



COLORADO

Water Quality
Control Commission

Department of Public Health & Environment

NOTICE OF PUBLIC RULEMAKING HEARING BEFORE THE COLORADO WATER QUALITY CONTROL COMMISSION

SUBJECT:

For consideration of the adoption of revisions to the Colorado Primary Drinking Water Regulations, Regulation #11 (5 CCR 1002-11) pertaining to revisions for lead and copper and backflow prevention and cross-connection control. Revisions proposed by the Water Quality Control Division, along with a proposed Statement of Basis, Specific Statutory Authority and Purpose, are attached to this notice as Exhibit 1.

In these attachments, proposed new language is shown with underlining and proposed deletions are shown with ~~strikeouts~~. Any alternative proposals related to the subject of this hearing will also be considered.

SCHEDULE OF IMPORTANT DATES

Proponent's prehearing statement due	04/26/2023	Additional information below.
Party Status requests due	05/24/2023	Additional information below.
Responsive prehearing statements due	06/14/2023	Additional information below.
Rebuttal statements due	07/12/2023	Additional information below.
Last date for submittal of motions	07/19/2023	Additional information below.
Prehearing Conference (mandatory for parties)	07/25/2023 9:00 am	Remote Via Zoom
Rulemaking Hearing	08/14/2023 9:00 am	Sabin Cleere Conference Room Department of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246 Or Remote Via Zoom



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HEARING SUBMITTALS:

For this hearing, the commission will receive all submittals electronically. Submittals must be provided as PDF documents, except for raw data exhibits which may be provided as Excel workbooks. Submittals may be emailed to cdphe.wqcc@state.co.us, provided via an FTP site or otherwise conveyed to the commission office to be received no later than the specified date.

PARTY STATUS:

Party status requests must be in writing and must provide:

- the organization's name,
- one contact person,
- a mailing address,
- a phone number, and
- email addresses of all individuals associated with the party who wish to be notified when new submittals are available on the commission's website for review.

In accordance with section 25-8-104(2)(d), C.R.S., any person who believes that the actions proposed in this notice have the potential to cause material injury to his or her water rights is requested to so indicate, along with an explanation of the alleged harm, in their party status request.

PREHEARING AND REBUTTAL STATEMENTS:

Each party must submit a prehearing statement: parties that have proposed revisions attached as exhibits to the notice must submit a proponent's prehearing statement. All other parties must submit a responsive prehearing statement. Proponents may also submit responsive prehearing statements when there are multiple proposals attached to the notice.

Each prehearing and rebuttal statement must be provided as a separate PDF document from any accompanying written testimony or exhibits.

Following the rebuttal statement due date, no other written materials will be accepted from parties except for good cause shown.

Oral testimony at the hearing should primarily summarize written material previously submitted. The hearing will emphasize commission questioning of parties and other interested persons about their written prehearing submittals. Introduction of written material at the hearing by those with party status will not be permitted unless authorized by the commission.

PREHEARING CONFERENCE:

Attendance at the prehearing conference is mandatory for all persons requesting party status. Remote access via Zoom is provided in the table above.

Following the cut-off date for motions, no motions will be accepted, except for good cause shown.

PUBLIC PARTICIPATION ENCOURAGED:

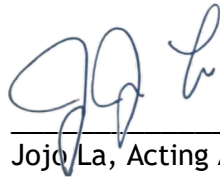
The commission encourages input from non-parties, either orally at the hearing or in writing prior to the hearing. Written submissions should be emailed to cdphe.wqcc@state.co.us by August 2, 2023.

SPECIFIC STATUTORY AUTHORITY:

The provisions of sections 25-8-202(1)(a), (b), and (2); 25-8-203; 25-8-204; and 25-8-402, C.R.S., provide the specific statutory authority for consideration of the regulatory amendments proposed by this notice. Should the commission adopt the regulatory language as proposed in this notice or alternative amendments, it will also adopt, in compliance with section 24-4-103(4) C.R.S., an appropriate Statement of Basis, Specific Statutory Authority, and Purpose.

Dated this 10th day of April 2023 at Denver, Colorado.

WATER QUALITY CONTROL COMMISSION

A handwritten signature in blue ink, appearing to read 'Jojo La', is positioned above a horizontal line. The signature is stylized and cursive.

Jojo La, Acting Administrator

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Water Quality Control Commission

REGULATION NO. 11 - COLORADO PRIMARY DRINKING WATER REGULATIONS

5 CCR 1002-11

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

11.1 AUTHORITY AND PURPOSE

11.1(1) Authority

The Water Quality Control Commission has promulgated the *Colorado Primary Drinking Water Regulations* pursuant to sections 24-4-104, 24-4-105, 25-1.5-101, 25-1.5 Part 2, 25-1-109, 25-1-114, 25-1-114.1, and 25-8-202, Colorado Revised Statutes.

11.17 LEAD AND COPPER RULE REVISIONS

11.17(1) Applicability and Definitions

- (a) For all community and non-transient, non-community water systems, the supplier must comply with the requirements specified in this rule beginning October 16, 2024 unless otherwise specified.
- (i) The requirements in this rule and the deadline by which the supplier must begin to comply are based on Subpart I of the National Primary Drinking Water Regulations, 40 CFR 141, as originally published in the Federal Register on January 15, 2021, 86 Fed. Reg. 4198 (Jan. 15, 2021), and made effective on December 16, 2021, 86 Fed. Reg. 71,574 (Dec. 17, 2021). In the event EPA stays or extends the provisions in 40 CFR 141, Subpart I through future rulemaking, the provisions in 11.17 which correspond to the requirements in 40 CFR 141, Subpart I, shall also be stayed or extended, in part or in whole, and the requirements of 11.26 shall remain in effect until the applicable compliance date of the new rules found at 40 CFR 141.
- (b) Failure to comply with the applicable requirements of this section, 11.17, is a violation of the *Colorado Primary Drinking Water Regulations* unless otherwise determined by the Department.
- (c) For the purposes of this rule, systems are categorized as follows:
 - (i) “SMALL SYSTEM” means a system that supplies less than or equal to (\leq) 10,000 people.
 - (ii) “MEDIUM SYSTEM” means a system that supplies greater than ($>$) 10,000 and less than or equal to (\leq) 50,000 people.
 - (iii) “LARGE SYSTEM” means a system that supplies greater than ($>$) 50,000 people.
- (d) “ACTION LEVEL” means the concentration of lead and copper at which the supplier is required to comply with additional requirements, which may include public education, corrosion control treatment, source water treatment and/or lead service line replacement.

- (e) “AERATOR” means the device embedded in the water faucet to enhance air play with the water stream and prevent splashing.
- (f) “CHILD CARE FACILITY” means a location that houses a state-licensed provider of childcare, day care, or early learning services to children.
- (g) “ELEMENTARY SCHOOL” means a school classified as elementary by the state that generally serves children in kindergarten through grade 5, but may include preschools and extend as far as grade 8.
- (h) “FIFTH LITER SAMPLE” means a one-liter sample of tap water collected in accordance with 11.17(3).
- (i) “FIND-AND-FIX” means the requirements that a supplier must perform at every tap sampling site that yielded a lead result above 0.015 mg/L.
- (j) “FIRST-DRAW SAMPLE” means the first one-liter sample of water collected in accordance with 11.17(3).
- (k) “FULL LEAD SERVICE LINE REPLACEMENT” means the replacement of a lead service line (as well as galvanized service lines requiring replacement) that results in the entire length of the service line, regardless of service line ownership, meeting the Safe Drinking Water Act (SDWA) Section 1417 definition of lead free applicable at the time of the replacement. A full lead service line replacement includes a replacement where only one portion of the service line is lead, such as where a partial lead service line was previously conducted, as long as, upon completion of the replacement, the entire service line meets the SDWA Section 1417 definition of lead-free applicable at the time of the replacement. Galvanized service lines that are or were downstream of a lead service line must also be replaced for a service line to be a full lead service line replacement. A lead service line that is left in place in the ground but remains out-of-service may be full lead service line replacement where a new non-lead service line is installed for use instead of the out-of-service lead service line.
- (l) “GALVANIZED SERVICE LINE” means iron or steel piping that has been dipped in zinc to prevent corrosion and rusting.
- (m) “GOOSENECK, PIGTAIL, OR CONNECTOR” means a short section of piping, typically not exceeding two feet, which can be bent and used for connections between rigid service piping. Lead goosenecks, pigtails, and connectors are not considered to be part of the lead service line but may be required to be replaced pursuant to 11.17(7).
- (n) “LEAD SERVICE LINE” means a portion of pipe that is made of lead, which connects the water main to the building inlet. A lead service line may be owned by the supplier, owned by the property owner, or both. A galvanized service line is considered a lead service line if it ever was or is currently downstream of any lead service line or service line of unknown material. If the only lead piping serving the home or building is a lead gooseneck, pigtail, or connector, and it is not a galvanized service line that is considered a lead service line, the service line is not a lead service line. For purposes of 11.17(3)(a) only, a galvanized service line is not considered a lead service line.
- (o) “LEAD STATUS UNKNOWN” means a service line that has not been demonstrated to meet or not meet the SDWA Section 1417 definition of lead free. It is not necessary to physically verify the material composition (for example, copper or plastic) of a service line for its lead status to be identified (e.g., records demonstrating the service line was installed after a municipal, State, or Federal lead ban).

- (p) “LEAD TRIGGER LEVEL” means a particular concentration of lead in water that requires additional activities, including corrosion control treatment, and lead service line replacement. The trigger level for lead is a concentration of 0.010 mg/L.
- (q) “METHOD DETECTION LIMIT (MDL)” means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.
- (r) “OPTIMAL CORROSION CONTROL TREATMENT” means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while ensuring that the treatment does not cause the supplier to violate any provision of the Colorado Primary Drinking Water Regulations.
- (s) “PARTIAL LEAD SERVICE LINE REPLACEMENT” means replacement of any portion of a lead service line or galvanized service line requiring replacement that leaves in service any length of lead service line or galvanized service line requiring replacement upon completion of the work. Partial lead service line replacements are permitted under limited circumstances but do not count towards the mandatory or goal-based lead service line replacement rate.
- (t) “PITCHER FILTER” means a non-plumbed water filtration device which consists of a gravity fed water filtration cartridge and a filtered drinking water reservoir that is certified by an American National Standards Institute accredited certifier to reduce lead in drinking water.
- (u) “POINT-OF-USE TREATMENT DEVICE OR POINT OF USE DEVICE (POU)” means a water treatment device physically installed or connected to a single fixture, outlet, or tap to reduce or remove contaminants in drinking water that is certified by an American National Standards Institute accredited certifier to reduce lead in drinking water.
- (v) “PRACTICAL QUANTITATION LIMIT (PQL)” means the minimum concentration of an analyte (substance) that can be measured with a high degree of confidence that the analyte is present at or above that concentration.
- (w) “PRE-STAGNATION FLUSHING” means the opening of tap(s) to flush standing water from plumbing prior to the minimum six-hour stagnation period in anticipation of lead and copper tap sampling under 11.17(3). Pre-stagnation flushing is prohibited in sampling under 11.17(3).
- (x) “SCHOOL” means any building(s) associated with public, private, or charter institutions registered with the Colorado Department of Education that primarily provides teaching and learning for elementary or secondary students.
- (y) “SECONDARY SCHOOL” means a school defined by the state as a middle school (or junior high) or high school that generally serves children in grades 6 through 12.
- (z) “SYSTEM WITHOUT CORROSION CONTROL TREATMENT” means a public water system that does not have, or purchases all of its water from a system that does not have, an optimal corrosion control treatment approved by the State; or any pH adjustment, alkalinity adjustment, and/or corrosion inhibitor addition resulting from other water quality adjustments as part of its treatment train infrastructure.
- (aa) “TAP SAMPLING MONITORING PERIOD”, for the purposes of this section, means the period of time during which each supplier must conduct tap sampling for lead and copper analysis. A tap sampling monitoring period is determined by lead and copper concentrations in tap samples and the frequency can range from every six months (i.e., semi-annual) up to once every nine years. The start of each new tap sampling monitoring period, with the exception of semi-annual monitoring, must begin on January 1.

(bb) "TAP SAMPLING PERIOD", for the purpose of this section, means the time period, within a tap sampling monitoring period, during which the supplier is required to collect samples for lead and copper analysis. For suppliers monitoring at a reduced frequency, the tap sampling period must be between the months of June and September, unless a different four-month period of time is approved in writing to be more appropriate by the Department.

(cc) "TAP SAMPLING PROTOCOL" means the instructions given to residents or those sampling on behalf of the water system to conduct tap sampling for lead and copper.

(dd) "WIDE-MOUTH BOTTLES" means bottles configured with a mouth that is at least 55 mm wide that are one liter in size.

11.17(2) Requirements for Lead Service Line Inventory

(a) Development of Lead Service Line Inventory

(i) The supplier must develop a lead service line inventory to identify the materials of all service lines connected to the distribution system regardless of ownership status (e.g., where service line ownership is shared, the inventory must include both the system-owned and customer-owned portion of the service line).

(ii) The lead service line inventory must meet all of the following requirements:

(A) The supplier must use any information on lead and galvanized iron or steel that the supplier has identified pursuant to 11.2(2) and review the following sources of information to identify service line materials for the initial inventory:

(I) All construction and plumbing codes, permits, and existing records or other documentation which indicates the service line materials used to connect structures to the distribution system.

(II) All system records, including distribution system maps and drawings, historical records on each service connection, meter installation records, historical capital improvement or master plans, and standard operating procedures.

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

(IV) Any resource, information, or identification method provided or required by the Department to assess service line materials.

(V) Other sources of information not listed in 11.17(2)(a)(ii)(A)(I-IV), if approved by the Department.

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

(I) "Lead" where the service line is made of lead.

(II) "Galvanized Requiring Replacement" where a galvanized service line is or was at any time downstream of a lead service line or is currently downstream of a "Lead Status Unknown" service line. If the supplier is unable to demonstrate that the galvanized service line was never

downstream of a lead service line, the supplier must presume there was an upstream lead service line.

(III) "Non-lead" where the service line is determined through an evidence-based record, method, or technique not to be lead or galvanized requiring replacement. The supplier may classify the actual material of the service line (i.e., plastic or copper) as an alternative to classifying it as "Non-lead."

(IV) "Lead Status Unknown" where the service line material is not known to be lead, galvanized requiring replacement, or a non-lead service line, such as where there is no documented evidence supporting material classification.

(C) The supplier must identify and track service line materials in the inventory as they are encountered in the course of its normal operations (e.g., checking service line materials when reading water meters or performing maintenance activities).

(D) The supplier must update the inventory based on all applicable sources described in 11.17(2)(a)(ii)(A)(I-V) and 11.17(2)(a)(ii)(C) and any lead service line replacements or service line material inspections that may have been conducted.

(I) The supplier may use other sources of information if approved by the Department and must use other sources of information provided or required by the Department to update the inventory.

(b) Public Availability of the Lead Service Line Inventory

(i) The supplier must make the lead service line inventory publicly accessible.

(A) The inventory must include a location identifier, such as a street address, block, intersection, or landmark, associated with each lead service line and galvanized requiring replacement service line. The supplier may list the exact address of each service line.

(B) If the system serves greater than (>) 50,000 people, the supplier must make the lead service line inventory publicly available online.

(C) When the system has no lead, galvanized requiring replacement, or lead status unknown service lines (regardless of ownership) in its inventory, the supplier may comply with the requirements as specified in 11.17(2)(b)(i)(A-B) using a written statement, in lieu of the inventory, stating that the distribution system has no lead service lines or galvanized requiring replacement service lines.

(I) The statement must include a general description of all applicable sources of information, identification methods, and resources described in 11.17(2)(a) used to make this determination.

(ii) The supplier must update its publicly accessible lead service line inventory no less frequently than when required to submit the updated inventory to the Department.

(iii) For community water systems, the supplier must include instructions on how to access the service line inventory, including inventories consisting only of a statement in accordance with 11.17(2)(b)(i)(C), in their Consumer Confidence Report as specified in 11.34.

(c) Consumer Notification of Service Line Materials

- (i) The supplier must provide notification to all consumers supplied by a lead, galvanized requiring replacement, or lead status unknown service line. Notification is not required to be provided to consumers supplied by service lines that are all non-lead. The notification must contain all of the following:
 - (A) A statement indicating the material type of the consumer's service line, either lead, galvanized requiring replacement, or unknown material that may be lead.
 - (B) An explanation of the health effects of lead that meets the requirements of 11.17(8)(b)(i)(B).
 - (C) A list of steps the consumer can take to reduce exposure to lead in drinking water.
 - (D) For consumers with lead status unknown service lines, information about opportunities to verify the material of the service line.
 - (E) For consumers with lead and/or galvanized requiring replacement service lines, information about opportunities for replacement of the service line.
 - (F) For consumers with lead service lines, information on financing solutions to assist the property owner with replacement of their portion of the lead service line.
 - (G) For consumers with lead service lines where service line ownership is shared, a statement that the supplier is required to replace their portion of the lead service line when the property owner notifies them that they are replacing their portion of the lead service line.
- (ii) The supplier must distribute the notification to consumers supplied by the system at the service connection with a lead, galvanized requiring replacement, or lead status unknown service line by mail or by another Department-approved method.
 - (A) The supplier must distribute the initial notification to consumers no later than 30 days after completion of the lead service line inventory.
 - (B) The supplier must continue to distribute the notification to affected consumers on an annual basis until the entire service line contains no portion that is lead, galvanized requiring replacement, or lead status unknown.
 - (C) For new customers, the supplier must also distribute the notification at the time of service initiation.

(d) Reporting Requirements for Lead Service Line Inventory and Notices

- (i) The supplier must submit an initial lead service line inventory to the Department no later than October 16, 2024. The supplier must make the inventory publicly available at the time of submittal.
 - (A) For new systems and reclassified systems subject to this rule after October 16, 2024, the supplier must submit an initial lead service line inventory to the Department no later than 30 days after the end of the first lead and copper tap sampling monitoring period.

- (ii) The supplier must submit an updated lead service line inventory no later than 30 days after each lead and copper tap sampling monitoring period, but no more frequently than annually.
- (iii) If the supplier has demonstrated that it has no lead, galvanized requiring replacement, or lead status unknown service lines in its inventory, the supplier is no longer required to submit lead service line inventory updates as specified in 11.17(2)(d)(ii) to the Department.

 - (A) If the supplier subsequently discovers any lead or galvanized requirement replacement service lines in its distribution system, the supplier must notify the Department within 30 days of identifying the service line(s) and prepare an updated inventory in accordance with 11.17(2)(a) on a Department-specified schedule.
- (iv) For systems with one or more lead, galvanized requiring replacement, or lead status unknown service lines, by no later than July 1 of each calendar year, the supplier must submit a sample copy of the service line material notification along with a certification that the notification was distributed, as specified in 11.17(2)(c), during the previous calendar year.
- (e) Treatment Technique Violations and Response for Lead Service Line Inventory

 - (i) If the supplier fails to develop a lead service line inventory as specified in 11.17(2)(a)(i), a treatment technique violation occurs.
 - (ii) In the event of a lead service line inventory treatment technique violation, the supplier must:

 - (A) Notify the Department no later than 48 hours after the violation occurs; and
 - (B) Distribute Tier 2 public notice as specified in 11.33.

11.17(3) Requirements for Lead and Copper Tap Sampling

- (a) Sample Site Selection for Lead and Copper Tap Samples

 - (i) The supplier must use the information on lead, copper, and galvanized iron or steel that is required to be identified under 11.2(2) when conducting a materials evaluation, and the information on lead service lines that is required to be collected under 11.17(2) to identify a sample pool of targeted sampling sites and categorize each sample site as specified in Table 11.17-I.

 - (A) For systems with lead, galvanized requiring replacement, or lead status unknown service lines in the lead service line inventory conducted under 11.17(2), the supplier must re-evaluate the tap sampling locations used in their sampling pool no later than October 16, 2024.
 - (B) Based on changes to the service line inventory conducted in 11.17(2), the supplier must re-evaluate the tap sampling locations used in their sample pool prior to each subsequent round of tap sampling conducted by the system, or annually, whichever is more frequent.

TABLE 11.17-I LEAD AND COPPER TAP SAMPLE TIER CATEGORIES

<u>Tier category</u>	<u>For community water systems</u>	<u>For non-transient, non-community water systems</u>
<u>Tier 1</u>	<u>Single-family structures that are supplied by a lead service line.</u>	<u>Sites that are supplied by a lead service line.</u>
<u>Tier 2</u>	<u>Buildings, including multiple-family residences, that are supplied by a lead service line.</u>	<u>Not applicable.</u>
<u>Tier 3</u>	<u>Single-family structures that contain galvanized lines identified as being downstream of a lead service line (LSL) currently or in the past, or known to be downstream of a lead gooseneck, pigtail or connector.¹</u>	<u>Sites that contain galvanized lines identified as being downstream of an LSL currently or in the past, or known to be downstream of a lead gooseneck, pigtail, or connector.¹</u>
<u>Tier 4</u>	<u>Single-family structures that contain copper pipes with lead solder installed before the State's January 31, 1988 lead ban.</u>	<u>Not applicable.</u>
<u>Tier 5</u>	<u>Single-family structures or buildings, including multiple family residences, that are representative of sites throughout the distribution system.</u>	<u>Sites that are representative of sites throughout the distribution system.</u>

¹ Galvanized lines that are unknown to be downstream of a lead service line currently or in the past are "Galvanized Requiring Replacement" under the Lead Service Line Inventory section in 11.17(2) but do not qualify as Tier 3 sites

- (ii) The supplier must complete a sampling pool with at least the number of sample sites specified in Table 11.17-II to ensure that the supplier can collect the number of lead and copper samples required in 11.17(3)(d).

TABLE 11.17-II LEAD AND COPPER SAMPLING POOL

<u>Population Supplied</u>	<u>Minimum number of sites for sampling pool</u>
<u>Greater than (>) 100,000</u>	<u>100</u>
<u>10,001 to 100,000</u>	<u>60</u>
<u>3,301 to 10,000</u>	<u>40</u>
<u>501 to 3,300</u>	<u>20</u>
<u>101 to 500</u>	<u>10</u>
<u>Less than or equal to (\leq) 100</u>	<u>5</u>

- (iii) The sampling sites for a community water system's sampling pool shall be completed as follows:

(A) The supplier's sampling pool must consist of Tier 1 sampling sites.

(I) When multiple-family residences comprise at least 20 percent of the structures supplied by the system, the supplier may include these types of structures in its Tier 1 sampling pool, if supplied by a lead service line.

(B) If the system has an insufficient number of Tier 1 sampling sites, the supplier must complete its sampling pool with Tier 2 sampling sites.

(C) If the system has an insufficient number of Tier 1 and Tier 2 sampling sites, the supplier must complete its sampling pool with Tier 3 sampling sites.

- (D) If the system has an insufficient number of Tier 1, Tier 2, and Tier 3 sampling sites, the supplier must complete its sampling pool with Tier 4 sampling sites.
- (E) If the system has an insufficient number of Tier 1, Tier 2, Tier 3, and Tier 4 sampling sites, the supplier must complete its sampling pool with Tier 5 sampling sites.
- (I) The supplier must use single family or multiple family residential sites when there is a sufficient number of sites available. The supplier may use non-residential buildings that are representative of sites throughout the distribution system if and only if there are an insufficient number of single-family or multiple family residential Tier 5 sites available.
- (F) The supplier must not use sites with lead status unknown service lines as Tier 1, Tier 2, Tier 3, or Tier 4 sampling sites.
- (G) For systems with lead service lines, the supplier must collect all samples for monitoring under 11.17(3)(d) from sites supplied by a lead service line. If the supplier cannot identify a sufficient number of sampling sites supplied by a lead service line, the supplier must still collect samples from every site supplied by a lead service line and collect the remaining samples in accordance with the tiering requirements under 11.17(3)(a)(iii)(C-F).
- (iv) The sampling sites for a non-transient, non-community water system's sampling pool shall be completed as follows:

 - (A) The supplier's sampling pool must consist of Tier 1 sampling sites.
 - (B) If the system has an insufficient number of Tier 1 sampling sites, the supplier must complete its sampling pool with Tier 3 sampling sites.
 - (C) If the system has an insufficient number of Tier 1 and Tier 3 sampling sites, the supplier must complete its sampling pool with Tier 5 sampling sites.
 - (D) The supplier must not use sites with lead status unknown service lines as Tier 1 or Tier 3 sampling sites.
 - (E) For systems with lead service lines, the supplier must collect all samples for monitoring under 11.17(3)(d) from sites supplied by a lead service line. If the supplier cannot identify a sufficient number of sampling sites supplied by a lead service line, the supplier must still collect samples from every site supplied by a lead service line and collect the remaining samples in accordance with the tiering requirements under 11.17(3)(a)(iv)(B-D).
- (v) Sampling sites must not include sites with installed point-of-entry (POE) treatment devices and taps used at sampling sites may not have point-of-use (POU) devices designed to remove inorganic contaminants, unless one of the following conditions apply:

 - (A) The supplier is using the POE or POU devices and monitoring under 11.17(4)(i)(vi)(C).

 - (I) Lead and copper tap samples collected under 11.17(4)(i)(vi)(C)(VI) may not be used for the purposes of meeting the criteria for reduced monitoring specified in 11.17(3)(d)(v).

(B) The supplier is using POE or POU devices for the primary drinking water tap to meet other primary and secondary drinking water standards and all service connections have POE or POU devices to provide localized treatment for compliance with the other drinking water standards.

(b) Lead and Copper Action Levels and Trigger Level

(i) The lead trigger level and lead and copper action levels are as follows:

TABLE 11.17-III LEAD AND COPPER ACTION LEVELS AND LEAD TRIGGER LEVEL

<u>Contaminant</u>	<u>Trigger Level (mg/L)</u>	<u>Action Level (mg/L)</u>
<u>Lead</u>	<u>0.010</u>	<u>0.015</u>
<u>Copper</u>	<u>N/A</u>	<u>1.3</u>

(ii) The trigger level and action levels must be determined based on tap water samples collected in accordance with the tap sampling monitoring requirements of 11.17(3) for the purpose of calculating the 90th percentile and tested using the analytical methods specified in 11.46(9).

(iii) The trigger level and action levels as specified in 11.17(3)(b) are applicable to 11.17 where referenced.

(iv) The 90th percentile concentration shall be computed as follows:

(A) The results of lead or copper samples taken during a tap sampling period shall be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. To determine the total number of samples for use in the 90th percentile calculation, the following conditions apply:

(I) For systems that do not have lead service line sites and only have sites identified as Tier 3, 4, or 5, the supplier must use all sample results.

(II) For systems with lead service lines with sites identified as Tier 1 or 2 with enough Tier 1 or 2 sites to meet the minimum number of sites specified in 11.17(3)(d), the supplier must use all sample results from only Tier 1 and 2 sites.

(III) For systems with lead service lines with sites identified as Tier 1 or 2 with an insufficient number of Tier 1 or 2 sites to meet the minimum number of sites specified in 11.17(3)(d), the supplier must use all sample results from Tier 1 and 2 sites and only the number of Tier 3, 4, or 5 sites with the highest concentration to meet the minimum number of sites specified in 11.17(3)(d).

(B) Each sampling result shall be assigned a number, ascending by single integers beginning with the number 1 for the sample with the lowest contaminant level. The number assigned to the sample with the highest contaminant level must be equal to the total number of samples as determined in 11.17(3)(b)(iv)(A).

(C) The total number of samples for use in the 90th percentile calculation as determined in 11.17(3)(b)(iv)(A) shall be multiplied by 0.9.

(D) The contaminant concentration in the numbered sample yielded by the calculation in 11.17(3)(b)(iv)(C) is the 90th percentile concentration.

- (I) The 90th percentile concentration is calculated using an interpolation between the ranked contaminant concentrations when the total number of samples multiplied by 0.9 does not result in a whole number.
 - (E) If the supplier collects five samples per tap sampling period under 11.17(3)(d), the 90th percentile concentration is the average of the highest and second highest concentration.
 - (F) For a supplier that has failed to collect five samples, the sample result with the highest concentration is considered the 90th percentile value.
- (c) Sample Collection Methods for Lead and Copper Tap Samples
 - (i) The supplier must collect lead and copper tap samples as follows:
 - (A) For sites without a lead service line, the supplier must collect a first-draw sample. The first-draw sample must be analyzed for lead and copper in tap sampling periods where both contaminants are required to be monitored.
 - (I) In tap sampling periods where only lead is required to be monitored, the first-draw sample may be analyzed for lead only.
 - (B) For sites with a lead service line, the supplier must collect a first-draw sample and a fifth-liter sample.
 - (I) The first-draw sample must be analyzed for copper in tap sampling periods where both contaminants are required to be monitored.
 - (II) The fifth-liter sample must be analyzed for lead.
 - (C) All samples collected under 11.17(3)(d) must be collected using wide-mouth bottles. Each sample collected must be one liter in volume.
 - (D) Samples from residential housing must be collected from the cold-water kitchen or bathroom sink tap.
 - (E) Samples from a nonresidential building must be collected at a tap from which water is typically drawn for consumption.
 - (F) For first-draw samples, the sample must be collected where water has stood motionless in the plumbing system of each sampling site for at least six hours without flushing the tap prior to sample collection (i.e., pre-stagnation flushing).
 - (G) For fifth-liter samples, the supplier must collect tap water in five consecutively numbered one-liter sample bottles with each subsequently numbered bottle being filled until the final bottle is filled with the water running constantly during sample collection. The fifth-liter sample is the final sample collected in this sequence.
 - (I) Unless the Department has allowed substitution for non-first-draw samples under 11.17(3)(c)(i)(I), the samples must be collected after the water has stood motionless in the plumbing of each sampling site for at least six hours without flushing the tap prior to sample collection.

- (H) The supplier may allow residents to collect first-draw or fifth-liter samples after instructing residents of the proper sampling procedures with the following conditions:

 - (I) The procedures may not include instructions for aerator removal and cleaning or flushing of taps prior to the start of the minimum six-hour stagnation period (i.e., pre-stagnation flushing).
 - (II) To avoid problems of residents handling nitric acid, acidification of first-draw samples may be done up to 14 days after the sample is collected. After acidification to resolubilize the metals, the sample must stand in the original container for the time specified in the approved EPA method before the sample can be analyzed.
 - (III) If a supplier allows residents to perform sampling, the supplier may not challenge, based on alleged errors in sample collection, the accuracy of sampling results.
- (I) A non-transient, non-community water system, or a community water system that meets the criteria specified in 11.17(8)(c)(v)(A-B), that does not have enough taps that can supply first-draw samples or fifth-liter samples meeting the six-hour minimum stagnation time may apply to the Department in writing to substitute non-first-draw, first-draw, or fifth-liter samples that do not meet the six-hour minimum stagnation time.

 - (I) For a supplier collecting samples not meeting the six-hour stagnation time with Department approval, the supplier must collect as many first-draw or fifth-liter samples from interior taps typically used for consumption as possible and must identify sampling times and locations that would likely result in the longest standing time for the remaining sites.
- (ii) The supplier must collect each first-draw tap and/or fifth-liter sample from the same sampling site from which it collected the previous sample in the prior tap sampling period.

 - (A) If, for reasons beyond the control of the system, the supplier cannot gain entry to a sampling site to collect a tap sample during a tap sampling period, the supplier must collect a tap sample from another sampling site in its sampling pool as long as the new site meets the same tier category, and is within reasonable proximity of the original site.
- (d) Sampling Frequency for Lead and Copper Tap Samples

 - (i) The supplier must collect the following number of lead and copper tap samples per monitoring period:

 - (A) The supplier must collect at least one sample during each monitoring period from the number of sites listed in the first column ("standard monitoring") of Table 11.17-IV unless the supplier meets the eligibility requirements for reduced monitoring as specified in 11.17(3)(d)(v).
 - (B) If the supplier is conducting reduced monitoring, the supplier must collect at least one sample from the number of sites specified in the second column ("reduced monitoring") of Table 11.17-IV.

- (I) Reduced monitoring sites must be representative of the sites required for standard monitoring.
- (C) If the distribution system has fewer than five taps that can be used for human consumption, the supplier must:
 - (I) Collect at least one sample from each tap; and
 - (II) Collect additional samples from those taps on different days during the monitoring period until the required number of samples have been collected.

TABLE 11.17-IV LEAD AND COPPER TAP SAMPLING SITES

<u>Population supplied</u>	<u>Number of sites (standard monitoring)</u>	<u>Number of sites (reduced monitoring)</u>
<u>Greater than (>) 100,000</u>	<u>100</u>	<u>50</u>
<u>10,001 to 100,000</u>	<u>60</u>	<u>30</u>
<u>3,301 to 10,000</u>	<u>40</u>	<u>20</u>
<u>501 to 3,300</u>	<u>20</u>	<u>10</u>
<u>101 to 500</u>	<u>10</u>	<u>5</u>
<u>Less than or equal to (≤) 100</u>	<u>5</u>	<u>5</u>

- (ii) Standard monitoring. Standard monitoring is a six-month tap sampling monitoring period that begins on January 1 or July 1 of the year in which the supplier is monitoring at the standard number of sites in accordance with 11.17(3)(d)(i). Suppliers on standard monitoring must monitor as follows:
 - (A) For systems with lead service lines, including those deemed optimized under 11.17(4)(b), and suppliers that did not conduct monitoring that meets all requirements of 11.17(3)(a) and 11.17(3)(c) between January 15, 2021 and October 16, 2024, the supplier must begin the first standard monitoring period on January 1 or July 1 in the year following October 16, 2024, whichever is sooner.
 - (I) Upon completion of this monitoring, the supplier must monitor in accordance with 11.17(3)(d)(ii)(B).
 - (B) For suppliers that conducted monitoring that meets all requirements as specified in 11.17(3)(a) and 11.17(3)(c) between January 15, 2021 and October 16, 2024, and for suppliers that have completed monitoring under 11.17(3)(d)(ii)(A), the supplier must continue monitoring as follows:
 - (I) Suppliers that do not meet the criteria under 11.17(3)(d)(v) must conduct standard six-month monitoring.
 - (II) Suppliers that meet the criteria under 11.17(3)(d)(v) must continue to monitor in accordance with the criteria specified in 11.17(3)(d)(v).
 - (III) Suppliers monitoring at a reduced frequency in accordance with 11.17(3)(d)(v) that exceed an action level must resume standard six-month monitoring beginning January 1 of the calendar year following the tap sampling monitoring period in which the system exceeded the

- action level. The supplier must also monitor in accordance with 11.17(5), as applicable.
- (IV) Suppliers monitoring at a reduced frequency in accordance with 11.17(3)(d)(v) that exceed the lead trigger level but meet the copper action level must not monitor any less frequently than annually and must collect samples from the standard number of sites in Table 11.17-IV. Monitoring must begin the calendar year following the tap sampling monitoring period in which the system exceeded the lead trigger level. The supplier must also monitor in accordance with 11.17(5), as applicable.
- (V) Suppliers that fail to operate at or above the minimum value or within the range of values for the water quality parameters specified by the Department under 11.17(4) for more than nine days in any monitoring period specified in 11.17(5) must conduct standard six-month tap water monitoring and must resume sampling for water quality parameters in accordance with 11.17(5). This standard monitoring must begin no later than the six-month period beginning January 1 of the calendar year following the water quality parameter excursion.
- (VI) For systems that become 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 level of 0.005 mg/L, the supplier must conduct standard monitoring for at least two consecutive six-month tap sampling monitoring periods and then must continue monitoring in accordance with 11.17(3)(d)(ii)(B).
- (iii) Monitoring after installation of initial or re-optimized corrosion control treatment, installation of source water treatment and addition of new source or change in treatment.
- (A) For suppliers that install or re-optimize corrosion control treatment as a result of exceeding the lead or copper action level, the supplier must monitor for lead and copper every six months and comply with previously designated water quality parameter values, where applicable, until the Department specifies new water quality parameter values for optimal corrosion control.
- (B) For suppliers that re-optimize corrosion control treatment as a result of exceeding the lead trigger level but not the lead or copper action levels, the supplier must monitor annually for lead at the standard number of sites listed in Table 11.17-IV. The supplier must monitor for copper once every three years at the reduced number of sites listed in Table 11.17-IV.
- (I) Small and medium systems that do not exceed the lead trigger level in three annual monitoring periods may reduce lead monitoring in accordance with 11.17(3)(d)(v).
- (C) Suppliers that install source water treatment pursuant to 11.17(6) must monitor for lead and copper every six months until the supplier is at or below lead and copper action levels for two consecutive six-month monitoring periods.
- (I) Suppliers that do not exceed the lead or copper action level for two consecutive six-month monitoring periods may reduce monitoring in accordance with 11.17(3)(d)(v).

- (D) If the supplier has notified the Department in writing of an upcoming addition of a new source or long-term change in treatment in accordance with 11.17(4)(j), the supplier must monitor for lead and copper every six months at the standard number of sites listed in Table 11.17-IV until the supplier is at or below the lead and copper action levels for two consecutive six-month monitoring periods.

 - (I) The Department may allow the supplier to sample at a reduced frequency if the addition of the new source or long-term treatment change do not have a significant impact to corrosivity.
 - (II) For suppliers that do not exceed the lead and copper action levels, and/or the lead trigger level for two consecutive six-month monitoring periods, the supplier may reduce monitoring in accordance with 11.17(3)(d)(v).
- (iv) Monitoring after the Department specifies water quality parameter values for optimal corrosion control treatment.

 - (A) After the Department specifies the values for water quality parameters under 11.17(4)(c), the supplier must conduct standard six-month monitoring for two consecutive six-month tap sampling monitoring periods.

 - (I) The supplier may then reduce monitoring in accordance with 11.17(3)(d)(v), as applicable, following a Department determination that reduced monitoring is approved.
 - (B) Suppliers that are required to complete the re-optimization steps as specified in 11.17(4)(d) due to an exceedance of the lead trigger level that do not exceed the lead and copper action levels must monitor for two consecutive six-month tap sampling monitoring periods.

 - (I) The supplier may then reduce monitoring in accordance with 11.17(3)(d)(v), as applicable, following a Department determination that reduced monitoring is approved.
- (v) Reduced monitoring based on 90th percentile levels. The Department may allow the supplier to collect lead and copper tap samples at a reduced frequency based on the supplier's 90th percentile lead and copper levels. Reduced monitoring refers to an annual or three-year tap sampling monitoring period.

 - (A) The supplier may reduce the monitoring frequency from six-month monitoring to annual monitoring and must sample at the standard number of sites for lead and the reduced number of sites for copper as specified in Table 11.17-IV, if the following conditions are met:

 - (I) The supplier meets the lead trigger level and the copper action level during two consecutive six-month tap sampling monitoring periods.
 - (II) For systems operating corrosion control treatment, the supplier must have maintained the range of optimal water quality parameters set by the Department in accordance with 11.17(4) for the same period and receive a written determination from the Department approving annual monitoring based on the Department's review of monitoring, treatment, and other relevant information submitted by the supplier as required by 11.17(5); and

- (III) Sampling must begin no later than the calendar year immediately following the last calendar year in which the supplier sampled.
- (B) The supplier may reduce the monitoring frequency from six-month monitoring to annual monitoring and must sample at the standard number of sites for lead and copper as specified in Table 11.17-IV, if the following conditions are met:

 - (I) The supplier exceeds the lead trigger level but not the lead and copper action levels during two consecutive six-month tap sampling monitoring periods.
 - (II) For systems operating optimal corrosion control treatment, the supplier must have maintained the range of optimal water quality parameters set by the Department in accordance with 11.17(4) for the same period and receive a written determination from the Department approving annual monitoring based on the Department's review of monitoring, treatment, and other relevant information submitted by the supplier as required by 11.17(5); and
 - (III) Sampling must begin no later than the calendar year immediately following the last calendar year in which the supplier sampled.
- (C) The supplier may reduce tap sampling for copper from annual to once every three years if the following conditions are met:

 - (I) The supplier exceeds the lead trigger level but not the lead and copper action levels during three consecutive years of monitoring.
 - (II) For systems operating optimal corrosion control treatment, the supplier must have maintained the range of optimal water quality parameters set by the Department in accordance with 11.17(4) for the same period and receive a written determination from the Department approving a three-year sampling frequency for copper based on the Department's review of monitoring, treatment, and other relevant information submitted by the supplier as required by 11.17(5).
 - (III) Lead sampling must remain on an annual frequency at a standard number of sites as specified in Table 11.17-IV; and
 - (IV) Sampling must begin no later than the third calendar year immediately following the last calendar year in which the supplier sampled.
- (D) For small and medium systems, the supplier may reduce tap sampling for lead and copper from annual to once every three years at a reduced number of sites as specified in Table 11.17-IV if the following conditions are met:

 - (I) The supplier does not exceed the lead trigger level and the copper action level during three consecutive years of monitoring.

 - (a) Standard six-month monitoring prior to annual monitoring that is completed during both six-month periods of a calendar year is considered one year of monitoring.
 - (II) For systems operating optimal corrosion control treatment, the supplier must have maintained the range of optimal water quality parameters set

by the Department in accordance with 11.17(4) for the same period and receive a written determination from the Department approving three-year monitoring based on the Department's review of monitoring, treatment, and other relevant information submitted by the supplier as required by 11.17(5); and

(III) Sampling must begin no later than the third calendar year immediately following the last calendar year in which the supplier sampled.

(E) The supplier may immediately reduce tap sampling for lead and copper from six-month monitoring to once every three years at a reduced number of sites in Table 11.17-IV if the following conditions are met:

(I) The 90th percentile in two consecutive six-month monitoring periods as calculated in 11.17(3)(b) is less than or equal to (\leq) 0.005 mg/L for lead and less than or equal to (\leq) 0.65 mg/L for copper; and

(II) For systems operating optimal corrosion control treatment, the system must maintain the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the Department under 11.17(4) for the same period and receive a written determination from the Department approving three-year monitoring based on the Department's review of monitoring, treatment, and other relevant information submitted by the supplier as required by 11.17(5).

(F) If the supplier is on a three-year sampling frequency, the supplier must collect samples no later than every third calendar year.

(vi) If the supplier is on a reduced sampling frequency:

(A) The supplier must collect samples from the sampling sites identified in 11.17(3)(a).

(B) The supplier must collect lead and copper tap samples during the monitoring period of June through September of the same calendar year.

(C) The Department may approve a monitoring period other than the months of June through September for collecting lead and copper tap samples under the following conditions:

(I) The supplier must collect lead and copper tap samples:

(a) During a monitoring period that is no longer than four consecutive months, within one calendar year; and

(b) During a period representing normal operation where the highest levels of lead are most likely to occur.

(II) For non-transient, non-community water systems that do not operate during the months of June to September and where the supplier does not know when, during the period of normal operation, the highest levels of lead are most likely to occur, the Department will determine a monitoring period that represents normal operation for the system. The supplier must begin sampling in the designated monitoring period:

- (a) If the supplier is on annual sampling, in the calendar year immediately following the end of the second six-month monitoring period.
- (b) If the supplier is on three-year sampling, during the three-year compliance period following the end of the third consecutive year of annual monitoring.
- (III) For suppliers monitoring annually that have been collecting samples during the months of June through September and that receive Department approval to alter their tap sampling monitoring period under 11.17(3)(d)(vi)(C), the supplier must collect their next round of samples during a time period that ends no later than 21 months after the previous round of sampling.
- (IV) For suppliers on a three-year sampling frequency that have been collecting samples during the month of June through September and receive Department approval to alter their sampling collection period under 11.17(3)(d)(vi)(C), the supplier must collect their next round of samples during a time period that ends no later than 45 months after the previous tap sampling period.
 - (a) Subsequent monitoring must be conducted annually or every third calendar year, as required by 11.17(3)(d)(v).
- (V) For small systems, if the supplier is granted a waiver as specified in 11.17(3)(f), the supplier must collect lead and copper tap samples before the end of the nine-year compliance cycle.

TABLE 11.17-V MONITORING FREQUENCY BASED ON EVENTS

<u>Monitoring frequency and number of sites</u>	<u>Situation or criteria</u>
<u>At least two six-month tap monitoring periods at standard number of sites</u>	<u>New community or non-transient, non-community water systems after October 16, 2024.</u>
	<u>Systems with lead service lines or galvanized requiring replacement service lines, or have made changes to their sample pool due to requirements in 11.17(3)(a) or sample collection in 11.17(3)(c) on or before October 16, 2024.</u>
	<u>Systems without corrosion control treatment that become a large system serving greater than 50,000 people.</u>
	<u>Large systems without corrosion control treatment whose lead 90th percentile exceeds 0.005 mg/L.</u>
	<u>Lead or copper action level exceedance.</u>
	<u>New source or long-term treatment change.</u>
	<u>Installation or re-optimization of Department-designated corrosion control treatment after lead trigger level or copper action level exceedance.</u>
	<u>Treatment technique violation for failure to maintain water quality parameters within Department-designated minimums and/or ranges for more than nine days within a monitoring period.</u>

<u>Reduced annual monitoring at standard number of sites for lead and reduced number of sites for copper</u>	<u>Systems with two consecutive six-month tap monitoring periods that do not exceed the lead trigger level and copper action level. Department approval may be needed in some situations.</u>
<u>Reduced three-year monitoring at reduced number of sites for lead and copper</u>	<u>Systems with two consecutive six-month tap monitoring periods less than or equal to 0.005 mg/L for lead and 0.65 mg/L for copper. Department approval is needed.</u>
	<u>Small or medium systems with three annual tap monitoring periods that do not exceed the lead trigger level and copper action level. Department approval is needed.</u>
<u>Reduced annual monitoring at standard number of sites for lead and reduced three-year monitoring at reduced number of sites for copper</u>	<u>Systems on reduced three-year monitoring that exceed the lead trigger level but not the lead and copper action levels.</u>
	<u>Systems with three annual tap monitoring periods that do not exceed the lead and copper action levels but have exceeded the lead trigger level.</u>

*** Table is for illustrative purposes only. Please refer to 11.17(3) for specific requirements.

(e) Additional Lead and Copper Tap Samples

- (i) The results of any monitoring conducted in addition to the minimum requirements of 11.17(3)(d) (such as customer-requested sampling) shall be considered by the supplier and the Department in making any determinations (i.e., calculating the 90th percentile lead or copper level) specified in 11.17.
- (ii) If a supplier with lead service lines is unable to collect the minimum number of samples from Tier 1 or Tier 2 sites, the supplier must calculate the 90th percentile using data from all the lead service lines sites and the highest lead and copper values from lower tier sites to meet the specified minimum number of samples.
 - (A) The supplier must submit data from additional Tier 3, 4, or 5 sites to the Department but may not use these results in the 90th percentile calculation.
- (iii) The supplier must include customer-requested samples from known lead service line sites in the 90th percentile calculation if the samples meet the requirements specified in 11.17(3).

(f) Tap Sampling Waiver Requirements for Systems Serving Less than or Equal to (\leq) 3,300 People

- (i) For systems serving less than or equal to (\leq) 3,300 people, the supplier may apply to the Department for a lead and/or copper tap sampling waiver. The Department may grant a waiver if the supplier demonstrates that all of the materials criteria specified in 11.17(3)(f)(i)(B) and sampling criteria specified in 11.17(3)(f)(i)(C) have been met. The supplier may apply for a full waiver from sampling for both lead and copper, or a partial waiver from sampling for either lead or copper.
 - (A) By the start of the first applicable tap sampling monitoring period specified in 11.17(3)(d), the supplier must submit the required documentation to the Department to demonstrate that the supplier meets the waiver criteria as specified in 11.17(3)(f)(i)(B-C).
 - (B) The materials criteria for a waiver are as follows:

- (I) The supplier must demonstrate that the distribution system, service lines, all drinking water supply plumbing, and plumbing conveying drinking water within all residences and buildings connected to the system are free of lead-containing materials and/or copper-containing materials.
- (II) For a lead tap sampling waiver, the supplier must submit certification and supporting documentation that the system is free of all lead-containing materials. To be free of all lead-containing materials means the system meets both of the following criteria:

 - (a) The system contains no plastic pipes which contain lead plasticizers, or plastic service lines which contain lead plasticizers.
 - (b) The system contains no lead service lines, 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 United States Code (U.S.C.) 300g-6(e) (Plumbing fittings and fixtures) (Safe Drinking Water Act section 1417(e)).
- (III) For a copper tap sampling waiver, the supplier must submit certification and supporting documentation that the system contains no copper pipes or copper service lines.
- (C) The sampling criteria for a waiver are as follows:

 - (I) The supplier must have completed at least one six-month compliance period of tap sampling for lead and copper at Department-approved sites and at the number of sites specified in Table 11.17-IV.
 - (II) For all samples collected since the system became free of all lead-containing and/or copper-containing materials, the sample results must demonstrate that:

 - (a) The 90th percentile lead level is less than or equal to (\leq) 0.005 mg/L; and/or
 - (b) The 90th percentile copper level is less than or equal to (\leq) 0.65 mg/L.
 - (ii) The supplier must continue collecting lead and copper tap samples as specified in 11.17(3)(d) until the supplier receives written notification from the Department that the waiver has been approved.
 - (iii) The Department will notify the supplier in writing of the waiver determination and include the basis for the decision and any conditions of the waiver.

 - (A) As a condition of the waiver, the Department may require the supplier to perform specific activities (e.g., periodic outreach to customers to remind them to avoid installation of materials that might void the waiver) to avoid the risk of lead and copper levels of concern at the taps.
 - (iv) If the Department grants a full or partial waiver, the supplier must:

- (A) Collect lead and/or copper tap samples for the waived contaminant(s) at least once every nine years at the reduced number of sample sites specified in Table 11.17-IV.

 - (I) The supplier must collect tap samples no later than every ninth calendar year.
 - (II) The supplier must collect tap samples during the months of June through September or during an alternative Department-approved monitoring period as specified in 11.17(3)(d)(vi)(C).
 - (III) If the supplier is granted a partial waiver, the supplier must collect tap samples for the non-waived contaminant as specified in 11.17(3)(d).
- (B) Submit the applicable materials certification as specified in 11.17(3)(f)(i)(B)(II-III) each time the supplier submits sample results.
- (C) Submit to the Department for approval of any upcoming long-term change in treatment or the addition of a new source as specified in 11.17(4)(j).

 - (I) The Department may modify waiver conditions if it determines that such modifications are necessary to address treatment or source water changes at the system.
- (D) Notify the Department, in writing, no later than 60 days after the supplier becomes aware that the system is no longer free of lead-containing or copper-containing materials (e.g., as a result of new construction or repairs).

 - (I) The supplier must include information regarding the circumstances that resulted in the lead-containing and/or copper-containing materials being introduced into the system.
 - (II) The supplier must specify what corrective action, if any, will be taken for the removal of these materials.
- (v) If the supplier continues to comply with the materials and sampling criteria as specified in 11.17(3)(f)(i)(B-C), the waiver will be renewed automatically.

 - (A) No later than nine years after the previous round of sampling is completed, the supplier must submit documentation to demonstrate that the criteria specified in 11.17(3)(f)(i)(B-C) have been met.
- (vi) If the supplier fails to meet the materials and sampling criteria as specified in 11.17(3)(f)(i)(B-C), the waiver will be revoked.

 - (A) The Department will notify the supplier in writing that the waiver has been revoked and the basis for the decision.
 - (B) If the waiver is revoked, the supplier must comply with the lead and copper tap sampling requirements specified in 11.17(3)(d).
 - (C) If the waiver is revoked and both the lead and copper action levels have been met, the supplier must collect lead and copper tap samples no less frequently than once every three years at the reduced number of sample sites specified in Table 11.17-IV.

(vii) The supplier may re-apply for a waiver when the materials and sampling criteria specified in 11.17(3)(f)(i)(B-C) have been met.

(g) Invalidation of Lead and Copper Tap Samples

(i) The Department may invalidate a lead or copper tap sample based on one or more of the following conditions:

(A) The laboratory determines that improper sample analysis caused erroneous results.

(B) The sample container was damaged in transit.

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

(D) The Department determines that the sample was collected from a site that did not meet the site selection criteria specified in 11.17(3)(a).

(ii) No later than the 10th of the month following the end of each monitoring period, the supplier must report all lead and copper tap sample results along with all supporting documentation for the sample(s) that the supplier is requesting the Department to invalidate.

(A) If the supplier allows residents to collect the lead and copper tap samples, the supplier may not challenge, based on alleged errors in sample collection, the accuracy of the sample results.

(iii) The Department shall document in writing whether the sample was invalidated and the rationale for the decision.

(A) The Department shall not invalidate a sample based solely on the grounds that another sample collected at the same site has a result that is higher or lower than the original sample.

(iv) If the Department invalidates a sample, the result does not count toward determining the lead or copper 90th percentile or toward meeting the minimum number of samples required as specified in 11.17(3)(d).

(v) If the Department invalidates a sample and there are too few samples remaining to meet the minimum sampling requirement, the supplier must collect replacement samples.

(A) The supplier must collect replacement samples as soon as possible but no later than 20 days after the date the Department invalidates the sample or by the end of the applicable monitoring period, whichever is later.

(I) If the supplier collects replacement samples after the end of the applicable monitoring period, the samples will only satisfy the sampling requirements of that monitoring period and must not be used to satisfy the sampling requirements of any other monitoring period.

(B) The supplier must collect replacement samples at the same site(s) as the invalidated sample(s) or, if that is not possible, at sites that were not being used for sampling during the applicable monitoring period.

(h) Consumer Notification of Lead Tap Sample Results

- (i) The supplier must provide a notice of the individual tap results from lead tap water monitoring carried out under the requirements of 11.17(3) to the people supplied by the system at the specific sampling site from which the sample was taken (e.g., the occupants of the building where the tap was sampled).
 - (ii) The supplier must distribute the consumer notice as soon as possible but no later than the following timeframes:

 - (A) For individual samples that are less than or equal to (\leq) 0.015 mg/L of lead, no later than 30 days after the supplier learns of the tap sample results.
 - (B) For individual samples that are greater than ($>$) 0.015 mg/L of lead, as soon as possible but no later than three calendar days after the supplier learns of the tap sample results.
 - (iii) The supplier must include all of the following information in the consumer notice:

 - (A) The lead tap sample result(s) for the tap that was tested.
 - (B) The action level, MCLG, and the definitions for these terms.
 - (C) An explanation of the health effects of lead.
 - (D) A list of steps that the consumer can take to reduce exposure to lead in their drinking water.
 - (E) System contact information.
 - (iv) The supplier must distribute the consumer notice in the following manner:

 - (A) For individual samples that are greater than ($>$) 0.015 mg/L of lead, the supplier must deliver the notice either electronically or by phone, hand delivery, mail, or another Department-approved method.

 - (I) If the supplier is mailing the notification, the supplier must ensure the letters containing the consumer notice are postmarked within three days after the supplier learns of the tap sample result.
 - (B) For individual samples that are less than or equal to (\leq) 0.015 mg/L, the supplier must deliver the notice by mail, hand delivery, or another Department-approved method.

 - (I) For non-transient, non-community water systems, the Department may allow the supplier to post the results on a bulletin board in the facility to allow users to review the information.
 - (v) No later than three months after the end of each monitoring period, the supplier must submit a sample copy of the consumer notice along with a certification that the notice has been distributed as specified in this section, 11.17(3)(h).
- (i) Find-and-Fix Assessment for Results Above the Lead Action Level
- (i) When a sample result is greater than ($>$) the lead action level at a sample site during tap sampling under 11.17(3)(d), the supplier must conduct the following “find-and-fix” steps:

- (A) No later than five days after receiving a sample result above the lead action level, the supplier must collect samples from a new water quality parameter site that is on the same size water main in the same pressure zone and located within a half mile of the tap sample site that exceeds the action level.
- (I) For systems without corrosion control treatment serving less than (<) 10,000 people, the supplier can collect samples up to 14 days after receiving a result above the lead action level.
- (II) The supplier may conduct monitoring at an existing water quality parameter location if the location requirements specified in 11.17(3)(i)(i)(A) are met.
- (III) If the supplier is required to meet optimal water quality parameters and does not have an existing water quality parameter location that meets the location requirements specified in 11.17(3)(i)(i)(A), the supplier must add the new site to the minimum number of sites specified in 11.17(5)(b).
- (a) Sites must be added until a system has twice the minimum number of sites listed in Table 11.17-VI.
- (b) When a system exceeds the upper threshold for the number of sites, the Department has discretion to determine if the newer site can better assess the effectiveness of the corrosion control treatment and to remove existing sites during sanitary survey evaluation of optimal corrosion control treatment.
- (IV) The supplier must collect samples at the identified site for the following parameters:
- (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.
- (B) No later than 30 days after receiving a sample result above the lead action level, the supplier must collect a follow-up lead sample from the sample site.
- (I) The supplier may use different sample volumes or different sample collection procedures to assess the source of elevated lead levels.
- (II) Follow-up lead sample results are not included in the 90th percentile calculation.
- (III) If the supplier is unable to collect a follow-up sample at a site, the supplier must provide documentation to the Department, explaining why it was unable to collect a follow-up sample.

- (C) No later than six months after the end of the tap sampling period in which the site(s) exceeded the lead action level, the supplier must evaluate the results of the monitoring and submit a recommendation to the Department.

 - (I) The recommendation must determine if either localized or centralized adjustment of the optimal corrosion control treatment, including modification of corrosion control treatment, or other distribution system actions are necessary, such as flushing to reduce water age.
 - (II) The recommendation must include the cause of the elevated lead level, if known from the site assessment, if the supplier is not recommending any adjustment of corrosion control treatment or other distribution system actions.
 - (III) The supplier is not required to submit a treatment recommendation for find-and-fix if the supplier is optimizing or re-optimizing optimal corrosion control under 11.17(4).
- (D) The Department must approve the treatment recommendation or specify an alternative approach within six months of completion of 11.17(3)(i)(i)(C).
- (E) If the Department-approved treatment recommendation requires the supplier to adjust the optimal corrosion control treatment process, the supplier must complete modifications to its corrosion control treatment within 12 months after completion of 11.17(3)(i)(i)(D). Systems without corrosion control treatment required to install optimal corrosion control treatment must follow the schedule specified in 11.17(4)(c).
- (F) If the supplier is adjusting its optimal corrosion control treatment, the supplier must complete follow-up sampling as specified in 11.17(3)(d)(iii) and 11.17(5)(f) within 12 months after completion of 11.17(3)(i)(i)(E).
- (G) If the supplier is adjusting its optimal corrosion control treatment, the Department must review the supplier's modification of corrosion control treatment and designate optimal water quality parameters under 11.17(4)(d)(v) within six months of completion of 11.17(3)(i)(F).
- (H) If the supplier is adjusting its optimal corrosion control treatment, the supplier must operate in compliance with the Department-designated optimal water quality parameters and continue to conduct tap sampling as specified in 11.17(3)(d) and water quality parameter monitoring as specified in 11.17(5)(g) or 11.17(5)(h).
- (ii) By no later than July 1 of each calendar year, the supplier must provide the following find-and-fix information for actions conducted in the previous calendar year to the Department and local public health agencies by mail or another Department-approved method:

 - (A) The location of the tap sample site that exceeded 0.015 mg/L.
 - (B) The result of the initial tap sample.
 - (C) The result of the follow-up tap sample.
 - (D) The result of water quality parameter monitoring; and

- (E) A description of any distribution system management actions or corrosion control treatment adjustments made.
- (iii) The supplier must submit certification to the Department no later than July 1 of each year that the required find-and-fix information specified in 11.17(3)(i)(ii) was delivered to the appropriate local public health agencies for the previous calendar year.
- (j) Public Availability of Tap Monitoring Results Used in the 90th Percentile Calculation

 - (i) The supplier must make available to the public the results of compliance tap sampling data, including data used in the 90th percentile calculation under 11.17(3)(b), within 60 days of the end of the applicable tap sampling period.

 - (A) Large systems must make the monitoring results available in a digital format.
 - (B) Small and medium systems must make the monitoring results available in either a written or digital format.
 - (C) The supplier must retain tap sampling monitoring data for no less than 12 years.
 - (D) The supplier is not required to make addresses of the sites where tap samples were collected publicly available.
- (k) Response to an Action Level Exceedance for Lead

 - (i) In the event of a lead action level exceedance based on the 90th percentile calculation for sampling conducted under 11.17(3)(d), the supplier must:

 - (A) Notify the Department of the exceedance and initiate consultation as soon as possible but no later than 24 hours after the exceedance occurs.
 - (B) Distribute Tier 1 public notice as specified in 11.33.
- (l) Reporting Requirements for Lead and Copper Tap Sampling

 - (i) By the start of the first applicable tap sampling monitoring period as specified in 11.17(3)(d), the supplier must submit the following:

 - (A) A sample site plan in accordance with 11.17(3)(a), including a list of tap sample site locations identified from the inventory as specified in 11.17(2)(a), and a list a tap sampling water quality parameter sites selected under 11.17(5)(b), if applicable.

 - (I) The sample site plan must be updated and submitted to the Department prior to any changes to sample site locations.
 - (II) The Department may require modifications to the sample site plan as necessary.
 - (III) For systems with lead service lines with insufficient lead service line sites to complete its sampling pool, the supplier must submit documentation in support of the conclusion that there are an insufficient number of lead service line sites meeting the criteria specified in Table 11.17-I.

- (B) For suppliers that allow residents to collect first-draw or fifth-liter tap samples, a copy of the tap sampling protocol provided to individuals who are sampling.

 - (I) If the supplier intends to modify its tap sampling protocol, the supplier must submit the updated version of the protocol to the Department for review and approval no later than 60 days prior to use.
- (ii) No later than the 10th of the month following the end of each monitoring period, the supplier must submit all of the following:

 - (A) Lead and copper tap sample results collected under 11.17(3)(d), including the location of each site and the criteria for which the site was selected.

 - (I) If a site was sampled during the current monitoring period that was not sampled during previous monitoring periods, the supplier must submit an explanation for the change in sample site(s).
 - (B) Additional lead and copper tap samples collected under 11.17(3)(e), including service line and plumbing material information.
 - (C) Follow-up lead and copper tap samples and water quality parameter samples collected as part of the find-and-fix steps under 11.17(3)(i), including the location of each site.

 - (I) The supplier must include information on the number of customer refusals or non-responses for follow-up sampling under 11.17(3)(i), if applicable, and provide information on the accuracy of the refusals or non-responses.
 - (D) The 90th percentile calculations for the lead and copper tap sample results.
- (iii) The supplier is not required to report the 90th percentile lead and copper levels if all of the following conditions are met:

 - (A) The Department has notified the supplier that the Department will calculate the 90th percentile lead and copper levels based on the lead and copper tap sample results submitted.
 - (B) By no later than the 10th of the month following the end of each applicable tap sampling monitoring period, the supplier submits all of the following information:

 - (I) The results of all lead and copper tap samples.
 - (II) The location of each site.
 - (III) The tier level and criteria used to select the site.
 - (IV) A list of the sites that were sampled during the current monitoring period that were not sampled during previous monitoring periods, and an explanation for the change in sample sites.
 - (C) The Department has submitted the results of the 90th percentile lead and copper calculations, in writing, to the supplier within 15 days of the end of the tap sampling period.

(iv) For a non-transient, non-community water system, or a community water system meeting the criteria specified in 11.17(3)(c)(i)(I), that does not have enough taps that can provide first-draw or fifth-liter samples, the supplier must:

(A) By no later than the start of the first applicable monitoring period, submit to the Department the standing times and tap locations for the non-first-draw tap samples used to complete the sampling pool.

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11.17(4) Corrosion Control Requirements

(a) General Requirements

(i) The supplier must install and operate corrosion control treatment in accordance with this section, 11.17(4), and that meets the definition of optimal corrosion control treatment specified in 11.17(1)(r).

(A) If the system is deemed to have optimal corrosion control under 11.17(4)(b), the supplier is not required to install and operate corrosion control treatment.

(ii) For systems that comply with the applicable corrosion control treatment requirements specified by the Department under 11.17(4), the supplier is deemed in compliance with the treatment requirement specified in 11.17(4)(a)(i).

(iii) For small community or non-transient, non-community water systems that comply with the applicable small system compliance flexibility requirements specified by the Department under 11.17(4)(c), 11.17(4)(d), and 11.17(4)(i), the supplier is deemed to be in compliance with the treatment requirement specified in 11.17(4)(a)(i).

(iv) The supplier must notify the Department in writing pursuant to 11.17(4)(j) of any upcoming long-term change in treatment or addition of a new source as described in 11.17(4)(j).

(v) The Department must evaluate, review, designate, and/or approve the supplier's corrosion control treatment in accordance with procedures set forth in 11.17(4) and 40 CFR 141, Subpart I, and 40 CFR 142.

(b) Criteria for Being Deemed to Have Optimal Corrosion Control

(i) The supplier is deemed to have optimal corrosion control if one of the following criteria are met:

(A) A small or medium system without corrosion control treatment is deemed to have optimal corrosion control if the supplier does not exceed the lead action level and copper action level during two consecutive six-month tap sampling monitoring periods and thereafter remains at or below the lead trigger level and copper action level in all tap sampling periods conducted in accordance with 11.17(3)(d).

(B) For small or medium systems with corrosion control treatment, the supplier is deemed to have optimal corrosion control treatment if the supplier does not exceed the lead trigger level and copper action level during two consecutive six-month tap sampling monitoring periods and thereafter remains at or below the lead trigger level and copper action level in all tap sampling periods conducted in accordance with 11.17(3)(d).

- (I) For small or medium systems with corrosion control treatment that exceed the lead trigger level but do not exceed the lead and copper action levels during two consecutive six-month tap sampling monitoring periods and thereafter remain at or below the lead and copper action levels in all tap sampling periods conducted in accordance with 11.17(3)(d), the supplier is deemed to have re-optimized optimal corrosion control treatment if the supplier meets the requirements of 11.17(4).
- (II) Where the Department has set optimal water quality parameters under 11.17(4)(c) or 11.17(4)(d), the supplier is not eligible to be deemed to have optimized or re-optimized optimal corrosion control treatment.
- (C) For all systems, the supplier is deemed to have optimized or re-optimized corrosion control if the supplier submits results of tap water monitoring in accordance with 11.17(3)(d) demonstrating that the 90th percentile tap water lead level is less than or equal to (\leq) the lead practical quantitation level of 0.005 mg/L and does not exceed the copper action level for two consecutive six-month tap sampling monitoring periods:

 - (I) Where the Department has set optimal water quality parameters under 11.17(4)(c) or 11.17(4)(d), the supplier is not eligible to be deemed to have optimized or re-optimized optimal corrosion control treatment.
 - (II) If the supplier's 90th percentile tap sample results ever exceed the lead practical quantitation level of 0.005 mg/L or the copper action level during any tap sampling period, the supplier is no longer eligible to be deemed to have optimized corrosion control without first completing the treatment steps specified in 11.17(4)(c), or for systems subject to 11.17(4)(i)(vi)(A)(II), the treatment steps specified in 11.17(4)(d).
 - (III) If the supplier is deemed to have optimized corrosion control in accordance with 11.17(4)(b)(i)(C), the supplier must continue collecting lead and copper tap samples no less frequently than once every three calendar years at the reduced number of sites specified in Table 11.17-IV and collecting samples at the times and locations specified in 11.17(3)(d).
- (ii) If the supplier is deemed to have optimal corrosion control treatment, as defined in 11.17(1)(r) and as specified in 11.17(4)(b)(i)(A-C), and has corrosion control treatment in place without having optimal water quality parameters set by the Department, the supplier must continue to operate and maintain that treatment and meet any additional requirements that the Department determines to be appropriate to ensure optimal corrosion control treatment is maintained.

(c) Treatment Steps and Deadlines for Systems Without Corrosion Control Treatment

A supplier without corrosion control treatment (i.e., does not have Department-designated optimal water quality parameters) is required to complete the corrosion control steps for optimized corrosion control treatment according to the steps and deadlines specified in 11.17(4)(c) if no longer deemed to have optimal corrosion control under 11.17(4)(b), unless the Department has approved an alternative compliance option under 11.17(4)(i).

- (i) The supplier must recommend optimal corrosion control treatment in the following manner and by the specified deadlines:

- (A) For large systems without corrosion control treatment with 90th percentile results as calculated in accordance with 11.17(3)(b) that exceed either the lead practical quantitation level of 0.005 mg/L or the copper action level, the supplier must complete one of the following by the specified deadlines:
- (I) For systems with lead service lines, the supplier must harvest lead pipes from the distribution system and construct flow-through pipe loops and operate the loops with finished water within 12 months after the end of the tap sampling period and then complete the corrosion control studies specified in 11.17(4)(e) within 18 months.
- (a) The supplier must complete harvesting of lead pipes and the corrosion control studies within 30 months after the end of the tap sampling period that exceeds either the lead practical quantitation level of 0.005 mg/L or the copper action level.
- (II) For systems without lead service lines, the supplier must complete the corrosion control studies as specified in 11.17(4)(e) within 18 months after the end of the tap sampling period that exceeds either the lead practical quantitation level of 0.005 mg/L or the copper action level.
- (B) For small and medium systems with lead service lines that exceed the lead action level, the supplier must harvest lead pipes from the distribution system and construct flow-through pipe loops and operate the loops with finished water within 12 months after the end of the tap sampling period and then complete the corrosion control studies as specified in 11.17(4)(e) within 18 months.
- (I) The supplier must complete harvesting of lead pipes and the corrosion control studies within 30 months after the end of the tap sampling period that exceeds the lead action level.
- (C) For small and medium systems without corrosion control treatment that exceed the copper action level and for medium systems without corrosion control treatment that exceed the lead trigger level, the supplier must recommend, based on the results of lead and copper tap sampling and water quality parameter monitoring, one or more corrosion control treatments specified in 11.17(4)(e)(i)(A) that will most likely provide optimal corrosion control for the system no later than six months after the end of the tap sampling period that exceeds the lead trigger level or copper action level.
- (I) No later than 12 months after the end of the tap sampling period that exceeds the lead trigger level or copper action level, the Department may notify the supplier in writing of the requirement to perform corrosion control studies as specified in 11.17(4)(e).
- (a) If required to perform corrosion control studies, the supplier must complete the corrosion control studies no later than 18 months after the Department makes this determination.
- (D) For small community water systems and non-transient, non-community water systems without corrosion control treatment that exceed the lead trigger level but not the copper action level that choose to pursue a small water system compliance flexibility option, the supplier must recommend an option in accordance with 11.17(4)(i) based on the results of lead tap sampling and water quality parameter monitoring, including recommending one or more corrosion

- control treatments specified in 11.17(4)(e)(i)(A) that will most likely provide optimal corrosion control for the system.
- (I) The supplier must submit the recommendation(s) no later than six months after the end of the tap sampling period that exceeds the lead trigger level.
 - (II) If the Department approves corrosion control treatment as a compliance option under 11.17(4)(i), the supplier must complete the corrosion control treatment steps specified in 11.17(4)(c).
- (ii) The Department must designate optimal corrosion control treatment under the following conditions:
- (A) When designating optimal corrosion control treatment, the Department must consider the effects that additional corrosion control treatment will have on water quality parameters and on other drinking water quality treatment processes.
 - (B) If the Department requests additional information, including additional monitoring, to aid its review, the supplier must provide the information within the timeframes specified by the Department.
 - (C) Based upon considerations of available information including, where applicable, studies conducted under 11.17(4)(e)(i) and/or the supplier's recommended corrosion control treatment option, the Department must either approve the corrosion control treatment option recommended by the supplier or designate alternative corrosion control treatment(s) from among those listed in 11.17(4)(e)(i)(A)(I-IV).
 - (D) The Department must notify the supplier of its designation of optimal corrosion control treatment in writing and explain the basis for this determination. The Department must designate optimal corrosion control treatment by the following deadlines:
 - (I) For systems required to perform corrosion control studies as specified in 11.17(4)(e), the Department must designate optimal corrosion control treatment within six months after completion of the corrosion control studies.
 - (II) For medium systems required to recommend treatment as specified in 11.17(4)(c)(i)(C) and not required to perform corrosion control studies under 11.17(4)(c)(i)(C)(I), the Department must designate treatment within 18 months after the end of the tap sampling period during which the supplier exceeds the lead trigger level or copper action level.
 - (III) For small systems required to recommend treatment as specified in 11.17(4)(c)(i)(C) or 11.17(4)(c)(i)(D) and not required to perform corrosion control studies under 11.17(4)(c)(i)(C)(I), the Department must designate treatment within 24 months after the end of the tap sampling period during which the supplier exceeds the lead trigger level or copper action level.
- (iii) No later than 24 months after the Department approves optimal corrosion control treatment, the supplier must:

- (A) Properly install and operate the designated treatment; and
 - (B) Submit certification that the Department-approved optimal corrosion control treatment was installed.
- (iv) Discontinuation of corrosion control treatment steps. For small and medium systems, the supplier may discontinue the corrosion control treatment steps beginning with 11.17(4)(c)(iii), if one of the following conditions are met:
 - (A) The supplier has exceeded the lead trigger level, but has not exceeded the lead or copper action level.
 - (I) If the supplier subsequently exceeds the lead or copper action level, the supplier must install Department-designated corrosion control treatment as specified in 11.17(4)(c)(iii).
 - (B) The supplier has exceeded the lead or copper action level, but prior to the deadline to install treatment, the supplier does not exceed the lead or copper action levels during each of two consecutive six-month tap sample monitoring periods conducted in accordance with 11.17(3)(d).
 - (I) If the supplier installs optimal corrosion control treatment, the supplier must complete the activities specified in 11.17(4)(c)(v-vii).
 - (II) If the supplier does not complete 11.17(4)(c)(iii) upon meeting the condition specified in 11.17(4)(c)(iv)(B) and thereafter exceeds either the lead or copper action level, the supplier is not permitted to discontinue the steps a second time and must complete the applicable treatment steps beginning with 11.17(4)(c)(iii).
 - (a) The Department may require the supplier to repeat treatment steps previously completed by the supplier when the Department determines that it is necessary in order for the supplier to implement the treatment requirements specified in 11.17(4). The Department must notify the supplier in writing of such a determination and explain the basis for its decision.
- (v) No later than 12 months after installation of corrosion control treatment as specified in 11.17(4)(c)(iii), the supplier must complete follow-up sampling consisting of:
 - (A) Water quality parameter monitoring as specified in 11.17(5)(f); and
 - (B) Standard lead and copper tap sample monitoring as specified in 11.17(3)(d).
- (vi) No later than six months after the supplier completes water quality parameter monitoring and collects the lead and copper tap samples as specified in 11.17(4)(c)(v), the Department shall evaluate the results of all lead and copper tap sampling and water quality parameter monitoring submitted by the supplier and determine if the supplier has properly installed and operated optimal corrosion control treatment designated by the Department.
 - (A) Upon reviewing the results of tap sampling and water quality parameter monitoring conducted by the supplier, both before and after the supplier installs optimal corrosion control treatment, the Department must designate:

- (I) A minimum value or a range of values for pH measured at each entry point.
 - (II) A minimum pH value measured in all tap samples. Such a value must be greater than or equal to (\geq) 7.0, unless the Department determines that meeting a pH level of 7.0 is not technologically feasible or is not necessary for the system to optimize corrosion control.
 - (III) 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.
 - (IV) If a corrosion inhibitor is used, a minimum orthophosphate or silicate concentration measured in all tap samples that the Department determines is necessary to form a passivating film on the interior walls of the pipes of the distribution system.
 - (a) When orthophosphate is used, such an orthophosphate concentration must be greater than or equal to (\geq) 0.5 mg/L (as PO_4) unless the Department determines that meeting the applicable minimum orthophosphate residual is not technologically feasible or is not necessary for optimal corrosion control treatment.
 - (V) If alkalinity is adjusted as part of optimal corrosion control treatment, a minimum concentration or a range of concentrations for alkalinity, measured at each entry point and in all tap samples.
 - (VI) The values for the applicable water quality control parameters as specified in 11.17(4)(c)(vi)(A)(I-V) must be those that the Department determines to reflect optimal corrosion control treatment for the system. The Department may designate values for additional water quality control parameters determined by the Department to reflect optimal corrosion control treatment for the system.
- (B) The Department must notify the supplier in writing of these determinations and explain the basis for its decisions.
- (vii) The supplier must continue to operate and maintain optimal corrosion control treatment as specified in 11.17(4)(h).

(d) Treatment Requirements for Systems Re-Optimizing Corrosion Control Treatment

A supplier with corrosion control treatment (i.e., has Department-designated optimal water quality parameters) is required to complete the corrosion control steps for re-optimized corrosion control treatment according to the steps and deadlines specified in 11.17(4)(d) when the supplier exceeds the lead trigger level or copper action level or is otherwise required by the Department, unless the Department has approved an alternative compliance option under 11.17(4)(i).

- (i) The supplier must recommend re-optimized corrosion control treatment in the following manner and by the specified deadlines:
 - (A) For systems with corrosion control treatment, the supplier must recommend re-optimized corrosion control treatment from the treatment options specified in

11.17(4)(e)(i)(A) within six months after the end of the tap sampling period, if any of the following occurs:

- (I) The supplier exceeds the lead trigger level or copper action level and is not covered under 11.17(4)(d)(i)(B).
 - (II) The Department notifies the supplier in writing of the requirement to re-optimize corrosion control treatment on the condition the supplier is a large system with 90th percentile results as calculated in accordance with 11.17(3)(b) that exceed the lead practical quantitation level but do not exceed the lead trigger level or the copper action level.
- (B) For systems with lead service lines that exceed the lead action level, the supplier must harvest lead pipes from the distribution system and construct flow-through pipe loops and operate the loops with finished water within 12 months after the end of the tap sampling period and then complete the corrosion control studies as specified in 11.17(4)(e) within 18 months.
- (I) The supplier must complete harvesting of lead pipes and corrosion control studies within 30 months after the end of the tap sampling period that exceeded the lead action level.
- (C) For systems that exceed the lead trigger level, but not the lead or copper action level, the Department may approve modifications of the existing corrosion control treatment without a study.
- (I) The Department must specify re-optimized corrosion control treatment within six months of receiving the supplier's treatment recommendation under 11.17(4)(d)(A).
 - (II) The supplier must complete modifications to corrosion control treatment to have re-optimized corrosion control treatment within six months of the Department specifying re-optimized corrosion control under 11.17(4)(d)(i)(C)(I).
- (D) For large systems, the supplier must conduct the corrosion control studies as specified in 11.17(4)(e) for re-optimization within 18 months after the tap sampling period in which the supplier exceeded the lead trigger level or copper action level, unless the Department has approved modifications under 11.17(4)(d)(i)(C).
- (E) For small and medium systems with corrosion control treatment that exceed the lead trigger level or the copper action level, the Department may require the supplier to perform corrosion control studies as specified in 11.17(4)(e).
- (I) The Department must notify the supplier in writing of the requirement to complete the corrosion control studies as specified in 11.17(4)(e) within 12 months after the end of the tap sampling period in which the supplier exceeded the lead trigger level or copper action level.
 - (a) If required to perform corrosion control studies, the supplier must complete the corrosion control studies no later than 18 months after the Department makes this determination.

- (ii) The Department must designate re-optimized corrosion control treatment under the following conditions:

 - (A) When designating re-optimized corrosion control treatment, the Department must consider the effects that additional corrosion control treatment will have on water quality parameters and on other drinking water quality treatment processes.
 - (B) If the Department requests additional information to aid its review, the supplier must provide the requested information within the timeframes specified by the Department.
 - (C) Based upon considerations of available information including, where applicable, studies conducted under 11.17(4)(e) and/or the supplier's recommended corrosion control treatment option, the Department must either approve the corrosion control treatment option recommended by the supplier or designate alternative corrosion control treatment(s) from among those listed in 11.17(4)(e)(i)(A)(I-IV).
 - (D) The Department must notify the supplier of its designation of optimal corrosion control treatment in writing and explain the basis for this determination. The Department must designate optimal corrosion control treatment within the following timeframes:

 - (I) For systems required to perform corrosion control studies as specified in 11.17(4)(e), the Department must designate optimal corrosion control treatment within six months after completion of the corrosion control studies.
 - (II) For medium systems required to recommend treatment as specified in 11.17(4)(d)(i)(A) and not required to perform corrosion control studies under 11.17(4)(d)(i)(E), the Department must designate treatment within 12 months after the end of the tap sampling period during which the supplier exceeds the lead trigger level or copper action level.
 - (III) For small systems required to recommend treatment as specified in 11.17(4)(d)(i)(A) and not required to perform corrosion control studies under 11.17(4)(d)(i)(E), the Department must designate treatment within 18 months after the end of the tap sampling period during which the supplier exceeds the lead trigger level or copper action level.
- (iii) No later than 12 months after the Department approves re-optimized corrosion control treatment, the supplier must:

 - (A) Properly install and operate the approved treatment.
 - (B) Submit certification to the Department that the Department-approved re-optimized corrosion control treatment was installed.
- (iv) No later than 12 months after installation of corrosion control treatment in 11.17(4)(d)(iii), the supplier must complete follow-up sampling consisting of:

 - (A) Water quality parameter monitoring as specified in 11.17(5)(f); and
 - (B) Standard lead and copper tap sample monitoring as specified in 11.17(3)(d).

- (v) No later than six months after the supplier completes water quality parameter monitoring and collects the lead and copper tap samples as specified in 11.17(4)(d)(iv), the Department shall evaluate the results of all lead and copper tap sampling and water quality parameter sampling submitted by the supplier and determine if the supplier has properly installed and operated optimal corrosion control treatment designated by the Department.
- (A) Upon reviewing the results of tap sampling and water quality parameter monitoring conducted by the supplier, both before and after the supplier installs optimal corrosion control treatment, the Department must designate:

 - (I) A minimum value or a range of values for pH measured at each entry point.
 - (II) A minimum pH value measured in all tap samples. Such a value must be greater than or equal to (\geq) 7.0, unless the Department determines that meeting a pH level of 7.0 is not technologically feasible or is not necessary for the system to optimize corrosion control.
 - (III) 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.
 - (IV) If a corrosion inhibitor is used, a minimum orthophosphate or silicate concentration measured in all tap samples that the Department determines is necessary to form a passivating film on the interior walls of the pipes of the distribution system.

 - (a) When orthophosphate is used, such an orthophosphate concentration shall be greater than or equal to (\geq) 1.0 mg/L (as PO_4), unless the Department determines that meeting the applicable minimum orthophosphate residual is not technologically feasible or is not necessary for optimal corrosion control treatment.
 - (V) If alkalinity is adjusted as part of optimal corrosion control treatment, a minimum concentration or a range of concentrations for alkalinity, measured at each entry point and in all tap samples.
 - (VI) The values for the applicable water quality parameters, specified in 11.17(4)(d)(v)(A)(I-V), must be those that the Department determines to reflect optimal corrosion control treatment for the water system. The Department may designate values for additional water quality parameters determined by the Department to reflect optimal corrosion control treatment for the system.
- (B) The Department must notify the supplier in writing of these determinations and explain the basis for its decisions.
- (vi) The supplier must continue to operate and maintain re-optimized optimal corrosion control treatment as specified in 11.17(4)(h).
- (e) Corrosion Control Treatment Studies Requirements

 - (i) Corrosion control treatment studies must include all of the following:

- (A) An evaluation of the effectiveness of each of the following treatments, and if appropriate, combinations of the following treatments to identify the optimal corrosion control treatment for the system:
- (I) Alkalinity and pH adjustment.
 - (II) The addition of an orthophosphate- or 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.
- (B) An evaluation of each of the corrosion control treatments using either:
- (I) Pipe rig/loop tests.
 - (II) Metal coupon tests.
 - (III) Partial-system tests; or
 - (IV) Analyses based on documented analogous treatments with other systems of similar size, water chemistry, and distribution system configurations.
- (C) For systems with lead service lines, the supplier must complete pipe rig/loop studies using harvested lead service lines from their distribution system to assess the effectiveness of corrosion control treatment options on the existing pipe scale.
- (I) The supplier may use metal coupon tests as a screen to reduce the number of options that are evaluated using pipe rig/loops to the current conditions and two options.
 - (a) The supplier must not exclude treatment strategies from the studies based on constraints identified in 11.17(4)(e)(i)(E) or effects identified in 11.17(4)(e)(i)(F).
- (D) Monitoring of the following water quality parameters before and after any test conducted under 11.17(4)(e)(i)(B)(I-III) to evaluate the effectiveness of the corrosion control treatments:
- (I) Lead.
 - (II) Copper.
 - (III) pH.
 - (IV) Alkalinity.

- (V) Orthophosphate as PO₄ (when an orthophosphate-based inhibitor is used).
 - (VI) Silicate (when a silicate-based inhibitor is used).
 - (E) An identification of all chemical or physical constraints that limit or prohibit the use of a particular corrosion control treatment and documentation of such constraints with one of the following:

 - (I) Data and documentation showing that a particular corrosion control treatment has adversely affected other drinking water treatment processes when used by another water system with comparable water quality characteristics.

 - (a) Suppliers using coupon studies to screen and/or pipe loop/rig studies to evaluate treatment options must not exclude treatment strategies from the studies based on the constraints identified in this section.
 - (II) Data and documentation demonstrating that the supplier has previously attempted to evaluate a particular corrosion control treatment and has found that the treatment is ineffective or adversely affects other drinking water quality treatment processes.

 - (a) Suppliers using coupon studies to screen and/or pipe loop/rig studies to evaluate treatment options must not exclude treatment strategies from the studies based on the constraints identified in this section unless the treatment was found to be ineffective in a previous pipe loop/rig study.
 - (F) An evaluation of the effect of the chemicals used for corrosion control treatment on other drinking water quality treatment processes.
 - (G) A recommendation, in writing, based on an analysis of the data generated during each evaluation, of the treatment option that the corrosion control studies indicate constitutes optimal corrosion control treatment for the system.

 - (I) The supplier must provide a rationale for its recommendation along with all supporting documentation specified in 11.17(4)(e)(i)(A-F).
- (f) Modification of Department Treatment Decisions for Optimal Corrosion Control and Re-Optimized Corrosion Control
- (i) To ensure optimal corrosion control, the Department may modify its determination of optimal corrosion control treatment or optimal water quality parameters specified in 11.17(4)(c) or 11.17(4)(d) where it concludes that such change is necessary to ensure that the supplier continues to optimize corrosion control treatment.

 - (A) The supplier, or other interested party, may request in writing that the Department modify optimal corrosion control treatment or optimal water quality parameters. The request must explain why the modification is appropriate and include supporting documentation.

- (B) If the Department modifies the determination, the Department shall notify the supplier in writing of the modified treatment requirements and/or water quality parameters and include all of the following information:

 - (I) The basis for the decision; and
 - (II) An implementation schedule for the supplier to complete the modifications for re-optimized corrosion control treatment.
- (g) Treatment Decisions by EPA in Lieu of the Department on Optimal Corrosion Control Treatment and Re-Optimized Corrosion Control Treatment

 - (i) Pursuant to the procedures in 40 CFR 142.19, the EPA Regional Administrator may review optimal corrosion control treatment determinations made by the Department in section 11.17(4) or under 40 CFR 141.82(d)(1), (2), (f), or (h) and issue Federal treatment determinations consistent with the requirements of 11.17(4) or 40 CFR 141.82(d)(1), (2), (f), or (h) where the Regional Administrator finds that:

 - (A) The Department has failed to issue a treatment determination by the applicable deadlines specified in 11.17(4)(c), 11.17(4)(d), or 11.17(4)(i).
 - (B) The Department has abused its discretion in a substantial number of cases or in cases affecting a substantial population; or
 - (C) The technical aspects of the Department's determination would be indefensible in a Federal enforcement action taken against the supplier.
- (h) Requirements for the Continued Operation and Maintenance of Optimal Corrosion Control Treatment

 - (i) All suppliers optimizing or re-optimizing corrosion control must continue to operate and maintain optimal corrosion control treatment, including maintaining water quality parameters at or above minimum values or within ranges designated by the Department.
 - (ii) The supplier must operate in compliance with the Department-designated optimal water quality parameters and continue to conduct tap sampling as specified in 11.17(3)(d) and water quality parameter monitoring under 11.17(5).
 - (iii) The supplier must continue to operate and/or maintain optimal corrosion control treatment, including consecutive systems that distribute water that has been treated to control corrosion by another supplier, and any supplier with corrosion control treatment, optimal corrosion control treatment, or re-optimized corrosion control treatment that is not required to monitor water quality parameters under 11.17(5).
 - (iv) To demonstrate the continued operation and maintenance of optimal corrosion control treatment, the supplier must comply with the treatment technique requirements for water quality parameters as specified in 11.17(5)(k) and collect lead and copper tap samples as specified in 11.17(3)(d).

 - (A) The supplier must begin maintaining water quality parameters on the date that the Department notifies the supplier of the Department-specified optimal values for corrosion control.
- (i) Small Water System Compliance Flexibility

- (i) For small community water systems and non-transient, non-community water systems that exceed the lead trigger level but do not exceed the copper action level, the supplier must complete and submit to the Department the following no later than six months after the end of the tap sampling period in which the exceedance occurred:

 - (A) A recommendation for one or more corrosion control treatment options specified in 11.17(4)(e)(i)(A) that will most likely provide optimal corrosion control for the system.

 - (I) For systems with existing corrosion control treatment in place, the supplier must continue to operate and maintain optimal corrosion control treatment until the Department determines in writing that it is no longer necessary, and meet any requirements that the Department determines to be appropriate before implementing a Department-approved compliance option as described in 11.17(4)(i)(iv).
 - (B) A recommendation of the compliance option, based on an evaluation of the compliance options specified in 11.17(4)(i)(i)(B)(I-IV), the supplier will implement if a subsequent lead action level exceedance occurs.

 - (I) Corrosion control treatment recommended in 11.17(4)(i)(i)(A) and described in 11.17(4)(i)(vi)(A).
 - (II) Lead service line replacement described in 11.17(4)(i)(vi)(B).
 - (III) POU devices described in 11.17(4)(i)(vi)(C).
 - (IV) Replacement of lead-bearing plumbing described in 11.17(4)(i)(vi)(D).
- (ii) The Department must approve the compliance option recommendation or designate an alternative from the compliance options specified in 11.17(4)(i)(i)(B)(I-IV) within six months of the recommendation by the supplier.
- (iii) If the supplier subsequently exceeds the lead action level, the supplier must implement the compliance option approved by the Department in 11.17(4)(i)(ii).
- (iv) If the supplier exceeds the lead action level, but has not previously exceeded the lead trigger level, and does not exceed the copper action level, the supplier must complete the actions specified in 11.17(4)(i)(i) and must implement the compliance option approved by the Department under 11.17(4)(i)(ii).
- (v) If the supplier exceeds the lead trigger level after it has implemented a compliance option specified in 11.17(4)(i)(i)(B)(I-IV) and approved by the Department under 11.17(4)(i)(ii), the supplier must complete the steps specified in 11.17(4)(i)(i), and if it thereafter exceeds the lead action level, it must implement the compliance option approved by the Department under 11.17(4)(i)(ii).
- (vi) Description of small system compliance flexibility options.

 - (A) Corrosion control treatment. The supplier must install and maintain optimal corrosion control treatment in accordance with 11.17(4)(c-h).

 - (I) The supplier must install and maintain optimal corrosion control treatment even if the supplier's 90th percentile lead level is at or below the action level in future tap sampling monitoring periods.

- (II) If the supplier has corrosion control treatment installed, the supplier must re-optimize its corrosion control treatment in accordance with 11.17(4)(d).
- (III) Suppliers required by the Department to optimize or re-optimize corrosion control treatment must follow the schedules specified in 11.17(4)(c) or 11.17(4)(d), beginning with 11.17(4)(c)(iii) or 11.17(4)(d)(iii), unless the Department specifies optimal corrosion control treatment pursuant to either 11.17(4)(c)(ii)(D)(III) or 11.17(4)(d)(ii)(D)(III), as applicable.
- (B) Lead service line replacement. For systems with lead service lines, the supplier must implement a full lead service line replacement program on a schedule approved by the Department but not to exceed 15 years.

 - (I) The supplier must begin lead service line replacement within one year after the Department's approval or designation of the compliance option.
 - (II) The supplier may not cease lead service line replacement even if the supplier's 90th percentile lead level is at or below the action level in future tap sampling monitoring periods.
 - (III) Lead service line replacement must be conducted in accordance with the requirements specified in 11.17(7)(f), 11.17(7)(h)(i)(D), 11.17(7)(h)(i)(F) and 11.17(7)(h)(i)(G).
 - (IV) The supplier must have no lead service lines, galvanized requiring replacement service lines, or "lead status unknown" service lines in its inventory by the end of its lead service line replacement program.
- (C) Point-of-use devices. The supplier must install, maintain, and monitor POU devices in each household or building.

 - (I) For community water systems, the supplier must install POU devices as follows:

 - (a) At each household in the distribution system, install a minimum of one POU device (at one tap).
 - (b) At each non-residential building in the distribution system, install one POU device at every tap that is used for cooking and/or drinking.
 - (c) Installation must be completed according to a Department-specified schedule, but no later than one year after the Department's approval or designation of the compliance option.
 - (II) For non-transient, non-community water systems, the supplier must provide a POU device at every tap that is used for cooking and/or drinking.

 - (a) Installation must be completed according to a Department-specified schedule, but no later than three months after the Department's approval or designation of the compliance option.

- (III) The supplier must continue with installation, maintenance, and monitoring of POU devices in each household or building even if the lead 90th percentile is at or below the action level in future tap sampling monitoring periods.
- (IV) 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.
- (V) The POU device must be maintained by the supplier according to manufacturer's recommendations to ensure continued effective filtration, including but not limited to changing filter cartridges and resolving any operational issues.

 - (a) POU devices must be equipped with mechanical warnings to ensure that customers are automatically notified of operational problems.
 - (b) The supplier must provide documentation to the Department to certify maintenance of the POU devices on an annual basis.
- (VI) The supplier must monitor one-third of the POU devices each year and all POU devices must be monitored within a three-year cycle.

 - (a) First-draw tap samples collected under 11.17(4)(i)(vi)(C)(VI) must be taken after water passes through the POU device to assess its performance.
 - (b) Samples must be one-liter in volume and have had a minimum six-hour stagnation time.
 - (c) All samples must be less than or equal to (\leq) the lead trigger level.
 - (d) No later than the 10th of the month following the end of each tap sampling monitoring period, the supplier must report the results from the tap sampling from POU devices to the Department.
 - (e) At any site where the sample result exceeds the lead trigger level, the supplier must document the problem and complete corrective action within 30 days. If the corrective action is not completed within 30 days, the supplier must provide documentation to the Department within 30 days explaining why the supplier was unable to correct the issue.
 - (f) For any site where the sample result exceeds the lead trigger level, the supplier must reach out to the homeowner and/or building management no later than 24 hours after receiving the tap sample results.
- (VII) The supplier must provide public education to consumers to inform them on proper use of POU devices to maximize the units' effectiveness in reducing lead levels in drinking water.

- (a) The supplier must provide public education material at the time of POU device delivery.
- (b) The supplier must distribute the public education materials in person, by mail, or by another Department-approved method to people at all locations where the supplier has delivered POU devices.
- (VIII) The supplier must operate and maintain the POU devices until the supplier receives Department approval to select one of the other compliance flexibility options and implements it.
- (D) Replacement of lead-bearing plumbing. If the supplier has control over all plumbing in its buildings, and has no unknown, galvanized, or lead service lines, the supplier must replace all plumbing that is not lead free in accordance with 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.
 - (I) Replacement of all lead-bearing plumbing must be completed according to a Department-specified schedule, but no later than one year after the Department's approval or designation of the compliance option.
 - (II) The supplier must provide certification to the Department that all lead-bearing material has been replaced within one year of the Department's approval or designation of the compliance option.
- (j) Reporting Requirements for a New Source or Long-Term Change in Water Treatment
 - (i) The Department must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the supplier.
 - (A) At a date specified by the Department, or if no specific date is specified by the Department, as soon as possible but no later than six months prior to the addition of a new source or any long-term treatment change, the supplier must submit written documentation to the Department describing the addition or change.
 - (B) The Department may require the supplier to take actions before or after the addition of a new source or long-term treatment change to ensure the supplier will operate and maintain optimal corrosion control treatment (e.g., additional water quality parameter monitoring, additional lead or copper tap sampling, and re-evaluation of corrosion control treatment).
 - (C) Examples of long-term treatment changes include but are not limited to:
 - (I) The addition of a new treatment process or modification of an existing treatment process including:
 - (a) Switching secondary disinfectants.
 - (b) Switching coagulants (e.g., alum to ferric chloride).
 - (c) Switching corrosion inhibitor products (e.g., orthophosphate to blended phosphate).

(II) Dose changes to existing chemicals if the water system is planning long-term changes to its finished water pH or residual inhibitor concentration.

(D) 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.

(k) Treatment Technique Violations and Response for Optimal Corrosion Control

(i) If the supplier fails to meet the corrosion control treatment requirements by the deadlines specified in 11.17(4), a treatment technique violation occurs.

(ii) In the event of an optimal corrosion control treatment technique violation, the supplier must:

(A) Notify the Department no later than 48 hours after the violation occurs; and

(B) Distribute Tier 2 public notice as specified in 11.33.

11.17(5) Monitoring Requirements for Water Quality Parameters

(a) Applicability

(i) For all large water systems, the supplier must comply with the water quality parameter requirements specified in this section, 11.17(5).

(ii) For small and medium water systems that exceed the lead or copper action level, the supplier must comply with the water quality parameter requirements specified in this section, 11.17(5).

(iii) For small and medium water systems with corrosion control treatment that exceed the lead trigger level, the supplier must comply with the water quality parameter requirements specified in this section, 11.17(5).

(b) General Monitoring Requirements for Water Quality Parameters

(i) The supplier must monitor for water quality parameters at taps and at each entry point.

(A) The supplier must collect tap samples that are representative of water quality throughout the distribution system, taking into account the number of individuals supplied, the different sources of water, the different treatment methods used by the system, and seasonal variability.

(I) Tap sampling for water quality parameters is not required to be conducted at lead and copper tap sampling sites specified in 11.17(3)(a).

(II) The supplier must include tap sampling sites for water quality parameters in the supplier's sampling pool specified in 11.17(3)(a)(i). The supplier's sampling pool must be updated prior to changes to the sampling locations.

(B) The supplier must collect tap samples for the applicable water quality parameters from the minimum number of sites specified in Table 11.17-VI.

(C) For systems that add sites as a result of the “find-and-fix” requirements specified in 11.17(3)(i), the supplier must collect tap samples for applicable water quality parameters each monitoring period as specified in 11.17(5)(c-i) and must sample from the adjusted minimum number of sites.

(I) If the supplier is conducting water quality parameter monitoring at additional sites through “find-and-fix”, the supplier must add those sites to the minimum number of sites specified in Table 11.17-VI unless they are monitoring at least twice the minimum number of sites.

TABLE 11.17-VI ROUTINE NUMBER OF WATER QUALITY PARAMETER TAP SAMPLE SITES

<u>Population supplied</u>	<u>Minimum number of sites for water quality parameters</u>	<u>Find-and-Fix threshold for water quality parameters</u>
<u>Greater than (>) 100,000</u>	<u>25</u>	<u>50</u>
<u>10,001 to 100,000</u>	<u>10</u>	<u>20</u>
<u>3,301 to 10,000</u>	<u>3</u>	<u>6</u>
<u>501 to 3,300</u>	<u>2</u>	<u>4</u>
<u>101 to 500</u>	<u>1</u>	<u>2</u>
<u>Less than or equal to (≤) 100</u>	<u>1</u>	<u>2</u>

(c) For Large Systems without Corrosion Control Treatment - Initial Monitoring Requirements for Water Quality Parameters

(i) For systems that become a large system, the supplier must monitor water quality parameters during two consecutive six-month compliance periods beginning no later than January 1 of the calendar year after the system becomes a large system.

(ii) For large systems that fail to maintain a 90th percentile lead level less than or equal to (≤) 0.005 mg/L, the supplier must monitor water quality parameters during two consecutive six-month compliance periods beginning no later than January 1 of the calendar year following the compliance period during which the 90th percentile lead level is greater than (>) 0.005 mg/L.

(iii) In each six-month compliance period, the supplier must monitor the following water quality parameters:

(A) At the routine number of tap sample sites specified in Table 11.17-VI, collect two samples for:

(I) pH.

(II) Alkalinity.

(B) At each entry point, collect two samples for:

(I) pH.

(II) Alkalinity.

(d) For Small and Medium Systems - Monitoring Requirements for Water Quality Parameters After an Action Level Exceedance

- (i) The supplier must monitor for water quality parameters during two consecutive six-month compliance periods immediately following the end of the tap sampling period during which the lead or copper action level is exceeded.
 - (A) At the routine number of tap sample sites specified in Table 11.17-VI, collect two samples for:
 - (I) pH.
 - (II) Alkalinity.
 - (B) At each entry point, collect two samples for:
 - (I) pH.
 - (II) Alkalinity.
- (e) For Systems without Designated Water Quality Parameters for Optimal Corrosion Control - Initial Monitoring Requirements for Water Quality Parameters After a Trigger Level Exceedance
 - (i) For systems that have corrosion control treatment installed for which the Department has not specified values for water quality parameters that reflect optimal corrosion control treatment, the supplier must monitor for water quality parameters during two consecutive six-month compliance periods immediately following the end of the tap sampling period during which the lead trigger level is exceeded.
 - (A) At the routine number of tap sample sites specified in Table 11.17-VI, collect two samples for:
 - (I) pH.
 - (II) Alkalinity.
 - (B) At each entry point, collect two samples for:
 - (I) pH.
 - (II) Alkalinity.
- (f) Monitoring Requirements for Water Quality Parameters After Installation or Re-Optimization of Corrosion Control Treatment
 - (i) The supplier must monitor water quality parameters during two consecutive six-month compliance periods immediately following the installation or re-optimization of corrosion control treatment. In each six-month compliance period, the supplier must:
 - (A) Collect samples evenly throughout each six-month compliance period to reflect seasonal variability.
 - (B) At the routine number of tap sample sites specified in Table 11.17-VI, collect two samples for each of the following:
 - _____ (I) pH.
 - _____ (II) Alkalinity.

- (III) Orthophosphate, when an inhibitor containing an orthophosphate compound is used.
- (IV) Silica, when an inhibitor containing a silicate compound is used.
- (C) At each entry point, collect at least one sample every two weeks (biweekly) for each of the following:
- (I) pH.
- (II) If alkalinity is adjusted as part of optimal corrosion control, a reading of the dosage rate of the chemical used to adjust alkalinity, and the alkalinity concentration.
- (III) If a corrosion inhibitor is used as part of optimal corrosion control, a reading of the dosage rate of the inhibitor used, and the concentration of orthophosphate or silica (whichever is applicable).
- (D) For groundwater systems, the supplier may reduce entry point sampling to entry points that are representative of water quality and treatment conditions throughout the system.
- (I) If water from groundwater sources without corrosion control treatment mixes with water from groundwater sources with corrosion control treatment, the supplier must monitor for water quality parameters both at representative entry points receiving treatment and representative entry points receiving no treatment.
- (II) Before starting reduced entry point monitoring, the supplier must submit written documentation identifying the selected representative entry points and information sufficient to demonstrate that the sites are representative of water quality and treatment conditions throughout the system, including information on seasonal variability.
- (ii) For small and medium water systems with corrosion control treatment for which the Department has not specified water quality parameters for optimal corrosion control that exceed the lead trigger level but not the lead or copper action levels, the Department may allow an alternative water quality parameter structure.
- (g) For Large Systems - Routine Monitoring After the Department Specifies Water Quality Parameters for Optimal Corrosion Control
- (i) After the Department specifies the values for the applicable water quality parameters that reflect optimal corrosion control treatment as specified in 11.17(4)(c)(vi) and 11.17(4)(d)(v), the supplier must monitor for the required water quality parameters every six months as specified in 11.17(5)(f)(i)(A-D).
- (A) After the Department specifies the values reflecting optimal corrosion control, the supplier must begin monitoring in the first six-month compliance period, beginning either January 1 or July 1, whichever comes first.
- (h) For Small and Medium Systems - Routine Monitoring after the Department Specifies Water Quality Parameters for Optimal Corrosion Control

- (i) After the Department specifies values for the applicable water quality parameters that reflect optimal corrosion control as specified in 11.17(4)(c)(vi) and 11.17(4)(d)(v), the supplier must monitor water quality parameters every six months immediately following any tap sampling period during which the lead or copper action level is exceeded.
 - (A) The supplier must monitor the water quality parameters as specified in 11.17(5)(f)(i)(A-D).
 - (B) The supplier must continue to monitor water quality parameters until the lead and copper action levels and Department-specified values for water quality parameters reflecting optimal corrosion control are met in two consecutive six-month compliance periods.
 - (C) If the supplier is collecting lead and copper tap samples on a reduced monitoring frequency at the time of the action level exceedance, the supplier must begin monitoring for water quality parameters no later than the six-month compliance period beginning January 1 of the calendar year following the action level exceedance.
- (ii) If the supplier exceeds the lead trigger level, but not the lead and copper action levels, the supplier must monitor the water quality parameters as specified in 11.17(5)(f)(i)(A-D) every six months until the lead trigger level is met for two consecutive six-month compliance periods.
 - (A) The Department may require the supplier to routinely monitor water quality parameters to demonstrate the continued operation and maintenance of optimal corrosion control.

(i) Reduced Monitoring Requirements for Water Quality Parameters at Taps

- (i) For large systems, if the supplier has maintained Department-specified values for water quality parameters reflecting optimal corrosion control treatment as specified in 11.17(4)(c)(vi) and 11.17(4)(d)(v) and has met the lead trigger level during two consecutive six-month compliance periods, the supplier may collect two tap samples for each applicable water quality parameter from the reduced number of sites specified in Table 11.17-VII during each six-month compliance period.

TABLE 11.17-VII REDUCED NUMBER OF WATER QUALITY PARAMETER TAP SAMPLE SITES

<u>Population supplied</u>	<u>Reduced number of sites for water quality parameters</u>
<u>Greater than (>) 100,000</u>	<u>10</u>
<u>10,001 to 100,000</u>	<u>7</u>
<u>3,301 to 10,000</u>	<u>3</u>
<u>501 to 3,300</u>	<u>2</u>
<u>101 to 500</u>	<u>1</u>
<u>Less than or equal to (\leq) 100</u>	<u>1</u>

- (ii) For large systems, and for small and medium water systems for which the Department has required routine water quality parameter monitoring as specified in 11.17(5)(h)(ii)(A), the supplier may be eligible for reduced tap monitoring frequency.

- (A) The supplier may, at the reduced number of sites specified in Table 11.17-VII, collect two samples for each applicable water quality parameter annually if, during three consecutive years of monitoring, all of the following criteria are met:

 - (I) The 90th percentile does not exceed the lead trigger level.
 - (II) The 90th percentile does not exceed the copper action level.
 - (III) The Department-specified values for water quality parameters reflecting optimal corrosion control treatment have been maintained.
 - (IV) The supplier must begin annual monitoring in the calendar year immediately following the end of the third consecutive year of six-month monitoring.
- (B) The supplier may, at the reduced number of sites specified in Table 11.17-VII, collect two samples for each applicable water quality parameter annually if, during two consecutive monitoring periods all of the following criteria are met:

 - (I) The 90th percentile lead level is less than or equal to (\leq) 0.005 mg/L.
 - (II) The 90th percentile copper level is less than or equal to (\leq) 0.65 mg/L.
 - (III) The Department-specified values for water quality parameters reflecting optimal corrosion control treatment have been maintained.
- (iii) The supplier must collect tap samples evenly throughout the compliance period to reflect seasonal variability.
- (j) Increased Monitoring Requirements for Water Quality Parameters

 - (i) If the supplier is monitoring water quality parameters at a reduced frequency, the supplier must increase the water quality parameter tap monitoring frequency and the number of sites as specified in 11.17(5)(g) or 11.17(5)(h) if one or more of the following occur:

 - (A) A lead trigger level exceedance occurs.
 - (B) A copper action level exceedance occurs.
 - (C) An excursion occurs as specified in 11.17(5)(l).
 - (ii) The supplier may return to a reduced water quality parameter tap monitoring frequency and reduced number of sites if the conditions specified in 11.17(5)(i) are satisfied.
- (k) Treatment Technique Compliance Determination for Optimal Corrosion Control Treatment

 - (i) The supplier must maintain the Department-specified values for water quality parameters to demonstrate the continued operation and maintenance of optimal corrosion control treatment.
 - (ii) Compliance with monitoring requirements and Department-specified values for water quality parameters is determined for each six-month compliance period.
 - (iii) The results of all water quality parameter monitoring samples collected in addition to the minimum requirements of this section, 11.17(5), must be considered by the supplier and

the Department in making any determinations (e.g., determining concentrations of water quality parameters) under 11.17(4) and 11.17(5).

(iv) The supplier must calculate the daily value for each water quality parameter at each sampling location as follows:

(A) On days when more than one sample for a water quality parameter is collected at a sampling location, the daily value is the average of all results collected on that day through continuous monitoring and/or grab sampling.

(B) On days when only one sample for a water quality parameter is collected at a sampling location, the daily value is that sample result.

(C) On days when no sample is collected for a water quality parameter at a sampling location, the daily value is the daily value calculated on the most recent day on which the water quality parameter was sampled at the sampling location.

(D) The Department may exclude sample results from this calculation due to obvious sampling errors when appropriate.

(l) Treatment Technique Violations for Water Quality Parameters

(i) If an excursion occurs for any Department-specified water quality parameter, or combination of water quality parameters, at any sampling location, or combination of sampling locations, on more than nine days total during any six-month compliance period, a treatment technique violation occurs.

(A) "EXCURSION" means the daily value for one or more water quality parameters at a sampling location is less than (<) the minimum value or outside the Department-specified range of values.

(m) Response to a Treatment Technique Violation for Water Quality Parameters

(i) In the event of a water quality parameters treatment technique violation, the supplier must:

(A) Notify the Department no later than 48 hours after the violation occurs.

(B) Distribute Tier 2 public notice as specified in 11.33.

(C) Begin lead and copper tap sampling every six months at the number of sites specified in Table 11.17-IV no later than the six-month compliance period beginning January 1 of the calendar year following the violation.

(D) Monitor water quality parameters as specified in 11.17(5)(g) or 11.17(5)(h).

11.17(6) Sampling and Treatment Requirements for Lead and Copper in Source Water

(a) Applicability

If the lead or copper action level is exceeded, the supplier must comply with the requirements for lead and copper entry point sampling and if necessary, the installation of additional treatment as specified in this section, 11.17(6).

(b) Sampling and Treatment Requirements After Exceeding the Lead or Copper Action Level

- (i) No later than six months after the end of the tap sampling period during which the lead or copper action level was exceeded either for the first time or for the first time after the addition of a new source or installation of source water treatment required under 11.17(6)(b)(iii), the supplier must:

 - (A) Collect one lead and copper sample from each entry point.
 - (B) Submit a written recommendation for the installation and operation of one of the source water treatments specified in 11.17(6)(b)(iii)(B)(II)(a-d).

 - (I) The supplier may recommend that treatment is not necessary based on the demonstration that source water treatment will not minimize lead and copper levels at the taps.
 - (C) The Department may waive the source water monitoring requirement if all of the following criteria are met:

 - (I) The supplier has already conducted source water monitoring following a previous action level exceedance.
 - (II) The Department has determined that source water treatment is not required.
 - (III) The supplier has not added any new water sources.
- (ii) For the purposes of this section, if the supplier is required to conduct lead and copper tap 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 Department has established an alternate tap sampling period, the last day of that period.
- (iii) No later than six months after the supplier submits the lead and copper entry point sample results, the Department shall evaluate the results to determine whether source water treatment is necessary to minimize lead and copper levels at the taps.

 - (A) If the Department requests additional information to make the determination, the supplier must submit that information no later than the date specified in the request.
 - (B) If the Department determines that additional treatment is necessary for lead and copper in the source water, the Department shall require the supplier to either:

 - (I) Install and operate the supplier-recommended treatment; or
 - (II) Install and operate one of the following treatments:

 - (a) Ion exchange.
 - (b) Reverse osmosis.
 - (c) Lime softening.
 - (d) Coagulation and filtration.
 - (C) The Department shall notify the supplier in writing of the determination and basis for the decision.

(c) Installation of Additional Treatment for Lead and Copper in the Source Water

(i) No later than 24 months after the Department determines that additional treatment is necessary for lead and copper in the source water, the supplier must:

(A) Properly install and operate the Department-approved treatment.

(B) Submit certification that the Department-approved treatment was installed.

(ii) No later than 12 months after the installation of additional treatment for lead and copper in the source water, the supplier must collect samples during two consecutive six-month compliance periods as follows:

(A) One lead and copper sample at each entry point.

(B) Lead and copper tap samples at the routine number of sites specified in Table 11.17-IV.

(iii) For the addition of a new source after installation of additional treatment for lead and copper in the source water, the supplier must collect one lead and copper sample from each entry point until the supplier demonstrates that lead and copper entry point sample results have been less than (\leq) the maximum permissible lead and copper concentrations specified by the Department in 11.17(6)(d) or the Department determines that source water treatment is not needed.

(d) Treatment Technique Requirements After the Department Specifies Maximum Permissible Levels for Lead and Copper at the Entry Point

(i) The Department must review the sample results that were collected before and after the installation of treatment and determine if the treatment was properly installed and operated.

(A) No later than six months after the supplier collects follow-up tap water samples and lead and copper entry point samples, the Department must specify maximum permissible levels that the supplier must comply with for lead and copper at each entry point that reflect the contaminant removal capability of the treatment when it is properly operated and maintained.

(B) The Department must notify the supplier, in writing, and explain the basis for the decision.

(ii) Upon its own initiative or in response to a request, the Department may modify the treatment requirements or maximum permissible levels if it determines that the change is necessary to ensure that the lead and copper levels at the entry point are minimized.

(A) The supplier, or other interested party, may request in writing that the Department modify treatment or maximum permissible levels. The request must explain why the modification is appropriate and must include supporting documentation.

(B) The Department shall notify the supplier, in writing, of the modified treatment requirements or maximum permissible levels and include all of the following information:

(I) The basis for the decision.

(II) An implementation schedule for the supplier to complete the modifications.

(e) Treatment Decisions by EPA in Lieu of the Department on Source Water Treatment

(i) Pursuant to the procedures in 40 CFR 142.19, the EPA Regional Administrator may review treatment determinations made by the Department under 11.17(6)(b) and 11.17(6)(d) or under 40 CFR 141.83(b)(2), (4), or (6) and issue Federal treatment determinations consistent with the requirements of 11.17(6)(b) and 11.17(6)(d) or 40 CFR 141.83(b)(2), (4), or (6) where the Administrator finds that:

(A) The Department has failed to issue a treatment determination by the applicable deadlines specified in 11.17(6)(b-d).

(B) The Department has abused its discretion in a substantial number of cases or in cases affecting a substantial population; or

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

(f) Routine Sampling Frequency for Lead and Copper at the Entry Point

(i) If the Department specifies maximum permissible levels, the supplier must operate in compliance with the Department-specified maximum permissible lead and copper source water levels and collect lead and copper samples at each entry point as follows:

(A) For groundwater systems, once every three calendar years.

(I) The supplier must collect samples no later than every third calendar year.

(B) For surface water systems, annually.

(I) The first sample must be collected in the same calendar year that the Department specifies the maximum permissible levels.

(C) If the lead and copper tap sample results are less than or equal to (\leq) the action level during any lead and copper entry point monitoring period, the supplier is not required to collect lead and copper entry point samples.

(ii) If a sample was collected at an entry point during the current monitoring period that was not sampled during previous monitoring periods, the supplier must submit an explanation for the change in entry point(s).

(g) Reduced Sampling Frequency for Lead and Copper at the Entry Point

(i) The supplier may reduce the sampling frequency for lead and copper entry point samples to once during each nine-year compliance cycle if:

(A) For groundwater systems, the supplier demonstrates that lead and copper entry point sample results have been less than ($<$) the maximum permissible levels specified by the Department for at least three consecutive three-year compliance periods.

- (B) For surface water systems, the supplier demonstrates that lead and copper entry point sample results have been less than (<) the maximum permissible levels specified by the Department for at least three consecutive years.
- (ii) If the supplier is on a nine-year sampling frequency, the supplier must collect samples no later than every ninth calendar year.
- (iii) For new sources, the supplier is not eligible for a reduced sampling frequency for lead and copper at the entry point until the results collected from the new source during three consecutive monitoring periods are less than (<) the Department-specified maximum permissible levels.
- (iv) If a sample was collected at an entry point during the current monitoring period that was not sampled during previous monitoring periods, the supplier must submit an explanation for the change in entry point(s).

(h) Response to an Exceedance of Maximum Permissible Levels

If the maximum permissible lead or copper concentration is exceeded at an entry point, the Department may require the supplier to collect a confirmation lead and copper entry point sample as soon as possible but no later than two weeks after the initial entry point sample was collected.

(i) Compliance Determination for Lead and Copper in Source Water

- (i) If a confirmation sample is collected, the supplier must average the results of the initial and confirmation samples to determine compliance with the maximum permissible level(s).
- (ii) If a confirmation sample is not collected, compliance is determined based on the individual sample result.
- (iii) If a sample result is less than (<) the method detection limit, the sample result will be given a value of zero when calculating compliance.
- (iv) If a sample result is greater than (>) the method detection limit but less than (<) 0.005 mg/L for lead or 0.050 mg/L for copper, when calculating compliance, the supplier must use:
 - (A) For lead, the measured result or 0.0025 mg/L.
 - (B) For copper, the measured result or 0.025 mg/L.

(j) Treatment Technique Violations for Lead and Copper in Source Water

- (i) The following constitute lead and copper in source water treatment technique violations:
 - (A) A confirmation sample is collected and the average of the initial sample result and its confirmation sample result is greater than (>) the maximum permissible level(s) for lead and/or copper.
 - (B) A confirmation sample is not collected and the individual sample result is greater than (>) the maximum permissible level(s) for lead and/or copper.
 - (C) The supplier fails to install Department-approved treatment.

(k) Response to Treatment Technique Violations for Lead and Copper in Source Water

(i) In the event of a lead and copper in source water treatment technique violation, the supplier must:

(A) Notify the Department no later than 48 hours after the violation occurs.

(B) Distribute Tier 2 public notice as specified in 11.33.

(C) In the event of a treatment technique violation for exceeding the maximum permissible level(s), the Department may require the supplier to make changes to the treatment.

11.17(7) Lead Service Line Replacement Requirements

(a) Applicability

(i) For all community and non-transient, non-community water systems that have one or more lead, galvanized requiring replacement, or lead status unknown service lines in their distribution system, the supplier must comply with the requirements in this section 11.17(7).

(ii) For all community and non-transient, non-community water systems that have one or more lead goosenecks, pigtails, or connectors in their distribution system, the supplier must comply with the requirements specified in 11.17(7)(d) and 11.17(7)(l)(i)(B).

(b) Lead Service Line Replacement Plan

(i) The supplier must develop a lead service line replacement plan sufficiently detailed to ensure the supplier is able to comply with the lead service line replacement requirements specified in this section, 11.17(7). The plan must include a description of all of the following:

(A) A strategy for determining the composition of lead status unknown service lines in its inventory.

(B) A procedure for conducting full lead service line replacement.

(C) A strategy for informing customers before a full or partial lead service line replacement.

(D) For systems that serve greater than (>) 10,000 people, a lead service line replacement goal rate recommended by the supplier in the event of a lead trigger level exceedance.

(E) A procedure for customers to flush service lines and premise plumbing of particulate lead.

(F) A lead service line replacement prioritization strategy based on factors including but not limited to the targeting of known lead service lines, lead service line replacement for disadvantaged consumers, and populations most sensitive to the effects of lead.

(G) A funding strategy for conducting lead service line replacements which considers ways to accommodate customers that are unable to pay to replace the portion they own.

(c) Determining Number of Goal-Based and Mandatory Service Line Replacements

(i) To calculate the number of service line replacements applicable to 11.17(7)(g) and 11.17(7)(h), the replacement rate must be applied to the sum of known lead and galvanized requiring replacement service lines when the supplier first exceeds the trigger or action level plus the number of lead status unknown service lines in the beginning of each year of an annual goal or mandatory lead service line replacement program.

(ii) Each service line shall count only once for purposes of calculating the required number of service line replacements, even where the ownership of the service line is split and both the customer-owned and system-owned portions require replacement.

(iii) The number of service lines requiring replacement must be updated annually to subtract the number of lead status unknown service lines that were discovered to be non-lead and to add the number of non-lead service lines that were discovered to be a lead or galvanized requiring replacement service lines.

(iv) Verification of a lead status unknown service line as non-lead in the inventory does not count as a service line replacement.

(d) Operating Procedures for Replacing Lead Goosenecks, Pigtails, or Connectors

(i) The supplier must replace any lead gooseneck, pigtail, or connector it owns when encountered during planned or unplanned water system infrastructure work.

(ii) The supplier must offer to replace a customer-owned lead gooseneck, pigtail, or connector.

(A) The supplier is not required to bear the cost to replace the customer-owned parts.

(iii) The supplier is not required to replace a customer-owned lead gooseneck, pigtail, or connector if the customer objects to its replacement.

(iv) The replacement of a lead gooseneck, pigtail, or connector does not count towards the requirements for goal-based or mandatory lead service line replacements specified in 11.17(7)(g) and 11.17(7)(h), respectively.

(v) Upon replacement of any gooseneck, pigtail, or connector that is attached to a lead service line, the water system must follow risk mitigation procedures specified in 11.17(7)(i)(ii).

(e) Requirements for Conducting Lead Service Line Replacement that May Result in Partial Replacement

(i) If the supplier plans to partially replace a lead service line (e.g., replace only the portion of a lead service line that it owns) in coordination with planned infrastructure work, the supplier must:

- (A) Provide notice to the owner of the affected service line, or the owner's authorized agent, as well as non-owner resident(s) supplied by the affected service line at least 45 days prior to the replacement.

 - (I) The notice must explain that the supplier will replace the portion of the line it owns and offer to replace the portion of the service line not owned by the supplier.

 - (a) The supplier is not required to bear the cost to replace the portion of the affected service line owned by the customer.
- (B) Before the affected service line is returned to service, provide notification meeting the following requirements:

 - (I) The content requirements of 11.17(8)(b), explaining that consumers may experience a temporary increase of lead levels in their drinking water due to the replacement.
 - (II) Information about the health effects of lead.
 - (III) Actions consumers can take to minimize their exposure to lead in drinking water.
- (C) Provide information about service line flushing in accordance with the procedure developed in 11.17(7)(b)(i)(E) before the affected service line is returned to service.
- (D) Provide the consumer with a pitcher filter or POU device certified by an American National Standards Institute accredited certifier to reduce lead before the affected service line is returned to service.

 - (I) The supplier must also provide the consumer with six months of replacement cartridges and instructions for use.
 - (II) If the affected service line serves more than one residence or non-residential unit (e.g., a multi-unit building), the supplier must provide a filter, six months of replacement cartridges and use instructions to every residence in the building.
- (E) For single family residences supplied by a lead service line, distribute notification and informational material by mail or another Department-approved method.
- (F) For multi-family residences supplied by a lead service line, distribute notification and informational material by mail or another Department-approved method, or post the information in a conspicuous location.
- (G) Offer to collect a follow-up tap sample between three and six months after completion of a partial lead service line replacement or full lead service line replacement.

 - (I) The supplier must provide the results of the sample in accordance with 11.17(3)(h).
- (ii) For suppliers that replace the portion of the lead service line it owns due to an emergency repair, the supplier must provide notice and risk mitigation measures to the people

supplied by the affected service line in accordance with 11.17(7)(e)(i)(B-F) before the affected service line is returned to service.

(iii) When the supplier is notified by the customer that the customer's portion of the lead service line will be replaced, the supplier must:

(A) Make a good faith effort to coordinate simultaneous replacement of its portion of the service line.

(B) If simultaneous replacement cannot be conducted, replace its portion as soon as possible but no later than 45 days after the customer replaces its portion of the lead service line.

(C) Provide notification and risk mitigation measures in accordance with 11.17(7)(e)(i)(B-F).

(D) If the supplier fails to replace its portion of the lead service line within 45 days after the customer replaces their portion of the lead service line, notify the Department within 30 days of failing to meet the deadline in accordance with 11.17(7)(l)(i)(D).

(l) The supplier must complete the replacement no later than 180 days after the customer replaces its portion.

(iv) When the supplier is notified or otherwise learns that replacement of a customer-owned lead service line has occurred within the previous six months and left in place a system-owned lead service line, the supplier must:

(A) Replace its portion no later than 45 days after becoming aware of the customer replacement.

(B) Provide notification and risk mitigation measures in accordance with 11.17(7)(e)(i)(B-F) within 24 hours of becoming aware of the customer replacement.

(C) If the supplier fails to replace its portion of the affected service line within 45 days of becoming aware of the customer replacement, notify the Department within 30 days of failing to meet the deadline in accordance with 11.17(7)(l)(i)(D).

(l) The supplier must complete the replacement no later than 180 days after the date the customer replaces its portion.

(v) When the supplier is notified or otherwise learns of a replacement of a customer-owned lead service line which occurred more than six months ago, the supplier is not required to complete the lead service line replacement of the system-owned portion.

(A) The system-owned portion of the service line must still be included in the calculation of a lead service line replacement rate under 11.17(7)(c).

(f) Requirements for Conducting Full Lead Service Line Replacement

(i) If the supplier conducts a full lead service line replacement, the supplier must:

(A) Provide notice to the owner of the affected service line, or the owner's authorized agent, as well as non-owner resident(s) supplied by the affected service line that

- meets the requirements of 11.17(7)(e)(i)(B)(I-III) within 24 hours of completion of the replacement.
- (B) Provide risk mitigation measures to the persons supplied by the affected service line in accordance with 11.17(7)(e)(i)(C-G).
- (ii) The supplier is not required to bear the cost of replacement of the portion of the lead service line not owned by the system.
- (g) Goal-Based Full Lead Service Line Replacement for Water Systems Whose 90th Percentile Lead Level is Above the Trigger Level but at or Below the Lead Action Level
- (i) For systems serving greater than (>) 10,000 people whose 90th percentile of lead tap sample results is greater than (>) the lead trigger level but less than or equal to (\leq) the lead action level, the supplier must conduct goal-based full lead service line replacement at a rate approved by the Department.
- (A) The supplier must calculate the number of full lead service line replacements it must conduct annually in accordance with 11.17(7)(c).
- (B) Replacement of lead service lines must be conducted in accordance with the requirements specified in 11.17(7)(e) and 11.17(7)(f).
- (C) Only full lead service line replacements count towards the supplier's annual replacement goal. Partial lead service line replacements do not count towards the goal.
- (D) The supplier must provide information to customers with lead, galvanized requiring replacement, or lead status unknown service lines as required in 11.17(7)(j).
- (E) If the supplier fails to meet its lead service line replacement goal, the supplier must:
- (I) Conduct public outreach activities specified in 11.17(7)(k) until either:
- (a) The supplier meets its replacement goal; or
- (b) Tap sampling shows the lead 90th percentile is less than or equal to (\leq) the lead trigger level for two consecutive annual monitoring periods.
- (II) Resume its goal-based lead service line replacement program if at any time the 90th percentile lead level is greater than (>) the lead trigger level but less than or equal to (\leq) the lead action level.
- (F) The first year of lead service line replacement must begin on the first day following the end of the tap sampling period in which the lead trigger level was exceeded.
- (I) If sampling is required annually or less frequently, the end of the tap sampling monitoring period is September 30 of the calendar year in which the sampling occurs.

- (II) If the Department has established an alternate monitoring period, then the end of the monitoring period will be the last day of that period.
- (h) Mandatory Full Lead Service Line Replacement for Water Systems whose 90th Percentile Lead Level Exceeds the Lead Action Level
- (i) For systems serving greater than (>) 10,000 people whose 90th percentile of lead tap sample results collected under 11.17(3) exceeds the lead action level, the supplier must conduct mandatory full lead service line replacement at an average annual rate of at least three percent, calculated on a two-year rolling basis.
- (A) The average annual number of full lead service line replacements must be calculated in accordance with 11.17(7)(c).
- (B) Lead service line replacement must be conducted in accordance with the requirements specified in 11.17(7)(e) and 11.17(7)(f).
- (C) Only full lead service line replacement counts towards the supplier's mandatory replacement rate of at least three percent annually. Partial lead service line replacements do not count towards the mandatory replacement rate.
- (D) The supplier must provide information to customers with lead, galvanized requiring replacement, or lead status unknown service lines consistent with the requirements specified in 11.17(7)(j).
- (E) For community water systems serving less than or equal to (\leq) 10,000 people and for non-transient non-community water systems for which the Department has approved or designated lead service line replacement as a compliance option, the supplier must complete lead service line replacement as described in 11.17(4)(i)(vi)(B).
- (I) Replacement of lead service lines must be conducted in accordance with the requirements specified in 11.17(7)(e) and 11.17(7)(f).
- (F) The first year of lead service line replacement shall begin on the first day following the end of the tap sampling period in which the lead action level was exceeded.
- (G) When the Department determines a shorter lead service line replacement schedule is feasible, taking into account the number of lead service lines in the system, the Department shall notify the supplier of the alternative replacement schedule in writing within six months after the supplier is required to begin lead service line replacement according to 11.17(7)(h)(i)(F).
- (ii) The supplier may cease mandatory lead service line replacement if either of the following criteria are met:
- (A) The supplier has conducted a cumulative percentage of replacements greater than or equal to (\geq) three percent, or other percentage specified in 11.17(7)(h)(i)(G), of the service lines specified in 11.17(7)(c) multiplied by the number of years between when the supplier most recently began mandatory lead service line replacement and the date when the supplier's 90th percentile lead level, in accordance with 11.17(3), is less than or equal to (\leq) the lead action level for four consecutive six-month monitoring periods.

- (I) If the lead action level is subsequently exceeded, the supplier must resume mandatory lead service line replacement at the same two-year rolling average rate, unless the Department has designated an alternate replacement rate under 11.17(7)(h)(i)(G).
 - (B) The supplier demonstrates all of the following:
 - (I) The system has no remaining lead status unknown service lines in its inventory; and
 - (II) The supplier has obtained refusals to conduct full lead service line replacement or non-responses from every remaining customer supplied by a full or partial lead service line, or a galvanized requiring replacement service line.
 - (a) For refusals and non-responses, the supplier must provide documentation to the Department of customer refusals including a refusal signed by the customer, documentation of a verbal statement made by the customer refusing replacement, or documentation of no response from the customer after the supplier made a minimum of two good faith attempts to reach the customer regarding full lead service line replacement.
 - (b) If the lead action level is subsequently exceeded, the supplier must contact all customers supplied by a full or partial lead service line or a galvanized requiring replacement service line with an offer to replace the customer-owned portion. The supplier is not required to bear the cost for the replacement of the customer-owned lead service line.
- (i) Notification Due to a Disturbance to a Known or Potential Service Line Containing Lead
 - (i) If the supplier causes a disturbance to a lead, galvanized requiring replacement, or lead status unknown service line that results in the water to an individual service line being shut off or bypassed, such as operating a valve on a service line or meter setter, and without conducting a partial or full lead service line replacement, the supplier must provide the people supplied at that service connection with the following before the affected service line is returned to service:
 - (A) Information about the potential for elevated lead levels in drinking water as a result of the disturbance.
 - (B) Instructions for a flushing procedure to remove particulate lead.
 - (ii) If the supplier causes a disturbance of a lead, galvanized requiring replacement, or lead status unknown service line resulting from the replacement of an inline water meter, a water meter setter, or gooseneck, pigtail, or connector, the supplier must provide the people supplied at that service connection with the following before the affected service line is returned to service:
 - (A) Information about the potential for elevated lead levels in drinking water as a result of the disturbance.
 - (B) Public education materials that meet the content requirements specified in 11.17(8)(b).

- (C) A pitcher filter or POU 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.
 - (iii) If the supplier conducts a partial or full lead service line replacement, the supplier must follow procedures in accordance with the requirements specified in 11.17(7)(e)(i)(B-G) and 11.17(7)(f)(i)(A-B), respectively.
- (j) Information for Persons Supplied by Known or Potential Service Lines Containing Lead After a Lead Trigger Level Exceedance
 - (i) For systems with lead service lines that exceed the lead trigger level, the supplier must provide notice to all consumers supplied by a lead, galvanized requiring replacement, or lead status unknown service line, including all of the following:
 - (A) Information regarding the water system's lead service line replacement program; and
 - (B) Opportunities for replacement of the lead service line.
 - (ii) The supplier must distribute notification by mail or by another Department-approved method no later than 30 days after the end of the tap sampling period in which the trigger level exceedance occurred.
 - (A) The supplier must repeat the distribution of the notification annually until the results of sampling conducted under 11.17(3) are less than or equal to (\leq) the lead trigger level.
- (k) Outreach Activities for Failure to Meet the Lead Service Line Replacement Goal
 - (i) For community water systems that serve greater than ($>$) 10,000 people, if the supplier in the first year does not meet its annual lead service line replacement goal as required under 11.17(7)(g), the supplier must conduct one outreach activity from the following list in the following year until the system meets its replacement goal or until tap sampling shows that the 90th percentile for lead is less than or equal to (\leq) the lead trigger level for two consecutive tap sampling monitoring periods:
 - (A) Send certified mail to customers with a lead or galvanized requiring replacement service line to inform them about the water system's goal-based lead service line replacement program and opportunities for replacement of the service line.
 - (B) Conduct a townhall meeting.
 - (C) Participate in a community event to provide information about its lead service line replacement program and distribute public education materials that meet the content requirements specified in 11.17(8)(b).
 - (D) Contact customers by phone, text message, email, or door hanger.
 - (E) Use another method approved by the Department to discuss the lead service line replacement program and opportunities for lead service line replacement.
 - (ii) After the first year following a trigger level exceedance, for any system that thereafter continues to fail to meet its lead service line replacement goal, the supplier must conduct

one activity specified in 11.17(7)(k)(i)(A-E) and two additional outreach activities per year from the following list:

(A) Conduct a social media campaign.

(B) Conduct outreach via newspaper, television, or radio.

(C) Contact organizations representing plumbers and contractors by mail to provide information about lead in drinking water including health effects, sources of lead, and the importance of using lead-free plumbing materials.

(D) Visit targeted customers to discuss the lead service line replacement program and opportunities for replacement.

(iii) The supplier may cease outreach activities when tap sampling shows that the 90th percentile for lead is less than or equal to (\leq) the lead trigger level for two consecutive tap sampling monitoring periods or when all customer-side lead or galvanized requiring replacement service line owners refuse to participate in the lead service line replacement program.

(A) For refusals, the supplier must obtain a signed statement by the customer refusing lead service line replacement, or maintain documentation by the supplier of a verbal refusal or of no response after two good faith attempts to reach the customer.

(l) Reporting Requirements Related to Lead Service Line Replacements

(i) The supplier must report the following information to the Department to demonstrate compliance with the requirements of this section, 11.17(7):

(A) By October 16, 2024, the supplier must submit a lead service line replacement plan as specified in 11.17(7)(b).

(B) No later than 30 days after the end of each tap sampling monitoring period, the supplier must certify that it conducted replacement of any encountered lead goosenecks, pigtails, and connectors in accordance with 11.17(7)(d).

(C) No later than 30 days after the end of each tap sampling monitoring period, the supplier must certify that any partial or full lead service line replacements were conducted in accordance with 11.17(7)(e) and 11.17(7)(f), respectively.

(D) If the supplier fails to meet the 45-day deadline to complete a customer initiated lead service line replacement pursuant to 11.17(7)(e)(iv), the supplier must notify the Department within 30 days of the replacement deadline to request an extension of the deadline for up to 180 days of the customer-initiated lead service line replacement.

(l) The supplier must certify annually that it has completed all customer-initiated lead service line replacements in accordance with 11.17(7)(e)(iv).

(E) No later than 30 days after the end of the supplier's annual lead service line replacement requirements under 11.17(7)(g) or 11.17(7)(h), the supplier must submit the following information to the Department, and continue to submit it

each year the supplier conducts lead service line replacement under 11.17(7)(g) or 11.17(7)(h):

(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 inventory at the onset of the supplier's annual lead service line replacement program.

(IV) The number of full lead service lines that have been replaced and the address associated with each replaced service line.

(V) The number of galvanized requiring replacement service lines that have been replaced and the address associated with each replaced service line.

(VI) The number of lead status unknown service lines remaining in the inventory.

(VII) The total number of lead status unknown service lines determined to be non-lead; and

(VIII) The total number of service lines initially inventoried as "non-lead" later discovered to be a lead service line or a galvanized requiring replacement service line.

(F) No later than 30 days after the end of each tap sampling period, if the supplier has received customer refusals about lead service line replacements or customer non-responses after a minimum of two good faith efforts by the supplier to contact customers regarding full lead service line replacements in accordance with 11.17(7)(h)(ii)(B)(II), the supplier must certify to the Department the number of customer refusals or non-responses it received from customers supplied by a lead service line or galvanized requiring replacement service line, and maintain such documentation.

(G) No later than 12 months after the end of a tap sampling period in which the supplier exceeds the lead action level in sampling conducted pursuant to 11.17(3)(d), the supplier must provide the Department a schedule for annually replacing an average annual rate, calculated on a two year rolling basis, of at least three percent, or otherwise specified in 11.17(7)(h)(i)(G), of the number of known lead service lines and galvanized lines requiring replacement service lines when the lead trigger or action level was first exceeded and lead status unknown service lines at the beginning of each year that required replacement occurs in its distribution system.

(H) No later than 12 months after the end of a tap sampling period in which the supplier exceeds the lead trigger level in sampling conducted pursuant to 11.17(3)(d), and every 12 months thereafter, the supplier must certify to the Department in writing that the supplier has:

(I) Conducted consumer notification as specified in 11.17(7)(j).

(II) Delivered public education materials to the affected consumers as specified in 11.17(8)(b).

(III) If the supplier does not meet its annual service line replacement goal as required under 11.17(7)(g), the supplier must submit certification to the Department that the supplier has conducted public outreach as specified in 11.17(7)(k) and submit a copy of the outreach materials used.

(IV) Provided the results of samples collected between three and six months after the date of a full or partial lead service line replacement to the residents in accordance with the timeframes specified in 11.17(3)(h)(ii). Mailed notices postmarked within three business days of receiving the results shall be considered "on time."

(I) If the supplier collects samples following a partial lead service line replacement required under 11.17(7)(e)(i)(G), the supplier must report the results to the Department by no later than the 10th of the month following the month in which the supplier receives the laboratory results, or as specified by the Department.

(I) The supplier must report any additional information as specified by the Department, in a time and manner specified by the Department, to verify that all partial lead service line replacement activities have taken place.

(J) No later than July 1 of each calendar year, the supplier must submit the following to the Department:

(I) Certification that the supplier conducted an outreach activity as specified in 11.17(7)(k) when failing to meet the lead service line replacement goal as specified in 11.17(7)(g) for the previous calendar year along with a copy of the outreach provided.

(II) Certification that the supplier delivered notification to affected customers after any lead service line disturbance in accordance with 11.17(7)(i) for the previous calendar year along with a copy of the notification.

(m) Treatment Technique Violations for Lead Service Line Replacement

(i) The following constitute lead service line replacement treatment technique violations:

(A) Failure to develop a lead service line replacement plan as specified in 11.17(7)(b).

(B) Failure to replace the required percentage of lead service lines each year as specified in 11.17(7)(h).

(C) Failure to comply with the reporting requirements specified in 11.17(7)(l) to demonstrate that the replacement requirements have been met.

(D) Failure to distribute notification to the residents of all buildings supplied by the lead service line at least 45 days before beginning a partial lead service line replacement as specified in 11.17(7)(e)(i)(A).

(E) Failure to provide risk mitigation measures to the persons supplied by the affected service line in accordance with 11.17(7)(e)(i)(C-G) after a partial or full lead service line replacement.

(F) Failure to comply with the outreach activity requirements for failure to meet the lead service replacement goal as specified in 11.17(7)(k) and 11.17(7)(l)(i)(H).

(n) Response to Treatment Technique Violations for Lead Service Line Replacement

(i) In the event of a treatment technique violation for lead service line replacement, the supplier must:

(A) Notify the Department no later than 48 hours after the violation occurs; and

(B) Distribute Tier 2 public notice as specified in 11.33.

11.17(8) Public Education Requirements

(a) Applicability

(i) If the lead action level is exceeded based on tap water sampling collected in accordance with 11.17(3), the supplier must comply with the public education requirements as specified in this section, 11.17(8).

(A) For the purposes of this section, if the supplier is required to conduct lead and copper tap 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 Department has established an alternate tap sampling period, the last day of that period.

(b) Content of Public Education Materials

(i) The supplier must include the following elements in printed materials (e.g., brochures and pamphlets) in the same order as follows:

(A) IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER. [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 women and young children. Please read this information closely to see what you can do to reduce lead in your drinking water.

(B) Health effects of lead: Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

(C) Information on sources of lead:

(I) Explain what lead is.

(II) Explain possible sources of lead in drinking water and how lead enters drinking water. Include information on home/building plumbing materials and service lines that may contain lead.

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

- (D) Discuss the steps the consumer can take to reduce their exposure to lead in drinking water.
 - (I) Encourage running the water to flush out the lead.
 - (II) Explain concerns with using hot water from the tap and specifically caution against the use of hot water for preparing baby formula.
 - (III) Explain that boiling water does not reduce lead levels.
 - (IV) Discuss other options consumers can take to reduce exposure to lead in drinking water, such as alternative sources or treatment of water.
 - (V) Suggest that parents consult a medical professional for advice about whether to have their child's blood tested for lead.
- (E) Explain why there are elevated levels of lead in the system's drinking water, if known, and what the supplier is doing to reduce the levels in homes or buildings in this area.
- (F) For more information call us at [THE WATER SYSTEM'S NUMBER] [(IF APPLICABLE), or visit our website at [THE WATER SYSTEM'S WEBSITE HERE]]. For more information on reducing lead exposure around your home/building and the health effects of lead, visit EPA's website at <http://www.epa.gov/lead> or contact your health care provider.
- (G) For systems with lead service lines, information on lead service lines including all of the following:
 - (I) Opportunities to replace lead service lines.
 - (II) An explanation of how to access the service line inventory so the consumer can find out if they have a lead service line.
 - (III) Information on programs that provide financing solutions to assist property owners with replacement of their portion of a lead service line.
 - (IV) A statement that the water system is required to replace its portion of a lead service line when the property owner notifies them they are replacing their portion of the lead service line.
- (ii) In the printed materials, the supplier must:
 - (A) Include the language exactly as written and provide the specific information for the text in brackets for 11.17(8)(b)(i)(A), 11.17(8)(b)(i)(B), and 11.17(8)(b)(i)(F).
 - (B) Provide the information for the requirements specified in 11.17(8)(b)(i)(C-E) and 11.17(8)(b)(i)(G), if applicable.
- (iii) For community water systems, the supplier must also include all of the following information:
 - (A) How consumers can get their water tested.

- (B) A discussion of lead in plumbing components and the difference between low lead and lead free.
 - (iv) If the supplier includes additional information, it must be consistent with the information specified in 11.17(8)(b)(i) and be in plain language that can be understood by the general public.
 - (v) For systems supplying a large proportion of non-English speaking consumers, as determined by the Department, the supplier must include either:
 - (A) Information in the appropriate language(s) regarding the importance of the notice; or
 - (B) A telephone number or address where the consumer may contact the supplier to obtain a translated copy of the public education materials or request assistance in the appropriate language.
 - (vi) If the supplier exceeds the lead action level based on tap monitoring results collected under 11.17(3)(d), the supplier must offer to sample the tap water of any customer who requests it.
 - (A) The supplier is not required to pay for collecting or analyzing the sample, nor is the supplier required to collect and analyze the sample.
- (c) Distribution of Public Education Materials for Community Water Systems
 - (i) For community water systems, the supplier must distribute public education materials as specified in this section, 11.17(8)(c). The public education materials distributed must meet the content requirements specified in 11.17(8)(b).
 - (ii) No later than 60 days after the end of the tap sampling period in which the lead action level exceedance occurred, the supplier must:
 - (A) Distribute public education materials to all bill paying customers.
 - (B) Distribute public education materials to local public health agencies even if they are not located in the system's service area.
 - (I) The supplier must also contact the local public health agencies directly by phone or in person. The local public health agencies may provide a specific list of additional community based organizations serving target populations, which may include organizations outside the service area of the system.
 - (a) If such a list is provided, the supplier must distribute public education materials to all organizations on the provided list.
 - (C) Distribute public education materials to all of the following organizations located in the system's service area:
 - (I) Schools, child care facilities, and school boards.
 - (II) Women, Infants and Children (WIC) and Head Start programs.
 - (III) Public and private hospitals and medical clinics.

- (IV) Pediatricians.
- (V) Family planning clinics.
- (VI) Local welfare agencies.
- (VII) Obstetricians-Gynecologists and Midwives.
- (D) Include an informational notice in the materials distributed to the organizations specified in 11.17(8)(c)(ii)(B-C) that encourages the distribution of the public education materials to all of the organization's potentially affected customers or community water system's users.
- (E) In addition to distributing public education materials as specified in 11.17(8)(c)(ii)(A-D), complete at least three activities from one or more of the following categories. The content and selection of these methods must be determined in consultation with the Department.
 - (I) Public service announcements.
 - (II) Paid advertisements.
 - (III) Public area informational displays.
 - (IV) E-mails to customers.
 - (V) Public meetings.
 - (VI) Household deliveries.
 - (VII) Targeted individual customer contact.
 - (VIII) Direct material distribution to all multi-family homes and institutions.
 - (IX) Other Department-approved methods.
- (F) Begin including a statement on or in each water bill no less frequently than quarterly.
 - (I) The water bill must include the following statement exactly as written and provide the specific information for the text in brackets:

[INSERT NAME OF WATER SYSTEM] found high levels of lead in drinking water in some homes. Lead can cause serious health problems. For more information, please call [INSERT NAME OF WATER SYSTEM] or visit [INSERT YOUR WEBSITE HERE].
 - (II) The statement or distribution method may be modified in consultation with the Department. The Department may allow a separate mailing of public education materials to customers if the supplier cannot place the information on water bills.
- (G) Submit a press release to newspaper, television, and radio stations.

- (H) For systems supplying greater than (>) 100,000 people, post public education materials that meet the content requirements specified in 11.17(8)(b) on the system's public website.
- (iii) If needed for implementation purposes, the Department may extend the 60-day deadline for the requirements specified in 11.17(8)(c)(ii) on a case-by-case basis, only if the extension is approved in writing before the deadline.
- (iv) For as long as the system exceeds the lead action level, the supplier must continue to distribute public education materials as follows:

 - (A) The supplier must repeat the tasks as specified in 11.17(8)(c)(ii)(A-E) every 12 months.
 - (B) The supplier must repeat the tasks as specified in 11.17(8)(c)(ii)(F) with each water bill, but no less frequently than quarterly, for as long as the system exceeds the lead action level.
 - (C) For systems supplying greater than (>) 100,000 people, the supplier must post and retain public education materials as specified in 11.17(8)(c)(ii)(H) on the system's public website.
 - (D) The supplier must submit a press release to newspaper, television, and radio stations twice every 12 months or on a Department-approved schedule.
- (v) The supplier may apply to the Department in writing to omit the information specified in 11.17(8)(b)(iii) and complete only the tasks specified in sections 11.17(8)(d)(ii-iv) if:

 - (A) The system is a facility, such as a prison or a hospital, where the population supplied is unable to make improvements to plumbing or install point-of-use treatment devices; and
 - (B) The supplier supplies water as part of the cost of services provided and does not separately charge for water consumption.
- (vi) For community water systems serving less than or equal to (\leq) 3,300 people, the supplier may modify the requirements for the distribution of the public education materials as follows:

 - (A) The supplier must complete at least one activity from the categories specified in 11.17(8)(c)(ii)(E).
 - (B) The supplier may limit the distribution of the public education materials specified in 11.17(8)(c)(ii)(B-E) to facilities and organizations supplied by the system that are most likely to be visited regularly by pregnant women and children.
 - (C) If the supplier distributes public education materials to every household supplied by the system, the Department may waive the requirement to submit a press release to newspaper, television, and radio stations as specified in 11.17(8)(c)(ii)(G).
- (vii) The supplier may discontinue the distribution of public education materials if the supplier has met the lead action level in the most recent six-month tap sampling monitoring period.

- (A) If the lead action level is subsequently exceeded during any monitoring period, the supplier must resume distribution of public education materials meeting the content and distribution requirements specified in 11.17(8)(b) and 11.17(8)(c), respectively.
- (viii) For community water systems, the supplier must send copies of the public education materials meeting the content requirements specified in under 11.17(8)(b) of this section to local health agencies on an annual basis for actions conducted in the previous calendar year.
- (A) By no later than July 1 of the following calendar year, the supplier must provide the public education materials information to local health agencies by mail or by another Department-approved method.
- (d) Distribution of Public Education Materials for Non-Transient, Non-Community Water Systems
 - (i) For non-transient, non-community water systems, the supplier must distribute public education materials as specified in this section, 11.17(8)(d). The public education materials distributed must meet the content requirements specified in 11.17(8)(b).
 - (ii) No later than 60 days after the end of the tap sampling period in which the lead action level exceedance occurred, the supplier must:
 - (A) Post informational posters about lead in drinking water in a public place or common area in each of the buildings supplied by the system; and
 - (B) Distribute informational pamphlets and/or brochures about lead in drinking water to each individual supplied by the system. The Department may allow the supplier to use electronic transmission and/or printed materials as long as the same coverage is achieved.
 - (iii) If needed for implementation purposes, the Department may extend the 60-day deadline for the requirements specified in 11.17(8)(d)(ii) on a case-by-case basis, only if the extension is approved in writing before the deadline.
 - (iv) The supplier must repeat the tasks as specified in 11.17(8)(d)(ii) at least once during each calendar year that the lead action level is exceeded.
 - (v) The supplier may discontinue the distribution of public education materials if the supplier has met the lead action level in the most recent six-month tap sampling monitoring period.
 - (A) If the lead action level is subsequently exceeded during any tap sampling period, the supplier must resume the distribution of public education materials as specified in this section, 11.17(8)(d).
- (e) Reporting Requirements for Public Education Materials
 - (i) The supplier must submit all written public education materials to the Department before distribution.
 - (A) If the Department requires the supplier to obtain approval for the content of written public education materials before distribution, the Department shall notify the supplier of this requirement no later than 15 days after receiving the lead and copper tap sample results.

- (ii) No later than the 10th of the month following the end of each period that the supplier was required to complete public education tasks, the supplier must submit documentation to the Department that includes all of the following information:
 - (A) A copy of the public education materials that meet the content requirements specified in 11.17(8)(b).
 - (B) Certification that the applicable distribution requirements, specified in 11.17(8)(c) or 11.17(8)(d), were met.
 - (C) A list of all the newspapers, radio stations, television stations, and facilities and organizations to which the supplier distributed public education materials.
 - (I) If this list was previously submitted to the Department and there have been no changes, the supplier is not required to resubmit this information unless required by the Department. The supplier must certify that the public education materials were distributed to the same list previously submitted.
- (f) Treatment Technique Violations and Response for Public Education Requirements
 - (i) If the supplier fails to comply with any of the content or distribution requirements as specified in 11.17(8)(b-d) for public education materials, a treatment technique violation occurs.
 - (ii) In the event of a treatment technique violation, the supplier must:
 - (A) Notify the Department no later than 48 hours after the violation occurs; and
 - (B) Distribute Tier 2 public notice as specified in 11.33.

11.17(9) Monitoring for Lead in Schools and Child Care Facilities

- (a) For all community water systems, the supplier must provide public education and lead monitoring as specified in this section, 11.17(9), at schools and child care facilities they serve which were constructed prior to January 1, 2014 and which are not regulated as a public water system.
 - (i) By October 16, 2024, the supplier must compile a list of schools and child care facilities supplied by the system and submit it to the Department.
 - (ii) If the system does not serve any schools or child care facilities that meet the criteria specified in 11.17(9)(a), the supplier must certify to the Department by October 16, 2024 that they do not serve any schools or child care facilities.
- (b) Public Education to Schools and Child Care Facilities
 - (i) The supplier must provide all of the following to elementary schools and child care facilities identified in 11.17(9)(a)(i):
 - (A) At least annually, information about health risks from lead in drinking water that meets the requirements specified in 11.17(8)(b)(B,C,D,F) and (G) if applicable.
 - (B) Notification that the supplier is required to sample for lead at elementary schools and child care facilities, including all of the following:

- (I) A proposed schedule for sampling at the facility.
 - (II) 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).
 - (III) At least 30 days prior to the sampling event, instructions for identifying taps for sampling and preparing for a sampling event.
 - (ii) The supplier must include documentation in accordance with 11.17(9)(h)(ii)(C) if an elementary school or child care facility is non-responsive or otherwise declines to participate in the monitoring or education requirements.
 - (A) A school or child care facility is considered non-responsive after the supplier makes at least two separate good faith attempts to contact the facility to schedule sampling with no response.
 - (iii) The supplier must contact all secondary schools identified in 11.17(9)(a)(i) at least annually to provide information on health risks from lead in drinking water and how to request lead sampling as specified in 11.17(9)(g).
- (c) Lead Sampling in Schools and Child Care Facilities
- (i) The supplier must collect lead tap samples at schools and child care facilities from taps typically used for consumption as follows:
 - (A) Five samples per school at the following locations:
 - (I) Two drinking water fountains.
 - (II) One kitchen faucet used for food or drink preparation.
 - (III) One classroom faucet or other tap used for drinking.
 - (IV) One nurse's office faucet, as available.
 - (B) Two samples per child care facility at the following locations:
 - (I) One drinking water fountain; and
 - (II) One of either a kitchen faucet used for preparation of food or drink or one classroom faucet or other tap used for drinking.
 - (C) If any facility has fewer than the required number of taps, the supplier must sample all taps used for consumption.
 - (D) The supplier may sample at taps with POU devices if the facility has POU devices installed on all taps typically used for consumption.
 - (E) If any facility does not contain the type of faucets listed above, the supplier must collect a sample from another tap typically used for consumption as identified by the facility.
 - (F) The supplier must collect first-draw tap samples for lead as follows:

- (I) Samples collected from a tap other than a drinking water fountain must be from a cold water tap, if available.
 - (II) Samples must be 250 ml in volume.
 - (III) The water must have stood motionless in the plumbing system of the sampling site (building) for at least 8 hours but no more than 18 hours.
 - (IV) Samples must be analyzed using acidification and the corresponding analytical methods as specified in 11.46(9).
- (ii) The supplier may allow the school or child care facility or other appropriately trained individual to collect first-draw tap samples after instructing them on the proper sampling procedures.
- (d) Frequency of Sampling at Schools and Child Care Facilities
 - (i) The supplier must collect samples from at least 20 percent of elementary schools supplied by the system and 20 percent of child care facilities supplied by the system per year, or according to a Department-approved schedule, until all elementary schools and child care facilities identified under 11.17(9)(a)(i) have been sampled or have declined to participate.
 - (A) The supplier may count a refusal or non-response from an elementary school or child care facility as part of the minimum 20 percent per year.
 - (ii) The supplier must collect at least one round of lead samples from each elementary school and child care facility between October 16, 2024 and October 16, 2029, unless there are refusals or non-responses from the elementary school or child care facility.
 - (iii) After the supplier has completed one required cycle of sampling at all elementary schools and child care facilities, the supplier must sample upon request of an elementary school or child care facility as specified in 11.17(9)(g).
 - (iv) The supplier must sample upon request of a secondary school as specified in 11.17(9)(g). If the supplier receives requests from more than 20 percent of secondary schools identified in 11.17(9)(a)(i) in any of the five years following the October 16, 2024 compliance date, the supplier may schedule the requests that exceed 20 percent for the following year.
 - (A) The supplier is not required to sample an individual secondary school more than once in the five-year period.
- (e) Alternative School and Child Care Lead Sampling Programs
 - (i) The Department may grant a waiver from the requirements of this section, 11.17(9), if mandatory sampling for lead in drinking water is conducted at schools and child care facilities supplied by a community water system due to a State or local law or program and the following criteria are met:
 - (A) The sampling is consistent with the requirements specified in 11.17(9)(c-d); or
 - (B) The sampling is consistent with the requirements specified in 11.17(9)(c)(i) and 11.17(9)(d) and it is combined with one or more of the following remediation actions:

- (I) Disconnection of affected fixtures.
 - (II) Replacement of affected fixtures with fixtures certified as lead free.
 - (III) Installation of POU devices; or
- (C) The sampling is conducted in schools and child care facilities supplied by the system less frequently than once every five years and it is combined with any of the remediation actions specified in 11.17(9)(e)(i)(B)(I-III); or
- (D) The sampling is conducted under a grant awarded under Section 1464(d) of the SDWA, consistent with the requirements of the grant.
- (ii) If the supplier is granted a waiver, the duration of the waiver may not exceed the time period covered by the mandatory or voluntary 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.
- (iii) The Department may issue a partial waiver to the supplier if the sampling covers only a portion of the schools or child care facilities supplied by the system identified in 11.17(9)(a)(i).
- (iv) The Department may issue a written waiver applicable to more than one supplier (e.g., one waiver for all suppliers subject to a statewide sampling program that meets the requirements of this section, 11.17(9)(e)).
- (v) The Department may not issue a waiver to the supplier for sampling that was conducted in schools or child care facilities prior to October 16, 2024.
- (f) Notification of Results from Schools and Child Care Facilities
 - (i) The supplier must provide lead tap sample results as soon as possible but no later than 30 days after receipt of the results to the school or child care facility, along with information about remediation options.
 - (ii) The supplier must provide lead tap sample results annually to:
 - (A) The appropriate local and State public health authorities; and
 - (B) The Department, as specified in 11.17(9)(h).
- (g) Lead Sampling in Schools and Child Care Facilities upon Request
 - (i) The supplier must contact schools and child care facilities identified in 11.17(9)(a)(i) at least annually to provide all of the following information:
 - (A) An explanation of the health risks from lead in drinking water.
 - (B) How to request sampling for lead at the facility; and
 - (C) 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) The supplier must conduct sampling as specified in 11.17(9)(c) when requested by the facility and provide all of the following:

 - (A) At least 30 days prior to the sampling event, instructions for identifying taps for sampling and preparing for a sampling event; and
 - (B) Lead tap sample results as specified in 11.17(9)(f).
- (iii) If the supplier receives requests from more than 20 percent of the schools and child care facilities, including secondary schools, identified in 11.17(9)(a)(i) in a given year, the supplier may schedule sampling for those that exceed 20 percent for the following year.

 - (A) The supplier is not required to sample an individual school or child care facility more than once every five years.
- (iv) If voluntary sampling for lead in drinking water is conducted for schools and child care facilities supplied by a community water system that meets the requirements of this section, 11.17(9), the Department may exempt the supplier from the requirements of this section by issuing a written waiver in accordance with 11.17(9)(e).
- (h) Reporting Requirements for Public Education and Sampling in Schools and Childcare Facilities

 - (i) The supplier must either certify that there have been no changes to the list of schools and child care facilities supplied by the system and developed pursuant to 11.17(9)(a)(i), or submit a revised list at least once every five years.
 - (ii) No later than July 1 of each calendar year, the supplier must submit a report to the Department documenting the public education and sampling activities conducted during the previous calendar year. The report must include all of the following:

 - (A) Certification that the supplier made a good faith effort to identify schools and child care facilities in accordance with 11.17(9)(h)(i). The good faith effort may include reviewing customer records and requesting lists of schools and child care facilities from the primacy agency or other licensing agency.

 - (I) If the supplier certifies that no schools or child care facilities are supplied by the water system, the supplier is not required to submit information required in 11.17(9)(h)(ii)(B-D) in the report.
 - (B) Certification that the supplier has distributed information about health risks from lead in drinking water to the schools and child care facilities that they serve in accordance with 11.17(9)(b)(i) and 11.17(9)(g)(i).
 - (C) Certification that the supplier has completed the notification and sampling requirements of 11.17(9) at a minimum of 20 percent of elementary schools and 20 percent of child care facilities, including all of the following information:

 - (I) The number of schools and child care facilities supplied by the water system.
 - (II) The number of schools and child care facilities sampled in the calendar year.
 - (III) The number of schools and child care facilities that have refused sampling.

- (IV) Information pertaining to outreach attempts for sampling that were declined by the school or child care facility.
- (V) The sample results for all schools and child care facilities sampled by the supplier in the calendar year.
- (D) For secondary schools that requested sampling under 11.17(9)(g) and elementary schools and child care facilities that have successfully completed one cycle of required sampling, the supplier must submit the following information:
 - (I) The number of schools and child care facilities supplied by the water system.
 - (II) The number of schools and child care facilities sampled in the calendar year.
 - (III) The sample results for all schools and child care facilities sampled by the supplier in the calendar year.
- (E) Certification that sample results were provided to schools, child care facilities, and local and State health departments.

11.26 LEAD AND COPPER RULE

11.26(1) Applicability and Definitions

- (a) For all community and non-transient, non-community water systems, the supplier must comply with the requirements specified in this rule until October 16, 2024, unless otherwise specified.
 - (i) The supplier must comply with the lead and copper tap sampling requirements as specified in 11.26(2) and water quality parameter monitoring requirements as specified in 11.26(4) until December 31, 2024.
 - (ii) Any actions and deadlines under 11.26 due after October 16, 2024 based on monitoring conducted under 11.26(2) shall remain in effect unless the Department notifies the supplier in writing of new requirements and deadlines under 11.17.
 - (iii) In the event EPA stays or extends the requirements in 40 CFR 141, Subpart I referenced in 11.17, the applicable requirements of 11.26 shall remain in effect until the compliance date in 40 CFR 141.

11.27 COMPOSITING SAMPLES RULE

11.27(4) Compositing Samples for Lead and Copper Entry Point Samples

- (a) To composite lead and copper entry point samples collected under 11.17 or 11.26, the supplier must comply with the requirements specified in this section 11.27(4).
- (b) The supplier may composite samples from no more than five entry points.
- (c) Compositing of samples must be performed by certified laboratory personnel.

- (d) If the lead concentration in the composite sample is greater than or equal to (\geq) 0.001 mg/L or the copper concentration in the composite sample is greater than or equal to (\geq) 0.160 mg/L, the supplier must collect confirmation samples no later than 14 days after receiving notification of the composite result.
 - (i) Instead of collecting confirmation samples, the supplier may use one of the following:
 - (A) Duplicates of each original sample used in the composite sample.
 - (B) The original samples used in the composite sample, if a sufficient volume is available.

11.33 PUBLIC NOTIFICATION RULE

11.33(1) Applicability and Definitions

- (a) For all public water systems, the supplier must comply with the public notice requirements specified in this rule for the violations or situations specified in Table 11.33-I.

CPDWR violations	Failure to comply with an MCL or MRDL
	Failure to comply with a treatment technique requirement
	Failure to perform required water quality monitoring
	Failure to comply with required testing procedures
Variance or exemption under 11.43	Operation under a variance or an exemption
	Failure to comply with the terms and schedule of any variance or exemption
Other situations requiring public notice	Occurrence of a waterborne disease outbreak or other waterborne emergency
	Exceedance of the elevated nitrate MCL by non-community water systems, when granted Department approval as specified in 11.18(2)(d)
	Exceedance of the secondary maximum contaminant level for fluoride
	Availability of unregulated contaminant monitoring data
	Repeated failure to sample the source water for <i>Cryptosporidium</i>
	Failure to determine bin classification
	Groundwater systems with a waiver from disinfection requirements under 11.13
	Significant deficiencies identified at non-community groundwater systems
	<u>Exceedance of the lead action level</u>
Other violations and situations determined by the Department to require a public notice	

- (b) Public notice requirements are divided into three tiers based on the seriousness of the violation or situation and any potential public health effects. Each tier has different requirements. The tiers are as follows:
 - (i) “TIER 1 PUBLIC NOTICE” means the public notice required for violations and situations with significant potential to have serious adverse effects on public health as a result of short-term exposure.
 - (ii) “TIER 2 PUBLIC NOTICE” means the public notice required for violations and situations with potential to have serious adverse effects on public health.
 - (iii) “TIER 3 PUBLIC NOTICE” means the public notice required for all other violations and situations not included in Tier 1 or Tier 2.

11.33(2) Tier 1 Public Notice Form, Manner, and Frequency of Notice

- (a) The supplier must distribute Tier 1 public notice for the following violations or situations specified in Table 11.33-II:

TABLE 11.33-II VIOLATION CATEGORIES AND OTHER SITUATIONS REQUIRING TIER 1 PUBLIC NOTICE	
Violation or Situation Description	As specified in
Failure to test for fecal coliforms or <i>E. coli</i> following a total coliform-positive repeat sample	11.16(4)(e)
Violation of the <i>E. coli</i> MCL	11.16(11)(a)
Violation of the nitrate, nitrite, or total nitrate and nitrite MCL	11.18(5)(a)
Failure to collect a confirmation sample no later than 24 hours after a nitrate or nitrite sample result greater than (>) the MCL	11.18(3)(b)(vii) and 11.18(3)(c)(v)
Exceedance of the elevated nitrate MCL by non-community water systems, permitted to exceed the MCL by the Department	11.18(2)(d)
Acute violation of the chlorine dioxide MRDL	11.23(2)(e)(i)(A)
Failure to collect the required chlorine dioxide samples in the distribution system	11.23(2)(e)(i)(B)
Violation of the maximum turbidity limit treatment technique requirement, as required by the Department after consultation	11.8(2)(d)(i)(B)
Occurrence of a waterborne disease outbreak or other waterborne emergency (e.g. failure or significant interruption in key water treatment processes, a natural disaster that disrupts the water supply or distribution system, or a chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water contamination)	.
For groundwater systems, presence of <i>E. coli</i> , enterococci, or coliphage in a source water sample	11.11(4)(d)(i) and 11.11(5)(c)(i)
<u>Exceedance of the lead action level</u>	<u>11.17(3)(b)</u>
Other violations or situations with significant potential to have serious adverse effects on public health as a result of short-term exposure, as determined by the Department either in <i>Colorado Primary Drinking Water Regulations</i> or on a case-by-case basis	.

11.33(7) Public Notice Reporting Requirements

No later than 10 calendar days after completing initial or repeat public notice requirements, the supplier must submit a certification that states that the supplier has fully complied with the public notice requirements.

- (a) The supplier must include a representative copy of each public notice distributed, published, posted, and/or made available to consumers and the media.

TABLE 11.33-V TABLE OF CPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE ¹				
Contaminant	MCL/MRD/TT violations		Monitoring & testing procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
<i>Violations of Colorado Primary Drinking Water Regulations²</i>				
Microbiological Contaminants				
Total coliform (TT violations resulting from failure to conduct assessments or corrective actions, and violations resulting from failure to monitor or report)	2	11.16(11)(b)	3	11.16(11)(c-d) 11.16(12)(b)
Seasonal system failure to follow Department-approved start-up procedures before supplying water to the public or failure to submit certification of completed start-up procedures	2	11.16(11)(b)(ii)	3	11.16(11)(d)(iii)
<i>E. coli</i> (MCL violation, monitoring violations, and reporting violations)	1	11.16(11)(a)	3	11.16(11)(c) 11.16(11)(d) 11.16(12)(a) 11.16(12)(c)
<i>E. coli</i> (TT violations resulting from failure to conduct Level 2 assessments or corrective action)	2	11.16(11)(b)(i)	N/A	N/A
Turbidity MCL	2	11.8(2)(d)	3	11.8(2)(c)
Turbidity (for TT violations resulting from a single exceedance of maximum allowable turbidity level)	2, 1 ³	11.8(2)(d)	3	11.8(2)(c), 11.8(2)(g), 11.46(7)
Surface Water Treatment Rule violations, other than violations resulting from single exceedance of maximum allowable turbidity level (TT)	2	11.8(2)(b)	3	11.8(2)(c), 11.46(7)
Surface Water Treatment Rule: Filter Backwash Recycle Rule	2	11.9(2)	3	11.9(3)
Surface Water Treatment Rule: Enhanced Treatment for <i>Cryptosporidium</i> Rule	2	11.10(3)(c), 11.10(4)(b)	2, 3 ⁴	11.10(2)
Groundwater Rule	2	11.11(2)(d), 11.11(6)(c), 11.11(3)(e)(i), 11.38(4)	3	11.11(2)(c), 11.11(3), 11.11(4), 11.11(5), 11.11(6), 11.38(4)

TABLE 11.33-V TABLE OF CPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE ¹				
Contaminant	MCL/MRDL/TT violations		Monitoring & testing procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
Disinfectant residual (TT in the distribution system)	2	11.8(3)(d)(i), 11.11(2)(d)(i)	3	11.8(3)(c)(i), 11.11(2)(c)(i)
Disinfectant residual for public water systems that haul water	N/A	N/A	3	11.8(3)(c)(i)(B), 11.11(2)(c)(i)(B), 11.41(2)(b)
Inorganic Chemicals				
Antimony	2	11.19(5)	3	11.19(3)
Arsenic	2	11.19(5)	3	11.19(3)
Asbestos (fibers >10 µm)	2	11.19(5)	3	11.19(3)
Barium	2	11.19(5)	3	11.19(3)
Beryllium	2	11.19(5)	3	11.19(3)
Cadmium	2	11.19(5)	3	11.19(3)
Chromium (total)	2	11.19(5)	3	11.19(3)
Cyanide	2	11.19(5)	3	11.19(3)
Fluoride	2	11.19(5)	3	11.19(3)
Mercury (inorganic)	2	11.19(5)	3	11.19(3)
Nitrate	1	11.18(5)	1 ⁵ , 3	11.18(3)
Nitrite	1	11.18(5)	1 ⁵ , 3	11.18(3)
Total Nitrate and Nitrite	1	11.18(5)	3	11.18(3)
Selenium	2	11.19(5)	3	11.19(3)
Thallium	2	11.19(5)	3	11.19(3)
Lead and Copper Rule				
Lead and Copper Rule (TT)	2	11.26(3)(e), 11.26(4)(k), 11.26(5)(i), 11.26(6)(d), 11.26(7)(f)	3	11.26(2)(d), 11.26(4), 11.26(5)
Lead and Copper Rule Revisions				
Lead and Copper Rule Revisions (TT)	2	11.17(2)(e), 11.17(4)(k), 11.17(5)(l), 11.17(6)(j), 11.17(7)(m), 11.17(8)(f)	3	11.17(3)(d), 11.17(5), 11.17(6)
Exceedance of the lead action level	1	11.17(3)(b)	N/A	N/A
Synthetic Organic Chemicals (SOCs)				
2,4-D	2	11.21(6)	3	11.21(3)(d)
2,4,5-TP (Silvex)	2	11.21(6)	3	11.21(3)(d)
Alachlor	2	11.21(6)	3	11.21(3)(d)

TABLE 11.33-V TABLE OF CPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE¹

Contaminant	MCL/MRDL/TT violations		Monitoring & testing procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
Atrazine	2	11.21(6)	3	11.21(3)(d)
Benzo(a)pyrene (PAHs)	2	11.21(6)	3	11.21(3)(d)
Carbofuran	2	11.21(6)	3	11.21(3)(d)
Chlordane	2	11.21(6)	3	11.21(3)(d)
Dalapon	2	11.21(6)	3	11.21(3)(d)
Di (2-ethylhexyl) adipate	2	11.21(6)	3	11.21(3)(d)
Di (2-ethylhexyl) phthalate	2	11.21(6)	3	11.21(3)(d)
Dibromochloropropane	2	11.21(6)	3	11.21(3)(d)
Dinoseb	2	11.21(6)	3	11.21(3)(d)
Dioxin (2,3,7,8-TCDD)	2	11.21(6)	3	11.21(3)(d)
Diquat	2	11.21(6)	3	11.21(3)(d)
Endothall	2	11.21(6)	3	11.21(3)(d)
Endrin	2	11.21(6)	3	11.21(3)(d)
Ethylene dibromide	2	11.21(6)	3	11.21(3)(d)
Glyphosate	2	11.21(6)	3	11.21(3)(d)
Heptachlor	2	11.21(6)	3	11.21(3)(d)
Heptachlor epoxide	2	11.21(6)	3	11.21(3)(d)
Hexachlorobenzene	2	11.21(6)	3	11.21(3)(d)
Hexachlorocyclo-pentadiene	2	11.21(6)	3	11.21(3)(d)
Lindane	2	11.21(6)	3	11.21(3)(d)
Methoxychlor	2	11.21(6)	3	11.21(3)(d)
Oxamyl (Vydate)	2	11.21(6)	3	11.21(3)(d)
Pentachlorophenol	2	11.21(6)	3	11.21(3)(d)
Picloram	2	11.21(6)	3	11.21(3)(d)
Polychlorinated biphenyls (PCBs)	2	11.21(6)	3	11.21(3)(d)
Simazine	2	11.21(6)	3	11.21(3)(d)
Toxaphene	2	11.21(6)	3	11.21(3)(d)
Volatile Organic Chemicals (VOCs)				
Benzene	2	11.21(6)	3	11.21(3)(b)
Carbon tetrachloride	2	11.21(6)	3	11.21(3)(b)
Chlorobenzene (monochlorobenzene)	2	11.21(6)	3	11.21(3)(b)
o-Dichlorobenzene	2	11.21(6)	3	11.21(3)(b)
p-Dichlorobenzene	2	11.21(6)	3	11.21(3)(b)
1,2-Dichloroethane	2	11.21(6)	3	11.21(3)(b)
1,1-Dichloroethylene	2	11.21(6)	3	11.21(3)(b)

TABLE 11.33-V TABLE OF CPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE¹

Contaminant	MCL/MRDL/TT violations		Monitoring & testing procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
cis-1,2-Dichloroethylene	2	11.21(6)	3	11.21(3)(b)
trans-1,2-Dichloroethylene	2	11.21(6)	3	11.21(3)(b)
Dichloromethane	2	11.21(6)	3	11.21(3)(b)
1,2-Dichloropropane	2	11.21(6)	3	11.21(3)(b)
Ethylbenzene	2	11.21(6)	3	11.21(3)(b)
Styrene	2	11.21(6)	3	11.21(3)(b)
Tetrachloroethylene	2	11.21(6)	3	11.21(3)(b)
Toluene	2	11.21(6)	3	11.21(3)(b)
1,2,4-Trichlorobenzene	2	11.21(6)	3	11.21(3)(b)
1,1,1-Trichloroethane	2	11.21(6)	3	11.21(3)(b)
1,1,2-Trichloroethane	2	11.21(6)	3	11.21(3)(b)
Trichloroethylene	2	11.21(6)	3	11.21(3)(b)
Vinyl chloride	2	11.21(6)	3	11.21(3)(b)
Xylenes (total)	2	11.21(6)	3	11.21(3)(b)
Radionuclides				
Beta/photon emitters	2	11.22(5)	3	11.22(3)(c)
Alpha emitters	2	11.22(5)	3	11.22(3)(b)
Combined radium (226 & 228)	2	11.22(5)	3	11.22(3)(b)
Uranium	2	11.22(5)	3	11.22(3)(b)
Disinfection Byproducts (DBPs), Disinfection Byproduct Precursors, Disinfectant Residuals				
Where disinfection is used in the treatment of drinking water, disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBPs). The Department sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes (THMs) and haloacetic acids (HAAs).				
Total trihalomethanes (TTHMs)	2	11.25(1)(g)	3	11.25(1)(c)
Haloacetic Acids (HAA5)	2	11.25(1)(g)	3	11.25(1)(c)
Bromate	2	11.25(3)(c)	3	11.25(3)(e)
Chlorite	2	11.25(2)(c)	3	11.25(2)(e)
Chlorine (MRDL)	2	11.23(1)(e)	3	11.23(1)(c)
Chloramine (MRDL)	2	11.23(1)(e)	3	11.23(1)(c)
Chlorine dioxide (MRDL), where any 2 consecutive daily samples at entrance to distribution system only are above MRDL	2	11.23(2)(e)(ii)	2 ⁶ , 3	11.23(2)(c)
Chlorine dioxide (MRDL), where sample(s) in distribution system the next day are also above MRDL	1 ⁷	11.23(2)(e)(i)	1	11.23(2)(c)

TABLE 11.33-V TABLE OF CPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE ¹				
Contaminant	MCL/MRD/TT violations		Monitoring & testing procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
Control of DBP precursors—TOC (TT)	2	11.24(9)	3	11.24(3)
Disinfection profiling and benchmarking	2	11.8(4)(d), 11.8(5)(d)	3	11.8(4), 11.8(5)
Development of monitoring plan	N/A	N/A	3	11.25(1)(d)
Other Treatment Techniques				
Acrylamide (TT)	2	11.21(6)(b)	N/A	N/A
Epichlorohydrin (TT)	2	11.21(6)(b)	N/A	N/A
Water hauler failure to operate in accordance with Department-approved operational plan	2	11.41(3)(a)	N/A	N/A
Storage Tanks (TT)	2	11.28(4)(b)	N/A	N/A
Unregulated Contaminant Monitoring⁸				
Unregulated contaminants	N/A	N/A	3	11.47
Nickel	N/A	N/A	3	11.19(3)(b)
Public Notification for Variances and Exemptions				
Operation under a variance or exemption	3	11.43(10)(f) ⁹	N/A	N/A
Violation of conditions of a variance or exemption	2	11.43(10)(f) ¹⁰	N/A	N/A
Other Situations Requiring Public Notification				
Fluoride secondary maximum contaminant level (SMCL) exceedance	3	11.19(7)	N/A	N/A
Exceedance of nitrate MCL for non-community water systems, as allowed by the Department	1	11.18(2)(d)	N/A	N/A
Availability of unregulated contaminant monitoring data	3	11.47	N/A	N/A
Waterborne disease outbreak	1	11.3(81)	N/A	N/A
Other waterborne emergency ¹¹	1	N/A	N/A	N/A
Source Water Sample Positive for GWR Fecal indicators: <i>E. coli</i> , enterococci, or coliphage	1	11.11(4)(d)(i), 11.11(5)(c)(i)	N/A	N/A
Waiver of Disinfection	N/A	N/A	N/A	11.13(2)
Backflow Prevention and Cross-Connection Control Rule violations	2	11.39(6)(a)	3	11.39(6)(b)
Direct Potable Reuse Rule violations	1, 2	11.14	3	11.14

TABLE 11.33-V TABLE OF CPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE¹

<u>Contaminant</u>	<u>MCL/MRDL/TT violations</u>		<u>Monitoring & testing procedure violations</u>	
	<u>Tier of public notice required</u>	<u>Citation</u>	<u>Tier of public notice required</u>	<u>Citation</u>
Other situations as determined by the Department	1, 2, 3 ¹²	N/A	N/A	N/A

1 Violations and other situations not listed in this table (e.g., failure to prepare Consumer Confidence Reports) do not require notice, unless otherwise determined by the Department. The Department may, at its discretion, also require a more stringent public notice tier (e.g., Tier 1 instead of Tier 2 or Tier 2 instead of Tier 3) for specific violations and situations specified in Table 11.33-V, as authorized under 11.33(2)(a) and 11.33(3)(a).

2 The term “Violations of Colorado Primary Drinking Water Regulations” is used here to include violations of MCL, MRDL, treatment technique, monitoring, and testing procedure requirements.

3 Systems with treatment technique violations involving a single exceedance of a maximum turbidity limit under 11.8(2)(b) are required to consult with the Department no later than 24 hours after learning of the violation. Based on this consultation, the Department may elevate the violation to Tier 1. If the supplier is unable to make contact with the Department in the 24-hour period, the violation is automatically elevated to Tier 1.

4 Failure to collect three or more samples for Cryptosporidium analysis requires a special Tier 2 public notice as specified in 11.10(2)(e). All other monitoring and testing procedure violations require Tier 3 public notice.

5 Failure to collect a confirmation sample no later than 24 hours for nitrate or nitrite after an initial sample exceeds the MCL requires Tier 1 public notice. Other monitoring violations for nitrate require Tier 3 public notice.

6 Failure to monitor for chlorine dioxide at the entry point the day after exceeding the MRDL at the entrance to the distribution system requires Tier 2 public notice.

7 If any daily sample collected at the entry point exceeds the MRDL for chlorine dioxide and one or more samples collected in the distribution system the next day exceed the MRDL, Tier 1 public notice is required. Failure to collect the required samples in the distribution system after the MRDL is exceeded at the entry point also triggers Tier 1 public notice.

8 Some water systems must monitor for certain unregulated contaminants under 11.47.

9 This citation refers to §§1415 and 1416 of the Safe Drinking Water Act. §§1415 and 1416 require that “a schedule prescribed . . . for a public water system granted a variance shall require compliance by the system . . .”

10 In addition to §§1415 and 1416 of the Safe Drinking Water Act, 11.43(3) of the Colorado Primary Drinking Water Regulations specifies the items and schedule milestones that must be included in a variance for small systems.

11 Other waterborne emergencies require a Tier 1 public notice under 33.2(a) for situations that do not meet the definition of a waterborne disease outbreak specified in 11.3, but that still have the potential to have serious adverse effects on health as a result of short-term exposure. These could include outbreaks not related to treatment deficiencies, as well as situations that have the potential to cause outbreaks, such as failures or significant interruption in water treatment processes, natural disasters that disrupt the water supply or distribution system, chemical spills, or unexpected loading of possible pathogens into the source water.

12 The Department may place other situations in any tier believed appropriate, based on threat to public health.

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
<i>Colorado Primary Drinking Water Regulations</i>			
Microbiological Contaminants			
Fecal Indicators (GWR) 1. <i>E. coli</i> 2. Enterococci 3. Coliphage)	None	TT	Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
Groundwater Rule (GWR) TT violations	None	TT	Inadequately treated or inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.
A violation that occurred for failure to conduct an assessment not triggered by the presence of <i>E. coli</i> and/or violations for corrective action		TT	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that are found. [THE SUPPLIER MUST ALSO INCLUDE THE FOLLOWING APPLICABLE SENTENCES.] We failed to conduct the required assessment. We failed to correct all identified sanitary defects that were found during the assessment(s).

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
A violation that occurred for failure to conduct an assessment triggered by the presence of <i>E. coli</i> and/or violations for corrective action ³		TT	<i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We violated the standard for <i>E. coli</i> , indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct a detailed assessment to identify problems and to correct any problems that are found. [THE SUPPLIER MUST ALSO INCLUDE THE FOLLOWING APPLICABLE SENTENCES.] We failed to conduct the required assessment. We failed to correct all identified sanitary defects that were found during the assessment that we conducted.
<i>E. coli</i> MCL violations	Zero	See footnote 2	<i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.
A violation occurred for failure to conduct seasonal start-up procedures	None	TT	Failure to perform the required start-up procedures prior to serving water to the public has the potential to distribute contaminated water. When our system shuts down operation, the lack of pressure in our pipes can allow the entry of bacteria and other disease-causing microorganisms into the drinking water. By performing start-up procedures such as flushing the pipes, disinfecting the water, and collecting a coliform bacteria sample before we open, we can be sure that we are providing you with safe water.
Turbidity	None	TT	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.
Disinfectant residual	N/A	TT (in the distribution system)	Disinfectant residual serves as one of the final barriers to protect public health. Lack of an adequate disinfectant residual may increase the likelihood that disease-causing organisms are present.
Surface Water Treatment Rule, Surface Water Treatment Rule: Filter Backwash Recycle Rule, and Surface Water Treatment Rule: Enhanced Treatment for Cryptosporidium Rule violations			
<i>Giardia lamblia</i>	Zero	TT ³	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
Viruses			
Heterotrophic plate count (HPC) bacteria ⁴			

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
<i>Legionella</i>			
<i>Cryptosporidium</i>			
Inorganic Chemicals			
Antimony	0.006	0.006	Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.
Arsenic	0	0.010	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Asbestos (10 µm)	7 MFL	7 MFL	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium	2	2	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Beryllium	0.004	0.004	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
Cadmium	0.005	0.005	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Chromium (total)	0.1	0.1	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Cyanide	0.2	0.2	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
Fluoride	4.0	4.0	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
Mercury (inorganic)	0.002	0.002	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
Nitrate	10	10	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Nitrite	1	1	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
Total Nitrate and Nitrite	10	10	Infants below the age of six months who drink water containing nitrate and nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Selenium	0.05	0.05	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
Thallium	0.0005	0.002	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
Lead and Copper			
Lead	Zero	TT ⁵	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.
Copper	1.3	TT ⁶	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Synthetic Organic Chemicals (SOCs)			
2,4-D	0.07	0.07	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
2,4,5-TP (Silvex)	0.05	0.05	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
Alachlor	Zero	0.002	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
Atrazine	0.003	0.003	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
Benzo(a)pyrene (PAHs)	Zero	0.0002	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
Carbofuran	0.04	0.04	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.
Chlordane	Zero	0.002	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
Dalapon	0.2	0.2	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
Di (2-ethylhexyl) adipate	0.4	0.4	Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience general toxic effects such as weight loss, liver enlargement or possible reproductive difficulties.
Di (2-ethylhexyl) phthalate	Zero	0.006	Some people who drink water containing di (2-ethylhexyl) phthalate well in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloro-propane (DBCP)	Zero	0.0002	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Dinoseb	0.007	0.007	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
Dioxin (2,3,7,8-TCDD)	Zero	3x10 ⁻⁸	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Diquat	0.02	0.02	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
Endothall	0.1	0.1	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin	0.002	0.002	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Ethylene dibromide	Zero	0.00005	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
Glyphosate	0.7	0.7	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
Heptachlor	Zero	0.0004	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
Heptachlor epoxide	Zero	0.0002	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
Hexachlorobenzene	Zero	0.001	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.
Hexachlorocyclopentadiene	0.05	0.05	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
Lindane	0.0002	0.0002	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
Methoxychlor	0.04	0.04	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
Oxamyl (Vydate)	0.2	0.2	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.
Pentachlorophenol	Zero	0.001	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
Picloram	0.5	0.5	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
Polychlorinated biphenyls (PCBs)	Zero	0.0005	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Simazine	0.004	0.004	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
Toxaphene	Zero	0.003	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.
Volatile Organic Chemicals (VOCs)			
Benzene	Zero	0.005	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon tetrachloride	Zero	0.005	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Chlorobenzene (monochloro- benzene)	0.1	0.1	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
o-Dichlorobenzene	0.6	0.6	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
p-Dichlorobenzene	0.075	0.075	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
1,2-Dichloroethane	Zero	0.005	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
1,1-Dichloroethylene	0.007	0.007	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
cis-1,2-Dichloroethylene	0.07	0.07	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
trans-1,2-Dichloroethylene	0.1	0.1	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
Dichloromethane	Zero	0.005	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
1,2-Dichloropropane	Zero	0.005	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene	0.7	0.7	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Styrene	0.1	0.1	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
Tetrachloroethylene	Zero	0.005	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
Toluene	1	1	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
1,2,4-Trichlorobenzene	0.07	0.07	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
1,1,1-Trichloroethane	0.2	0.2	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.
1,1,2-Trichloroethane	0.003	0.005	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
Trichloroethylene	Zero	0.005	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Vinyl chloride	Zero	0.002	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes (total)	10	10	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
Radionuclides			

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
Beta/photon emitters	Zero	4 mrem/yr	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Alpha emitters	Zero	15 pCi/L	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Combined radium (226 & 228)	Zero	5 pCi/L	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium	Zero	30µg/L	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Disinfection Byproducts (DBPs), Disinfection Byproduct Precursors, Disinfectant Residuals			
Where disinfection is used in the treatment of drinking water, disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBPs). The Department sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes (THMs) and haloacetic acids (HAAs). ¹⁸			
Total trihalomethanes (TTHMs)	N/A	0.080 ⁷	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.
Haloacetic Acids (HAA)	N/A	0.060 ⁸	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Bromate	Zero	0.010	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
Chlorite	0.08	1.0	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Chlorine	4 (MRDLG)	4.0 (MRDL)	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chloramines	4 (MRDLG)	4.0 (MRDL)	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION

Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
Chlorine dioxide, where any 2 consecutive daily samples collected at the entrance to the distribution system are above the MRDL.	0.8 (MRDLG)	0.8 (MRDL)	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia. Add for public notification only: The chlorine dioxide violations reported today are the result of exceedances at the treatment facility only, not within the distribution system, which delivers water to consumers. Continued compliance with chlorine dioxide levels within the distribution system minimizes the potential risk of these violations to consumers.
Chlorine dioxide, where one or more distribution system samples are above the MRDL.	0.8 (MRDLG)	0.8 (MRDL)	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia. Add for public notification only: The chlorine dioxide violations reported today include exceedances of the State standard within the distribution system, which delivers water to consumers. Violations of the chlorine dioxide standard within the distribution system may harm human health based on short-term exposures. Certain groups, including fetuses, infants, and young children, may be especially susceptible to nervous system effects from excessive chlorine dioxide exposure.
Control of DBP precursors (TOC)	None	TT	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Other Treatment Techniques			
Acrylamide	Zero	TT	Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.
Epichlorohydrin	Zero	TT	Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.
Backflow Prevention and Cross-Connection Control Rule	None	TT	Uncontrolled cross-connections can lead to a back pressure or siphonage event that may allow contaminants or disease-causing organisms to enter the drinking water, which can cause diarrhea, nausea, cramps, and associated headaches.
Storage Tank Rule	None	TT	Inadequately maintained storage tanks, identified through inspections, may allow contaminants or disease-causing organisms to enter the drinking water, which can cause diarrhea, nausea, cramps, and associated headaches.
Failure to Correct a Significant Deficiency	None	TT	An uncorrected significant deficiency may allow contaminants or disease-causing organisms to enter the drinking water, which can cause diarrhea, nausea, cramps, and associated headaches.

TABLE 11.33-VI TABLE OF STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant	MCLG mg/L	MCL mg/L	Standard health effects language for public notification
Direct Potable Reuse Rule			
Critical control point for pathogen reduction of <i>Cryptosporidium</i> , <i>Giardia lamblia</i> , and/or viruses	None	TT	Inadequately treated water from direct potable reuse may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches
Critical control point for chemical reduction	None	TT	The direct potable reuse processes are intended to remove or reduce the following list of compounds (Target chemicals list from application). Inadequately treated water from direct potable reuse may contain elevated levels of the compounds above. These compounds can cause adverse health effects including (Target chemical health effects language as defined in the <i>Direct Potable Reuse Policy</i> and included in department approval). Inadequately treated water from direct potable reuse may also contain elevated levels of unknown compounds that may be present in treated wastewater. Because these chemicals are not identified, the health effects for these compounds are unknown.

- 1 If the supplier is collecting at least 40 samples per month, no more than 5.0 percent of the monthly samples may be positive for total coliforms. If the supplier is collecting fewer than 40 samples per month, no more than one sample per month may be positive for total coliforms.
- 2 E. coli-positive repeat sample following a total coliform-positive routine sample, total coliform-positive repeat sample following an E. coli-positive routine sample, failure to collect all required repeat samples following an E. coli-positive routine sample, or failure to analyze a total-coliform positive repeat sample for E. coli.
- 3 11.8 treatment technique violations that involve turbidity exceedances may use the health effects language for turbidity instead.
- 4 The bacteria detected by heterotrophic plate count (HPC) are not necessarily harmful. HPC is simply an alternative method of determining disinfectant residual levels. The number of such bacteria is an indicator of whether there is enough disinfection in the distribution system.
- 5 Action Level = 0.015 mg/L
- 6 Action Level = 1.3 mg/L
- 7 The MCL for total trihalomethanes is the sum of the concentrations of the individual trihalomethanes.
- 8 The MCL for haloacetic acids is the sum of the concentrations of the individual haloacetic acids.

11.34 CONSUMER CONFIDENCE REPORT (CCR) RULE

11.34(2) Content Requirements for the CCR

(a) General Content Requirements for the CCR

- (i) The supplier must include data collected for compliance purposes during the previous calendar year in the CCR.
 - (A) If the supplier sampled for a contaminant less frequently than annually, the supplier must include the date and result(s) of the most recent sampling for that contaminant.
 - (I) The supplier must include a brief statement that explains that the data presented are from the most recent sampling conducted.
 - (II) The supplier is not required to include data older than five years.
- (ii) The supplier must include all of the following definitions in the CCR:
 - (A) *Maximum Contaminant Level Goal (MCLG)* means the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
 - (B) *Maximum Contaminant Level (MCL)* means the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- (iii) If the CCR includes any of the following terms, the supplier must include the applicable definition(s) in the CCR:
 - (A) *Treatment Technique* means a required process intended to reduce the level of a contaminant in drinking water.
 - (B) *Action Level* means the concentration of a contaminant, which if exceeded, triggers treatment or other requirements that a water system must comply with.
 - (C) *Maximum residual disinfectant level goal (MRDLG)* means the level of a drinking water disinfectant below which, there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
 - (D) *Maximum residual disinfectant level (MRDL)* means the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
 - (E) *Variations and Exemptions* mean that the supplier has Department permission to not meet an MCL or a treatment technique requirement under certain conditions.
 - (F) *Level 1 assessment* means a study of the water system to identify possible problems and determine, if possible, why total coliform bacteria have been found in our water system.

- (G) *Level 2 assessment* means a very detailed study of the water system to identify possible problems and determine, if possible, why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
 - (iv) The supplier must include in the CCR the telephone number for the system that the consumer may call for additional information about the CCR.
 - (v) The supplier must include in the CCR information about opportunities for public participation in decisions that may affect the quality of the water (e.g., time and place of regularly scheduled board meetings).
 - (vi) For systems supplying a large proportion of non-English speaking consumers, as determined by the Department, the supplier must include either of the following in the CCR:
 - (A) Information in the appropriate language(s) regarding the importance of the CCR.
 - (B) A telephone number or address where the consumer may contact the supplier to obtain a translated copy of the CCR or request assistance in the appropriate language.
 - (vii) For each violation that occurs during the year covered by the CCR specified in 11.34(2)(d)(vi), the supplier must include a clear and readily understandable explanation of each violation, any potential adverse health effects, and the steps the supplier has taken to correct the violation.
 - (viii) For CCRs due on or after July 1, 2025, the supplier must include in the CCR a statement that a service line inventory has been prepared as required under 11.17(2)(a) and include instructions to access the service line inventory, including inventories consisting only of a statement under 11.17(2)(b)(i)(C).
 - (ix) For CCRs due on or after July 1, 2025, the supplier must include in the CCR a statement notifying consumers that complete lead tap sampling data are available for review and must include instructions on how to access the data.
- (b) Language Requirements for the CCR
- (i) The supplier must include all of the following language in the CCR, exactly as written:
 - (A) “Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency’s Safe Drinking Water Hotline (800-426-4791).”
 - (B) “Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).”

(ii) The supplier must also include in the CCR a brief explanation regarding contaminants which may reasonably be expected to be found in drinking water including bottled water.

(A) The supplier may use the following language or comparable language:

(I) "The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health."

(iii) The supplier must include in the CCR a short informational statement about lead in drinking water and its effects on children.

(A) The supplier may use the following language, providing the specific information for the text in brackets, or other Department-approved language written by the supplier:

(I) ~~If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. [NAME OF WATER SYSTEM] is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure~~

~~by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://water.epa.gov/drink/info/lead>. Lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. [NAME OF UTILITY] is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact [NAME OF UTILITY and CONTACT INFORMATION]. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.~~

(c) Source Water Content Requirements for the CCR

- (i) The supplier must include all of the following information about each of the system's sources in the CCR:
 - (A) The type of source (e.g., surface water or groundwater).
 - (B) The commonly used name(s) of the source(s), if any.
 - (C) The general location(s) of the source(s).
 - (D) If a source water assessment has been completed, the supplier must include all of the following:
 - (I) Notification of the availability of this information.
 - (II) How to obtain this information.
 - (III) If the Department has provided a source water assessment, a brief summary of the system's susceptibility to potential sources of contamination, using language provided by the Department or written by the supplier.

(d) Detected Contaminant Content Requirements for the CCR

- (i) The supplier must include in the CCR information on all of the following detected contaminants, except Cryptosporidium:
 - (A) Regulated contaminants.
 - (B) Unregulated contaminants that the supplier must sample for under 11.47.

- (C) Unregulated detected contaminants in finished water that the supplier must monitor for under 11.14
- (ii) The information for detected contaminants must be displayed in a table or several adjacent tables.
 - (A) If the supplier chooses to include information related to any additional sample results not required by 11.34(2)(d)(i), the supplier must display this information separately from the table(s) of detected contaminants.
- (iii) For each regulated contaminant, the table(s) of detected contaminants must include all of the following:
 - (A) The MCL expressed as a whole number as specified in Table 11.34-I.
 - (I) If there is no MCL for a detected contaminant, the supplier must show in the table(s) that there is a treatment technique, or specify the action level, applicable to that contaminant.
 - (B) The MCLG expressed in the same units as the MCL.
 - (C) For contaminants subject to an MCL, except turbidity, total coliforms and *E. coli*, the highest contaminant level used to determine compliance and the range of detected levels as follows:
 - (I) If compliance with the MCL is determined annually or less frequently, the highest detected level and the range of all detected levels expressed in the same units as the MCL.
 - (II) If compliance with the MCL is determined based on a RAA, the RAA and range of all detected sample results expressed in the same units as the MCL.
 - (III) If compliance with the MCL is determined based on an LRAA, the highest LRAA and the range of all LRAAs expressed in the same units as the MCL.
 - (a) For the TTHM and HAA5 MCLs, the supplier must also include the range of all individual sample results expressed in the same units as the MCL.
 - (b) For the TTHM and HAA5 MCLs, if more than one LRAA exceeds the MCL, the supplier must include the LRAAs for all sampling locations that exceeded the MCL.
 - (D) For turbidity reported under 11.8, the highest single turbidity measurement and the lowest monthly percentage of samples meeting the turbidity limit specified in 11.8 for the filtration technology being used.
 - (I) The supplier should include an explanation of the reasons for measuring turbidity.
 - (E) For lead and copper, the 90th percentile value(s) and the number of sampling sites that exceeded the action levels.

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- (F) For *E. coli*, the total number of *E. coli*-positive samples that are not special purpose samples, collected under 11.16.
 - (iv) For each unregulated contaminant for which the supplier must monitor, the table(s) of detected contaminants must include the average of the sample results and the range of all detected levels.
 - (A) The supplier may include a brief explanation of the reasons for monitoring for unregulated contaminants.
 - (v) The table(s) of detected contaminants must also include the likely source(s) of the contaminants to the best of the supplier's knowledge.
 - (A) If the supplier lacks specific information on the likely source, the supplier must include one or more of the typical sources for that contaminant listed in Table 11.34-I that is most applicable to the system.
 - (vi) The table(s) of detected contaminants must clearly identify any data that show a violation of any of the requirements listed below that occurred during the year covered by the CCR:
 - (A) MCLs.
 - (B) MRDLs.
 - (C) Treatment techniques.
 - (D) Monitoring and reporting of compliance data.
 - (E) Filtration and disinfection as specified in 11.8.
 - (F) Recordkeeping of compliance data.
 - (G) Special monitoring requirements as specified in 11.47 and 11.20.
 - (H) If applicable, the terms of a variance, an exemption, or an administrative or judicial order.
 - (vii) If a system supplies water through multiple hydraulically independent distribution systems that use different sources, the supplier should identify each separate distribution system in the CCR and should include a separate column for each independent distribution system in the table(s) of detected contaminants.
 - (A) Alternatively, the supplier may produce separate CCRs that only include data for each independent distribution system.
 - (e) Additional Content Requirements for the CCR
 - (i) If the supplier is required to comply with 11.11:
 - (A) The supplier must include all of the following information in the CCR about any significant deficiency that has not been corrected at the time of delivery of the CCR:
 - (I) The nature of the significant deficiency(s).
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- (II) The date(s) the significant deficiency(s) was identified by the Department.
- (III) For each significant deficiency that was required to be addressed under 11.38(3) that has not been addressed, the Department-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed.
- (B) The supplier must continue to include the information under 11.34(2)(e)(i)(A) each year until the Department determines that the significant deficiency was corrected under 11.38(3).
- (C) If directed by the Department, the supplier must include all of the following information for any significant deficiency that was corrected before the CCR is issued:
 - (I) Inform the customers of the significant deficiency.
 - (II) How the deficiency was corrected.
 - (III) The date of correction.
- (D) The supplier must include all of the following information in the CCR about any fecal indicator-positive groundwater source sample:
 - (I) The source of the fecal contamination, if the source is known.
 - (II) The date(s) of the fecal indicator-positive groundwater source sample(s).
 - (III) For each fecal indicator-positive contamination event in the groundwater source that was required to be addressed under 11.11(6)(b) that has not been addressed, the Department-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed.
 - (IV) If the fecal contamination in the groundwater source was addressed under 11.11(6), the date of such action.
 - (V) The applicable potential health effects language specified in Table 11.34-I for a fecal indicator-positive groundwater source sample(s) that was not invalidated by the Department.
- (E) The supplier must continue to include the information specified in 11.34(2)(e)(i)(D) each year until the Department determines that the fecal contamination in the groundwater source was addressed under 11.11(6)(b).
- (ii) If the supplier has nitrate sample result(s) greater than (>) 5 mg/L but less than (<) the MCL, the supplier must include a short informational statement about nitrate's effect on children.
 - (A) The supplier may use the following language or other Department-approved language written by the supplier:
 - (I) "Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking

water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.”

- (iii) If the supplier has arsenic sample result(s) greater than ($>$) 0.005 mg/L but less than or equal to (\leq) 0.010 mg/L, the supplier must include a short informational statement about arsenic.
 - (A) The supplier may use the following language or other Department-approved language written by the supplier:
 - (I) “While your drinking water meets the EPA's standard for arsenic, it does contain low levels of arsenic. The EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.”
- (iv) If the supplier sampled for *Cryptosporidium* and the sample results show that *Cryptosporidium* may be present in the source water or the finished water, the supplier must include all of the following:
 - (A) A summary of the sample results.
 - (B) An explanation of the significance of the sample results.
- (v) If the supplier sampled for radon and the sample results show that radon may be present in the finished water, the supplier must include all of the following:
 - (A) The sample results.
 - (B) An explanation of the significance of the sample results.
- (vi) If a supplier is operating under a variance or an exemption as specified in 11.43, the supplier must include all of the following:
 - (A) An explanation of the reasons for the variance or exemption.
 - (B) The date on which the variance or exemption was issued.
 - (C) A brief status report on the steps the supplier is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance or exemption.
 - (D) A notice of any opportunity for public input in the review or renewal, of the variance or exemption.
- (vii) For surface water systems, if the supplier failed to install adequate filtration or disinfection equipment or processes, or has had a failure of such equipment or processes which are a violation as specified in 11.8, the supplier must include the following language exactly as written as part of the explanation of potential adverse health effects:

- (A) "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."
- (viii) If the supplier failed to take one or more actions for lead and copper control as specified in 11.17 or 11.26, the supplier must include the applicable language from Table 11.34-I.
- (ix) If the supplier failed to comply with the acrylamide and epichlorohydrin certification requirements as specified in 11.21(5), the supplier must include the applicable language from Table 11.34-I.
- (x) The supplier must include a clear and readily understandable explanation of any violation specified in 11.34(2)(d)(vi), including the length of the violation, any potential adverse health effects, and the actions the supplier has taken to correct the violation.
 - (A) To describe the potential adverse health effects, the supplier must include the applicable language from Table 11.34-I.
- (xi) If the supplier has collected additional voluntary samples and the sample results show the presence of other contaminants in the finished water, the Department strongly encourages the supplier to report any sample results which may show a health concern.
 - (A) To determine if results may show a health concern, the Department recommends that the supplier find out if EPA has proposed a National Primary Drinking Water Regulation or has issued a health advisory for that contaminant by calling the Safe Drinking Water Hotline (800-426-4791).
 - (B) Detects above a proposed MCL or health advisory level show possible health concerns. For such contaminants, the Department recommends that the supplier include all of the following:
 - (I) The sample results.
 - (II) An explanation of the significance of the sample results noting the existence of a health advisory or a proposed regulation.
- (xii) If a backflow prevention and cross-connection control violation occurs under 11.39(6), the supplier must include the following.
 - (A) The following language exactly as written:
 - (I) "We have an inadequate backflow prevention and cross-connection control program. Uncontrolled cross-connections can lead to inadvertent contamination of the drinking water."
 - (B) If applicable, one or both of the following statements:
 - (I) We have installed or permitted an uncontrolled cross-connection.
 - (II) We experienced a backflow contamination event.
- (xiii) If the supplier is required to conduct a Level 1 assessment and/or a Level 2 assessment that is not triggered by an *E. coli* MCL violation, the supplier must include the following:
 - (A) The following language exactly as written:

- (I) “Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.”
- (B) The following applicable language for a Level 1 assessment and/or a Level 2 assessment exactly as written, providing the specific information for the text in brackets:
 - (I) During the past year we were required to conduct [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] Level 1 assessment(s). [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] Level 1 assessment(s) were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.
 - (II) During the past year [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 assessments were required to be completed for our water system. [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 assessments were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.
- (xiv) If the supplier is required to conduct a Level 2 assessment that is triggered by an *E. coli* MCL violation, the supplier must include the following language exactly as written, providing the specific information for the text in brackets:
 - (A) “*E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found *E. coli* bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.”
 - (B) We were required to complete a Level 2 assessment because we found *E. coli* in our water system. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.
- (xv) If a treatment technique violation occurs under 11.16(11)(b)(i), the supplier must include one or both of the following statements, as applicable:
 - (A) During the past year we failed to conduct all of the required assessment(s).
 - (B) During the past year we failed to correct all identified sanitary defects that were found during the assessment.

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- (xvi) If an *E. coli*-positive sample has not violated the *E. coli* MCL, in addition to completing the table in 11.34(2)(d), the supplier must include a statement that explains that although they have detected *E. coli*, they are not in violation of the *E. coli* MCL.
 - (xvii) If an *E. coli* MCL violation occurs, in addition to completing the table in 11.34(2)(d), the supplier must include one or more of the following statements, as applicable:
 - (A) We had an *E. coli*-positive repeat sample following a total coliform-positive routine sample.
 - (B) We had a total coliform-positive repeat sample following an *E. coli*-positive routine sample.
 - (C) We failed to take all required repeat samples following an *E. coli*-positive routine sample.
 - (D) We failed to test for *E. coli* when any repeat sample tests positive for total coliform.
 - (xviii) If the supplier is subject to the requirements specified in 11.14, the supplier must include the following information:
 - (A) A description of direct potable reuse.
 - (B) A description of the supplier's direct potable reuse pathogen and chemical critical control points.
 - (C) A description or depiction of the service area that is supplied with finished water from the direct potable reuse project.
 - (xix) The supplier may include additional information necessary for public education consistent with, and not detracting from, the purpose of the CCR.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Microbiological Contaminants						
Total coliform bacteria	TT	N/A	TT	N/A	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution.
Fecal Indicators: 1) <i>E. coli</i> , 2) enterococci or 3) coliphage	TT	N/A	TT	N/A	Human and animal fecal waste	Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
<i>E. coli</i>	<i>E. coli</i> -positive repeat sample following a total coliform-positive routine sample, total coliform-positive repeat sample following an <i>E. coli</i> -positive routine sample, failure to collect all required repeat samples following an <i>E. coli</i> -positive routine sample, or failure to analyze a total-coliform positive repeat sample for <i>E. coli</i> .	N/A	<i>E. coli</i> -positive repeat sample following a total coliform-positive routine sample, total coliform-positive repeat sample following an <i>E. coli</i> -positive routine sample, failure to collect all required repeat samples following an <i>E. coli</i> -positive routine sample, or failure to analyze a total-coliform positive repeat sample for <i>E. coli</i> .	0	Human and animal fecal waste	<i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Total organic carbon (ppm)	TT	N/A	TT	N/A	Naturally present in the environment.	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by products. These byproducts include trihalomethanes (TTHMs) and haloacetic acids (HAA5s). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Turbidity (NTU)	TT	N/A	TT	N/A	Soil runoff.	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
Disinfectant residual ²	TT (in the distribution system)	N/A	TT (in the distribution system)	N/A	Water additive used to control microbes.	Disinfectant residual serves as one of the final barriers to protect public health. Lack of an adequate disinfectant residual may increase the likelihood that disease-causing organisms are present.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS						
Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Radionuclides						
Beta/photon emitters (mrem/yr)	4 mrem/yr	N/A	4	0	Decay of natural and man-made deposits.	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta particle and photon radioactivity in excess of the MCL over many years may have an increased risk of getting cancer.
Alpha emitters (pCi/L)	15 pCi/L	N/A	15	0	Erosion of natural deposits.	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Combined radium (pCi/L)	5 pCi/L	N/A	5	0	Erosion of natural deposits.	Some people who drink water containing radium -226 or -228 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium (µg/L)	30 µg/L	N/A	30	0	Erosion of natural deposits.	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Inorganic Chemicals						
Antimony (ppb)	0.006	1000	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.	Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Arsenic (ppb)	0.010	1000	10 ⁴	0 ⁴	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Asbestos (MFL)	7 MFL	N/A	7	7	Decay of asbestos cement water mains; Erosion of natural deposits.	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium (ppm)	2	N/A	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Beryllium (ppb)	0.004	1000	4	4	Discharge from metal refineries and coal burning factories; Discharge from electrical, aerospace, and defense industries.	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
Bromate (ppb)	0.010	1000	10	0	By-product of drinking water disinfection.	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
Cadmium (ppb)	0.005	1000	5	5	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints.	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Chloramines (ppm)	MRDL = 4	N/A	MRDL = 4	MRDLG = 4	Water additive used to control microbes.	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
Chlorine (ppm)	MRDL = 4	N/A	MRDL = 4	MRDLG = 4	Water additive used to control microbes.	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chlorine dioxide (ppb)	MRDL = 0.8	1000	MRDL = 800	MRDLG = 800	Water additive used to control microbes.	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
Chlorite (ppm)	1	N/A	1	0.8	By-product of drinking water disinfection.	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

<u>Contaminant (units)</u>	<u>MCL (in mg/L unless otherwise noted)</u>	<u>To convert for CCR, multiply by</u>	<u>MCL in CCR units</u>	<u>MCLG</u>	<u>Major sources in drinking water</u>	<u>Health effects language</u>
Chromium (ppb)	0.1	1000	100	100	Discharge from steel and pulp mills; Erosion of natural deposits.	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Copper (ppm)	AL=1.3	N/A	AL=1.3	1.3	Corrosion of household plumbing systems; Erosion of natural deposits.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Cyanide (ppb)	0.2	1000	200	200	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories.	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
Fluoride (ppm)	4.0	N/A	4.0	4.0	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Lead (ppb)	AL=0.015	1000	AL=15	0	Corrosion of household plumbing systems; Erosion of natural deposits.	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.
Mercury (inorganic) (ppb)	0.002	1000	2	2	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland.	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Nitrate (ppm)	10	N/A	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Nitrite (ppm)	1	N/A	1	1	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Selenium (ppb)	0.05	1000	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
Thallium (ppb)	0.002	1000	2	0.5	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories.	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
Synthetic Organic Chemicals (SOCs)						
2,4-D (ppb)	0.07	1000	70	70	Runoff from herbicide used on row crops.	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
2,4,5-TP (Silvex)(ppb)	0.05	1000	50	50	Residue of banned herbicide.	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
Acrylamide	N/A	N/A	TT	0	Added to water during sewage/wastewater treatment.	Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.
Alachlor (ppb)	0.002	1000	2	0	Runoff from herbicide used on row crops.	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
Atrazine (ppb)	0.003	1000	3	3	Runoff from herbicide used on row crops.	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
Benzo(a)pyrene (PAH) (nanograms/L)	0.0002	1,000,000	200	0	Leaching from linings of water storage tanks and distribution lines.	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Carbofuran (ppb)	0.04	1000	40	40	Leaching of soil fumigant used on rice and alfalfa.	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Chlordane (ppb)	0.002	1000	2	0	Residue of banned termiticide.	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
Dalapon (ppb)	0.2	1000	200	200	Runoff from herbicide used on rights of way.	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
Di(2-ethylhexyl) adipate (ppb)	0.4	1000	400	400	Discharge from chemical factories.	Some people who drink water containing di(2-ethylhexyl) adipate well in excess of the MCL over many years could experience toxic effects, such as weight loss, liver enlargement or possible reproductive difficulties.
Di(2-ethylhexyl) phthalate (ppb)	0.006	1000	6	0	Discharge from rubber and chemical factories.	Some people who drink water containing di(2-ethylhexyl) phthalate well in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloro-propane (ppt)	0.0002	1,000,000	200	0	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.
Dinoseb (ppb)	0.007	1000	7	7	Runoff from herbicide used on soybeans and vegetables.	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Diquat (ppb)	0.02	1000	20	20	Runoff from herbicide use.	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
Dioxin (2,3,7,8-TCDD) (ppq)	0.00000003	1,000,000,000	30	0	Emissions from waste incineration and other combustion; discharge from chemical factories.	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Endothall (ppb)	0.1	1000	100	100	Runoff from herbicide use	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin (ppb)	0.002	1000	2	2	Residue of banned insecticide	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Epichlorohydrin	TT	N/A	TT	0	Discharge from industrial chemical factories; an impurity of some water treatment chemicals.	Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.
Ethylene dibromide (ppt)	0.00005	1,000,000	50	0	Discharge from petroleum refineries.	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

<u>Contaminant (units)</u>	<u>MCL (in mg/L unless otherwise noted)</u>	<u>To convert for CCR, multiply by</u>	<u>MCL in CCR units</u>	<u>MCLG</u>	<u>Major sources in drinking water</u>	<u>Health effects language</u>
Glyphosate (ppb)	0.7	1000	700	700	Runoff from herbicide use.	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
Heptachlor (ppt)	0.0004	1,000,000	400	0	Residue of banned pesticide.	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
Heptachlor epoxide (ppt)	0.0002	1,000,000	200	0	Breakdown of heptachlor.	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene (ppb)	0.001	1000	1	0	Discharge from metal refineries and agricultural chemical factories.	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.
Hexachloro-cyclopentadiene (ppb)	0.05	1000	50	50	Discharge from chemical factories.	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
Lindane (ppt)	0.0002	1,000,000	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens.	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

<u>Contaminant (units)</u>	<u>MCL (in mg/L unless otherwise noted)</u>	<u>To convert for CCR, multiply by</u>	<u>MCL in CCR units</u>	<u>MCLG</u>	<u>Major sources in drinking water</u>	<u>Health effects language</u>
Methoxychlor (ppb)	0.04	1000	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock.	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
Oxamyl (Vydate) (ppb)	0.2	1000	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes.	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.
PCBs (Polychlorinated biphenyls) (ppt)	0.0005	1,000,000	500	0	Runoff from landfills; discharge of waste chemicals.	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Pentachloro-phenol (ppb)	0.001	1000	1	0	Discharge from wood preserving factories.	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
Picloram (ppb)	0.5	1000	500	500	Herbicide runoff.	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
Simazine (ppb)	0.004	1000	4	4	Herbicide runoff.	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Toxaphene (ppb)	0.003	1000	3	0	Runoff/leaching from insecticide used on cotton and cattle.	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.
Volatile Organic Chemicals (VOCs)						
Benzene (ppb)	0.005	1000	5	0	Discharge from factories; leaching from gas storage tanks and landfills.	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon tetrachloride (ppb)	0.005	1000	5	0	Discharge from chemical plants and other industrial activities.	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Chlorobenzene (ppb)	0.1	1000	100	100	Discharge from chemical and agricultural chemical factories.	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
o-Dichlorobenzene (ppb)	0.6	1000	600	600	Discharge from industrial chemical factories.	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
p-Dichlorobenzene (ppb)	0.075	1000	75	75	Discharge from industrial chemical factories.	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
1,2-Dichloroethane (ppb)	0.005	1000	5	0	Discharge from Industrial chemical factories.	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
1,1-Dichloroethylene (ppb)	0.007	1000	7	7	Discharge from industrial chemical factories.	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
cis-1,2-Dichloroethylene (ppb)	0.07	1000	70	70	Discharge from industrial chemical factories.	Some people who drink water containing cis-1,2- dichloroethylene in excess of the MCL over many years could experience problems with their liver.
trans-1,2-Dichloroethylene (ppb)	0.1	1000	100	100	Discharge from industrial chemical factories.	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
Dichloromethane (ppb)	0.005	1000	5	0	Discharge from pharmaceutical and chemical factories.	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
1,2-Dichloropropane (ppb)	0.005	1000	5	0	Discharge from industrial chemical factories.	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Ethylbenzene (ppb)	0.7	1000	700	700	Discharge from petroleum refineries.	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Haloacetic Acids (HAA) (ppb)	0.060	1000	60	N/A	By-product of drinking water disinfection.	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Styrene (ppb)	0.1	1000	100	100	Discharge from rubber and plastic factories; leaching from landfills.	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
Tetrachloro-ethylene (ppb)	0.005	1000	5	0	Discharge from factories and dry cleaners.	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
1,2,4-Trichloro-benzene (ppb)	0.07	1000	70	70	Discharge from textile-finishing factories.	Some people who drink water containing 1,2,4- trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
1,1,1-Trichloroethane (ppb)	0.2	1000	200	200	Discharge from metal degreasing sites and other factories.	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.

TABLE 11.34-I TABLE OF REGULATED CONTAMINANTS

Contaminant (units)	MCL (in mg/L unless otherwise noted)	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
1,1,2-Trichloroethane (ppb)	0.005	1000	5	3	Discharge from industrial chemical factories.	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
Trichloro-ethylene (ppb)	0.005	1000	5	0	Discharge from metal degreasing sites and other factories.	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
TTHMs (Total trihalomethanes) (ppb)	0.080	1000	80	N/A	Byproduct of drinking water disinfection.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Toluene (ppm)	1	N/A	1	1	Discharge from petroleum factories.	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
Vinyl Chloride (ppb)	0.002	1000	2	0	Leaching from PVC piping; discharge from plastics factories.	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes (ppm)	10	N/A	10	10	Discharge from petroleum factories; discharge from chemical factories.	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

11.36 RECORDKEEPING REQUIREMENTS RULE

11.36(4) Additional Recordkeeping Requirements by Rule

(a) Recordkeeping Requirements for Monitoring Plans

For each sample result, the supplier must maintain the monitoring plan specified in 11.5 under which the sample was collected for the same time period that the sample result is required to be maintained.

(b) Recordkeeping Requirements for the Surface Water Treatment Rules

- (i) The supplier must maintain all of the following information for at least three years:
 - (A) The results of individual filter monitoring collected under 11.8(2)(g).
 - (B) Any notification to the Department that the supplier will not conduct source water monitoring due to meeting the criteria specified in 11.10(2)(a)(v).
 - (C) The results of treatment monitoring associated with microbial toolbox options collected under 11.10(5)(b) through 11.10(5)(o), as applicable.
- (ii) The supplier must maintain all of the following information for at least three years after bin classification under 11.10(3)(b):
 - (A) The initial round of source water monitoring results collected under 11.10(2).
 - (B) The second round of source water monitoring results collected under 11.10(2).
- (iii) The supplier must maintain the records of turbidity sample results collected under 11.8 for at least five years.
- (iv) The supplier must maintain the following recycle flow information:
 - (A) A copy of the recycle notification and information submitted to the Department under 11.9(4).
 - (B) A list of all recycle flows and the frequency with which they are returned.
 - (C) The average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes.
 - (D) The typical filter run length and a written summary of how filter run length is determined.
 - (E) The type of treatment provided for the recycle flow.
 - (F) 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.
- (v) The supplier must maintain all of the following information indefinitely:

- (A) The results of the disinfection profile, including raw data and analysis, specified in 11.8(4).
 - (B) The results of the disinfection benchmark, including raw data and analysis, specified in 11.8(5).
- (c) Recordkeeping Requirements for the Groundwater Rules
- (i) The supplier must maintain all of the following information for at least five years:
 - (A) For each minimum residual disinfection concentration treatment technique requirement sample collected under 11.11(2)(c):
 - (I) The date, place, and time of sample collection, and the name of the person(s) who collected and analyzed the sample;
 - (II) The analytical technique/method used; and
 - (III) The results of the analyses.
 - (B) Documentation specified in 11.11(2)(e)(i)(C) relating to any entry point minimum disinfection treatment technique violation.
 - (C) For systems operating under a disinfection waiver under 11.13, all records of all chlorination activities including:
 - (I) The date, duration, locations and purpose of each chlorination event; and
 - (II) The maximum and minimum chlorine dose in mg/L the supplier applied during each chlorination event and the results of any and all residual disinfectant concentration results collected during each chlorination event.
 - (D) Records of decisions that a total coliform-positive sample result meets Department criteria for distribution system conditions that cause total coliform-positive sample results under 11.11(4)(a)(ii)(B).
 - (E) Records of invalidation of fecal indicator-positive groundwater source samples under 11.11(4)(e)(i).
 - (F) For consecutive systems, documentation of notification to wholesalers of total-coliform positive samples specified in 11.11(4)(c)(i) that are not invalidated under 11.16(7).
 - (G) For systems that provide 4-log treatment of viruses using chemical disinfection and are required to comply with the requirements specified in 11.11(3):
 - (I) Records of the lowest daily residual disinfectant concentration; and
 - (II) Records of the date and duration of any failure to maintain the Department-specified minimum residual disinfectant concentration for a period of more than four hours.
 - (H) For systems that provide 4-log treatment of viruses using alternative treatment methods and are required to comply with 11.11(3):

- (I) Records of Department-specified parameters for approved alternative treatment; and
 - (II) Records of the date and duration of any failure to meet the alternative treatment operating requirements for a period of more than four hours.
 - (ii) The supplier must maintain all of the following information for at least 10 years:
 - (A) For all systems that provide 4-log treatment of viruses that are required comply with 11.11(3), records of the Department-approved minimum residual disinfectant concentration.
 - (B) Documentation of corrective actions required in response to fecal indicator positive triggered source water monitoring sample results under 11.11(6).
 - (iii) For a system operating under a disinfection waiver, the supplier must maintain records of all correspondence and documentation relating to the requirements specified in 11.13 for as long as the system is operating under the disinfection waiver and for at least five years after waiver withdrawal.
- (d) Recordkeeping Requirements for the Revised Total Coliform Rule
- (i) The supplier must maintain all of the following information for at least five years after completion of the assessment or corrective action:
 - (A) Completed assessment forms, regardless of who conducts the assessment.
 - (B) Documentation of corrective actions completed as a result of those assessments.
 - (C) Available summary documentation of the sanitary defects and corrective actions as specified in 11.16(9).
 - (ii) If the supplier collects special purpose samples, the supplier must keep *E. coli*-positive sample results that are representative of water throughout the distribution system and a summary of any related follow-up activities on file for Department review for at least five years.
 - (iii) If the Department grants an extension to the 24-hour limit for collecting repeat samples, as specified in 11.16(5), the supplier must maintain a record of the repeat sample results for at least five years.
- (e) Recordkeeping Requirements for the Disinfection Byproducts Rule
- (i) If the supplier was required to complete an IDSE report, the supplier must maintain a complete copy of the IDSE report for at least 10 years after the date that the report was submitted.
 - (A) If the Department modified the supplier's sampling requirements that were in the system's IDSE report or if the Department approved alternative sampling locations, the supplier must keep a copy of the Department's notification on file for 10 years after the date of the Department's notification.
 - (B) The supplier must make the IDSE report and any Department notification available for review by the Department or the public.

- (ii) If the supplier submitted a 40/30 certification, the supplier must maintain a complete copy of the 40/30 certification for at least 10 years after the date that the certification was submitted.
- (A) "40/30 CERTIFICATION" means a historical requirement where the supplier certified to the Department that every individual sample result collected during eight consecutive quarters was less than or equal to (\leq) 0.040 mg/L for TTHM and less than or equal to (\leq) 0.030 mg/L for HAA5 and no TTHM or HAA5 violations occurred during that time.
- (B) The supplier must make the 40/30 certification and any Department notification available for review by the Department or the public.
- (f) Recordkeeping Requirements for the Lead and Copper Rule and Revisions
- The supplier must maintain the original records of all sample results and analyses, reports, surveys, letters, evaluations, schedules, Department determinations, and any other information required by 11.17 and 11.26 for at least 12 years.
- (g) Recordkeeping Requirements for the Storage Tank Rule
- For each completed inspection, the supplier must maintain the inspection summary required by 11.28(3)(f) for at least ten years.
- (h) Recordkeeping Requirements for the Public Notification Rule
- The supplier must maintain copies of each public notice and certification made to the Department under 11.33 for at least three years after issuance.
- (i) Recordkeeping Requirements for the Consumer Confidence Report (CCR) Rule
- The supplier must retain copies of each CCR required by 11.34 for at least three years after issuance.
- ~~(j) Recordkeeping Requirements for the Cross-Connection Control Rule~~
- ~~The supplier must maintain all control device maintenance records under 11.37 for at least three years.~~
- ~~(j)-(k)~~ Recordkeeping Requirements for the Sanitary Survey Rule
- (i) The supplier must maintain all of the following information regarding sanitary surveys conducted under 11.38 for at least 10 years:
- (A) Copies of any written reports, summaries or communications relating to sanitary surveys of the system conducted by the system itself, a private consultant, or a local, state or federal agency.
- (B) Documentation of corrective actions required in response to significant deficiencies and/or violations identified on a sanitary survey under 11.38(3).
- ~~(k)-(l)~~ Recordkeeping Requirements for the Backflow Prevention and Cross-Connection Control Rule
- (i) The supplier must maintain all backflow prevention assembly and backflow prevention method testing, inspection, and maintenance records:

- (A) For community water systems, for at least three years.
- (B) For non-community water systems, for at least five years.
- (ii) The supplier must maintain each annual backflow prevention and cross-connection control program report developed:
 - (A) For community water systems, for at least three years.
 - (B) For non-community water systems, for at least five years.

~~(1)(m)~~ Recordkeeping Requirements for the Water Hauler Rule

- (i) The supplier must maintain all of the following information for at least five years for each tank or container:
 - (A) The date, time, and location of each water loading station used.
 - (B) The date, time, and location of each water delivery.
 - (C) The date, time, and result of each residual disinfectant concentration sample collected under 11.41(2)(b).
 - (D) The date, time, type and quantity of any chemical added to the tank or container containing water intended for delivery.
 - (E) A maintenance record for all hose materials, hose containers, pumps, fittings and tank and/or container including the date, time and method of cleaning and/or disinfection.

~~(1)(n)~~ Recordkeeping Requirements for the Variances and Exemptions Rule

The supplier must maintain records concerning a variance or exemption granted under 11.43 for at least five years after the expiration of the variance or exemption.

11.39 BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL RULE

11.39(1) Applicability and Definitions

- (a) All public water systems must comply with the requirements specified in this rule.
- ~~(b) "ACTIVE DATE" means the first day that a backflow prevention assembly or backflow prevention method is used to control a cross-connection in each calendar year.~~
- ~~(b)(c)~~ "BACKFLOW" means the reverse flow of water, fluid, or gas caused by back pressure or back siphonage.
- ~~(c)(d)~~ "BACKFLOW PREVENTION ASSEMBLY" means any mechanical assembly installed at a water service line or at a plumbing fixture to prevent a backflow contamination event, provided that the mechanical assembly is appropriate for the identified contaminant at the cross-connection and is an in-line field-testable assembly.
- ~~(e) "BACKFLOW PREVENTION ASSEMBLY ANNUAL TESTING COMPLIANCE RATIO" means the number of backflow prevention assemblies tested during the calendar year divided by the number~~

~~of backflow prevention assemblies installed at a cross-connection that were used during the calendar year.~~

~~(d)(f)~~ "BACKFLOW PREVENTION METHOD" means any method and/or non-testable device installed at a water service line or at a plumbing fixture to prevent a backflow contamination event, provided that the method or non-testable device is appropriate for the identified contaminant at the cross-connection.

~~(e)(g)~~ "BACKFLOW PREVENTION ~~METHOD~~-ANNUAL ~~INSPECTION~~-COMPLIANCE RATIO" means the ~~sum number~~ of backflow prevention methods inspected and backflow prevention assemblies tested during the calendar year divided by the ~~sum number~~ of backflow prevention methods and backflow prevention assemblies installed at a cross-connection that were used during the calendar year.

~~(f)(h)~~ "CERTIFIED CROSS-CONNECTION CONTROL TECHNICIAN" means a person who possesses a valid Backflow Prevention Assembly Tester certification from one of the following approved organizations: American Society of Sanitary Engineering (ASSE) or the American Backflow Prevention Association (ABPA). If a certification has expired, the certification is invalid.

~~(g)(i)~~ "CONTROLLED CROSS-CONNECTION" means a cross-connection that has having a properly installed, maintained, and tested or inspected backflow prevention assembly or backflow prevention method that prevents backflow ~~through a cross-connection~~.

~~(h)(j)~~ "SINGLE-FAMILY-RESIDENTIAL" means:

- (i) A single living unit that is supplied by its own separate service line; or
- (ii) Multiple living units where each individual living unit is supplied by a separate service line; or
- (iii) Two separate single living units supplied by a common service line.

~~(i)(k)~~ "SURVEY COMPLIANCE RATIO" means the total number of connections surveyed, including the number of all non-single-family-residential connections to the public water system with the most protective backflow prevention assembly or method that was not surveyed as specified in 11.39(2)(c), divided by the total number of non-single-family-residential connections to the public water system and connections within the supplier's waterworks.

- (i) The supplier is not required to include any non-single-family-residential connections identified after October 31 of the calendar year in the total number of non-single-family-residential connections to the public water system until the following calendar year.

~~(j)(l)~~ "UNCONTROLLED CROSS-CONNECTION" means a cross-connection that does not have not having a properly installed, ~~and~~ maintained, and tested or inspected backflow prevention assembly or backflow prevention method, or the backflow prevention assembly or backflow prevention method does not prevent backflow ~~through a cross-connection~~.

11.39(2) Backflow Prevention and Cross-Connection Control Program Requirements

(a) The supplier must develop a written backflow prevention and cross-connection control program. The written backflow prevention and cross-connection control program must include all of the following:

- (i) The supplier's process for conducting surveys.

- (ii) The supplier's legal authority to perform a survey of a customer's property to determine whether a cross-connection is present unless the supplier controls all non-single-family-residential connections to the public water system with the most protective backflow prevention assembly or backflow prevention method.
 - (iii) The process the supplier will use to select a backflow prevention assembly or backflow prevention method to control a cross-connection.
 - (iv) The supplier's legal authority to install, maintain, test, and inspect backflow prevention assemblies and/or backflow prevention methods and/or require customers to install, maintain, test, and inspect backflow prevention assemblies and/or backflow prevention methods.
 - (v) The process the supplier will use to track the installation, maintenance, testing, and inspection of all backflow prevention assemblies and backflow prevention methods used to control cross-connections.
 - (vi) The process the supplier will use to ensure backflow prevention assemblies are tested by a Certified Cross-Connection Control Technician.
- (b) The Department may review and revise the written backflow prevention and cross-connection control program.
- (c) The supplier must survey all non-single-family-residential connections to the public water system to determine if the connection is a cross-connection unless the supplier controls that connection with the most protective backflow prevention assembly or backflow prevention method. The supplier must survey all connections within the supplier's waterworks to determine if the connection is a cross-connection.
- (i) If the supplier identifies a cross-connection during a survey, the supplier must determine the type of backflow prevention assembly or backflow prevention method to control the cross-connection.
 - (ii) If the supplier becomes aware of a single-family-residential connection to the public water system that is a cross-connection, the supplier must determine the type of backflow prevention assembly or backflow prevention method to control the cross-connection.
 - (iii) The supplier must ~~maintain~~ ~~achieve the~~ survey compliance ratios of 1.0 each year ~~as specified in Table 11.39-I.~~

TABLE 11.39-I Survey Compliance Ratio	
Compliance Date	Compliance Ratio
By December 31, 2016	Greater than 0.60
By December 31, 2017	Greater than 0.70
By December 31, 2018	Greater than 0.80
By December 31, 2019	Greater than 0.90
By December 31, 2020	Greater than 0.90
By December 31, 2021 and each year after	1.0

- (iv) The supplier may apply to the Department for an alternative survey compliance ~~ratios~~ ~~specified in Table 11.39-I.~~
 - (A) In the application, the supplier must include all of the following information:

- (I) An explanation of why the supplier is unable to comply with the survey compliance ratio ~~of 1.0s specified in Table 11.39-I.~~
 - (II) The proposed alternative survey compliance ratios and for the compliance dates ~~specified in Table 11.39-I.~~
 - (a) The proposed alternative survey compliance ratios must meet the survey compliance ratio of 1.0 within a timeline approved ~~specified~~ by the department.
 - (III) A discussion of the supplier's strategy to achieve the proposed alternative survey compliance ratios and the survey compliance ratio of 1.0 within a timeline specified by the Department.
- (B) If the supplier receives written Department-approval for alternative survey compliance ratios, the supplier must comply with any Department-specified requirements in the approval.

11.39(3) Treatment Technique Requirements for the Control of Cross-Connections

- (a) If the supplier learns of a suspected or confirmed backflow contamination event, the supplier must notify and consult with the Department on any appropriate corrective measures no later than 24 hours after learning of the backflow contamination event.
- (b) The supplier is prohibited from installing or permitting any uncontrolled cross-connection to the distribution system or within the supplier's waterworks.
- (c) If the supplier discovers an uncontrolled cross-connection and a suspected or confirmed backflow contamination event has not occurred, the supplier must:
 - (i) No later than 120 days after its discovery, or within a timeline specified in an alternative schedule, install and maintain or require the customer to install and maintain a backflow prevention assembly or backflow prevention method at the uncontrolled cross-connection, suspend service to the customer, or remove the cross-connection.
 - (A) ~~If the supplier is unable to meet the 120-day deadline, the supplier must consult with the Department and the Department may approve an alternative schedule. The supplier must provide justification for an alternative schedule in the written backflow prevention and cross-connection control program.~~
 - (I) For situations not specified in Policy DW-007, Backflow Prevention and Cross-Connection Control, the supplier must consult with the Department for approval of an alternative schedule.
 - (B) The supplier can either control a discovered cross-connections ~~s-discovered~~ within a customer's service areawater system by containment or containment by isolation.
 - (I) "CONTAINMENT" means the installation of a backflow prevention assembly or a backflow prevention method at any connection to the public water system that supplies an auxiliary water system, location, facility, or area such that backflow from a cross-connection into the public water system is prevented.

- (II) "CONTAINMENT BY ISOLATION" means the installation of backflow prevention assemblies or backflow prevention methods at all cross-connections identified within a customer's water system such that backflow from a cross-connection into the public water system is prevented.
- (C) The supplier must ensure that all installed backflow prevention assemblies used to control cross-connections are tested by a Certified Cross-Connection Control Technician upon installation.
- (D) The supplier must ensure that all installed backflow prevention methods used to control cross-connections are inspected by the supplier or a Certified Cross-Connection Control Technician upon installation.
- (d) The supplier must ensure that backflow prevention assemblies used to control cross-connections are tested annually by a Certified Cross-Connection Control Technician and maintained. The supplier must also ensure that backflow prevention methods used to control cross-connections are inspected annually by the supplier or a Certified Cross-Connection Control Technician and maintained. The supplier must achieve ~~at the~~ backflow prevention ~~assembly-annual testing~~ compliance ratios of greater than or equal to (\geq) 0.90~~as specified in Table 11.39 II.~~

<u>Compliance Date</u>	<u>Annual Compliance Ratio</u>
<u>By December 31, 2016</u>	<u>Greater than 0.50</u>
<u>By December 31, 2017</u>	<u>Greater than 0.60</u>
<u>By December 31, 2018</u>	<u>Greater than 0.70</u>
<u>By December 31, 2019</u>	<u>Greater than 0.80</u>
<u>By December 31, 2020</u>	<u>Greater than 0.80</u>
<u>By December 31, 2021 and each year after</u>	<u>Greater than 0.90</u>

- (i) No later than 120 days after the supplier is notified of a failed test, or within a timeline specified in an alternative schedule, the supplier must ensure that the backflow prevention assembly that produced the failed test is repaired or replaced and tested, service is suspended to the customer, or the cross-connection is removed.
 - (A) ~~If the supplier is unable to meet the 120-day deadline, the supplier must consult with the Department and the Department may approve an alternative schedule. The supplier must provide justification for an alternative schedule in the written backflow prevention and cross-connection control program.~~
 - (I) For situations not specified in Policy DW-007, Backflow Prevention and Cross-Connection Control, the supplier must consult with the Department for approval of an alternative schedule.
- (ii) ~~Beginning January 1, 2022, for each backflow prevention assembly not tested during the previous calendar year, the supplier must ensure the backflow prevention assembly is tested no later than 90 days after the active date of the backflow prevention assembly in the following calendar year. The supplier must ensure that no backflow prevention assembly is present for more than two consecutive calendar years without being tested, service being suspended to the customer, or the cross-connection being removed.~~
 - ~~(A) If the supplier is unable to meet the 90-day deadline, the supplier must consult with the Department and the Department may approve an alternative schedule.~~

- ~~(iii) No later than 120 days after the supplier is notified of an inadequate backflow prevention method, or within a timeline specified in an alternative schedule, the supplier must ensure that the inadequate backflow prevention method is repaired or replaced, service is suspended to the customer, or the cross-connection is removed.~~

 - ~~(A) The supplier must provide justification for an alternative schedule in the written backflow prevention and cross-connection control program.~~

 - ~~(I) For situations not specified in Policy DW-007, Backflow Prevention and Cross-Connection Control, the supplier must consult with the Department for approval of an alternative schedule.~~
 - ~~(iv) The supplier must ensure that no backflow prevention method is utilized for more than two consecutive calendar years without being inspected, service being suspended to the customer, or the cross-connection being removed.~~
- ~~(e) The supplier must ensure that backflow prevention methods used to control cross-connections are inspected annually by the supplier or a Certified Cross-Connection Control Technician and maintained. The supplier must achieve a backflow prevention method annual inspection compliance ratio of greater than (>) 0.90.~~

 - ~~(i) No later than 120 days after the supplier is notified of an inadequate backflow prevention method, the supplier must ensure that the inadequate backflow prevention method is repaired or replaced, service is suspended to the customer, or the cross-connection is removed.~~

 - ~~(A) If the supplier is unable to meet the 120-day deadline, the supplier must consult with the Department and the Department may approve an alternative schedule.~~
 - ~~(ii) Beginning January 1, 2017, for each backflow prevention method not inspected during the previous calendar year, the supplier must ensure the backflow prevention method is inspected no later than 90 days after the active date of the backflow prevention method in the following calendar year.~~

 - ~~(A) If the supplier is unable to meet the 90-day deadline, the supplier must consult with the Department and the Department may approve an alternative schedule.~~
- ~~(e)(f) The supplier must control or remove any uncontrolled cross-connection or ensure that any cross-connection is controlled no later than 10 days after being ordered in writing by the Department.~~

11.39(4) Backflow Prevention and Cross-Connection Control Program Annual Written Report

- (a) ~~Beginning in 2017, t~~The supplier must develop a written backflow prevention and cross-connection control program report for the previous calendar year that includes all of the following information:

 - (i) ~~The T~~total number of non-single-family-residential connections to the public water system and connections within the supplier's waterworks.

 - (A) The supplier is not required to include any non-single-family-residential connections identified after October 31 of the calendar year in the total number of non-single-family-residential connections to the public water system until the following calendar year.

- (ii) ~~The T~~The Ntotal number of connections surveyed to determine if cross-connections are present.
 - (iii) ~~The S~~The Nsurvey compliance ratio.
 - (iv) ~~The T~~The Ntotal number of identified cross-connections.
 - (v) ~~The N~~The Nnumber of uncontrolled cross-connections identified during the calendar year, including all of the following:
 - (A) ~~The N~~The Nnumber of identified uncontrolled cross-connections that were controlled within 120 days of discovery or within a Department-approved alternative schedule.
 - (B) ~~The N~~The Nnumber of identified uncontrolled cross-connections that were not controlled within 120 days of discovery or within a Department-approved alternative schedule.
 - (C) ~~The number of identified uncontrolled cross-connections that are within 120 days of discovery or a Department-approved alternative schedule.~~
 - (vi) ~~The N~~The Nnumber of backflow prevention assemblies and backflow prevention methods installed at cross-connections that were used during the calendar year.
 - ~~(vii) Number of backflow prevention methods installed at cross-connections that were used during the calendar year.~~
 - ~~(viii) Number of connections where service was suspended as specified in 11.39(3) during the calendar year.~~
 - ~~(vii)(ix) The N~~The Nnumber of backflow prevention assemblies used to control cross-connections that were tested by a Certified Cross-Connection Control Technician and backflow prevention methods used to control cross-connections that were inspected during the calendar year.
 - ~~(viii)(x) The B~~The Bbackflow prevention ~~assembly~~ annual ~~testing~~ compliance ratio.
 - ~~(xi) Beginning January 1, 2021, the number and location of backflow prevention assemblies not tested during the calendar year covered by the report.~~
 - ~~(ix)(xii) The n~~The nNumber of backflow prevention assemblies not tested and backflow prevention methods not inspected during the two most recent consecutive calendar years that were not otherwise controlled or removed from the system~~methods used to control cross-connections that were inspected during the calendar year.~~
 - ~~(xiii) Backflow prevention method annual inspection compliance ratio.~~
 - ~~(xiv) Beginning January 1, 2017, the number and location of backflow prevention methods not inspected during the calendar year covered by the report.~~
- (b) For each calendar year, the supplier must complete the annual backflow prevention and cross-connection control program report no later than May 1 of the following calendar year.

11.39(5)

Compliance Determinations for Backflow Prevention and Cross-Connection Control

- (a) Compliance with the survey treatment technique requirement is based on the survey compliance ratio.
 - (i) The supplier is not required to include any non-single-family-residential connections identified after October 31 of the calendar year in the total number of non-single-family-residential connections to the public water system until the following calendar year.
- (b) Compliance with the backflow prevention assembly testing and backflow prevention method inspection treatment technique requirement is based on the backflow prevention ~~assembly~~ annual ~~testing~~ compliance ratio.
- ~~(c) Compliance with the backflow prevention method inspection treatment technique requirement is based on the backflow prevention method annual inspection compliance ratio.~~

11.39(6) Violations for Backflow Prevention and Cross-Connection Control

- (a) The following constitute backflow prevention and cross-connection control treatment technique violations:
 - (i) The supplier fails to notify the Department of any suspected or confirmed backflow contamination event as specified in 11.39(3)(a).
 - (ii) The supplier installs or permits an uncontrolled cross-connection. Installing or permitting an uncontrolled cross-connection includes any of the following:
 - (A) The supplier discovers an uncontrolled cross-connection and fails to comply with the requirements specified in 11.39(3)(c).
 - (B) The supplier fails to comply with the backflow prevention assembly failed test requirements specified in 11.39(3)(d)(i).
 - (C) The supplier fails to comply with the backflow prevention assembly testing requirements specified in 11.39(3)(d)(ii).
 - (D) The supplier fails to comply with the backflow prevention method inadequate method requirements specified in 11.39(3)(d)(iii).
 - (E) The supplier fails to comply with the backflow prevention method inspection requirements specified in 11.39(3)(d)(iv).
 - ~~(iii) The supplier discovers an uncontrolled cross-connection and fails to comply with the requirements specified in 11.39(3)(e).~~
 - ~~(iii)(iv) The supplier fails to achieve the ~~annual~~ backflow prevention annual assembly testing compliance ratio specified in 11.39(3)(d).~~
 - ~~(v) The supplier fails to comply with the backflow prevention assembly failed test requirements specified in 11.39(3)(d)(i).~~
 - ~~(vi) The supplier fails to comply with the backflow prevention assembly testing requirements specified in 11.39(3)(d)(ii).~~
 - ~~(vii) The supplier fails to achieve the backflow prevention method inspection compliance ratio specified in 11.39(3)(e).~~

~~(viii) — The supplier fails to comply with the backflow prevention method inadequate method requirements specified in 11.39(3)(e)(i).~~

~~(ix) — The supplier fails to comply with the backflow prevention method inspection requirements specified in 11.39(3)(e)(ii).~~

~~(iv)(*)~~ The supplier fails to comply with a written order from the Department specified in 11.39(3)(~~fe~~).

(b) The following constitute backflow prevention and cross-connection control violations:

(i) The supplier fails to develop or implement a written backflow prevention and cross-connection control program as specified in 11.39(2).

(ii) The supplier fails to achieve the survey compliance ratio specified in 11.39(2)(c)(iii) or the Department-approved alternative survey compliance ratios.

(iii) The supplier fails to complete an annual backflow prevention and cross-connection control program report as specified in 11.39(4).

11.39(7) Response to Violations for Backflow Prevention and Cross-Connection Control

(a) In the event of a backflow prevention and cross-connection control treatment technique violation, the supplier must:

(i) Notify the Department no later than 48 hours after the violation occurs.

(ii) Distribute Tier 2 public notice as specified in 11.33.

(b) In the event of a backflow prevention and cross-connection control violation, the supplier must:

(i) Notify the Department no later than 48 hours after the violation occurs.

(ii) Distribute Tier 3 public notice as specified in 11.33.

11.45 MCLs, MCLGs, SMCLs, MRDLs, MRDLGs, TRIGGER LEVEL, AND ACTION LEVELS

11.45(7) Trigger Level, Action Levels, and MCLGs for Lead and Copper

The following trigger level for lead and action levels for lead and copper apply to all community and non-transient, non-community water systems.

TABLE 11.45-VIII TRIGGER LEVEL, ACTION LEVELS, AND MCLGs FOR LEAD AND COPPER

Contaminant	<u>Trigger Level</u> (mg/L)	Action level (mg/L)	MCLG (mg/L)
Copper	N/A	1.3	1.3
Lead	<u>0.010</u>	0.015	Zero

11.46 ANALYTICAL REQUIREMENTS AND LABORATORY CERTIFICATION RULE

11.46(9) **Lead and Copper ~~Rule~~ Analytical Requirements**

The testing requirements and analytical methods for lead, copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature are specified in 40 CFR 141.89(a)(1-4).

11.46(12) **Certified Laboratories and Laboratory Certification**

(a) Certified Laboratories

The requirements for a certified laboratory are specified in 40 CFR 141.28(a).

(b) Laboratory Certification for Inorganic Chemicals

The laboratory certification requirements for inorganic chemicals are specified in 40 CFR 141.23(k)(3).

(c) Laboratory Certification for VOCs

The laboratory certification requirements for VOCs are specified in 40 CFR 141.24(f)(17) and 40 CFR 141.24(f)(20).

(d) Laboratory Certification for SOCs

The laboratory certification requirements for SOCs are specified in 40 CFR 141.24(h)(19).

(e) Laboratory Certification for *Cryptosporidium*, *E. coli*, and Turbidity

The laboratory certification requirements for *Cryptosporidium*, *E. coli*, and turbidity are specified in 40 CFR 141.705(a-c).

(f) Laboratory Certification for Lead and Copper

The laboratory certification requirements for lead and copper are specified in 40 CFR 141.89(a)(1).

11.63 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: August 14, 2023 rulemaking; Final Action <INSERT DATE>; Effective Date <INSERT DATE>

The Water Quality Control Commission made the following revisions in this rulemaking hearing: Adoption of Section 11.17 – Lead and Copper Rule Revisions with amendments to Sections 11.26(1)(a) - Lead and Copper Rule, 11.27(4) - Compositing Samples for Lead and Copper Entry Point Samples, 11.33(1), (2), and (7) - Public Notification Rule, 11.34(2)(a), (b), and (e) - Consumer Confidence Report (CCR) Rule, 11.36(4)(f) - Recordkeeping Requirements Rule, 11.45(7) - Trigger Level, Action Levels, and MCLGs for Lead and Copper, 11.46(9) and (12)(f) - Analytical Requirements and Laboratory Certification Rule, and revisions to 11.39 - Backflow Prevention and Cross-Connection Control Rule, with amendments to section 11.36(4)(j) - Recordkeeping Requirements for the Cross-Connection Control Rule. The provisions of the Colorado Revised Statutes (CRS), section 25-1.5-202, provide specific statutory authority for adoption of these regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4), CRS, the following statement of basis and purpose.

BASIS AND PURPOSE

Background

All suppliers of drinking water in Colorado are subject to regulations adopted by the U.S. Environmental Protection Agency (EPA) under the Safe Drinking Water Act, (42 U.S.C. 300f et seq.) as well as regulations adopted by the Commission. Colorado, with the Colorado Department of Public Health and Environment (Department) as the administering agency, has been granted primary enforcement authority (primacy) for the public water system supervision program under the federal Safe Drinking Water Act. The Water Quality Control Division (Division) is part of the Department and is responsible for implementing and enforcing the drinking water regulations that are adopted by the Commission. In order to maintain primacy from the EPA, states must also promulgate new federal regulations that are no less stringent than those adopted by the federal government. In this rulemaking the Commission is adopting the Lead and Copper Rule Revisions which are no less stringent than the federally-mandated Lead and Copper Rule Revisions. By retaining primacy, the Department is able to protect public health by ensuring that public water systems provide safe drinking water to Colorado citizens and visitors.

In addition to adopting the federally-mandated Lead and Copper Rule Revisions to maintain primacy, this rulemaking also included revisions to Colorado-specific requirements for backflow prevention and cross-connection control. The Commission adopted these revisions to address outdated references within the Backflow Prevention and Cross-Connection Control Rule, combining compliance ratios for backflow assemblies and methods, and changing the way compliance is tracked and calculated for those assemblies not tested during a given calendar year.

Policies, Handbooks and Guidance and Regulation 11

The Commission adopts regulations that create binding norms or legal obligations of the Department or regulated entities. The Department may develop implementation policies and guidance/handbooks where implementation of Regulation 11 may require interpretation, decision-making flexibility, or a streamlined approach for meeting compliance requirements. These amendments to Regulation 11 include references to guidance/handbooks that the Department intends to develop as part of the ongoing implementation of Regulation 11.

The Division originally adopted WQCD Policy Number 1, *Implementation Policy Framework* (Policy 1) in November 2010 and the associated *Procedure 1* in August 2012; both were prepared in accordance with the Colorado Administrative Procedure Act, Article 4, Title 24 of the CRS.

Policy 1 specifically states that implementation policies and associated procedures are not binding regulations and are not to be applied as such. The referenced guidance/handbooks in these amendments are not independent requirements. Violations or other notices of non-compliance cannot be issued against a policy or guidance/handbook. Violations or other notices of non-compliance can, and will, only be issued for a failure to comply with Regulation 11 or an applicable statute (law) included in the CRS. Implementation policies and guidance/handbooks have no compliance expectation.

Lead and Copper Rule Revisions

The Commission replaced the Lead and Copper Rule in Section 11.26 with the Lead and Copper Rule Revisions in Section 11.17. The Lead and Copper Rule Revisions increase public health protection by reducing exposure to lead and copper in drinking water. The Lead and Copper Rule Revisions include the following provisions of the federal regulations as published in the Federal Register, Volume 86, Number 10, January 15, 2021, pages 4198 through 4312, *National Primary Drinking Water Regulations*:

- Additional definitions and recordkeeping and reporting requirements.
- Development and maintenance of a lead service line inventory.
- Establishment of a lead trigger level.

- Changes to lead and copper sample site tier classifications.
- Increased requirements for lead and copper sampling procedures and protocols.
- Additional requirements for lead service line replacement and changes to the rate of lead service line replacement.
- Modifications to optimizing and re-optimizing corrosion control treatment.
- Additional public notification and public education requirements.
- Lead testing in schools and child care facilities.

The amendments adopted by the Commission remain as stringent as the federal requirements for the Lead and Copper Rule Revisions.

By adopting these amendments, the Commission is ensuring the Division can maintain primacy and enforcement authority for the Lead and Copper Rule Revisions when the rule becomes effective on October 16, 2024. A complicating factor is that the EPA has announced plans to strengthen the Lead and Copper Rule Revisions by promulgating the Lead and Copper Rule Improvements prior to the effective date of the Lead and Copper Rule Revisions (86 Fed. Reg. 71,574). As a result, Colorado did not propose more stringent requirements with the exception of establishing one requirement that is more protective than the federal requirements by modifying the Small System Flexibility Compliance Options section to require public water systems to evaluate and identify corrosion control treatment before selecting their compliance option. After EPA promulgates the Lead and Copper Rule Improvements, Colorado will conduct a stakeholder process and consider additional Colorado-specific requirements that are more stringent than the federal requirements.

The Lead and Copper Rule Revisions have been structured so that different elements of the rule will have effective dates that align with the Lead and Copper Rule Improvements. For example, the requirement to complete an initial lead service line inventory by October 16, 2024 will go into effect immediately, whereas requirements that may be modified in the Lead and Copper Rule Improvements, such as tap monitoring requirements, could have a delayed compliance requirement. As a result, the Lead and Copper Rule Revisions also include language staying or extending the rule in case EPA also stays or extends this rule. EPA's intent to modify the rule and effective dates so quickly after a prior final action presents challenges for states and public water systems nationwide. The Division will work closely with the EPA, other states, and stakeholders to address this complexity and transition to the new rule requirements as efficiently as possible.

The Division engaged with stakeholders in 21 virtual meetings between July 2022 and March 2023 to incorporate the Lead and Copper Rule Revisions into proposed regulatory language for Regulation 11. The Division and stakeholders were able to find overall consensus in bringing clarity and organization to the federal requirements while remaining as stringent as the federal rule.

The Commission acknowledges that the Lead and Copper Rule Revisions present complex, data and resource intensive requirements for both public water systems and the Division. As a result, adequate resources will need to be devoted to this rule for successful implementation.

Revisions to Backflow Prevention and Cross-Connection Control Rule

In 2015, the Commission amended the Backflow Prevention Cross-Connection Control (BPCCC) Rule in Section 11.39 to further protect public health and public water systems from potential contamination associated with cross-connections. Furthermore, the Commission continued to ensure public water system compliance with Sections 25-1-114 and 25-1-114.1, CRS. In 2018, the Commission amended the BPCCC Rule to equate duplexes as single family homes. The 2018 update was a direct result of working

with suppliers of water on implementing the BPCCC Rule. The 2018 update achieved equal protection of public health and drinking water quality while reducing a burdensome requirement within the rule. In 2020, the Commission further amended the BPCCC Rule to allow flexibility during the time of the COVID-19 pandemic while continuing to protect public health and public water systems from potential contamination associated with cross-connections.

The Division committed during each of the above rulemaking processes to continue to engage with stakeholders, solicit input, and further evaluate implementation challenges in the adopted rule.

Through this rulemaking, the Commission has further revised the BPCCC Rule to provide additional flexibility to water systems while continuing to protect public health and public water systems from potential contamination associated with cross-connections. The Division recommended that the Commission focus the improvements in several key areas as outlined below. The timing of this enhancement to the BPCCC Rule is due primarily to two factors: 1. Improving the feasibility of meeting certain deadlines to test cross-connections while still protecting public health, and 2. The rule has become 'fully mature' meaning that the ramping up of survey and assembly testing ratios has reached full maturity and a single compliance percentage is now required. The key areas of rule enhancements are as follows:

- Combining cross-connection control method and cross-connection control assembly testing ratios into a combined ratio for compliance with the rule.
- Modifying the extension request language to allow for 'common extension requests' to be automatically granted.
- Modifying the compliance determination for assemblies that were used but not tested in a given calendar year to allow an additional calendar year for the supplier to take mitigating steps. The Commission acknowledges that with this update, the concept of tracking 'active date' on a given assembly will be removed.
- Cleanup of older dates within the rule.

The Division and stakeholders agreed that combining method and assembly ratios into a single compliance ratio now that the rule is mature will simplify compliance reporting within the rule while maintaining public health protection. Also, the Division asserted and the stakeholders agreed that in the seven years of evaluating proper justification for extension requests, several 'general categories' of extensions have been identified. Given that the majority of extension requests are now viewed as relatively low risk and are nearly universally approved, the Division recommended that these categories be included within Policy 7, the Division's Backflow Policy. Only when a system wants to deviate from these 'common extensions' would they have to submit for Division approval. It should be noted that the system would still have to track all extensions and report out on them. This change makes the rule more cohesive and still protects public health.

The Division also recommended that the Commission amend the rule regarding tracking and achieving compliance for any assemblies not tested during a given calendar year. Note, suppliers of water will still have to achieve 90% method verification and assembly testing and track all assemblies. However, for any assemblies not tested during a calendar year, the supplier of water would then have to ensure all of those were tested or removed during the following calendar year, removing the burden of tracking the 'active date' and making the calculation similar. The stakeholders agreed that this change would allow for more flexibility and achievement of compliance while maintaining public health protections.

The Commission agrees with the Division that the above revisions allow public water systems that are working hard to comply with the requirements of the rule more flexibility to achieve compliance while also ensuring that public health is protected.

Additional Amendments

The Lead and Copper Rule Revisions affect several other sections of Regulation 11. The BPCCC Rule revisions affect one other section of Regulation 11. The Commission made the following amendments to be consistent with Department practices, to add clarity, or update outdated requirements:

- 11.27(4) - Addition of reference to 11.17 under sample compositing requirements for lead and copper.
- 11.33(1) and (2) - Addition of Lead and Copper Rule Revisions situations requiring a Tier 1 public notice to Tables 11.33-I and 11.33-II of the Public Notice Rule.
- 11.33(7) - Addition of Lead and Copper Rule Revisions treatment technique violations and exceedance of the lead action level to Table 11.33-V of the Public Notice Rule. Updates to the standard health effects language for lead in Table 11.33-VI of the Public Notice Rule.
- 11.34(2) (a), (b), and (e) - Consumer Confidence Report Rule updates to include notice of the availability of the service line inventory and lead tap sampling data, and changes to the health effects language for lead in Table 11.34-I.
- 11.36(4)(f) - Addition of reference to 11.17 under recordkeeping requirements for lead and copper.
- 11.36(4)(j) - Removal of outdated recordkeeping requirements for the Cross-Connection Rule. Recordkeeping for the BPCCC Rule is captured in 11.36(4)(l).
- 11.45(7) - Addition of the lead trigger level to Table 11.45-VIII.
- 11.46(9) and (12)(f)- Lead and Copper Rule analytical requirements section modified to include requirements under the Lead and Copper Rule Revisions. Addition of laboratory certification requirements for lead and copper.
- Typographical errors, renumbering, and updated cross references revised as necessary throughout Regulation 11.

PARTIES TO THE RULEMAKING

1. XX
2. XX
3. XX
4. XX