

(ii) A system deemed to have OCCT in accordance with this paragraph (b)(3) must continue monitoring for lead and copper at the tap no less frequently than once every three calendar years using the reduced number of sites specified in § 141.86(d)(1) and collecting samples at times and locations specified in § 141.86(d)(2)(iii).

(4) A system with corrosion control treatment deemed to have OCCT under

this paragraph (b) must continue to operate and maintain the corrosion control treatment and also meet any additional requirements that the State determines are appropriate to ensure OCCT is maintained.

(c) [Reserved]

(d) *Treatment steps and deadlines for water systems re-optimizing optimal corrosion control treatment.* Water systems with corrosion control treatment that are required to re-optimize optimal corrosion control treatment under paragraph (a) of this section must complete the following steps (described in the referenced portions of §§141.82, 141.86, and 141.87) by the indicated time periods. Water systems must conduct tap sampling for lead and copper in accordance with the requirements of §141.86 while they complete the corrosion control steps in this section.

(1) *Step 1: Initiate mandatory pipe rig/loop or CCT study or treatment recommendation.* (i) Large or medium water systems with lead service lines that exceed the lead action level must harvest lead service lines from the distribution system and construct flowthrough pipe rigs/loops and operate the rigs/loops with finished water within one year after the end of the tap sampling period in which they exceeded the lead action level. These water systems must proceed to step 3 in paragraph (d)(3) of this section and conduct the corrosion control studies for re-optimization under paragraph (d)(3)(i) of this section using the pipe rigs/loops.

(ii) Large water systems without lead service lines that exceed the lead action level or copper action level must conduct the corrosion control studies for re-optimization under paragraph (d)(3)(ii) of this section (step 3).

(iii) A water system other than those covered in paragraph (d)(1)(i) or (ii) of this section must recommend re-optimized optimal corrosion control treatment (§141.82(a)) within six months after the end of the tap sampling period in which the system exceeded either the lead action level or copper action level.

(iv) Systems may make an existing corrosion control treatment modification recommendation to the State within six months after the end of the tap sampling period in which the sys-

tem exceeded the lead action level. The State must evaluate a system's past corrosion control treatment study results prior to approving an existing treatment modification. When a State approves existing treatment modifications, the State must specify re-optimized OCCT within 12 months after the end of the tap sampling period in which the system exceeded the lead action level. The system must complete modifications to corrosion control treatment to have re-optimized OCCT installed within six months of the State specifying re-optimized OCCT. These systems must proceed to step 6 in paragraph (d)(6) of this section and conduct follow-up monitoring.

(2) *Step 2: State requires CCT study or State designates re-optimized OCCT.* Within one year after the end of the tap sampling period in which a medium water system without lead service lines or a small system exceeded the lead action level or copper action level, the State may require the water system to perform corrosion control studies for re-optimization (§141.82(c)(2)). If the State does not require the system to perform such studies, the State must specify re-optimized optimal corrosion control treatment (§141.82(d)) within the timeframes specified in paragraphs (d)(2)(i) and (ii) of this section. The State must provide its determination to the system in writing:

(i) For a medium water system, within one year after the end of the tap sampling period during which such water system exceeded the lead action level or copper action level.

(ii) For a small water system, within 18 months after the end of the tap sampling period in which such water system exceeded the lead action level or copper action level.

(3) *Step 3: Study duration.* (i) Any water system with lead service lines that exceeds the lead action level, in accordance with paragraph (d)(1)(i) of this section, must complete the pipe rig/loop corrosion control treatment studies and recommend re-optimized OCCT within 30 months after the end of the tap sampling period in which the system exceeded the lead action level.

(ii) If the water system is required to perform corrosion control studies under paragraph (d)(1)(ii) or (d)(2) of

this section, the water system must complete the studies (§141.82(c)) and recommend re-optimized OCCT within 18 months after the end of the tap sampling period in which the system exceeded the lead or copper action level or after the State requires that such studies be conducted.

(4) *Step 4: State designation of re-optimized OCCT based on CCT study results.* The State must designate re-optimized OCCT (§141.82(d)) within six months after the water system completes paragraph (d)(3)(i) or (ii) of this section (step 3).

(5) *Step 5: Re-optimized OCCT installation deadlines.* Water systems must install re-optimized OCCT (§141.82(e)) within one year after the State completes paragraph (d)(4) of this section (step 4) or the State completes paragraph (d)(2)(i) or (ii) of this section (step 2).

(6) *Step 6: Follow-up monitoring.* Water systems must complete standard monitoring for at least two consecutive tap monitoring periods under §141.86(c)(2)(iii)(D) and water quality parameter monitoring under §141.87(b)(3) after completing paragraph (d)(5) of this section (step 5). The first tap monitoring period for standard monitoring must begin on January 1 or July 1, whichever is sooner, after completing paragraph (d)(5) (step 5).

(7) *Step 7: State sets optimal water quality parameters (OWQPs).* The State must review the water system's re-optimized OCCT and designate OWQPs (§141.82(f)) within six months after completing paragraph (d)(6) of this section (step 6).

(8) *Step 8: Systems meet OWQPs to demonstrate compliance.* Water systems must comply with the State-designated OWQPs (§141.82(g)) and conduct tap sampling under §141.86(c)(2)(iii)(E) and water quality parameter monitoring under §141.87(b)(4).

(e) *Treatment steps and deadlines for systems without corrosion control treatment.* Except as provided in paragraph (b) of this section, water systems without corrosion control treatment must complete the following corrosion control treatment steps (described in the referenced portions of §§141.82, 141.86, and 141.87) by the indicated time periods. Water systems must conduct tap sampling for lead and copper in accord-

ance with the requirements of §141.86 while they complete the corrosion control steps in this section.

(1) *Step 1: Initiate mandatory pipe rig/loop or CCT study or treatment recommendation.* (i) A medium or large water system with lead service lines that exceeds the lead action level must harvest lead pipes from the distribution system and construct flowthrough pipe rigs/loops and operate the rigs/loops with finished water within one year after the end of the tap sampling period during which the system exceeded the lead action level. These water systems must proceed to step 3 in paragraph (e)(3) of this section and conduct the corrosion control studies for optimization under paragraph (e)(3)(i) of this section using the pipe rigs/loops.

(ii) Large water systems under paragraph (a)(1)(v) of this section must conduct the corrosion control studies for optimization under paragraph (e)(3) of this section (step 3).

(iii) A water system other than those covered in paragraph (e)(1)(i) or (ii) of this section must recommend optimal corrosion control treatment (OCCT) (§141.82(a)) within six months after the end of the tap sampling period during which the system exceeded either the lead action level or copper action level.

(2) *Step 2: State requires CCT study or State designates OCCT.* Within one year after the end of the tap sampling period in which the water system exceeded the lead action level or copper action level, the State may require the water system to perform corrosion control studies (§141.82(b)(1)) if those studies are not otherwise required by this subpart. The State must notify the system in writing of the requirement in the preceding sentence. If the State does not require the system to perform such studies, the State must specify OCCT (§141.82(d)) within the timeframes established in paragraphs (e)(2)(i) and (ii) of this section. The State must provide its determination to the system in writing:

(i) For a medium water system, within 18 months after the end of the tap sampling period in which such water system exceeds the lead action level or copper action level.

(ii) For a small water system, within 24 months after the end of the tap sampling period in which such water system exceeds the lead action level or copper action level.

(3) *Step 3: Study duration.* (i) Large and medium water systems with lead service lines that exceed the lead action level must complete the corrosion control treatment studies and recommend OCCT within 30 months after the end of the tap sampling period in which they exceeded the lead action level.

(ii) If a water system is required to perform corrosion control studies under paragraph (e)(1)(ii) or (e)(2) of this section, the water system must complete the studies (§141.82(c)) and recommend OCCT within 18 months after the end of the tap sampling period in which the system exceeded the lead or copper action level or the State notifies the system in writing that such studies must be conducted.

(4) *Step 4: State designation of OCCT based on CCT study results.* The State must designate OCCT (§141.82(d)) within six months after water systems complete paragraph (e)(3)(i) or (ii) of this section (step 3).

(5) *Step 5: OCCT installation deadlines.* Water systems must install OCCT (§141.82(e)) within 24 months after the State designates OCCT under paragraph (e)(2) or (4) of this section (step 2 or step 4).

(6) *Step 6: Follow-up monitoring.* Water systems must complete standard monitoring for at least two consecutive tap monitoring periods under §141.86(c)(2)(iii)(D) and water quality parameter monitoring under §141.87(b)(3) after completing paragraph (e)(5) of this section (step 5). The first tap monitoring period for standard monitoring must begin on January 1 or July 1, whichever is sooner, after completing paragraph (e)(5) (step 5).

(7) *Step 7: State sets optimal water quality parameters (OWQPs).* The State must review the water system's installation of treatment and designate OWQPs (§141.82(f)) within six months after completing paragraph (e)(6) of this section (step 6).

(8) *Step 8: Systems meet OWQPs to demonstrate compliance.* Water systems must comply with the State-designated

OWQPs (§141.82(g)) and conduct tap sampling under §141.86(c)(2)(iii)(E) and water quality parameter monitoring under §141.87(b)(4).

(f) *Systems with lead or galvanized requiring replacement service lines that can complete full service line replacement in five years or less.* (1) A water system with one or more lead or galvanized requiring replacement service lines is not required to complete the steps under paragraph (d) or (e) of this section if the system meets all the following requirements:

(i) Deadline to complete mandatory service line replacement.

(A) A water system must complete the service line replacement requirements under §141.84(d) in five years or less from the date of the end of the tap sampling period in which the system first exceeds the lead action level; or

(B) A large water system without corrosion control treatment must complete the service line replacement requirements under §141.84(d) in five years or less from the date of the end of the tap sampling period in which the system's 90th percentile results first exceed the lead practical quantitation limit; and

(C) For a water system with less than five years remaining to complete mandatory service line replacement in accordance with §141.84(d), the system must complete the service line replacement requirements under this paragraph (f)(1)(i) by that deadline.

(ii) At a minimum, a system must replace the total number of lead and/or galvanized requiring replacement service lines each year, as identified in that system's inventory on the date of the end of the tap sampling period in which the system first exceeds the lead action level or in which the system's 90th percentile first exceeds the lead practical quantitation limit, whichever applies, at an annual rate equally divided by the total number of years for service line replacement provided in paragraph (f)(1)(i) of this section. For purposes of calculating the annual rate, the system must replace all lead and galvanized requiring replacement service lines within the least number of years feasible not to exceed five years from the date of the end of the tap sampling period in which the system first exceeds

the lead action level or in which the system's 90th percentile first exceeds the lead practical quantitation limit, whichever applies. If the State determines a replacement deadline less than five years is feasible for a water system, the system must replace service lines by that deadline and establish an annual replacement rate based on that number of years until that deadline.

(iii) By the end of the five-year-or-less period in paragraph (f)(1)(i) of this section, the system must have replaced all lead and galvanized requiring replacement service lines calculated in accordance with §141.84(d)(6) (*i.e.*, no lead, galvanized requiring replacement or lead status unknown service lines remain in the inventory), and identified the material of all lead status unknown service lines, completed the inventory validation requirements in accordance with §141.84(b)(5), and replaced all unknowns found to be lead or galvanized requiring replacement service lines.

(iv) Except as provided in this section, all other requirements in §141.84(d) apply.

(2) Throughout the five-year-or-less period in paragraph (f)(1)(i) of this section, systems with corrosion control treatment must continue to operate and maintain corrosion control treatment in addition to completing the mandatory service line replacement requirements under this section.

(3) A water system that does not replace lead and/or galvanized requiring replacement service lines calculated in accordance with §141.84(d)(6) at the minimum annual rate provided in paragraph (f)(1)(ii) of this section in any one year of the five-year-or-less period in paragraph (f)(1)(i) of this section or complete the service line replacement requirements under §141.84(d) in accordance with paragraph (f)(1)(iii) of this section, must meet the requirements under paragraph (d) or (e) of this section, as applicable, starting immediately after the system fails to meet the annual removal requirements under paragraph (f)(1)(ii).

(4) At the end of each year of the five-year-or-less period, the system must submit written documentation to the State about the number of lead and galvanized requiring replacement serv-

ice lines removed that year and whether the minimum annual replacement rate in paragraph (f)(1)(ii) of this section was met. If a system reports or a State determines that the system did not meet its minimum annual replacement rate that year, the system is no longer eligible to defer the requirements under paragraph (d) or (e) of this section, and must meet those requirements, as applicable.

(5) After completing service line replacement in accordance with the requirements in this paragraph (f), a water system must meet the requirements under paragraph (d) or (e) of this section, as applicable, if at the end of a subsequent tap sampling period, the system either exceeds the lead action level or the lead practical quantitation limit, whichever is applicable.

(g) *Completing corrosion control steps for small and medium water systems without corrosion control treatment.* (1) Any small or medium water system without corrosion control treatment required to complete the steps in paragraph (e) of this section that does not exceed the lead action level and copper action level during two consecutive six-month tap monitoring periods pursuant to §141.86 prior to the start of step 3 in paragraph (e)(3) of this section or prior to or concurrent with the end of step 4 in paragraph (e)(4) of this section may stop completing the steps and is not required to complete paragraph (e)(3) or (5) (step 3 or step 5), respectively, except that medium water systems without corrosion control treatment and with lead service lines must complete a corrosion control treatment study under paragraph (e)(3)(i) of this section. A 90th percentile level at or below the lead action level or copper action level based on less than the required minimum number of samples under §141.86 cannot be used to meet the requirements of this paragraph (g)(1). Eligible systems can only use the exception in this paragraph (g)(1) once.

(2) Any system that starts step 5 in accordance with paragraph (e)(5) of this section must complete all remaining steps (*i.e.*, steps 6 through 8) in paragraphs (e)(6) through (8) of this section and is not permitted to stop the steps.

(3) Any small or medium water system without corrosion control treatment under paragraph (g)(1) of this section that stopped the steps in paragraph (e) of this section and subsequently exceeds either the lead action level or copper action level must complete the corrosion control treatment steps in paragraph (e) beginning with the first treatment step that was not completed.

(4) The State may require a water system to repeat treatment steps previously completed by the water system when the State determines that this is necessary to implement the treatment requirements of this section. The State must notify the system in writing of such a determination and explain the basis for its decision.

(h) *Notification requirements for upcoming long-term change in treatment or source.* At a time specified by the State, or if no specific time is designated, as early as possible but no later than six months prior to the addition of a new source or any long-term change in water treatment, a water system must submit written documentation describing the addition of a new source or long-term change in treatment to the State. Systems may not implement the addition of a new source or long-term treatment change without State approval. The State must review and approve the addition of a new source or long-term change in water treatment before it can be implemented by the water system. The State may require any such water system to take actions before or after the addition of a new source or long-term treatment change to ensure that the water system will operate and maintain optimal corrosion control treatment, such as additional water quality parameter monitoring, additional lead or copper tap sampling, and re-evaluating corrosion control treatment. Examples of long-term treatment changes include but are not limited to 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 treatment changes can also 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 where a new source has not been added.

[89 FR 86627, Oct. 30, 2024]

§ 141.82 Description of corrosion control treatment requirements.

This section provides the requirements for systems and States designating optimal corrosion control treatment (OCCT) for a system that is optimizing or re-optimizing OCCT. All systems must complete the corrosion control treatment requirements in this section as applicable under § 141.81.

(a) *System recommendation regarding corrosion control treatment.* (1) Any system without corrosion control treatment that is required to recommend a treatment option in accordance with § 141.81(e)(1)(iii) must, based on the results of lead and copper tap sampling and water quality parameter monitoring, recommend designating one or more of the corrosion control treatments listed in paragraph (c)(1) of this section to the State as the optimal corrosion control treatment for that system. The State may require the system to conduct additional water quality parameter monitoring to assist the State in reviewing the system's recommendation.

(2) Any system with corrosion control treatment that exceeds the lead action level that is required to recommend a treatment option to the State in accordance with § 141.81(d)(1)(iii) must recommend designating one or more of the corrosion control treatments listed in paragraph (c)(2) of this section as the optimal corrosion control treatment for that system.

(3) States may waive the requirement for a system to recommend OCCT if the State requires the system, in writing, to complete a corrosion control study within three months after the end of the tap sampling period in which the lead or copper action level exceedance occurred. These systems must proceed

directly to paragraph (c) of this section and complete a corrosion control study.

(b) *State decision to require studies to identify initial OCCT under § 141.81(e)(2) and re-optimized OCCT under § 141.81(d)(2).* (1) The State may require any small or medium water system without corrosion control treatment that exceeds either the lead action level or copper action level to perform corrosion control treatment studies under paragraph (c)(1) of this section to identify OCCT for the system.

(2) The State may require any small or medium water system with corrosion control treatment exceeding either the lead action level or copper action level to perform corrosion control treatment studies under paragraph (c)(2) of this section to identify re-optimized OCCT for the system (*i.e.*, OCCT after a re-optimization evaluation).

(c) *Performance of corrosion control studies.* (1) Systems without corrosion control treatment required to conduct corrosion control studies under § 141.81(e) must evaluate the effectiveness of each of the following treatments, and if appropriate, combinations of the following treatments, to identify OCCT for the system:

(i) Alkalinity and pH adjustment;

(ii) The addition of an orthophosphate- or a silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective corrosion inhibitor residual concentration in all test samples;

(iii) The addition of an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 1 mg/L (as PO₄) in all test samples; and

(iv) The addition of an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 3 mg/L (as PO₄) in all test samples.

(2) Systems with corrosion control treatment required to conduct corrosion control studies under § 141.81(d) must evaluate the effectiveness of the following treatments, and if appropriate, combinations of the following treatments, to identify re-optimized OCCT for the system:

(i) Alkalinity and/or pH adjustment or re-adjustment;

(ii) The addition of an orthophosphate- or a silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective corrosion inhibitor residual concentration in all test samples if no such inhibitor is currently utilized;

(iii) The addition of an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 1 mg/L (as PO₄) in all test samples unless the current inhibitor process already meets this residual; and

(iv) The addition of an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 3 mg/L (as PO₄) in all test samples unless the current inhibitor process already meets this residual.

(3) Systems must evaluate each of the corrosion control treatments specified in paragraph (c)(1) or (2) of this section individually or, if appropriate, in combinations, using pipe rig/loop tests, metal coupon tests, partial-system tests, and/or analyses based on documented analogous treatments with similar size systems that have a similar water chemistry and similar distribution system configurations. Large and medium water systems with lead service lines, and other systems as required by the State, that exceed the lead action level must conduct pipe rig/loop studies using harvested lead service lines from their distribution systems to assess the effectiveness of corrosion control treatment options on the existing pipe scale. Metal coupon tests can be used as a screen to reduce the number of options evaluated in the pipe rig/loop studies to the current water quality and at least two additional treatment options.

(4) Systems must measure the following water quality parameters in any tests conducted under paragraph (c)(3) of this section both before and after evaluating the corrosion control treatments listed in paragraph (c)(1) or (2) of this section:

(i) Lead;

(ii) Copper;

- (iii) pH;
- (iv) Alkalinity;
- (v) Orthophosphate as PO_4 (when an orthophosphate-based inhibitor is used);
- (vi) Silicate (when a silicate-based inhibitor is used); and
- (vii) Any additional parameters necessary to evaluate the effectiveness of a corrosion control treatment as determined by the State.

(5) Systems must identify all chemical or physical constraints that limit or prohibit the use of a particular corrosion control treatment and document those constraints by providing either of the following:

(i) Data and documentation showing a particular corrosion control treatment has adversely affected other drinking water treatment processes when used by another water system with comparable water quality characteristics. Systems using metal coupon tests to screen and/or pipe rig/loop studies to evaluate treatment options cannot exclude treatment strategies from the studies based on the constraints identified in this paragraph (c)(5)(i).

(ii) Data and documentation demonstrating the water system previously attempted to evaluate a particular corrosion control treatment and found the treatment was ineffective or adversely affects other drinking water quality treatment processes. Systems using metal coupon tests to screen and/or pipe rig/loop studies to evaluate treatment options cannot exclude treatment strategies from the studies based on the constraints identified in this paragraph (c)(5)(ii), unless the treatment was found to be ineffective in a previous pipe rig/loop study.

(6) Systems must evaluate the effect of the chemicals used for corrosion control treatment on other drinking water quality treatment processes. Systems using metal coupon tests to screen and/or pipe rig/loop studies to evaluate treatment options cannot exclude any of the required treatment strategies specified in paragraph (c)(1) or (2) of this section from the studies based on the effects identified in this section.

(7) Based on the data and analysis for each treatment option evaluated under

this paragraph (c), systems must recommend to the State, in writing, the treatment option that the corrosion control studies indicate constitutes OCCT for that system as defined in §141.2. Systems must provide the State with a rationale for the OCCT recommendation and all supporting documentation specified in paragraph (c)(1) or (2) and paragraphs (c)(3) through (7) of this section.

(d) *State designation of OCCT and re-optimized OCCT*—(1) *Designation of OCCT or re-optimized OCCT*. Based on available information including, where applicable, studies conducted under paragraph (c)(1) or (2) of this section and/or a system's recommended corrosion control treatment option, the State must 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) or (2) of this section, as applicable. The State must notify the water system, in writing, of its designation of OCCT or re-optimized OCCT and explain the basis for this determination.

(i) When designating OCCT, the State must consider the effects that additional corrosion control treatment will have on water quality parameters and other drinking water quality treatment processes.

(ii) If the State requests additional information to aid its review, the water system must provide that information.

(2) [Reserved]

(e) *Installation of OCCT and re-optimized OCCT*. Each system must install and operate the OCCT or re-optimized OCCT designated by the State under paragraph (d) of this section throughout its distribution system.

(f) *State review of treatment and designation of optimal water quality parameters for OCCT and re-optimized OCCT*. The State must evaluate the results of all lead and copper tap and water quality parameter sampling submitted by the water system and determine whether the water system has installed and operated the OCCT designated by the State in paragraph (d) of this section. Upon reviewing the system's tap and water quality parameter sampling

results, both before and after the water system installs OCCT, or re-optimizes OCCT, the State must designate each of the following:

(1) A minimum value or a range of values for pH measured at each entry point to the distribution system.

(2) A minimum pH value measured in all distribution system samples. This value must be equal to or greater than 7.0, unless the State determines that meeting a pH level of 7.0 is not technologically feasible or is not necessary for OCCT.

(3) If a corrosion inhibitor is used, a minimum concentration or a range of concentrations for orthophosphate (as PO_4) or silicate measured at each entry point to the distribution system.

(4) If a corrosion inhibitor is used, a minimum orthophosphate (as PO_4) or silicate concentration measured 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. When orthophosphate is used, for OCCT designations for systems previously without corrosion control treatment, the orthophosphate concentration must be equal to or greater than 0.5 mg/L (as PO_4) and for OCCT designations for systems previously with corrosion control treatment, the orthophosphate concentration must be equal to or greater than 1.0 mg/L, unless the State determines that meeting the applicable minimum orthophosphate residual is not technologically feasible or is not necessary for OCCT.

(5) If alkalinity is adjusted as part of OCCT, a minimum concentration or a range of concentrations for alkalinity, measured at each entry point to the distribution system and in all tap samples.

(6) The values for the applicable water quality parameters in paragraphs (f)(1) through (5) of this section must be the values the State determines reflect OCCT or re-optimized OCCT for the water system. The State may designate values for additional water quality parameters the State determines reflect OCCT or re-optimized OCCT for the water system. The State must notify the system, in writing, of these determinations and explain the basis for its decisions.

(g) *Continued operation and monitoring for OCCT and re-optimized OCCT.* All systems, including those optimizing or re-optimizing OCCT, must continue to operate and maintain OCCT, including maintaining water quality parameters at or above the minimum values or within the ranges designated by the State under paragraph (f) of this section, in accordance with this paragraph (g) for all water quality parameter samples collected under §141.87(b)(4) through (d). The requirements of this paragraph (g) apply to all systems, including consecutive systems that distribute water that has been treated to control corrosion by another system, and any water system with corrosion control treatment, OCCT, or re-optimized OCCT that is not required to monitor water quality parameters under §141.87.

(1) Compliance with the requirements of this paragraph (g) must be determined every six months, as specified under §141.87(b)(4). A water system is out of compliance with the requirements of this paragraph (g) for a six-month period if it has excursions for any State-specified parameter on more than nine days, cumulatively, 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 set out in paragraph (g)(2) of this section. States have discretion to not include results of obvious sampling errors from this calculation. Sampling errors must still be recorded even when not included in calculations.

(2)(i) On days when more than one measurement for the water quality parameter is collected at the sampling location, the daily value must be the average of all results collected at that sampling location during the same day regardless of whether they are collected through continuous monitoring, grab sampling, or a combination of both. If EPA has approved an alternative formula under §142.16(d)(1)(ii) of this chapter in the State's application for a program revision submitted pursuant to §142.12 of this chapter, the

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State's formula must be used to aggregate multiple measurements taken at a sampling point for the water quality parameters in lieu of the formula in this paragraph (g)(2).

(ii) On days when only one measurement for the water quality parameter is collected at the sampling location, the daily value must be the result of that measurement.

(iii) On days when no measurement is collected for the water quality parameter at the sampling location, the daily value must be the daily value calculated on the most recent day on which the water quality parameter was measured at the sampling location.

(h) *Modification of State treatment determination for OCCT and re-optimized OCCT.* 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 OCCT under paragraph (d) of this section, or optimal water quality parameters under paragraph (f) of this section. A request for modification by a system or other interested party must be in writing, explaining why the modification is appropriate, and providing supporting documentation. The State may require a system to conduct a CCT study to support modification of the determination of OCCT or re-optimized OCCT. The State may modify its determination where it concludes that such change is necessary to ensure that the water system continues to optimize corrosion control treatment. A revised designation must be made in writing, set forth the new treatment requirements and/or optimal water quality parameters, explain the basis for the State's determination, and provide an implementation schedule for completing the treatment modifications for re-optimized corrosion control treatment.

(i) *Treatment decisions by EPA in lieu of the State on OCCT and re-optimized OCCT.* Pursuant to the procedures in §142.19 of this chapter, the EPA Regional Administrator may review OCCT determinations made by a State under paragraph (d), (f), or (h) of this section and issue Federal corrosion control treatment determinations consistent with the requirements of para-

graph (d), (f), or (h) where the EPA Regional Administrator finds that:

(1) A State failed to issue a treatment determination by the applicable deadlines contained in §141.81;

(2) A State abused its discretion; or

(3) The technical aspects of a State's determination would be indefensible in a Federal enforcement action taken against a water system.

(j) *Distribution System and Site Assessment for tap sample sites with lead results that exceed 0.010 mg/L.* The water system must conduct the following steps when the lead results from an individual tap sample site sampled under §141.86 exceed 0.010 mg/L and the site is included in the site sample plan under §141.86(a)(1):

(1) *Step 1: Corrosion control treatment assessment.* Within five days of receiving the tap sampling results, the water system must sample at a water quality parameter site in accordance with paragraph (j)(1)(ii) of this section that is on the same size water main in the same pressure zone and located within a half mile radius of the site with the lead result exceeding 0.010 mg/L. Water systems without corrosion control treatment are not required to collect these samples.

(i) The water system must measure the following water quality parameters:

(A) pH;

(B) Alkalinity;

(C) Orthophosphate (as PO₄), when an inhibitor containing an orthophosphate compound is used; and

(D) Silica, when an inhibitor containing a silicate compound is used.

(ii) The water system must measure at the following locations:

(A) Water systems with an existing water quality parameter site that meets the requirements in this paragraph (j)(1) can conduct this sampling at that site.

(B) All water systems required to meet optimal water quality parameters but do not have an existing water quality parameter site that meets the requirements in this paragraph (j)(1) must add new sites to the minimum number of sites as described in §141.87(b)(1)(i). Sites must be added until a system has twice the minimum number of sites listed in table 1 to

§141.87(b)(1)(i). When a system exceeds twice the number of sites, the State has discretion to determine if these additional newer sites can better assess the effectiveness of the corrosion control treatment and whether to remove existing sites during sanitary survey evaluation of OCCT.

(2) *Step 2: Site assessment.* Within 30 days of receiving the tap sampling results, water systems must collect and analyze a follow-up sample for lead at any tap sample site that exceeds 0.010 mg/L. These follow-up samples may use different sample volumes or different sample collection procedures to assess the source of elevated lead levels. Samples collected under this section must be submitted to the State but cannot be included in the 90th percentile calculation for compliance monitoring under §141.86. If the water system is unable to collect a follow-up sample at a site, the water system must provide documentation to the State, as specified in §141.90(g)(2), explaining why it was unable to collect a follow-up sample.

(3) *Step 3: Evaluate results and system treatment recommendation.* Water systems must evaluate the results of the sampling conducted under paragraphs (j)(1) and (2) of this section to determine if either localized or centralized adjustment of the OCCT or other distribution system actions are necessary and submit the recommendation to the State within six months after the end of the tap sampling period in which the site(s) exceeded 0.010 mg/L. Corrosion control treatment modification may not be necessary to address every exceedance of 0.010 mg/L. Other distribution system actions may include flushing to reduce water age. Water systems must note the cause of the elevated lead level, if known from the site assessment, in their recommendation to the State as site-specific issues can be an important factor in why the system is not recommending any adjustment of corrosion control treatment or other distribution system actions. Systems in the process of optimizing or re-optimizing OCCT under paragraphs (a) through (f) of this section do not need to submit a treatment recommendation for distribution system and site assessment.

(4) *Step 4: State approval of treatment recommendation.* The State must approve the treatment recommendation or specify a different approach within six months of completing step 3 as described in paragraph (j)(3) of this section and notify the water system in writing.

(5) *Step 5: Modifications to OCCT.* If the State-approved treatment recommendation requires the water system to adjust the OCCT process, the water system must complete modifications to its corrosion control treatment within 12 months of receiving notification from the State as described in paragraph (j)(4) of this section. Systems without corrosion control treatment required to install OCCT must follow the schedule in §141.81(e).

(6) *Step 6: Follow-up sampling.* Water systems adjusting OCCT must complete follow-up sampling in accordance with §§141.86(c)(2)(iii)(D) and 141.87(b)(3) within 12 months after completing step 5 as described in paragraph (j)(5) of this section and submit sampling results to the State in accordance with §§141.86 and 141.87.

(7) *Step 7: State OWQP designation.* For water systems adjusting OCCT, the State must review the water system's modification of corrosion control treatment and designate optimal water quality parameters in accordance with paragraph (f) of this section within six months of receiving sampling result in paragraph (j)(6) of this section.

(8) *Step 8: Operate in compliance.* For a water system adjusting OCCT, the water system must operate in compliance with the State-designated optimal water quality parameters in accordance with paragraph (g) of this section and continue to conduct tap sampling in accordance with §§141.86(c)(2)(iii)(E) and 141.87(b)(4).

[89 FR 86631, Oct. 30, 2024]

§ 141.83 Source water treatment requirements.

Systems shall complete the applicable source water monitoring and treatment requirements (described in the referenced portions of paragraph (b) of this section, and in §§141.86, and 141.88) by the following deadlines.

(a) *Deadlines for completing source water treatment steps*—(1) *Step 1*: A system exceeding the lead or copper action level shall complete lead and copper source water monitoring (§141.88(b)) and make a treatment recommendation to the State (§141.83(b)(1)) no later than 180 days after the end of the monitoring period during which the lead or copper action level was exceeded.

(2) *Step 2*: The State shall make a determination regarding source water treatment (§141.83(b)(2)) within 6 months after submission of monitoring results under step 1.

(3) *Step 3*: If the State requires installation of source water treatment, the system shall install the treatment (§141.83(b)(3)) within 24 months after completion of step 2.

(4) *Step 4*: The system shall complete follow-up tap water monitoring (§141.86(c)(2)(iii)(F)) and source water monitoring (§141.88(c)) within 36 months after completion of step 2 as described in paragraph (a)(2) of this section.

(5) *Step 5*: The State shall review the system's installation and operation of source water treatment and specify maximum permissible source water levels (§141.83(b)(4)) within 6 months after completion of step 4.

(6) *Step 6*: The system shall operate in compliance with the State-specified maximum permissible lead and copper source water levels (§141.83(b)(4)) and continue source water monitoring (§141.88(d)).

(b) *Description of source water treatment requirements*—(1) *System treatment recommendation*. Any system which exceeds the lead or copper action level shall recommend in writing to the State the installation and operation of one of the source water treatments listed in paragraph (b)(2) of this section. A system may recommend that no treatment be installed based upon a demonstration that source water treatment is not necessary to minimize lead and copper levels at users' taps.

(2) *State determination regarding source water treatment*. The State shall complete an evaluation of the results of all source water samples submitted by the water system to determine whether source water treatment is necessary to

minimize lead or copper levels in water delivered to users' taps. If the State determines that treatment is needed, the State shall either require installation and operation of the source water treatment recommended by the system (if any) or require the installation and operation of another source water treatment from among the following: Ion exchange, reverse osmosis, lime softening or coagulation/filtration. If the State requests additional information to aid in its review, the water system shall provide the information by the date specified by the State in its request. The State shall notify the system in writing of its determination and set forth the basis for its decision.

(3) *Installation of source water treatment*. Each system shall properly install and operate the source water treatment designated by the State under paragraph (b)(2) of this section.

(4) *State review of source water treatment and specification of maximum permissible source water levels*. The State shall review the source water samples taken by the water system both before and after the system installs source water treatment, and determine whether the system has properly installed and operated the source water treatment designated by the State. Based upon its review, the State shall designate the maximum permissible lead and copper concentrations for finished water entering the distribution system. Such levels shall reflect the contaminant removal capability of the treatment properly operated and maintained. The State shall notify the system in writing and explain the basis for its decision.

(5) *Continued operation and maintenance*. Each water system shall maintain lead and copper levels below the maximum permissible concentrations designated by the State at each sampling point monitored in accordance with §141.88. The system is out of compliance with this paragraph if the level of lead or copper at any sampling point is greater than the maximum permissible concentration designated by the State.

(6) *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 source water treatment under paragraph (b)(2) of this section, or maximum permissible lead and copper concentrations for finished water entering the distribution system under paragraph (b)(4) of this section. A request for modification by a system or other interested party shall be in writing, explain why the modification is appropriate, and provide supporting documentation. The State may modify its determination where it concludes that such change is necessary to ensure that the system continues to minimize lead and copper concentrations in source water. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the State's decision, and provide an implementation schedule for completing the treatment modifications.

(7) *Treatment decisions by EPA in lieu of the State.* Pursuant to the procedures in §142.19, the EPA Regional Administrator may review treatment determinations made by a State under paragraphs (b) (2), (4), or (6) of this section and issue Federal treatment determinations consistent with the requirements of those paragraphs where the Administrator finds that:

(i) A State has failed to issue a treatment determination by the applicable deadlines contained in §141.83(a),

(ii) A State has abused its discretion in a substantial number of cases or in cases affecting a substantial population, or

(iii) The technical aspects of a State's determination would be indefensible in an expected Federal enforcement action taken against a system.

[56 FR 26548, June 7, 1991, as amended at 72 FR 57815, Oct. 10, 2007; 89 FR 86634, Oct. 30, 2024]

§ 141.84 Service line inventory and replacement requirements.

(a) *Service line and connector inventory development.* All water systems must develop a service line inventory that identifies the material and location of each service line connected to the public water distribution system. The inventory must include all service lines connected to the public water distribution system regardless of ownership status (*e.g.*, where service line owner-

ship is shared, the inventory includes both the portion of the service line owned by the water system and the portion of the service line owned by the customer). The inventory must meet the following requirements:

(1) All water systems are required to develop an initial inventory and submit it to the State by October 16, 2024, as specified in §141.80(a)(4)(i).

(2) All water systems must develop an updated initial inventory, known as the “baseline inventory”. Systems must submit the baseline inventory to the State by the compliance date in §141.80(a)(3). Newly regulated public water systems, as defined in §141.2, must develop a baseline inventory on a schedule established by the State that does not exceed three years from the date the system becomes subject to National Primary Drinking Water Regulations in this part. The baseline inventory must include each service line and identified connector that is connected to the public water distribution system regardless of ownership status (*e.g.*, where service line ownership is shared, the inventory includes both the portion of the service line owned by the water system and the portion of the service line owned by the customer).

(i) For the baseline inventory, water systems must conduct a review of any information listed in paragraphs (b)(2)(i) through (iii) of this section that describes connector materials and locations. Water systems must also conduct a review of any information on lead and galvanized iron or steel materials that they have identified pursuant to §141.42(d) to identify connector materials and locations. The water system may use other sources of information not listed in paragraphs (b)(2)(i) through (iii) if approved or required by the State.

(ii) Water systems must include each connector identified in paragraph (a)(2)(i) of this section in their baseline inventory. Connector materials must be categorized in the following manner:

(A) “Lead” where the connector is made of lead.

(B) “Non-Lead” where the connector is determined through an evidence-based record, method, or technique not to be made of lead. Water systems are not required to identify the specific

material of a non-lead connector; however, they may use the material (*e.g.*, copper or galvanized) as an alternative to categorizing it as “Non-Lead”.

(C) “Unknown” where the material of the connector is not known.

(D) “No connector present” where there is no connector at the location (*e.g.*, where a service line directly connects a water main to a building inlet).

(iii) All water systems must include any new information on service line materials from all applicable sources described in paragraph (b)(2) of this section in the baseline inventory.

(3) Each service line, or portion of the service line where ownership is shared, must be categorized in the following manner:

(i) “Lead” where the service line is a lead service line as defined in § 141.2.

(ii) “Galvanized Requiring Replacement” where the service line is a galvanized requiring replacement service line as defined in § 141.2.

(iii) “Non-Lead” where the service line is determined through an evidence-based record, method, or technique not to be a lead or galvanized requiring replacement service line. Water systems are not required to identify the specific material of a non-lead service line; however, they may use the material (*e.g.*, plastic or copper) as an alternative to categorizing it as “Non-Lead”.

(iv) “Lead Status Unknown” or “Unknown” where the service line material is not known to be lead, galvanized requiring replacement, or non-lead, such as where there is no documented evidence or evidence reliably supporting material categorization. Water systems may elect to provide more information regarding their unknown service lines as long as the inventory clearly distinguishes unknown service lines from those where the categorization of the material is based on the categorization methods approved under paragraph (b)(2) of this section.

(4) The inventory must include a street address associated with each service line and connector. Where a street address is not available for an individual service line or connector, a unique locational identifier (*e.g.*, block, Global Positioning System or

GPS coordinates, intersection, or landmark) may be used.

(5) The inventory must be publicly accessible.

(i) The publicly accessible inventory must include the information described in paragraphs (a)(2) through (4) of this section and be updated in accordance with paragraph (b) of this section.

(ii) Water systems serving greater than 50,000 persons must make the publicly accessible inventory available online.

(6) When a water system has no lead, galvanized requiring replacement, or lead status unknown service lines, no known lead connectors, and no connectors of unknown material, it may comply with the requirements in paragraph (a)(5) of this section using a written statement in lieu of the publicly accessible inventory, declaring that the distribution system has no lead, galvanized requiring replacement, or lead status unknown service lines, no known lead connectors, and no connectors of unknown material. The statement must include a general description of all applicable sources used in the inventory as described in paragraphs (a)(1) and (2) and (b)(2) of this section to make this determination.

(7) Instructions to access the publicly accessible inventory (including inventories consisting only of a statement in accordance with paragraph (a)(6) of this section) must be included in the Consumer Confidence Report in accordance with § 141.153(h)(8)(ii).

(b) *Additional requirements for service line and connector inventory maintenance.* (1) All water systems must update the baseline inventory of service lines and connectors developed in paragraph (a)(2) of this section and submit the updates to the State on an annual basis in accordance with § 141.90(e)(4). These updates begin one year after the compliance date in § 141.80(a)(3). The publicly accessible inventory must reflect any updates no later than the deadline to submit the updated inventory to the State.

(i) All water systems must identify the material of all lead status unknown service lines by the applicable mandatory service line replacement deadline in paragraph (d)(4) of this section.

(ii) Water systems whose inventories contain only non-lead service lines and non-lead connectors or no connectors present are not required to provide updated inventories to the State or updates to the publicly accessible inventory. If, in the future, such a water system discovers a lead service line, galvanized requiring replacement service line, or lead connector within its system, the system must notify the State no later than 60 days after the discovery, prepare an updated inventory in accordance with this section on a schedule established by the State, replace the lead or galvanized requiring replacement service line in accordance with paragraph (d)(4)(ii) of this section, and replace any lead connector along the service line in accordance with paragraph (e) of this section.

(2) Water systems must update the inventory annually with any new information acquired from all applicable sources described in paragraphs (b)(2) through (4) of this section and follow all applicable requirements for the inventory in paragraphs (a) and (b) of this section. The water system may update the inventory using other sources of information not listed in paragraphs (b)(2)(i) through (iii) of this section if the use of those sources is approved or required by the State.

(i) All construction and plumbing codes, permits, and records or other documentation that indicate the service line and connector materials used to connect structures to the distribution system.

(ii) All water system records on service lines and connectors, including distribution system maps and drawings, recent or historical records on each service connection and connector, meter installation records, historical capital improvement or master plans, and standard operating procedures.

(iii) All records of inspections in the distribution system that indicate the material composition of the service connections and connectors that connect a structure to the distribution system.

(iv) Water systems must update their inventory annually based on any lead or galvanized requiring replacement service line replacements, service line material inspections, or lead connector

replacements that have been conducted. Each updated inventory and subsequent update to the publicly accessible inventory must include the following information regarding service line material identification and replacement:

(A) The total number of lead service lines in the inventory;

(B) The total number of galvanized requiring replacement service lines in the inventory;

(C) The total number of lead status unknown service lines in the inventory;

(D) The total number of non-lead service lines in the inventory;

(E) The total number of lead connectors in the inventory;

(F) The total number of connectors of unknown material in the inventory;

(G) The total number of full lead service line replacements and full galvanized requiring replacement service line replacements that have been conducted in each preceding program year as defined in paragraph (d)(5)(iii) of this section; and

(H) The total number of partial lead service line replacements and partial galvanized requiring replacement service line replacements that have been conducted in each preceding program year as defined in paragraph (d)(5)(iii) of this section.

(v) Water systems must identify service line material in accordance with paragraph (a)(3) of this section, connector material in accordance with paragraph (a)(2) of this section, and addresses in accordance with paragraph (a)(4) of this section as they are encountered in the course of normal operations (*e.g.*, checking service line materials when reading water meters or performing maintenance activities). Water systems must update the inventory annually based on the identified service line materials, connector materials and addresses.

(3) Water systems that discover a lead or galvanized requiring replacement service line that was previously inventoried as non-lead must update their inventory in accordance with paragraph (b)(2) of this section and, if applicable, paragraph (b)(1)(ii) of this section. Water systems must notify the State in accordance with §141.90(e) and

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comply with any additional actions required by the State to address the inventory inaccuracy.

(4) If a consumer or customer (if different from the person served at that service connection) notifies the water system of a suspected incorrect categorization of their service line material in the inventory, the system must respond to the consumer or customer within 30 days of receiving the notification to make an offer to inspect the service line.

(5) All water systems must validate the accuracy of the non-lead service line category in the inventory as follows:

(i) The water system must identify a validation pool consisting of all service lines categorized as “non-lead,” but excluding non-lead service lines identified by the following: records showing the service line was installed after June 19, 1988, or after the compliance date of a State or local law prohibiting the use of service lines that do not meet the 1986 definition of lead free in accordance with section 1417 of the Safe Drinking Water Act, as amended in 1986 (Pub. L. 99-339, title I, sec. 109(a), 100 Stat. 651) and 40 CFR 141.43(d)(1) and (2), as codified on July 1, 1991, whichever is earlier; visual inspection of the pipe exterior at a minimum of two points (*e.g.*, excavation, visual inspection in the meter pit or stop box, or visual inspection inside the home); or previously replaced lead or galvanized requiring replacement service lines.

(ii) The water system must confirm the service line material of a random sample (*e.g.*, a sample selected by use of a random number generator or lottery method) of non-lead service lines from the validation pool. Confirmation of service line material must be done by visual inspection of the pipe exterior at a minimum of two points. Where ownership is shared, the water system must conduct at least one visual inspection on each portion of the service line. Where ownership is shared and only one portion of the service line is included in the validation pool, systems must conduct at least one point of visual inspection on the unconfirmed portion of the service line. Water systems must validate at least as many

service lines as are required in table 1 to this paragraph (b)(5)(ii).

TABLE 1 TO PARAGRAPH (b)(5)(ii)

Size of validation pool	Number of validations required
<1,500	20 percent of validation pool.
1,500 to 2,000	322.
2,001 to 3,000	341.
3,001 to 4,000	351.
4,001 to 6,000	361.
6,001 to 10,000	371.
10,001 to 50,000	381.
>50,000	384.

(iii) If physical access to private property is necessary to complete the validation and the water system is unable to gain access, the system is not required to conduct a validation at that site. The system must replace the site by randomly selecting a new service line that meets the requirements of paragraph (b)(5)(i) of this section to conduct the validation.

(iv) The deadlines for inventory validation are:

(A) No later than December 31 following seven years after the compliance date in §141.80(a)(3) for water systems subject to the mandatory service line replacement deadline in paragraph (d)(4) of this section or water systems who have reported only non-lead service lines in their baseline inventory, submitted to the State in accordance with §141.90(e)(9);

(B) A deadline established by the State for water systems conducting mandatory service line replacement on a shortened deadline for service line replacement as established by the State in accordance with paragraph (d)(5)(v) of this section; or

(C) A deadline established by the State to be no later than three years prior to the deadline for completing mandatory service line replacement if the water system is eligible for and plans to use a deferred deadline under paragraph (d)(5)(vi) of this section or an extended schedule for mandatory service line replacement pursuant to an exemption or a variance.

(v) Water systems that conduct inventory validation pursuant to this paragraph (b)(5) must complete the validation by the applicable deadline described in paragraph (b)(5)(iv) of this

section, submit the results of the validation in accordance with § 141.90(e)(9), and comply with any additional actions required by the State to address inventory inaccuracies. The system must submit to the State the specific version (including the date) of the service line inventory that was used to determine the number of non-lead service lines included in the validation pool in accordance with § 141.90(e)(9).

(vi) Water systems may make a written request to the State to approve a waiver of the inventory validation requirements in this paragraph (b). To obtain a waiver, the water system must submit documentation to the State to demonstrate the system has conducted an inventory validation that is at least as stringent as the inventory validation requirements specified in paragraphs (b)(5)(i) through (iii) of this section by the compliance date in § 141.80(a)(3) and obtain written approval of the waiver from the State.

(c) *Service line replacement plan.* All water systems with one or more lead, galvanized requiring replacement, or lead status unknown service lines in their distribution system must create a service line replacement plan by the compliance date in § 141.80(a)(3) and submit a service line replacement plan to the State in accordance with § 141.90(e). The service line replacement plan must be sufficiently detailed to ensure a system is able to comply with the service line inventory and replacement requirements in this section.

(1) The service line replacement plan must include a description of:

(i) A strategy for determining the material composition of lead status unknown service lines in the service line inventory under paragraph (a) of this section;

(ii) A standard operating procedure for conducting full service line replacement (*e.g.*, techniques to replace service lines);

(iii) A communication strategy to inform consumers (*i.e.*, persons served at the service connection) and customers before a full or partial lead or galvanized requiring replacement service line replacement consistent with the requirements for notification and mitigation in paragraph (h) of this section;

(iv) A procedure for consumers and customers to flush service lines and premise plumbing of particulate lead following disturbance of a lead, galvanized requiring replacement, or lead status unknown service line in accordance with § 141.85(f) and following full or partial replacement of a lead or galvanized requiring replacement service line consistent with the requirements for notification and mitigation in paragraph (h) of this section;

(v) A strategy to prioritize service line replacement based on factors including, but not limited to, known lead and galvanized requiring replacement service lines and community-specific factors, such as populations disproportionately impacted by lead and populations most sensitive to the effects of lead;

(vi) A funding strategy for conducting service line replacement. Where the water system intends to charge customers for the cost to replace all or a portion of the service line because it is authorized or required to do so under State or local law or water tariff agreement, the funding strategy must include a description of whether and how the water system intends to assist customers who are unable to pay to replace the portion of the service line they own;

(vii) A communication strategy to inform residential and non-residential customers and consumers (*e.g.*, property owners, renters, and tenants) served by the water system about the service line replacement plan and program; and

(viii) Identification of any laws, regulations, and/or water tariff agreements that affect the water system's ability to gain access to conduct full lead and galvanized requiring replacement service line replacement, including the citation to the specific laws, regulations, or water tariff agreement provisions. This includes identification of any laws, regulations, and/or water tariff agreements that require customer consent and/or require or authorize customer cost-sharing.

(ix) For any water system that identifies any lead-lined galvanized service lines in the service line inventory as described in paragraphs (a) and (b) of this section, a strategy to determine

the extent of the use of lead-lined galvanized service lines in the distribution system and categorize any lead-lined galvanized service lines as lead pursuant to table 2 to paragraph (d)(6)(iii)(A) of this section.

(x) For any water system that is eligible for and plans to use a deferred deadline pursuant to paragraph (d)(5)(vi) of this section:

(A) Documentation to support the system's determination that it is eligible for a deferred deadline, showing that 10 percent of the total number of known lead and galvanized requiring replacement service lines in the replacement pool exceeds 39 annual replacements per 1,000 service connections as calculated in paragraph (d)(5)(vi)(A) of this section;

(B) Identification of the deferred deadline and the associated cumulative average replacement rate that the system considers to be the fastest feasible but no slower than a deadline and replacement rate corresponding to 39 annual replacements per 1,000 service connections as calculated in paragraph (d)(5)(vi)(A) of this section, as well as the annual number of replacements required, the length of time (in years and months), and the date of completion for this deadline and rate; and

(C) Information supporting the system's determination that replacing lead and galvanized requiring replacement service lines by an earlier date and faster rate than provided under the deferred deadline provision in paragraph (d)(5)(vi) of this section is not feasible.

(2) The service line replacement plan must be made accessible to the public. Water systems serving greater than 50,000 persons must make the plan available to the public online.

(3) Water systems must annually update the service line replacement plan to include any new or updated information and submit the updates to the State on an annual basis in accordance with § 141.90(e). The water system must make the updated plan publicly accessible no later than the deadline to submit the updated plan to the State.

(i) If there is no new or updated information to include in the service line replacement plan since the previous iteration, the water system may cer-

tify to the State that the plan has no updates in lieu of resubmitting the plan unless the system is replacing service lines in accordance with a deferred deadline and paragraph (c)(3)(ii) of this section applies.

(ii) If there is no new or updated information to include in the service line replacement plan and the water system is replacing service lines in accordance with a deferred deadline pursuant to paragraph (d)(5)(vi) of this section, every three years after the initial submission of the plan, the system must update the information specified in paragraph (c)(1)(x) of this section to support why the system continues to need the deferred deadline and resubmit the plan to the State.

(iii) If there are no longer lead, galvanized requiring replacement, and unknown service lines in the inventory as described in paragraphs (a) and (b) of this section, water systems are not required to resubmit the service line replacement plan or certify to the State that the plan has no updates.

(d) *Mandatory full service line replacement.* (1) All water systems must replace all lead and galvanized requiring replacement service lines under the control of the water system unless the replacement would leave in place a partial lead service line.

(2) Where a water system has access (e.g., legal access, physical access) to conduct full service line replacement, the service line is under its control, and the water system must replace the service line. Where a water system does not have access to conduct full service line replacement, the water system is not required by this subpart to replace the line, but the water system must document the reasons that the water system does not have access and include any specific laws, regulations, and/or water tariff agreements that affect the water system's ability to gain access to conduct full replacement of lead and galvanized requiring replacement service lines. The water system must provide this documentation to the State pursuant to § 141.90(e)(10).

(i) This subpart does not establish the criteria for determining whether a system has access to conduct full service line replacement. Any applicable State or local laws or water tariff

agreement requirements to gain access to conduct full service line replacement must be identified in the service line replacement plan as described in paragraph (c) of this section.

(ii) [Reserved]

(3) Where a water system has legal access to conduct full service line replacement only if property owner consent is obtained, the water system must make a “reasonable effort” to obtain property owner consent. If such a water system does not obtain consent after making a “reasonable effort” to obtain it from any property owner, then the water system is not required by this subpart to replace any portion of the service line at that address unless there is a change in ownership of the property as described in paragraph (d)(3)(ii) of this section. The water system must provide documentation of the reasonable effort to the State pursuant to § 141.90(e)(10).

(i) A “reasonable effort” must include at least four attempts to engage the property owner using at least two different methods of communication (*e.g.*, in-person conversation, phone call, text message, email, written letter, postcard, or information left at the door such as a door hanger) before the applicable deadline of mandatory service line replacement as described in paragraph (d)(4) of this section. The State may require systems to conduct additional attempts and may require specific outreach methods to be used.

(ii) Within six months of any change in ownership of the property, the water system must offer full service line replacement to any new property owner. Systems may use new service initiation or service transfer to a new customer to identify when there is a change in ownership. Within one year of any change in ownership of the property, the system must make a “reasonable effort” to obtain the property owner’s consent as described in paragraph (d)(3)(i) of this section. If the water system is unable to obtain consent from the current property owner after making a “reasonable effort” to obtain it, the water system is not required under this subpart to replace the line. This paragraph (d)(3)(ii) continues to apply until all lead and galva-

nized requiring replacement service lines are replaced.

(4) The deadline for water systems to replace all lead and galvanized requiring replacement service lines under the control of the water system is no later than 10 program years after the compliance date specified in § 141.80(a)(3) unless the system is subject to a different deadline under paragraphs (d)(5)(v) and (vi) of this section.

(i) Water systems must start mandatory service line replacement programs no later than the compliance date specified in § 141.80(a)(3).

(ii) If a lead or galvanized requiring replacement service line is discovered when the system’s inventory is comprised of only non-lead service lines, the system must complete the following requirements:

(A) Update the replacement pool calculated under paragraph (d)(6)(i) of this section.

(B) Conduct a full service line replacement of the affected service line as soon as practicable but no later than 180 days after the date the service line is discovered. Where a system determines that it is not practicable to conduct full service line replacement within 180 days after the date of discovery (*e.g.*, due to freezing ground conditions), the system may request State approval for an extension of no later than one year after the date the service line was discovered to replace the affected service line. The request for an extension must be made no later than 90 days after the date of discovery of the affected service line.

(5) Water systems must meet a minimum cumulative average annual replacement rate for completing mandatory service line replacement in accordance with this paragraph (d)(5):

(i) *Annual replacement rate.* A water system must replace lead and galvanized requiring replacement service lines as described in paragraph (d)(6) of this section at an average annual replacement rate of at least 10 percent calculated across a cumulative period unless the system is subject to a shortened replacement rate or eligible for a deferred replacement rate in accordance with paragraphs (d)(5)(v) and (vi) of this section.

(ii) *Cumulative percent of service lines replaced.* To calculate the cumulative percent of service lines replaced, at the end of each mandatory service line replacement “program year” as specified in paragraph (d)(5)(iii) of this section, water systems must divide the total number of lead and galvanized requiring replacement service lines replaced thus far in the program in accordance with paragraph (d)(6)(iii) of this section by the number of service lines within the replacement pool in accordance with paragraph (d)(6)(i) of this section.

(iii) *Program year.* The first mandatory service line replacement “program year” is from the compliance date specified in § 141.80(a)(3) to the end of the next calendar year. Every program year thereafter is on a calendar year basis. This paragraph (d)(5)(iii) applies for the purposes of this section.

(iv) *Cumulative average replacement rate.* The annual replacement rate in paragraph (d)(5)(i) of this section is assessed annually as a cumulative average. The first cumulative average replacement rate must be assessed at the end of the third program year and is calculated by dividing the cumulative percent of service lines replaced in accordance with paragraph (d)(5)(ii) of this section by the number of completed program years (or three in this case). Annually thereafter, at the end of each program year, systems must assess the cumulative average replacement rate by dividing the most recent cumulative percent of service lines replaced in accordance with paragraph (d)(5)(ii) by the number of completed program years. Except as provided in paragraph (d)(5)(iv)(A) of this section, the cumulative average replacement rate must be 10 percent or greater each program year, and the water system must replace all lead and galvanized requiring replacement service lines under its control by the applicable deadline for completing mandatory service line replacement in accordance with paragraph (d)(4) of this section.

(A) A water system is not required by this section to meet the cumulative average replacement rate described in this paragraph (d)(5) where, after the compliance date specified in § 141.80(a)(3), the system has replaced all lead and galvanized requiring re-

placement service lines in the replacement pool as described in paragraph (d)(6)(i) of this section that are under the control of the system, identified all unknown service lines in the inventory, and documented and submitted to the State the reasons the system currently does not have access to conduct full replacement of the remaining lead and galvanized requiring replacement service lines in the replacement pool in accordance with paragraphs (d)(2) and (3) of this section. When lead and galvanized requiring replacement service lines come under the control of the system, the water system is required to replace the service lines as described in this paragraph (d). This paragraph (d)(5)(iv)(A) continues to apply until all lead and galvanized requiring replacement service lines are replaced.

(B) [Reserved]

(v) *Shortened deadline and associated replacement rate.* Where the State determines that a shortened replacement deadline is feasible for a water system (*e.g.*, by considering the number of lead and galvanized requiring replacement service lines in a system’s inventory), the system must replace service lines by the State-determined deadline and by a faster minimum replacement rate in accordance with paragraph (d)(5)(v)(A) of this section. The State must make this determination in writing and notify the system of its finding. The State must set a shortened deadline at any time throughout a system’s replacement program if a State determines a shorter deadline is feasible. This paragraph (d)(5)(v) also applies to systems eligible for a deferred deadline as specified in paragraph (d)(5)(vi) of this section.

(A) Systems must replace lead and galvanized requiring replacement service lines at an average annual replacement rate calculated by dividing 100 by the number of years needed to meet the shortened deadline determined by the State, expressed as a percentage. Systems must comply with the cumulative average replacement rate in accordance with paragraph (d)(5)(iv) of this section, where the first cumulative average replacement rate is assessed at the end of the program year that is at least one year after the shortened deadline determination, as determined

by the State, unless the shortened replacement deadline is less than three years. If the system's shortened replacement deadline is less than three years, the cumulative average replacement rate must be assessed on a schedule determined by the State.

(B) [Reserved]

(vi) *Deferred deadlines and associated replacement rates.* A water system may defer service line replacement past the deadline in paragraph (d)(4) of this section if the system meets the following criteria:

(A) If a water system replacing 10 percent of the total number of known lead and galvanized requiring replacement service lines in a system's replacement pool results in an annual number of service line replacements by the water system that exceeds 39 per 1,000 service connections, the system may complete replacement of all lead and galvanized requiring replacement service lines by a deadline that corresponds to the system conducting 39 annual replacements per 1,000 service connections at a cumulative average replacement rate assessed in accordance with paragraph (d)(5)(iv) of this section. This paragraph (d)(5)(vi)(A) is also applicable if a water system with service lines newly under their control, after previously not having control as described in paragraph (d)(5)(iv)(A) of this section, is required to conduct more than 39 annual replacements per 1,000 service connections. The number of annual replacements corresponding to 39 annual replacements per 1,000 service connections can be calculated by multiplying the number of service connections in a system by 0.039. The number of years needed to complete replacement is the total number of known lead and galvanized requiring replacement service lines in a system's replacement pool divided by the calculated number of annual replacements. To calculate the minimum cumulative average replacement rate, the system must divide 100 by the number of years needed to achieve replacing 39 annual replacements per 1,000 service connections, expressed as a percentage.

(B) Any water system that is eligible for and plans to use a deferred deadline must include information, in accordance with paragraph (c)(1)(x) of this

section, to support the use of a deferred deadline including identifying the deadline and associated cumulative average rate of replacement to meet this deferred deadline in the system's initial service line replacement plan and subsequent updates to the plan in accordance with paragraph (c) of this section. The system must identify an annual replacement rate that is no less than 39 annual replacements per 1,000 service connections.

(C) As soon as practicable, but no later than the end of the second program year as defined in paragraph (d)(5)(iii) of this section, and every three years thereafter, the State must determine in writing whether the deferred deadline and associated cumulative average replacement rate the system documented in paragraph (c)(1)(x)(B) of this section are the fastest feasible to conduct mandatory service line replacement and either approve the continued use of this deferred deadline and replacement rate as the fastest feasible for the system, or set a shorter deferred deadline and identify an associated replacement rate to ensure the system is replacing service lines at the fastest feasible rate for the system. The State must consider information that includes, but is not limited to, the system's submissions of the service line inventory and replacement plan in accordance with paragraph (a) through (c) of this section and information collected from other water systems conducting mandatory service line replacement. The State may require the system to provide additional information for the State to consider in its assessment of the continued use of a deferred deadline and the fastest feasible replacement rate.

(D) In the first two program years, the system must comply with the annual replacement rate identified in its initial replacement plan (unless the State determines a faster rate is feasible sooner). In subsequent program years, the system must comply with the applicable deferred deadline and associated replacement rate identified in the State's written determination of the deadline and replacement rate in paragraph (d)(5)(vi)(C) of this section.

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(6) Calculation of the replacement pool, the annual number of replacements required, and the number of service lines replaced each year to calculate a system's cumulative average replacement rate described in paragraph (d)(5) of this section are as follows:

(i) *Replacement pool.* To calculate the replacement pool, systems must add the total number of lead, galvanized requiring replacement, and lead status unknown service lines in the baseline inventory submitted by the compliance date specified in §141.80(a)(3). The water system must not subtract lead or galvanized requiring replacement service lines from the replacement pool when they are replaced. The water system must not subtract service lines that are not under the control of the system from the replacement pool. At the beginning of each program year, water systems must update the replacement pool according to the counts of specific types of recategorized service lines in the inventory annually thereafter as described in this paragraph (d)(6)(i):

(A) Unknown service lines that are identified as non-lead service lines must be subtracted from the replacement pool. Unknown service lines that are identified as lead or galvanized requiring replacement service lines must be recategorized appropriately in the inventory and replacement pool, but they do not change the number of service lines in the replacement pool because recategorization does not remove these service lines from the replacement pool.

(B) Non-lead service lines discovered to be lead or galvanized requiring replacement service lines must be added to the replacement pool.

(C) Lead or galvanized requiring replacement service lines discovered to be non-lead service lines must be subtracted from the replacement pool.

(D) Each entire service line must count only once for purposes of calculating the replacement pool.

(ii) *Annual number of replacements required.* To calculate the number of lead and galvanized requiring replacement service lines a system is required to replace in a given program year, divide the number of service lines in the most

up-to-date replacement pool, calculated at the beginning of each program year, by the total number of years remaining under paragraph (d)(4) of this section to complete mandatory service line replacement (e.g., 10 years).

(iii) *Number of service lines replaced.* When calculating the cumulative average replacement rate, the water system may only include full service line replacements of lead or galvanized requiring replacement service lines when counting the number of service lines replaced. Wherever the system conducts a replacement of a lead or galvanized requiring replacement service line (either a portion of a service line or the entire service line), the replacement counts as a full service line replacement only if, after the replacement, the entire service line can be categorized in the inventory as non-lead under paragraph (a)(3)(iii) of this section.

(A) For purposes of mandatory service line replacement, systems must count each entire service line once, including where ownership of the service line is shared, with a single material categorization in accordance with table 2 to this paragraph (d)(6)(iii)(A).

TABLE 2 TO PARAGRAPH (d)(6)(iii)(A)

System-owned portion	Customer-owned portion	Categorization for entire service line
Lead	Lead	Lead.
Lead	Galvanized Requiring Replacement.	Lead.
Lead	Non-lead	Lead.
Lead	Lead Status Unknown.	Lead.
Non-lead	Lead	Lead.
Non-lead and never previously lead.	Non-lead, specifically galvanized pipe material.	Non-lead.
Non-lead	Non-lead, material other than galvanized pipe material.	Non-lead.
Non-lead	Lead Status Unknown.	Lead Status Unknown.
Non-lead, but system is unable to demonstrate it was not previously Lead.	Galvanized Requiring Replacement.	Galvanized Requiring Replacement.
Lead Status Unknown.	Lead	Lead.
Lead Status Unknown.	Galvanized Requiring Replacement.	Galvanized Requiring Replacement.

TABLE 2 TO PARAGRAPH (d)(6)(iii)(A)—
Continued

System-owned portion	Customer-owned portion	Categorization for entire service line
Lead Status Unknown. Lead Status Unknown.	Non-lead Lead Status Unknown.	Lead Status Unknown. Lead Status Unknown.

(B) A full service line replacement is counted where a non-lead service line is installed for use and the lead or galvanized requiring replacement service line is disconnected from the water main or other service line. If the lead or galvanized requiring replacement service line is disconnected from the water main or system-owned portion of the service line but not removed, the water system must be subject to a State or local law or have a written policy to preclude the water system from reconnecting the lead or galvanized requiring replacement service line to the water main or other service line.

(C) A full service line replacement may be counted where a system physically disconnects a service line that is not in use and the water system does not install a new non-lead service line because there is no service line in use (*e.g.*, at an abandoned property). If the disconnected lead or galvanized requiring replacement service line is not removed, the water system must be subject to a State or local law or have a written policy to preclude the water system from reconnecting the disconnected service line (*i.e.*, a new non-lead service line must be installed if active use is to resume).

(D) Water systems must not count the following as a full service line replacement for purposes of this subpart:

- (1) Where the service line is partially replaced as defined in §141.2.
- (2) Where a lead, galvanized requiring replacement, or unknown service line is determined to be a non-lead service line.
- (3) Where only a lead connector is replaced.
- (4) Where pipe lining or coating technologies are used while the lead or galvanized requiring replacement service line remains in use.
- (5) Where a water system does not replace a lead or galvanized requiring re-

placement service line because it is not be under the control of the system as described in paragraph (d)(2) of this section.

(e) *Replacement of lead connectors when encountered by a water system.* (1) The water system must replace any lead connector when encountered during planned or unplanned water system infrastructure work unless the connector is not under the control of the system (*e.g.*, where the system does not have and cannot obtain access to conduct the connector replacement).

(i) Upon replacement of any connector that is attached to a lead or galvanized requiring replacement service line, the water system must follow risk mitigation measures for disturbances as specified in §141.85(f)(2).

(ii) Following replacement of a lead connector, the water system must update the information on the connector material and location in its inventory in accordance with paragraphs (a)(2)(ii) and (b)(2) of this section.

(2) The water system must comply with any State or local laws that require additional connectors to be replaced.

(f) *Replacement of a service line prompted by the customer.* If State or local laws or water tariff agreements do not prevent customers from conducting partial lead or galvanized requiring replacement service line replacements (“customer-initiated replacements”), the water system must meet the following requirements:

(1) If the water system is notified by the customer that the customer intends to conduct a partial lead or galvanized requiring replacement service line replacement, the water system must:

(i) Replace the remaining portion of the lead or galvanized requiring replacement service line at the same time as, or as soon as practicable after, the customer-initiated replacement, but no later than 45 days from the date the customer conducted the partial replacement;

(ii) Provide notification and risk mitigation measures in accordance with paragraph (h) of this section, as applicable, before the affected service line is returned to service; and

(iii) Notify the State within 30 days if it cannot meet the deadline in paragraph (f)(1)(i) of this section and complete the replacement no later than 180 days from the date the customer conducted the partial replacement.

(2) If the water system is notified or otherwise learns that a customer-initiated replacement occurred within the previous six months and left in place the system-owned portion of a lead or galvanized requiring replacement service line, the water system must:

(i) Replace any remaining portion of the affected service line within 45 days from the day of becoming aware of the customer-initiated replacement; and

(ii) Provide notification and risk mitigation measures in accordance with paragraph (h) of this section within 24 hours of becoming aware of the customer replacement.

(iii) Notify the State within 30 days if it cannot meet the deadline in paragraph (f)(2)(i) of this section and complete the replacement no later than 180 days of the date the system learns of the customer-initiated replacement.

(3) When a water system is notified or otherwise learns of a customer-initiated replacement of a lead or galvanized requiring replacement service line that occurred more than six months in the past, this section does not require the water system to complete the lead or galvanized requiring replacement service line replacement of the system-owned portion under this paragraph (f). However, the remaining portion of the lead or galvanized requiring replacement service line must be identified in the inventory in accordance with paragraph (b) of this section and replaced in accordance with paragraph (d) of this section.

(g) *Requirements for conducting partial service line replacements.* This paragraph (g) prohibits water systems from conducting a partial lead service line replacement or a partial galvanized requiring replacement service line replacement as defined under §141.2 unless it is conducted as part of an emergency repair or in coordination with planned infrastructure work that impacts service lines, excluding planned infrastructure work solely for the purposes of lead or galvanized requiring replacement service line replacement.

Where a water system has access to conduct full service line replacement as specified in paragraph (d)(2) of this section, the water system must fully replace the service line. Where a water system conducts partial service line replacement, the system must comply with the notification and mitigation requirements specified in paragraphs (h)(1) and (2) of this section.

(1) Whenever a water system conducts a partial replacement of a lead or galvanized requiring replacement service line, the system must include a dielectric coupling separating the remaining service line and the replaced service line (*i.e.*, newly installed service line) to prevent galvanic corrosion unless the replaced service line is made of plastic.

(2) [Reserved]

(h) *Protocols for notification and mitigation for partial and full service line replacements—(1) Notification and mitigation requirements for planned partial service line replacement.* Whenever a water system plans to partially replace a lead or galvanized requiring replacement service line in coordination with planned infrastructure work that impacts service lines, the water system must provide written notice to the property owner, or the owner's authorized agent, as well as non-owner occupant(s) served by the affected service line at least 45 days prior to the replacement. Where a water system has access to conduct full service line replacement only if property owner consent is obtained, the water system must make a reasonable effort to obtain property owner consent to replace the remaining portion of the service line in accordance with paragraph (d)(3)(i) of this section. The reasonable effort must be completed before the partial lead service line replacement.

(i) Before the affected service line is returned to service, the water system must provide written notification that explains that consumers may experience a temporary increase of lead levels in their drinking water due to the replacement and that meets the content requirements of §141.85(a)(1)(ii) through (iv) and contact information for the water system. In instances where multi-family dwellings or multiple non-residential occupants are

served by the affected service line to be partially replaced, the water system may elect to post the information at a conspicuous location instead of providing individual written notification to all residents or non-residential occupants.

(ii) Before the affected service line is returned to service, the water system must provide written information about a procedure for consumers to flush service lines and premise plumbing of particulate lead following partial replacement of a lead or galvanized requiring replacement service line.

(iii) Before the affected service line is returned to service, the water system must provide the consumer with a pitcher filter or point-of-use device certified by an American National Standards Institute accredited certifier to reduce lead, six months of replacement cartridges, and instructions for use. If the affected service line serves more than one residence or non-residential unit (*e.g.*, a multi-unit building), the water system must provide a pitcher filter or point-of-use device, six months of replacement cartridges and use instructions to every residential and non-residential unit in the building.

(iv) The water system must offer to the consumer to collect a follow up tap sample between three months and six months after the completion of any partial replacement of a lead service line. The tap sample must be a first- and fifth-liter paired sample after at least six hours of stagnation, following the tap sampling protocol under §141.86(b). The water system must provide the results of the sample to the persons served by the service line in accordance with §141.85(d).

(2) *Notification and mitigation requirements for emergency partial service line replacement.* Any water system that creates a partial replacement of a lead or galvanized requiring replacement service line due to an emergency repair must provide notice and risk mitigation measures to the persons served by the affected service line in accordance with paragraphs (h)(1)(i) through (iv) of this section before the affected service line is returned to service. The water system must offer to the property owner, or the owner's authorized agent, to replace the partial service line cre-

ated by the emergency repair within 45 days.

(3) *Notification and mitigation requirements for full service line replacement.* Any water system that conducts a full lead or galvanized requiring replacement service line replacement must provide written notice to the persons served by the affected service line before the affected service line is returned to service; written notice must be provided to the owner or the owner's authorized agent, no later than 30 days following completion of the replacement.

(i) The written notification must explain that consumers may experience a temporary increase of lead levels in their drinking water due to the replacement and must meet the content requirements of §141.85(a)(1)(ii) through (iv) as well as contact information for the water system. In instances where multi-family dwellings or multiple non-residential occupants are served by the lead or galvanized requiring replacement service line to be replaced, the water system may elect to post the information at a conspicuous location instead of providing individual written notification to all persons served in residential and non-residential units.

(ii) Before the replaced service line is returned to service, the water system must provide written information about a procedure for consumers to flush service lines and premise plumbing of particulate lead following full replacement of a lead or galvanized requiring replacement service line.

(iii) Before the replaced service line is returned to service, the water system must provide the consumer with a pitcher filter or point-of-use device certified by an American National Standards Institute accredited certifier to reduce lead, six months of replacement cartridges, and instructions for use. If the lead service line serves more than one residence or non-residential unit (*e.g.*, a multi-unit building), the water system must provide a pitcher filter or point-of-use device, six months of replacement cartridges and instructions for use to every residential and non-residential unit in the building.

(iv) The water system must offer to the consumer to collect a follow up tap

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sample between three months and six months after completion of any full replacement of a lead or galvanized requiring replacement service line. The tap sample must be a first-liter sample after at least six hours of stagnation, following the tap sampling protocol under §141.86(b). The water system must provide the results of the sample to the consumer in accordance with §141.85(d).

(i) *Reporting to demonstrate compliance to the State.* To demonstrate compliance with paragraphs (a) through (h) of this section, a water system must report to the State the information specified in §141.90(e).

[89 FR 86634, Oct. 30, 2024]

§ 141.85 Public education and supplemental monitoring and mitigation requirements.

A water system that exceeds the lead action level based on tap water samples collected in accordance with §141.86 must distribute the public education materials contained in paragraph (a) of this section in accordance with the delivery requirements in paragraph (b) of this section. Water systems that exceed the lead action level must offer to sample the tap water of any person served by the water system who requests it in accordance with paragraph (c) of this section. Water systems must offer to sample for lead in the tap water of any person served by a lead, galvanized requiring replacement, or lead status unknown service line who requests it in accordance with paragraph (c) of this section. All water systems must deliver a consumer notice of lead tap water monitoring results and copper tap water monitoring results to persons served by the water system at sites that are sampled, as specified in paragraph (d) of this section. A water system with lead, galvanized requiring replacement, or lead status unknown service lines must deliver public education materials to persons with a lead, galvanized requiring replacement, or lead status unknown service line as specified in paragraphs (e) and (f) of this section. All community water systems that do not meet the minimum replacement rate for mandatory service line replacement as required under §141.84(d) must conduct outreach ac-

tivities as specified in paragraph (h) of this section. All community water systems must conduct annual outreach to local and State health agencies as outlined in paragraph (i) of this section. Water systems with multiple lead action level exceedances, as specified in paragraph (j)(1) of this section, must conduct public outreach and make filters certified to reduce lead available as specified in paragraphs (j)(2) through (6) of this section. For water systems serving a large proportion of consumers with limited English proficiency, as determined by the State, all public education materials required under this section must comply with the language requirements in paragraph (b)(1) of this section.

(a) *Content of written public education materials*—(1) *Community water systems and non-transient non-community water systems.* Water systems must include the following elements in written materials (e.g., printed or digital brochures and pamphlets) in the same order as listed in paragraphs (a)(1)(i) through (vii) of this section. In addition, language in paragraphs (a)(1)(i), (ii), and (vii) of this section must be included in the materials, exactly as written, except for the text in brackets for which the water system must include system-specific information. States may approve changes to the content requirements if the State determines the changes are more protective of human health. Any additional information presented by a water system must be consistent with the information in paragraphs (a)(1)(i) through (vii) of this section and be in plain language that can be understood by the general public. Water systems must submit a copy of all written public education materials to the State prior to delivery. The State may require the system to obtain approval of the content of written public education materials prior to delivery.

(i) *Important information about lead in your drinking water.*

FIGURE 1 TO PARAGRAPH (a)(1)(i)

Important Information About Lead in Your Drinking Water

[INSERT NAME OF WATER SYSTEM] found elevated levels of lead in

drinking water in some homes/buildings. Lead can cause serious health problems, especially for pregnant people and young children. Please read this information closely to see what you can do to reduce lead in your drinking water.

(ii) *Health effects of lead.*

FIGURE 2 TO PARAGRAPH (a)(1)(ii)

There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups, especially pregnant people, infants (both formula-fed and breastfed), and young children. Some of the health effects to infants and children include decreases in IQ and attention span. Lead exposure can also result in new or worsened learning and behavior problems. The children of persons who are exposed to lead before or during pregnancy may be at increased risk of these harmful health effects. Adults have increased risks of heart disease, high blood pressure, kidney or nervous system problems. Contact your health care provider for more information about your risks.

(iii) *Sources of lead.* (A) Explain what lead is.

(B) Explain possible sources of lead in drinking water and how lead enters drinking water. Include information on home/building plumbing materials, service lines, and connectors that may contain lead and include information about the definition of lead free as provided in Safe Drinking Water Act section 1417 of 1986 and as subsequently revised in 2011. Explain that lead levels may vary and therefore lead exposure is possible even when tap sampling results do not detect lead at one point in time.

(C) Discuss other important sources of lead exposure in addition to drinking water (*e.g.*, paint).

(iv) *Consumer steps to reduce lead exposure.* Discuss the steps the consumer can take to reduce their exposure to lead in drinking water.

(A) Explain that using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. If the system makes filters available in accordance with para-

graph (j)(2) of this section, also include information on how the consumer can obtain a filter.

(B) Encourage running the water to flush out the lead. Explain that lead levels increase over time as water sits in lead-containing plumbing materials and regular water usage in the building can reduce lead levels in drinking water. Advise consumers served by lead and galvanized requiring replacement service lines that they may need to flush the water for longer periods.

(C) Explain concerns with using hot water from the tap and specifically caution against the use of hot water for preparing baby formula.

(D) Explain that boiling water does not reduce lead levels.

(E) Encourage regular cleaning of faucet aerators.

(F) Discuss other steps consumers can take to reduce exposure to lead in drinking water, especially for pregnant persons, infants, and young children, such as using alternative sources of water.

(G) Suggest that parents have their child's blood tested for lead. Provide contact information for the State and/or local health department.

(H) Tell consumers how to get their water tested, including information in accordance with paragraph (c) of this section.

(v) *Levels of lead in drinking water.* Explain why there are elevated levels of lead in the system's drinking water (if known) and what the water system is doing to reduce the lead levels in homes/buildings in this area.

(vi) *Information on lead, galvanized requiring replacement, and unknown service lines.* For systems with lead, galvanized requiring replacement, or lead status unknown service lines in the system's inventory pursuant to §141.84(a) and (b), public education materials must meet the requirements of paragraphs (a)(1)(vi)(A) through (G) of this section. For systems with lead connectors or connectors of unknown material in the system's inventory pursuant to §141.84(a) and (b), public education materials must meet the requirements of paragraph (a)(1)(vi)(C) of this section:

(A) Discuss opportunities to replace lead and galvanized requiring replacement service lines;

(B) Discuss opportunities to have the material of a lead status unknown service line identified;

(C) Include information on how to obtain a copy of the service line inventory or view the inventory on the internet if the system is required to make the inventory available online so the consumer can find out if they are served by a lead, galvanized requiring replacement, or lead status unknown service line, or known lead connector or connector of unknown material;

(D) Include information on how to obtain a copy of the service line replacement plan or view the plan on the internet if the system is required to make the service line replacement plan available online;

(E) Include information about opportunities to replace lead and galvanized requiring replacement service lines. Where the water system intends for customer payment for a portion of the replacement where it is required or authorized by State or local law or a water tariff agreement, the notice must include information about programs that provide financing solutions to assist property owners with replacement of their portion of a lead or galvanized requiring replacement service line;

(F) Include a statement that the water system is required to replace its portion of a lead or galvanized requiring replacement service line when the property owner notifies the water system that they are replacing their portion of the lead or galvanized requiring replacement service line; and

(G) Include a statement that provides instructions for the customer or consumer to notify the water system if they disagree with the service line material categorization in the inventory.

(vii) *More information about lead.*

FIGURE 3 TO PARAGRAPH (a)(1)(vii)

For more information, contact [INSERT NAME OF WATER SYSTEM] at [INSERT WATER SYSTEM PHONE NUMBER OR EMAIL ADDRESS] [(IF APPLICABLE), or visit our website at [INSERT WATER SYSTEM WEBSITE]]. For more information on reducing lead exposure around your home/building and the health effects of lead, visit EPA's website at <https://www.epa.gov/>

lead or contact your health care provider.

(2) [Reserved]

(b) *Timing, format, and delivery method of public education materials.* (1) For water systems serving a large proportion of consumers with limited English proficiency, as determined by the State, all public education materials required under this section must contain information in the appropriate language(s) regarding the importance of the materials and either contain information on where such consumers may obtain a translated copy of the public education materials, or assistance in the appropriate language(s), or the materials must be in the appropriate language(s).

(2) Each time a community water system exceeds the lead action level based on tap water samples collected in accordance with §141.86, the system must conduct the public education tasks under this paragraph (b)(2) within 60 days after the end of the tap sampling period in which the exceedance occurred. For community water systems that are on standard monitoring, the end of the tap sampling period is June 30 or December 31. For community water systems that are required to conduct monitoring annually or less frequently, the end of the tap sampling period is September 30 of the calendar year in which the sampling occurs, or, if the State has established an alternate four-month tap sampling period, the last day of that period.

(i) Deliver written materials meeting the content requirements of paragraph (a) of this section to each customer receiving a bill and to other service connections to which water is delivered by the water system. In the case of multi-family dwellings, the water system must deliver the written materials to each unit or post the information at a conspicuous location.

(ii)(A) Contact consumers who are most at risk by delivering education materials that meet the content requirements of paragraph (a) of this section to local public health agencies even if they are not located within the water system's service area, along with an informational notice that encourages distribution to all of the agencies'

potentially affected customers or community water system's users. The water system must contact the local public health agencies directly by phone, email, or in person. If local public health agencies provide a specific list of additional community-based organizations serving populations at greatest risk from lead exposure (*e.g.*, pregnant people, children), including organizations outside the service area of the water system, then the system must deliver education materials that meet the content requirements of paragraph (a) to all organizations on the provided lists.

(B) Contact consumers who are most at risk by delivering materials that meet the content requirements of paragraph (a) of this section to the following organizations listed in paragraphs (b)(2)(ii)(B)(1) through (7) of this section that are located within the water system's service area, along with an informational notice that encourages distribution to all the organization's potentially affected customers or community water system's users:

(1) Schools, child care facilities, and school boards.

(2) Women, Infants and Children (WIC) and Head Start programs.

(3) Public and private hospitals and medical clinics.

(4) Pediatricians.

(5) Family planning clinics.

(6) Local welfare agencies.

(7) Obstetricians-gynecologists and midwives.

(iii) No less often than quarterly, provide information with each water bill as long as the system exceeds the action level for lead. The message on the water bill must include the statement in figure 4 to this paragraph (b)(2)(iii) exactly as written except for the text in brackets for which the water system must include system-specific information. The message or delivery mechanism can be modified in consultation with the State; specifically, the State may allow a separate mailing of public education materials to customers if the water system cannot place the information on water bills.

FIGURE 4 TO PARAGRAPH (b)(2)(iii)

[INSERT NAME OF WATER SYSTEM] found elevated levels of lead in drinking water in some homes/buildings. Lead can cause serious health problems. For more information please contact [INSERT NAME OF WATER SYSTEM] [or visit (INSERT WATER SYSTEM WEBSITE)].

(iv) Post material meeting the content requirements of paragraph (a) of this section on the water system's website if the system serves a population greater than 50,000. The system must retain material on the website for as long as the system exceeds the action level.

(v) Submit a press release to media outlets including newspaper, television, and radio stations. The submitted press release must state the water system found elevated levels of lead in drinking water in some homes/buildings and meet the content requirements of paragraph (a) of this section.

(vi) Implement at least three additional activities from one or more categories listed in paragraphs (b)(2)(vi)(A) through (J) of this section. The educational content and selection of these activities must be determined in consultation with the State.

(A) Public service announcements.

(B) Paid advertisements.

(C) Public area information displays.

(D) Emails to customers.

(E) Public meetings.

(F) Household deliveries.

(G) Targeted individual customer contact.

(H) Direct material distribution to all multi-family homes and institutions.

(I) Contact organizations representing plumbers and contractors to provide information about lead in drinking water, sources of lead, and the importance of using lead free plumbing materials.

(J) Other methods approved by the State.

(vii) [Reserved]

(3) A community water system must repeat the activities in paragraph (b)(2) of this section until the system is at or below the lead action level based on

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tap water samples collected in accordance with §141.86. These repeated activities must be completed within 60 days of the end of each tap sampling period. A calculated 90th percentile level at or below the lead action level based on fewer than the minimum number of required samples under §141.86 cannot be used to meet the requirements of this paragraph (b)(3).

(4) Within 60 days after the end of each tap sampling period in which a lead action level exceedance occurs, a non-transient non-community water system must deliver the public education materials specified by paragraph (a) of this section as follows:

(i) Post informational posters on lead in drinking water in a public place or common area in each of the buildings served by the system until the system is at or below the lead action level based on tap water samples collected in accordance with §141.86; and

(ii) Distribute informational pamphlets and/or brochures on lead in drinking water to each person served by the non-transient non-community water system. The State may allow the system to utilize electronic transmission in lieu of or combined with printed materials as long as it achieves at least the same coverage.

(iii) For systems that are on standard monitoring, the end of the tap sampling period is June 30 or December 31. For systems that are required to conduct monitoring annually or less frequently, the end of the tap sampling period is September 30 of the calendar year in which the sampling occurs, or, if the State has established an alternate tap sampling period, the last day of that period.

(5) A non-transient non-community water system must repeat the tasks contained in paragraph (b)(4) of this section until the system is at or below the lead action level based on tap water samples collected in accordance with §141.86. These repeated activities must be completed within 60 days of the end of each tap sampling period. A calculated 90th percentile level at or below the lead action level based on fewer than the minimum number of required samples under §141.86 cannot be used to meet the requirements of this provision.

(6) A water system may discontinue delivery of public education materials if the system is at or below the lead action level during the most recent six-month tap sampling period conducted pursuant to §141.86. Such a system must recommence public education in accordance with this section if it subsequently exceeds the lead action level during any tap sampling period.

(7) A water system may request an extension from the State, in writing, to complete the activities in paragraphs (b)(2)(ii) through (vi) of this section for community water systems, or paragraphs (b)(4)(i) and (ii) of this section for non-transient non-community water systems, as follows:

(i) The extension must be approved in writing by the State before the 60-day deadline;

(ii) The State may only grant the extension on a case-by-case basis if the system has demonstrated that it is not feasible to complete the activities in paragraphs (b)(2)(ii) through (vi) of this section for community water systems, or paragraphs (b)(4)(i) and (ii) of this section for non-transient non-community water systems; and

(iii) The activities in paragraph (b)(2) or (4) of this section must be completed no later than six months after the end of the tap sampling period in which the exceedance occurred.

(8) A community water system meeting the criteria of paragraphs (b)(8)(i) and (ii) of this section may apply to the State, in writing (unless the State has waived the requirement for prior State approval), to perform the tasks listed in paragraphs (b)(4) and (5) of this section in lieu of the tasks in paragraphs (b)(2) and (3) of this section if:

(i) The system is a facility, such as a prison or a hospital, where the population served is not capable of or is prevented from making improvements to plumbing or installing point-of-use treatment devices; and

(ii) The system provides water as part of the cost of services provided and does not separately charge for water consumption.

(9) A community water system serving 3,300 or fewer persons may limit certain aspects of their public education programs as follows:

(i) With respect to the requirements of paragraph (b)(2)(ii) of this section, a system serving 3,300 or fewer persons may limit the distribution of the public education materials required under paragraph (b)(2)(ii) to facilities and organizations served by the system that are most likely to be visited regularly by pregnant people and children.

(ii) With respect to the requirements of paragraph (b)(2)(v) of this section, the State may waive this requirement for systems serving 3,300 or fewer persons as long as the system distributes notices to every household served by the system.

(iii) With respect to the requirements of paragraph (b)(2)(vi) of this section, a system serving 3,300 or fewer persons must implement at least one of the activities listed in paragraph (b)(2)(vi).

(c) *Supplemental monitoring and notification of results.* (1) A water system that exceeds the lead action level based on tap samples collected in accordance with §141.86 must offer to sample for lead in the tap water of any person served by the water system who requests it. At sites served by a lead, galvanized requiring replacement, or lead status unknown service line, the samples must capture both water in contact with premise plumbing and water in contact with the service line (*e.g.*, first- and fifth-liter samples).

(2) Water systems must offer to sample for lead in the tap water of any person served by a lead, galvanized requiring replacement, or lead status unknown service line who requests it, regardless of whether the water system exceeds the lead action level. The samples must capture both water in contact with premise plumbing and water in contact with the service line (*e.g.*, first- and fifth-liter samples).

(3) All water systems must provide a consumer notice of the individual tap results from supplemental tap water monitoring carried out under the requirements of this paragraph (c) to the persons served by the water system at the specific sampling site from which the sample was taken (*e.g.*, the occupants of the building where the tap was sampled). Water systems must provide the consumer notice in accordance with the requirements of paragraphs (d)(2) through (4) of this section.

(d) *Notification of results*—(1) *Notice requirement.* All water systems must provide a consumer notice of the individual tap results from any lead and copper tap water monitoring carried out under the requirements of §141.86 to the persons served by the water system at the specific sampling site from which the sample was taken (*e.g.*, the occupants of the building where the tap was sampled).

(2) *Timing of notification.* A water system must provide the consumer notice as soon as practicable but no later than three business days after the water system learns of the tap monitoring results. Notification by mail must be postmarked within three business days of the system learning of the tap monitoring results.

(3) *Content.* (i) The consumer notice for lead must include the results of lead tap water monitoring for the tap that was tested, an explanation of the health effects of lead that meets the requirements of paragraph (a)(1)(ii) of this section, information on possible sources of lead in drinking water that meets the requirements of paragraph (a)(1)(iii)(B) of this section, a list of steps consumers can take to reduce exposure to lead in drinking water that meets the requirements of paragraph (a)(1)(iv) of this section, and contact information for the water system. The notice must also provide the maximum contaminant level goal and the action level for lead and the definitions for these two terms from §141.153(c).

(ii) The consumer notice for copper must include the results of copper tap water monitoring for the tap that was tested, an explanation of the health effects of copper as provided in appendix B to subpart Q of this part, a list of steps consumers can take to reduce exposure to copper in drinking water, and contact information for the water system. The notice must also provide the maximum contaminant level goal and the action level for copper and the definitions for these two terms from §141.153(c).

(4) *Delivery.* Water systems must provide consumer notice to persons served at the tap that was sampled. The notice must be provided electronically (*e.g.*, email or text message), by phone call or voice message, hand delivery,

by mail, or another method approved by the State. For example, upon approval by the State, a non-transient non-community water system could post the results in a conspicuous area, such as on a bulletin board, in the facility to allow users to review the information. Water systems that choose to deliver the notice to consumers by phone call or voice message must follow up with a written notice to consumers hand delivered or postmarked within 30 days of the water system learning of the tap monitoring results. The notices of lead and copper tap sampling results may be combined in one notice.

(e) *Notification of service line that is known to or may potentially contain lead*—(1) *Notification requirements.* All water systems with lead, galvanized requiring replacement, or lead status unknown service lines in their inventory pursuant to § 141.84(a) and (b) must provide notification of a service line that is known to or may potentially contain lead to customers and all persons served by the water system at the service connection with a lead, galvanized requiring replacement, or lead status unknown service line.

(2) *Timing of notification.* A water system must provide notification no later than 30 days after completion of the baseline inventory required under § 141.84(a)(2) and repeat the notification no later than 30 days after the deadline for each annual update to the service line inventory under § 141.90(e)(4) until the entire service connection is no longer a lead, galvanized requiring replacement, or lead status unknown service line. For notifications to new customers, water systems must provide the notice at the time of service initiation.

(3) *Content*—(i) *Persons served by a confirmed lead service line or galvanized requiring replacement service line.* The notice must include:

(A) A statement that the person's service line is lead or galvanized requiring replacement as applicable.

(B) An explanation of the health effects of lead that meets the requirements of paragraph (a)(1)(ii) of this section.

(C) Steps persons at the service connection can take to reduce exposure to

lead in drinking water that meet the requirements of paragraph (a)(1)(iv) of this section.

(D) A statement that the consumer can request to have their tap water sampled in accordance with paragraph (c) of this section.

(E) Include information on how to obtain a copy of the service line replacement plan or view the plan on the internet if the system is required to make the service line replacement plan available online.

(F) Information about opportunities to replace lead and galvanized requiring replacement service lines. Where the water system intends for customer payment for a portion of the replacement where it is required or authorized by State or local law or a water tariff agreement, the notice must include information about programs that provide financing solutions to assist property owners with replacement of their portion of a lead or galvanized requiring replacement service line.

(G) A statement that the water system is required to replace its portion of a lead or galvanized requiring replacement service line when the property owner notifies the water system that they are replacing their portion of the lead or galvanized requiring replacement service line.

(H) A statement that provides instructions for the customer to notify the water system if they disagree with the service line material categorization in the inventory.

(ii) *Persons served by a lead status unknown service line.* The notice must include a statement that the person's service line material is unknown but may be lead, the information in paragraphs (e)(3)(i)(B) through (E) of this section, and information about opportunities to verify the material of the service line.

(4) *Delivery.* The notice must be provided to customers and persons served by the water system at the service connection with a lead, galvanized requiring replacement, or lead status unknown service line, by mail or by another method approved by the State.

(f) *Notification due to a disturbance to a service line that is known to or may potentially contain lead.* (1) 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. Actions taken by a water system that cause a disturbance include actions that result in a shut off or bypass of water to an individual service line or a group of service lines (*e.g.*, operating a valve on a service line or meter setter, or reconnecting a service line to the main) or other actions that cause a disturbance to a service line or group of service lines, such as undergoing physical action or vibration, that could result in pipe scale dislodging and associated release of particulate lead. The provided information must include:

(i) Public education materials that meet the content requirements in paragraphs (a)(1)(ii) through (iv) and (vi) of this section and contact information for the water system; and

(ii) Instructions for a flushing procedure to remove particulate lead.

(2) If the disturbance of a lead, galvanized requiring replacement, or lead status unknown service line results from the replacement of an inline water meter, a water meter setter, or connector, or from the replacement of a water main whereby the service line pipe is physically cut, the water system must provide the persons served by the water system at the service connection with the information in paragraphs (f)(1)(i) and (ii) of this section and a pitcher filter or point-of-use device certified by an American National Standards Institute accredited certifier to reduce lead, instructions to use the filter, and six months of filter replacement cartridges.

(3)(i) *Persons at the service connection.* The water system must comply with the requirements in this paragraph (f) for persons served by the water system at the service connection before any service line that has been shut off or bypassed is returned to service. Where there was a disturbance, but service was not shut off or bypassed, the water system must comply with the requirements in this paragraph (f) as soon as

possible, but not to exceed 24 hours following the disturbance.

(ii) *Customers.* The water system must comply with the requirements in paragraph (f)(1) of this section for customers associated with the service connection who are not persons served by the water system at the service connection (*e.g.*, a customer who is a property owner and renting their property) no later than 30 days following the disturbance.

(4) A water system that conducts a partial or full replacement of a lead or galvanized requiring replacement service line must follow procedures in accordance with the requirements in §141.84(h). Partial or full replacement of a lead or galvanized requiring replacement service line is not considered a “disturbance” for purposes of this paragraph (f).

(g) [Reserved]

(h) *Outreach activities to encourage participation in full service line replacement.* (1) Community water systems that do not meet the service line replacement rate calculated across a cumulative period as required under §141.84(d)(5) must conduct at least one outreach activity listed in paragraph (h)(2) of this section to discuss their mandatory service line replacement program and opportunities for replacement and to distribute public education materials that meet the content requirements in paragraph (a) of this section except paragraphs (a)(1)(i) and (v) of this section. The water system must conduct the activity in the year following the program year for which the system does not meet their cumulative average replacement rate and annually thereafter until the water system meets the cumulative average replacement rate or until there are no lead, galvanized requiring replacement, or lead status unknown service lines remaining in the inventory, whichever occurs first.

(2) For community water systems serving more than 3,300 persons, the outreach activity must be one of the activities identified in paragraphs (h)(2)(i) through (iv) of this section or the water system must conduct two activities listed in paragraphs (h)(2)(v) through (viii) of this section. For community water systems serving 3,300

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persons or fewer, the outreach activity must be one of the activities identified in paragraphs (h)(2)(i) through (viii) of this section.

- (i) Conduct a public meeting.
- (ii) Participate in a community event to provide information about its service line replacement program.
- (iii) Contact customers by phone call or voice message, text message, email, or door hanger.
- (iv) Use another method approved by the State to discuss the service line replacement program and opportunities for lead and galvanized requiring replacement service line replacement.
- (v) Send certified mail to customers and all persons served by the water system at the service connection with a lead or galvanized requiring replacement service line to inform them about the water system's service line replacement program and opportunities for replacement of the service line.
- (vi) Conduct a social media campaign.
- (vii) Conduct outreach via the media including newspaper, television, or radio.
- (viii) Visit targeted customers (*e.g.*, customers in areas with lower service line replacement participation rates) to discuss the service line replacement program and opportunities for replacement.

(i) *Public education to local and State health agencies*—(1) *Distribution System and Site Assessment results*. All community water systems must provide information to local and State health agencies about Distribution System and Site Assessment activities conducted in accordance with §141.82(j) including the location of the tap sample site that exceeded 0.010 mg/L, the result of the initial tap sample, the result of the follow up tap sample, the result of water quality parameter monitoring, and any distribution system management actions or corrosion control treatment adjustments made.

(2) *Timing and content*. Community water systems must annually send Distribution System and Site Assessment information and copies of the public education materials provided under paragraphs (a) and (h) of this section for actions conducted in the previous

calendar year no later than July 1 of the following year.

(3) *Delivery*. Community water systems must send public education materials and Distribution System and Site Assessment information to local and State health agencies by mail, email, or by another method approved by the State.

(j) *Additional requirements for water systems with multiple lead action level exceedances*. (1) A water system that exceeds the lead action level at least three times in a rolling five-year period, based on tap water samples collected in accordance with §141.86, must conduct the activities in this section. The first rolling five-year period begins on the compliance date in §141.80(a)(3). If a water system exceeds the lead action level at least three times within a five-year period, the system must conduct these actions upon the third action level exceedance even if the rolling five-year period has not elapsed.

(2) No later than 60 days after the tap sampling period in which a water system meets the criteria of paragraph (j)(1) of this section, a water system must make available to all consumers pitcher filters or point-of-use devices certified by an American National Standards Institute accredited certifier to reduce lead, six months of replacement cartridges, and instructions for use. A water system must continue to make replacement cartridges available until the system may discontinue actions in accordance with paragraph (j)(6) of this section.

(3) No later than 60 days after a water system exceeds the lead action level for the second time in a rolling five-year period, the water system must submit a filter plan to the State. The State must review and approve the filter plan within 60 days. If the water system subsequently meets the criteria of paragraph (j)(1) of this section again, the water system is not required to resubmit the filter plan, unless the system has made updates to the plan or otherwise requested by the State. The plan must include:

- (i) A description of which methods the system will use to make filters and replacement cartridges available in accordance with paragraph (j)(2) of this

section (*e.g.*, operating distribution facilities, delivering filters when requested by the consumer); and

(ii) A description of how the system will address any barriers to consumers obtaining filters.

(4) A water system that meets the criteria of paragraph (j)(1) of this section must conduct a community outreach activity to discuss the multiple lead action level exceedances, steps the system is taking to reduce lead in drinking water, measures consumers can take to reduce their risk consistent with the content requirements of paragraph (a)(1)(iv) of this section, and how to obtain a filter certified to reduce lead as required in paragraph (j)(2) of this section. This activity is in addition to the public education activities required under paragraph (b)(2) of this section for community water systems, and under paragraph (b)(4) of this section for non-transient non-community water systems, that exceed the lead action level. The water system must conduct at least one activity from paragraphs (j)(4)(i) through (v) of this section within six months of the start of the tap sampling period after the most recent lead action level exceedance. The water system must conduct at least one of the activities in paragraphs (j)(4)(i) through (v) every six months until the system no longer meets the criteria of paragraph (j)(1) of this section.

(i) Conduct a public meeting.

(ii) Participate in a community event where the system can make information about ongoing lead exceedances available to the public.

(iii) Contact customers by phone call or voice message, text message, email, or door hanger.

(iv) Conduct a social media campaign.

(v) Use another method approved by the State.

(5) A water system that is already conducting an outreach activity listed in paragraph (j)(4) of this section in order to meet the requirements of paragraph (h) of this section may conduct one activity that meets the requirements of paragraphs (j)(4) and (h), unless otherwise directed by the State.

(6) A water system may discontinue the requirements of this paragraph (j)

when the system no longer has at least three lead action level exceedances in a rolling five-year period, based on tap water samples collected in accordance with §141.86. A calculated 90th percentile level at or below the lead action level based on fewer than the minimum number of required samples under §141.86 cannot be used to meet the requirements of this paragraph (j)(6). States have the discretion to allow a water system to discontinue the requirements of this paragraph (j) earlier if the system has taken actions to reduce lead levels (*e.g.*, re-optimized optimal corrosion control treatment or completed the service line replacement program) and the system is at or below the lead action level for two consecutive tap monitoring periods.

[72 FR 57815, Oct. 10, 2007, as amended at 86 FR 4294, Jan. 15, 2021; 89 FR 86642, Oct. 30, 2024]

§ 141.86 Monitoring requirements for lead and copper in tap water.

All water systems must sample for lead and copper at taps used to provide water for human consumption in accordance with the requirements of this section.

(a) *Sample site location.* (1) By the start of the first tap monitoring period in which sampling for lead and copper is required under paragraphs (c) and (d) of this section, each water system must identify potential tap sampling sites and submit a site sample plan to the State as required in §141.90(a)(1)(i). States may require modifications to submitted site sample plans. Each water system must identify a pool of tap sampling sites that will allow the water system to collect the number of lead and copper tap samples required in paragraphs (c)(1) and (d)(1) of this section.

(i) To select sampling sites, a water system must use information regarding the material of service lines and connectors, including lead, copper, and galvanized iron or steel, required to be collected under §141.84.

(ii) Water systems must identify locations in the site sample plan by selecting from sites in the highest tier, unless the site has been found to be unavailable, in accordance with paragraph (a)(4) of this section.

(iii) Sampling sites cannot include sites with installed point-of-entry (POE) treatment devices or taps with point-of-use devices designed to remove inorganic contaminants, except in water systems using these devices at all service connections for primary drinking water taps to meet other primary and secondary drinking water standards as under § 141.93(c)(1).

(2) A water system that has fewer than five sites with drinking water taps that can be used for human consumption meeting the sample site criteria of this paragraph (a) to reach the required number of sample sites listed in paragraphs (c)(1) and (d)(1) of this section, must collect at least one sample from each tap and collect additional samples from those taps on different days during the tap sampling period to meet the required number of sites. Alternatively, the State may allow these water systems to collect a number of samples fewer than the number of sites specified in paragraphs (c)(1) and (d)(1), provided that 100 percent of all taps that can be used for human consumption are sampled. The State must approve this reduction of the minimum number of samples in writing based on a request from the system or onsite verification by the State.

(3) 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. A water system that cannot identify enough sampling sites with premise plumbing made of lead and/or served by lead service lines to meet the minimum number of sites required in paragraphs (c)(1) and (d)(1) of this section must still collect samples from every available site, in accordance with paragraph (a)(4) of this section, containing premise plumbing made of lead and/or served by a lead service line and collect the remaining samples in accordance with the tiering requirements under paragraph (a)(4).

(4) Sampling sites must be selected from the highest tier available (Tier 1 is the highest tier and Tier 5 is the lowest tier). Sites are 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. The number of customer refusals and non-responses for compliance sampling during each tap sampling period must be submitted to the State in accordance with the requirements at § 141.90(a)(2)(viii). Systems may continue conducting outreach at sites considered unavailable and may subsequently add such sites to the site sample plan for any reason, such as receiving a service initiation request from a new property owner or occupant or receiving a new consumer request for sampling. A system without a large enough number of sites from a higher tier to meet the number of sites required in paragraphs (c)(1) and (d)(1) of this section may sample sites from the next highest tier. 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.

(i) Tier 1 sampling sites are single-family structures with premise plumbing made of lead and/or served by a lead service line.

(ii) Tier 2 sampling sites are buildings, including multiple-family residences, with premise plumbing made of lead and/or served by a lead service line.

(iii) Tier 3 sampling sites are sites that are served by a lead connector. Tier 3 sites are also sites served by a galvanized service line or containing galvanized premise plumbing identified as ever having been downstream of a lead service line. Tier 3 for community water systems only includes single-family structures.

(iv) Tier 4 sampling sites are sites that contain copper premise plumbing with lead solder installed before the effective date of the State's applicable lead ban. Tier 4 for community water systems only includes single-family structures.

(v) Tier 5 sampling sites are sites that are representative of sites throughout the distribution system. For purpose of this paragraph (a), 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.

(b) *Sample collection protocol.* (1) Except for samples described in paragraphs (b)(1)(iii) and (iv) of this section, all tap samples collected for analysis of lead and copper must be one liter in volume and have stood motionless in the plumbing system and/or service line of each sampling site for at least six hours. Bottles used to collect samples for analysis must be wide-mouth, one-liter sample bottles, as defined at §141.2. Samples from residential housing must be collected from an interior kitchen or bathroom sink cold-water tap. Samples from a nonresidential building must be collected at an interior cold-water tap from which water is typically drawn for human consumption. Samples may be collected by the system, or the system may allow members of the public to collect samples after providing instructions for collecting samples in accordance with this paragraph (b)(1). Sample collection instructions cannot direct the sample collector to remove or clean the aerator or flush taps prior to the start of the minimum six-hour stagnation period. To protect members of the public from injury due to handling nitric acid, samples may be acidified up to 14 days after the sample is collected. After acidification to resolubilize the metals, the sample must stand in the original container for a period of time, as specified by the approved EPA method in §141.23 selected for sample analysis. If a system allows members of the public to sample, the system cannot challenge the accuracy of the sampling results based on alleged sample collection errors.

(i) The first-liter sample must be analyzed for lead and copper at sample sites where both contaminants are required to be monitored. At sample sites where only lead is required to be monitored, the first-liter sample may be analyzed for only lead.

(ii) For sites served by a lead service line, which fall under Tier 1 and Tier 2, an additional fifth-liter sample must be collected at the same time as the first-liter sample and must be analyzed for lead. To collect a first-liter-and-fifth-liter-paired sample, systems must collect tap water in five consecutively

numbered, wide-mouth, one-liter sample bottles after the water has stood motionless in the plumbing of each sampling site, including the lead service line, for at least six hours without flushing the tap prior to sample collection. Systems must collect samples starting with the first sample bottle and then fill each subsequently numbered bottle in consecutive order until the final bottle is filled, with the water running constantly while the samples are being collected. In this sequence, the first-liter sample is the first sample collected and the fifth-liter sample is the final sample collected.

(iii) State-approved samples collected pursuant to paragraph (b)(3) of this section may include samples with stagnation periods less than six hours, but must meet all the other sample collection criteria in this paragraph (b)(1), including being one-liter in volume using a wide-mouth bottle and collected at an interior tap from which water is typically drawn for human consumption.

(iv) Systems may use different sample volumes and/or different sample collection procedures when they collect follow-up samples for Distribution System and Site Assessment under §141.82(j)(2) and consumer-requested samples under §141.85(c) to assess the source of lead. Consumer-requested samples must be collected in accordance with §141.85(c). Systems must submit these sample results to the State in accordance with §141.90(a)(2)(i) and (g).

(2) Systems must sample at sites listed in the site sample plan. Additionally, systems must prioritize sampling at the same sites that were sampled in the previous tap sampling period. If such a site no longer qualifies under the tiering criteria or if, for reasons beyond the control of the water system, the water system cannot gain access to a sampling site in order to collect a tap sample, the system must collect the tap sample from another site in its site sample plan that meets the original tiering criteria, where such a site exists. Systems must report any change in sites from the previous tap sampling period, and include an explanation of why sampling sites have changed, as required in §141.90(a)(2)(v). If changes

are needed to the site sample plan, systems must submit their updated site sample plan, as required under §141.90(a)(1)(i), before the start of the next tap sampling period conducted by the system.

(3) A non-transient non-community water system, or a community water system that meets the criteria of §141.85(b)(8), that does not have enough sites with taps from which first-liter samples or first-liter-and-fifth-liter-paired samples meeting the six-hour minimum stagnation time can be collected, as provided in paragraph (b)(1) of this section, may apply to the State in writing to request approval to substitute first-liter or first-liter-and-fifth-liter-paired samples that do not meet the six-hour minimum stagnation time. Such systems must collect as many first-liter or first-liter-and-fifth-liter-paired samples from interior taps used for human consumption as possible towards meeting the minimum number of sites required in paragraphs (c)(1) and (d)(1) of this section. For the remaining samples to meet the minimum number required, systems must identify sampling times and locations that would likely result in the longest standing times. The State has the discretion to waive the requirement for prior State approval of sites not meeting the six-hour stagnation time either through State regulation or written notification to the system.

(c) *Standard monitoring.* Standard monitoring consists of six-month tap monitoring periods that begin on January 1 and July 1.

(1) *Standard monitoring sites.* During a standard tap monitoring period, a water system must collect at least one sample from the number of sites in the following table 1 to this paragraph (c)(1). Standard monitoring sites must be selected in accordance with the sampling tiers identified in paragraph (a) of this section.

TABLE 1 TO PARAGRAPH (c)(1)

System size (number of people served)	Standard number of sites for lead and copper sampling
>100,000	100
10,001 to 100,000	60

TABLE 1 TO PARAGRAPH (c)(1)—Continued

System size (number of people served)	Standard number of sites for lead and copper sampling
3,301 to 10,000	40
501 to 3,300	20
101 to 500	10
≤100	5

(2) *Criteria for standard monitoring.* The following systems must conduct standard monitoring for at least two consecutive tap monitoring periods beginning January 1 or July 1, whichever is sooner, following the tap sampling period in which the criterion is met. Systems may then reduce monitoring in accordance with paragraph (d) of this section.

(i) All water systems with lead or galvanized requiring replacement service lines in their inventories as of November 1, 2027, including those deemed optimized under §141.81(b)(3), must conduct standard monitoring in the first six-month tap monitoring period following November 1, 2027, unless the system has, before or by that date, met all the following criteria:

(A) The system conducts compliance monitoring of sites that meet the correct priority tiering targeting sites served by lead and galvanized requiring replacement service lines in accordance with paragraph (a)(4) of this section;

(B) The system collects samples in accordance with all sample collection requirements in paragraphs (b)(1) and (3) of this section; and

(C) The system collects either first-liter samples or first-liter-and-fifth-liter-paired samples in accordance with paragraph (b)(1) of this section.

(ii) Any water system whose most recent 90th percentile lead and/or copper results as of November 1, 2027, exceeds the lead and/or copper action level must conduct standard monitoring in the first six-month tap monitoring period following November 1, 2027.

(iii) Systems meeting any of the following criteria:

(A) Any water system that exceeds a lead or copper action level.

(B) Any system that fails to operate at or above the minimum value or

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within the range of values for the optimal water quality parameters designated by the State under §141.82(f) for more than nine days in any tap monitoring period as specified in §141.87.

(C) Any water system that becomes a large water system without corrosion control treatment or any large water system without corrosion control treatment whose lead 90th percentile exceeds the lead practical quantitation limit of 0.005 mg/L.

(D) Any water system that installs OCCT or re-optimizes OCCT as a result of exceeding the lead or copper action level, or any water system that adjusts OCCT following a Distribution System and Site Assessment. Systems conducting standard monitoring under this criterion must continue standard monitoring until the State designates new optimal water quality parameters, at which point systems must comply with paragraph (c)(2)(iii)(E) of this section.

(E) Any water system for which the State has designated new values for optimal water quality parameters under §141.82.

(F) Any water system that installs source water treatment pursuant to §141.83(a)(3).

(G) Any water system that has notified the State in writing in accordance with §141.90(a)(4) of an upcoming addition of a new source or long-term change in treatment, unless the State determines that the addition of the new source or long-term change in treatment is not significant and, therefore, does not warrant more frequent monitoring.

(H) Any water system without lead or galvanized requiring replacement service lines in its inventory that notifies the State under §141.90(e)(4)(ii) of any subsequently discovered lead or galvanized requiring replacement service lines in its distribution system, unless the system replaces all the discovered service lines before the start of the next tap monitoring period.

(d) *Reduced monitoring based on 90th percentile levels.* Reduced monitoring refers to an annual or triennial tap monitoring period. Each annual or triennial tap monitoring period includes one tap sampling period. The reduced monitoring frequency is based on the 90th percentile value for the water system.

toring frequency is based on the 90th percentile value for the water system.

(1) *Reduced monitoring sites.* During a reduced tap monitoring period, a water system must collect at least one sample from the number of sites specified in table 2 to this paragraph (d)(1), unless otherwise specified. Reduced monitoring sites must be selected in accordance with the sampling tiers identified in paragraph (a) of this section. Lead and copper sampling results collected from point-of-use sites under §141.93(c)(1) cannot be used to meet the criteria for reduced monitoring under this section. States may specify the locations of sample sites when a system is conducting reduced monitoring.

TABLE 2 TO PARAGRAPH (d)(1)

System size (number of people served)	Reduced minimum number of sites for lead and copper sampling
>100,000	50
10,001 to 100,000	30
3,301 to 10,000	20
501 to 3,300	10
101 to 500	5
≤100	5

(2) *Criteria for reduced monitoring.* Systems are eligible for reduced monitoring if they meet all the requirements of this section, including collecting at least the minimum number of samples required, for at least two consecutive tap monitoring periods. The State may require an eligible system to conduct more frequent monitoring.

(i) *Annual monitoring for any system size.* Any system that does not exceed the lead and copper action levels and, for systems with State-designated OWQPs, also maintains the range of optimal water quality parameters designated by the State in accordance with §141.82(f), for two consecutive six-month tap monitoring periods may reduce the monitoring frequency to annual monitoring. Systems with an annual tap monitoring period must sample at least the standard number of sampling sites for lead in paragraph (c)(1) of this section and at least the reduced number of sites for copper as

specified in paragraph (d)(1) of this section. Prior to conducting annual monitoring, systems must receive a written determination from the State approving annual monitoring based on the State's review of monitoring, treatment, and other relevant information submitted by the system as required by §141.90. For systems that reduce to annual monitoring, the first annual tap monitoring period must begin no later than six months following the last tap monitoring period.

(ii) *Triennial monitoring for small and medium water systems.* Any small or medium water system that does not exceed the lead and copper action levels and, for systems with State-designated OWQPs, also maintains the range of optimal water quality parameters designated by the State in accordance with §141.82(f), during three consecutive years of monitoring, including monitoring conducted at both standard and annual frequencies (standard monitoring completed during both six-month periods of a calendar year is considered one year of monitoring), may reduce the monitoring frequency to triennial monitoring. Systems on triennial monitoring must sample at least the reduced number of sites for lead and copper in accordance with paragraph (d)(1) of this section. Prior to conducting triennial monitoring, systems must receive a written determination from the State approving triennial monitoring based on the State's review of monitoring, treatment, and other relevant information submitted by the system as required by §141.90. For systems that reduce to triennial monitoring, the first triennial tap monitoring period must immediately follow the last annual monitoring period, and the first triennial sampling period must begin no later than three calendar years after the last calendar year in which the system sampled.

(iii) *Triennial monitoring for any system size.* Any water system that demonstrates for two consecutive tap monitoring periods that its 90th percentile lead level, calculated under §141.80(c)(3), is less than or equal to 0.005 mg/L, the 90th percentile copper level, calculated under §141.80(c)(3), is less than or equal to 0.65 mg/L and, for systems with State-designated OWQPs,

also maintains the range of optimal water quality parameters designated by the State in accordance with §141.82(f), may reduce the monitoring frequency to triennial monitoring. Systems on triennial monitoring must sample at least the reduced number of sites for lead and copper in accordance with paragraph (d)(1) of this section. Prior to conducting triennial monitoring, systems must receive a written determination from the State approving triennial monitoring based on the State's review of monitoring, treatment, and other relevant information submitted by the system as required by §141.90. For systems that reduce to triennial monitoring, the first triennial tap monitoring period must immediately follow the last monitoring period, and the first triennial tap sampling period must begin no later than three calendar years after the last calendar year in which the system sampled.

(3) *Tap sampling period under reduced monitoring.* The tap sampling period for systems on reduced monitoring must occur within the months of June, July, August, or September, unless the State has approved a different tap sampling period in accordance with paragraph (d)(3)(i) of this section. Only systems on reduced monitoring can monitor during a tap sampling period that is shorter than the tap monitoring period.

(i) The State may approve a different tap sampling period for systems collecting samples on reduced monitoring. An alternative tap sampling period approved by the State must be a continuous period of time no longer than four consecutive months, must occur entirely within one calendar year, and must represent a time of normal operation where the highest levels of lead are most likely to occur. For a non-transient non-community water system that does not operate during the months of June through September and for which the period of normal operation where the highest levels of lead are most likely to occur is not known, the State must designate a period that represents normal operation for the system.

(ii) Systems that receive State-approval for an alternate tap sampling

period under paragraph (d)(3)(i) of this section and have been sampling in the months of June through September must complete their next tap sampling period no later than 21 months, if on annual monitoring, or no later than 45 months, if on triennial monitoring, following the end of the previous tap sampling period.

(iii) Systems with waivers granted pursuant to paragraph (g) of this section that have been collecting samples during the months of June through September and receive State approval to alter their sampling period as per paragraph (d)(3)(i) of this section must collect their next round of samples before the end of the next nine-year period.

(e) *Inclusion of lead and copper tap samples for calculation of the 90th percentile.* Water systems and the State must consider the results of any sampling conducted in addition to the minimum number of samples required in paragraph (c) or (d) of this section, as applicable, in making any determinations (*i.e.*, calculating the 90th percentile lead or copper level in accordance with §141.80(c)(3)) under this subpart if the samples meet the requirements of paragraphs (a) and (b) of this section. Consumer-requested sampling conducted in accordance with §141.85(c) must be considered if the sample meets the requirements of paragraphs (a) and (b). If multiple samples from the same site, taken during the same tap sampling period, meet the requirements of this section for consideration of the 90th percentile calculation, only the highest value from each site can be considered, except for systems under paragraph (a)(2) of this section.

(1) Water systems sampling at one or more Tier 1 and/or Tier 2 sites in a tap sampling period that are unable to collect the minimum number of samples required in paragraph (c) or (d) of this section from Tier 1 or 2 sites must consider the lead and copper values from the next highest tier available in accordance with paragraph (a) of this section. If a water system has sufficient samples after including the samples from the next highest available tier to meet the minimum number of samples required in paragraph (c) or (d), the system may not consider additional

samples from other available lower tiers. Systems (or the State) must calculate the 90th percentile lead and copper values in accordance with §141.80(c)(3)(iii) using a total number of samples equal to the minimum number of samples required in paragraph (c) or (d). Systems must submit all additional sampling results to the State that were not used in the 90th percentile calculation.

(2) Systems (or the State when the State is calculating the 90th percentile) cannot include samples collected as part of Distribution System and Site Assessment under §141.82(j)(2) in the 90th percentile calculation.

(3) Systems (or the State when the State is calculating the 90th percentile) cannot include follow-up samples collected as a result of monitoring after service line replacement under §141.84(h) in the 90th percentile calculation.

(f) *Invalidation of lead and copper tap samples used in the calculation of the 90th percentile.* A sample invalidated under this paragraph (f) does not count towards determining lead or copper 90th percentile levels under §141.80(c)(3) or towards meeting the minimum monitoring requirements of paragraph (c) or (d) of this section. The system must report the results of all samples to the State and all supporting documentation for samples the system believes should be invalidated.

(1) The State may invalidate a lead or copper tap water sample if at least one of the following conditions is met:

(i) The laboratory establishes that improper sample analysis caused erroneous results.

(ii) The State determines that a sample collected for compliance purposes under this section, that is not an additional sample collected under paragraph (e) of this section, was taken from a site that did not meet the site selection criteria under paragraph (a) of this section, such as when sites of a higher tier were still available.

(iii) The State determines the sample was collected in a manner that did not meet the sample collection protocol under paragraph (b)(1) of this section.

(iv) The sample container was damaged in transit.

(v) There is a substantial reason to believe that the sample was subject to tampering.

(2) To invalidate a sample under paragraph (f)(1) of this section, the State must document in writing both the decision and the rationale for the decision. States may not invalidate a sample solely on the grounds that a follow-up sample result is higher or lower than that of the original sample.

(3) The water system must collect replacement samples for any samples invalidated under this section if, after the invalidation of one or more samples, the system has too few samples to meet the minimum requirements of paragraph (c)(1) or (d)(1) of this section. Any such replacement samples must be taken as soon as possible, but no later than 20 days after the date the State notifies the system of an invalidated sample or by the end of the tap sampling period, whichever occurs later. Replacement samples taken after the end of the applicable tap sampling period can only be used to meet the monitoring requirements of the applicable tap monitoring period in paragraph (c) or (d) of this section and not a subsequent tap monitoring period. The replacement samples must be taken at the same locations as the invalidated samples, except when the sample is invalidated due to an error in meeting the site selection criteria under paragraph (a) of this section, or a system cannot gain access for sampling. The replacement samples must then be taken at locations that meet the site selection criteria other than those locations already used for sampling during the tap monitoring period.

(g) *Monitoring waivers for systems serving 3,300 or fewer persons.* Any water system serving 3,300 or fewer persons that meets the criteria of this paragraph (g) may apply, in writing, to the State to reduce the frequency of monitoring for lead and/or copper to once every nine years. The system must meet the materials criteria specified in paragraph (g)(1) of this section and the monitoring criteria specified in paragraph (g)(2) of this section. Systems meeting only the criteria for lead may apply for a lead waiver, systems meeting only the criteria for copper may apply for a copper waiver, and systems

meeting the criteria for both lead and copper may apply for a full waiver.

(1) *Materials criteria.* The system must demonstrate that its distribution system and service lines and all drinking water supply plumbing, including plumbing conveying drinking water within all residences and buildings connected to the system, are free of lead-containing materials and/or copper-containing materials, as those terms are defined in this paragraph (g)(1), as follows:

(i) *Lead.* To qualify for a lead waiver, the water system must certify and provide supporting documentation to the State that the system, including the distribution system and all premise plumbing, is free of all lead-containing materials, as follows:

(A) It contains no plastic pipes which contain lead plasticizers, or plastic service lines which contain lead plasticizers; and

(B) It is free of lead service lines, galvanized requiring replacement service lines, lead connectors, lead pipes, lead soldered pipe joints, and leaded brass or bronze alloy fittings and fixtures, unless such fittings and fixtures meet the specifications of any standard established pursuant to 42 U.S.C. 300g-6(e) (SDWA section 1417(e)).

(ii) *Copper.* To qualify for a copper waiver, the water system must certify and provide supporting documentation to the State that the system contains no copper service lines or premise plumbing.

(2) *Monitoring criteria.* The system must have completed at least one six-month round of standard tap water monitoring for lead and copper at sites approved by the State and from the number of sites required by paragraph (c)(1) of this section and demonstrate that the 90th percentile levels for any and all rounds of monitoring conducted since the system became free of all lead-containing and/or copper-containing materials, as appropriate, meet the following criteria.

(i) *Lead levels.* To qualify for a lead waiver, the system must demonstrate that the 90th percentile lead level does not exceed 0.005 mg/L.

(ii) *Copper levels.* To qualify for a copper waiver, the system must demonstrate that the 90th percentile copper level does not exceed 0.65 mg/L.

(3) *State approval of waiver application.* The State must notify the system of its waiver determination, in writing, setting forth the basis of its decision and any condition(s) of an approved waiver. As a condition of a waiver, the State may require the system to perform specific activities (*e.g.*, limited monitoring, periodic outreach to customers to remind them to avoid installing materials that might void the waiver) to avoid lead or copper concentrations of concern in tap water. The water system must continue monitoring for lead and copper at the tap as required by paragraphs (c) and (d) of this section, as appropriate, until it receives written notification from the State that a waiver has been approved.

(4) *Monitoring frequency for systems with waivers.* (i) A system with a full waiver must conduct tap monitoring for lead and copper in accordance with paragraph (d) of this section at least once every nine years. A system with a full waiver must provide the State with the materials certification specified in paragraph (g)(1) of this section for both lead and copper when submitting their tap sampling results to the State. Samples collected every nine years must be collected no later than every ninth calendar year.

(ii) A system with a lead waiver or copper waiver must conduct tap monitoring for only the waived contaminant in accordance with paragraph (d) of this section at least once every nine years. A system with a lead waiver or copper waiver must provide the State with the materials certification specified in paragraph (g)(1) of this section for only the waived contaminant when submitting their tap sampling results to the State. Also, a system must continue to monitor for the non-waived contaminant in accordance with the requirements of paragraphs (c) and (d) of this section, as appropriate.

(iii) Any water system with a waiver must notify the State in writing in accordance with §141.90(a)(4) about any addition of a new source water or long-term change in treatment, as described in that section. The State may 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 the State deems any modifications are necessary to address treatment or source water changes at the system.

(iv) If a system with a waiver becomes aware that the system is no longer free of lead-containing or copper-containing materials, as appropriate (*e.g.*, as a result of new construction or repairs), the system must notify the State in writing no later than 60 days after becoming aware of such a change.

(5) *Discontinuation of eligibility.* A system with a waiver where any of the following conditions occurs is not allowed to continue monitoring under its waiver:

(i) A system with a full waiver or a lead waiver no longer satisfies the materials criteria of paragraph (g)(1)(i) of this section or has a 90th percentile lead level greater than 0.005 mg/L.

(ii) A system with a full waiver or a copper waiver no longer satisfies the materials criteria of paragraph (g)(1)(ii) of this section or has a 90th percentile copper level greater than 0.65 mg/L.

(iii) The State notifies the system, in writing, that the waiver has been revoked, setting forth the basis of its decision.

(6) *Requirements following waiver revocation.* A system whose waiver is revoked may re-apply for a waiver when it meets the appropriate materials criteria and monitoring criteria of paragraphs (g)(1) and (2) of this section. A system whose waiver is revoked by the State is subject to the following corrosion control treatment and lead and copper tap water monitoring requirements:

(i) If the system exceeds the lead and/or copper action level, the system must implement or re-optimize OCCT in accordance with the deadlines specified in §141.81, and any other applicable requirements of this subpart.

(ii) If the system is at or below both the lead and copper action levels, the system must monitor for lead and copper at the tap no less frequently than

once every three years using the reduced number of sampling sites specified in paragraph (d)(1) of this section.

(7) *Pre-existing waivers.* Waivers approved by the State in writing prior to the compliance date specified in § 141.80(a)(3) are still in effect if the system has demonstrated that it is both free of lead-containing and copper-containing materials, as required by paragraph (g)(1) of this section and that its 90th percentile lead levels and 90th percentile copper levels meet the criteria of paragraph (g)(2) of this section, and the system does not meet the waiver ineligibility criteria of paragraph (g)(5) of this section.

(h) *Publicly accessible tap monitoring results used in the 90th percentile calculation.* Unless done by the State, all water systems must make the tap monitoring results, including data used in the 90th percentile calculation under § 141.80(c)(3), publicly accessible within 60 days of the end of the tap sampling period. Under this paragraph (h), water systems are not required to make the addresses of tap sampling sites publicly accessible.

(1) Large water systems must make the tap monitoring results and associated data publicly accessible in a digital format.

(2) Small and medium water systems must make the tap monitoring results and associated data publicly accessible in either a print or digital format.

(3) Water systems must certify to the State, in writing, compliance with this paragraph (h) in accordance with § 141.90(a)(2)(iii) and must retain monitoring data in accordance with the recordkeeping requirements under § 141.91.

[89 FR 86647, Oct. 30, 2024]

§ 141.87 Monitoring requirements for water quality parameters.

All large water systems and all medium water systems with corrosion control treatment (unless deemed optimized under § 141.81(b)(3)), and all small and medium water systems that exceed the lead action level or copper action level must sample and monitor water quality parameters in addition to lead and copper in accordance with the requirements of this section. Any system may be required to monitor water quality parameters as determined by the

State, including as provided in this section.

(a) *General requirements—(1) Distribution system samples for water quality parameters.* (i) Distribution system samples collected at water taps must be representative of water quality throughout the distribution system, considering the number of persons served, the different sources of water, the different treatment methods employed by the system, and seasonal variability. Sites selected for sampling in the distribution system under this section can be the same as or different from tap sampling sites targeted for lead and copper sampling under § 141.86(a). Systems may consider selecting sites also used for total coliform sampling under § 141.21(a)(1). Sites selected for sampling in the distribution system under this section must be included in the site sample plan specified under § 141.90(a)(1). The site sample plan must be updated prior to changes to the sampling locations.

(ii) Samples collected in the distribution system must be analyzed for the following parameters, when applicable, as specified:

(A) pH;

(B) Alkalinity;

(C) Orthophosphate (as PO₄), when an inhibitor containing an orthophosphate compound is used;

(D) Silica, when an inhibitor containing a silicate compound is used; and

(E) Any parameters specified by the State under § 141.82(a)(1) or (f)(6).

(2) *Entry point samples for water quality parameters.* (i) Samples collected at the entry point(s) to the distribution system must be from locations representative of each source water after treatment. If a system draws water from more than one source water and the source waters are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions when water is representative of all sources typically being used.

(ii) Except as provided in paragraph (b)(3)(ii) of this section for ground water systems, the following parameters must be measured at each entry

point to the distribution system, when applicable, as specified:

(A) pH;

(B) When alkalinity is adjusted as part of corrosion control, a reading of the dosage rate of the chemical used to adjust alkalinity, and the alkalinity concentration;

(C) When a corrosion inhibitor is used as part of corrosion control, a reading of the dosage rate of the inhibitor used, and the concentration of orthophosphate (as PO_4) or silica (whichever is applicable); and

(D) Any parameters specified by the State under §141.82(a)(1) or (f)(6).

(b) *Standard monitoring for water quality parameters*—(1) *Number of samples*—

(i) *Distribution system samples*. Systems must collect two distribution system samples for applicable water quality parameters during each monitoring period specified under paragraphs (b)(2) through (4) of this section from each of the minimum number of sites listed in table 1 to this paragraph (b)(1)(i). Systems that collect distribution system samples for water quality parameters from additional sites as a result of the Distribution System and Site Assessment requirements in §141.82(j) must add those sites to the minimum number of sites listed in table 1 to this paragraph (b)(1)(i) up to a maximum of not more than twice the minimum number of sites.

TABLE 1 TO PARAGRAPH (b)(1)(i)

System size (number of people served)	Minimum number of sites for water quality parameters
>100,000	25
10,001 to 100,000	10
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
≤100	1

(ii) *Samples at entry points*. (A) Systems without installed or re-optimized OCCT and without State-designated optimal water quality parameters required to collect entry point samples must collect a minimum of two entry point samples for each applicable water quality parameter at each entry point to the distribution system at least once during each monitoring period

specified in paragraph (b)(2) of this section.

(B) Systems with installed OCCT or re-optimized OCCT and/or State-designated optimal water quality parameters required to collect entry point samples, including as provided in paragraph (b)(3)(iii) of this section, must collect one entry point sample for each applicable water quality parameter at each entry point to the distribution system at least once every two weeks during each monitoring period the system is required to conduct sampling as specified in paragraphs (b)(3) and (4) and (c) of this section.

(2) *Initial sampling for water systems*. A large water system without corrosion control treatment must begin monitoring for water quality parameters as specified in paragraphs (b)(2)(i) and (ii) of this section during the first two six-month monitoring periods beginning no later than January 1 of the calendar year after the system either becomes a large water system or exceeds the practical quantitation limit for lead. Any medium water system without corrosion control treatment that exceeds the lead action level or the copper action level must begin monitoring for applicable distribution system and entry point water quality parameters as specified in paragraphs (b)(2)(i) and (ii) for two consecutive six-month monitoring periods beginning the month immediately following the end of the tap monitoring period in which the action level exceedance occurred. Any small water system that exceeds the lead or copper action level must begin monitoring for applicable distribution system and entry point water quality parameters as specified in paragraphs (b)(2)(i) and (ii) for two consecutive six-month monitoring periods beginning the month immediately following the end of the tap monitoring period in which the action level exceedance occurred. Systems must continue monitoring as described by paragraphs (b)(3) and (4) of this section.

(i) At sites in the distribution system, collect two samples for:

(A) pH; and

(B) Alkalinity.

(ii) At each entry point to the distribution system, collect all the applicable parameters listed in paragraph (a)(2)(ii) of this section.

(3) *Monitoring after installation of OCCT or re-optimized OCCT.* (i) A system that modifies or installs OCCT pursuant to §141.81(d)(5) or (e)(5) and is required to conduct follow-up monitoring for lead or copper pursuant to §141.81(d)(6) or (e)(6) must monitor for applicable distribution system and entry point water quality parameters as specified in paragraphs (a)(1) and (2) of this section every six months until the State designates new water quality parameter values for OCCT pursuant to §141.82(f). Water systems must collect these samples at a regular frequency throughout the six-month monitoring period to reflect seasonal variability.

(ii) Any ground water system can limit entry point sampling described in paragraph (a)(2) of this section to those entry points that are representative of water quality and treatment conditions throughout the system. If water from untreated ground water sources mixes with water from treated ground water sources, the system must monitor for water quality parameters both at representative entry points receiving treatment and representative entry points receiving no treatment. Prior to the start of any monitoring under this paragraph (b)(3)(ii), the water system must provide to the State, written information and documentation identifying the selected entry points, including information on seasonal variability, sufficient to demonstrate that the sites are representative of water quality and treatment conditions throughout the system.

(iii) States may require small water systems with corrosion control treatment for which the State has not designated optimal water quality parameters that do not exceed the lead action level or copper action level to conduct water quality parameter monitoring as described in this paragraph (b) or the State can develop its own water quality parameter monitoring structure for these systems.

(4) *Monitoring by systems with State-designated optimal water quality parameter values for OCCT.* Monitoring must occur at a regular frequency through-

out the monitoring period to reflect seasonal variability and be consistent with the requirements in paragraphs (a)(1) and (2) of this section.

(i) Medium water systems with corrosion control treatment and all large water systems must sample for the applicable water quality parameters designated by the State and determine compliance with the requirements of §141.82(g) every six months with the first six-month monitoring period to begin on either January 1 or July 1, whichever comes first, after the State specifies the optimal values under §141.82(f).

(ii) A small water system with corrosion control treatment that exceeds the lead action level or copper action level must begin monitoring during the standard six-month tap monitoring period immediately following the tap monitoring period in which the action level exceedance(s) occurs and continue monitoring until the water system no longer exceeds the lead action level and/or copper action level and meets the State-designated optimal water quality parameters in two consecutive six-month tap monitoring periods under §141.86(c). For any small water system that is subject to a reduced monitoring frequency pursuant to §141.86(d) at the time of the action level exceedance, the start of the six-month monitoring period under this paragraph (b)(4)(ii) must coincide with the start of the tap monitoring period under §141.86(c).

(iii) Compliance with State-designated optimal water quality parameter values must be determined as specified under §141.82(g).

(iv) States have the discretion to require systems described in paragraph (b)(4)(ii) of this section to continue to monitor optimal water quality parameters.

(c) *Reduced monitoring.* (1) A medium or large water system that maintains the range of values for the water quality parameters reflecting OCCT specified by the State under §141.82(f) and does not exceed the lead action level or copper action level in either of the two

consecutive six-month monitoring periods under paragraph (b)(4) of this section must collect two distribution system samples for applicable water quality parameters specified in paragraph (a)(1)(ii) of this section from each of the minimum number of sites listed in table 2 to this paragraph (c)(1) during each six-month monitoring period. These water systems must collect these samples at a regular frequency throughout the six-month monitoring period to reflect seasonal variability. A system meeting the requirements of this paragraph (c)(1) must continue to monitor at the entry point(s) to the distribution system as specified in paragraph (a)(2) of this section. Systems with sites added as a result of the Distribution System and Site Assessment requirements in §141.82(j) must continue to sample at the added sites up to a maximum of not more than twice the minimum number of sites specified in table 1 to paragraph (b)(1)(i) of this section.

TABLE 2 TO PARAGRAPH (c)(1)

System size (number of people served)	Reduced minimum number of sites for water quality parameters
>100,000	10
10,001 to 100,000	7
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
≤100	1

(2)(i) A water system that maintains the range of values for the water quality parameters reflecting OCCT specified by the State under §141.82(f) and does not exceed the lead action level or copper action level during three consecutive years of monitoring may reduce the frequency with which it collects distribution system samples for applicable water quality parameters specified in paragraph (a)(1)(ii) of this section from each of the minimum number of sites listed in table 2 to paragraph (c)(1) of this section from every six months to annually. This sampling must begin during the calendar year immediately following the end of the monitoring period in which the third consecutive year of six-month monitoring occurs.

(ii) A water system may reduce the frequency with which it collects distribution system samples for applicable water quality parameters specified in paragraph (c)(1) of this section to every year if it demonstrates during two consecutive monitoring periods that its tap water lead level at the 90th percentile is less than or equal to the practical quantitation limit for lead of 0.005 mg/L, that its tap water copper level at the 90th percentile is less than or equal to 0.65 mg/L as calculated in accordance with §141.80(c)(3), and that it also has maintained the range of values for the water quality parameters reflecting OCCT specified by the State under §141.82(f).

(3) A water system that conducts sampling at taps for water quality parameters annually must collect these samples at a regular frequency throughout the year to reflect seasonal variability.

(4) A water system monitoring at a reduced frequency that fails to operate at or within the range of values for the optimal water quality parameters designated by the State in §141.82(f) for more than nine cumulative days, as specified in §141.82(g), in any six-month period under paragraph (b)(4) of this section must resume distribution system sampling in accordance with the number and frequency requirements in paragraph (b)(4). Such a system may resume annual monitoring for water quality parameters in the distribution system at the reduced number of sites specified in paragraph (c)(1) of this section after it has completed two subsequent consecutive six-month rounds of monitoring that meet the criteria of paragraph (c)(1) of this section and/or may resume annual monitoring for water quality parameters in the distribution system at the reduced number of sites after it demonstrates through subsequent rounds of monitoring that it meets the criteria of either paragraph (c)(2)(i) or (ii) of this section.

(5) Any water system monitoring at a reduced frequency that exceeds the lead action level or copper action level must resume standard water quality parameter monitoring beginning with the six-month period immediately following the tap monitoring period in

which the action level exceedance(s) occurs. When the water system no longer exceeds the lead action level and/or copper action level and meets the State-designated optimal water quality parameters in two consecutive six-month tap monitoring periods, the system may then reduce monitoring in accordance with paragraphs (c)(1) and (2) of this section.

(d) *Additional monitoring by systems.* The results of any monitoring conducted in addition to the minimum requirements of this section must be considered by the water system and the State in determining concentrations of water quality parameters under this section or § 141.82.

[89 FR 86652, Oct. 30, 2024]

§ 141.88 Monitoring requirements for lead and copper in source water.

(a) *Sample location, collection methods, and number of samples.* (1) A water system that fails to meet the lead or copper action level on the basis of tap samples collected in accordance with § 141.86 shall collect lead and copper source water samples in accordance with the following requirements regarding sample location, number of samples, and collection methods:

(i) Groundwater systems shall take a minimum of one sample at every entry point to the distribution system after any application of treatment or in the distribution system at a point which is representative of each source after treatment (hereafter called a sampling point). The system shall take one sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

(ii) Surface water systems shall take a minimum of one sample at every entry point to the distribution system after any application of treatment or in the distribution system at a point which is representative of each source after treatment (hereafter called a sampling point). The system shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

NOTE TO PARAGRAPH (a)(1)(ii): For the purposes of this paragraph, surface water sys-

tems include systems with a combination of surface and ground sources.

(iii) If a system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (*i.e.*, when water is representative of all sources being used).

(iv) The State may reduce the total number of samples which must be analyzed by allowing the use of compositing. Compositing of samples must be done by certified laboratory personnel. Composite samples from a maximum of five samples are allowed, provided that if the lead concentration in the composite sample is greater than or equal to 0.001 mg/L or the copper concentration is greater than or equal to 0.160 mg/L, then either:

(A) A follow-up sample shall be taken and analyzed within 14 days at each sampling point included in the composite; or

(B) If duplicates of or sufficient quantities from the original samples from each sampling point used in the composite are available, the system may use these instead of resampling.

(2) Where the results of sampling indicate an exceedance of maximum permissible source water levels established under § 141.83(b)(4), the State may require that one additional sample be collected as soon as possible after the initial sample was taken (but not to exceed two weeks) at the same sampling point. If a State-required confirmation sample is taken for lead or copper, then the results of the initial and confirmation sample shall be averaged in determining compliance with the State-specified maximum permissible levels. Any sample value below the detection limit shall be considered to be zero. Any value above the detection limit but below the PQL shall either be considered as the measured value or be considered one-half the PQL.

(b) *Monitoring frequency after system exceeds tap water action level.* Any system which exceeds the lead or copper action level at the tap for the first time or for the first time after an addition of a new source or installation of source water treatment required under

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§ 141.83(b)(2) shall collect one source water sample from each entry point to the distribution system no later than six months after the end of the tap sampling period during which the lead or copper action level was exceeded. For tap sampling periods that are annual or less frequent, the end of the tap sampling period is September 30 of the calendar year in which the sampling occurs, or if the State has established an alternate monitoring period, the last day of that period. If the State determines that source water treatment is not required under § 141.83(b)(2), the state may waive source water monitoring, for any subsequent lead or copper action level exceedance at the tap, in accordance with the requirements in paragraphs (b)(1)(i) through (iii) of this section.

(1) The State may waive source water monitoring for lead or copper action level exceedance at the tap under the following conditions:

(i) The water system has already conducted source water monitoring following a previous action level exceedance;

(ii) The State has determined that source water treatment is not required; and

(iii) The system has not added any new water sources.

(2) [Reserved]

(c) *Monitoring frequency after installation of source water treatment and addition of new source.* (1) Any system which installs source water treatment pursuant to § 141.83(a)(3) shall collect one source water sample from each entry point to the distribution system during two consecutive six-month monitoring periods by the deadline specified in § 141.83(a)(4).

(2) Any system which adds a new source shall collect one source water sample from each entry point to the distribution system until the system demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the State in § 141.83(b)(4) or the State determines that source water treatment is not needed.

(d) *Monitoring frequency after State specifies maximum permissible source*

water levels. (1) A system shall monitor at the frequency specified in paragraphs (d)(1) and (2) of this section, in cases where the State specifies maximum permissible source water levels under § 141.83(b)(4).

(i) A water system using only groundwater shall collect samples once during the three-year compliance period (as that term is defined in § 141.2) in effect when the applicable State determination under paragraph (d)(1) of this section is made. Such systems shall collect samples once during each subsequent compliance period. Triennial samples shall be collected every third calendar year.

(ii) A water system using surface water (or a combination of surface and ground water) shall collect samples once during each calendar year, the first annual monitoring period to begin during the year in which the applicable State determination is made under paragraph (d)(1) of this section.

(2) A system is not required to conduct source water sampling for lead and/or copper if the system meets the action level for the specific contaminant in tap water samples during the entire source water sampling period applicable to the system under paragraph (d)(1) (i) or (ii) of this section.

(e) *Reduced monitoring frequency.* (1) A water system using only groundwater may reduce the monitoring frequency for lead and copper in source water to once during each nine-year compliance cycle (as that term is defined in § 141.2) provided that the samples are collected no later than every ninth calendar year and if the system meets the following criteria:

(i) The system demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the State in § 141.83(b)(4) during at least three consecutive monitoring periods under paragraph (d)(1) of this section.

(ii) [Reserved]

(2) A water system using surface water (or a combination of surface water and groundwater) may reduce the monitoring frequency in paragraph (d)(1) of this section to once during each nine-year compliance cycle (as that term is defined in § 141.2) provided

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that the samples are collected no later than every ninth calendar year and if the system meets the following criteria:

(i) The system demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the State in §141.83(b)(4) for at least three consecutive years⁷

(ii) [Reserved]

(3) A water system that uses a new source of water is not eligible for reduced monitoring for lead and/or copper until concentrations in samples collected from the new source during three consecutive monitoring periods are below the maximum permissible lead and copper concentrations specified by the State in §141.83(a)(5).

[56 FR 26548, June 7, 1991; 57 FR 28788 and 28789, June 29, 1992, as amended at 65 FR 2012, Jan. 12, 2000; 72 FR 57819, Oct. 10, 2007; 86 FR 4302, Jan. 15, 2021]

§ 141.89 Analytical methods.

(a) Analyses for lead, copper, pH, alkalinity, orthophosphate, and silica shall be conducted in accordance with methods in §141.23(k)(1).

(1) Analyses for alkalinity, orthophosphate, pH, and silica may be performed by any person acceptable to the State. Analyses under this section for lead and copper shall only be conducted by laboratories that have been certified by EPA or the State. To obtain certification to conduct analyses for lead and copper, laboratories must:

(i) Analyze Performance Evaluation samples, which include lead and copper, provided by or acceptable to EPA or the State at least once a year by each method for which the laboratory desires certification; and

(ii) Achieve quantitative acceptance limits as follows:

(A) For lead: ± 30 percent of the actual amount in the Performance Evaluation sample when the actual amount is greater than or equal to 0.005 mg/L. The Practical Quantitation Level, or PQL for lead is 0.005 mg/L.

(B) For Copper: ± 10 percent of the actual amount in the Performance Evaluation sample when the actual amount is greater than or equal to 0.050 mg/L.

The Practical Quantitation Level, or PQL for copper is 0.050 mg/L.

(iii) Achieve method detection limit for lead of 0.001 mg/L according to the procedures in appendix B of part 136 of this title.

(iv) Be currently certified by EPA or the State to perform analyses to the specifications described in paragraph (a)(1) of this section.

(2) States have the authority to allow the use of previously collected monitoring data for purposes of monitoring, if the data were collected and analyzed in accordance with the requirements of this subpart.

(3) All lead and copper levels measured between the PQL and MDL must be either reported as measured or they can be reported as one-half the PQL specified for lead and copper in paragraph (a)(1)(ii) of this section. All levels below the lead and copper MDLs must be reported as zero.

(4) All copper levels measured between the PQL and the MDL must be either reported as measured or they can be reported as one-half the PQL (0.025 mg/L). All levels below the copper MDL must be reported as zero.

(b) [Reserved]

[56 FR 26548, June 7, 1991, as amended at 57 FR 28789, June 29, 1992; 57 FR 31847, July 17, 1992; 59 FR 33863, June 30, 1994; 59 FR 62470, Dec. 5, 1994; 64 FR 67466, Dec. 1, 1999; 65 FR 2012, Jan. 12, 2000; 72 FR 57819, Oct. 10, 2007; 86 FR 4303, Jan. 15, 2021]

§ 141.90 Reporting requirements.

All water systems shall report all of the following information to the State in accordance with this section.

(a) *Reporting requirements for tap monitoring for lead and copper and for distribution system and entry point monitoring for water quality parameters.* (1) By the start of a system's first lead and copper tap monitoring period in §141.86(c) and (d), water systems must submit the following to the State:

(i) A site sample plan, including a list of tap sample site locations for lead and copper sampling identified from the inventory in §141.84(a), and a list of tap sampling sites and entry point to the distribution system sites for water quality parameter monitoring selected under §141.87(a)(1) and (2). Changes to the site sample plan require systems to

submit an updated site sample plan to the State before the start of the next tap sampling period conducted by the system. The State may require modifications to the site sample plan as necessary.

(A) Water systems with lead, galvanized requiring replacement, and/or lead status unknown service lines in the service line inventory conducted under §141.84(a) and (b) must evaluate the tap sampling locations for lead and copper used in their sampling pool prior to the start of each tap sampling period, beginning with the compliance date specified in §141.80(a)(3). Evaluations that result in changes to the site sample plan require systems to submit an updated site sample plan to the State prior to each tap sampling period conducted by the system.

(B) A water system that cannot identify enough sampling sites with premise plumbing made of lead and/or served by lead service lines to meet the minimum number of sample sites required in §141.86(c)(1) or (d)(1), as required under §141.86(a)(3), must submit documentation, including documentation of applicable customer refusals for sampling, in support of the conclusion that there are an insufficient number of available sites with premise plumbing made of lead and/or served by lead service lines, prior to the next tap sampling period.

(ii) A copy of the sample collection instructions that are provided to individuals who are sampling, which meets the requirements of §141.86(b). If the water system seeks to modify its sample collection instructions specified in this paragraph (a)(1)(ii), it must submit the updated version of the instructions to the State for review prior to the next tap sampling period.

(2) Notwithstanding the requirements of §141.31(a), a water system must report the information specified in paragraphs (a)(2)(i) through (vii) of this section, for all lead and copper tap samples specified in §141.86 and for all water quality parameter distribution system and entry point samples specified in §141.87, within the first 10 days following the end of each applicable sampling period specified in §§141.86 and 141.87, unless the State has specified an earlier reporting requirement.

For tap sampling periods with a duration less than six months, the end of the sampling period is the last date samples can be collected as specified in §141.86.

(i) The results of all tap samples for lead and copper collected during the tap sampling period, including results for both first- and fifth-liter samples collected at lead service line sites, the location of each site, and the site selection criteria under §141.86(a)(3) and (4) used as the basis for which the site was selected for the water system's sampling pool;

(ii) Documentation for each tap water lead or copper sample for which the water system requests invalidation pursuant to §141.86(f);

(iii) With the exception of initial tap sampling conducted pursuant to §141.86(c)(2)(i), a certification that the results of monitoring from the tap monitoring period before the applicable tap monitoring period described in this paragraph (a)(2) were made publicly accessible, as specified in §141.86(h);

(iv) The 90th percentile lead and copper concentrations calculated from lead and copper tap water samples collected during each tap sampling period in accordance with §141.80(c)(3), unless the State calculates the water system's 90th percentile lead and copper levels under paragraph (h) of this section;

(v) With the exception of initial tap sampling conducted pursuant to §141.86(c)(2)(i), the water system must identify any site which was not sampled during the tap monitoring period previous to the applicable tap monitoring period described in this paragraph (a)(2), and include an explanation of why sampling sites have changed;

(vi) The results of all tap samples for water quality parameters that are required to be collected under §141.87(b) through (d);

(vii) The results of all samples collected at the entry point(s) to the distribution system for applicable water quality parameters under §141.87(b) through (d); and

(viii) The number of sites from which the system requested customer participation for sampling during the tap sampling period and the customer was either non-responsive after two attempts or refused to participate.

(3) For a non-transient non-community water system, or a community water system meeting the criteria of §141.85(b)(8), that does not have enough taps that can provide first liter or first-and fifth-liter paired samples meeting the six-hour minimum stagnation time, the water system must either:

(i) Provide written documentation identifying standing times and locations for samples that do not meet the six-hour minimum stagnation time to make up a system's sampling pool in order to meet the minimum number of sites to sample as required in §141.86(b)(3) by the start of the system's first applicable tap monitoring period under §141.86(c), or if there are changes to the documentation, prior to the next tap sampling period, unless the State has waived prior approval of sample sites not meeting the six-hour stagnation time selected by the water system pursuant to §141.86(b)(3); or

(ii) If the State has waived prior approval of sample sites not meeting the six-hour stagnation time selected by the system, identify, in writing, each site that did not meet the six-hour minimum stagnation time and the length of standing time for that particular substitute sample collected pursuant to §141.86(b)(3) and include this information with the lead and copper tap sample results required to be submitted pursuant to paragraph (a)(2)(i) of this section.

(4) At a time specified by the State, or if no specific time is designated, as early as possible but no later than six months prior to the addition of a new source or any long-term change in water treatment, a water system must submit written documentation describing the addition of a new source or long-term change in treatment to the State. Systems may not implement the addition of a new source or long-term treatment change without State approval. The State must review and approve the addition of a new source or a long-term change in water treatment before it can be implemented by the water system. The State may require any such water system to take actions before or after the addition of a new source or long-term treatment change to ensure that the water system will

operate and maintain optimal corrosion control treatment, such as additional water quality parameter monitoring, additional lead or copper tap sampling, and re-evaluating corrosion control treatment. Examples of long-term treatment changes include but are not limited to 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 treatment changes can also 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 where a new source has not been added.

(5) Any system serving 3,300 or fewer persons applying for a monitoring waiver under §141.86(g), or subject to a waiver granted pursuant to §141.86(g)(3), must provide the following information to the State in writing by the specified deadline:

(i) By the start of the system's first applicable tap monitoring period in §141.86(c) and (d), any water system applying for a monitoring waiver must provide the documentation required to demonstrate that it meets the waiver criteria of §141.86(g)(1) and (2) to the State.

(ii) Prior to the beginning of each tap monitoring period in which the system desires to maintain its monitoring waiver pursuant to §141.86(g)(2) or (4), the system must provide the information required by §141.86(g)(4)(i) and (ii) to the State.

(iii) No later than 60 days after it becomes aware that it is no longer free of lead-containing and/or copper-containing material, as appropriate, each system with a monitoring waiver must provide written notification to the State setting forth the circumstances resulting in the lead-containing and/or copper-containing materials being discovered in the system and what corrective action, if any, the system plans to take to remove these materials.

(6) Each ground water system that limits water quality parameter monitoring to a subset of entry points under §141.87(b)(3)(ii) must provide, by the commencement of such monitoring, written correspondence to the State that identifies the selected entry points and includes information sufficient to demonstrate that the sites are representative of water quality and treatment conditions throughout the system.

(b) *Source water monitoring reporting requirements.* A water system must report the following within the first 10 days following the end of each source water monitoring period (*i.e.*, annually, per compliance period, per compliance cycle) specified in §141.88.

(1) The sampling results for all source water samples collected in accordance with §141.88.

(2) With the exception of the first round of source water sampling conducted pursuant to §141.88(b), the system must specify any site which was not sampled during the previous monitoring period, and include an explanation of why the sampling point has changed.

(c) *Corrosion control treatment reporting requirements.* By the applicable dates under §141.81, systems shall report the following information:

(1) For water systems demonstrating that they have already optimized OCCT without optimized water quality parameters set by the State, information required in §141.81(b)(1) through (3).

(2) For systems required to optimize corrosion control, their recommendation regarding optimal corrosion control treatment under §141.82(a).

(3) For systems required to evaluate the effectiveness of corrosion control treatments under §141.82(c), the information required by that paragraph.

(4) For systems required to install OCCT or re-optimized OCCT designated by the State under §141.82(d), a letter certifying that the system has completed installing that treatment.

(5) For systems not required to complete the corrosion control treatment steps under §141.81(f), a letter certifying that the system has completed the mandatory service line replacement program or that the system has

met the minimum annual replacement rate calculated under §141.81(f)(1)(ii).

(d) *Source water treatment reporting requirements.* By the applicable dates in §141.83, systems shall provide the following information to the State:

(1) If required under §141.83(b)(1), their recommendation regarding source water treatment;

(2) For systems required to install source water treatment under §141.83(b)(2), a letter certifying that the system has completed installing the treatment designated by the State within 24 months after the State designated the treatment.

(e) *Service line inventory and replacement reporting requirements.* For the purposes of this paragraph (e), the first mandatory service line replacement “program year” is from the compliance date specified in §141.80(a)(3) to the end of the next calendar year, where every program year afterwards is on a calendar year basis. Water systems must report the following information to the State to demonstrate compliance with the requirements of §141.84:

(1) No later than October 16, 2024, the water system must submit an initial inventory of service lines as required in §141.84(a)(1), including the following:

(i) The number of lead service lines in the initial inventory;

(ii) The number of galvanized requiring replacement service lines in the initial inventory;

(iii) The number of lead status unknown service lines in the initial inventory; and

(iv) Where ownership of the service line is shared, the system must report the information in paragraphs (e)(1)(i) through (iii) of this section counting each full service line only once.

(2) No later than the compliance date in §141.80(a)(3), the water system must submit to the State a baseline inventory of service lines and connectors as required in §141.84(a)(2) through (4), including the following:

(i) The total number of lead service lines in the baseline inventory;

(ii) The total number of galvanized requiring replacement service lines in the baseline inventory;

(iii) The total number of lead status unknown service lines in the baseline inventory;

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(iv) The total number of non-lead service lines in the baseline inventory;

(v) The total number of lead connectors in the baseline inventory;

(vi) The total number of connectors of unknown material in the baseline inventory; and

(vii) Where ownership of the service line is shared, the system must report the information in paragraphs (e)(2)(i) through (vi) of this section counting each full service line only once.

(3) Any water system that has inventoried one or more lead, galvanized requiring replacement, or lead status unknown service lines in its distribution system must:

(i) No later than the compliance date in §141.80(a)(3), submit a service line replacement plan as specified in §141.84(c) to the State.

(ii) By January 30 after the end of the first program year, and annually by January 30 thereafter, certify to the State that there have been no updates to the service line replacement plan or, if there have been updates, submit an updated service line replacement plan. A water system may provide instructions on how to access the updated plan online instead of providing the entire updated plan to the State.

(iii) Systems replacing service lines under a schedule based on the deferred deadlines criteria in §141.84(d)(5)(vi) must also meet the requirements described in §141.84(c)(3) for submitting information to the State.

(4) The water system must provide the State with an updated inventory by January 30 after the end of the first program year, and annually by January 30 thereafter. The updated inventory must conform with inventory requirements under §141.84(a) and (b). A water system must provide the information regarding service line material identification and replacement as specified in §141.84(b)(2)(iv) if providing instructions on how to access the updated inventory online instead of providing a fixed copy of the entire updated inventory as described in §141.84(b) to the State.

(i) When the water system has demonstrated that its inventory does not contain lead, galvanized requiring replacement, and lead status unknown service lines, and known lead connec-

tors and connectors of unknown material, it is no longer required to submit inventory updates to the State, except as required in paragraph (e)(4)(ii) of this section.

(ii) In the case that a water system meeting the requirements of paragraph (e)(4)(i) of this section subsequently discovers any lead or galvanized requiring replacement service lines or lead connectors in its distribution system, it must notify the State within 60 days of discovering the service line(s) and connector(s) and prepare an updated inventory in accordance with §141.84(b) on a schedule established by the State.

(5) By January 30 after the end of the first program year, and annually by January 30 thereafter, the water system must certify to the State that it replaced any encountered lead connectors in accordance with §141.84(e) or that it encountered no lead connectors during the calendar year.

(6) By January 30 after the end of the first program year, and annually by January 30 thereafter, the water system must certify to the State that it conducted the notification and mitigation requirements for any partial and full service line replacements in accordance with §141.84(h) or that it conducted no replacements of lead or galvanized requiring replacement service lines during the calendar year.

(7) The water system must provide the following information about customer-initiated lead and galvanized requiring replacement service line replacements:

(i) By January 30 after the end of the first program year, and annually by January 30 thereafter, the water system must certify that it completed all customer-initiated lead and galvanized requiring replacement service line replacements in accordance with §141.84(f).

(ii) If the water system cannot meet the 45-day deadline to complete a customer-initiated lead or galvanized requiring replacement service line replacement pursuant to §141.84(f), it must notify the State within 30 days following the replacement deadline.

(8) By January 30 after the end of the first program year, and annually by January 30 thereafter, water systems

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conducting mandatory service line replacement pursuant to §141.84(d) must submit the following information to the State:

(i) The following information from the most recent updated inventory submitted under paragraph (e)(4) of this section, in accordance with table 2 to §141.84(d)(6)(iii)(A):

(A) The total number of lead service lines in the inventory;

(B) The total number of galvanized requiring replacement service lines in the inventory;

(C) The total number of lead status unknown service lines in the inventory;

(D) The total number of non-lead service lines in the inventory;

(E) The total number of lead connectors in the inventory;

(F) The total number of connectors of unknown material in the inventory; and

(G) Where ownership of the service line is shared, the system must report the information in paragraphs (e)(8)(i)(A) through (F) of this section counting each full service line only once;

(ii) The total number of full lead service line replacements and full galvanized requiring replacement service line replacements that have been conducted in the preceding program year and the address associated with each replaced service line;

(iii) The total number of partial lead service line replacements and partial galvanized requiring replacement service line replacements that have been conducted in the preceding program year and the address associated with each partially replaced service line;

(iv) The total number of lead connectors that have been replaced or removed in each preceding program year and the address associated with each replaced or removed lead connector;

(v) The number of service lines in the replacement pool updated at the beginning of the preceding program year in accordance with §141.84(d)(6)(i);

(vi) The total number of lead status unknown service lines determined to be non-lead in the preceding program year;

(vii) The address of each non-lead service line discovered in the preceding

program year to be a lead or galvanized requiring replacement service line and the method(s) originally used to categorize the material of the service line;

(viii) The applicable deadline for completion of service line replacement and the expected date of completion of service line replacement; and

(ix) The total number of lead and galvanized requiring replacement service lines not replaced because the system does not have access to conduct full service line replacement.

(9) Systems validating service line inventories pursuant to §141.84(b)(5) must submit a list of the locations of any non-lead service lines identified to be a lead or galvanized requiring replacement service line as well as the method(s) used to categorize the service lines as a result of the assessment. The system must submit the specific version (including the date) of the service line inventory used to determine the number of non-lead service lines used when the number of non-lead service lines in the validation pool was determined. The system may not use an inventory older than the inventory update that was submitted to the State pursuant to §141.84(b)(2)(iv) at the start of the year in which the validation pool was determined. The information must be submitted no later than January 30 following seven years after the compliance date in §141.80(a)(3) unless otherwise specified by the State in accordance with §141.84(b)(5)(iv). Documentation of previous validation efforts may be submitted by the compliance date in §141.80(a)(3) for approval by the State as described in §141.84(b)(5)(vi).

(10) By January 30 after the end of the first program year, and annually by January 30 thereafter, the water system must submit to the State documentation of the reasons for each service line not replaced due to lack of access in accordance with §141.84(d)(2). The system must also submit to the State documentation of each reasonable effort conducted where the system was not able to obtain property owner consent in accordance with §141.84(d)(3) where consent is required by State or local law.

(11) [Reserved]

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(12) Any system that collects samples following a partial or full lead or galvanized requiring replacement service line replacement required by § 141.84(h)(1)(iv) or (h)(3)(iv) must report the results to the State within the first ten days following the month in which the system receives the results or as specified by the State. Systems must 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 and galvanized requiring replacement service line replacement activities have taken place.

(13) By January 30 after the end of the first program year, and annually by January 30 thereafter, the water system must certify to the State that it offered to inspect service lines that consumers who suspected the inventory incorrectly categorized their service line material within 30 days of receiving the customer notification in accordance with § 141.84(b)(4).

(f) *Public education program reporting requirements.* (1) Any water system conducting public education requirements in § 141.85 must submit a copy of all written public education materials to the State prior to delivery. The State may require the system to obtain approval of the content of written public education materials prior to delivery in accordance with § 141.85(a)(1).

(2) Any water system that is subject to the public education requirements in § 141.85 must, within 10 days after the end of each period in which the system is required to perform public education in accordance with § 141.85(b), send written documentation to the State that contains:

(i) The public education materials that were delivered, and a statement certifying that the water system has delivered the public education materials that meet the content requirements in § 141.85(a) and the delivery requirements in § 141.85(b); and

(ii) A list of all the newspapers, radio stations, television stations, and facilities and organizations to which the system delivered public education materials during the period in which the system was required to perform public education tasks. Unless required by the State, a system that previously has

submitted this information need not resubmit it as long as there have been no changes in the distribution list and the system certifies that the public education materials were distributed to the same list submitted previously.

(3) Each water system must send an example copy of the consumer notification of tap results to the State along with a certification that the notification has been distributed in a manner consistent with the requirements of § 141.85(d), according to the schedule as follows:

(i) No later than three months following the end of the tap sampling period, for tap samples used to calculate the 90th percentile value as described in § 141.86, an example copy of the consumer notification provided and a certification that the notification has been distributed in a manner consistent with the requirements of § 141.85(d).

(ii) Annually by January 30, for tap samples from the previous program year that are not included in paragraph (f)(3)(i) of this section, including, but not limited to consumer-requested samples outside the tap sampling period for systems on reduced monitoring, an example copy of the consumer notification provided and a certification that the notification has been distributed in a manner consistent with the requirements of § 141.85(d).

(4) Annually by January 30, the water system must certify to the State that it delivered annual notification and service line information materials to customers and all persons served by the water system at the service connection with a lead, galvanized requiring replacement, or lead status unknown service line in accordance with § 141.85(e) for the previous calendar year. The water system must also provide an example copy of the notification and information materials for lead, galvanized requiring replacement, and lead status unknown service lines to the State.

(5) [Reserved]

(6) Annually by January 30, the water system must certify to the State that it delivered notification to affected customers and the persons served by

the water system at the service connection and complied with the filter requirements after any disturbance of a service line known to contain or potentially containing lead in accordance with § 141.85(f) for the previous calendar year, or that the water system has not caused any disturbance of a service line known to contain or potentially contain lead, during the preceding year. The water system must also submit an example copy of the notification to the State. Water systems that are required to provide filters under § 141.85(f) must also report the number of sites with disturbances that require filters as specified under § 141.85(f) and number of filters provided.

(7) Annually by January 30, the water system must certify to the State that it conducted an outreach activity in accordance with § 141.85(h) when it does not meet the service line replacement rate as specified in § 141.84(d) for the previous calendar year. The water system must also submit a copy to the State of the outreach materials provided.

(8) Annually by January 30, the water system must certify to the State that it delivered the required distribution system and site assessment information and public education materials to the State and local health departments for the previous calendar year in accordance with § 141.85(i).

(9) No later than 60 days after a water system exceeds the lead action level for the second time in a rolling five-year period, the system must submit a filter plan to the State as specified in § 141.85(j)(3). Thereafter, a system is not required to resubmit a filter plan unless requested by the State or if the system has made updates to its plan.

(10) Every six months, specifically by January 30 and July 30, any water system that meets the criteria of multiple lead action level exceedances in § 141.85(j)(1) must:

(i) Certify compliance with the filter requirements in the previous six months (the previous July through December for January 30 reports and the previous January through June for July 30 reports) in accordance with § 141.85(j)(2) and report the number of filters provided; and

(ii) Certify that the water system completed a public outreach activity in the previous six months (the previous July through December for January 30 reports and the previous January through June for July 30 reports) in accordance with § 141.85(j)(4) and submit a copy of the public education materials provided to consumers.

(g) *Reporting of additional monitoring data.* (1) Any water system which collects more samples than the minimum required, must report the results to the State within the first 10 days following the end of the applicable monitoring period under §§ 141.86, 141.87, and 141.88 during which the samples are collected. This includes the monitoring data pertaining to distribution system and site assessment pursuant to §§ 141.82(j) and 141.86(b)(1)(iv).

(2) The system must certify to the State the number of customer refusals or non-responses for follow-up sampling under § 141.82(j)(2) it received and documentation explaining why it was unable to collect a follow-up sample, within the first 10 days following the end of the applicable tap monitoring period in which an individual sample exceeded the action level.

(h) *Reporting of 90th percentile lead and copper concentrations where the State calculates a water system's 90th percentile concentrations.* A water system is not required to report the 90th percentile lead and copper concentrations measured from all lead and copper tap water samples collected during each tap sampling period, as required by paragraph (a)(2)(iv) of this section if:

(1) The State has previously notified the water system that it will calculate the water system's 90th percentile lead and copper concentrations, based on the lead and copper tap results submitted pursuant to paragraph (h)(2)(i) of this section, and the water system provides the results of lead and copper tap water samples no later than 10 days after the end of the applicable tap sampling period; and

(2) The system has provided the following information to the State by the date specified in paragraph (h)(1) of this section:

(i) The results of all tap samples for lead and copper including the location

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of each site and the site selection criteria under §141.86(a)(4) used as the basis for which the site was selected for the water system's sampling pool; and

(ii) An identification of sampling sites utilized during the current monitoring period that were not sampled during previous monitoring periods, and an explanation of why sampling sites have changed; and

(3) The State has provided the results of the 90th percentile lead and copper calculations, in writing, to the water system within 15 days of the end of the tap sampling period.

(i) *Reporting requirements for a community water system's public education and sampling in schools and child care facilities.*

(1) A community water system must provide a list of the schools and child care facilities they serve, or provide certification that no schools or child care facilities are served, to the State by the compliance date in §141.80(a)(3) in accordance with §141.92(b)(1). A water system that certifies that no schools or child care facilities are served by the water system is not required to report the information in paragraphs (i)(2) and (3) of this section. Annually by January 30, beginning one year after the compliance date in §141.80(a)(3), the system must certify that there are no schools or child care facilities served by the water system. When the system becomes aware of one or more schools or child care facilities that it serves, it must provide a list to the State and begin to report the information in paragraphs (i)(2) and (3) of this section.

(2) A community water system must report the lead analytical sampling results for schools and child care facilities within 30 days of receipt of the results in accordance with §141.92(g)(1)(iii).

(3) Beginning one year after the compliance date in §141.80(a)(3), a community water system must send a report to the State annually by January 30 for the previous year's activity as calculated from the compliance date in §141.80(a)(3). The report must include the following:

(i) Certification that the water system made a good faith effort to identify schools and child care facilities in

accordance with §141.92(b). The good faith effort may include reviewing customer records and requesting lists of schools and child care facilities from the State or other licensing agency. If there are changes to the list of schools and child care facilities that a water system serves, an updated list must be submitted at least once every five years in accordance with §141.92(b)(2). If there are no changes to the list of schools or child care facilities the water system serves, the water system must certify there are no changes to the list.

(ii) Certification that the water system has delivered information about health risks from lead in drinking water to the school and child care facilities that they serve in accordance with §141.92(c)(1).

(iii) During the first five years after the compliance date in §141.80(a)(3), certification that the water system has completed the notification and sampling requirements in §141.92(c)(2)(i) and (d)(1) for elementary schools and child care facilities and the information in paragraphs (i)(3)(iii)(A) through (E) of this section.

(A) The number and names of schools and child care facilities served by the water system;

(B) The number and names of schools and child care facilities sampled in the previous year;

(C) The number and names of elementary schools and child care facilities that declined sampling;

(D) The number and names of elementary schools and child care facilities that did not respond to outreach attempts for sampling; and

(E) Information pertaining to outreach attempts for sampling that were declined or not responded to by the elementary school or child care facility.

(iv) During the first five years after the compliance date in §141.80(a)(3), certification that the water system has completed the notification and sampling requirements of §141.92(c)(2)(ii) and (e) for secondary schools and the information in paragraphs (i)(3)(iii)(A) and (B) of this section.

(v) Starting with the sixth year after the compliance date in §141.80(a)(3), the water system must certify completion of the notification requirements of

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§ 141.92(c)(3) and sampling requirements of § 141.92(d)(2) in elementary schools and child care facilities and § 141.92(e) for secondary schools and the information in paragraphs (i)(3)(iii)(A) and (B) of this section, thereafter.

(vi) Certification that sampling results were provided to schools, child care facilities, and local and State health departments.

(j) *Reporting requirements for small system compliance flexibility options.* By the applicable dates provided in paragraphs (j)(1) and (2), water systems implementing requirements pursuant to § 141.93, shall provide the following information to the State:

(1) Small water systems serving 3,300 or fewer and non-transient non-community water systems implementing the point-of-use device option under § 141.93(c)(1), must report the results from the tap sampling required under § 141.93(c)(1)(iv) no later than 10 days after the end of the tap sampling period. If corrective action is not completed within 30 days of a POU sample exceeding 0.010 mg/L, the system must provide documentation to the State within 30 days explaining why it was unable to correct the issue. Unless waived by the State, the water system must provide documentation to certify maintenance of the point-of-use devices.

(2) Small water systems serving 3,300 or fewer and non-transient non-community water systems implementing the small system compliance flexibility option to replace all lead-bearing plumbing under § 141.93(c)(2) must provide certification to the State that all lead-bearing material has been replaced on the schedule established by the State, within one year of designation of the option under § 141.93(c)(2).

[56 FR 26548, June 7, 1991; 57 FR 28789, June 29, 1992, as amended at 59 FR 33864, June 30, 1994; 65 FR 2012, Jan. 12, 2000; 72 FR 57819, Oct. 10, 2007; 86 FR 4303, Jan. 15, 2021; 86 FR 31947, June 16, 2021; 89 FR 86654, Oct. 30, 2024]

§ 141.91 Recordkeeping requirements.

Any system subject to the requirements of this subpart shall retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, State determinations, and any

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other information required by §§ 141.81 through 141.88, 141.90, 141.92, and 141.93. Each water system shall retain the records required by this section for no fewer than 12 years.

[86 FR 4306, Jan. 15, 2021]

§ 141.92 Monitoring for lead in schools and child care facilities.

(a) *General requirements.* (1) All community water systems must conduct public education and lead monitoring at the schools and child care facilities they serve unless those schools or child care facilities:

(i) Were constructed or had full plumbing replacement on or after January 1, 2014, or the date the State adopted standards that meet the definition of lead free in accordance with section 1417 of the Safe Drinking Water Act, as amended by the Reduction of Lead in Drinking Water Act, whichever is earlier; and

(ii) Are not served by a lead, a galvanized requiring replacement, or an unknown service line.

(2) The provisions of this section do not apply to a school or child care facility that is regulated as a public water system.

(b) *List of schools and child care facilities.* (1) All community water systems must compile a list of schools and child care facilities they serve that meet the criteria of paragraph (a) of this section and submit the list to the State in accordance with § 141.90(i)(1) by the compliance date specified in § 141.80(a)(3).

(2) Within five years following the compliance date in § 141.80(a)(3) and at least once every five-year period after, all community water systems must either certify in writing to the State there have been no changes to the list of schools and child care facilities or submit a revised list to the State in accordance with § 141.90(i)(3)(i).

(c) *Public education to schools and child care facilities.* (1) At least once a year beginning with the compliance date in § 141.80(a)(3), community water systems must contact all schools and child care facilities identified by the system in paragraph (b) of this section to provide information about the health risks from lead in drinking

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water consistent with the content requirements of § 141.85(a)(1)(ii) through (iv) and (vi).

(2) Within the first five years following the compliance date in § 141.80(a)(3), community water systems must:

(i) Notify elementary schools and child care facilities, in accordance with the frequency requirements in paragraph (d)(1) of this section, that they are eligible to be sampled for lead by the water system. This notice must include:

(A) A proposed schedule for sampling at the facility; and

(B) Information about sampling for lead in schools and child care facilities (EPA's 3Ts for Reducing Lead in Drinking Water Toolkit, EPA-815-B-18-007, or subsequent EPA guidance).

(ii) Notify all secondary schools identified in paragraph (b) of this section at least once a year that they are eligible to be sampled for lead by the community water system on request. The notice must provide:

(A) Information on how to request sampling for lead at the facility; and

(B) Information about sampling for lead in schools and child care facilities (EPA's 3Ts for Reducing Lead in Drinking Water Toolkit, EPA-815-B-18-007, or subsequent EPA guidance).

(3) Starting with the sixth year after the compliance date in § 141.80(a)(3), a community water system must contact all elementary schools, secondary schools, and child care facilities identified in paragraph (b) of this section to notify them that they are eligible to be sampled for lead by the community water system on request and provide the information in paragraphs (c)(2)(ii)(A) and (B) of this section.

(4) Thirty days prior to any sampling event, community water systems must provide schools and child care facilities with instructions to identify outlets for lead sampling and prepare for a sampling event.

(d) *Frequency of sampling at elementary schools and child care facilities.* (1) Within the first five years following the compliance date in § 141.80(a)(3), community water systems must collect samples from at least 20 percent of the total of elementary schools served by the system per year and at least 20 per-

cent of the total of child care facilities served by the system per year, or according to an alternative schedule approved by the State, until all elementary schools and child care facilities identified under paragraph (b) of this section have been sampled once or have declined to participate or are non-responsive.

(i) Community water systems must provide documentation to the State in accordance with § 141.90(i)(3)(iii)(D) and (E) if an elementary school or child care facility is non-responsive or otherwise declines to participate in the monitoring or education requirements of this section. For the purposes of this section:

(A) A community water system may consider an elementary school or child care facility non-responsive after the community water system makes at least two separate outreach attempts to contact the facility to schedule sampling and does not receive any response on either attempt; and

(B) A community water system may count a refusal or non-response from an elementary school or child care facility as part of the minimum 20 percent of elementary schools and child care facilities sampled per year.

(ii) [Reserved]

(2) Starting with the sixth year after the compliance date in § 141.80(a)(3), community water systems must conduct sampling as specified in paragraph (f) of this section when requested by an elementary school or child care facility.

(i) A community water system is not required under this paragraph (d)(2) to sample more than 20 percent of the elementary schools and child care facilities identified in paragraph (b) of this section in any given year. A community water system is not required under this paragraph (d)(2) to sample an individual elementary school or child care facility more than once in any five-year period.

(ii) [Reserved]

(3) The first time a water system includes an elementary school or child care facility in an update to the list of schools and child care facilities required to be submitted to the State in paragraph (b)(2) of this section, the water system must conduct outreach

at those elementary schools and child care facilities as specified in paragraph (c)(2) of this section once prior to conducting sampling in accordance with paragraph (d)(2) of this section.

(i) A community water system may consider an elementary school or child care facility non-responsive after the community water system makes at least two separate outreach attempts to contact the facility to schedule sampling and does not receive any response on either attempt.

(ii) [Reserved]

(e) *Frequency of sampling at secondary schools.* (1) Starting with the compliance date in §141.80(a)(3), community water systems must conduct sampling as specified in paragraph (f) of this section when requested by a secondary school.

(2) A community water system is not required under this paragraph (e) to sample more than 20 percent of the secondary schools identified in paragraph (b) of this section in any given year. A community water system is not required under this paragraph (e) to sample an individual secondary school more than once in any five-year period.

(f) *Lead sampling protocol for schools and child care facilities.* (1) Community water systems must collect five samples per school and two samples per child care facility at outlets typically used to provide water for human consumption. Except as provided in paragraphs (f)(1)(iii) through (v) of this section, the outlets cannot have point-of-use devices. The community water system must sample the following types and number of outlets:

(i) For schools, two drinking water fountains, one kitchen faucet used for drinking or cooking, one classroom faucet or other outlet used to provide water for human consumption, and one nurse's office faucet, as available.

(ii) For child care facilities, one drinking water fountain, and one of either a kitchen faucet used for drinking or cooking or one classroom faucet or other outlet used to provide water for human consumption.

(iii) If any school or child care facility has fewer than the required number of outlets, the community water system must sample all outlets used to provide water for human consumption.

(iv) The community water system may sample at outlets with point-of-use devices if the facility has point-of-use devices installed on all outlets typically used to provide water for human consumption or if the school or child care facility has fewer than the required number of outlets.

(v) If any school or child care facility does not contain the type of outlet listed in paragraphs (f)(1)(i) through (iv) of this section, the community water system must collect a sample from another outlet typically used to provide water for human consumption as identified by the facility, to meet the required number of samples as provided in this paragraph (f)(1).

(2) Community water systems must collect the samples from the cold water tap subject to the following additional requirements:

(i) Each sample for lead must be a first draw sample;

(ii) The sample must be 250 ml in volume;

(iii) The water must have remained stationary in the plumbing system of the sampling site (building) for at least 8 but no more than 18 hours; and

(iv) Samples must be analyzed using acidification and the corresponding analytical methods in §141.89.

(3) Community water system, school, or child care facility staff, or other appropriately trained individuals must collect samples in accordance with paragraphs (f)(1) and (2) of this section.

(g) *Notification of results.* (1) Community water systems must provide sampling results, regardless of lead sample concentration, as soon as practicable but no later than 30 days after receipt of the results to:

(i) The sampled school or child care facility, along with information about potential options to remediate lead in drinking water (consistent with EPA's 3Ts for Reducing Lead in Drinking Water Toolkit, EPA-815-B-18-007, or subsequent EPA guidance);

(ii) The local and State health department; and

(iii) The State in accordance with §141.90(i).

(2) [Reserved]

(h) *Alternative school and child care lead sampling programs.* (1) If schools and child care facilities served by a

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community water system are sampled for lead in drinking water under a State or local law or program, the State may exempt one or more community water system(s) from the sampling requirements of this section by issuing a written waiver:

(i) If the sampling meets the frequency requirements in paragraph (d) of this section for elementary schools and child care facilities and paragraph (e) of this section for secondary schools and the protocol requirements in paragraph (f) of this section; or

(ii) If the sampling meets the frequency requirements in paragraph (d) of this section for elementary schools and child care facilities and paragraph (e) of this section for secondary schools and the protocol requirements in paragraph (f) of this section with the exception of sample size and stagnation time in paragraphs (f)(2)(ii) and (iii) of this section and the sampling is conducted in addition to any of the following actions to remediate lead in drinking water:

(A) Disconnect affected fixtures;

(B) Replace affected fixtures with fixtures certified as lead free; and

(C) Install and maintain point-of-use devices certified by an American National Standards Institute accredited certifier to reduce lead levels; or

(iii) If the sampling is conducted in schools and child care facilities served by the community water system less frequently than once every five years and that sampling is conducted in addition to any of the actions to remediate lead in drinking water specified in paragraph (h)(1)(ii) of this section; or

(iv) If the school or child care facility maintains point-of-use devices as defined in §141.2 on all outlets used to provide water for human consumption; or

(v) If the sampling is conducted under a grant awarded under section 1464(d) of the SDWA, consistent with the requirements of the grant and at least the minimum number of samples required in paragraph (f) of this section are collected.

(2) The duration of the waiver cannot exceed the time period covered by the sampling and will automatically expire at the end of any 12-month period during which sampling is not conducted at

the required number of schools or child care facilities.

(3) The State must only issue a waiver to the community water system for the subset of the schools or child care facilities served by the system as designated under paragraph (b) of this section that are sampled under an alternative program as described in paragraph (h)(1) of this section.

(4) The State may issue a written waiver applicable to more than one community water system (*e.g.*, one waiver for all community water systems subject to a statewide sampling program that meets the requirements of this paragraph (h)).

(5) The State may issue a waiver for community water systems to conduct the sampling requirements of this section for the first five years following the compliance date in §141.80(a)(3) in the schools and child care facilities that were sampled for lead between January 1, 2021, and the compliance date in §141.80(a)(3) that otherwise meets the requirements of paragraph (h)(1) of this section.

[89 FR 86659, Oct. 30, 2024]

§ 141.93 Small water system compliance flexibility.

Small community water systems serving 3,300 or fewer persons and all non-transient non-community water systems that exceed the lead action level, but do not exceed the copper action level, may elect to use this provision in lieu of the corrosion control treatment requirements otherwise applicable to small systems and non-transient non-community water systems in §141.81(a)(3), if approved by the State. This compliance flexibility is not available to water systems where the State has obtained primacy for this subpart and the State does not adopt regulations to provide compliance flexibility consistent with this section.

(a) Small community water systems and non-transient non-community water systems that elect to use this section must:

(1) For water systems with corrosion control, collect water quality parameters in accordance with §141.87 and, if the system has not re-optimized OCCT in accordance with §141.81(d), evaluate compliance options in paragraphs (c)(1)

and (2) of this section and corrosion control treatment under §141.81(d)(1). Water systems with corrosion control treatment in place must continue to operate and maintain optimal corrosion control treatment until the State determines, in writing, that it is no longer necessary, and meet any requirements that the State determines to be appropriate before implementing a State approved alternative compliance option described in this section.

(2) For systems without corrosion control, collect water quality parameters in accordance with §141.87 and, if the system has not installed OCCT in accordance with §141.81(e), evaluate compliance options in paragraphs (c)(1) and (2) of this section and corrosion control treatment under §141.81(e)(1).

(b) The system must make a compliance option recommendation to the State within six months of the end of the tap sampling period in which the lead action level exceedance occurred. Within six months of the recommendation by the water system, the State must approve or disapprove the recommendation. If the State disapproves the recommendation, the State may designate the other compliance alternative as an option for the system. If the State does not designate the other compliance alternative as an option for the system, the system must comply with the otherwise applicable corrosion control treatment requirements under §141.81(d) for systems with corrosion control or §141.81(e) for systems without corrosion control treatment. Water systems must follow the schedules in §141.81(d) or (e), beginning with step 3 in §141.81(d)(3) or (e)(3) unless the State specifies optimal corrosion control treatment pursuant to either §141.81(d)(2) or (e)(2), as applicable. If the system fails to implement the approved alternative compliance option, or the State revokes approval for the alternative compliance option, then the system must follow the requirements for small and non-transient non-community water systems as described under §141.81(a)(3).

(c)(1) *Alternative compliance option: point-of-use devices.* A water system that elects the compliance option in this paragraph (c)(1), must install, maintain, and monitor POU devices in

each household and each building served by the water system.

(i)(A) A community water system must install a minimum of one POU device (at one tap) in every household and at every tap that is used for cooking and/or drinking in every non-residential building in its distribution system on a schedule specified by the State, but not to exceed one year after State approval.

(B) A non-transient non-community water system must provide a POU device to every tap that is used for cooking and/or drinking on a schedule specified by the State, but not to exceed three months.

(ii) The POU device must be independently certified by a third party to meet the American National Standards Institute standard applicable to the specific type of POU unit to reduce lead in drinking water.

(iii) The POU device must be maintained by the water system in accordance with the manufacturer's recommendations or on a more frequent schedule if required by the State to ensure continued effective filtration, including but not limited to changing filter cartridges and resolving any operational issues. The POU device must be equipped with mechanical warnings to ensure that consumers are automatically notified of operational problems. The water system must provide documentation to the State to certify maintenance of the POU devices, unless the State waives this requirement, in accordance with §141.90(j)(1).

(iv) The water system must monitor, in accordance with this paragraph (c)(1)(iv), one-third of the POU devices each year and all POU devices must be monitored within a three-year cycle. First liter tap samples collected under this section must be taken after water passes through the POU device to assess its performance. Samples must be one liter in volume and have had a minimum 6-hour stagnation time. All samples must be at or below 0.010 mg/L. Water systems must report the results from the tap sampling no later than 10 days after the end of the tap sampling period in accordance with §141.90(j)(1). If a sample exceeds 0.010 mg/L, the water system must notify the persons served by the POU device,

and/or building management no later than one business day of receiving the tap sample results. The system must document and take corrective action at each site where the sample result exceeds the lead action level. Corrective action must be completed within 30 days. If the corrective action is not completed within 30 days, the system must provide documentation to the State within 30 days explaining why it was unable to correct the issue.

(v) The water system must provide public education to consumers to inform them of proper use of POU devices.

(A) *Content.* All small community water systems serving 3,300 or fewer persons and non-transient non-community water systems that are approved to implement POU devices under this paragraph (c)(1) must provide public education materials to inform users how to properly use POU devices to maximize the units' effectiveness in reducing lead levels in drinking water. Public education materials must meet the requirements of §141.85(a)(1)(ii) through (iv).

(B) *Timing.* Water systems must provide the public education materials at the time of POU device delivery.

(C) *Delivery.* Water systems must provide the public education materials in person, by mail, or by another method approved by the State, to persons at locations where the system has delivered POU devices.

(vi) The water system must operate and maintain the POU devices even if the system is at or below the action level in future tap monitoring periods until the system receives State approval to select the other compliance flexibility option or follow §141.81(d) or (e) and the system has fully implemented it.

(2) *Alternative compliance option: replacement of lead-bearing plumbing.* A water system that has control over all plumbing in its buildings, and is not served by lead, galvanized requiring replacement, or unknown service lines, must replace all plumbing that does not meet the definition of "lead free" in section 1417 of the Safe Drinking Water Act, as amended by the Reduction of Lead in Drinking Water Act and any future amendments applicable at

the time of replacement. The replacement of all lead-bearing plumbing must occur on a schedule established by the State but not to exceed one year. Water systems must provide certification to the State that all lead-bearing material has been replaced in accordance with §141.90(j)(2).

[89 FR 86661, Oct. 30, 2024]

Subpart J—Use of Non-Centralized Treatment Devices

SOURCE: 52 FR 25716, July 8, 1987, unless otherwise noted.

§ 141.100 Criteria and procedures for public water systems using point-of-entry devices.

(a) Public water systems may use point-of-entry devices to comply with maximum contaminant levels only if they meet the requirements of this section.

(b) It is the responsibility of the public water system to operate and maintain the point-of-entry treatment system.

(c) The public water system must develop and obtain State approval for a monitoring plan before point-of-entry devices are installed for compliance. Under the plan approved by the State, point-of-entry devices must provide health protection equivalent to central water treatment. "Equivalent" means that the water would meet all national primary drinking water regulations and would be of acceptable quality similar to water distributed by a well-operated central treatment plant. In addition to the VOCs, monitoring must include physical measurements and observations such as total flow treated and mechanical condition of the treatment equipment.

(d) Effective technology must be properly applied under a plan approved by the State and the microbiological safety of the water must be maintained.

(1) The State must require adequate certification of performance, field testing, and, if not included in the certification process, a rigorous engineering design review of the point-of-entry devices.