**Section 611.357 Monitoring for Water Quality Parameters**

A large supplier or any small or mid-sized supplier exceeding the lead or copper action level or a small or mid-sized supplier applying corrosion control treatment and exceeding the lead trigger level must monitor water quality parameters in addition to lead and copper under this Section.

a) General Requirements

1) Sample Collection Methods

A) Using Tap Samples. In totality, all tap samples a supplier collects must represent water quality throughout the supplier's distribution system, considering the number of persons served, the different sources of water, the different treatment methods the supplier employs, and seasonal variability. Although a supplier may conveniently conduct tap sampling for water quality parameters at sites it uses for coliform sampling under Subpart L, if they meet the requirements of this section, the supplier need not do so, and the supplier need not perform tap sampling under this Section at taps it targeted for lead and copper sampling under Section 611.356(a). The supplier must include sites it selects for tap samples under this Section in the site sample plan under Section 611.356(a)(1). The supplier must update site sample plan before changing sampling locations.

B) Using Entry Point Samples. A supplier must collect samples at entry points to the distribution system from locations representing each source after treatment. If a supplier draws water from more than one source and combines the sources before distribution, the supplier must sample at an entry point to the distribution system during normal operating conditions (i.e., when the supplier uses water representing all sources).

2) Number of Samples

A) Tap Samples. A supplier must collect two tap samples for applicable water quality parameters during each six-month water quality monitoring period under subsections (b) through (e) from the minimum number of sites the first column of Table F (labelled “standard monitoring”) indicates. A supplier adding sites under Section 611.352(j) (“find-and-fix” requirements) must collect tap samples for applicable water quality parameters during each water quality monitoring period under subsections (b) through (e) and must sample from that adjusted minimum number of sites. A supplier needs not add sites if it monitors at least twice the minimum number of sites the first column of Table F indicates.

B) Entry Point Samples

i) Initial Monitoring. Except as subsection (c)(2) provides otherwise, a supplier not applying corrosion control treatment must collect two samples for each applicable water quality parameter at each entry point to its distribution system during each six-month water quality monitoring period subsection (b) specifies.

ii) Subsequent Monitoring. A supplier must collect one sample for each applicable water quality parameter at each entry point to its distribution system during each six-month water quality monitoring period subsections (c) through (e) specify. During each water quality monitoring period subsections (c) through (e) specify, a supplier applying corrosion control treatment must continue collecting one sample for each applicable water quality parameter at each entry point to its distribution system at least once every two weeks.

b) Initial Sampling for Suppliers

1) Large Suppliers. A large supplier not applying corrosion control treatment must begin monitoring for water quality parameters subsection (b)(3) specifies during the first two six-month tap monitoring cycles no later than January 1 after the supplier either becomes a large supplier or fails to maintain its 90th percentile lead concentration below the PQL for lead.

2) Small and Mid-Sized Suppliers. A small or mid-sized supplier exceeding the lead or copper action level or a supplier applying corrosion control treatment for which the Agency did not designate OWQPs and exceeding the lead trigger level must begin monitoring for water quality parameters subsection (b)(3) specifies for two consecutive six-month water quality monitoring periods in the month immediately after the tap sampling period during which the exceedance occurred.

3) Water Quality Parameters

A) Tap Water Samples. The supplier must collect two samples each for specific parameters:

i) pH; and

ii) Alkalinity.

B) Entry Point Samples. The supplier must collect a sample from each entry point to its distribution system for analyses for the parameters in subsection (b)(3)(A);

c) Monitoring after Installing OCCT or Reoptimized OCCT

1) A supplier installing or modifying corrosion control treatment under Section 611.351(d)(5) or (e)(5) that Section 611.351(d)(6) or (e)(6) requires to monitor must monitor the water quality parameters in subsections (c)(1)(A) and (c)(1)(B) every six months at the locations and frequencies those subsections specify until the Agency specifies new water quality parameter values for optimal corrosion control under subsection (d). The supplier must collect these samples evenly throughout the six-month water quality monitoring period to reflect seasonal variability.

A) Tap Water Samples. The supplier must collect two samples at each tap for each of specific water quality parameters:

i) pH;

ii) Alkalinity;

iii) Orthophosphate if the supplier uses an inhibitor containing an orthophosphate compound; and

iv) Silica if the supplier uses an inhibitor containing a silicate compound.

B) Entry Point Samples. Except as subsection (c)(1)(C) provides otherwise, a supplier must collect one sample at each entry point to its distribution system every two weeks (bi-weekly) for specific water quality parameters:

i) pH;

ii) If the supplier adjusts alkalinity as part of optimal corrosion control, a reading of the chemical dosage rate the supplier uses to adjust alkalinity and the alkalinity concentration; and

iii) If the supplier uses a corrosion inhibitor as part of optimal corrosion control, a reading of the inhibitor dosage rate the supplier uses and the orthophosphate or silica concentration.

C) Groundwater Systems. A groundwater system supplier can limit entry point sampling under subsection (c)(1)(B) to those entry points representing water quality and treatment conditions throughout the system. If water from untreated groundwater sources mixes with water from treated groundwater sources, the system must monitor for water quality parameters at both representative entry points receiving treatment and representative entry points not receiving treatment. Before starting monitoring under this subsection (c)(1)(C), the supplier must provide written information to the Agency identifying the selected entry points and documentation sufficient to demonstrate that the sites represent water quality and treatment conditions throughout the system, including information on seasonal variability.

2) Upon determining that doing so is necessary, the Agency may issue a SEP requiring a small or mid-sized supplier applying corrosion control treatment for which the Agency has not designated OWQPs that exceeds the lead trigger level but not the lead or copper action level to conduct water quality parameter monitoring under subsection (c)(1). Alternatively, the Board may require an alternative scheme for monitoring water quality control parameters, by rule, variance, or adjusted standard.

d) Monitoring after the Agency Specifies Water Quality Parameter Values for Optimal Corrosion Control

1) After the Agency specifies the values for water quality control parameters reflecting OCCT under Section 611.352(f), a supplier must monitor for the specified OWQPs during six-month water quality monitoring periods beginning on January 1 or July 1. The supplier must space this monitoring evenly throughout the six-month water quality monitoring period to reflect seasonal variability and be consistent with subsections (c)(1)(A) through (c)(1)(C).

A) Large Suppliers. A large supplier must measure the applicable water quality parameters the Agency specifies and determine whether the supplier complies with Section 611.352(g) every six months, with the first six-month water quality monitoring period to begin on the sooner of January 1 or July 1 after the Agency specifies the optimal values under Section 611.352(f).

B) Small and Mid-Sized Suppliers. A small or mid-sized supplier exceeding an action level must begin monitoring during the six-month water quality monitoring period immediately following the tap monitoring cycle during which the exceedance occurs and continue monitoring until the supplier no longer exceeds the lead or copper action level and meets the OWQPs in two consecutive six-month tap monitoring cycles under Section 611.356(d)(3). For a small or mid-sized supplier subject to a reduced water quality monitoring cycle frequency under Section 611.356(d)(4) at the time it exceeds the action level, the start of the applicable six-month water quality monitoring cycle under this subsection (d) must coincide with the start of the applicable tap monitoring cycle under Section 611.356(d)(4).

C) A supplier must determine whether it complies with Agency-designated OWQPs as Section 611.352(g) specifies.

2) A small or mid-sized supplier exceeding the lead trigger level but not the lead or copper action level for which the Agency has set OWQPs must monitor every six months as subsection (d)(1) specifies, until the supplier no longer exceeds the lead trigger level in two consecutive tap monitoring cycles.

3) The Agency may issue a SEP requiring a supplier under subsection (d)(2) to continue monitoring the OWQPs.

e) Reduced Monitoring

1) Reduced Tap Monitoring. A large supplier maintaining the range of values for the water quality parameters reflecting OCCT the Agency specifies under Section 611.352(f) and not exceeding the lead trigger level during each of two consecutive six-month water quality monitoring cycles under subsection (d) must continue monitoring at the entry points to the distribution system as subsection (c)(1)(B) specifies. The supplier may collect two samples from each tap for applicable water quality parameters from the reduced number of sites the second column of Table F (Standard Monitoring) indicates during each subsequent six-month water quality monitoring cycle. The supplier must collect these samples evenly throughout the six-month water quality monitoring cycle to reflect seasonal variability.

2) Reduced Monitoring Frequency

A) Annual Monitoring. A supplier maintaining the range of values for the water quality parameters reflecting OCCT under Section 611.352(f) not exceeding the lead trigger level or copper action level during three consecutive years of monitoring may reduce its tap sampling frequency for applicable water quality parameters subsection (e)(1) specifies from every six months to annually. The supplier must begin this reduced sampling during the calendar year immediately following the end of the water quality monitoring cycle in which the third consecutive year of six-month monitoring occurs.

B) A supplier may reduce its tap sampling frequency for applicable water quality parameters in subsection (e)(1) to once every year if the supplier demonstrates that it complies with subsections (e)(2)(B)(i) through (e)(2)(B)(iii) during two consecutive water quality monitoring cycles.

i) The supplier must demonstrate that its tap water 90th percentile concentration for lead is less than or equal to the PQL for lead of 0.005 mg/L.

ii) The supplier must demonstrate that its tap water 90th percentile concentration for copper is less than or equal to 0.65 mg/L in Section 611.350(c)(3).

iii) The supplier must demonstrate that it maintains the range of values for the water quality parameters reflecting OCCT the Agency specified under Section 611.352(f).

3) A supplier sampling annually or triennially must collect these samples evenly throughout the calendar year to reflect seasonal variability.

4) A supplier on a reduced monitoring frequency under this subsection (e) failing to operate at or above the minimum value or within the range of values for the water quality parameters the Agency specifies under Section 611.352(f) for more than nine days in any six-month period for determining compliance under Section 611.352(g) must resume tap water sampling complying with the number and frequency of samples subsection (d) requires. A supplier thus ceasing reduced monitoring may resume annual monitoring for water quality parameters at the tap at the reduced number of sites subsection (e)(1) specifies after completing two subsequent consecutive six-month rounds of monitoring complying with subsection (e)(1). The supplier may resume annual monitoring for water quality parameters at the reduced number of sites after demonstrating through subsequent rounds of monitoring that the supplier complies with subsection (e)(2)(A) or (e)(2)(B).

f) Additional Monitoring by Suppliers. The supplier and the Agency must consider the results any monitoring conducted in addition to what this Section requires in making any determinations (i.e., determining concentrations of water quality parameters) under this Section or Section 611.352.

g) Sites Added During Find-and-Fix. A supplier conducting water quality parameter monitoring at additional sites during a “find-and-fix” assessment under Section 611.352(j) must add those sites to the minimum number of sites subsections (a) through (e) specify, unless the supplier monitors at least twice the required minimum number of sites.

BOARD NOTE: This Section derives from 40 CFR 141.87.

(Source: Amended at 47 Ill. Reg. 16486, effective November 2, 2023)