ILLINOIS POLLUTION CONTROL BOARD
January 22, 2026

IN THE MATTER OF:	)	
	)	
SDWA UPDATE, USEPA AMENDMENTS	)	R25-1
(January 1, 2024, through June 30, 2024)	)	(Identical-in-Substance
	)	Rulemaking - Public Water Supply)
	)	
SDWA UPDATE, USEPA AMENDMENTS	)	R25-9
(July 1, 2024, through December 31, 2024)	)	(Identical-in-Substance
	)	Rulemaking - Public Water Supply)
	)	(Consolidated)

ADDENDUM

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE F: PUBLIC WATER SUPPLIES
CHAPTER I: POLLUTION CONTROL BOARD

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AUTHORITY: Implementing Sections 7.2, 17, and 17.5 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/7.2, 17, 17.5, and 27].

SOURCE: Adopted in R88-26 at 14 Ill. Reg. 16517, effective September 20, 1990; amended in R90-21 at 14 Ill. Reg. 20448, effective December 11, 1990; amended in R90-13 at 15 Ill. Reg. 1562, effective January 22, 1991; amended in R91-3 at 16 Ill. Reg. 19010, effective December 1, 1992; amended in R92-3 at 17 Ill. Reg. 7796, effective May 18, 1993; amended in R93-1 at 17 Ill. Reg. 12650, effective July 23, 1993; amended in R94-4 at 18 Ill. Reg. 12291, effective July 28, 1994; amended in R94-23 at 19 Ill. Reg. 8613, effective June 20, 1995; amended in R95-17 at 20 Ill. Reg. 14493, effective October 22, 1996; amended in R98-2 at 22 Ill. Reg. 5020, effective March 5, 1998; amended in R99-6 at 23 Ill. Reg. 2756, effective February 17, 1999; amended in R99-12 at 23 Ill. Reg. 10348, effective August 11, 1999; amended in R00-8 at 23 Ill. Reg. 14715, effective December 8, 1999; amended in R00-10 at 24 Ill. Reg. 14226, effective September 11, 2000; amended in R01-7 at 25 Ill. Reg. 1329, effective January 11, 2001; amended in R01-20 at 25 Ill. Reg. 13611, effective October 9, 2001; amended in R02-5 at 26 Ill. Reg. 3522, effective February 22, 2002; amended in R03-4 at 27 Ill. Reg. 1183, effective January 10, 2003; amended in R03-15 at 27 Ill. Reg. 16447, effective October 10, 2003; amended in R04-3 at 28 Ill. Reg. 5269, effective March 10, 2004; amended in R04-13 at 28 Ill. Reg. 12666, effective August 26, 2004; amended in R05-6 at 29 Ill. Reg. 2287, effective January 28, 2005; amended in R06-15 at 30 Ill. Reg. 17004, effective October 13, 2006; amended in R07-2/R07-11 at 31 Ill. Reg. 11757, effective July 27, 2007; amended in R08-7/R08-13 at 33 Ill. Reg. 633, effective December 30, 2008; amended in R10-1/R10-17/R11-6 at 34 Ill. Reg. 19848, effective December 7, 2010; amended in R12-4 at 36 Ill. Reg. 7110, effective April 25, 2012; amended in R13-2 at 37 Ill. Reg. 1978, effective February 4, 2013; amended in R14-8 at 38 Ill. Reg. 3608, effective January 27, 2014; amended in R14-9 at 38 Ill. Reg. 9792, effective April 21, 2014; amended in R15-6 at 39 Ill. Reg. 3713, effective February 24, 2015; amended in R15-23 at 39 Ill. Reg. 15144, effective November 9, 2015; amended in R16-4 at 39 Ill. Reg. 15352, effective November 13, 2015; amended in R17-12 at 42 Ill. Reg. 1140, effective January 4, 2018; amended in R18-9 at 42 Ill. Reg. 9316, effective May 29, 2018; amended in R18-17 at 43 Ill. Reg. 8206, effective July 26, 2019; amended in R19-16 at 44 Ill. Reg. 6996, effective April 17, 2020; amended in R18-26 at 47 Ill. Reg. 7556, effective May 16, 2023; amended in R21-10/R22-2 at 47 Ill. Reg. 16486, effective November 2, 2023; amended in R23-9 at 47 Ill. Reg. 18896, effective December 7, 2023; amended in R25-1/R25-9 at 50 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL

Section 611.101 Definitions

The terms this Section defines have the given meanings in this Part:

"Act" means the Environmental Protection Act [415 ILCS 5].

"Agency" means the Illinois Environmental Protection Agency.
BOARD NOTE: The Department of Public Health (Public Health or DPH) regulates non-CWSs, including NTNCWSs and transient non-CWSs. "Agency" means Public Health if implementation by Public Health occurs with regard to non-CWS suppliers.

"Approved source of bottled water", for the purposes of Section 611.130(d)(4), means a source of water and the packaged water it provides, whether from a spring, artesian well, drilled well, municipal water supply, or any other source, that the provider inspects, samples, analyzes, and finds has a safe and sanitary quality under laws and regulations of State and local government agencies having jurisdiction, as evidenced by current certificates or notations of approval in the packaging plant from each government agency having jurisdiction over the source, the water it bottles, and distributing the water in commerce.
BOARD NOTE: This definition derives from 40 CFR 142.62(g)(2) and 21 CFR 129.3(a). The Board cannot compile an exhaustive listing of all federal, State, and local laws regulating bottled water and bottling water. However, the Board is aware of some: the Illinois Food, Drug and Cosmetic Act [410 ILCS 620], the Bottled Water Act [815 ILCS 310], the DPH Water Well Construction Code (77 Ill. Adm. Code 920), the DPH Water Well Pump Installation Code (77 Ill. Adm. Code 925), the federal bottled water quality standards (21 CFR 103.35), the federal drinking water processing and bottling standards (21 CFR 129), the federal Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food (21 CFR 110), the federal Fair Packaging and Labeling Act (15 U.S.C. 1451 et seq.), and the federal Fair Packaging and Labeling regulations (21 CFR 201).

"Bag filters" means pressure-driven separation devices that remove particulate matter larger than one micrometer using an engineered porous filtration media. These are typically a non-rigid fabric filtration media housed in a pressure vessel where the direction of flow is from the inside to outside the bag.

"Bank filtration" means a water treatment process using a well to recover surface water naturally infiltrating into groundwater through a river bed or banks. A nearby pumping water supply or other wells typically enhances infiltration by the hydraulic gradient they impose.

"Best available technology" or "BAT" means the best technology, treatment techniques, or other means that USEPA determines are available for the contaminant in question. Subpart F specifies BAT.

"Bin classification" or "bin" means, for Subpart Z, the appropriate of the four treatment categories (Bin 1, Bin 2, Bin 3, or Bin 4) that a filtered system supplier assigns itself under Section 611.1010 based on the results of source water Cryptosporidium monitoring under Section 611.1001. This bin classification determines the degree of additional Cryptosporidium treatment, if any, the filtered system supplier must provide.
BOARD NOTE: This definition derives from 40 CFR 141.710 and 71 Fed. Reg. 654, 657 (Jan. 5, 2006).

"Board" means the Illinois Pollution Control Board.

"Cartridge filter" means a pressure-driven separation device that removes particulate matter larger than 1 micrometer using an engineered porous filtration media. A cartridge filter typically has rigid or semi-rigid self-supporting filter elements housed in a pressure vessel in which flow is from outside to inside the cartridge.

"CAS No." means "Chemical Abstracts Services Number".

"Clean compliance history" means, for Subpart AA, a record of no MCL violations under Section 611.325; no monitoring violations under Subpart L or Subpart AA; and no coliform treatment technique trigger exceedances or treatment technique violations under Subpart AA.

"Coagulation" means a process using coagulant chemicals and mixing that destabilizes and agglomerates colloidal and suspended materials into flocs.

"Combined distribution system" means the interconnected distribution system comprising the distribution systems of wholesale systems and of the consecutive systems that receive finished water.

"Community water system" or "CWS" means a PWS serving at least 15 service connections used by year-round residents or regularly serving at least 25 year-round residents.
BOARD NOTE: This definition differs slightly from that of Section 3.145 of the Act.

"Compliance cycle" means the nine-calendar-year cycle during which PWSs must monitor. Each compliance cycle consists of three three-year compliance periods.

The first calendar cycle ran calendar years 1993 through 2001, the second ran 2002 through 2010, the third ran 2011 through 2019, etc.

"Compliance period" means a three-calendar-year period within a compliance cycle. Each compliance cycle has three three-year compliance periods. For example, the first compliance period ran calendar years 1993 through 1995, the second ran 1996 through 1998, and the third ran 1999 through 2001 within the first compliance cycle.

"Comprehensive performance evaluation" or "CPE" is a thorough review and analysis of a treatment plant's performance-based capabilities and associated administrative, operational, and maintenance practices. The supplier conducts a CPE to identify factors that may adversely affect a plant's ability to comply. The supplier conducts a CPE to achieve compliance and emphasize approaches it can implement without significant capital improvements.
BOARD NOTE: The final sentence of the definition of "comprehensive performance evaluation" in 40 CFR 141.2 is Section 611.160(a)(2), since it contains substantive elements.

"Confluent growth" means a continuous bacterial growth covering the entire filtration area or portion of a membrane filter in which bacterial colonies are not discrete.

"Consecutive system" means a PWS receiving some or all of its finished water from one or more wholesale systems. Delivery may be through a direct connection or the distribution system of one or more consecutive systems.

"Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

"Conventional filtration treatment" means a series of processes, including coagulation, flocculation, sedimentation, and filtration, resulting in substantial "particulate removal".

"CT" or "CT_{calc}" is the product of residual disinfectant concentration (RDC or C) in mg/L, determined before or at the first customer, and the corresponding disinfectant contact time (T) in minutes. If a supplier applies disinfectants at more than one point prior to the first customer, it must determine the CT of each disinfectant sequence before or at the first customer to determine the total percent inactivation or "total inactivation ratio". In determining the total inactivation ratio, the supplier must determine the RDC of each disinfection sequence and corresponding contact time before any subsequent disinfection application points. (See the definition of "$CT_{99.9}$".)

"$CT_{99.9}$" is the CT value required for 99.9 percent (3-log) inactivation of Giardia lamblia cysts. Tables 1.1 through 1.6, 2.1, and 3.1 of Appendix B list $CT_{99.9}$ values for a variety of disinfectants and conditions. (See the definition of "inactivation ratio".)
BOARD NOTE: This definition derives from the definition of "CT" in 40 CFR 141.2.

"Diatomaceous earth filtration" means a process resulting in substantial particulate removal:

The process deposits a precoat cake of diatomaceous earth filter media on a support membrane (septum); and

The process continuously adds additional filter media, known as body feed, to the feed water to maintain permeability of the filter cake while filtering the water by passing through the cake on the septum.

"Direct filtration" means a series of processes, including coagulation and filtration but excluding sedimentation, resulting in substantial particulate removal.

"Disinfectant" means any oxidant, including chlorine, chlorine dioxide, chloramines, and ozone, that a supplier adds to water in any part of the treatment or distribution process to kill or inactivate pathogenic microorganisms.

"Disinfectant contact time" or "T" means the time in minutes that water moves from the point of disinfectant application or the previous point of RDC measurement to a point before or at the point where the supplier measures RDC.

If the supplier measures only one RDC, T is the time in minutes that water moves from the point of disinfectant application to a point before or at the point where RDC is measured.

If the supplier measures more than one RDC:

For the first measurement of RDC, T is the time in minutes that water moves from the first or only point of disinfectant application to a point before or at the point where the supplier measures the first RDC; and

For subsequent measurements of RDC, T is the time in minutes that water moves from the previous RDC measurement point to the RDC measurement point where the supplier calculates the particular T.

In pipelines, the supplier must calculate T based on "plug flow" by dividing the internal volume of the pipe by the maximum hourly flow rate through that pipe.

Within mixing basins and storage reservoirs, the supplier must determine T using tracer studies or an equivalent demonstration.

"Disinfection" means a process that inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

"Disinfection byproduct" or "DBP" means a chemical byproduct forming when disinfectants used for microbial control react with naturally occurring compounds already present in source water. DBPs include bromodichloromethane, bromoform, chloroform, dichloroacetic acid, bromate, chlorite, dibromochloromethane, and certain haloacetic acids.

"Disinfection profile" is a summary of daily Giardia lamblia inactivation through a treatment plant. The procedure for developing a disinfection profile is in Section 611.742.

"Distribution system" includes all points downstream of an "entry point" to the point of consumer ownership.

"Domestic or other non-distribution system plumbing problem" means a coliform contamination problem in a PWS having more than one service connection that is limited to the specific service connection from which the supplier took the coliform-positive sample.

"Dose equivalent" means the product of the absorbed dose from ionizing radiation and the factors accounting for differences in biological effect due to the type of radiation and its distribution in the body.
BOARD NOTE: The International Commission on Radiation Units and Measurements (ICRU) specifies "dose equivalent" as the product of the absorbed dose (D), quality factor (QF), dose distribution factor (DF), and other necessary factors. See "Radiation Quantities and Units," International Commission on Radiological Units and Measurements (ICRU) Report 10a, Handbook 84, U.S. Department of Commerce, National Bureau of Standards (1962).

"Dual sample set" means a set of two samples the supplier collects at the same time and same location, analyzing one sample for TTHM and the other sample for HAA5. A supplier collects dual sample sets to conduct an IDSE under Subpart W and determine compliance with the TTHM and HAA5 MCLs under Subpart Y.

"E. coli" means Escherichia coli, a species of bacteria used as a specific indicator of fecal contamination and potential harmful pathogens.
BOARD NOTE: This definition derives from 78 Fed. Reg. 10270, 10271 (Feb. 13, 2013).

"Enhanced coagulation" means adding sufficient coagulant to improve removing disinfection byproduct (DBP) precursors by conventional filtration treatment.

"Enhanced softening" means using precipitative softening to improve removing disinfection byproduct (DBP) precursors.

"Entry point" means a point just downstream of the final treatment operation but upstream of the first user and any mixing with other water. If the supplier uses raw water without treatment, the "entry point" is the raw water source. If a PWS receives treated water from another PWS, the "entry point" is a point just downstream of the other PWS but upstream of the first user and any mixing with other water.

"Filter profile" is a graphical representation of individual filter performance based on continuous turbidity measurements or total particle counts versus time for an entire filter run from startup through backwash, including an assessment of filter performance while the supplier backwashes another filter.

"Filtration" means a process passing water through porous media to remove particulate matter.

"Finished water" means water that the supplier introduces into the distribution system of a PWS intending the water for distribution and consumption without further treatment, except treatment necessary to maintain water quality in the distribution system (e.g., booster disinfection, addition of corrosion control chemicals, etc.).

"Flocculation" means a process enhancing agglomeration or collection of smaller floc particles into larger, more easily settleable particles through gentle hydraulic or mechanical stirring.

"Flowing stream" means a course of running water flowing in a definite channel.

"40/30 certification" means the certification a supplier submits to the Agency under Section 611.923 that the supplier had no TTHM or HAA5 monitoring violations and no individual sample from its system exceeded 0.040 mg/L TTHM or 0.030 mg/ L HAA5 during eight consecutive calendar quarters.
BOARD NOTE: This definition derives from 40 CFR 141.603(a).

"GAC10" means granular activated carbon (GAC) filter beds with an empty-bed contact time of 10 minutes based on average daily flow and a carbon reactivation frequency of every 180 days, except that the reactivation frequency for GAC10 a supplier uses as a best available technology to comply with the MCLs under Section 611.312(b)(2) is 120 days.

"GAC20" means granular activated carbon filter beds with an empty-bed contact time of 20 minutes based on average daily flow and a carbon reactivation frequency of every 240 days.

"GC" means "gas chromatography" or "gas-liquid phase chromatography".

"GC/MS" means gas chromatography (GC) followed by mass spectrometry (MS).

"Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

"Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.

"Groundwater system" or "GWS" means a PWS using only groundwater sources, including a consecutive system receiving finished groundwater.
BOARD NOTE: This definition derives from 40 CFR 141.400(b).

"Groundwater under the direct influence of surface water" means any water beneath the ground surface with significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens, such as Giardia lamblia or Cryptosporidium, or significant and relatively rapid shifts in water characteristics, such as turbidity, temperature, conductivity, or pH, that closely correlate to climatological or surface water conditions. "Groundwater under the direct influence of surface water" is as determined under Section 611.212.

"Haloacetic acids (five)" or "HAA5" means the sum of the concentrations in milligrams per liter (mg/ L) of five haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid), rounded to two significant figures after summing.

"Halogen" means one of the chemical elements chlorine, bromine, or iodine.

"Hazard Index (HI)" is the sum of component hazard quotients (HQs), which are calculated by dividing the measured regulated PFAS component contaminant concentration in water (e.g., expressed as parts per trillion (ppt) or nanograms per liter (ng/l)) by the associated health-based water concentration (HBWC) expressed in the same units as the measured concentration (e.g., ppt or ng/l). For

PFAS, a mixture Hazard Index greater than 1 (unitless) is an exceedance of the MCL.

"Hazard quotient (HQ)" means the ratio of the measured concentration in drinking water to the health-based water concentration (HBWC).

"Health-based water concentration (HBWC)" means level below which there are no known or anticipated adverse health effects over a lifetime of exposure, including sensitive populations and life stages, and allows for an adequate margin of safety.

"HFPO-DA or GenX chemicals" means Chemical Abstract Service registration number 122499-17-6, chemical formula C6F11O3-, International Union of Pure and Applied Chemistry preferred name 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoate, along with its conjugate acid and any salts, derivatives, isomers, or combinations thereof.

"HPC" means "heterotrophic plate count", as measured under Section 611.531(a)(2)(C).

"Hydrogeologic sensitivity assessment", for Subpart S, means a determination of whether a GWS supplier obtains water from a hydrogeologically sensitive setting. BOARD NOTE: This definition derives from 40 CFR 141.400(c)(5).

"Inactivation ratio" or "Ai" means the ratio:

$$Ai = CT_{calc}/CT_{99.9}$$

The sum of the inactivation ratios, or "total inactivation ratio" (B), is calculated by adding together the inactivation ratio for each disinfection sequence:

$$B = \sum(Ai)$$

A total inactivation ratio equal to or greater than 1.0 assumedly provides a 3-log inactivation of Giardia lamblia cysts.

BOARD NOTE: This definition derives from the definition of "CT" in 40 CFR 141.2.

"Initial compliance period" means the three-year compliance period that began January 1, 1993, except for the MCLs for dichloromethane, 1,2,4-trichlorobenzene, 1,1,2-trichloroethane, benzo(a)pyrene, dalapon, di(2-ethylhexyl)adipate, di(2-ethyl-hexyl)phthalate, dinoseb, diquat, endothall, endrin, glyphosate, hexachlorobenzene,

hexachlorocyclopentadiene, oxamyl, picloram, simazine, 2,3,7,8-TCDD, antimony, beryllium, cyanide, nickel, and thallium, as they apply to a supplier whose system has fewer than 150 service connections, for which "initial compliance period" means the three-year compliance period that began January 1, 1996.

"Initial distribution system evaluation" or "IDSE" means the evaluation, performed by the supplier under Section 611.921(c), to determine the locations in a distribution system that are representative of high TTHM and HAA5 concentrations throughout the distribution system. An IDSE is used in conjunction with, but is distinct from, the compliance monitoring undertaken to identify and select monitoring locations used to determine compliance with Subpart I.
BOARD NOTE: This definition derives from 40 CFR 141.601(c).

"Inorganic contaminants" or "IOCs" refers to that group of contaminants designated as such in USEPA regulatory discussions and guidance documents. IOCs include antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, mercury, nickel, nitrate, nitrite, selenium, and thallium.
BOARD NOTE: This definition derives from 40 CFR 141.23(a)(4).

"ℓ" or "L" means liter.

"Lake or reservoir" means a natural or man made basin or hollow on the Earth's surface in which water collects or is stored that may or may not have a current or single direction of flow.

"Legionella" means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

"Level 1 assessment" means an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. The system owner or operator conducts a Level 1 assessment. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality is impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, if appropriate (e.g., whether a groundwater system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The supplier must conduct the assessment consistent with any Agency-imposed permit conditions that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system.

"Level 2 assessment" means an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. A Level 2 assessment provides a more detailed examination of the system (including the system's monitoring and operational practices) than does a Level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices. A person approved by the Agency in a SEP conducts a Level 2 assessment, and that person may include the system operator. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality is impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, if appropriate (e.g., whether a groundwater system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The person conducting the Level 2 assessment and the supplier must conduct the assessment consistent with any Agency-imposed permit conditions that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system. The person conducting the Level 2 assessment and the supplier must comply with any expedited actions or additional actions the SEP requires in the instance of an E. coli MCL violation.

"Locational running annual average" or "LRAA" means the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

"Man-made beta particle and photon emitters" means all radionuclides emitting beta particles or photons listed in NBS Handbook 69 (63), incorporated by reference in Section 611.102, except the daughter products of thorium-232, uranium-235 and uranium-238.
BOARD NOTE: The USEPA-recognized naturally occurring daughter products are alpha emitters (^{211,212}Bi, ^{231}Pa, ^{210,212,214,215,216,218}Po, ^{223,224,226}Ra, ^{219,220,222}Rn, ^{227,228,230}Th, ^{234}U) and beta emitters (^{227,228}Ac, ^{210,212,214}Bi, ^{234}Pa, ^{210,211,212,214}Pb, ^{228}Ra, ^{231,234}Th, and ^{207,208}TI. See 56 Fed. Reg. 33050, 33063-65 (July 18, 1991).

"Maximum contaminant level" or "MCL" means the maximum permissible concentration of a contaminant in water a supplier delivers to any user of its PWS. (See Section 611.121.)

"Maximum contaminant level goal" or "MCLG" means the maximum concentration of a contaminant in drinking water that USEPA determined will cause no known or anticipated adverse effect on the health of persons, allowing an adequate margin of safety. MCLGs are nonenforceable health goals.

BOARD NOTE: The federal MCLGs are outside the scope of the Board's identical-in-substance mandate under Section 17.5 of the Act.

"Maximum residual disinfectant level" or "MRDL" means the maximum permissible concentration of a disinfectant added for water treatment that USEPA determined a supplier may add and may not exceed at the consumer's tap without an unacceptable risk of adverse health effects. MRDLs are enforceable in the same manner as are MCLs. (See Section 611.313 and Section 611.383.)

"Maximum residual disinfectant level goal" or "MRDLG" means the maximum concentration of a disinfectant that USEPA determined a supplier may add for water treatment that would not cause any known or anticipated adverse effect on the health of persons, allowing an adequate margin of safety. MRDLGs are nonenforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contaminants.

"Maximum total trihalomethane potential" or "MTP" means the maximum concentration of total trihalomethanes (TTHMs) produced in a given water containing a disinfectant residual after seven days at a temperature of 25° C or above.

"Membrane filtration" means a pressure- or vacuum-driven separation process in which particulate matter larger than one micrometer is rejected by an engineered barrier, primarily through a size exclusion mechanism, having a measurable removal efficiency of a target organism that is verifiable using a direct integrity test. This definition includes the common membrane technologies of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis.

"Method detection limit" or "MDL" means the minimum concentration of a substance that analysis can measure and report with 99 percent confidence that the analyte concentration is greater than zero, from analysis of a sample in a given matrix containing the analyte.

"MFL" means millions of fibers per liter larger than 10 micrometers.
BOARD NOTE: This definition derives from 40 CFR 141.23(a)(4)(i).

"mg" means milligrams (1/1000 of a gram).

"µg" means micrograms (1/1,000,000 of a gram).

"mg/ℓ" or "mg/L" means milligrams per liter.

"µg/ℓ" or "µg/L" means micrograms per liter.

"Mixed system" means a PWS using both groundwater and surface water sources. BOARD NOTE: Derived from 40 CFR 141.400(b) .

"MUG" means 4-methyl-umbelliferyl-beta-d-glucuronide (IUPAC name: (2S,3S,4S,5R,6S)-3,4,5-trihydroxy-6-((4-methyl-2-oxo-2Hchromen-7-yl)oxy)tetrahydro-2H-pyran-2-caboxylic acid; CAS no. 881005-91-0).

"Near the first service connection" means at one of the 20 percent of all service connections in the entire system that are nearest the PWS treatment facility, as measured by water transport time within the distribution system.

"nm" means nanometer (1/1,000,000,000 of a meter).

"Non-community water system" or "NCWS" or "non-CWS" means a PWS that is not a CWS. A non-CWS is either a "transient non-community water system (TWS)" or NTNCWS.

"Non-transient, non-community water system" or "NTNCWS" means a PWS that is not a CWS and that regularly serves at least 25 of the same persons over six months per year.

"NPDWR" means "national primary drinking water regulation".

"NTU" means "nephelometric turbidity units".

"P-A Coliform Test" means "Presence-Absence Coliform Test".

"Paired sample" means two samples of water for total organic carbon (TOC). One sample is of raw water the supplier takes prior to any treatment. The supplier takes the other sample after the point of combined filter effluent representative of the treated water. The supplier takes these samples at the same time. (See Section 611.382.)

"Performance evaluation sample" or "PE sample" means a reference sample the Agency provides a laboratory for demonstrating that the laboratory can successfully analyze the sample within limits of performance the Agency specifies. For bacteriological laboratories, Public Health provides the sample. For radiological laboratories, the Illinois Emergency Management Agency provides the sample. The laboratory does not know the true value of the concentration of the reference material at the time of analysis.

"Person" means an individual, corporation, company, association, partnership, state, unit of local government, or federal agency.

"PFBS" means Chemical Abstract Service registration number 45187-15-3, chemical formula $C_4F_9SO_3$-, perfluorobutane sulfonate, along with its conjugate acid and any salts, derivatives, isomers, or combinations thereof.

"PFHxS" means Chemical Abstract Service registration number 108427-53-8, chemical formula $C_6F_{13}SO_3$-, perfluorohexane sulfonate, along with its conjugate acid and any salts, derivatives, isomers, or combinations thereof.

"PFNA" means Chemical Abstract Service registration number 72007-68-2, chemical formula $C_9F_{17}O_2$-, perfluorononanoate, along with its conjugate acid and any salts, derivatives, isomers, or combinations thereof.

"PFOA" means Chemical Abstract Service registration number 45285-51-6, chemical formula $C_8F_{15}O_2$-, perfluorooctanoate, along with its conjugate acid and any salts, derivatives, isomers, or combinations thereof.

"PFOS" means Chemical Abstract Service registration number 45298–90–6, chemical formula $C_8F_{17}SO_3$–,perfluorooctanesulfonate, along with its conjugate acid and any salts, derivatives, isomers, or combinations thereof.

"Phase I" refers to that group of chemical contaminants and the accompanying regulations promulgated by USEPA on July 8, 1987, at 52 Fed. Reg. 25712.

"Phase II" refers to that group of chemical contaminants and the accompanying regulations promulgated by USEPA on January 30, 1991, at 56 Fed. Reg. 3578.

"Phase IIB" refers to that group of chemical contaminants and the accompanying regulations promulgated by USEPA on July 1, 1991, at 56 Fed. Reg. 30266.

"Phase V" refers to that group of chemical contaminants promulgated by USEPA on July 17, 1992, at 57 Fed. Reg. 31776.

"Picocurie" or "pCi" means the quantity of radioactive material producing 2.22 nuclear transformations per minute.

"Plant intake" means the works or structures at the head of a conduit diverting water from a source (e.g., a river or lake) into the treatment plant.

"Point of disinfectant application" is the point where a supplier applies the disinfectant and downstream of where the water is not subject to recontamination by surface water runoff.

"Point-of-entry treatment device" or "POE device" is a treatment device a consumer applies to the drinking water entering a house or building to reduce contaminants in the drinking water distributed throughout the house or building.

"Point-of-use treatment device", "point-of-use device", or "POU" is a water treatment device a consumer applies to a single tap to reduce contaminants in drinking water at that tap. Under Subpart G, a manufacturer, importer, or accredited third-party certifying body must certify a POU device as complying with NSF/ANSI 53 or 58 as in effect on the date of manufacture or import to satisfy the rule.
BOARD NOTE: NSF/ANSI 53 is the health-based standard for lead and several other contaminants for water filter devices, including tap filter-type treatment devices. Identifying a device as certified under NSF/ANSI 53 at the time of purchase is possible. NSF maintains an on-line list of certified devices at info.nsf.org/Certified/dwtu/listings_leadreduction.asp. See the definition of "accredited third-party certifying body" in 35 Ill. Adm. Code 611.126(b) relating to NSF/ANSI 372.

"Presedimentation" means a preliminary treatment process a supplier uses to remove gravel, sand, and other particulate material from the source water through settling before the water enters the primary clarification and filtration processes in a treatment plant.

"Public Health" or "DPH" means the Illinois Department of Public Health.
BOARD NOTE: See the definition of "Agency" in this Section.

"Public water system" or "PWS" means a system providing water to the public for human consumption through pipes or other constructed conveyances if the system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A PWS is either a CWS or non-CWS. A PWS does not include any special irrigation district. "PWS" includes certain facilities:

Any collection, treatment, storage, and distribution facilities under control of the PWS operator that the operator uses in connection with the system; and

Any collection or pretreatment storage facilities not under control of the PWS operator that the operator uses primarily in connection with the system.

BOARD NOTE: SDWA and USEPA rules use "public water system". The Act uses "public water supply". The Board intends that "public water supply" means the same as "public water system" and both terms refer both to the facilities providing water and the persons owning and operating those facilities.

"Radioactive contaminants" means those contaminants for which Section 611.330 imposes an MCL. "Radioactive contaminants" include radium-226 and -228, tritium, strontium-89, strontium-90, iodine-131, cesium-134, uranium, gross alpha emitters, gross beta emitters, photon emitters, and other nuclides emitting energetic nuclear particles or photons.
BOARD NOTE: This definition derives from Table C in 40 CFR 141.25(c), 141.66, appendix A to subpart O, and appendices A and B to subpart Q of 40 CFR 141.

"Reliably and consistently below the MCL" for a contaminant means an Agency determination based on analytical results following the initial detection of a contaminant to determine the qualitative condition of water from an individual sampling point or source. The Agency must base this determination on the consistency of analytical results, the degree below the MCL, the susceptibility of source water to variation, and other vulnerability factors pertinent to the detected contaminant that may influence the quality of water.
BOARD NOTE: This definition derives from 40 CFR 141.23(b)(9), (c)(8), (d)(2), and (e)(3) and 141.24(f)(11)(ii), and 141.24(f)(11)(iii), (f)(12), (h)(6)(ii), and (h)(8).

"Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A "millirem (mrem)" is 1/1000 of a rem.

"Repeat compliance period" means a compliance period that begins after the initial compliance period.

"Representative" means that a sample reflects the quality of water a supplier delivers to consumers under conditions when the supplier uses all raw water sources it requires to supply water under normal use conditions and all treatment properly operates.

"Residual disinfectant concentration", "RDC", or the variable "C" in CT calculations means the concentration of disinfectant measured in mg/ L in a representative sample of water. For purposes of the requirement of Section 611.241(d) of maintaining a detectable RDC in the distribution system, "RDC" means a residual of free or combined chlorine.

"Safe Drinking Water Act" or "SDWA" means the Public Health Service Act, as amended by the Safe Drinking Water Act, Pub. L. 93-523, 42 U.S.C. 300f et seq.

"Sanitary defect" means a defect that could provide a pathway of entry for microbial contamination of a supplier's distribution system or that indicates a failure or imminent failure in an existing barrier to microbial contamination.

"Sanitary survey" means an onsite review of the delineated WHPAs (identifying sources of contamination within the WHPAs and evaluations or the hydrogeologic sensitivity of the delineated WHPAs the Agency conducted under source water assessments or utilizing other relevant information if available), facilities, equipment, operation, maintenance, and monitoring compliance of a PWS supplier to evaluate the adequacy of the system, its sources, and operations for the production and distribution of safe drinking water.
BOARD NOTE: This definition derives from 40 CFR 141.2 and 40 CFR 142.16(o)(2).

"Seasonal system" means a non-CWS not operating as a PWS on a year-round basis and starting up and shutting down at the beginning and end of each operating season.

"Sedimentation" means a process for removing solids before filtration by gravity or separation.

"SEP" means special exception permit the Agency issued under 35 Ill. Adm. Code 602.600.

"Service connection", as used in the definition of PWS, does not include a connection to a system delivering water by a constructed conveyance other than a pipe if any of certain conditions exist:

Consumers use the water exclusively for purposes other than residential use (consisting of drinking, bathing, and cooking, or other similar uses);

The Agency issues a SEP determining that the supplier provides alternative water for residential use or similar uses for drinking and cooking to achieve the equivalent level of public health protection to that the applicable national primary drinking water regulations provide; or

The Agency issues a SEP determining that the water provided for residential use or similar uses for drinking, cooking, and bathing is centrally treated or treated at the point of entry by the provider, a pass-through entity, or the user to achieve the equivalent level of public health protection to that the applicable national primary drinking water regulations provide.

BOARD NOTE: See SDWA sections 1401(4)(B)(i)(II) and (4)(B)(i)(III) (42 U.S.C 300f(4)(B)(i)(II) and (4)(B)(i)(III)).

"Significant deficiency" means a deficiency the Agency identifies in a groundwater system under Section 611.803. A significant deficiency might include a defect in system design, operation, or maintenance or a failure or

malfunction of the sources, treatment, storage, or distribution system that the Agency determines causes or could cause introduction of contamination into the water the supplier delivers to consumers.
BOARD NOTE: This definition derives from 40 CFR 142.16(o)(2)(iv). The Agency must submit to USEPA a definition and description of at least one significant deficiency in each of the eight sanitary survey elements listed in Section 611.801(c) as part of the federal primacy requirements. The Board added the general description of what a significant deficiency might include in non-limiting terms, not intending to limit Agency discretion submitting what USEPA requires. What the Agency submits to USEPA cannot provide a definition within the Board regulations without Board rulemaking action.

"Slow sand filtration" means a process involving passing raw water through a bed of sand at low velocity (generally less than 0.4 meters per hour (m/h)) resulting in physical and biological mechanisms substantially removing particulate material.

"SOC" or "Synthetic organic chemical contaminant" refers to that group of contaminants designated as "SOCs" in Section 611.311(c).

"Source" means a well, reservoir, or other source of raw water.

"Special irrigation district" means an irrigation district in existence prior to May 18, 1994 that provides primarily agricultural service through a piped water system with only incidental residential use or similar use if the Agency issues a SEP making either of two determinations:

> The Agency determines that the supplier or another person provides alternative water for residential use or similar uses for drinking or cooking to achieve the equivalent level of public health protection to that the applicable national primary drinking water regulations provide; or
>
> The Agency issues a SEP determining that the water provided for residential use or similar uses for drinking, cooking, and bathing is centrally treated or treated at the point of entry by the provider, a pass-through entity, or the user to protect public health at a level equivalent to that the applicable NPDWRs provide.
> BOARD NOTE: This definition derives from 40 CFR 141.2 and sections 1401(4)(B)(i)(II) and (4)(B)(i)(III) of SDWA (42 U.S.C. 300f(4)(B)(i)(II) and (4)(B)(i)(III)).

"Standard monitoring" means the monitoring the supplier performs under Section 611.921(a) and (b) at various specified locations in its distribution system, including near entry points, at points representing the average residence time in its

distribution system and at points in its distribution system representing high TTHM and HAA5 concentrations throughout the system.
BOARD NOTE: This definition derives from 40 CFR 141.601(a) and (b).

"Standard sample" means the aliquot of finished drinking water the supplier or laboratory examines for the presence of coliform bacteria.

"State-only MCL" means one of the inorganic maximum contaminant levels (MCLs) in Section 611.300 or organic MCLs in Section 611.310.
BOARD NOTE: State-only MCLs are those derived prior to the implementation of the USEPA "Phase II" regulations. The Section 611.640 definition of this term, applying only to Subpart O, does not include the Section 611.300 inorganic MCLs.

"Subpart B system" means a PWS using surface water or groundwater under the direct influence of surface water as a source that is subject to Subpart B and the analytical and monitoring requirements of Sections 611.531, 611.532, and 611.533 and Appendices B and C.
BOARD NOTE: USEPA rules define these "subpart H systems".

"Subpart I compliance monitoring" means monitoring required under Subpart I to demonstrate compliance with requirements for disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors.
BOARD NOTE: The equivalent to Subpart I is subpart L of 40 CFR 141 under USEPA's rules.

"Subpart Y compliance monitoring" or "Subpart Y monitoring" means monitoring Subpart Y requires to demonstrate compliance with Stage 2 requirements for disinfection byproducts.
BOARD NOTE: The equivalent to Subpart Y is subpart V of 40 CFR 141 under USEPA's rules.

"Supplier" means any person owning or operating a PWS. This term includes the "official custodian". Under several rules, "supplier" includes a person performing a compliance-related activity on behalf of the owner or operator (e.g., a laboratory performing analyses, an engineer performing an assessment, design review, system evaluation, or other work, or a property owner or occupant sampling a tap).

"Surface water" means any water that is open to the atmosphere and subject to surface runoff.

"SUVA" means specific ultraviolet absorption at 254 nanometers (nm), an indicator of the humic content of water. "SUVA" is a sample's ultraviolet absorption at a

wavelength of 254 nm (UV_{254}) (in m^{-1}) divided by its concentration of dissolved organic carbon (in mg/L).

"SWS" means "surface water system", a PWS using only surface water sources, including groundwater under the direct influence of surface water.
BOARD NOTE: This definition derives from 40 CFR 141.23(a)(2) note, 141.24(h)(2) note, 141.70(a), and 141.88(a)(1)(ii) note.

"System-specific study plan" means the plan a supplier submits to the Agency under Section 611.922 for studying the occurrence of TTHM and HAA5 in the supplier's distribution system based on either monitoring results or modelling of the system.
BOARD NOTE: This definition derives from 40 CFR 141.602.

"System with a single service connection" means a system supplying drinking water to consumers via a single service line.

"Too numerous to count" means that the total number of bacterial colonies exceeds 200 on a 47-mm diameter membrane filter used for coliform detection.

"Total organic carbon" or "TOC" means total organic carbon (in mg/ L) measured using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these to oxidize organic carbon to carbon dioxide, rounded to two significant figures.

"Total trihalomethanes" or "TTHM" means the sum of the concentration of trihalomethanes (THMs) in milligrams per liter (mg/ L), rounded to two significant figures.
BOARD NOTE: The definition of "trihalomethanes" lists the four compounds that USEPA considers TTHMs.

"Transient, non-community water system" or "transient non-CWS" means a non-CWS not regularly serving at least 25 of the same persons over six months of the year.
BOARD NOTE: The federal regulations apply to all "public water systems", defined as all systems having at least 15 service connections or regularly serving water to at least 25 persons. (See 42 U.S.C. 300f(4).) The Act mandates that the Board and the Agency regulate "public water supplies", defined as having at least 15 service connections or regularly serving 25 persons daily at least 60 days per year. (See Section 3.365 of the Act.) The Department of Public Health regulates transient non-CWSs.

"Treatment" means any process changing the physical, chemical, microbiological, or radiological properties of water that is under the control of the supplier and is not

a point-of-use treatment device or a point-of-entry treatment device. Treatment includes aeration, coagulation, sedimentation, filtration, activated carbon treatment, disinfection, or fluoridation.

"Trihalomethane" or "THM" means one of four specific derivatives of methane in which halogens substitute three of the four hydrogen atoms in the molecular structure. There are four THMs:

Trichloromethane (chloroform),
Dibromochloromethane,
Bromodichloromethane, and
Tribromomethane (bromoform)

"Two-stage lime softening" means a process in which adding chemical precipitant and precipitating hardness occur in two distinct clarification process units in series prior to filtration.

"USEPA" means the U.S. Environmental Protection Agency.

"Uncovered finished water storage facility" is a tank, reservoir, or other facility directly open to the atmosphere a supplier uses to store water that will undergo no further treatment to reduce microbial pathogens except residual disinfection.

"Very small system waiver" means a conditional waiver from Subpart W available under Section 611.924 to a supplier serving fewer than 500 persons that took TTHM and HAA5 samples under Subpart I.
BOARD NOTE: This definition derives from 40 CFR 141.604.

"Virus" means a virus of fecal origin that is infectious to humans by waterborne transmission.

"VOC" or "volatile organic chemical contaminant" refers to that group of contaminants designated as "VOCs" in Section 611.311(a).

"Waterborne disease outbreak" means a significant occurrence of acute infectious illness epidemiologically associated with the ingestion of water from a PWS that is deficient in treatment, as determined by an appropriate local or State agency.

"Wellhead protection area" or "WHPA" means the surface and subsurface recharge area surrounding a CWS well or well field, delineated outside of any applicable setback zones (under Section 17.1 of the Act) under Illinois' Wellhead Protection Program, through which contaminants are reasonably likely to move toward the~~such~~ well or well field.

BOARD NOTE: The Agency uses two guidance documents for identification of WHPAs:

"Guidance Document for Groundwater Protection Needs Assessments", Illinois Environmental Protection Agency, Illinois State Water Survey, and Illinois State Geologic Survey joint report, January 1995; and

"The Illinois Wellhead Protection Program under Section 1428 of the Federal Safe Drinking Water Act", Illinois Environmental Protection Agency, No. 22480, October 1992.

"Wellhead protection program" means the Illinois wellhead protection program, approved by USEPA under section 1428 of the SDWA, 42 U.S.C. 300h-7. BOARD NOTE: This definition derives from 40 CFR 141.71(b). The wellhead protection program includes the "groundwater protection needs assessment" under Section 17.1 of the Act and 35 Ill. Adm. Code 615 through 617.

"Wholesale system" means a PWS treating source water as necessary to produce finished water, delivering some or all of that finished water to another PWS. A wholesale system may deliver water through a direct connection or through the distribution system of one or more consecutive systems.

BOARD NOTE: This Section derives from 40 CFR 141.2 and other sources as noted.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.102 Incorporations by Reference

a) Analytical Methods. The Board incorporates by reference the following analytical methods. The rules refer to the methods by the defined short-form names given them in this Section.

"AMI Turbiwell (09)" means "Continuous Measurement of Turbidity Using a SWAN AMI Turbiwell Turbidimeter" (August 10, 2009). Available from SWAN Analytische Instrumente AG, Studbachstrasse 13, CH-8340, Hinwil, Switzerland. Referenced in Section 611.531. Available from the publisher; NEMI; and USEPA, OGWDW (under "Surface Water Treatment Rule (PDF)").

ASTM Methods. Available from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 (~~610-832-9585 or~~ https://www.astm.org/products-services/standards-and-publications.html).

“ASTM D511-93 A” means “Standard Test Methods for Calcium and Magnesium in Water”, “Test Method A—Complexometric Titration”, approved 1993, referenced in Section 611.611.

“ASTM D511-03 A” means “Standard Test Methods for Calcium and Magnesium in Water”, “Test Method A—Complexometric Titration”, approved 2003, referenced in Section 611.611.

“ASTM D511-09 A” means “Standard Test Methods for Calcium and Magnesium in Water”, “Test Method A—Complexometric Titration”, approved 2009, referenced in Section 611.611.

“ASTM D511-14 A” means “Standard Test Methods for Calcium and Magnesium in Water”, “Test Method A—Complexometric Titration”, approved 2014, referenced in Section 611.611.

“ASTM D511-93 B” means “Standard Test Methods for Calcium and Magnesium in Water”, “Test Method B—Atomic Absorption Spectrophotometric”, approved 1993, referenced in Section 611.611.

“ASTM D511-03 B” means “Standard Test Methods for Calcium and Magnesium in Water”, “Test Method B—Atomic Absorption Spectrophotometric”, approved 2003, referenced in Section 611.611.

“ASTM D511-09 B” means “Standard Test Methods for Calcium and Magnesium in Water”, “Test Method B—Atomic Absorption Spectrophotometric”, approved 2009, referenced in Section 611.611.

“ASTM D511-14 B” means “Standard Test Methods for Calcium and Magnesium in Water”, “Test Method B—Atomic Absorption Spectrophotometric”, approved 2014, referenced in Section 611.611.

“ASTM D515-88 A” means “Standard Test Methods for Phosphorus in Water”, “Test Method A—Colorimetric Ascorbic Acid Reduction”, approved August 19, 1988, referenced in Section 611.611.

“ASTM D859-94” means “Standard Test Method for Silica in Water”, approved 1994, referenced in Section 611.611.

“ASTM D859-00” means “Standard Test Method for Silica in Water”, approved 2000, referenced in Section 611.611.

“ASTM D859-05” means “Standard Test Method for Silica in Water”, approved 2005, referenced in Section 611.611.

“ASTM D859-10” means “Standard Test Method for Silica in Water”, approved 2010, referenced in Section 611.611.

“ASTM D859-16” means “Standard Test Method for Silica in Water”, approved 2016, referenced in Section 611.611.

“ASTM D1067-92 B” means “Standard Test Methods for Acidity or Alkalinity in Water”, “Test Method B—Electrometric or Color-Change Titration”, approved May 15, 1992, referenced in Section 611.611.

“ASTM D1067-02 B” means “Standard Test Methods for Acidity or Alkalinity in Water”, “Test Method B—Electrometric or Color-Change Titration”, approved in 2002, referenced in Section 611.611.

“ASTM D1067-06 B” means “Standard Test Methods for Acidity or Alkalinity in Water”, “Test Method B—Electrometric or Color-Change Titration”, approved in 2006, referenced in Section 611.611.

“ASTM D1067-11 B” means “Standard Test Methods for Acidity or Alkalinity in Water”, “Test Method B—Electrometric or Color-Change Titration”, approved in 2011, referenced in Section 611.611.

“ASTM D1067-16 B” means “Standard Test Methods for Acidity or Alkalinity in Water”, “Test Method B—Electrometric or Color-Change Titration”, approved in 2006, referenced in Section 611.611.

“ASTM D1125-95(1999) A” means “Standard Test Methods for Electrical Conductivity and Resistivity of Water”, “Test Method A—Field and Routine Laboratory Measurement of Static (Non-Flowing) Samples”, approved 1995, reapproved 1999, referenced in Section 611.611.

“ASTM D1179-93 B” means “Standard Test Methods for Fluoride in Water”, “Test Method B—Ion Selective Electrode”, approved 1993, referenced in Section 611.611.

“ASTM D1179-99 B” means “Standard Test Methods for Fluoride in Water”, “Test Method B—Ion Selective Electrode”, approved 1999, referenced in Section 611.611.

“ASTM D1179-04 B” means “Standard Test Methods for Fluoride in Water”, “Test Method B—Ion Selective Electrode”, approved 2004, referenced in Section 611.611.

“ASTM D1179-10 B” means “Standard Test Methods for Fluoride in Water”, “Test Method B—Ion Selective Electrode”, approved 2010, referenced in Section 611.611.

“ASTM D1179-16 B” means “Standard Test Methods for Fluoride in Water”, “Test Method B—Ion Selective Electrode”, approved 2010, referenced in Section 611.611.

“ASTM D1253-86” means “Standard Test Method for Residual Chlorine in Water”, reapproved 1992, referenced in Section 611.381.

“ASTM D1253-96” means “Standard Test Method for Residual Chlorine in Water”, approved 1996, referenced in Section 611.381.

“ASTM D1253-03” means “Standard Test Method for Residual Chlorine in Water”, approved 2003, referenced in Sections 611.381 and 611.531.

“ASTM D1253-08” means “Standard Test Method for Residual Chlorine in Water”, approved 2008, referenced in Sections 611.381 and 611.531.

“ASTM D1253-14” means “Standard Test Method for Residual Chlorine in Water”, approved 2014, referenced in Sections 611.381 and 611.531.

“ASTM D1293-95” means “Standard Test Methods for pH of Water”, approved 1995, referenced in Section 611.611.

“ASTM D1293-99” means “Standard Test Methods for pH of Water”, approved 1999, referenced in Section 611.611.

"ASTM D1293-12" means "Standard Test Methods for pH of Water", approved 2012, referenced in Section 611.611.

"ASTM D1293-18" means "Standard Test Methods for pH of Water", approved 2018, referenced in Section 611.611.

"ASTM D1688-95 A" means "Standard Test Methods for Copper in Water", "Test Method A—Atomic Absorption, Direct", approved 1995, referenced in Section 611.611.

"ASTM D1688-02 A" means "Standard Test Methods for Copper in Water", "Test Method A—Atomic Absorption, Direct", approved 2002, referenced in Section 611.611.

"ASTM D1688-07 A" means "Standard Test Methods for Copper in Water", "Test Method A—Atomic Absorption, Direct", approved 2007, referenced in Section 611.611.

"ASTM D1688-12 A" means "Standard Test Methods for Copper in Water", "Test Method A—Atomic Absorption, Direct", approved 2012, referenced in Section 611.611.

"ASTM D1688-17 A" means "Standard Test Methods for Copper in Water", "Test Method A—Atomic Absorption, Direct", approved 2017, referenced in Section 611.611.

"ASTM D1688-95 C" means "Standard Test Methods for Copper in Water", "Test Method C—Atomic Absorption, Graphite Furnace", approved 1995, referenced in Section 611.611.

"ASTM D1688-02 C" means "Standard Test Methods for Copper in Water", "Test Method C—Atomic Absorption, Graphite Furnace", approved 2002, referenced in Section 611.611.

"ASTM D1688-07 C" means "Standard Test Methods for Copper in Water", "Test Method C—Atomic Absorption, Graphite Furnace", approved 2007, referenced in Section 611.611.

"ASTM D1688-12 C" means "Standard Test Methods for Copper in Water", "Test Method C—Atomic Absorption, Graphite Furnace", approved 2012, referenced in Section 611.611.

"ASTM D1688-17 C" means "Standard Test Methods for Copper in Water", "Test Method C—Atomic Absorption, Graphite Furnace", approved 2017, referenced in Section 611.611.

"ASTM D2036-98 A" means "Standard Test Methods for Cyanide in Water", "Test Method A—Total Cyanides after Distillation", approved 1998, referenced in Section 611.611.

"ASTM D2036-06 A" means "Standard Test Methods for Cyanide in Water", "Test Method A—Total Cyanides after Distillation", approved 2006, referenced in Section 611.611.

"ASTM D2036-98 B" means "Standard Test Methods for Cyanide in Water", "Test Method B—Cyanides Amenable to Chlorination by Difference", approved 1998, referenced in Section 611.611.

"ASTM D2036-06 B" means "Standard Test Methods for Cyanide in Water", "Test Method B—Cyanides Amenable to Chlorination by Difference", approved 2006, referenced in Section 611.611.

"ASTM D2459-72" means "Standard Test Method for Gamma Spectrometry in Water", approved July 28, 1972, discontinued 1988, referenced in Section 611.720.

"ASTM D2460-97" means "Standard Test Method for Radionuclides of Radium in Water", approved 1997, referenced in Section 611.720.

"ASTM D2460-07" means "Standard Test Method for Radionuclides of Radium in Water", approved 2007, referenced in Section 611.720.

"ASTM D2907-97" means "Standard Test Methods for Microquantities of Uranium in Water by Fluorometry", approved 1997, referenced in Section 611.720.

"ASTM D2972-97 B" means "Standard Test Methods for Arsenic in Water", "Test Method B—Atomic Absorption, Hydride Generation", approved 1997, referenced in Section 611.611.

"ASTM D2972-03 B" means "Standard Test Methods for Arsenic in Water", "Test Method B—Atomic Absorption, Hydride Generation", approved 2003, referenced in Section 611.611.

"ASTM D2972-15 B" means "Standard Test Methods for Arsenic in Water", "Test Method B—Atomic Absorption, Hydride Generation", approved 2015, referenced in Section 611.611.

"ASTM D2972-97 C" means "Standard Test Methods for Arsenic in Water", "Test Method C—Atomic Absorption, Graphite Furnace", approved 1997, referenced in Section 611.611.

"ASTM D2972-03 C" means "Standard Test Methods for Arsenic in Water", "Test Method C—Atomic Absorption, Graphite Furnace", approved 2003, referenced in Section 611.611.

"ASTM D2972-15 C" means "Standard Test Methods for Arsenic in Water", "Test Method C—Atomic Absorption, Graphite Furnace", approved 2015, referenced in Section 611.611.

"ASTM D3223-97" means "Standard Test Method for Total Mercury in Water", approved 1997, referenced in Section 611.611.

"ASTM D3223-02" means "Standard Test Method for Total Mercury in Water", approved 2002, referenced in Section 611.611.

"ASTM D3223-12" means "Standard Test Method for Total Mercury in Water", approved 2012, referenced in Section 611.611.

"ASTM D3223-17" means "Standard Test Method for Total Mercury in Water", approved 2017, referenced in Section 611.611.

"ASTM D3454-97" means "Standard Test Method for Radium-226 in Water", approved 1997, referenced in Section 611.720.

"ASTM D3454-05" means "Standard Test Method for Radium-226 in Water", approved 2005, referenced in Section 611.720.
"ASTM D3454-18" means "Standard Test Method for Radium-226 in Water", approved 2018~~2005~~, referenced in Section 611.720.

"ASTM D3454-21" means "Standard Test Method for Radium-226 in Water", approved 2021, referenced in Section 611.720.

"ASTM D3559-96 D" means "Standard Test Methods for Lead in Water", "Test Method D—Atomic Absorption, Graphite Furnace", approved August 6, 1990, referenced in Section 611.611.

"ASTM D3559-03 D" means "Standard Test Methods for Lead in Water", "Test Method D—Atomic Absorption, Graphite Furnace", approved 2003, referenced in Section 611.611.

"ASTM D3559-08 D" means "Standard Test Methods for Lead in Water", "Test Method D—Atomic Absorption, Graphite Furnace", approved 2008, referenced in Section 611.611.

"ASTM D3559-15 D" means "Standard Test Methods for Lead in Water", "Test Method D—Atomic Absorption, Graphite Furnace", approved 2015, referenced in Section 611.611.

"ASTM D3645-97 B" means "Standard Test Methods for Beryllium in Water", "Method B—Atomic Absorption, Graphite Furnace", approved 1997, referenced in Section 611.611.

"ASTM D3645-03 B" means "Standard Test Methods for Beryllium in Water", "Method B—Atomic Absorption, Graphite Furnace", approved 2003, referenced in Section 611.611.

"ASTM D3645-08 B" means "Standard Test Methods for Beryllium in Water", "Method B—Atomic Absorption, Graphite Furnace", approved 2008, referenced in Section 611.611.

"ASTM D3645-15 B" means "Standard Test Methods for Beryllium in Water", "Method B—Atomic Absorption, Graphite Furnace", approved 2015, referenced in Section 611.611.

"ASTM D3649-91" means "Standard Test Method for High-Resolution Gamma-Ray Spectrometry of Water", approved 1991, referenced in Section 611.720.

"ASTM D3649-98a" means "Standard Test Method for High-Resolution Gamma-Ray Spectrometry of Water", approved 1998, referenced in Section 611.720.

"ASTM D3649-06" means "Standard Test Method for High-Resolution Gamma-Ray Spectrometry of Water", approved 2006, referenced in Section 611.720.

"ASTM D3697-92" means "Standard Test Method for Antimony in Water", approved 1992, referenced in Section 611.611.

“ASTM D3697-02” means “Standard Test Method for Antimony in Water”, approved 2002, referenced in Section 611.611.

“ASTM D3697-07” means “Standard Test Method for Antimony in Water”, approved 2007, referenced in Section 611.611.

“ASTM D3697-12” means “Standard Test Method for Antimony in Water”, approved 2012, referenced in Section 611.611.

“ASTM D3697-17” means “Standard Test Method for Antimony in Water”, approved 2017, referenced in Section 611.611.

“ASTM D3859-98 A” means “Standard Test Methods for Selenium in Water”, “Method A—Atomic Absorption, Hydride Method”, approved 1998, referenced in Section 611.611.

“ASTM D3859-03 A” means “Standard Test Methods for Selenium in Water”, “Method A—Atomic Absorption, Hydride Method”, approved 2003, referenced in Section 611.611.

“ASTM D3859-08 A” means “Standard Test Methods for Selenium in Water”, “Method A—Atomic Absorption, Hydride Method”, approved 2008, referenced in Section 611.611.

“ASTM D3859-15 A” means “Standard Test Methods for Selenium in Water”, “Method A—Atomic Absorption, Hydride Method”, approved 2015, referenced in Section 611.611.

“ASTM D3859-98 B” means “Standard Test Methods for Selenium in Water”, “Method B—Atomic Absorption, Graphite Furnace”, approved 1998, referenced in Section 611.611.

“ASTM D3859-03 B” means “Standard Test Methods for Selenium in Water”, “Method B—Atomic Absorption, Graphite Furnace”, approved 2003, referenced in Section 611.611.

“ASTM D3859-08 B” means “Standard Test Methods for Selenium in Water”, “Method B—Atomic Absorption, Graphite Furnace”, approved 2008, referenced in Section 611.611.

“ASTM D3859-15 B” means “Standard Test Methods for Selenium in Water”, “Method B—Atomic Absorption, Graphite Furnace”, approved 2015, referenced in Section 611.611.

"ASTM D3867-90 A" means "Standard Test Methods for Nitrite-Nitrate in Water", "Test Method A—Automated Cadmium Reduction", approved 1990, referenced in Section 611.611.

"ASTM D3867-90 B" means "Standard Test Methods for Nitrite-Nitrate in Water", "Test Method B—Manual Cadmium Reduction", approved January 10, 1990, referenced in Section 611.611.

"ASTM D3972-97" means "Standard Test Method for Isotopic Uranium in Water by Radiochemistry", approved 1997, referenced in Section 611.720.

"ASTM D3972-02" means "Standard Test Method for Isotopic Uranium in Water by Radiochemistry", approved 2002, referenced in Section 611.720.

"ASTM D3972-09" means "Standard Test Method for Isotopic Uranium in Water by Radiochemistry", approved 2009, referenced in Section 611.720.

"ASTM D4107-91" means "Standard Test Method for Tritium in Drinking Water", approved 1991, referenced in Section 611.720.

"ASTM D4107-98" means "Standard Test Method for Tritium in Drinking Water", approved 1998, referenced in Section 611.720.

"ASTM D4107-08" means "Standard Test Method for Tritium in Drinking Water", approved 2008, referenced in Section 611.720.

"ASTM D4107-20" means "Standard Test Method for Tritium in Drinking Water", approved 2020, referenced in Section 611.720.

"ASTM D4327-97" means "Standard Test Method for Anions in Water by Ion Chromatography", approved 1997, referenced in Section 611.611.

"ASTM D4327-03" means "Standard Test Method for Anions in Water by Ion Chromatography", approved 2003, referenced in Section 611.611.

"ASTM D4327-11" means "Standard Test Method for Anions in Water by Ion Chromatography", approved 2011, referenced in Section 611.611.

"ASTM D4327-17" means "Standard Test Method for Anions in Water by Ion Chromatography", approved 2017, referenced in Section 611.611.

"ASTM D4785-93" means "Standard Test Method for Low-Level Iodine-131 in Water", approved 1993, referenced in Section 611.720.

"ASTM D4785-00a" means "Standard Test Method for Low-Level Iodine-131 in Water", approved 2000, referenced in Section 611.720.

"ASTM D4785-08" means "Standard Test Method for Low-Level Iodine-131 in Water", approved 2008, referenced in Section 611.720.

"ASTM D4785-20" means "Standard Test Method for Low-Level Iodine-131 in Water", approved 2020, referenced in Section 611.720.

"ASTM D5174-97" means "Standard Test Method for Trace Uranium in Water by Pulsed-Laser Phosphorimetry", approved 1997, referenced in Section 611.720.

"ASTM D5174-02" means "Standard Test Method for Trace Uranium in Water by Pulsed-Laser Phosphorimetry", approved 2002, referenced in Section 611.720.

"ASTM D5174-07" means "Standard Test Method for Trace Uranium in Water by Pulsed-Laser Phosphorimetry", approved 2007, referenced in Section 611.720.

"ASTM D5317-93" means "Standard Test Method for Determination of Chlorinated Organic Acid Compounds in Water by Gas Chromatography with an Electron Capture Detector", approved 1993, referenced in Section 611.645.

"ASTM D5317-98(2003)" means "Standard Test Method for Determination of Chlorinated Organic Acid Compounds in Water by Gas Chromatography with an Electron Capture Detector", approved 1998 (reapproved 2003), referenced in Section 611.645.

“ASTM D5317-20” means “Standard Test Method for Determination of Chlorinated Organic Acid Compounds in Water by Gas Chromatography with an Electron Capture Detector”, approved 2020, referenced in Section 611.645.

“ASTM D5673-03” means “Standard Test Method for Elements in Water by Inductively Coupled Plasma-Mass Spectrometry”, approved 2003, referenced in Section 611.720.

“ASTM D5673-05” means “Standard Test Method for Elements in Water by Inductively Coupled Plasma-Mass Spectrometry”, approved 2005, referenced in Section 611.720.

“ASTM D5673-10” means “Standard Test Method for Elements in Water by Inductively Coupled Plasma-Mass Spectrometry”, approved 2010, referenced in Section 611.720.

“ASTM D5673-16” means “Standard Test Method for Elements in Water by Inductively Coupled Plasma-Mass Spectrometry”, approved 2016, referenced in Section 611.720.

“ASTM D6239-09” means “Standard Test Method for Uranium in Drinking Water by High-Resolution Alpha-Liquid-Scintillation Spectrometry”, approved 2009, referenced in Section 611.720.

“ASTM D6508-00(2005)” means “Standard Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices Using Capillary Ion Electrophoresis and Chromate Electrolyte”, approved 2000 (revised 2005), referenced in Section 611.611.

“ASTM D6508-15” means “Standard Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices Using Capillary Ion Electrophoresis and Chromate Electrolyte”, approved 2015, referenced in Section 611.611.

“ASTM D6581-00” means “Standard Test Method for Bromate, Bromide, Chlorate, and Chlorite in Drinking Water by Chemically Suppressed Ion Chromatography”, approved 2000, referenced in Section 611.381.

“ASTM D6581-08 A” means “Standard Test Method for Bromate, Bromide, Chlorate, and Chlorite in Drinking Water by Suppressed Ion Chromatography”, “Test Method A—Chemically Suppressed

Ion Chromatography", approved 2008, referenced in Section 611.381.

"ASTM D6581-08 B" means "Standard Test Method for Bromate, Bromide, Chlorate, and Chlorite in Drinking Water by Suppressed Ion Chromatography", "Test Method B—Electrolytically Suppressed Ion Chromatography", approved 2008, referenced in Section 611.381.

"ASTM D6888-04" means "Standard Test Method for Available Cyanide with Ligand Displacement and Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection", approved 2004, referenced in Section 611.611.

"ASTM D6919-03" means "Standard Test Method for Determination of Dissolved Alkali and Alkaline Earth Cations and Ammonium in Water and Wastewater by Ion Chromatography", approved 2003, referenced in Section 611.611.

"ASTM D6919-09" means "Standard Test Method for Determination of Dissolved Alkali and Alkaline Earth Cations and Ammonium in Water and Wastewater by Ion Chromatography", approved 2009, referenced in Section 611.611.

"ASTM D6919-17" means "Standard Test Method for Determination of Dissolved Alkali and Alkaline Earth Cations and Ammonium in Water and Wastewater by Ion Chromatography", approved 2017, referenced in Section 611.611.

"ASTM D7283-17" means "Standard Test Method for Alpha and Beta Activity in Water by Liquid Scintillation Counting", approved 2017, referenced in Section 611.720.

"ATI Orion Technical Bulletin 601 (94)" means "Standard Method of Testing for Nitrate in Drinking Water" (July 1994), Part Number 221890-001. Available from Thermo-Fisher Scientific, 168 Third Ave, Waltham, MA 02451 (800-556-2323; www.thermofisher.com). Referenced in Section 611.611.

"Charm Fast Phage (12)" means "Fast Phage Test: Presence/Absence for Coliphage in Ground Water with Same Day Positive Prediction", ATP Case No. D09-0007, Version 009 (November 28, 2012). Available from Charm Sciences, Inc., 659 Andover St., Lawrence, MA 01843–1032. Referenced in Section 611.802 and USEPA, OGWDW (under "Ground

Water Rule (PDF)").

"Chromocult® (00)" means "Chromocult® Coliform Agar Presence/Absence Membrane Filter Test Method for Detection and Identification of Coliform Bacteria and Escherichia coli in Finished Waters", Version 1.0 (November 2000). Available from EMD Millipore (division of Merck KGgA, Darmstadt, Germany), 290 Concord Road, Billerica, MA 01821 (800-645-5476 or 781-533-6000) and USEPA, OGWDW (under "Ground Water Rule (PDF)" and "Revised Total Coliforms Rules (PDF)"). Referenced in Sections 611.802 and 611.1052.

"E*Colite (98)" means "Alternative Test Procedure Case #D95-0007: Charm E*Colite Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Drinking Water" (January 9, 1998). Available from Charm Sciences, Inc., 659 Andover St., Lawrence, MA 01843–1032 and USEPA, OGWDW (under "Ground Water Rule (PDF)" and "Revised Total Coliforms Rules (PDF)"). Referenced in Sections 611.802 and 611.1052.

EML Methods. Available from USEPA, OGWDW (listed under "Radionuclides (PDF)" by individual method numbers).

EML (90). In "EML Procedures Manual", HASL 300, Volumes 1 and 2, 27th ed. (November 1990).

"EML (90) Ga-01" means section 4.5.2.3, Ga-01, "Gamma Radioassay", in section 4.5.2.3, "Radiometrology", in 27th ed. Referenced in Section 611.720. USEPA, OGWDW lists EML (90) Ga-01 as "4.5.2.3".

"EML (90) Ra-05" means Ra-05, "Radium-226 in Tap Water, Urine, and Feces", in section 4.5.4, "Radiochemical", in 27th ed. Referenced in Section 611.720.

"EML (90) Sr-01" means Sr-01, "Strontium-89", in section 4.5.4, "Radiochemical", in 27th ed. Referenced in Section 611.720.

"EML (90) Sr-02" means Sr-02, "Strontium-90", in section 4.5.4, "Radiochemical", in 27th ed. Referenced in Section 611.720.

"EML (90) U-02" means U-02, "Isotopic Uranium in Biological and Environmental Materials", in section 4.5.4, "Radiochemical", in 27th ed.

"EML (90) U-04" means U-04, "Uranium in Biological and Environmental Materials", in section 4.5.4, "Radiochemical", in 27th ed. Referenced in Section 611.720.

EML (97). In "EML Procedures Manual", HASL 300, Volumes 1 and 2, 28th ed., Revision 0 (February 1997). Currently available on-line from United States Department of Homeland Security, Science and Technology Directorate (formerly United States Department of Energy, Environmental Measurements Laboratory) (https://www.hsdl.org/c/view?docid=487142).

"EML (97) Ga-01-R" means Ga-01-R, "Gamma Radioassay", in section 4.5.2, "Radiometrology", in 28th ed. Referenced in Section 611.720.

"EML (97) Ra-04" means Ra-04-RC, "Radium-226 in Tap Water, Urine, and Feces", in section 4.5.4, "Radiochemical", in 28th ed. Referenced in Section 611.720.

"EML (97) Sr-01" means Sr-01-RC, "Strontium-89", in section 4.5.4, "Radiochemical", in 28th ed. Referenced in Section 611.720.

"EML (97) Sr-02" means Sr-02-RC, "Strontium-90", in section 4.5.4, "Radiochemical", in 28th ed. Referenced in Section 611.720.

"EML (97) U-02" means U-02-RC, "Isotopic Uranium in Biological and Environmental Materials", in section 4.5.4, "Radiochemical", in 28th ed.

"EML (97) U-04" means U-04-RC, "Uranium in Biological and Environmental Materials", in section 4.5.4, "Radiochemical", in 28th ed. Referenced in Section 611.720.

"Enterolert (96)" means "Evaluation of Enterolert for Enumeration of Enterococci in Recreational Waters", Applied and Environmental Microbiology, Oct. 1996, vol. 62, no. 10, p. 3881. Available from

American Society for Microbiology, 1752 N Street N.W., Washington, DC 20036 (202-737-3600; https://journals.asm.org/doi/epdf/10.1128/aem.62.10.3881-3884.1996). Referenced in Section 611.802.

BOARD NOTE: In 40 CFR 141.402(c)(2), USEPA approved the method the above literature review describes. The method itself is in the printed instructions to the proprietary kit available from IDEXX Laboratories, Inc., One IDEXX Drive, Westbrook, Maine 04092 (800-548-6733); https://www.idexx.com/en/water/water-products-services/enterolert/ . ASTM approved the method as "Standard Test Method for Enterococci in Water Using Enterolert™", which is available in two versions from ASTM: ASTM D6503-99 and ASTM D6503-99(2005). While it is more conventional to incorporate by reference the method as presented in the kit instructions or as approved by ASTM, the Board is constrained to incorporate by reference the version that USEPA explicitly approves, which is the version the technical literature describes.

"Georgia Radium (04)" means "Method for the Determination of Radium-226 and Radium-228 in Drinking Water by Gamma-ray Spectrometry Using HPGE or Ge(Li) Detectors", Revision 1.2 (December 2004). Available from Georgia Tech Research Institute, Robert Rosson, 925 Dalney Road, Atlanta, GA 30332 (404–407–6339) and USEPA, OGWDW (under "Radionuclides (PDF)"). Referenced in Section 611.720.

"GLI Method 2 (92)" means "Turbidity GLI Method 2" (November 2, 1992). Available from Great Lakes Instruments, Inc., 8855 North 55th Street, Milwaukee, WI 53223. Also available from USEPA, OGWDW (under "Surface Water Treatment Rule (PDF)"). Referenced in Section 611.531.

"Guidance Manual for Filtration and Disinfection (91)" means "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources" (March 1991), EPA 570/3-91-001, USEPA, Office of Drinking Water, Criteria and Standards Division, Science and Technology Branch. Available from NTRL (document number PB93-222933) and USEPA, NSCEP (search "570391001"). Referenced in Sections 611.111 and 611.212.
Hach Methods. Available from Hach Company, P.O. Box 389, Loveland, CO 80539-0389 (800-227-4224 or www.hach.com).

"Hach 8026 (15)" means Hach Method 8026, "Spectrophotometric Measurement of Copper in Finished Drinking Water", Revision 1.2 (December 2015). Referenced in Section 611.611.

BOARD NOTE: Also available from USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)").

"Hach 8195 (18)" means Hach Method 8195, "Determination of Turbidity by Nephelometry", Revision 3.0 (March 2018). Referenced in Section 611.531.

"Hach 10029 (99) (m-ColiBlue24®)" means m-ColiBlue24® Test, Method No. 10029, "Total Coliforms and E. coli Membrane Filtration Method with m-ColiBlue24® Broth", Revision 2 (August 17, 1999), document number DOC316.53.001213. Referenced in Sections 611.802 and 611.1052.
BOARD NOTE: Also available from USEPA, OGWDW (under "Ground Water Rule (PDF)").

"Hach 10133 (00) (FilterTrak)" means Hach FilterTrak Method 10133, "Determination of Turbidity by Laser Nephelometry", Revision 2.0 (January 7, 2000) in Appendix A of "Introduction to Laser Nephelometry: An Alternative to Conventional Particulate Analysis Methods". Referenced in Section 611.531.
BOARD NOTE: Also available from USEPA, OGWDW (under "Surface Water Treatment Rule (PDF)").

"Hach 10206 (11) (TNTplus 835/836)" means Hach TNTplus 835/836 Method 10206, "Spectrophotometric Measurement of Nitrate in Water and Wastewater", Revision 2.0 (January 2011). Referenced in Section 611.611.
BOARD NOTE: Also available from USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)").

"Hach 10225 (11) (SPADNS 2)" means Hach SPADNS 2 Method 10225, "Fluoride, USEPA SPADNS 2 Method 10225", Revision 2.0 (January 2011). Referenced in Section 611.611.
BOARD NOTE: Also available from USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)").

"Hach 10241 (15)" means Hach Method 10241, "Spectrophotometric Measurement of Free Chlorine (Cl2) in Finished Drinking Water", Revision 1.2 (November 2015). Referenced in Sections 611.381 and 611.531.

BOARD NOTE: Also available from USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)").

"Hach 10258 (16)" means Hach Method 10258, "Determination of Turbidity by 360° Nephelometry", Revision 1.0 (January 2016). Referenced in Section 611.531.
BOARD NOTE: Also available from USEPA, OGWDW (under "Surface Water Treatment Rule (PDF)").

"Hach 10258 (18)" means Hach Method 10258, "Determination of Turbidity by 360° Nephelometry", Revision 2.0 (March 2018). Referenced in Section 611.531.

"Hach 10260 (13)" means Hach Method 10260, "Determination of Chlorinated Oxidants (Free and Total) in Water Using Disposable Planar Reagent-filled Cuvettes and Mesofluic Channel Colorimetry" (April 2013). Referenced in Sections 611.381 and 611.531.
BOARD NOTE: Also available from USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)").

"Hach 10261 (15)" means Hach Method 10261, "Total Organic Carbon in Finished Drinking Water by Catalyzed Ozone Hydroxyl Radical Oxidation Infrared Analysis", Revision 1.2 (December 2015). Referenced in Section 611.381.
BOARD NOTE: Also available from USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)").

"Hach 10267 (15)" means Hach Method 10267, "Spectrophotometric Measurement of Total Organic Carbon (TOC) in Finished Drinking Water", Revision 1.2 (December 2015). Referenced in Section 611.381.
BOARD NOTE: Also available from USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)").

"Hach 10272 (15)" means Hach Method 10272, "Spectrophotometric Measurement of Copper in Finished Drinking Water", Revision 1.2 (December 2015). Referenced in Section 611.611.
BOARD NOTE: Also available from USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)").

"Hach 10312 (22)" means Hach Method 10312, "Spectrophotometric Measurement of Flouride in Finished Drinking Water Aluminum -Chromeazurol S Complex (AL-CAS) Using Planar Reagent-filled Cuvettes," Revision 1.0 (August 2022). Referenced in Section 611.611.

"ITS D99-003 (03)" means "Method # (D99-003): Free Chlorine Species ($HOCl^-$ and OCl^-) by Test Strip", Revision 3.0 (November 21, 2003). Available from Industrial Test Systems, Inc., 1875 Langston St., Rock Hill, SC 29730 (803-329-2999) and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Section 611.381.

"Kelada 01 (01)" means "Method Kelada-01: Kelada Automated Test Methods for Total Cyanide, Acid Dissociable Cyanide, and Thiocyanate", Revision 1.2 (August 2001), USEPA Office of Water, document number EPA 821/B–01-009. Available from NTRL (document number PB2001-108275) and USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)"). Referenced in Section 611.611. Lovibond Methods. Available from Tintometer, Inc., 6456 Parkland Drive, Sarasota, FL 34243 (800-922-5242, 941-758-6410, or www.lovibond.us) and USEPA, OGWDW (under "Surface Water Treatment Rule (PDF)").

"Lovibond PTV 1000 (16)" means "Continuous Measurement of Drinking Water Turbidity Using a Lovibond PTV 1000 White Light LED Turbidimeter", Revision 1.0 (December 20, 2016). Referenced in Section 611.531.

"Lovibond PTV 2000 (16)" means "Continuous Measurement of Drinking Water Turbidity Using a Lovibond PTV 2000 660-nm LED Turbidimeter", Revision 1.0 (December 20, 2016). Referenced in Section 611.531.

"Lovibond TB 3500 (21)" means "Measurement of Drinking Water Turbidity of a Captured Sample Using a Lovibond White Light LED Portable Turbidimeter", Revision 1.0 (2021). Referenced in Section 611.531.

"Lovibond TB 5000 (21)" means "Measurement of Drinking Water Turbidity of a Captured Sample Using a Lovibond 660-nm LED Portable Turbidimeter", Revision 1.0 (2021). Referenced in Section 611.531.

"Lovibond PTV 6000 (16)" means "Continuous Measurement of

Drinking Water Turbidity Using a Lovibond PTV 6000 Laser Turbidimeter", Revision 1.0 (December 20, 2016). Referenced in Section 611.531.

"Lovibond TB 6000 (21)" means "Measurement of Drinking Water Turbidity of a Captured Sample Using a Lovibond Portable Laser Turbidimeter", Revision 1.0 (2021). Referenced in Section 611.531.

Maine Methods. Available from Maine Health and Environmental Testing Laboratory, 221 State Street, Augusta, ME 04333 (207-287-2727).

"ME355.01 (09)" means "Determination of Cyanide in Drinking Water by GC/MS Headspace Analysis", Revision 1 (May 26, 2009). Referenced in Section 611.611. Also available from NEMI and USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)").

"ME 531 (19)" means "Measurement or N-Methylcarbamoyloximes and N-Methylcarbamates in Drinking Water by LC-MS/MS", version 1.0 (September 2019). Referenced in Section 611.645.

"Method 537.1", Version 2.0: Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), EPA/600/R-20/006, March 2020

Mitchell Methods. Available from Leck Mitchell, PhD, PE, 656 Independence Valley Dr., Grand Junction, CO 81507 (920-244-8661); , NEMI (except for Mitchell M5331 (16)); and USEPA, OGWDW (under "Surface Water Treatment Rule (PDF)").

"Mitchell M5271 (09)" means Mitchell Method M5271, "Determination of Turbidity by Laser Nephelometry", Revision 1.1 (March 5, 2009). Referenced in Section 611.531.

"Mitchell M5331 (09)" means Mitchell Method M5331, "Determination of Turbidity by Laser Nephelometry", Revision 1.1 (March 2009). Referenced in Section 611.531.

"Mitchell M5331 (16)" means Mitchell Method M5331, "Determination of Turbidity by Laser Nephelometry", Revision 1.2 (February 2016). Referenced in Section 611.531.

"Modified Colitag™ (09)" means "Modified Colitag™ Test Method for Simultaneous Detection of E. coli and other Total Coliforms in Water", (ATP D05-0035) (August 28, 2009). Available from CPI International, Inc., 5580 Skylane Blvd., Santa Rosa, CA 95403 (800-878-7654; www.cpiinternational.com); NEMI; and USEPA, OGWDW (under "Ground Water Rule (PDF)" and "Revised Totasl Coliforms Rules (PDF)"). Referenced in Sections 611.802 and 611.1052.

"Modified Colitag™ (20)" means "Modified Colitag™ Test Method for Simultaneous Detection of Total Coliforms and E. coli in Water", Version 2.0, (June 2020). Available from Neogen Corporation, 620 Lesher Place, Lansing, MI 48912. Referenced in Sections 611.802 and 611.1052.

"NBS Handbook 69 (63)" means "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure" (August 1963), U.S. Department of Commerce, National Bureau of Standards. Available from U.S. Nuclear Regulatory Commission, One White Flint North, 115 Rockville Pike, Rockville, MD 20852-2738; https://www.nrc.gov/docs/ML2020/ML20206L091.pdf or Oak Ridge Associated Universities (ORAU), 100 ORAU Way, Oak Ridge, TN 37830 (865-576-3146); https://www.orau.org/health-physics-museum/files/library/nbs/nbs-69.pdf. Referenced in Sections 611.101 and 611.330.
BOARD NOTE: The 1963 version of National Bureau of Standards Handbook 69 modifies the 1959 publication of the National Committee on Radiation Protection, NCRP Report No. 22, of the same title. The version available on the NCRP website is the 1959 document.

"NECi Nitrate Reductase (06)" means "Method for Nitrate Reductase Nitrate-Nitrogen Analysis of Drinking Water", Version 1.0, Revision 2.0 (February 1, 2016). Available from Superior Enzymes Inc., 334 Hecla Street, Lake Linden, Michigan 49945 (906-296-1115). Also available from USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)"). Referenced in Section 611.611.

"New Jersey Radium (90)" means "Determination of Ra-228 in Drinking Water" (August 1990), New Jersey Department of Environmental Protection, Division of Environmental Quality, Bureau of Radiation and Inorganic Analytical Services. Available from publisher, 9 Ewing Street, Trenton, NJ 08625. Referenced in Section 611.720.

"New York Radium (82)" means "Determination of ^{226}Ra and ^{228}Ra, Ra-

02" (January 1980, revised June 1982), Radiological Sciences Institute, Center for Laboratories and Research, New York State Department of Health. Available from publisher, Empire State Plaza, Albany, NY 12201. Referenced in Section 611.720.

"OIA-1677 (04)" means "Method OIA-1677 DW, Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry" (January 2004), document number EPA 821/R-04/001. Referenced in Section 611.611. Available from ; USEPA, NSCEP (search "821R04001"); and USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)").

"Orion AQ4500 (09)" means "Determination of Turbidity by LED Nephelometry", Revision 5 (March 12, 2009). Available from Thermo-Fisher Scientific, 168 Third Ave, Waltham, MA 02451 (800-556-2323 or www.thermofisher.com); NEMI; and USEPA, OGWDW (under "Surface Water Treatment Rule (PDF)"). Referenced in Section 611.531.

Palintest Methods. Available from Palintest, Ltd., 600 Corporate Circle, Suite F, Golden, CO 80401 (720-221-6878).

"Palintest 1001 (99)" means "Method 1001: Lead in Drinking Water by Differential Pulse Anodic Stripping Voltammetry", August 1999, referenced in Section 611.611.
BOARD NOTE: Also available from USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)").

"Palintest 1001 (20)" means "Method 1001: Lead in Drinking Water by Differential Pulse Anodic Stripping Voltammetry", May 2020, Revision 1.1, referenced in Section 611.611.
BOARD NOTE: Also available from USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)").

"Palintest ChlordioX Plus (13)" means "Chlorine Dioxide and Chlorite in Drinking Water by Amperometry using Disposable Sensors", November 2013, referenced in Sections 611.381 and 611.531.
BOARD NOTE: Also available from USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)").

"Palintest ChlordioX Plus (20)" means "Chlorine Dioxide and Chlorite in Drinking Water by Amperometry using Disposable

Sensors", Version 1.1 (February 2020), referenced in Sections 611.381 and 611.531.

"Palintest ChloroSense (09)" means "Measurement of Free and Total Chlorine in Drinking Water by Palintest ChloroSense", September 2009, referenced in Sections 611.381 and 611.531. BOARD NOTE: Also available from NEMI and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)").

"Palintest ChloroSense (20)" means "Free and Total Chlorine in Drinking Water by Amperometry using disposable sensors", Revision 1.1 (February 2020), referenced in Sections 611.381 and 611.531.

"QuikChem 10-204-00-1-X (00)" means "Digestion and distillation of total cyanide in drinking and wastewaters using MICRO DIST and determination of cyanide by flow injection analysis", Revision 2.1 (November 30, 2000). Available from Lachat Instruments, 6645 W. Mill Rd., Milwaukee, WI 53218 (414–358–4200) and USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)"). Referenced in Section 611.611.

"RAPID'E. coli (20)" means "Simultaneous Detection of Total Coliform Bacteria and Escherichia coli Using RAPID'E. coli 2 (REC2) in Drinking Water" (May 2020). Available from Bio-Rad Laboratories, 2000 Nobel Drive, Hercules, California 94547. Referenced in Sections 611.802 and 611.1052.

"Readycult® (07)" means "Readycult Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Finished Waters", Version 1.1 (January 2007). Available from EMD Millipore (division of Merck KGgA, Darmstadt, Germany), 290 Concord Road, Billerica, MA 01821 (800-645-5476 or 781-533-6000) and USEPA, OGWDW (under "Ground Water Rule (PDF)" and "Revised Total Coliforms Rules (PDF)"). Referenced in Sections 611.802 and 611.1052.

"SimPlate (00)" means "IDEXX SimPlate™ HPC Test Method for Heterotrophs in Water" (November 29, 2000). Available from IDEXX Laboratories, Inc., One IDEXX Drive, Westbrook, Maine 04092 (800-548-6733). Referenced in Section 611.531.

SM Methods. Approved as the version in the indicated editions of "Standard Methods for the Examination of Water and Wastewater".

Available from the American Public Health Association, 800 I Street NW, Washington, DC 20005, 202-777-2742; American Water Works Association, 6666 West Quincy Ave., Denver, CO 80235, 303-794-7711, ~~https://www.awwa.org/Publications/Standard-Methods;~~ Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314, 800-666-0206, www.wef.org; or Standard Methods Online, 800-633-4931, www.standardmethods.org.

BOARD NOTE: The Board did not separately list versions of methods from Standard Methods Online also appearing in a printed edition. Using a method in the approved version as available from Standard Methods Online is acceptable.

"SM 302 (71)" means Method 302, "Gross Alpha and Gross Beta Radioactivity in Water (Total, Suspended, and Dissolved)", only the version in the 13th edition. Referenced in Section 611.720.

"SM 303 (71)" means Method 303, "Total Radioactive Strontium and Strontium 90 in Water", only the version in the 13th edition. Referenced in Section 611.720.

"SM 304 (71)" means Method 304, "Radium in Water by Precipitation", only the version in the 13th edition. Referenced in Section 611.720.

"SM 305 (71)" means Method 305, "Radium 226 by Radon in Water (Soluble, Suspended, and Total)", only the version in the 13th edition. Referenced in Section 611.720.

"SM 306 (71)" means Method 306, "Tritium in Water", in "Standard Methods for the Examination of Water and Wastewater", only the version in the 13th edition. Referenced in Section 611.720.

"SM 2130 B (88)" means Method 2130 B, "Turbidity", "Nephelometric Method", only the version in the 18th edition. Referenced in Section 611.531.

"SM 2130 B (94)" means Method 2130 B, "Turbidity", "Nephelometric Method", only the version in the 19th and 20th editions. Referenced in Section 611.531.

"SM 2130 B (01)" means Method 2130 B, "Turbidity", "Nephelometric Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.531.

"SM 2320 B (91)" means Method 2320 B, "Alkalinity", "Titration Method", only the version in the 18th and 19th editions. Referenced in Section 611.611.

"SM 2320 B (97)" means Method 2320 B, "Alkalinity", "Titration Method", only the version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th, ~~editions~~. Referenced in Section 611.611.

"SM 2510 B (91)" means Method 2510 B, "Conductivity", "Laboratory Method", only the version in the 18th and 19th editions. Referenced in Section 611.611.

"SM 2510 B (97)" means Method 2510 B, "Conductivity", "Laboratory Method", only the version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 2550 (88)" means Method 2550, "Temperature, Laboratory and Field Methods", only the version in the 18th edition. Referenced in Section 611.611.

"SM 2550 (93)" means Method 2550, "Temperature, Laboratory and Field Methods", only the version in the 19th and 20th editions. Referenced in Section 611.611.

"SM 2550 (00)" means Method 2550, "Temperature, Laboratory and Field Methods", only the version in the 21st edition. Referenced in Section 611.611.

"SM 2550 (10)" means Method 2550, "Temperature, Laboratory and Field Methods", only the version in the 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 3111 B (89)" means Method 3111 B, "Metals by Flame Atomic Absorption Spectrometry", "Direct Air-Acetylene Flame Method", only the version in the 18th edition. Referenced in Sections 611.611 and 611.612.

"SM 3111 B (93)" means Method 3111 B, "Metals by Flame Atomic Absorption Spectrometry", "Direct Air-Acetylene Flame Method", only the version in the 19th edition. Referenced in

Sections 611.611 and 611.612.

"SM 3111 B (99)" means Method 3111 B, "Metals by Flame Atomic Absorption Spectrometry", "Direct Air-Acetylene Flame Method" only the versions in the 21st, 22nd, 23rd, and 24th editions. Referenced in Sections 611.611 and 611.612.

"SM 3111 D (89)" means Method 3111 D, "Metals by Flame Atomic Absorption Spectrometry", "Direct Nitrous Oxide-Acetylene Flame Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 3111 D (93)" means Method 3111 D, "Metals by Flame Atomic Absorption Spectrometry", "Direct Nitrous Oxide-Acetylene Flame Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 3111 D (99)" means Method 3111 D, "Metals by Flame Atomic Absorption Spectrometry", "Direct Nitrous Oxide-Acetylene Flame Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 3112 B (88)" means Method 3112 B, "Metals by Cold-Vapor Atomic Absorption Spectrometry", "Cold-Vapor Atomic Absorption Spectrometric Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 3112 B (93)" means Method 3112 B, "Metals by Cold-Vapor Atomic Absorption Spectrometry", "Cold-Vapor Atomic Absorption Spectrometric Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 3112 B (99)" means Method 3112 B, "Metals by Cold-Vapor Atomic Absorption Spectrometry", "Cold-Vapor Atomic Absorption Spectrometric Method", only the version in the 21st edition. Referenced in Section 611.611.

"SM 3112 B (09)" means Method 3112 B, "Metals by Cold-Vapor Atomic Absorption Spectrometry", "Cold-Vapor Atomic Absorption Spectrometric Method", only the version in the 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 3113 B (89)" means Method 3113 B, "Metals by Electrothermal Atomic Absorption Spectrometry", "Electrothermal

Atomic Absorption Spectrometric Method", only the version in the 18th edition. Referenced in Sections 611.611 and 611.612.

"SM 3113 B (93)" means Method 3113 B, "Metals by Electrothermal Atomic Absorption Spectrometry", "Electrothermal Atomic Absorption Spectrometric Method", only the version in the 19th edition. (The same version appears in the 20th edition but USEPA does not approve that edition.) Referenced in Sections 611.611 and 611.612.

"SM 3113 B (99)" means Method 3113 B, "Metals by Electrothermal Atomic Absorption Spectrometry", "Electrothermal Atomic Absorption Spectrometric Method", only the version in the 21st edition. Referenced in Sections 611.611 and 611.612.

"SM 3113 B (04)" means Method 3113 B, "Metals by Electrothermal Atomic Absorption Spectrometry", "Electrothermal Atomic Absorption Spectrometric Method", only the version from Standard Methods Online as Method 3113 B-04. Referenced in Sections 611.611 and 611.612.

"SM 3113 B (10)" means Method 3113 B, "Metals by Electrothermal Atomic Absorption Spectrometry", "Electrothermal Atomic Absorption Spectrometric Method", only the version in the 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Sections 611.611 and 611.612.

"SM 3114 B (89)" means Method 3114 B, "Metals by Hydride Generation/Atomic Absorption Spectrometry", "Manual Hydride Generation/Atomic Absorption Spectrometric Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 3114 B (93)" means Method 3114 B, "Metals by Hydride Generation/Atomic Absorption Spectrometry", "Manual Hydride Generation/Atomic Absorption Spectrometric Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 3114 B (97)" means Method 3114 B, "Metals by Hydride Generation/Atomic Absorption Spectrometry", "Manual Hydride Generation/Atomic Absorption Spectrometric Method", only the version in the 21st edition. (The same version appears in the 20th edition, but USEPA does not approve that edition.) Referenced in Section 611.611.

"SM 3114 B (09)" means Method 3114 B, "Metals by Hydride Generation/Atomic Absorption Spectrometry", "Manual Hydride Generation/Atomic Absorption Spectrometric Method", only the version in the 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 3120 B (89)" means Method 3120 B, "Metals by Plasma Emission Spectroscopy", "Inductively Coupled Plasma (ICP) Method", only the version in the 18th edition. Referenced in Sections 611.611 and 611.612.

"SM 3120 B (93)" means Method 3120 B, "Metals by Plasma Emission Spectroscopy", "Inductively Coupled Plasma (ICP) Method", only the version in the 19th and 20th editions. Referenced in Sections 611.611 and 611.612.

"SM 3120 B (99)" means Method 3120 B, "Metals by Plasma Emission Spectroscopy", "Inductively Coupled Plasma (ICP) Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Sections 611.611 and 611.612.

"SM 3125 (97)" means Method 3125, "Metals by Inductively Coupled Plasma/Mass Spectrometry", only the version in the 20th and 21st editions. Referenced in Section 611.720.

"SM 3500-Ca B (97)" means Method 3500-Ca B, "Calcium", "EDTA Titrimetric Method", only the version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th ~~editions~~. Referenced in Section 611.611.

"SM 3500-Ca D (91)" means Method 3500-Ca D, "Calcium", "EDTA Titrimetric Method", only the version in the 18th and 19th editions. Referenced in Section 611.611.

"SM 3500-Mg B (97)" means Method 3500-Mg B, "Magnesium", "Calculation Method", only the version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 3500-Mg E (90)" means Method 3500-Mg E, "Magnesium", "Calculation Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 3500-Mg E (91)" means Method 3500-Mg E, "Magnesium", "Calculation Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4110 B (90)" means Method 4110 B, "Determination of Anions by Ion Chromatography", "Ion Chromatography with Chemical Suppression of Eluent Conductivity", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4110 B (91)" means Method 4110 B, "Determination of Anions by Ion Chromatography", "Ion Chromatography with Chemical Suppression of Eluent Conductivity", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4110 B (97)" means Method 4110 B, "Determination of Anions by Ion Chromatography", "Ion Chromatography with Chemical Suppression of Eluent Conductivity", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4110 B (00)" means Method 4110 B, "Determination of Anions by Ion Chromatography", "Ion Chromatography with Chemical Suppression of Eluent Conductivity", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 4500-Cl D (89)" means Method 4500-Cl D, "Chlorine (Residual)", "Amperometric Titration Method", only the version in the 18th edition. Referenced in Section 611.531.

"SM 4500-Cl D (93)" means Method 4500-Cl D, "Chlorine (Residual)", "Amperometric Titration Method", only the version in the 19th and 20th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl D (00)" means Method 4500-Cl D, "Chlorine (Residual)", "Amperometric Titration Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl E (89)" means Method 4500-Cl E, "Chlorine (Residual)", "Low-Level Amperometric Titration Method", only the version in the 18th edition. Referenced in Section 611.531.

"SM 4500-Cl E (93)" means Method 4500-Cl E, "Chlorine (Residual)", "Low-Level Amperometric Titration Method", only the version in the 19th and 20th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl E (00)" means Method 4500-Cl E, "Chlorine (Residual)", "Low-Level Amperometric Titration Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl F (89)" means Method 4500-Cl F, "Chlorine (Residual)", "DPD Ferrous Titrimetric Method", only the version in the 18th edition. Referenced in Section 611.531.

"SM 4500-Cl F (93)" means Method 4500-Cl F, "Chlorine (Residual)", "DPD Ferrous Titrimetric Method", only the version in the 19th and 20th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl F (00)" means Method 4500-Cl F, "Chlorine (Residual)", "DPD Ferrous Titrimetric Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl G (89)" means Method 4500-Cl G, "Chlorine (Residual)", "DPD Colorimetric Method", only the version in the 18th edition. Referenced in Section 611.531.

"SM 4500-Cl G (93)" means Method 4500-Cl G, "Chlorine (Residual)", "DPD Colorimetric Method", only the version in the 19th and 20th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl G (00)" means Method 4500-Cl G, "Chlorine (Residual)", "DPD Colorimetric Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl H (89)" means Method 4500-Cl H, "Chlorine (Residual)", "Syringaldazine (FACTS) Method", only the version in the 18th edition. Referenced in Section 611.531.

"SM 4500-Cl H (93)" means Method 4500-Cl H, "Chlorine (Residual)", "Syringaldazine (FACTS) Method", only the version in the 19th and 20th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl H (00)" means Method 4500-Cl H, "Chlorine

(Residual)", "Syringaldazine (FACTS) Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl I (89)" means Method 4500-Cl I, "Chlorine (Residual)", "Iodometric Electrode Method", only the version in the 18th edition. Referenced in Section 611.531.

"SM 4500-Cl I (93)" means Method 4500-Cl I, "Chlorine (Residual)", "Iodometric Electrode Method", only the version in the 19th and 20th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-Cl I (00)" means Method 4500-Cl I, "Chlorine (Residual)", "Iodometric Electrode Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-ClO_2 C (88)" means Method 4500-ClO_2 C, "Chlorine Dioxide", "Amperometric Method I", only the version in the 18th edition. Referenced in Sections 611.381 and 611.531.

"SM 4500-ClO_2 C (93)" means Method 4500-ClO_2 C, "Chlorine Dioxide", "Amperometric Method I", only the version in the 19th and 20th editions. Referenced in Section 611.531.

"SM 4500-ClO_2 C (00)" means Method 4500-ClO_2 C, "Chlorine Dioxide", "Amperometric Method I", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.531.

"SM 4500-ClO_2 D (88)" means Method 4500-ClO_2 D, "Chlorine Dioxide", "DPD Method", only the version in the 18th edition. Referenced in Section 611.531.

"SM 4500-ClO_2 D (93)" means Method 4500-ClO_2 D, "Chlorine Dioxide", "DPD Method", only the version in the 19th and 20th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-ClO_2 D (00)" means Method 4500-ClO_2 D, "Chlorine Dioxide", "DPD Method", only the version in the 21st edition. Referenced in Section 611.381.

"SM 4500-ClO_2 E (88)" means Method 4500-ClO_2 E, "Chlorine Dioxide", "Amperometric Method II (Proposed)", only the version

in the 18th edition. Referenced in Section 611.531.

"SM 4500-ClO_2 E (93)" means Method 4500-ClO_2 E, "Chlorine Dioxide", "Amperometric Method II", only the version in the 19th and 20th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-ClO_2 E (00)" means Method 4500-ClO_2 E, "Chlorine Dioxide", "Amperometric Method II", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Sections 611.381 and 611.531.

"SM 4500-CN^- C (90)" means Method 4500-CN^- C, "Cyanide", "Total Cyanide after Distillation", only the version in the 18th and 19th editions. Referenced in Section 611.611.

~~"SM 4500-CN^- C (97)" means Method 4500-CN^- C, "Cyanide", "Total Cyanide after Distillation", only the version in the 20th edition. Referenced in Section 611.611.~~

"SM 4500-CN^- C (99)" means Method 4500-CN^- C, "Cyanide", "Total Cyanide after Distillation", only the version in the 20th, 21st and 22nd editions. Referenced in Section 611.611.

"SM 4500-CN^- C (16)" means Method 4500-CN^- C, "Cyanide", "Total Cyanide after Distillation", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.611.

"SM 4500-CN^- E (90)" means Method 4500-CN^- E, "Cyanide", "Colorimetric Method", only the version in the 18th and 19th editions. Referenced in Section 611.611.

"SM 4500-CN^- E (97)" means Method 4500-CN^- E, "Cyanide", "Colorimetric Method", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4500-CN^- E (99)" means Method 4500-CN^- E, "Cyanide", "Colorimetric Method", only the version in the 21st, ~~and~~ 22nd, and 23rd editions. Referenced in Section 611.611.

"SM 4500-CN^- E (16)" means Method 4500-CN^- E, "Cyanide", "Colorimetric Method", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.611.

"SM 4500-CN^- F (90)" means Method 4500-CN^- F, "Cyanide",

"Cyanide-Selective Electrode Method", only the version in the 18th and 19th editions. Referenced in Section 611.611.

"SM 4500-CN^- F (97)" means Method 4500-CN^- F, "Cyanide", "Cyanide-Selective Electrode Method", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4500-CN^- F (99)" means Method 4500-CN^- F, "Cyanide", "Cyanide-Selective Electrode Method", only the version in the 21st and 22nd editions. Referenced in Section 611.611.

"SM 4500-CN^- F (16)" means Method 4500-CN^- F, "Cyanide", "Cyanide-Ion Selective Electrode Method", only the version in the 23rd and 24th edition. Referenced in Section 611.611.

"SM 4500-CN^- G (90)" means Method 4500-CN^- G, "Cyanide", "Cyanides Amenable to Chlorination after Distillation", only the version in the 18th and 19th editions. Referenced in Section 611.611.

"SM 4500-CN^- G (97)" means Method 4500-CN^- G, "Cyanide", "Cyanides Amenable to Chlorination after Distillation", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4500-CN^- G (99)" means Method 4500-CN^- G, "Cyanide", "Cyanides Amenable to Chlorination after Distillation", only the version in the 21st and 22nd editions. Referenced in Section 611.611.

"SM 4500-CN^- G (16)" means Method 4500-CN^- G, "Cyanide", "Cyanides Amenable to Chlorination after Distillation", only the version in the 23rd and 24th edition. Referenced in Section 611.611.

"SM 4500-F^- B (88)" means Method 4500-F^- B, "Fluoride", "Preliminary Distillation Step", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-F^- B (94)" means Method 4500-F^- B, "Fluoride", "Preliminary Distillation Step", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-F^- B (97)" means Method 4500-F^- B, "Fluoride", "Preliminary Distillation Step", only the version in the 20th, 21st,

22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 4500-F^- C (88)" means Method 4500-F^- C, "Fluoride", "Ion-Selective Electrode Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-F^- C (94)" means Method 4500-F^- C, "Fluoride", "Ion-Selective Electrode Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-F^- C (97)" means Method 4500-F^- C, "Fluoride", "Ion-Selective Electrode Method", only the version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th ~~-~~editions. Referenced in Section 611.611.

"SM 4500-F^- D (88)" means Method 4500-F^- D, "Fluoride", "SPADNS Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-F^- D (94)" means Method 4500-F^- D, "Fluoride", "SPADNS Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-F^- D (97)" means Method 4500-F^- D, "Fluoride", "SPADNS Method", only the version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 4500-F^- E (88)" means Method 4500-F^- E, "Fluoride", "Complexone Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-F^- E (94)" means Method 4500-F^- E, "Fluoride", "Complexone Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-F^- E (97)" means Method 4500-F^- E, "Fluoride", "Complexone Method", only the version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 4500-H^+ B (90)" means Method 4500-H^+ B, "pH Value", "Electrometric Method", only the version in the 18th and 19th editions. Referenced in Section 611.611.

"SM 4500-H^+ B (96)" means Method 4500-H^+ B, "pH Value", "Electrometric Method", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4500-H^+ B (00)" means Method 4500-H^+ B, "pH Value", "Electrometric Method", only the version in the 21st, 22nd, and 23rd editions. Referenced in Section 611.611.

SM 4500-H^+ B (21)" means Method 4500-H^+ B, "pH Value", "Electrometric Method", only the version in the 24th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- D (88)" means Method 4500-NO_3^- D, "Nitrogen (Nitrate)", "Nitrate Electrode Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- D (93)" means Method 4500-NO_3^- D, "Nitrogen (Nitrate)", "Nitrate Electrode Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- D (97)" means Method 4500-NO_3^- D, "Nitrogen (Nitrate)", "Nitrate Electrode Method", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- D (00)" means Method 4500-NO_3^- D, "Nitrogen (Nitrate)", "Nitrate Electrode Method", only the version in the 21st and 22nd editions. Referenced in Section 611.611.

"SM 4500-NO_3^- D (16)" means Method 4500-NO_3^- D, "Nitrogen (Nitrate)", "Nitrate Electrode Method", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.611.

"SM 4500-NO_3^- E (88)" means Method 4500-NO_3^- E, "Nitrogen (Nitrate)", "Cadmium Reduction Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- E (93)" means Method 4500-NO_3^- E, "Nitrogen (Nitrate)", "Cadmium Reduction Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- E (97)" means Method 4500-NO_3^- E, "Nitrogen (Nitrate)", "Cadmium Reduction Method", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- E (00)" means Method 4500-NO_3^- E, "Nitrogen (Nitrate)", "Cadmium Reduction Method", only the version in the 21st and 22nd editions. Referenced in Section 611.611.

"SM 4500-NO_3^- E (16)" means Method 4500-NO_3^- E, "Nitrogen (Nitrate)", "Cadmium Reduction Method", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.611.

"SM 4500-NO_3^- F (88)" means Method 4500-NO_3^- F, "Nitrogen (Nitrate)", "Automated Cadmium Reduction Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- F (93)" means Method 4500-NO_3^- F, "Nitrogen (Nitrate)", "Automated Cadmium Reduction Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- F (97)" means Method 4500-NO_3^- F, "Nitrogen (Nitrate)", "Automated Cadmium Reduction Method", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4500-NO_3^- F (00)" means Method 4500-NO_3^- F, "Nitrogen (Nitrate)", "Automated Cadmium Reduction Method", only the version in the 21st and 22nd editions. Referenced in Section 611.611.

"SM 4500-NO_3^- F (16)" means Method 4500-NO_3^- F, "Nitrogen (Nitrate)", "Automated Cadmium Reduction Method", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.611.

"SM 4500-NO_2^- B (88)" means Method 4500-NO_2^- B, "Nitrogen (Nitrite)", "Colorimetric Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-NO_2^- B (93)" means Method 4500-NO_2^- B, "Nitrogen (Nitrite)", "Colorimetric Method", only the version in the 19th and 20th editions. Referenced in Section 611.611.

"SM 4500-NO_2^- B (00)" means Method 4500-NO_2^- B, "Nitrogen (Nitrite)", "Colorimetric Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 4500-O_3 B (88)" means Method 4500-O_3 B, "Ozone (Residual) (Proposed)", "Indigo Colorimetric Method", only the

version in the 18th edition. Referenced in Section 611.531.

"SM 4500-O_3 B (93)" means Method 4500-O_3 B, "Ozone (Residual)", "Indigo Colorimetric Method", only the version in the 19th edition. Referenced in Section 611.531.

"SM 4500-O_3 B (97)" means Method 4500-O_3 B, "Ozone (Residual)", "Indigo Colorimetric Method", only the version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.531.

"SM 4500-P E (88)" means Method 4500-P E, "Phosphorus", "Ascorbic Acid Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-P E (93)" means Method 4500-P E, "Phosphorus", "Ascorbic Acid Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-P E (97)" means Method 4500-P E, "Phosphorus", "Ascorbic Acid Method", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4500-P E (99)" means Method 4500-P E, "Phosphorus", "Ascorbic Acid Method", only the version in the 21st and 22nd editions. Referenced in Section 611.611.

"SM 4500-P E (05)" means Method 4500-P E, "Phosphorus", "Ascorbic Acid Method", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.611.

"SM 4500-P F (88)" means Method 4500-P F, "Phosphorus", "Automated Ascorbic Acid Reduction Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-P F (93)" means Method 4500-P F, "Phosphorus", "Automated Ascorbic Acid Reduction Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-P F (97)" means Method 4500-P F, "Phosphorus", "Automated Ascorbic Acid Reduction Method", only the version in the 20th edition. Referenced in Section 611.611.

"SM 4500-P F (99)" means Method 4500-P F, "Phosphorus", "Automated Ascorbic Acid Reduction Method", only the version in the 21st and 22nd editions. Referenced in Section 611.611.

"SM 4500-P F (05)" means Method 4500-P F, "Phosphorus", "Automated Ascorbic Acid Reduction Method", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.611.

"SM 4500-Si D (88)" means Method 4500-Si D, "Silica", "Molybdosilicate Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-Si D (93)" means Method 4500-Si D, "Silica", "Molybdosilicate Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-Si E (88)" means Method 4500-Si E, "Silica", "Molybdosilicate Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-Si E (93)" means Method 4500-Si E, "Silica", "Molybdosilicate Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-Si F (88)" means Method 4500-Si F, "Silica", "Molybdosilicate Method", only the version in the 18th edition. Referenced in Section 611.611.

"SM 4500-Si F (93)" means Method 4500-Si F, "Silica", "Molybdosilicate Method", only the version in the 19th edition. Referenced in Section 611.611.

"SM 4500-SiO_2 C (97)" means Method 4500-SiO_2 C, "Silica", "Molybdosilicate Method", only the version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 4500-SiO_2 D (97)" means Method 4500-SiO_2 D, "Silica", "Heteropoly Blue Method", only the version in the 20th, 21st, 22nd,~~ and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 4500-SiO_2 E (97)" means Method 4500-SiO_2 E, "Silica", "Automated Method for Molybdate-Reactive Silica", only the

version in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.611.

"SM 5310 B (92)" means Method 5310 B, "Total Organic Carbon (TOC)", "Combustion-Infrared Method", only the version in the supplement to the 19th edition. Referenced in Section 611.381.

"SM 5310 B (96)" means Method 5310 B, "Total Organic Carbon (TOC)", "High-Temperature Combustion Method", only the version in the 20th edition. Referenced in Section 611.381.

"SM 5310 B (00)" means Method 5310 B, "Total Organic Carbon (TOC)", "High-Temperature Combustion Method", only the version in the 21st and 22nd editions. Referenced in Section 611.381.

"SM 5310 B (14)" means Method 5310 B, "Total Organic Carbon (TOC)", "High-Temperature Combustion Method", only the version in the 23rd edition. Referenced in Section 611.381.

"SM 5310 B (22)" means Method 5310 B, "Total Organic Carbon (TOC)", "High-Temperature Combustion Method", only the version in the 24th edition. Referenced in Section 611.381.

"SM 5310 C (92)" means Method 5310 C, "Total Organic Carbon (TOC)", "Persulfate-Ultraviolet Oxidation Method", only the version in the supplement to the 19th edition. Referenced in Section 611.381.

"SM 5310 C (96)" means Method 5310 C, "Total Organic Carbon (TOC)", "Persulfate-Ultraviolet or Heated-Persulfate Oxidation Method", only the version in the 20th edition. Referenced in Section 611.381.

"SM 5310 C (00)" means Method 5310 C, "Total Organic Carbon (TOC)", "Persulfate-Ultraviolet or Heated-Persulfate Oxidation Method", only the version in the 21st and 22nd editions. Referenced in Section 611.381.

"SM 5310 C (14)" means Method 5310 C, "Total Organic Carbon (TOC)", "Persulfate-Ultraviolet or Heated-Persulfate Oxidation Method", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.381.

"SM 5310 D (92)" means Method 5310 D, "Total Organic Carbon (TOC)", "Wet-Oxidation Method", only the version in the supplement to the 19th edition. Referenced in Section 611.381.

"SM 5310 D (96)" means Method 5310 D, "Total Organic Carbon (TOC)", "Wet-Oxidation Method", only the version in the 20th edition. Referenced in Section 611.381.

"SM 5310 D (00)" means Method 5310 D, "Total Organic Carbon (TOC)", "Wet-Oxidation Method", only the version in the 21st and 22nd ~~-~~editions. Referenced in Section 611.381.

"SM 5910 B (94)" means Method 5910 B, "UV-Absorbing Organic Constituents", "Ultraviolet Absorption Method", only the version in the 19th and 20th editions. Referenced in Section 611.381.

"SM 5910 B (00)" means Method 5910 B, "UV-Absorbing Organic Constituents", "Ultraviolet Absorption Method", only the version in the 21st edition. Referenced in Section 611.381.

"SM 5910 B (11)" means Method 5910 B, "UV-Absorbing Organic Constituents", "Ultraviolet Absorption Method", only the version in the 22nd edition. Referenced in Section 611.381.

"SM 5910 B (13)" means Method 5910 B, "UV-Absorbing Organic Constituents", "Ultraviolet Absorption Method", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.381.

"SM 6251 B (94)" means Method 6251 B, "Disinfection By-Products: Haloacetic Acids and Trichlorophenol", "Micro Liquid-Liquid Extraction Gas Chromatographic Method", only the version in the 19th, 20th, and 21st editions. Referenced in Section 611.381.

"SM 6251 B (07)" means Method 6251 B, "Disinfection By-Products: Haloacetic Acids and Trichlorophenol", "Micro Liquid-Liquid Extraction Gas Chromatographic Method", only the version in the 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.381.

"SM 6610 (92)" means Method 6610, "Carbamate Pesticides (Proposed)", only the version in the supplement to the 18th edition and the 19th edition. Referenced in Section 611.645.

"SM 6610 (96)" means Method 6610, "Carbamate Pesticides", only the version in the 20th edition. Referenced in Section 611.645.

"SM 6610 B (99)" means Method 6610, "Carbamate Pesticides", "High-Performance Liquid Chromatographic Method", only the version in the 21st edition. Referenced in Section 611.645.

"SM 6610 B (04)" means Method 6610, "Carbamate Pesticides", "High-Performance Liquid Chromatographic Method", only the version in 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.645.

"SM 6640 B (01)" means Method 6640 B, "Acidic Herbicide Compounds", "Micro Liquid-Liquid Extraction Gas Chromatographic Method", only the version in 21st edition. Referenced in Section 611.645.

"SM 6640 B (06)" means Method 6640 B, "Acidic Herbicide Compounds", "Micro Liquid-Liquid Extraction Gas Chromatographic Method", only the version in 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.645.

"SM 6651 B (91)" means Method 6651 B, "Glyphosate Herbicide (Proposed)", "Liquid Chromatographic Post-Column Fluorescence Method", only the version in 18th edition, or "Glyphosate Herbicide", "Liquid Chromatographic Post-Column Fluorescence Method", in 19th edition. Referenced in Section 611.645.

"SM 6651 B (96)" means Method 6651 B, "Glyphosate Herbicide", "Liquid Chromatographic Post-Column Fluorescence Method", only the version in 20th edition. Referenced in Section 611.645.

"SM 6651 B (00)" means Method 6651 B, "Glyphosate Herbicide", "Liquid Chromatographic Post-Column Fluorescence Method", only the version in 21st edition. Referenced in Section 611.645.

"SM 6651 B (05)" means Method 6651 B, "Glyphosate Herbicide", "Liquid Chromatographic Post-Column Fluorescence Method", only the version in 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.645.

"SM 7110 B (85)" means Method 7110 B, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Counting Method", only the version in 17th edition. Referenced in Section 611.720.

"SM 7110 B (91)" means Method 7110 B, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Evaporation Method for Gross Alpha-Beta", only the version in 18th and 19th editions. Referenced in Section 611.720.

"SM 7110 B (96)" means Method 7110 B, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Evaporation Method for Gross Alpha-Beta", only the version in 20th edition. Referenced in Section 611.720.

"SM 7110 B (00)" means Method 7110 B, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Evaporation Method for Gross Alpha-Beta", only the version in 21st, 22nd, and 23rd editions. Referenced in Section 611.720.

"SM 7110 B (21)" means Method 7110 B, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Evaporation Method for Gross Alpha-Beta", only the version in the 24th edition. Referenced in Section 611.720.

"SM 7110 C (91)" means Method 7110 C, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Coprecipitation Method for Gross Alpha Radioactivity in Drinking Water (Proposed)", only the version in 18th and 19th editions. Referenced in Section 611.720.

"SM 7110 C (96)" means Method 7110 C, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Coprecipitation Method for Gross Alpha Radioactivity in Drinking Water", only the version in 20th edition. Referenced in Section 611.720.

"SM 7110 C (00)" means Method 7110 C, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)",

"Coprecipitation Method for Gross Alpha Radioactivity in Drinking Water", only the version in 21st, 22nd, and 23rd editions. Referenced in Section 611.720.

"SM 7110 C (21)" means Method 7110 C, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Evaporation Method for Gross Alpha-Beta", only the version in the 24th edition. Referenced in Section 611.720.

"SM 7110 D (17)" means Method 7110 D, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Liquid Scintillation Spectroscopic Method for Gross Alpha-Beta Radioactivity in Drinking Water", only the version from Standard Methods Online as Method 7110 D-17. Referenced in Section 611.720.

"SM 7110 D (21)" means Method 7110 D, "Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved)", "Liquid Scintillation Spectroscopic Method for Gross Alpha-Beta Radioactivity in Drinking Water", only the version in the 24th edition. Referenced in Section 611.720.

"SM 7120 (94)" means Method 7120, "Gamma-Emitting Radionuclides", only the version in the 19th edition. Referenced in Section 611.720.

"SM 7120 (97)" means Method 7120, "Gamma-Emitting Radionuclides", only the version in the 20th, 21st, 22nd, and 23rd editions. Referenced in Section 611.720.

"SM 7120 (21)" means Method 7120, "Gamma-Emitting Radionuclides", only the version in the 24th edition. Referenced in Section 611.720.

"SM 7500-Cs B (88)" means Method 7500-Cs B, "Radioactive Cesium", "Precipitation Method", only the version in the 17th and 18th editions. Referenced in Section 611.720.

"SM 7500-Cs B (93)" means Method 7500-Cs B, "Radioactive Cesium", "Precipitation Method", only the version in the 19th and 20th editions. Referenced in Section 611.720.

"SM 7500-Cs B (00)" means Method 7500-Cs B, "Radioactive Cesium", "Precipitation Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.720.

"SM 7500-I B (88)" means Method 7500-I B, "Radioactive Iodine", "Precipitation Method", only the version in the 17th and 18th editions. Referenced in Section 611.720.

"SM 7500-I B (93)" means Method 7500-I B, "Radioactive Iodine", "Precipitation Method", only the version in the 19th and 20th editions. Referenced in Section 611.720.

"SM 7500-I B (00)" means Method 7500-I B, "Radioactive Iodine", "Precipitation Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.720.

"SM 7500-I C (88)" means Method 7500-I C, "Radioactive Iodine", "Ion-Exchange Method", only the version in the 17th and 18th editions. Referenced in Section 611.720.

"SM 7500-I C (93)" means Method 7500-I C, "Radioactive Iodine", "Ion-Exchange Method", only the version in the 19th and 20th editions. Referenced in Section 611.720.

"SM 7500-I C (00)" means Method 7500-I C, "Radioactive Iodine", "Ion-Exchange Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.720.

"SM 7500-I D (88)" means Method 7500-I D, "Radioactive Iodine", "Distillation Method", only the version in the 17th and 18th editions. Referenced in Section 611.720.

"SM 7500-I D (93)" means Method 7500-I D, "Radioactive Iodine", "Distillation Method", only the version in the 19th and 20th editions. Referenced in Section 611.720.

"SM 7500-I D (00)" means Method 7500-I D, "Radioactive Iodine", "Distillation Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.720.

"SM 7500-Ra B (88)" means Method 7500-Ra B, "Radium", "Precipitation Method", only the version in the 17th and 18th editions. Referenced in Section 611.720.

"SM 7500-Ra B (93)" means Method 7500-Ra B, "Radium", "Precipitation Method", only the version in the 19th and 20th editions. Referenced in Section 611.720.

"SM 7500-Ra B (01)" means Method 7500-Ra B, "Radium", "Precipitation Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.720.

"SM 7500-Ra C (88)" means Method 7500-Ra C, "Radium", "Emanation Method", only the version in the 17th and 18th editions. Referenced in Section 611.720.

"SM 7500-Ra C (93)" means Method 7500-Ra C, "Radium", "Emanation Method", only the version in the 19th and 20th editions. Referenced in Section 611.720.

"SM 7500-Ra C (01)" means Method 7500-Ra C, "Radium", "Emanation Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.720.

"SM 7500-Ra D (88)" means Method 7500-Ra D, "Radium", "Sequential Precipitation Method", only the version in the 17th and 18th editions. Referenced in Section 611.720.

"SM 7500-Ra D (93)" means Method 7500-Ra D, "Radium", "Sequential Precipitation Method", only the version in the 19th and 20th editions. Referenced in Section 611.720.

"SM 7500-Ra D (01)" means Method 7500-Ra D, "Radium", "Sequential Precipitation Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.720.

~~"SM 7500-Ra E (01)" means Method 7500-Ra E, "Radium", "Gamma Spectrometry Method", only the version in the 22nd edition. Referenced in Section 611.720.~~

"SM 7500-Ra E (07)" means Method 7500-Ra E, "Radium", "Gamma Spectrometry Method", only the version in the 22nd, 23rd~~rd~~ and 24th editions~~edition~~. Referenced in Section 611.720.

"SM 7500-Sr B (88)" means Method 7500-Sr B, "Total Radioactive Strontium and Strontium 90", "Precipitation Method", only the version in the 17th and 18th editions. Referenced in Section 611.720.

"SM 7500-Sr B (93)" means Method 7500-Sr B, "Total Radioactive Strontium and Strontium 90", "Precipitation Method", only the version in the 19th and 20th editions. Referenced in Section 611.720.

"SM 7500-Sr B (01)" means Method 7500-Sr B, "Total Radioactive Strontium and Strontium 90", "Precipitation Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.720.

"SM 7500-^{3}H B (88)" means Method 7500-^{3}H B, "Tritium", "Liquid Scintillation Spectrometric Method", only the version in the 17th and 18th editions. Referenced in Section 611.720.

"SM 7500-^{3}H B (93)" means Method 7500-^{3}H B, "Tritium", "Liquid Scintillation Spectrometric Method", only the version in the 19th and 20th editions. Referenced in Section 611.720.

"SM 7500-^{3}H B (00)" means Method 7500-^{3}H B, "Tritium", "Liquid Scintillation Spectrometric Method", only the version in the 21st, 22nd, and 23rd editions. Referenced in Section 611.720.

"SM 7500-^{3}H B (22)" means Method 7500-^{3}H B, "Tritium", "Liquid Scintillation Spectrometric Method", only the version in the 24th edition. Referenced in Section 611.720.

"SM 7500-U B (88)" means Method 7500-U B, "Uranium", "Radiochemical Method (Proposed)", only the version in the 17th edition. Referenced in Section 611.720.

"SM 7500-U B (91)" means only Method 7500-U B, "Uranium", "Radiochemical Method (Proposed)", the version in the 18th edition, and "Uranium", "Radiochemical Method", the version in the 19th edition. Referenced in Section 611.720.

"SM 7500-U B (96)" means Method 7500-U B, "Uranium", "Radiochemical Method", only the version in the 20th edition. Referenced in Section 611.720.

"SM 7500-U B (00)" means Method 7500-U B, "Uranium", "Radiochemical Method", only the version in the 21st, 22nd, ~~and~~ 23rd, and 24th editions. Referenced in Section 611.720.

"SM 7500-U C (88)" means Method 7500-U C, "Uranium", "Fluorometric Method (Proposed)", only the version in the 17th edition. Referenced in Section 611.720.

"SM 7500-U C (91)" means Method 7500-U C, "Uranium", "Isotopic Method (Proposed)", only the version in the 18th and 19th editions. Referenced in Section 611.720.

"SM 7500-U C (96)" means Method 7500-U C, "Uranium", "Isotopic Method", only the version in the 20th edition. Referenced in Section 611.720.

"SM 7500-U C (00)" means Method 7500-U C, "Uranium", "Isotopic Method", only the version in the 21st, 22nd, and 23rd editions. Referenced in Section 611.720.

"SM 9060 A (97)" means Method 9060 A, "Samples", "Collection", only the version in the 20th and 21st editions. Referenced in Section 611.1052.

"SM 9215 B (88)" means Method 9215 B, "Heterotrophic Plate Count", "Pour Plate Method", only the version in the 18th edition. Referenced in Section 611.531.

"SM 9215 B (94)" means Method 9215 B, "Heterotrophic Plate Count", "Pour Plate Method", only the version in the 19th and 20th editions. Referenced in Section 611.531.

"SM 9215 B (00)" means Method 9215 B, "Heterotrophic Plate Count", "Pour Plate Method", only the version in the 21st edition. Referenced in Section 611.531.

"SM 9215 B (04)" means Method 9215 B, "Heterotrophic Plate Count", "Pour Plate Method", only the version in the 22nd edition. Referenced in Section 611.531.

"SM 9215 B (16)" means Method 9215 B, "Heterotrophic Plate Count", "Pour Plate Method", only the version in the 23rd edition. Referenced in Section 611.531.

"SM 9215 B (22)" means Method 9215 B, "Heterotrophic Plate Count", "Pour Plate Method", only the version in the 24th edition. Referenced in Section 611.531.

"SM 9221 A (93)" means Method 9221 A, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Introduction", only the version in the 18th edition. Referenced in Section 611.531.

"SM 9221 A (94)" means Method 9221 A, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Introduction", only the version in the 19th and 20th editions. Referenced in Section 611.531.

"SM 9221 A (99)" means Method 9221 A, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Introduction", only the version in the 21st edition. Referenced in Section 611.531.

"SM 9221 A (06)" means Method 9221 A, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Introduction", only the version in the 22nd edition. Referenced in Section 611.531.

"SM 9221 A (14)" means Method 9221 A, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Introduction", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.531.

"SM 9221 B (93)" means Method 9221 B, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Standard Total Coliform Fermentation Technique", only the version in the 18th edition. Referenced in Section 611.531.

"SM 9221 B (94)" means Method 9221 B, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Standard Total Coliform Fermentation Technique", only the version in the 19th and 20th editions. Referenced in Sections 611.531 and 611.1052.

"SM 9221 B (99)" means Method 9221 B, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Standard Total Coliform Fermentation Technique", only the version in the 21st edition. Referenced in Sections 611.531 and 611.1052.

"SM 9221 B (06)" means Method 9221 B, "Multiple-Tube Fermentation Technique for Members of the Coliform Group",

"Standard Total Coliform Fermentation Technique", only the version in the 22nd edition. Referenced in Sections 611.531 and 611.1052.

"SM 9221 B (14)" means Method 9221 B, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Standard Total Coliform Fermentation Technique", only the version in the 23rd and 24th editions~~edition~~. Referenced in Sections 611.531 and 611.1052.

"SM 9221 C (93)" means Method 9221 C, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Estimation of Bacterial Density", only the version in the 18th edition. Referenced in Section 611.531.

"SM 9221 C (94)" means Method 9221 C, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Estimation of Bacterial Density", only the version in the 19th and 20th editions. Referenced in Section 611.531.

"SM 9221 C (99)" means Method 9221 C, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Estimation of Bacterial Density", only the version in the 21st edition. Referenced in Section 611.531.

"SM 9221 C (06)" means Method 9221 C, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Estimation of Bacterial Density", only the version in the 22nd edition. Referenced in Section 611.531.

"SM 9221 C (14)" means Method 9221 C, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Estimation of Bacterial Density", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.531.

"SM 9221 D (94)" means Method 9221 D, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Presence-Absence (P-A) Coliform", only the version in the 20th edition. Referenced in Section 611.1052.

"SM 9221 D (99)" means Method 9221 D, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Presence-Absence (P-A) Coliform", only the version in the 21st edition. Referenced in Section 611.1052.

"SM 9221 D (14)" means Method 9221 D, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Presence-Absence (P-A) Coliform", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.1052.

"SM 9221 E (93)" means Method 9221 E, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Fecal Coliform Procedure", only the version in the 18th edition. Referenced in Section 611.531.

"SM 9221 E (94)" means Method 9221 E, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Fecal Coliform Procedure", only the version in the 19th and 20th editions. Referenced in Section 611.531.

"SM 9221 E (99)" means Method 9221 E, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Fecal Coliform Procedure", only the version in the 21st edition. Referenced in Section 611.531.

"SM 9221 E (06)" means Method 9221 E, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Fecal Coliform Procedure", only the version in the 22nd edition. Referenced in Section 611.531.

"SM 9221 E (14)" means Method 9221 E, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Thermotolerant (Fecal) Coliform Procedure", only the version in the 23rd and 24th editions~~edition~~. Referenced in Section 611.531.

"SM 9221 F (94)" means Method 9221 F, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Escherichia Coli Procedure (Proposed)", only the version in the 20th edition. Referenced in Sections 611.802 and 611.1052.

"SM 9221 F (06)" means Method 9221 F, "Multiple-Tube Fermentation Technique for Members of the Coliform Group", "Escherichia Coli Procedure Using Fluorogenic Substrate", only the version in the 22nd edition. Referenced in Sections 611.802 and 611.1052.

"SM 9221 F (14)" means Method 9221 F, "Multiple-Tube Fermentation Technique for Members of the Coliform Group",

"Escherichia Coli Procedure Using Fluorogenic Substrate", only the version in the 23rd and 24th editions~~edition~~. Referenced in Sections 611.802 and 611.1052.

"SM 9222 A (91)" means Method 9222 A, "Membrane Filter Technique for Members of the Coliform Group", "Introduction", only the version in the 18th edition. Referenced in Section 611.531.

"SM 9222 A (94)" means Method 9222 A, "Membrane Filter Technique for Members of the Coliform Group", "Introduction", only the version in the 19th edition. Referenced in Section 611.531.

"SM 9222 A (97)" means Method 9222 A, "Membrane Filter Technique for Members of the Coliform Group", "Introduction", only the version in the 20th and 21st editions. Referenced in Section 611.531.

"SM 9222 A (06)" means Method 9222 A, "Membrane Filter Technique for Members of the Coliform Group", "Introduction", only the version in the 22nd edition. Referenced in Section 611.531.

"SM 9222 A (15)" means Method 9222 A, "Membrane Filter Technique for Members of the Coliform Group", "Introduction", only the version in the 23rd edition. Referenced in Section 611.531.

"SM 9222 A (22)" means Method 9222 A, "Membrane Filter Technique for Members of the Coliform Group", "Introduction", only the version in the 24th edition. Referenced in Section 611.531.

"SM 9222 B (91)" means Method 9222 B, "Membrane Filter Technique for Members of the Coliform Group", "Standard Total Coliform Membrane Filter Procedure", only the version in the 18th edition. Referenced in Section 611.531.

"SM 9222 B (94)" means Method 9222 B, "Membrane Filter Technique for Members of the Coliform Group", "Standard Total Coliform Membrane Filter Procedure", only the version in the 19th edition. Referenced in Section 611.531.

"SM 9222 B (97)" means Method 9222 B, "Membrane Filter Technique for Members of the Coliform Group", "Standard Total Coliform Membrane Filter Procedure", only the version in the 20th and 21st editions. Referenced in Sections 611.531 and 611.1052.

"SM 9222 B (15)" means Method 9222 B, "Membrane Filter Technique for Members of the Coliform Group", "Standard Total Coliform Membrane Filter Procedure using Endo Media", only the version in the 23rd edition. Referenced in Sections 611.531 and 611.1052.

"SM 9222 B (22)" means Method 9222 B, "Membrane Filter Technique for Members of the Coliform Group", "Standard Total Coliform Membrane Filter Procedure using Endo Media", only the version in the 24th edition. Referenced in Section 611.531.

"SM 9222 C (91)" means Method 9222 C, "Membrane Filter Technique for Members of the Coliform Group", "Delayed-Incubation Total Coliform Procedure", only the version in the 18th edition. Referenced in Section 611.531.

"SM 9222 C (94)" means Method 9222 C, "Membrane Filter Technique for Members of the Coliform Group", "Delayed-Incubation Total Coliform Procedure", only the version in the 19th edition. Referenced in Section 611.531.

"SM 9222 C (97)" means Method 9222 C, "Membrane Filter Technique for Members of the Coliform Group", "Delayed-Incubation Total Coliform Procedure", only the version in the 20th and 21st editions. Referenced in Sections 611.531 and 611.1052.

"SM 9222 C (15)" means Method 9222 C, "Membrane Filter Technique for Members of the Coliform Group", "Delayed-Incubation Total Coliform Procedure", only the version in the 23rd edition. Referenced in Sections 611.531 and 611.1052.

"SM 9222 C (22)" means Method 9222 C, "Membrane Filter Technique for Members of the Coliform Group", "Delayed-Incubation Total Coliform Procedure", only the version in the 24th edition. Referenced in Section 611.531 and 611.1052.

"SM 9222 D (91)" means Method 9222 D, "Membrane Filter Technique for Members of the Coliform Group", "Fecal Coliform Membrane Filter Procedure", only the version in the 18th edition.

Referenced in Section 611.531.

"SM 9222 D (94)" means Method 9222 D, "Membrane Filter Technique for Members of the Coliform Group", "Fecal Coliform Membrane Filter Procedure", only the version in the 19th edition. Referenced in Section 611.531.

"SM 9222 D (97)" means Method 9222 D, "Membrane Filter Technique for Members of the Coliform Group", "Fecal Coliform Membrane Filter Procedure", only the version in the 20th and 21st editions. Referenced in Sections 611.531 and 611.1004.

"SM 9222 D (06)" means Method 9222 D, "Membrane Filter Technique for Members of the Coliform Group", "Thermotolerant (Fecal) Coliform Membrane Filter Procedure", only the version in the 22nd edition. Referenced in Section 611.531.

"SM 9222 D (15)" means Method 9222 D, "Membrane Filter Technique for Members of the Coliform Group", "Thermotolerant (Fecal) Coliform Membrane Filter Procedure", only the version in the 23rd edition. Referenced in Section 611.531.

"SM 9222 D (22)" means Method 9222 B, "Membrane Filter Technique for Members of the Coliform Group", "Thermotolerant (Fecal) Coliform Membrane Filter Procedure" only the version in the 24th edition. Referenced in Section 611.531.

"SM 9222 G (97)" means Method 9222 G, "Membrane Filter Technique for Members of the Coliform Group", "MF Partition Procedure", only the version in the 20th and 21st editions. Referenced in Sections 611.802, 611.1004, and 611.1052.

"SM 9222 H (15)" means Method 9222 H, "Membrane Filter Technique for Members of the Coliform Group", "Partitioning E. coli from MF Total Coliform and E. coli using EC-MUG Broth", only the version in the 23rd edition. Referenced in Section 611.1052.

"SM 9222 H (22)" means Method 9222 H, "Membrane Filter Technique for Members of the Coliform Group", "Partitioning E. coli from MF Total Coliform and E. coli using EC-MUG Broth", only the version in the 24th edition. Referenced in Section 611.1052.

"SM 9222 I (15)" means Method 9222 I, "Membrane Filter Technique for Members of the Coliform Group", "Partitioning E. coli from MF Total Coliform and E. coli using NA-MUG Agar", only the version in the 23rd edition. Referenced in Sections 611.802 and 611.1052.

"SM 9222 I (22)" means Method 9222 I, "Membrane Filter Technique for Members of the Coliform Group", "Partitioning E. coli from MF Total Coliform and E. coli using NA-MUG Agar", only the version in the 24th edition. Referenced in Section 611.802 and 611.1052.

"SM 9222 J (15)" means Method 9222 J, "Membrane Filter Technique for Members of the Coliform Group", "Simultaneous Detection of Total Coliform and E. coli by Dual-Chromogen Membrane Filter Procedure", only the version in the 23rd edition. Referenced in Sections 611.802 and 611.1052.

"SM 9222 J (22)" means Method 9222 J, "Membrane Filter Technique for Members of the Coliform Group", "Simultaneous Detection of Total Coliform and E. coli by Dual-Chromogen Membrane Filter Procedure", only the version in the 24th edition. Referenced in Section 611.802 and 611.1052.

"SM 9223 (92)" means Method 9223, "Chromogenic Substrate Coliform Test (Proposed)" (also referred to as the variations "Colilert®" and "Colisure™" depending on the medium used), only the version in the 18th edition. Referenced in Section 611.531.

"SM 9223 (94)" means Method 9223, "Chromogenic Substrate Coliform" (also referred to as the variations "Colilert®" and "Colisure™" depending on the medium used), only the version in the 19th edition. Referenced in Section 611.531.

"SM 9223 (97)" means Method 9223, "Enzyme Substrate Coliform" (also referred to as the variations "Colilert®" and "Colisure™" depending on the medium used), only the version in the 20th and 21st editions. Referenced in Sections 611.531.

"SM 9223 B (92)" means Method 9223 B, "Chromogenic Substrate Coliform Test (Proposed)", "Chromogenic Substrate" (also referred to as the variations "Colilert®", "Colisure™", and "Colilert-18®" depending on the medium used), only the version in

the 18th edition. Referenced in Section 611.1004.

"SM 9223 B (94)" means Method 9223 B, "Chromogenic Substrate Coliform", "Chromogenic Substrate" (also referred to as the variations "Colilert®" and "Colisure™" depending on the medium used), only the version in the 19th edition. Referenced in Section 611.1004.

"SM 9223 B (97)" means Method 9223 B, "Enzyme Substrate Coliform", "Chromogenic Substrate" (also referred to as the variations "Colilert®" and "Colisure™" depending on the medium used), only the version in the 20th and 21st editions. Referenced in Sections 611.802 and 611.1004.

"SM 9223 B (04)" means Method 9223 B, "Enzyme Substrate Coliform", "Enzyme Substrate" (also referred to as the variations "Colilert®" and "Colisure™" depending on the medium used), only the version in the 22nd edition. Referenced in Sections 611.531, 611.802, and 611.1004.

"SM 9223 B (16)" means Method 9223 B, "Enzyme Substrate Coliform", "Enzyme Substrate" (also referred to as the variations "Colilert®" and "Colisure™" depending on the medium used), only the version in the 23rd and 24th editions~~edition~~. Referenced in Sections 611.531, 611.802, and 611.1052.

"SM 9230 B (93)" means Method 9230 B, "Fecal Streptococcus and Enterococcus Groups", "Multiple-Tube Techniques", only the version in the 20th and 21st editions. Referenced in Section 611.802.

"SM 9230 B (04)" means Method 9230 B, "Fecal Streptococcus and Enterococcus Groups", "Multiple-Tube Techniques", only the version from Standard Methods Online as Method 9230 B-04. Referenced in Section 611.802.

"SM 9230 B (13)" means Method 9230 B, "Fecal Streptococcus and Enterococcus Groups", "Multiple-Tube Techniques", only the version in the 23rd edition. Referenced in Section 611.802.

"SM 9230 B (22)" means Method 9230 B, "Fecal Streptococcus and Enterococcus Groups", "Multiple-Tube Techniques", only the version in the 24th edition. Referenced in Section 611.802.

"SM 9230 C (93)" means Method 9230 C, "Fecal Streptococcus and Enterococcus Groups", "Membrane Filter Techniques", only the version in the 20th edition. Referenced in Section 611.802.

"SM 9230 C (13)" means Method 9230 C, "Fecal Enterococcus/Streptococcus Groups", "Membrane Filter Techniques", only the version in the 23rd edition. Referenced in Section 611.802.

"SM 9230 C (22)" means Method 9230 C, "Fecal Streptococcus and Enterococcus Groups", "Membrane Filter Techniques", only the version in the 24th edition. Referenced in Section 611.802.

"SM 9230 D (13)" means Method 9230 D, "Fecal Enterococcus/Streptococcus Groups", "Fluorogenic Substrate Enterococcus", only the version in the 23rd edition. Referenced in Section 611.802.

"SM 9230 D (22)" means Method 9230 D, "Fecal Streptococcus and Enterococcus Groups", "Fluorogenic Substrate Enterococcus", only the version in the 24th edition. Referenced in Section 611.802.

BOARD NOTE: The publication dates of the several "Standard Methods for the Examination of Water and Wastewater" editions containing approved methods:

13th edition, 1971

17th edition, 1989

18th edition, 1992

Supplement to 18th edition, 1994

19th edition, 1995

Supplement to 19th edition, 1996

20th edition, 1998

21st edition, 2005

22nd edition, 2012

23rd edition, 2017

24th edition, 2023

"Syngenta AG-625 (01)" means "Method AG-625: Atrazine in Drinking Water by Immunoassay" (February 2001), Syngenta Crop Protection, Inc. Available from publisher, 410 Swing Road, Post Office Box 18300, Greensboro, NC 27419 (336-632–6000). Referenced in Section 611.645.

"Systea Easy (1-Reagent) (09)" means "Nitrate by Discrete Analysis: Systea Easy (1-Reagent) Nitrate Method (Colorimetric, Automated, 1 Reagent)" (February 4, 2009). Available from Systea Scientific LLC, 900 Jorie Blvd., Suite 35, Oak Brook, IL 60523 (630-645-0600); NEMI; and USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)"). Referenced in Section 611.611.
Technicon Methods. Available from Bran + Luebbe, 1025 Busch Parkway, Buffalo Grove, IL 60089.

"Technicon #129-71W (72)" means "Fluoride in Water and Wastewater" (December 1972), Industrial Method #129-71W. Referenced in Section 611.611. See 40 CFR 141.23(k)(1), footnote 11.

"Technicon #380-75WE (76)" means "Fluoride in Water and Wastewater" (February 1976), #380-75WE. See 40 CFR 141.23(k)(1), footnote 11, referenced in Section 611.611.

Tecta Methods. Available from IDEXX Laboratories, Inc., One IDEXX Drive, Westbrook, Maine 04092 (800-548-6733; https://www.idexx.com/en/water/other-products-services/tecta-water-microbiology-system/ and USEPA, OGWDW (under "Ground Water Rule (PDF)" and "Revised Total Coliforms Rules (PDF)").

"Tecta (14)" means "TECTA™ EC/TC medium and the TECTA™ Instrument: a Presence/Absence Method for Simultaneous Detection of Total Coliforms and Escherichia coli (E.coli) in Drinking Water", Version 1.0 (May 22, 2014). Referenced in Sections 611.802 and 611.1052.

"Tecta (17)" means "TECTA™ EC/TC medium and the TECTA™ Instrument: a Presence/Absence Method for Simultaneous Detection of Total Coliforms and Escherichia coli (E.coli) in

Drinking Water", Version 2.0 (March 20, 2017). Referenced in Sections 611.802 and 611.1052.

"Thermo-Fisher 557.1 (17)" means "Thermofisher Method 557.1: Determination of Haloacetic Acids in Drinking Water using Two-Dimensional Ion Chromatography with Suppressed Conductivity Detection", Version 1.0 (January 2017). Available from Thermo-Fisher Scientific, 490 Lakeside Dr, Sunnyvale, CA 94085 (800-556-2323; www.thermofisher.com) and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Section 611.611.

"Thermo-Fisher Discrete Analyzer (16)" means "Application Note: Drinking Water Orthophosphate Method for Thermo Scientific Gallery Discrete Analyzer", Revision 5 (February 18, 2016). Available from Thermo-Fisher Scientific, Ratastie 2, 01620 Vantaa, Finland and USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)"). Referenced in Section 611.611.

USEPA Methods

Numbered Methods

"USEPA H-02 (84)" means Method H-02, "Radiochemical Determination of Tritium in Water—Dioxane Method", in USEPA Radiochemistry Procedures (84). Referenced in Section 611.720.
BOARD NOTE: Also available from USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA Ra-03 (84)" means Method Ra-03, "Radiochemical Determination of Radium-226 in Water Samples", in USEPA Radiochemistry Procedures (84). Referenced in Section 611.720.
BOARD NOTE: Also available from USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA Ra-04 (84)" means Method Ra-04, "Radiochemical Determination of Radium-226—De-emanation Procedure", in USEPA Radiochemistry Procedures (84). Referenced in Section 611.720.
BOARD NOTE: Also available from USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA Ra-05 (84)" means Method Ra-05, "Radiochemical Determination of Radium-228 in Water Samples", in USEPA Radiochemistry Procedures (84). Referenced in Section 611.720.
BOARD NOTE: Also available from USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA Sr-04 (84)" means Method Sr-04, "Radiochemical Determination of Radiostrontium in Water, Sea Water and Other Aqueous Media", in USEPA Radiochemistry Procedures (84). Referenced in Section 611.720.
BOARD NOTE: Also available from USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 00-01 (84)" means Method 00-01, "Radiochemical Determination of Gross Alpha and Gross Beta Activity in Water", in USEPA Radiochemistry Procedures (84). Referenced in Section 611.720.
BOARD NOTE: Also available from USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 00-02 (84)" means Method 00-02, "Radiochemical Determination of Gross Alpha Activity in Drinking Water by Coprecipitation", in USEPA Radiochemistry Procedures (84). Referenced in Section 611.720.
BOARD NOTE: Also available from USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 00-07 (84)" means Method 00-07, "Radiochemical Determination of Thorium and Uranium in Water", in USEPA Radiochemistry Procedures (84). Referenced in Section 611.720.
BOARD NOTE: Also available from USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 100.1 (83)" means "Method 100.1: Analytical Method for Determination of Asbestos in Water" (September 1983), USEPA, Environmental Research Laboratory, document number EPA 600/4-83-043. Available from NEMI; NTRL (document number PB83-260471) and USEPA, NSCEP (search for "600483043"). Referenced in Section 611.611.

"USEPA 100.2 (94)" means "Method 100.2: Determination of Asbestos Structures over 10-mm in Length in Drinking Water" (June 1994), USEPA, Environmental Monitoring Systems Laboratory, document number EPA 600/R-94-134. Available from NEMI; NTRL (document number PB94-201902); USEPA, NSCEP (search for "600R94134"); and USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)"). Referenced in Section 611.611.

"USEPA 127 (21)" means "Method 127: Determination of Monochloramine Concentration in Drinking Water" , document number EPA 815-B-21-004, (January 2021). Available from USEPA, NSCEP (search for "815B21004"). Referenced in Section 611.531.
BOARD NOTE: Also individually available from NEMI.

"USEPA 150.1 (71)" means "pH: Method 150.1 (Electrometric)" (1971), in USEPA Inorganic Methods (83). Referenced in Section 611.611.
BOARD NOTE: Also individually available from NEMI.

"USEPA 150.2 (82)" means "pH, Continuous Monitoring (Electrometric)—Method 150.2" (December 1982), in USEPA Inorganic Methods (83). Referenced in Section 611.611.
BOARD NOTE: Also individually available from NEMI.

"USEPA 150.3 (17)" means "Method 150.3: Determination of pH in Drinking Water", Version 1.0 (February 2017), USEPA, Office of Ground Water and Drinking Water, document number EPA 815/B-17/001. Available from USEPA, NSCEP (search for "815B17001") and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)" and "Inorganic Contaminants and Other Inorganic Constituents (PDF)"). Referenced in Section 611.611.

"USEPA 180.1 (93)" means "Method 180.1: Determination of Turbidity by Nephelometry", Revision 2.0 (August 1993), in USEPA Environmental Inorganic Methods (93). Referenced in Section 611.531.
BOARD NOTE: Also individually available from NEMI.

"USEPA 200.5 (03)" means "Method 200.5: Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry", Revision 4.2 (October 2003), USEPA, National Exposure Research Laboratory, document number EPA 600/R-06/115. Available from NEMI; USEPA, NSCEP (search for "600R06115"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)," "Inorganic Contaminants and Other Inorganic Constituents (PDF)," and "Secondary Contaminants (PDF)"). Referenced in Sections 611.611 and 611.612.

"USEPA 200.7 (94)" means "Method 200.7: Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry", Revision 4.4 (May 1994), in USEPA Environmental Metals Methods (94). Referenced in Sections 611.600, 611.611, and 611.612.
BOARD NOTE: Also individually available from NEMI.

"USEPA 200.8 (94)" means "Method 200.8: Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry", Revision 5.3 (May 1994), in USEPA Environmental Metals Methods (94). Referenced in Sections 611.600, 611.611, 611.612, and 611.720.
BOARD NOTE: Also individually available from NEMI.

"USEPA 200.9 (94)" means "Method 200.9: Determination of Metals and Trace Elements in Water by Ultrasonic Nebulization Inductively Coupled Plasma-Atomic Emission Spectrometry", Revision 2.2 (May 1994), in USEPA Environmental Metals Methods (94). Referenced in Sections 611.600, 611.611, and 611.612.
BOARD NOTE: Also individually available from NEMI.

"USEPA 245.1 (91)" means "Method 245.1: Determination of Mercury in Water by Cold Vapor Atomic Absorption Spectrometry", Revision 2.3 (April 1991), in USEPA Environmental Metals Methods (94). Referenced in Section 611.611.
BOARD NOTE: Also individually available from NEMI.

"USEPA 245.2 (74)" means "Mercury: Method 245.2 (Automated Cold Vapor Technique)" (1974), in USEPA Inorganic Methods (83). Referenced in Section 611.611.
BOARD NOTE: Also individually available from NEMI.

"USEPA 300.0 (93)" means "Method 300.0: Determination of Inorganic Anions by Ion Chromatography", Revision 2.1 (August 1993), in USEPA Environmental Inorganic Methods (93). Referenced in Sections 611.381 and 611.611.
BOARD NOTE: Also individually available from NEMI.

"USEPA 300.1 (97)" means "Method 300.1: Determination of Inorganic Anions in Drinking Water by Ion Chromatography", Revision 1.0 (September 1997), in USEPA Organic and Inorganic Methods (00). Referenced in Sections 611.381 and 611.611.
BOARD NOTE: Also individually available from NEMI.

"USEPA 302.0 (09)" means "Method 302.0: Determination of Bromate in Drinking Water Using Two-Dimensional Ion Chromatography with Suppressed Conductivity Detection" (September 2009), USEPA, Office of Water, document number EPA 815/B-09/014. Available from NEMI; USEPA, NSCEP (search "815B09014"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Sections 611.381 and 611.382.

"USEPA 317.0 (01)" means "Method 317.0: Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography with the Addition of a Postcolumn Reagent for Trace Bromate Analysis", Revision 2.0 (July 2001), USEPA, Office of Ground Water and Drinking Water, Technical Support Center, document number EPA 815/B-01/001. Available from NEMI; USEPA, NSCEP (search "815B01001"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Sections 611.381 and 611.382.

"USEPA 321.8 (97)" means "Method 321.8: Determination of Bromate in Drinking Waters by Ion Chromatography Inductively Coupled Plasma/Mass Spectrometry", Revision 1.0 (December 1997), in USEPA

Organic and Inorganic Methods (00). Referenced in Sections 611.381 and 611.382.
BOARD NOTE: Also individually available from NEMI.

"USEPA 326.0 (02)" means "Method 326.0: Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography Incorporating the Addition of a Suppressor Acidified Postcolumn Reagent for Trace Bromate Analysis", Revision 1.0 (June 2002), USEPA, Office of Ground Water and Drinking Water, Technical Support Center, document number EPA 815/R-03/007. Available from NEMI; NTRL (document number PB2003-107402); USEPA, NSCEP (search "815R03007"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Sections 611.381 and 611.382.

"USEPA 327.0 (05)" means "Method 327.0: Determination of Chlorine Dioxide and Chlorite Ion in Drinking Water Using Lissamine Green B and Horseradish Peroxidase with Detection by Visible Spectrophotometry", Revision 1.1 (May 2005), USEPA, Office of Ground Water and Drinking Water, Technical Support Center, document number EPA 815/R-05/008. Available from NEMI; USEPA, NSCEP (search "815R05008"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Sections 611.381 and 611.531.

"USEPA 334.0 (09)" means "Method 334.0: Determination of Residual in Drinking Water Using an On-line Chlorine Analyzer", Version 1.0 (September 2009), USEPA, Office of Ground Water and Drinking Water, Technical Support Center, document number EPA 815/B-09/013. Available from NEMI; USEPA, NSCEP (search "815B09013"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Sections 611.381 and 611.531.

"USEPA 335.4 (93)" means "Method 335.4: Determination of Total Cyanide by Semi-Automated Colorimetry", Revision 1.0 (August 1993), in USEPA Environmental Inorganic Methods (93). Referenced in Section 611.611.
BOARD NOTE: Also individually available from NEMI.

"USEPA 353.2 (93)" means "Method 353.2: Determination of Inorganic Anions by Ion Chromatography", Revision 2.0 (August 1993), in USEPA Environmental Inorganic Methods (93). Referenced in Section 611.611.
BOARD NOTE: Also individually available from NEMI.

"USEPA 365.1 (93)" means "Method 365.1: Determination of Phosphorus by Automated Colorimetry", Revision 2.0 (August 1993), in USEPA Environmental Inorganic Methods (93). Referenced in Section 611.611.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)").

"USEPA 415.3 (05)" means "Method 415.3: Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water", Revision 1.1 (February 2005), USEPA, National Exposure Research Laboratory, document number EPA 600/R05-055. Available from USEPA, NSCEP (search "600R05055") and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Section 611.381.

"USEPA 415.3 (09)" means "Method 415.3, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water", Revision 1.2 (September 2009), USEPA, National Exposure Research Laboratory, document number EPA 600/R09-122. Referenced in Section 611.381. Available from NEMI; USEPA, NSCEP (search "600R09122"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)").

"USEPA 502.2 (95)" means "Method 502.2: Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series", Revision 2.1 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Sections 611.381 and 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 504.1 (95)" means "Method 504.1: 1,2-Dibromomethane (EDB), 1,2-Dibromo-3-Chloropropane (DBCP), and 1,2,3-Trichloropropane (123TCP) in Water by Microextraction and Gas Chromatography", Revision 1.1 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Section 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 505 (95)" means "Method 505: Analysis of Organohalide Pesticides and Commercial Polychlorinated Biphenyl (PCB) Products in Water by Microextraction and Gas Chromatography", Revision 2.1 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Sections 611.645 and 611.648.
BOARD NOTE: Also individually available from NEMI.

"USEPA 506 (95)" means "Method 506: Determination of Phthalate and Adipate Esters in Drinking Water by Liquid-Liquid Extraction or Liquid-Solid Extraction and Gas Chromatography with Photoionization Detection", Revision 1.1 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Section 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 507 (95)" means "Method 507: Determination of Nitrogen- and Phosphorus-Containing Pesticides in Water by Gas Chromatography with a Nitrogen-Phosphorus Detector", Revision 2.1 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Sections 611.645 and 611.648.
BOARD NOTE: Also individually available from NEMI.

"USEPA 508 (95)" means "Method 508: Determination of Chlorinated Pesticides in Water by Gas Chromatography with an Electron Capture Detector", Revision 3.1 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Sections 611.645 and 611.648.
BOARD NOTE: Also individually available from NEMI.

"USEPA 508A (89)" means "Method 508A: Screening for Polychlorinated Biphenyls by Perchlorination and Gas Chromatography", Revision 1.0 (1989), in USEPA Organic Methods (91). Referenced in Sections 611.645 and 611.646.

BOARD NOTE: Also individually available from NEMI.

"USEPA 508.1 (95)" means "Method 508.1: Determination of Chlorinated Pesticides, Herbicides, and Organohalides by Liquid-Solid Extraction and Electron Capture Gas Chromatography", Revision 2.0 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Sections 611.645 and 611.648.
BOARD NOTE: Also individually available from NEMI.

"USEPA 515.1 (89)" means "Method 515.1: Determination of Chlorinated Acids in Drinking Water by Gas Chromatography with an Electron Capture Detector", Revision 4.1 (1989), in USEPA Organic Methods (91). Referenced in Section 611.645.

"USEPA 515.2 (95)" means "Method 515.2: Determination of Chlorinated Acids in Water Using Liquid-Solid Extraction and Gas Chromatography with an Electron Capture Detector", Revision 1.1 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Section 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 515.3 (96)" means "Method 515.3: Determination of Chlorinated Acids in Drinking Water by Liquid-Liquid Extraction, Derivatization and Gas Chromatography with Electron Capture Detection", Revision 1.0 (July 1996), in USEPA Organic and Inorganic Methods (00). Referenced in Section 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 515.4 (00)" means "Method 515.4: "Determination of Chlorinated Acids in Drinking Water by Liquid-Liquid Microextraction, Derivatization and Fast Gas Chromatography with Electron Capture Detection" Revision 1.0 (April 2000), USEPA, Office of Ground Water and Drinking Water, Technical Support Center, document number EPA 815/B-00/001. Available from NEMI; USEPA, NSCEP (search "815B00001"); and USEPA, OGWDW (under "Organic Contaminants (PDF)"). Referenced in Section 611.645.

"USEPA 523 (11)" means "Method 523: Determination of Triazine Pesticides and Other Degradates in Drinking Water by Gas Chromatography/Mass Spectrometry (GC/MS)", Version 1.0 (February 2011), USEPA, Office of Ground Water and Drinking Water, Standards and Risk Management Division, Technical Support Center, document number EPA 815/R-11-002. Available from USEPA, NSCEP (search "815R11002"); and USEPA, OGWDW (under "Organic Contaminants (PDF)"). referenced in Section 611.645.

"USEPA 524.2 (95)" means "Method 524.2: Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry", Revision 4.1 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Section 611.645. BOARD NOTE: Also individually available from NEMI.

"USEPA 524.3 (09)" means "Method 524.3: Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Spectrometry", Revision 1.0 (June 2009), USEPA, Office of Ground Water and Drinking Water, Standards and Risk Management Division, Technical Support Center, document number EPA 815/B-09/009. Available from NEMI; USEPA, NSCEP (search for "815B09009"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)" and "Organic Contaminants (PDF)"). Referenced in Sections 611.381 and 611.645.

"USEPA 524.4 (13)" means "Method 524.4, "Measurement of Purgeable Organic Compounds in Water by Gas Chromatography/Spectrometry Using Nitrogen Purge Gas" (May 2013), USEPA, Office of Ground Water and Drinking Water, Standards and Risk Management Division, Technical Support Center, document number EPA 815/R-13/002. Available from USEPA, NSCEP (search for "815R13002"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)" and "Organic Contaminants (PDF)"). Referenced in Sections 611.381 and 611.645.

"USEPA 525.2 (95)" means "Method 525.2: Determination of Organic Compounds in Drinking by

Liquid-Liquid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry", Revision 2.0 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Section 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 525.3 (12)" means "Method 525.3: Determination of Total Semivolatile Organic Chemicals in Drinking Water by Solid Phase Extraction and Capillary Column Gas Chromatography/Mass Spectrometry (GC/MS)", Version 1.0 (February 2012), USEPA, National Exposure Research Laboratory, document number EPA 600/R-12/010. Available from USEPA, NSCEP (search "600R12010") and USEPA, OGWDW (under "Organic Contaminants (PDF)"). Referenced in Section 611.645.

"USEPA 531.1 (95)" means "Method 531.1: Measurement of N-Methylcarbamoyloximes and N-Methylcarbamates in Water by Direct Aqueous Injection HPLC with Post Column Derivatization", Revision 3.1 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Section 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 531.2 (01)" means "Method 531.2: Measurement of N-Methylcarbamoyloximes and N-Methylcarbamates in Water by Direct Aqueous Injection HPLC with Postcolumn Derivatization", Revision 1.0 (September 2001), USEPA, Office of Ground Water and Drinking Water, Standards and Risk Management Division, Technical Support Center, document number EPA 815/B-01/002. Available from NEMI; USEPA, NSCEP (search "815B01002"); and USEPA, OGWDW (under "Organic Contaminants (PDF)"). Referenced in Section 611.645. See also and

"USEPA Method 533" means "Method 533": Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry, 815-B-19-020, November 2019

"USEPA 536 (07)" means "Method 536: Determination of Triazine Pesticides and Other Degradates in Drinking Water by Liquid Chromatography Electrospray Ionization

Tandem Mass Spectrometry (LC/ESI-MS/MS)", Version 1.0 (October 2007), USEPA Office of Ground Water and Drinking Water, Technical Support Center, document number EPA 815/B-07/002. Available from USEPA, NSCEP (search "815B07002") and USEPA, OGWDW (under "Organic Contaminants (PDF)"). Referenced in Section 611.645.

"USEPA 547 (90)" means "Method 547: Determination of Glyphosate in Drinking Water by Direct-Aqueous-Injection HPLC, Post-Column Derivatization, and Fluorescence Detection" (July 1990), in USEPA Organic Methods—Supplement I (90). Referenced in Section 611.645.

"USEPA 548.1 (92)" means "Method 548.1: Determination of Endothall in Drinking Water by Ion-Exchange Extraction, Acidic Methanol Methylation and Gas Chromatography/Mass Spectrometry", Revision 1.0 (August 1992), in USEPA Organic Methods—Supplement II (92). Referenced in Section 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 549.2 (97)" means "Method 549.2: Determination of Diquat and Paraquat in Drinking Water by Liquid-Solid Extraction and High Performance Liquid Chromatography with Ultraviolet Detection", Revision 1.0 (June 1997), USEPA, Office of Research and Development, National Exposure Research Laboratory. Available from NEMI. Referenced in Section 611.645.

"USEPA 550 (90)" means "Method 550: Determination of Polycyclic Aromatic Hydrocarbons in Drinking Water by Liquid-Liquid Extraction and HPLC with Coupled Ultraviolet and Fluorescence Detection" (July 1990), in USEPA Organic Methods—Supplement I (90). Referenced in Section 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 550.1 (90)" means "Method 550.1: Determination of Polycyclic Aromatic Hydrocarbons in Drinking Water by Liquid-Solid Extraction and HPLC with Coupled Ultraviolet and Fluorescence Detection" (July 1990), in USEPA Organic Methods—Supplement I (90). Referenced in Section 611.645.

BOARD NOTE: Also individually available from NEMI.

"USEPA 551.1 (95)" means "Method 551.1: Measurement of N-Methylcarbamoyloximes and N-Methylcarbamates in Water by Direct Aqueous Injection HPLC with Post Column Derivatization", Revision 1.0 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Section 611.645.

"USEPA 552.1 (92)" means "Method 552.1: Determination of Haloacetic Acids and Dalapon in Drinking Water by Ion-Exchange Liquid-Solid Extraction and Gas Chromatography with an Electron Capture Detector", Revision 1.0 (August 1992), in USEPA Organic Methods—Supplement II (92). Referenced in Sections 611.381 and 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 552.2 (95)" means "Method 552.2: Determination of Haloacetic Acids and Dalapon in Drinking Water by Liquid-Liquid Extraction, Derivatization and Gas Chromatography with Electron Capture Detection", Revision 1.0 (1995), in USEPA Organic Methods—Supplement III (95). Referenced in Sections 611.381 and 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 552.3 (03)" means "Method 552.3: Determination of Haloacetic Acids and Dalapon in Drinking Water by Liquid-Liquid Microextraction, Derivatization, and Gas Chromatography with Electron Capture Detection", Revision 1.0 (July 2003), USEPA, Office of Ground Water and Drinking Water, Technical Support Center, document number EPA 815/B-03/002. Available from NEMI; USEPA, NSCEP (search "815B03002"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Sections 611.381 and 611.645.

"USEPA 555 (92)" means "Method 555: Determination of Chlorinated Acids in Water by High Performance Liquid Chromatography with a Photodiode Array Ultraviolet Detector", Revision 1.0 (August 1992), in USEPA Organic

Methods—Supplement II (92). Referenced in Section 611.645.
BOARD NOTE: Also individually available from NEMI.

"USEPA 557 (09)" means "Method 557: Determination of Haloacetic Acids, Bromate, and Dalapon in Drinking Water by Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry (IC-ESI-MS/MS)", Version 1.0 (September 2009), USEPA, Office of Ground Water and Drinking Water, Technical Support Center, document number EPA 815/B-09/012. Available from NEMI; USEPA, NSCEP (search "815B09012"); and USEPA, OGWDW (under "Disinfection Byproduct Rules (PDF)"). Referenced in Sections 611.381, 611.382, and 611.645.

"USEPA 900.0 (80)" means "Gross Alpha and Gross Beta Radioactivity in Drinking Water—Method 900.0" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 900.0 (18)" means Method 900.0, Revision 1.0 "Gross Alpha and Gross Beta Radioactivity in Drinking Water" (February 2018), USEPA, Office of Water, document number EPA 815/B-18/002. Also available from USEPA, NSCEP (search "815B18002") and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 901.0 (80)" means "Radioactive Cesium in Drinking Water—Method 901.0" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 901.1 (80)" means "Gamma Emitting Radionuclides in Drinking Water—Method 901.1" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 902.0 (80)" means "Radioactive Iodine in Drinking Water—Method 902.0" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.

"USEPA 903.0 (80)" means "Alpha-Emitting Radium Isotopes in Drinking Water—Method 903.0" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 903.0 (21)" means "Method 903.0, Revision 1.0: Alpha-Emitting Radium Isotopes in Drinking Water", doc. no. EPA 815-B-21-002 (January 2021). Available from USEPA, NSCEP (nepis.epa.gov; search: "815B21002"). Referenced in Section 611.720.

"USEPA 903.1 (80)" means "Radium-226 in Drinking Water Radon Emanation Technique—Method 903.1" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 903.1 (21)" means "Method 903.1, Revision 1.0: Radium-226 in Drinking Water Radon Emanation Technique", doc. no. EPA 815-B-21-003 (January 2021). Available from USEPA, NSCEP (nepis.epa.gov; search: "815B21003"). Referenced in Section 611.720.

"USEPA 904.0 (80)" means "Radium-228 in Drinking Water—Method 904.0" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 904.0 (22)" means "Radium-228 in Drinking Water—Method 904.0", Revision 1.0 (2022), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.

"USEPA 905.0 (80)" means "Radioactive Strontium in Drinking Water—Method 905.0" (1980), in USEPA

Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 906.0 (80)" means "Tritium in Drinking Water—Method 906.0" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 908.0 (80)" means "Uranium in Drinking Water—Radiochemical Method—Method 908.0" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI.

"USEPA 908.1 (80)" means "Uranium in Drinking Water—Fluorometric Method—Method 908.1" (1980), in USEPA Radioactivity Methods (80). Referenced in Section 611.720.
BOARD NOTE: Also individually available from NEMI and USEPA, OGWDW (under "Radionuclides (PDF)").

"USEPA 1600 (02)" means "Method 1600: Enterococci in Water by Membrane Filtration Using membrane-Enterococcus Indoxyl–β–D–Glucoside Agar (mEI)" (September 2002), USEPA, Office of Water, document number EPA 821/R–02/022. Available from NEMI; USEPA, NSCEP (search "821R02022"); and USEPA, OGWDW (under "Ground Water Rule (PDF)"). Referenced in Section 611.802.
BOARD NOTE: SM 9230 C (93) and SM 9230 (13), "Fecal Streptococcus and Enterococcus Groups, Membrane Filter Techniques", are USEPA-approved variations of this method.

"USEPA 1601 (01)" means "Method 1601: Male-specific (F+) and Somatic Coliphage in Water by Two-step Enrichment Procedure" (April 2001), USEPA, Office of Water, document number EPA 821/R–01/030. Available from NEMI and USEPA, NSCEP (search "821R01030"); and USEPA, OGWDW (under "Ground Water Rule (PDF)"). Referenced in Section 611.802.

"USEPA 1602 (01)" means "Method 1602: Male-specific (F+) and Somatic Coliphage in Water by Single Agar Layer (SAL) Procedure" (April 2001), USEPA, Office of Water, document number EPA 821/R–01/029. Available from NEMI and USEPA, NSCEP (search "821R01029"); and USEPA, OGWDW (under "Ground Water Rule (PDF)"). Referenced in Section 611.802.

"USEPA 1604 (02)" means "Method 1604: Total Coliforms and Escherichia coli in Water by Membrane Filtration Using a Simultaneous Detection Technique (MI Medium)" (September 2002), USEPA, Office of Water, document number EPA 821/R-02/024. Available from NEMI and USEPA, NSCEP (search "821R02024"); and USEPA, OGWDW (under "Ground Water Rule (PDF)", "Revised Total Coliforms Rule (PDF)", and "Surface Water Treatment Rule (PDF)"). Referenced in Sections 611.802 and 611.1052.

"USEPA 1613 (94)" means "Method 1613: Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS", Revision B (October 1994), USEPA, Office of Water, Engineering and Analysis Division, document number EPA 821/B-94/005. Available from NEMI; NTRL (document number PB95-104774); USEPA, NSCEP (search "821B94005"); and USEPA, OGWDW (under "Organic Contaminants (PDF)"). Referenced in Section 611.645.

"USEPA 1622 (01)" means "Method 1622: Cryptosporidium in Water by Filtration/IMS/FA" (April 2001), USEPA, Office of Water, document number EPA 821/R-01/026. Available from NEMI; and USEPA, NSCEP (search "821R01026"). Referenced in Section 611.1007.

"USEPA 1622 (05)" means "Method 1622: Cryptosporidium in Water by Filtration/IMS/FA" (December 2005), USEPA, Office of Ground Water and Drinking Water, document number EPA 815/R-05/001. Available from USEPA, NSCEP (search "815R05001") and USEPA, OGWDW (under "Long Term 2 Enhanced Surface Water Treatment Rule (PDF)"). Referenced in

Sections 611.1004 and 611.1007.

"USEPA 1623 (99)" means "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA" (April 1999), USEPA, Office of Ground Water and Drinking Water, document number EPA 821/R-99/006. Available from USEPA, NSCEP (search "821R99006"). Referenced in Section 611.1007.

"USEPA 1623 (01)" means "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA" (April 2001), USEPA, Office of Ground Water and Drinking Water, document number EPA 821/R-01/025. Available from NEMI and USEPA, NSCEP (search "821R01025"). Referenced in Section 611.1007.

"USEPA 1623 (05)" means "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA" (December 2005), USEPA, Office of Ground Water and Drinking Water, document number EPA 815/R-05/002. Available from USEPA, NSCEP (search "815R05002") and USEPA, OGWDW (under "Long Term 2 Enhanced Surface Water Treatment Rule (PDF)"). Referenced in Sections 611.1004 and 611.1007.

"USEPA 1623.1 (12)" means "Method 1623.1, "Method 1623.1: Cryptosporidium and Giardia in Water by Filtration/IMS/FA" (January 2012), USEPA, Office of Ground Water and Drinking Water, document number EPA 816/R-12/001. Available from USEPA, NSCEP (search "816R12001") and USEPA, OGWDW (under "Long Term 2 Enhanced Surface Water Treatment Rule (PDF)"). Referenced in Section 611.1004.

USEPA Documents Containing Multiple Numbered Methods

"USEPA Environmental Inorganic Methods (93)" means "Methods for the Determination of Inorganic Substances in Environmental Samples" (August 1993), USEPA, Environmental Monitoring Systems Laboratory, document number EPA 600/R-93-100 (for USEPA 180.1 (93), USEPA 300.0 (93), USEPA 335.4 (93), USEPA 353.2 (93), and USEPA 365.1 (93) only). Available from NTRL (document number PB94-121811) and USEPA, NSCEP

(search “600R93100”).

“USEPA Environmental Metals Methods (94)” means “Methods for the Determination of Metals in Environmental Samples—Supplement I”, May 1994, USEPA, Environmental Monitoring Systems Laboratory, document number EPA 600/R-94-111 (for USEPA 200.7 (94), USEPA 200.8 (94), USEPA 200.9 (94), and USEPA 245.1 (94) only). Referenced in Sections 611.600, 611.611, 611.612, and 611.720. Available from NTRL (document number PB84-125472) and USEPA, NSCEP (search “600R94111”).

“USEPA Inorganic Methods (83)” means “Methods for Chemical Analysis of Water and Wastes”(March 1983), USEPA, Office of Research and Development, document number EPA 600/4-79-020 (USEPA 150.1 (71), USEPA 150.2 (82), and USEPA 245.2 (74) only). Available from NTRL (document number PB84-128677) and USEPA, NSCEP (search “600479020”). Referenced in Section 611.611.

“USEPA Organic and Inorganic Methods (00)” means “Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Volume 1” (August 2000), USEPA, Office of Water and Office of Research and Development, document number EPA 815/R-00/014 (Methods 300.1 (97), USEPA 321.8 (97), and USEPA 515.3 (96) only). Available from NTRL (document number PB2000-106981) and USEPA, NSCEP (search “815R00014”).

“USEPA Organic Methods (91)” means “Methods for the Determination of Organic Compounds in Drinking Water”, (December 1988 (revised July 1991)), USEPA, Office of Research and Development, document number EPA 600/4-88/039 (USEPA 508A (89) and USEPA 515.1 (89) only). Available from NTRL (document number PB91-231480) and USEPA, NSCEP (search “600488039”) and USEPA, OGWDW.

“USEPA Organic Methods—Supplement I (90)” means “Methods for the Determination of Organic Compounds in Drinking Water—Supplement I” (July 1990), USEPA, Environmental Monitoring Systems Laboratory, document

number EPA 600/4-90/020 (USEPA 547 (90), USEPA 550 (90) and USEPA 550.1 (90) only). Available from NTRL (document number PB91-146027) and USEPA, NSCEP (search "600490020").

"USEPA Organic Methods—Supplement II (92)" means "Methods for the Determination of Organic Compounds in Drinking Water—Supplement II" (August 1992), USEPA, Office of Research and Development, document number EPA 600/R-92/129 (USEPA 548.1 (92), USEPA 552.1 (92), and USEPA 555 (92) only). Available from NTRL (document number PB92-207703) and USEPA, NSCEP (search "600R92129").

"USEPA Organic Methods—Supplement III (95)" means "Methods for the Determination of Organic Compounds in Drinking Water—Supplement III" (August 1995), USEPA, Office of Research and Development, document number EPA 600/R-95/131 (USEPA 502.2 (95), USEPA 504.1 (95), USEPA 505 (95), USEPA 506 (95), USEPA 507 (95), USEPA 508 (95), USEPA 508.1 (95), USEPA 515.2 (95), USEPA 524.2 (95), USEPA 525.2 (95), USEPA 531.1 (95), USEPA 551.1 (95), and USEPA 552.2 (95) only). Available from NTRL (document number PB95-261616) and USEPA, NSCEP (search "600R95131").

"USEPA Radioactivity Methods (80)" means "Prescribed Procedures for Measurement of Radioactivity in Drinking Water" (August 1980), USEPA, Office of Research and Development, Environmental Monitoring and Support Laboratory, document number EPA 600/4-80/032 (USEPA 900.0 (80), USEPA 901.0 (80), USEPA 901.1 (80), USEPA 902.0 (80), USEPA 903.0 (80), USEPA 903.1 (80), USEPA 904.0 (80), USEPA 905.0 (80), USEPA 906.0 (80), USEPA 908.0 (80), and USEPA 908.1 (80) only.). Available from NTRL (document number PB80-224744); USEPA, NSCEP (search "821480032"); and USEPA, OGWDW (under "Radionuclides (PDF))".

"USEPA Radiochemistry Procedures (84)" means "Radiochemistry Procedures Manual" (June 1984), USEPA, Eastern Environmental Radiation Facility, document number EPA 520/5-84-006 (USEPA 00-01 (84), USEPA 00-02 (84), USEPA 00-07 (84), USEPA H-02 (84),

USEPA Ra-03 (84), USEPA Ra-04 (84), USEPA Ra-05 (84), USEPA Sr-04 (84) only). Available from NTRL (document number PB84215581); USEPA, NSCEP (search "520584006"); and USEPA, OGWDW.

Unnumbered Methods

"USEPA ARP (73)" means "Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions" (May 1973), USEPA, Office of Research and Monitoring, National Environmental Research Center, document number EPA-R4-73-014. Available from NTRL (document number PB222154) and USEPA, NSCEP (search "R473014"). Referenced in Section 611.720.

"USEPA IRM (76)" means "Interim Radiochemical Methodology for Drinking Water" (March 1976), USEPA, Office of Research and Development, Environmental Monitoring and Support Laboratory, document number EPA 600/4-75-008 (revised) (pages 1 through 37 only). Available from NTRL (document number PB253258); USEPA, NSCEP (search "600475008A"); and USEPA, OGWDW (under "Radionuclides (PDF)"). Referenced in Section 611.720.

"USEPA IRM (76), pages 1-3" means pages 1 through 3, "Gross Alpha and Beta Radioactivity in Drinking Water", in USEPA IRM (76). Referenced in Section 611.720.

"USEPA IRM (76), pages 4-5" means pages 4 through 5, "Radioactive Cesium in Drinking Water", in USEPA IRM (76). Referenced in Section 611.720.

"USEPA IRM (76), pages 6-8" means pages 6 through 8, "Radioactive Iodine in Drinking Water: Precipitation Method", in USEPA IRM (76). Referenced in Section 611.720.

"USEPA IRM (76), pages 9-12" means pages 9 through 12, "Radioactive Iodine in Drinking Water: Distillation Method", in USEPA IRM (76). Referenced in Section 611.720.

"USEPA IRM (76), pages 13-15" means pages 13 through 15, "Alpha-Emitting Radium Isotopes in Drinking Water: Precipitation Method", in USEPA IRM (76). Referenced in Section 611.720.

"USEPA IRM (76), pages 16-23" means pages 16 through 23, "Radium-226 in Drinking Water: Radon Emanation Technique", in USEPA IRM (76). Referenced in Section 611.720.

"USEPA IRM (76), pages 24-28" means pages 24 through 28, "Radium-228 in Drinking Water: Sequential Method Radium-228/Radium-226", in USEPA IRM (76). Referenced in Section 611.720.

"USEPA IRM (76), pages 29-33" means pages 29 through 33, "Radioactive Strontium in Drinking Water", in USEPA IRM (76). Referenced in Section 611.720.

"USEPA IRM (76), pages 34-37" means pages 34 through 37, "Tritium in Drinking Water", in USEPA IRM (76). Referenced in Section 611.720.

"USEPA RCA (79)" means "Radiochemical Analytical Procedures for Analysis of Environmental Samples" (March 1979), USEPA, Environmental Monitoring and Support Laboratory, document number EMSL-LV-0539-17 (pages 1 through 5, 19 through 48, 65 through 73, and 87 through 95 only). Available from NTRL (document number EMSLLV053917); USEPA, NSCEP (search "EMSLLV053917") and USEPA, OGWDW (under "Radionuclides (PDF)"). Referenced in Section 611.720.

"USEPA RCA (79), pages 1-5" means pages 1 through 5, "Determination of Gross Alpha and Beta in Water", in USEPA RCA (79). Referenced in Section 611.720.

"USEPA RCA (79), pages 19-32" means pages 19 through 32, "Determination of Radium-226 and Radium-228 in Water, Soil, Air, and Biological Tissue", in USEPA RCA (79). Referenced in

Section 611.720.

"USEPA RCA (79), pages 33-48" means pages 33 through 48, "Isotopic Determination of Plutonium, Uranium, and Thorium in Water, Soil, Air, and Biological Tissue", in USEPA RCA (79). Referenced in Section 611.720.

"USEPA RCA (79), pages 65-73" means pages 65 through 73, "Determination of Strontium-89 and Strontium-90 in Water, Soil, Air, and Biological Tissue", in USEPA RCA (79). Referenced in Section 611.720.

"USEPA RCA (79), pages 87-91" means pages 87 through 91, "Determination of Tritium in Water, Soil, Air, and Biological Tissue (Direct Method)", in USEPA RCA (79). Referenced in Section 611.720.

"USEPA RCA (79), pages 92-95" means pages 92 through 95, "Isotopic Analysis by Gamma Ray Spectra Using Lithium-Drifted Geranium Detectors", in USEPA RCA (79). Referenced in Section 611.720.

"USEPA Technical Notes (94)" means "Technical Notes on Drinking Water Methods" (October 1994), document number EPA 600/R-94-173, USEPA, Office of Research and Development. Available from NTRL (document number PB95-104766); and USEPA, NSCEP (search "600R94173"). Referenced in Sections 611.531, 611.611, and 611.645.

Sources of USEPA Methods

NEMI. National Environmental Method Index (on-line at www.nemi.gov/home/).

NTRL. National Technical Reports Library, U.S. Department of Commerce, 5301 Shawnee Road, Alexandria, VA 22312 (703-605-6000 or 800-553-6847, https://ntrl.ntis.gov/NTRL/).

USEPA, NSCEP. United States Environmental Protection Agency, National Service Center for Environmental Publications, P.O. Box 42419, Cincinnati, OH 45242-0419, accessible on-line and available by download from http://www.epa.gov/nscep// using the search term indicated for the individual method).
USEPA, OGWDW. United States Environmental Protection Agency, Office of Ground Water and Drinking Water (methods cited as available are directly available through a link in the indicated list on www.epa.gov/dwanalyticalmethods/approved-drinking-water-analytical-methods).

USGS Methods. All documents available from United States Geological Survey, Federal Center, Box 25286, Denver, CO 80225-0425.

"USGS I-1030-85" means "Alkalinity, electrometric titration, I-1030-85", in "Techniques of Water-Resource Investigation of the United States Geological Survey", 3rd ed. (1989), Book 5, Chapter A1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments". Available at pubs.usgs.gov/twri/twri5-a1/pdf/TWRI_5-A1.pdf. Referenced in Section 611.611.

"USGS I-1601-85" means "Phosphorus, orthophosphate, colorimetric, phosphomolybdate, I-1601-85", in "Techniques of Water-Resource Investigation of the United States Geological Survey", 3rd ed. (1989), Book 5, Chapter A1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments". Available at pubs.usgs.gov/twri/twri5-a1/pdf/TWRI_5-A1.pdf. Referenced in Section 611.611.

"USGS I-1700-85" means "Silica, colorimetric, molybdate blue, I-1700-85", in "Techniques of Water-Resource Investigation of the United States Geological Survey", 3rd ed. (1989), Book 5, Chapter A1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments". Available at pubs.usgs.gov/twri/twri5-a1/pdf/TWRI_5-A1.pdf. Referenced in Section 611.611.

"USGS I-2598-85" means "Phosphorus, orthophosphate, colorimetric, phosphomolybdate, automated-discrete, I-2598-85", in "Techniques of Water-Resource Investigation of the United States Geological Survey", 3rd ed. (1989), Book 5, Chapter A1, "Methods for Determination of Inorganic Substances in Water and

Fluvial Sediments". Available at pubs.usgs.gov/twri/twri5-a1/pdf/TWRI_5-A1.pdf. Referenced in Section 611.611.

"USGS I-2601-90" means "Phosphorus, orthophosphate, colorimetry, phosphomolybdate, automated segment-flow, I-2601-90", in "Methods for Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Inorganic and Organic Constituents in Water and Fluvial Sediments", U.S. Geological Survey, Open File Report 93-125 (1993). Available at pubs.usgs.gov/publication/ofr93125 and https://www.nemi.gov/methods/method_summary/8907/. Referenced in Section 611.611.

"USGS I-2700-85" means "Silica, colorimetric, molybdate blue, automated-segmented flow, I-2700-85", in "Techniques of Water-Resource Investigation of the United States Geological Survey", 3rd ed. (1989), Book 5, Chapter A1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments". Available at pubs.usgs.gov/twri/twri5-a1/pdf/TWRI_5-A1.pdf. Referenced in Section 611.611.

"USGS I-3300-85" means "Cyanide, colorimetric, pyridine-pyrazolone, I-3300-85", in "Techniques of Water-Resource Investigation of the United States Geological Survey", 3rd ed. (1989), Book 5, Chapter A1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments". Available at pubs.usgs.gov/twri/twri5-a1/pdf/TWRI_5-A1.pdf. Referenced in Section 611.611.

"USGS R-1110-76" means "Cesium-137 and cesium-134, dissolved. Inorganic ion-exchange method—gamma counting, R-1110-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1111-76" means "Radiocesium, dissolved, as cesium-137. Inorganic ion-exchange method—beta counting, R-1111-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at

pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1120-76" means "Gross alpha and beta radioactivity, dissolved and suspended, R-1120-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1140-76" means "Radium, dissolved, as radium-226. Precipitation method, R-1140-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1141-76" means "Radium-226, dissolved. Radon emanation method, R-1141-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1142-76" means "Radium-228, dissolved. Determination by separation and counting of actinium-228, R-1142-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1160-76" means "Strontium-90, dissolved. Chemical separation and precipitation method, R-1160-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive

Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1171-76" means "Tritium. Liquid scintillation, Denver lab method—gamma counting, R-1171-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1180-76" means "Uranium, dissolved. Fluorometric method—direct, R-1180-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1181-76" means "Uranium, dissolved. Fluorometric method—extraction procedure, R-1181-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"USGS R-1182-76" means "Uranium, dissolved, isotopic ratios. Alpha spectrometry—chemical separation, R-1182-76", in "Techniques of Water-Resource Investigation of the Water Resources Investigations of the United States Geological Survey", Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments" (1977). Available at pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf. Referenced in Section 611.720.

"Waters B-1011 (87)" means "Waters Test Method for Determination of Nitrite/Nitrate in Water Using Single Column Ion Chromatography", Method B-1011 (August 1987). Available from Waters Corporation, Technical Services Division, 34 Maple St., Milford, MA 01757 (800-252-

4752 or 508-478-2000, www.waters.com) and USEPA, OGWDW (under "Inorganic Contaminants and Other Inorganic Constituents (PDF)"). Referenced in Section 611.611.

"Yokogawa Method 820 means Yokogawa 820 "Measurement of Turbidity in Drinking Water by Right Angle Scattered Light Turbidity Analyzer", Yokogawa 820 Revision 1.0 (November 2022). Available from Yokogawa Electric Corporation, Nakamachi, Musashino-shi, Tokyo, Japan 180-8750.

b) The Board incorporates the following federal regulations by reference:

19 CFR 101.1 (20242022) (Definitions), referenced in Section 611.126.

40 CFR 3.3 (20242021) (What Definitions Are Applicable to This Part?), referenced in Section 611.105.

40 CFR 3.10 (20242021) (What Are the Requirements for Electronic Reporting to EPA?), referenced in Section 611.105.

40 CFR 3.2000 (20242021) (What Are the Requirements Authorized State, Tribe, and Local Programs' Reporting Systems Must Meet?), referenced in Section 611.105.

40 CFR 136.3(a) (20242021), referenced in Section 611.1004.

Appendix B to 40 CFR 136 (20242021), referenced in Sections 611.359, 611.609, and 611.646.

40 CFR 141.21(f)(6)(i) and (f)(6)(ii) (2021), referenced in Section 611.802.

40 CFR 142.20(b)(1) (2021), referenced in Section 611.112.

Subpart G of 40 CFR 142 (2021), referenced in Section 611.113.

c) This Part incorporates no later amendments or editions.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.105 Electronic Reporting

Submitting any document to comply with this Part as an electronic document in lieu of a paper document must comply with this Section.

a) Scope and Applicability

1) The USEPA, the Board, or the Agency may provide for submitting electronic documents in lieu of paper documents. This Section does not require the submission of electronic documents in lieu of paper documents. This Section provides for submitting an electronic version of any document the supplier must submit to USEPA or the Agency under certain rules:

A) To USEPA directly under Title 40 of the Code of Federal Regulations; or

B) To the Board or the Agency under any provision of 35 Ill. Adm. Code 611.

2) A supplier may only submit an electronic document under specific circumstances:

A) For submitting documents to USEPA, a supplier may submit an electronic document only after USEPA publishes a Federal Register notice that USEPA will receive the specific document or type of document in an electronic format; or

B) For submitting documents to the State, a supplier may submit an electronic document only after the Board or the Agency begins using an electronic document receiving system that USEPA approves under 40 CFR 3.1000, so long as the system complies with 40 CFR 3.2000, incorporated by reference in Section 611.102(c), and USEPA does not withdraw its approval in writing.

3) This Section does not apply to specific documents, whether or not the supplier submits the document to satisfy the requirements cited in subsection (a)(1):

A) Any document the supplier submits via facsimile;

B) Any document the supplier submits via magnetic or optical media, such as a diskette, compact disc, digital video disc, or tape; or

C) Any data transfer between USEPA, any state, or any local government and the Board or the Agency as part of administrative arrangements to share data.

4) Upon USEPA conferring written approval for submitting any types of documents as electronic documents in lieu of paper documents, as described in subsection (a)(2)(B), the Agency or the Board, as appropriate, must publish a Notice of Public Information in the Illinois Register that describes the documents approved for submission as electronic documents, the USEPA-approved electronic document receiving system for receiving them, the acceptable formats and procedures for their submission, and, as applicable, the date on which the Board or the Agency will begin to receive those submissions. If the~~In the event of~~ USEPA withdraws~~withdrawing~~ approval for receiving any type of document as an electronic document in lieu of a paper document, the Board or the Agency must similarly cause publication of a Notice of Public Information in the Illinois Register.

BOARD NOTE: Subsection (a) derives from 40 CFR 3.1, 3.2, 3.10, 3.20, and 3.1000.

b) Definitions. For the purposes of this Section, terms have the meanings 40 CFR 3.3, incorporated by reference in 35 Ill. Adm. Code 611.102(c), attributes them.

c) Procedures for Submitting Electronic Documents to USEPA in Lieu of Paper Documents. Except as provided in subsection (a)(3), any person Title 40 of the Code of Federal Regulations requires to create and submit or otherwise provide a document to USEPA may satisfy this requirement with an electronic document in lieu of a paper document upon meeting certain conditions:

1) The person satisfies the requirements of 40 CFR 3.10, incorporated by reference in Section 611.102(c); and

2) USEPA first publishes a notice in the Federal Register, as subsection (a)(2)(A) describes.

BOARD NOTE: Subsection (c) derives from 40 CFR 3.2(a) and subpart B of 40 CFR 3.

d) Procedures for Submitting Electronic Documents to the Board or the Agency in Lieu of Paper Documents

1) The Board or the Agency may establish procedural rules for electronically submitting documents. The Board or the Agency must establish any rules under the Administrative Procedure Act [5 ILCS 100/5].

2) The Board or the Agency may accept electronic documents under this Section only as subsection (a)(2)(B) provides.

BOARD NOTE: Subsection (d) derives from 40 CFR 3.2(b) and subpart D of 40 CFR 3.

e) Effects of Submitting an Electronic Document in Lieu of a Paper Document

1) A person failing to comply with this Section when electronically submitting a document is subject to the penalties prescribed for failing to comply with the requirement to file that document.

2) The electronic signature on a document a person files electronically to satisfy a reporting requirement legally binds, obligates, and makes the signer responsible to the same extent as would the filer's filing a paper document bearing the signer's handwritten signature.

3) Proof that the signer used a particular signature device to create an electronic signature establishes that the individual uniquely entitled to use the device did so intending to sign the electronic document and give it effect.

4) Nothing in this Section limits using electronic documents or information derived from electronic documents as evidence in enforcement or other proceedings.

BOARD NOTE: Subsection (e) derives from 40 CFR 3.4 and 3.2000(c).

f) Public Document Subject to State Laws. Any electronic document a person files with the Board is a public document. The document, its submission, its retention by the Board, and its availability for public inspection and copying are subject to various State laws:

1) The Administrative Procedure Act [5 ILCS 100];

2) The Freedom of Information Act [5 ILCS 140];

3) The State Records Act [5 ILCS 160];

4) The Electronic Commerce Security Act [5 ILCS 175];

5) The Environmental Protection Act;

6) Regulations relating to public access to Board records (2 Ill. Adm. Code 2175); and

7) Board procedural rules relating to protection of trade secrets and confidential information (35 Ill. Adm. Code 130).

g) Nothing in this Section or any rule adopted under subsection (d)(1) creates any right or privilege to electronically submit any document.

BOARD NOTE: Subsection (g) derives from 40 CFR 3.2(c).

BOARD NOTE: This Section derives from 40 CFR 3 and 142.10(g).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.126 Using Lead-Free Pipes, Fittings, Fixtures, Solder, and Flux for Drinking Water

a) Applicability and Scope

1) This Section incorporates federal standards for pipes; pipe or plumbing fittings; or fixtures, solder, and flux, as sections 1417 and 1461 of SDWA (42 U.S.C. 300g-6 and 300j-21) require. This Section applies to any person introducing these products into commerce, such as a manufacturer, importer, wholesaler, distributor, reseller, or retailer. This Section also applies to any person using these products when installing or repairing specific facilities:

A) A PWS; or

B) A residential or nonresidential facility providing water for human consumption.

2) This subsection (a)(2) corresponds with 40 CFR 143.10(b), which USEPA marked "reserved". This statement maintains structural consistency with the corresponding USEPA rules.

BOARD NOTE: Subsection (a) derives from 40 CFR 143.10.

b) Definitions. The following definitions apply to this Section:

"Accredited third-party certification body" means a body the American National Standards Institute (ANSI) accredits to provide product certification for meeting the lead-free requirements of not more than a weighted average of 0.25 percent lead content for the wetted surfaces, consistent with section 1417 of SDWA and subsection (c), such as certification to the NSF/ANSI 372 standard.

"Administrator" means the Administrator of USEPA or an authorized representative.

"Affiliated" means a person or entity directly controlling, indirectly controlling (through one or more intermediaries), under control of, or under common control with a specific person or entity. Affiliated persons or entities include any of the following: a parent company and all wholly or partially owned subsidiaries of the parent company, or two or more corporations or family partnerships having overlap in ownership or control.

"Alloy" means a substance composed of two or more metals or of a metal and a nonmetal.

"Coating" means a thin layer of material, such as paint, epoxy, zinc galvanization, or other material, usually applied by spraying or in liquid form to coat internal surfaces of pipes, fittings, or fixtures.

"Custom fabricated product" means a product:

A manufacturer makes on a case-by-case basis to accommodate the unique needs of a single customer;

Not having an assigned Universal Product Code (UPC);

That no manufacturer, importer, wholesaler, distributor, retailer, or other source stocks or makes available through inventory for distribution; and

That no person catalogs in print or on the internet with a specific item number or code.

"Drinking water cooler" means any mechanical device that is affixed to drinking water supply plumbing actively cools water for human consumption.

"Fitting" means a pipe fitting or plumbing fitting.

"Fixture" means a receptacle or device connected to a water supply system or discharging to a drainage system or both. Fixtures used for potable uses include:

Drinking water coolers, drinking water fountains, drinking water bottle fillers, and dishwashers;

Plumbed-in devices, such as point-of-use treatment devices, coffee makers, and refrigerator ice and water dispensers; and

Water heaters, water meters, water pumps, and water tanks, unless nobody uses them for potable uses.

"Flux" means a substance someone uses to help melt or join metals, such as by removing oxides and other coatings or residues from the metals before joining by using solder or other means.

"Importer" means any person introducing any pipe, pipe or plumbing fitting or fixture, solder, or flux entering the United States into commerce; any "importer", as defined in 19 CFR 101.1, incorporated by reference in Section 611.102; or both.

"Introduce into commerce" or "introduction into commerce" means selling or distributing products or offering products for sale or distribution in the United States.

"Liner" means a rigid lining, such as a plastic or copper sleeve, that is:

Sealed with a permanent barrier to exclude lead-bearing surfaces from water contact; and

Of sufficient thickness and otherwise has physical properties necessary to prevent erosion and cracking for the expected useful life of the product.

"Manufacturer" means a person or entity conducting either of certain activities:

Processing or making a product; or

Having a second person process or make products under a contractual arrangement for distribution, using the first person's or entity's brand name or trademark.

"Non-potable services" means all product uses and applications that are not potable uses.

"Person" means an individual, corporation, company, association, partnership, municipality, or State or federal agency, including an officer, employee, or agent of a corporation, company, association, municipality, or State or federal agency.

"Pipe" means a conduit, conductor, tubing, or hose and may also include permanently attached end fittings.

"Pipe fitting" means any piece, such as a coupling, elbow, or gasket, a person uses for connecting pipe lengths or other plumbing pieces together or for changing direction.

"Plumbing fitting" means a plumbing component controlling the volume or directional flow of water, such as a kitchen faucet, bathroom lavatory faucet, manifold, or valve.

"Point-of-use treatment device" means point-of-use treatment device, as defined in Section 611.102.

"Potable uses", for purposes only of this subsection (b), means services or applications providing water for human ingestion, such as drinking, cooking, preparing food, dishwashing, brushing teeth, or maintaining oral hygiene.

"Product" means a pipe, fitting, or fixture.

"Public water system" or "PWS" is defined in Section 611.101.

"Solder" means a type of metal persons use to join metal parts, such as sections of pipe, without melting the existing metal in the joined parts. Solder usually appears on the market in the form of wire rolls or bars.

"State" means the State of Illinois and its authorized agencies.

"United States" includes its commonwealths, districts, states, tribes, and territories.

"Water distribution main" means a pipe, typically found under or adjacent to a roadway, supplying water to buildings via service lines.

BOARD NOTE: Subsection (b) derives from 40 CFR 143.11.

c) Definition of Lead-Free and Calculation Methodology

1) "Lead-free", for the purposes of this Section, means:

   A) Not containing more than 0.2 percent lead, for solder and flux; and

   B) Not more than a weighted average of 0.25 percent lead if the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

2) Calculate the weighted average lead content of a pipe, pipe fitting, plumbing fitting, or fixture using the following formula:

   A) For each wetted component, multiply the percentage of lead in the component by the ratio of the wetted surface area of that component to the total wetted surface area of the entire product to derive the weighted percentage of lead of the component.

   B) The sum of the weighted percentage of lead of all wetted components gives the weighted average lead content of the product.

   C) Use the lead content of the material used to produce wetted components to determine compliance with subsection (c)(1)(B).

   D) For lead content of materials given as a range, use the maximum content of the range.

3) If a coating is applied to the internal surfaces of a pipe, fitting, or fixture component, use the maximum lead content of both the coating and the alloy to calculate the lead content of the component.

4) If a liner is manufactured into a pipe, fitting or fixture, use the maximum lead content of the liner to calculate the lead content of the component.

5) If a fixture contains any media (e.g., activated carbon, ion exchange resin) contained in filters, do not use the media in determining the "total wetted surface area of the entire product" in subsection (c)(2).

6) In addition to the definitions of "lead-free" in subsections (c)(1) through (c)(5), no drinking water cooler containing any solder, flux, or storage tank interior surface that may come into contact with drinking water is lead-free if the solder, flux, or storage tank interior surface contains more than 0.2 percent lead. The manufacturer must make its drinking water coolers so that each individual part or component that may come in contact with drinking water does not contain more than eight percent lead

while still meeting the maximum 0.25 percent weighted average lead content of the wetted surfaces of the entire product.

BOARD NOTE: Subsection (c) derives from 40 CFR 143.12.

d) Use Prohibitions

1) No person may use any pipe, pipe or plumbing fitting or fixture, solder, or flux that is not lead-free in the installation or repair of specific facilities:

A) Any PWS; or

B) Any plumbing in a residential or nonresidential facility providing water for human consumption.

2) Subsection (d)(1) does not apply to leaded joints necessary for the repair of cast iron pipes.

BOARD NOTE: Subsection (d) derives from 40 CFR 143.13.

e) This subsection (e) corresponds with 40 CFR 143.14, requiring authorized states to implement the requirements of section 1417(a)(1) of SDWA (42 U.S.C. 300g-6(a)(1)) and 40 CFR 143.13. This statement maintains structural consistency with the corresponding USEPA rule.

f) Introduction into Commerce Prohibitions

1) No person may introduce into commerce any pipe, pipe or plumbing fitting or fixture, solder, or flux that is not lead-free, except for a pipe for use in manufacturing or industrial processing;

2) No person engaged in the business of selling plumbing supplies in the United States, except a manufacturer, may sell solder or flux that is not lead-free; and

3) No person may introduce into commerce any solder or flux that is not lead-free, unless the solder or flux bears a prominent label stating that it is illegal to use the solder or flux in the installation or repair of any plumbing providing water for human consumption.

BOARD NOTE: Subsection (f) derives from 40 CFR 143.15.

g) Exemptions. Subsections (d), (f), and (j) do not apply to certain products:

1) Pipes, pipe fittings, plumbing fittings, or fixtures, including backflow preventers, exclusively for use in non-potable services such as manufacturing, industrial processing, irrigation, outdoor watering, or any other uses in which no person would reasonably anticipate that someone would use the water for human consumption. Additional products that could be "used exclusively for non-potable services" include:

A) Products clearly labeled, on the product, package, or tag with a phrase like, "Not for use with water for human consumption", or another phrase conveying the same meaning in plain language;

B) Products incapable of use in potable services (e.g., physically incompatible) with other products needed to convey water for potable uses; and

C) Products plainly identifiable and marketed as solely for a use other than conveying water. These other uses include conveying air, chemicals other than water, hydraulic fluids, refrigerants, gases, or other non-water fluids.

2) Toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, fire hydrants, service saddles, and water distribution main gate valves (if ~~provided~~ the valves are at least two inches (5.1 cm) in diameter or larger).

3) Clothes washing machines, emergency drench showers, emergency face wash equipment, eyewash devices, fire suppression sprinklers, steam-capable clothes dryers, and sump pumps.

BOARD NOTE: Subsection (g) derives from 40 CFR 143.16.

h) This subsection (h) corresponds with 40 CFR 143.17, which USEPA marked "Reserved". This statement maintains structural consistency with the corresponding USEPA rule.

i) Required Labeling of Solder and Flux That Is Not Lead-Free. Solder and flux that is not "lead-free", as defined in subsection (c)(1)(A), must bear a prominent label stating that it is illegal to use the solder or flux in the installation or repair of any plumbing providing water for human consumption.
BOARD NOTE: Subsection (i) derives from 40 CFR 143.18.

j) Required Certification of Products

1) A manufacturer or importer introducing into commerce products that must meet the lead-free requirements of section 1417 of the Safe Drinking Water Act and subsection (c) must ensure, except as provided in subsections (j)(1)(A) through (j)(1)(C), that the products are certified compliant, as specified in subsections (j)(2) and (j)(3), by September 1, 2023, or before introducing the product into commerce, whichever occurs later. The manufacturer or importer must maintain documentation substantiating the certification for at least five years after the date the manufacturer or importer last sold the product.

A) Product components of assembled pipes, fittings, or fixtures do not need to be individually certified if the entire product in its final assembled form is lead-free certified.

B) Direct replacement parts for previously installed lead-free certified products do not need to be individually certified if the weighted average lead content of wetted surface area for the part does not exceed the lead content of the original part.

C) Dishwashers do not need to be certified.

2) The manufacturer or importer must obtain certification of its products from an accredited third-party certification body, except as provided in subsection (j)(3). The manufacturer or importer must keep records for all products an accredited third-party certification body certifies, minimally including documents substantiating certification, certification dates, and expiration dates. The manufacturer or importer must provide these documents upon request to the Agency or USEPA, as specified in subsection (k)(2).

3) A manufacturer or importer may self-certify its products under subsection (j)(3)(A) or (j)(3)(B). A manufacturer or importer electing to self-certify its products must comply with subsections (j)(4) through (j)(7).

A) Manufacturers having fewer than ten employees, or importers entering products purchased from or manufactured by manufacturers having fewer than ten employees, may elect to self-certify products in lieu of obtaining certification from an accredited third-party certification body. The number of employees includes any persons employed by the manufacturer and its affiliated entities. The number of employees must be calculated by averaging the number of persons that the manufacturer and its affiliated entities employ, regardless of part-time, full-time, or temporary status, for each pay period over the

manufacturer's and affiliated entities' latest 12 calendar months or averaged over the number of months in existence if less than 12 months. Any firm that subsequently expands employment to ten or more employees, based on the most recent 12-month average number of persons employed, is no longer eligible to self-certify products and must obtain third-party certification within 12 months after having ten or more employees.

B) A manufacturer or importer may elect to self-certify any custom-fabricated product in lieu of obtaining certification from an ANSI-accredited third-party certification body, regardless of the number of persons the manufacturer or importer employs.

4) To self-certify products, the eligible manufacturer or importer must attest that its products comply with the definition of "lead-free" in subsection (c) by developing and maintaining a "certificate of conformity". The certificate of conformity must be:

A) Signed by a responsible corporate officer; general partner; proprietor; or an authorized representative of a responsible corporate officer, general partner, or proprietor; and

B) Posted the certificate to a website with continuing public access in the United States, unless the certificate is being distributed by other means (e.g., electronically or in hard copy) with the product through the distribution channel for final delivery to the end-use installer of the product.

5) The certificate of conformity must be in English and include:

A) Contact information for the manufacturer or importer:

i) The entity's or proprietor's name;

ii) Street and mailing addresses;

iii) Phone number; and

iv) Email address;

B) For products imported into the United States, contact information for the manufacturer;

C) A brief listing of the products, including, when applicable, unique identifying information such as model names and numbers;

D) A statement attesting that the products meet the lead-free requirements of section 1417 of the Safe Drinking Water Act (42 U.S.C. 300g-6) and subpart B of 40 CFR 143 and that the manufacturer or importer is eligible to self-certify the product under that rule;

E) A statement indicating how the manufacturer or importer verified conformance with section 1417 of the Safe Drinking Water Act (42 U.S.C. 300g-6) and subpart B of 40 CFR 143; and

F) The signature, date, name, and position of the signatory and the name and position of the officer, partner, or proprietor who is principal if the signatory certifies as agent on behalf of a responsible corporate officer.

6) A manufacturer or importer self-certifying products must maintain, at a primary place of business within the United States, certificates of conformity and sufficient documentation to confirm that products meet the lead-free requirements of this Section. Sufficient documentation may include detailed schematic drawings of the products indicating dimensions, records of calculations of the weighted average lead content of the products, documentation of the lead content of materials used in manufacture, and other documentation the manufacturer or importer used in verifying the lead content of a plumbing device. The manufacturer or importer must provide this documentation and certificates of conformity upon request to the Agency or USEPA, as specified in subsection (k)(2). The manufacturer or importer must also maintain this documentation and certificates of conformity for at least five years after it last sold the product.

7) The manufacturer or importer must complete the certificate of conformity and documents before introducing a product into commerce.

BOARD NOTE: Subsection (j) derives from 40 CFR 143.19.

k) Compliance Provisions

1) Not complying with the Act or this Section may subject a person to enforcement action. Enforcement action may include injunctive or declaratory relief, a Board order to cease and desist, civil penalties, or criminal penalties.

2) USEPA or the Agency may, on a case-by-case basis, request any information, such as records it deems necessary to determine whether a person complies with section 1417 of the Safe Drinking Water Act (42 U.S.C. 300g-6); subpart B of 40 CFR 143, incorporated by reference in Section 611.102; and this Section. The manufacturer or importer must provide requested information to USEPA or the Agency at a time and in a format as reasonably requested by USEPA or the Agency.

BOARD NOTE: Subsection (k) derives from 40 CFR 143.20.

(Source: Amended at 50 Ill. Reg. _____ effective _____)

Section 611.130 Special Requirements for Certain Variances and Adjusted Standards

a) Relief from the Fluoride MCL

1) When granting any variance or adjusted standard to a CWS supplier from the maximum contaminant level for fluoride in Section 611.301(b), the Board will require the supplier to apply the BAT identified in subsection (a)(4) as a condition to the relief, unless the supplier demonstrates through comprehensive engineering assessments that applying BAT is not technically appropriate and technically feasible for that supplier.

2) If the Board does not require the supplier to apply BAT, the Board will require specific conditions for relief from the fluoride MCL:

A) The supplier must continue investigating certain methods as alternative means of significantly reducing the fluoride level on a definite schedule:

i) Modifying lime softening;

ii) Alum coagulation;

iii) Electrodialysis;

iv) Anion exchange resins;

v) Well-field management;

vi) Using alternative sources of raw water; and

vii) Regionalization; and

B) The supplier must report results of its investigations to the Agency.

3) The Agency must petition the Board to reconsider or modify a variance or adjusted standard under Subpart I of 35 Ill. Adm. Code 101 if the Agency determines that an alternative method the supplier identified under subsection (a)(2) is technically feasible and would result in a significant reduction in fluoride.

4) Two processes are BAT for fluoride:

A) Activated alumina absorption centrally applied; and

B) Reverse osmosis centrally applied.

BOARD NOTE: This subsection derives (a) from 40 CFR 142.61.

b) Relief from an IOC, VOC, or SOC MCL

1) A CWS or NTNCWS must first apply the appropriate BAT for the contaminant before the Board may grant any variance or adjusted standard from the maximum contaminant levels for any VOC or SOC in Section 611.311(a) or (c) or any IOC in Section 611.301, unless the supplier demonstrates through comprehensive engineering assessments that applying BAT would achieve only a minimal and insignificant reduction in the contaminant level.

BOARD NOTE: USEPA lists BAT for each SOC and VOC at 40 CFR 142.62(a) for the purposes of variances and exemptions (adjusted standards). That list is identical to the lists~~list~~ at 40 CFR 141.61(b) and (d), which corresponds with Section 611.311(b).

2) The Board may require any of certain conditions in any relief from an MCL in Section 611.301 or 611.311:

A) The supplier must continue investigating alternative means for complying on a definite schedule; and

B) The supplier must report results of its investigation to the Agency.

3) The Agency must petition the Board to reconsider or modify a variance or adjusted standard, under Subpart I of 35 Ill. Adm. Code 101 if the Agency determines that an alternative method the supplier identified under subsection (b)(2) is technically feasible.

BOARD NOTE: This subsection (b) derives from 40 CFR 142.62(a) through (e).

c) Conditions Requiring Use of Bottled Water, a Point-of-Use Treatment Device, or a Point-of-Entry Treatment Device. When granting any variance or adjusted standard from the MCLs for organic and inorganic chemicals or an adjusted standard from the treatment technique for lead and copper, the Board may impose certain conditions requiring the use of bottled water, a point-of-entry treatment device, or a point-of-use treatment device to avoid an unreasonable risk to human health, limited as subsections (d) and (e) provide.

1) Relief from an MCL. When granting a variance or adjusted standard from an MCL in Section 611.301 or 611.311, the Board may impose a condition requiring a supplier to use bottled water, a point-of-entry treatment device, a point-of-use treatment device, or other means to avoid an unreasonable risk to human health.

2) Relief from Corrosion Control Treatment. When granting an adjusted standard from the corrosion control treatment requirements for lead and copper under Sections 611.351 and 611.352, the Board may impose a condition requiring a supplier to use bottled water, a point-of-use treatment device, or other means but not a point-of-entry treatment device to avoid an unreasonable risk to human health.

3) Relief from Source Water Treatment or Replacing Service Lines. When granting an exemption from the source water treatment and lead service line replacement requirements under Section 611.353 or 611.354, the Board may impose a condition requiring a supplier to use a point-of-entry treatment device to avoid an unreasonable risk to human health.

BOARD NOTE: This subsection (c) derives from 40 CFR 142.62(f).

d) Using Bottled Water. A supplier proposing to use or using bottled water as a condition for receiving a variance or an adjusted standard from requirements in Section 611.301 or 611.311 or an adjusted standard from requirements in Sections 611.351 through 611.354 must comply with either subsections (d)(1), (d)(2), (d)(3), and (d)(6) or (d)(4), (d)(5), and (d)(6).

1) The supplier must develop a monitoring program for Board approval providing reasonable assurances that the bottled water meets all MCLs in Sections 611.301 and 611.311, and the supplier must describe this program in its petition. The description must demonstrate how the supplier will comply with this subsection (d).

2) The supplier must monitor representative samples of the bottled water for all contaminants under Sections 611.301 and 611.311 during the first three-month period that it supplies the bottled water to the public, then annually after that.

3) The supplier must annually provide the results of its monitoring to the Agency.

4) The supplier must receive a certification from the bottled water company:

A) That the supplier provides bottled water from an approved source of bottled water, as Section 611.101 defines;

B) That the approved source of bottled water monitors as 21 CFR 129.80(g)(1) through (g)(3) require; and

C) That the bottled water does not exceed any MCLs or quality limits in 21 CFR 110, 129, and 165.110.

5) The supplier must provide the certification subsection (d)(4) requires to the Agency during the first quarter after it begins supplying bottled water then annually after that.

6) The supplier must provide sufficient quantities of bottled water to every affected person the supplier serves via door-to-door bottled water delivery.

BOARD NOTE: This subsection (d) derives from 40 CFR 142.62(g).

e) Using a Point-of-Entry Treatment Device. Before the Board grants any PWS a variance or adjusted standard from an NPDWR, including a condition requiring use of a point-of-entry treatment device, the supplier must demonstrate certain facts to the Board:

1) That the supplier will operate and maintain the device;

2) That the device protects human health equivalent to central treatment;

3) That the supplier will maintain the microbiological safety of the water at all times;

4) That the supplier has standards for performance, conducted a rigorous engineering design review, and field tested the device;

5) That operating and maintaining the device will account for any potential

for increased concentrations of heterotrophic bacteria resulting from using activated carbon by backwashing, post-contactor disinfection, and heterotrophic plate count monitoring;

6) That buildings connected to the supplier's distribution system have sufficient devices properly installed, maintained, and monitored to ensure protecting all consumers; and

7) That using the device will not cause increased corrosion of lead- and copper-bearing materials between the device and tap that could increase contaminant levels at the tap.

BOARD NOTE: This subsection (e) derives from 40 CFR 142.62(h).

f) Relief from the Maximum Contaminant Levels for Radionuclides

1) Relief from the Maximum Contaminant Levels for Combined Radium-226 and Radium-228, Uranium, Gross Alpha Particle Activity (Excluding Radon and Uranium), and Beta Particle and Photon Radioactivity

A) For relief equivalent to a federal section 1415 variance or section 1416 exemption, Section 611.330(g) lists what USEPA identifies as BAT, treatment techniques, or other means for complying with the MCLs for the radionuclides in Section 611.330(b), (c), (d), and (e).

B) For relief equivalent to a federal section 1415 variance or section 1416 exemption for a small system, defined here as one serving 10,000 persons or fewer, Section 611.330(h) lists what USEPA identifies as BAT, treatment techniques, or other means available for complying with the MCLs for the radionuclides listed in Section 611.330(b), (c), (d), and (e), in addition to the technologies in Section 611.330(g) for issuing relief equivalent to a federal section 1415 small system variance or a section 1416 exemption.

2) As a condition for relief equivalent to a federal 1415 variance or section 1416 exemption, the Board will require a CWS supplier to install and use any treatment technology in Section 611.330(g) (or 611.330(h) for a small system serving 10,000 persons or fewer, except as subsection (f)(3) provides otherwise. If the supplier cannot meet the MCL after installing the treatment technology, the supplier is eligible for relief.

3) If a CWS supplier demonstrates by comprehensive engineering assessments, which may include pilot plant studies, that the treatment

technologies identified in this Section would only achieve a de minimis reduction in the contaminant level, the Board may issue a schedule of compliance requiring the system to examine other treatment technologies as a condition of obtaining relief equivalent to a federal section 1415 variance or section 1416 exemption.

4) If the Agency determines that a treatment technology identified under subsection (f)(3) is technically feasible, the Agency may request that the Board require the supplier to install and use that treatment technology on a compliance schedule under Section 36 of the Act. The Agency must base its determination on the supplier's studies and other relevant information.

5) To avoid unreasonable risk to human health, the Board may require a CWS supplier to use bottled water, point-of-use devices, point-of-entry devices, or other means as a condition of relief equivalent to a federal section 1415 variance or a section 1416 exemption from requirements in Section 611.330.

6) A CWS supplier using bottled water as a condition to relief equivalent to a federal section 1415 variance or a section 1416 exemption from the requirements of Section 611.330 must comply with subsection (d)(6) and either subsections (d)(1) through (d)(3) or (d)(4) and (d)(5).

7) A CWS supplier using point-of-use or point-of-entry devices as a condition to relief equivalent to a federal section 1415 variance or a section 1416 exemption from the radionuclides NPDWRs must meet the conditions in subsections (e)(1) through (e)(6).

BOARD NOTE: This subsection (f) derives from 40 CFR 142.65.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART B: FILTRATION AND DISINFECTION

Section 611.276 Recycle Provisions

a) Applicability. A Subpart B system supplier employing conventional filtration or direct filtration treatment that recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes must comply with subsections (b) through (d).

b) Reporting. A supplier must notify the Agency in writing if the supplier recycles spent filter backwash water, thickener supernatant, or liquids from dewatering

processes. This notification must minimally include the information subsections (b)(1) and (b)(2) specify:

1) A plant schematic showing the origin of all recycled flows (including spent filter backwash water, thickener supernatant, and liquids from dewatering processes), the hydraulic conveyance used to transport these fluids, and the location where the supplier reintroduces these fluids back into the treatment plant.

2) The typical recycle flow in gallons per minute (gpm), the highest plant flow the supplier observed in the previous year (gpm), design flow for the treatment plant (gpm), and the Agency-approved operating capacity for the plant if the Agency makes this determination.

c) Treatment Technique Requirement. Any supplier recycling spent filter backwash water, thickener supernatant, or liquids from dewatering processes must return these flows through the processes of the supplier's existing conventional filtration or direct filtration system, as defined in Section 611.101, or at an alternative location approved by a permit issued by the Agency.

d) Recordkeeping. The supplier must collect and keep~~retain~~ on file the recycle flow information subsections (d)(1) through (d)(6) specify for review and evaluation by the Agency:

1) A copy of the recycle notification and information the supplier submitted to the Agency under subsection (b).

2) A list of all recycle flows and the frequency with which the supplier returns them.

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

4) The typical filter run length and a written summary of how filter the run length is determined.

5) The type of treatment the supplier provides for the recycle flow.

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

BOARD NOTE: This Section derives from 40 CFR 141.76.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART F: MAXIMUM CONTAMINANT LEVELS (MCLs) AND MAXIMUM RESIDUAL DISINFECTANT LEVELS (MRDLs)

Section 611.311 ~~Revised~~ MCLs for Organic Chemical Contaminants

a) Maximum Contaminant Levels for Volatile Organic Chemical Contaminants. The MCLs for VOCs apply to CWS suppliers and NTNCWS suppliers:

CAS No.	Contaminant	MCL (mg/ L)
71-43-2	Benzene	0.005
56-23-5	Carbon tetrachloride	0.005
95-50-1	o-Dichlorobenzene	0.6
106-46-7	p-Dichlorobenzene	0.075
107-06-2	1,2-Dichloroethane	0.005
75-35-4	1,1-Dichloroethylene	0.007
156-59-2	cis-1,2-Dichloroethylene	0.07
156-60-5	trans-1,2-Dichloroethylene	0.1
75-09-2	Dichloromethane (methylene chloride)	0.005
78-87-5	1,2-Dichloropropane	0.005
100-41-4	Ethylbenzene	0.7
108-90-7	Monochlorobenzene	0.1
100-42-5	Styrene	0.1
127-18-4	Tetrachloroethylene	0.005
108-88-3	Toluene	1
120-82-1	1,2,4-Trichlorobenzene	0.07
71-55-6	1,1,1-Trichloroethane	0.2
79-00-5	1,1,2-Trichloroethane	0.005
79-01-6	Trichloroethylene	0.005
75-01-4	Vinyl chloride	0.002
1330-20-7	Xylenes (total)	10

b) USEPA, under section 1412 of SDWA identifies in this subsection (b) granular activated carbon (GAC), packed tower aeration (PTA), or oxidation (OX) as BAT, treatment technique, or other means available for achieving compliance with the MCLs for VOCs, and SOCs in subsections (a) and (c) except for per-and polyfluoroalkyl substances (PFAS), as indicated:

CAS No.	Contaminant	BAT~~MCL (mg/ L)~~
15972-60-8	Alachlor	GAC
116-06-3	Aldicarb*	GAC
1646-87-4	Aldicarb sulfone*	GAC
1646-87-3	Aldicarb sulfoxide*	GAC
1912-24-9	Atrazine	GAC
71-43-2	Benzene	GAC, PTA
50-32-8	Benzo(a)pyrene	GAC
1563-66-2	Carbofuran	GAC
56-23-5	Carbon tetrachloride	GAC, PTA
57-74-9	Chlordane	GAC
94-75-7	2,4-D	GAC
75-99-0	Dalapon	GAC
96-12-8	Dibromochloropropane	GAC, PTA
95-50-1	o-Dichlorobenzene	GAC, PTA
106-46-7	p-Dichlorobenzene	GAC, PTA
107-06-2	1,2-Dichloroethane	GAC, PTA
156-59-2	cis-1,2-Dichloroethylene	GAC, PTA
156-60-5	trans-1,2-Dichoroethylene	GAC, PTA
75-35-4	1,1-Dichloroethylene	GAC, PTA
75-09-2	Dichloromethane	PTA
78-87-5	1,2-Dichloropropane	GAC, PTA
103-23-1	Di(2-ethylhexyl)adipate	GAC, PTA
117-81-7	Di(2-ethylhexyl)phthalate	GAC
88-85-7	Dinoseb	GAC
85-00-7	Diquat	GAC
145-73-3	Endothall	GAC
72-20-8	Endrin	GAC
106-93-4	Ethylene dibromide (EDB)	GAC, PTA
100-41-4	Ethylbenzene	GAC, PTA
1071-53-6	Glyphosate	OX
76-44-8	Heptachlor	GAC
1024-57-3	Heptachlor epoxide	GAC
118-74-1	Hexachlorobenzene	GAC
77-47-3	Hexachlorocyclopentadiene	GAC, PTA
58-89-9	Lindane	GAC
72-43-5	Methoxychlor	GAC
108-90-7	Monochlorobenzene	GAC, PTA
23135-22-0	Oxamyl	GAC
87-86-5	Pentachlorophenol	GAC
1918-02-1	Picloram	GAC
1336-36-3	Polychlorinated biphenyls (PCB)	GAC
122-34-9	Simazine	GAC

100-42-5	Styrene	GAC, PTA
1746-01-6	2,3,7,8-TCDD	GAC
127-18-4	Tetrachloroethylene	GAC, PTA
108-88-3	Toluene	GAC, PTA
8001-35-2	Toxaphene	GAC
120-82-1	1,2,4-trichlorobenzene	GAC, PTA
71-55-6	1,1,1-Trichloroethane	GAC, PTA
79-00-5	1,1,2-trichloroethane	GAC, PTA
79-01-6	Trichloroethylene	GAC, PTA
93-72-1	2,4,5-TP	GAC
75-01-4	Vinyl chloride	PTA
1330-20-7	Xylene	GAC, PTA

* See the Board note at the end of this Section.

c) The following maximum contaminant levels (MCLs) in Tables 1 and 2 to subsection (c) for synthetic organic contaminants apply to CWS and NTNCWS suppliers; Table 2 also contains health-based water concentrations (HBWCs) for selected per-and poly-fluoroalkyl substances (PFAS) used in calculating the Hazard Index. ~~Synthetic Organic Chemical Contaminants. MCLs for SOCs apply to CWS and NTNCWS suppliers:~~

1) MCLs for SOCs (except for PFAS) apply to CWS and NTNCWS suppliers:

CAS Number	Contaminant	MCL (mg/ L)
15972-60-8	Alachlor	0.002
116-06-3	Aldicarb*	0.003~~0.002~~
1646-87-4	Aldicarb sulfone*	0.002
1646-87-3	Aldicarb sulfoxide*	0.004
1912-24-9	Atrazine	0.003
50-32-8	Benzo(a)pyrene	0.0002
1563-66-2	Carbofuran	0.04
57-74-9	Chlordane	0.002
94-75-7	2,4-D	0.07
75-99-0	Dalapon	0.2
96-12-8	Dibromochloropropane	0.0002
103-23-1	Di(2-ethylhexyl)adipate	0.4
117-81-7	Di(2-ethylhexyl)phthalate	0.006
88-85-7	Dinoseb	0.007
85-00-7	Diquat	0.02
145-73-3	Endothall	0.1
72-20-8	Endrin	0.002
106-93-4	Ethylene dibromide	0.00005

1071-53-6	Glyphosate	0.7
76-44-8	Heptachlor	0.0004
1024-57-3	Heptachlor epoxide	0.0002
118-74-1	Hexachlorobenzene	0.001
77-47-4	Hexachlorocyclopentadiene	0.05
58-89-9	Lindane	0.0002
72-43-5	Methoxychlor	0.04
23135-22-0	Oxamyl (Vydate)	0.2
87-86-5	Pentachlorophenol	0.001
1918-02-1	Picloram	0.5
1336-36-3	Polychlorinated biphenyls (PCBs)	0.0005
122-34-9	Simazine	0.004
1746-01-6	2,3,7,8-TCDD (Dioxin)	0.00000003
8001-35-2	Toxaphene	0.003
93-72-1	2,4,5-TP	0.05

* See the Board note at the end of this Section.

2) MCLs and HBWCs for PFAS apply to CWS and NTNCWS suppliers:

CAS Number	Contaminant	MCL (mg/ L)	HBWC (mg/l)
Not applicable	Hazard Index PFAS (HFPO-DA, PFBS, PFHxS, and PFNA)	1 (unitless)[1]	Not applicable
122499-17-6	HFPO-DA	0.00001	0.00001
45187-15-3	PFBS	No Individual MCL	0.002
108427-53-8	PFHxS	0.00001	0.00001
72007-68-2	PFNA	0.00001	0.00001
45285-51-6	PFOA	0.0000040	Not applicable
45298-90-6	PFOS	0.0000040	Not applicable

[1] The PFAS Mixture Hazard Index (HI) is the sum of component hazard quotients (HQs), which are calculated by dividing the measured component PFAS concentration in water by the relevant health-based water concentration when expressed in the same units (shown in ng/l for simplification). The HBWC for PFHxS is 10 ng/l; the HBWC for HFPO-DA is 10 ng/l; the HBWC for PFNA is 10 ng/l; and the HBWC for PFBS is 2000 ng/l. A PFAS Mixture Hazard Index greater than 1 (unitless) indicates an exceedance of the health protective level and indicates potential human health risk from the PFAS mixture in drinking water.

Hazard Index = ([HFPO-DA$_{water}$ ng/l]/[10 ng/l]) + ([PFBS$_{water}$ ng/l]/[2000 ng/l]) + ([PFNA$_{water}$ ng/l]/[10 ng/l]) + ([PFHxS$_{water}$ ng/l]/[10 ng/l])

HBWC = health-based water concentration
HQ = hazard quotient
ng/l = nanograms per liter
PFAS$_{water}$ = the concentration of a specific PFAS in water

d) USEPA, under section 1412 of SDWA identifies in Table 1 to subsection (d) the BAT, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for all regulated PFAS identified in subsection (c).

Table 1 to Subsection (d) BAT for PFAS Listed in Subsection (c)(2)

CAS No.	Contaminant	BAT
Not Applicable	Hazard Index PFAS	GAC, HPAE, RO, NF
122499-17-6	HFPO-DA	GAC, HPAE, RO, NF
108427-53-8	PHFxS	GAC, HPAE, RO, NF
72007-68-2	PFNA	GAC, HPAE, RO, NF
45285-51-6	PFOA	GAC, HPAE, RO, NF
45298-90-6	PFOS	GAC, HPAE, RO, NF

Abbreviations (BAT)

GAC	Granular Activated Carbon
HPAE	Anion Exchange
NF	Nanofiltration
PTA	Packed Tower Aeration
RO	Reverse Osmosis

e) USEPA, under section 1412 of SDWA, identifies in Table 1 to subsection (e) the affordable technology, treatment technique, or other means available to suppliers serving 10,000 persons or fewer for achieving compliance with the MCLs for all regulated PFAS identified in subsection (c)(2)

Section 611.311(e) List of SSCTs for PFAS.

Small System Compliance Technologies[1]	Affordable for Listed Small System Categories[2]
Anion Exchange	All size categories.
GAC	All size categories.
Reverse Osmosis,[3] Nanofiltration[3]	3,301-10,000.

[1] Section 1412(b)(4)(E)(ii) of SDWA specifies that small system compliance technologies (SSCTs) must be affordable and technically feasible for small systems.

[2]SDWA specifies three categories of small systems: (i) those serving 25 or more, but fewer than 501, (ii) those serving more than 500, but fewer than 3,301, and (iii) those serving more than 3,300, but fewer than 10,001.

[3]Technology rejects a large volume of water and may not be appropriate for areas where water quantity may be an issue.

BOARD NOTE: This Section derives from 40 CFR 141.61. More stringent state MCLs for 2,4-D, heptachlor, and heptachlor epoxide appear at Section 611.310. In 40 CFR 141.6(g), USEPA postponed the effectiveness of the MCLs for aldicarb, aldicarb sulfone, and aldicarb sulfoxide until it took further action on those MCLs. See 40 CFR 141.6(g) and 57 Fed. Reg. 22178 (May 27, 1992). USEPA later stated that it anticipated taking no action until 2005 on a federal national primary drinking water regulation (NPDWR) applicable to the aldicarbs. 68 Fed. Reg. 31108 (May 27, 2003). In 2005, USEPA indicated no projected date for final action on the aldicarbs. *See* 70 Fed. Reg. 27501, 671 (May 16, 2005). An entry for the aldicarbs last appeared in USEPA's Spring 2007 semiannual regulatory agenda, indicating no projected dates for further action. *See* 72 Fed. Reg. 23156, 97 (Apr. 30, 2007); *see also* 72 Fed. Reg. 70118, 23 (Dec. 10, 2007) (the first USEPA regulatory agenda that included no entry for the aldicarbs). As of early 2022, USEPA did not include the aldicarbs among the NPDWRs on its webpage. USEPA, Ground Water and Drinking Water, National Primary Drinking Water Regulations (www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations; accessed February 16, 2022). While the Board must maintain entries for aldicarb, aldicarb sulfoxide, and aldicarb sulfone to maintain consistency with the literal text of the federal rules (*see* Sections 7.2 and 17.5 of the Act; 42 U.S.C. 300g-2; 40 CFR 142.10), the Board intends that no aldicarb requirements apply in Illinois until after USEPA adopts such requirements, and the Board removes this statement.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART G: LEAD AND COPPER

Section 611.350 General Requirements and Action Levels

a) Applicability, effective date, compliance deadlines, and scope~~Scope~~. The requirements for Subparts G, AG, and AH constitute NPDWRs for lead and copper.

1) ~~Applicability of and Compliance with this Subpart G. This Subpart G and Subpart AG constitute NPDWRs for lead and copper.~~ This Subpart G, Subpart AG, and Subpart AH ~~and~~ apply to ~~all~~ community water systems (CWSs) and non-transient, non-community water systems (NTNCWSs) as defined in Section 611.101.

~~A)~~ ~~A supplier must comply with this Subpart G by October 16, 2024, except as otherwise required by Section 611.351, 611.354, 611.355, 611.356, or 611.360.~~

~~B)~~ ~~If the Agency issued a SEP before December 16, 2021, that expires on or after October 16, 2024, and the SEP exempts a supplier under any rule in former Subpart G (now redesignated Subpart A), the supplier must comply with this Subpart G after the SEP expires, regardless of subsection (a)(1)(A).If the SEP expires before October 16, 2024, the supplier must comply with this Subpart G as required by subsection (a)(1)(A).~~

~~C)~~ ~~The Agency may issue a SEP requiring a supplier to comply with specified rules in this Subpart G before subsection (a)(1)(A) or (a)(1)(B) otherwise requires or as necessary to address issues in a notice the Agency received from USEPA under 40 CFR 142.23 or 142.30. The SEP must specify the rules in this Subpart G with which the supplier must comply and their counterparts in Subpart AG with which the supplier no longer needs to comply. The supplier must comply with the SEP-specified Subpart G rules in lieu of their counterparts in Subpart AG.~~

2) The requirements of this subpart are effective within 30 days of the effective date of this Subpart G. ~~Scope. This Subpart G establishes a treatment technique including requirements for corrosion control treatment, source water treatment, lead service line inventory, replacing lead service lines, public notice, monitoring for lead in schools and child care facilities, and public education. Lead and copper action levels and the lead trigger level in samples collected at consumers' taps prompt these requirements. The rules in this Subpart G requiring lead sampling in schools and child care facilities and public education apply to all CWS~~

3) Community water system suppliers and non-transient non-community water system suppliers must comply with the requirements of this subpart

G no later than November 1, 2027, except where otherwise specified in Sections 611.351, 611.354, 611.355, 611.356, and 611.360 or where an exemption in compliance with 40 CFR part 142, subpart C or F, has been issued by the Agency.

4) Compliance Dates

A) Between October 30, 2024, and November 1, 2027, community water systems and non-transient non-community water systems must comply with Subpart AH Sections 611.350(b), 611.840(d), and 611.350 through 611.361, except systems must also comply with this subpart G Sections 611.354(a)(1) through (10) (excluding paragraphs (a)(6) and (7)), 611.355(a)(1)(B) and (e), Section 611.360(e)(1) and (13), (f)(4), and (h)(3); Subpart V Sections 611.901(a)(3)(F), and (c)(3), and 611.902(a)(10); Section 611.Appendix G, entry I.C.1 (excluding Section 611.360, except paragraphs (e)(1) and (13) and (f)(4)) and entry I.C.2; Section 611.Appendix H, entry D.23; and Section 611.840(d)(2) within 30 days of the effective date of this subpart G.

B) If an exemption from Subpart AG was issued in compliance with 40 CFR 142, subpart C or F, prior to December 15, 2021 then the supplier must comply with Sections 611.1350 to 611.1361 as codified in Subpart AG until the expiration of the exemption.

BOARD NOTE: This subsection (a)~~(1)~~ derives from 40 CFR 141.80(a). USEPA's Lead and Copper Rule~~Rules~~ Improvements~~Revisions~~ (LCRI~~LCRR~~) apply to all suppliers on November 1, 2027~~December 16, 2021~~. However, USEPA delays complying with LCRI~~LCRR~~ until November 1, 2027~~October 16, 2024~~, when any previously granted exemption expires, or as provided otherwise by any of several specified rules for corrosion control treatment; lead service line replacement; public education, supplemental monitoring, and mitigation; monitoring; and reporting (corresponding with 35 Ill. Adm. Code 611.351, 622.354, 611.355, 611.356, or 611.360). Until a supplier must comply with the LCRI~~LCRR~~, USEPA requires the supplier to comply with subpart I of 40 CFR 141 (2024)~~(2020)~~. This requires the Board to codify three~~two~~ versions of the Lead and Copper Rule:~~-~~ one in Subpart AG, representing the Lead and Copper Rules prior to the LCRR (40 CFR 141 (2020)), one in Subpart AH representing the Lead and Copper Rules prior to the LCRI (40 CFR 141 (2024) and the other in this Subpart G, representing 40 CFR 141 incorporating the LCRI~~LCRR~~.

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

b) Definitions. For this Subpart G only, this subsection (b) defines certain terms:

"Action level" means the concentrations ~~computed concentration~~ of lead or copper in water under subsection (c) determining applicability of some treatment requirements under this Subpart G. The action level for lead is 0.010 mg/L~~0.015 mg/ L~~, and the action level for copper is 1.3 mg/ L.

"Aerator" means the device embedded in a water faucet to enhance air flow in the water stream and prevent splashing.

"Childcare~~Child care~~ facility" means a location~~facility~~ that houses a provider of ~~providing~~ childcare~~child care~~, day care, or early learning services to children as licensed ~~under a license issued~~ by the~~a~~ State, local, or Tribal licensing ~~local~~ agency.
BOARD NOTE: See, e.g., the Childcare ~~Child Care~~ Act of 1969 [225 ILCS 10].

"Connector, also referred to as a gooseneck or pigtail" means a short segment of piping, not exceeding three feet that can be bent and is used for connections between service piping, typically connecting the service line to the main. For purposes of this subpart G, lead connectors are not considered to be part of the service line.

"Corrosion inhibitor" means a substance that can reduce corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

"Distribution system and site assessment" means the requirements under this Subpart G under Section 611.352(j)that water systems must perform at every tap sampling site yielding a lead result above 0.010 mg/ L.

"Effective corrosion inhibitor residual" means a concentration of corrosion inhibitor in the drinking water sufficient to form a passivating film on the interior walls of pipe.

"Elementary school" means a school classified as elementary by State and local practice ~~as elementary~~ and composed of ~~comprising~~ any span of grades (including pre-school) not above~~through~~ grade 8.

"Exceed" or "exceedance", relative to either the lead or the copper action level, means that the 90th percentile concentration of the samples the supplier collected during a six-month tap monitoring period ~~cycle~~ is greater than the lead or copper action level.

"Fifth-liter ~~tap~~ sample" means a one-liter ~~tap water~~ sample of tap water collected in compliance with ~~a supplier collects under~~ Section 611.356(b).

~~"Find-and-fix" means the requirements under this Subpart G that water systems must perform at every tap sampling site yielding a lead result above 15 µg/ L.~~

"First-liter sample~~First-draw tap sample~~" means a~~the first one-liter~~ sample collected of the first one-liter volume of tap water drawn in compliance with ~~a supplier collects under~~ Section 611.356(b)~~Section 611.356(b)(2).~~

~~"Full lead service line replacement" means replacing a lead service line (as well as galvanized service lines requiring replacement) resulting in the entire length of the service line, regardless of service line ownership, complying with Section 611.126 at the time of replacement. A full lead service line replacement includes replacing a service line having only one portion that is lead, such as a service line previously subject to a partial lead service line replacement, as long as the entire service line complies with Section 611.126 after the replacement. A full lead service line replacement requires replacing galvanized service lines downstream of a lead service line. A full lead service line replacement could leave a lead service line in place in the ground but out of service if using a new non-lead service line replaces the out-of-service lead service line.~~

"Galvanized requiring replacement service line" means~~refers to~~ a galvanized service line that currently is or ever was downstream of a lead service line; or is currently downstream of a lead status unknown service line. For this definition, downstream means in the direction of flow through the service line. If the supplier is unable to demonstrate that the galvanized service line was never downstream of a lead service line, it is a galvanized requiring replacement service line for purposes of the service line inventory and replacement requirements in Section 611.354~~Section 611.354(a)(4)(B) describes~~.

BOARD NOTE: This definition derives from 40 CFR 141.84~~40 CFR 141.84(a)(4)(ii) for a term used in various rules~~.

"Galvanized service line" means a service line that is made of iron or steel that has been dipped in ~~piping~~ zinc ~~dipped~~ to prevent corrosion and rusting.

~~"Gooseneck, pigtail, or connector" is a short section of flexible piping, typically not exceeding two feet, connecting segments of rigid service piping. Lead goosenecks, pigtails, and connectors are not part of the lead service line, but Section 611.354(c) may require replacing them.~~

"Large supplier" means a supplier regularly serving water to more than 50,000 persons.

"Lead service line" means a service line that is made of lead or where a portion of the service line is made of lead. A lead-lined galvanized service line is defined as a lead service line. ~~portion of pipe made of lead connecting the water main to the building inlet. A lead service line may be owned by the water system, the property owner, or both. A galvanized service line is a lead service line if it was or is downstream of any lead service line or service line of unknown material. If the only lead piping serving a home 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. Under Section 611.356(a) only, a galvanized service line is not considered a lead service line.~~

"Lead status unknown service line" means a service line whose pipe material has not been demonstrated to be a lead service line, galvanized requiring replacement service line, or a non-lead service line in compliance with Section 611.354(a)(3). ~~that has not been shown to comply with Section 611.126~~. ~~Physically verifying the material composition of a service line (e.g., copper or plastic) is not necessary for its lead status to be identified (e.g., if records demonstrate that the service line was installed after a municipal, State, or federal lead ban).~~ ~~BOARD NOTE: See the description of "lead status unknown" in Section 611.354(a)(4)(D).~~

"Lead trigger level" means a particular concentration of lead in water that prompts certain activities under this Subpart G. The trigger level for lead is a concentration of 10 µg/ L.

"Maximum permissible concentration" or "MPC" means the concentration of lead or copper in finished water entering the supplier's distribution

system, which the Agency designates in a SEP based on the contaminant removal ability of the treatment properly operated and maintained.
BOARD NOTE: This definition derives from 40 CFR 141.83(b)(4). (See Section 611.353(b)(4)(B).)

"Meet" or "comply with", relating to either the lead or the copper action level, means that the 90th percentile concentration of the supplier's samples collected during a six-month tap monitoring period~~cycle~~ is less than or equal to the lead or copper action level.

"Medium~~Mid-sized~~ supplier" means a supplier that serves~~regularly serving~~ water to greater than ~~more than~~ 10,000 persons and less than or equal to~~up to~~ 50,000 persons.

"Multiple-family residence" means a building in which multiple families currently reside, but not one that is also a "single-family structure".

"Newly regulated public water system" refers to either:

1) An existing public water system that was not subject to National Primary Drinking Water Regulations on October 16, 2024, because the system met the requirements of section 1411 of the Safe Drinking Water Act and Section 611.100(d); or

2) An existing water system that did not meet the definition of a public water supplier in Section 611.101 on October 16, 2024. This term does not include existing water systems under new or restructured ownership or management.

BOARD NOTE: This definition derives from 40 CFR 141.2

"90th percentile concentration" means the concentration of lead or copper the supplier computes under subsection (c)(4) using the results of tap water sampling under Section 611.356.
BOARD NOTE: This definition derives from 40 CFR 141.80(c)(4).

"Optimal corrosion control treatment" or "OCCT" means the corrosion control treatment that minimizes ~~minimizing~~ the lead and copper concentrations at users' taps while ensuring that the treatment does not cause the water system to~~will not~~ violate any National Primary Drinking Water Regulations~~national primary drinking water regulations~~ in this subpart.

"Partial service line replacement~~Partial lead service line replacement~~" means replacement of ~~replacing~~ any portion of a lead service line or

galvanized requiring replacement service line as defined in this section, that -leaves in service~~leaving~~ any length of the lead ~~service line~~ or galvanized requiring replacement service line ~~in service and requiring replacement~~ upon completion of the work. ~~40 CFR 141.84(d) allows partial lead service line replacements under limited circumstances, but these do not count towards the mandatory or goal-based lead service line replacement rate under Section 611.354.~~

"Pitcher filter" means a non-plumbed water filtration device consisting 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. ~~its manufacturer, importer, or an accredited third-party certifying body as complying with the version of NSF/ANSI 53 in effect on the date of manufacture or import.~~
BOARD NOTE: NSF/ANSI 53 is the health-based standard for lead and several other contaminants for water filter devices, including pitcher filter-type devices. Identifying a device as certified under NSF/ANSI 53 at the time of purchase is possible. NSF maintains an on-line list of certified devices at info.nsf.org/Certified/dwtu/listings_leadreduction.asp. See the definition of "accredited third-party certification~~certifying~~ body" in 35 Ill. Adm. Code 611.126(b) relating to NSF/ANSI 372.

"Practical quantitation limit" or "PQL" means the lowest concentration of an analyte (substance) that a well-operated laboratory can measure with a high degree of confidence that the analyte is present at or above that concentration.
BOARD NOTE: This definition derives from 40 CFR 141.89(a)(1)(ii) and (a)(1)(iv).

"Pre-stagnation flushing" means opening taps to flush standing water from plumbing before a minimum six-hour stagnation period before lead and copper tap sampling under Subpart G.

"School" means any building or building complex associated with public, private, or charter institutions that primarily provides teaching and learning for elementary or secondary students.

"Secondary school" means a school comprising any span of grades beginning with the next grade following an elementary ~~or middle~~ school (usually 7, 8, or 9) and ending with ~~or below~~ grade 12. Secondary schools include~~This definition~~ ~~includes~~ both junior high schools and senior high schools and typically span grades 7 through 12.

"Service line" means a portion of pipe that connects the water main (or other conduit for distributing water to individual consumers or groups of consumers) to the building inlet. Where a building is not present, the service line connects the water main (or other conduit for distributing water to individual consumers or groups of consumers) to the outlet.

"Single-family structure" means a building constructed as a residence for a single-family that the occupant currently uses as a residence or place of business.

"Small ~~system~~ supplier" or "small CWS supplier" means a CWS serving 10,000 or fewer persons.
BOARD NOTE: A small CWS is a small supplier that is a CWS. This definition derives from the preamble of 40 CFR 141.93. Corresponding Section 611.363 distinguishes a small CWS supplier from an NTNCWS supplier.

"Small supplier" means a supplier regularly serving water to 10,000 or fewer persons.
BOARD NOTE: USEPA did not revise its corresponding definition of "small water system" in 40 CFR 141.2 from 3,300 or fewer to 10,000 or fewer persons. This creates an inconsistency the Board corrected.

"Source water monitoring period" means any of the six-month periods during which a supplier must complete source water monitoring under Section 611.358.
BOARD NOTE: The Board added this definition to avoid confusion with "tap sampling period," "tap monitoring period~~cycle~~", and "water quality monitoring period", as used under this Subpart G, and "compliance period" and "compliance cycle", as used elsewhere in this Part and Section 611.101 defines.

"Supplier without~~not applying~~ corrosion control treatment" means a water system supplier that does not have ~~PWS not fulfilling either of two conditions~~ or purchases~~purchasing~~ all of its water from a supplier that does not have~~not fulfilling either of two conditions~~:

An optimal corrosion control treatment approved by the Agency; or ~~Neither the PWS nor the supplier providing its water has Agency-approved optimal corrosion control treatment; or~~

Any pH~~No other water quality~~ adjustment, alkalinity adjustment, and/or corrosion inhibitor addition resulting from other water

quality adjustments as part of its ~~in either the PWS's or the supplier's~~ treatment train infrastructure. ~~includes adjusting pH or alkalinity or adding corrosion inhibitor.~~

"Tap monitoring period~~cycle~~" means the period of time during which ~~each~~ a supplier must conduct tap sampling~~sample taps~~ for lead and copper analyses. The applicable tap monitoring period is determined by ~~The~~ lead and copper concentrations in tap samples. The length of the tap monitoring period ~~determine the tap monitoring cycle, and the frequency~~ can range from ~~every~~ six months ~~(i.e., semi-annually)~~ to ~~once every~~ nine years. ~~A supplier semi-annually sampling taps must collect samples no less frequently than every six months, while a supplier annually sampling taps must sample no less frequently than every year. A supplier triennially sampling taps must collect samples no less frequently than every three years, and a supplier sampling taps under an Agency-issued waiver must sample no less frequently than every nine years. The start of each new tap monitoring cycle, with the exception of semi-annual monitoring, must begin on January 1.~~
~~BOARD NOTE: This term is equivalent to "tap sampling monitoring period" in 40 CFR 141. "Tap monitoring cycle" describes sampling frequency~~.

"Tap sampling period" means the time period within a tap monitoring period~~cycle~~, within a tap monitoring period, during which ~~when~~ the supplier is required to ~~must~~collect samples for lead and copper analysis~~. For a supplier sampling at a reduced frequency, the supplier must sample taps between June and September, unless the Agency issues a SEP approving a different four-month period.~~.
BOARD NOTE: "Tap sampling period" describes when the supplier collects samples.

"Tap sampling protocol" means the method for collecting tap samples~~instructions a supplier gives to residents or those sampling on the supplier's behalf to sample taps~~ under Section 611.356(b)~~this Subpart G~~.

"Water quality monitoring period" means any of the six-month periods during which a supplier must complete a cycle of tap and entry point water quality monitoring under Section 611.357.
BOARD NOTE: The Board added this definition. USEPA refers to these as "monitoring periods". The Board uses "water quality monitoring period" to avoid confusion with "tap sampling period," "tap monitoring period~~cycle~~", and "source water monitoring period", as used under this Subpart G, and "compliance period" and "compliance cycle", as used elsewhere in this Part and Section 611.101 defines.

"Wide-mouthed bottles" means bottles one liter in volume having a mouth that is at least 40 mm~~55 mm~~ wide.

BOARD NOTE: This subsection (b) derives from 40 CFR 141.2.

c) Lead ~~Trigger Level and Lead~~ and copper action levels~~Copper Action Levels~~ and method for determining whether there is an exceedance of the action level. A supplier must determine action levels based on tap water samples that must be considered for inclusion under Section 611.356(e) for the purpose of calculating the 90th percentile and tested using the analytical methods specified in Section 611.359. The action levels described in this subsection (c) are applicable to all sections of Subpart G. Action levels for lead and copper are as follows:~~The supplier determines the lead trigger levels and lead and copper action levels based on tap water samples it collects under 40 C.F.R. 141.86 to calculate the 90th percentile concentration and tests using the analytical methods in 40 C.F.R. 141.89.~~

1) The supplier exceeds the lead action~~trigger~~ level if the 90th percentile concentration of lead ~~concentration~~ derived as specified in ~~as~~ subsection (c)(3)~~subsection (c)(4) specifies~~ is ~~determined to be~~ greater than 0.010 mg/L ~~10 µg/ L~~..

2) The supplier exceeds the copper action level if the 90th percentile concentration of copper as specified in subsection (c)(3) is greater than 1.3 mg/L. ~~The supplier exceeds the lead action level if the 90th percentile lead concentration is greater than 15 µg/ L.~~

3) For purposes of this subpart, the 90th percentile concentration must be derived as follows: ~~The supplier exceeds the copper action level if the 90th percentile copper concentration is greater than 1.3 mg/ L.~~

A) For suppliers that do not have Tier 1 and/or Tier 2 sites and only have sites identified as Tier 3, 4, or 5 under Section 611.356(a):

i) The results of all lead or copper samples taken during a tap sampling period and eligible for inclusion in the 90th percentile calculation under Section 611.356(e) must be placed in ascending order from the sample with the lowest concentration of lead or copper to the sample with the highest concentration of lead or copper. Each sampling result must be assigned a number, in ascending order beginning with the number 1 for the sample with the lowest concentration of lead or copper. The number assigned to

the sample with the highest concentration must be equal to the total number of samples taken and considered for inclusion in the 90th percentile calculation, in compliance with Section 611.356(e).

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

iii) The 90th percentile concentration is the concentration of lead or copper in the numbered sample yielded after multiplying the number of samples by 0.9 in subsection (c)(3)(A)(ii).

iv) For suppliers that collect five samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration from the results in subsection (c)(3)(A)(i).

v) For a supplier that is allowed by the Agency to collect fewer than five samples in compliance with Section 611.356(a)(2) or fails to meet their required minimum number of samples and collected fewer than five samples, the samples result with the highest concentration from the results in subsection (c)(3)(A)(i) is considered the 90th percentile value.

B) For suppliers with sites identified as Tier 1 or 2 under Section 611.356(a) with sufficient Tier 1 and 2 sites to meet the minimum number of sites required in Section 611.356(c) or (d) as applicable:

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

ii) The results of the lead or copper samples taken during a tap sampling period and eligible for inclusion in the 90th percentile calculation under Section 611.356(e) identified in subsection (c)(3)(B)(i) must be placed in ascending order

from the sample with the lowest concentration to the sample with the highest concentration. Each sampling result must be assigned a number, in ascending order beginning with the number 1 for the sample with the lowest concentration. The number assigned to the sample with the highest concentration must be equal to the total number of samples.

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

iv) The 90th percentile concentration is the concentration of lead or copper in the numbered sample yielded after multiplying the number of samples by 0.9 in subsection (c)(3)(B)(iii).

v) For suppliers that collect samples from five sites per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration from the results in subsection (c)(3)(B)(ii).

vi) For a supplier allowed by the Agency to collect fewer than five copper samples or five first-liter and fifth-liter-paired lead samples in compliance with Section 611.356(a)(2), or has failed to collect at least five copper samples or five first-liter and fifth-liter-paired lead samples, the sample result with the highest concentration from the results in paragraph (c)(3)(B)(ii) is considered the 90th percentile value.

C) For suppliers with sites identified as Tier 1 or 2 under Section 611.356(a) with an insufficient number of Tier 1 or 2 sites to meet the minimum number of sites required in Section 611.356(c) or (d) as applicable:

i) For lead, the supplier must use the higher value of the first-liter and fifth-liter lead sample for each Tier 1 or 2 site (or first-liter lead sample if tiering is based on premise plumbing) and the first-liter lead samples from sites in the next highest available tier (*i.e.,* Tier 3, 4, and 5) to meet the minimum number of sites required in Section 611.356(c) or (d) sampled during a tap sampling period for the steps in subsections (c)(3)(C)(ii) through (iv). For copper, the supplier must use all first-liter copper samples collected.

ii) The results of all of the lead or copper samples identified in subsection (c)(3)(C)(i) must be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. The supplier must reduce this list to only include samples with the highest concentrations such that the number of sample results equals the minimum number of sites required to be sampled by Section 611.356(c) or (d), as applicable. From this reduced list, each sampling result must be assigned a number, in ascending order beginning with the number 1 for the sample with the lowest concentration. The number assigned to the sample with the highest concentration must be equal to the minimum number of sites required by Section 611.356(c) or (d), as applicable.

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

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

v) For suppliers that collect samples from five sites per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration from the results in subsection (c)(3)(C)(ii).

vi) For a supplier that is allowed by the Agency to collect fewer than five copper samples or five first-liter and fifth-liter-paired lead samples in compliance with Section 611.356(a)(2), or has failed to collect at least five copper samples or five first-and-fifth-liter-paired lead samples, the sample result with the highest concentration from the results in subsection (c)(3)(C)(ii) is considered the 90th percentile value.

vii) If a supplier does not collect enough samples sufficient to meet the minimum number of sites required in Section 611.356(c) or (d), the suppler must calculate the 90th percentile lead and copper levels following the steps in Section 611.350(c)(3)(A)(i) through (iii).

4) The supplier must compute the 90th percentile lead and copper concentrations using the specified procedure:

A) Suppliers Not Having Sites with a Lead Service Line and Only Having Tier 3, 4, or 5 Sites Under 40 C.F.R. 141.86(a)

i) The supplier must list the results of all lead or copper samples it took during a tap sampling period in ascending order, ranging from the sample with the lowest concentration to the sample with the highest concentration. The supplier must assign each sampling result an ordinal number, ascending by single integers, assigning the number 1 for the sample with the lowest contaminant level. The number the supplier assigns to the sample with the highest contaminant level must equal the total number of samples the supplier took.

ii) To determine the 90th percentile sample, the supplier must multiply the total number of samples taken during the tap sampling period times 0.9.

iii) The contaminant concentration in the sample corresponding with the ordinal number subsection (c)(4)(A)(ii) yields is the 90th percentile concentration.

iv) For a supplier collecting five samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentrations.

v) For a supplier the Agency allows to collect fewer than five samples under Section 611.356(c) or failing to collect five samples, the result for the sample with the highest concentration is the 90th percentile concentration.

B) Suppliers Having Enough Sites with a Lead Service Line Identified as Tier 1 or 2 Under 40 C.F.R. 141.86(a) to Meet the Minimum Number of Sites 40 C.F.R. 141.86(c) Requires

i) The supplier must arrange the results of all lead or copper samples it took at Tier 1 or Tier 2 sites during a tap sampling period in ascending order from the sample with the lowest concentration to the sample with the highest concentration. The supplier must not include sample results from Tier 3, 4, or 5 sites in this calculation. The

~~supplier must assign each sampling result a number, beginning with the number 1 for the sample with the lowest contaminant concentration and ascending by single integers through increasing concentrations. The number assigned to the sample with the highest contaminant concentration must equal the total number of samples the supplier took.~~

~~ii)~~ ~~The supplier must multiply the number of Tier 1 or Tier 2 sites during the tap sampling period times 0.9.~~

~~iii)~~ ~~The 90th percentile concentration is the contaminant concentration in the numbered sample corresponding with the number the calculation under subsection (c)(4)(B)(ii) yields.~~

~~iv)~~ ~~For a supplier serving fewer than 100 people that collects five samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration.~~

~~v)~~ ~~For a supplier the Agency allows to collect fewer than five samples under Section 141.86(c) or failing to collect five samples, the highest sample concentration is the 90th percentile concentration.~~

~~C)~~ ~~Suppliers Having Sites with a Lead Service Line Identified as Tier 1 or 2 Under Section 141.86(a) but Fewer Than the Minimum Number of Sites Section 141.86(c) Requires~~

~~i)~~ ~~The supplier must combine the results of all lead or copper samples it took at Tier 1 or Tier 2 sites with a sufficient number of the highest results from Tier 3, 4, or 5 sites to complete the minimum number of sites. The supplier must arrange the combined results in ascending order from the sample with the lowest concentration to the sample with the highest concentration. The supplier must not include sample results from any remaining Tier 3, 4, and 5 sites in this calculation. The supplier must assign each sampling result a number, beginning with the number 1 for the sample with the lowest contaminant concentration and ascending by single integers through increasing concentrations. The number the supplier assigns to the sample with the highest contaminant concentration must~~

~~equal the total minimum number of sites listed in Section 141.86(c).~~

~~ii)~~ ~~The supplier must multiply the number of Tier 1 or Tier 2 sites during the tap sampling period times 0.9.~~

~~iii)~~ ~~The 90th percentile concentration is the contaminant concentration in the numbered sample corresponding with the number the calculation under subsection (c)(4)(C)(ii) yields.~~

~~iv)~~ ~~For a supplier serving fewer than 100 people that collects five samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration.~~

~~v)~~ ~~For a supplier the Agency allows to collect fewer than five samples under Section 611.356(c) or failing to collect five samples, the highest sample concentration is the 90th percentile concentration~~

~~d)~~ ~~Corrosion Control Requirements~~

~~1)~~ ~~Every supplier must install and operate corrosion control treatment under Sections 611.351 and 611.352 meeting the definition of optimal corrosion control treatment.~~

~~2)~~ ~~Any supplier complying with the applicable corrosion control treatment requirements the Agency specifies under Sections 611.351 and 611.352 is deemed as complying with subsection (d)(1).~~

~~3)~~ ~~A small CWS or NTNCWS supplier complying with the applicable small supplier compliance flexibility requirements the Agency specifies under Sections 611.351(a)(3) and 611.363 complies with the treatment requirement in subsection (d)(1).~~

~~4)~~ ~~A supplier must notify the Agency in writing under 40 CFR 141.90(a)(3) of any upcoming long-term change in water treatment or plan to add a new source as Section 611.360(a)(3) describes. The supplier must not implement a long-term change in water treatment or add a new source until after the Agency reviews and approves the action in a SEP. The SEP may require the supplier to conduct additional monitoring or take other action the Agency deems appropriate to ensure that the supplier maintains minimal levels of corrosion control in its distribution system.~~

e) Source Water Requirements

1) Any supplier exceeding the lead or copper action level must implement all applicable source water treatment requirements the Agency specifies under Section 611.353.

2) A supplier planning changes in its source water or making long-term treatment changes must describe the change to the Agency in writing under Sections 611.351(a)(3), 611.356(d)(2)(D), and 611.360(a)(3). The supplier must not implement the change until the Agency reviews and approves the change in a SEP.

f) Lead Service Line Replacement and Inventory. A supplier must conduct lead service line replacements as this subsection (f) requires.

1) Any supplier whose system exceeds the lead action level subsection (c) specifies must complete mandatory lead service line replacement. The supplier must conduct lead service line replacement under Section 611.354(g) and must include public education under Section 611.355(a) and (b).

2) A supplier exceeding the lead trigger level subsection (c) specifies must complete goal-based lead service line replacement under Section 611.354(f) and public education under Section 611.355(g) and (h).

3) All suppliers must prepare an inventory of service lines connected to their distribution systems, whether or not the supplier owns or controls the service lines, to identify lead service lines and lead status unknown service lines. The supplier must prepare the inventory under Section 611.354(a).

g) Public Education and Notification Requirements. Under Section 611.355(d), the supplier must provide notification of the lead tap water monitoring results to the persons served at each tested site (tap). A CWS supplier must conduct annual outreach to the Illinois Department of Public Health and local health agencies under Section 611.355(i). The supplier must complete additional actions:

1) Any supplier exceeding the lead action level must implement the public education requirements under Section 611.355.

2) Any supplier exceeding the lead trigger level subsection (c) specifies must notify all customers with a lead service line under Section 611.355(g).

~~3) Any supplier exceeding the lead action level subsection (c) specifies must notify the public under Subpart V.~~

~~4) Any supplier with lead service lines, galvanized service lines needing replacement, or lead status unknown service lines in its inventory, as Section 611.354(a) specifies, must notify all consumers with a lead service line, galvanized service line needing replacement, or a lead status unknown service line under Section 611.355(e).~~

~~5) Any supplier failing to reach its lead service line replacement rate goal, as required under Section 611.354(f) must conduct outreach activities in accordance with Section 611.355(h).~~

~~h) Monitoring and Analytical Requirements. A supplier must complete all tap water monitoring for lead and copper, monitoring for water quality parameters, and source water monitoring for lead and copper and analyze the monitoring results under this Subpart G as Sections 611.356, 611.357, 611.358, and 611.359 require.~~

~~i) Reporting Requirements. A supplier must report any information the treatment provisions of this Subpart G and Section 611.360 require to the Agency.~~

~~j) Recordkeeping Requirements. A supplier must maintain records as Section 611.361 requires.~~

~~k) Violating National Primary Drinking Water Regulations. Failing to comply with this Subpart G, including conditions the Agency imposes in a SEP, violates the lead and copper NPDWR.~~

~~l) Testing in Schools and Child Care Facilities. A supplier must collect samples from all schools and child care facilities within its distribution system under Section 611.362.~~

BOARD NOTE: This Section derives from 40 CFR 141.80.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.351 Applicability of Corrosion Control

a) Corrosion control treatment~~Control Treatment~~. All suppliers are required to install, optimize, or re-optimize optimal corrosion control treatment (OCCT) in compliance with this section. This section~~Section~~ provides when a supplier must complete the corrosion control treatment steps in subsection (d) or (e) ~~to optimize or re-optimize corrosion control treatment~~ based on size, whether the supplier's ~~supplier~~ system has corrosion control treatment, and whether the supplier

exceeded the lead practical quantitation limit, ~~trigger level,~~ lead action level, and/or copper action level.

1) Large Suppliers (serving >50,000 people)

A) A large supplier with~~applying~~ corrosion control treatment that exceeds either the lead action~~trigger~~ level or copper action level must complete the re-optimized OCCT ~~corrosion control treatment~~ steps specified in subsection (d) unless the supplier:~~specifies.~~

i) Has re-optimized OCCT once under subsection (d) after the compliance date in Section 611.350(a)(3);

ii) Is meeting optimal water quality parameters designated by the Agency; and

iii) Is continuing to operate and maintain corrosion control treatment in compliance with Section 611.352(g).

B) The Agency may require a large supplier that does not have to re-optimize under subsections (a)(1)(A)(i) through (iii) to re-optimize under Section 611.352(h). ~~A large supplier not applying corrosion control treatment with 90th percentile concentration results under Section 611.350(c)(4) that exceeds either the lead practical quantitation limit of 0.005 mg/ L or the copper action level must complete the corrosion control treatment steps subsection (e) specifies.~~

C) A large supplier must meet the requirements under subsection (d) if it exceeds the lead action level at the end of a tap sampling period after completing service line replacement in compliance with Section 611.354(d) and there are no lead, galvanized requiring replacement, or lead status unknown service lines remaining in the supplier's inventory. ~~The Agency may issue a SEP requiring a large supplier applying corrosion control treatment with 90th percentile concentration results under Section 611.350(c)(4) exceeding the lead practical quantitation limit but not exceeding the lead trigger level or the copper action level to complete the corrosion control treatment steps in subsection (d).~~

D) Large suppliers with corrosion control treatment with 90th percentile results as calculated in compliance with Section 611.350(c)(3) that exceed the lead practical quantitation limit of 0.005 mg/L but do not exceed the lead action level or copper

action level may be required by the Agency to complete the re-optimized OCCT steps in subsection(d).

E) Large suppliers without corrosion control treatment with 90th percentile results calculated in compliance with Section 611.350(c)(3) that exceed either the lead practical quantitation limit of 0.005 mg/L or the copper action level must complete steps to study and install OCCT, as specified in subsection (e).

2) Medium~~Mid-Sized~~ Suppliers (serving >10,000 and ≤50,000 people)

A) Medium~~A mid-sized~~ Suppliers with~~supplier applying~~ corrosion control treatment that exceed~~exceed~~ either the lead action~~trigger~~ level or the copper action level must complete the re-optimized OCCT ~~corrosion control treatment~~ steps specified in subsection (d) unless the supplier: ~~specifies~~

i) Has re-optimized OCCT once under subsection (d) after the compliance date in Section 611.350(a)(3);

ii) Is meeting optimal water quality parameters designated by the Agency; and

iii) Is continuing to operate and maintain corrosion control treatment in compliance with Section 611.352(g).

B) The Agency may require a medium supplier that does not have to re-optimize under subsections(a)(2)(A)(i) through (iii) to re-optimize under Section 611.352(h)~~-~~. ~~A mid-sized supplier not applying corrosion control treatment that exceeds either the lead or copper action level must complete the corrosion control treatment steps subsection (e) specifies.~~

C) After completing service line replacement in compliance with Section 611.354(d) and there are no lead, galvanized requiring replacement, or lead status unknown service lines remaining in the inventory, if at the end of a subsequent tap sampling period, the supplier exceeds the lead action level, a medium supplier with corrosion control treatment must meet the requirements under subsection (d). ~~A mid-sized supplier not applying corrosion control treatment that exceeds the lead trigger level but does not exceed the lead or copper action level must complete the treatment recommendation step subsection (e)(1) specifies (Step 1). The~~

~~water system must complete the remaining steps subsection (e) specifies if the supplier subsequently exceeds either the lead or copper action level.~~

D) Medium suppliers with corrosion control treatment that do not exceed either the lead action level or the copper action level and do not have optimal water quality parameters designated by the Agency must complete the steps specified in subsection (d) starting with step 6 under subsection (d)(6) unless the supplier is deemed optimized under subsection (b)(3).

E) Medium suppliers without corrosion control treatment that exceed either the lead or copper action level must complete the OCCT steps specified in subsection (e).

3) Small suppliers ~~CWS~~ (serving ≤ 10,000 people) and NTNCWS suppliers.~~Non-Transient, Non-Community Water System Suppliers~~

A) Small~~A small CWS~~ and~~or~~ NTNCWS suppliers~~supplier~~ with~~applying~~ corrosion control treatment that exceed~~exceeds~~ either the lead action level or copper action~~trigger~~ level, ~~or the lead action level but does not exceed the copper action level~~ must complete the re-optimized OCCT ~~corrosion control treatment~~ steps specified in subsection (d) ~~specifies if the Agency issues a SEP approving corrosion control treatment as a compliance option under Section 611.363(a)~~ unless the supplier:

i) Has re-optimized OCCT once under subsection (d) after the compliance date in Section 611.350(a)(3);

ii) Is meeting optimal water quality parameters designated by the Agency; and

iii) Is continuing to operate and maintain corrosion control treatment as required in 611.352(g).

B) The Agency may require a small supplier that does not have to re-optimize under subsection(a)(3)(A)(i) through (iii) to re-optimize under Section 611.352(h). ~~A small CWS or NTNCWS supplier applying corrosion control treatment that exceeds the copper action level must complete the corrosion control treatment steps subsection (d) specifies.~~

C) After completing service line replacement in compliance with 611.354(d) and there are no lead, galvanized requiring replacement, or lead status unknown service lines remaining in the inventory, if at the end of a subsequent tap sampling period, the supplier exceeds the lead action level, a small supplier with corrosion control treatment must meet the requirements in subsection (d). ~~A small CWS or NTNCWS supplier not applying corrosion control treatment that exceeds the lead action level must complete the corrosion control treatment steps subsection (e) specifies if the Agency issues a SEP approving corrosion control treatment as a compliance option under Section 611.363.~~

D) Small and NTNCWS suppliers without corrosion control treatment that exceed either the lead action level or copper action level must complete the corrosion control treatment steps specified in subsection (e). ~~A small CWS or NTNCWS supplier not applying corrosion control treatment that exceeds the copper action level must complete the corrosion control treatment steps subsection (e) specifies.~~

b) Suppliers deemed~~Deemed~~ to have optimized corrosion control~~Have Optimized Corrosion Control~~. A supplier without corrosion control treatment is deemed to have OCCT as defined in Section 611.350(b) if the supplier's system meets the requirements of either subsection (b)(1)or (3)~~Subsection (b)(1), (b)(2)~~. A supplier with corrosion control treatment is deemed to have OCCT as defined in Section 611.350(b) or re-optimized OCCT if the supplier meets the requirements of either subsection (b)(1) and (4) or (b)(3) and (4). ~~, or (b)(3) deems a supplier to have OCCT or re-optimized OCCT if the supplier satisfies one of the criteria specified in the subsection . Any system subsection (b)(1), (b)(2), or (b)(3) deems to have OCCT having corrosion control treatment in place must continue operating and maintaining that treatment and meeting any additional requirements the Agency determines are appropriate to ensure that the supplier maintains OCCT.~~ Suppliers must submit documentation of meeting applicable requirements to the Agency in compliance with Section 611.360(c)(1) by the deadline for submitting tap sampling results under Section 611.360(a)(2).

1) ~~Small and Mid-Sized Suppliers Not Applying Corrosion Control Treatment.~~ A medium supplier without corrosion control treatment or a small supplier ~~or mid-sized supplier not applying corrosion control treatment~~ is deemed to have OCCT if the supplier~~it~~ does not exceed the lead action level and~~or~~ copper action level during two consecutive six-month tap monitoring period~~cycle~~s and then remains at or below the lead action ~~trigger~~ level and copper action level in all ~~subsequent~~ tap

samplingmonitoring periodscycles conducted in compliance with under Section 611.356.

A) A small supplier with corrosion control treatment is not eligible to be deemed to have OCCT under this subsection (b)(1) where the Agency has set optimal water quality parameters (OWQPs) under subsection (d) or (e).

B) If a medium supplier without corrosion control treatment or a small supplier deemed to have OCCT under this subsection (b)(1) exceeds the lead action level or copper action level, the supplier must follow the requirements in subsection (a).

2) This subsection (b)(2) corresponds with 40 CFR 141.81(b)(2), which USEPA marked "Reserved". This statement maintains structural consistency with USEPA's rule. Small and Mid-Sized Suppliers Applying Corrosion Control Treatment and Not Exceeding Levels. A small or mid-sized supplier applying corrosion control treatment is deemed to have OCCT if it does not exceed the lead or copper action level during two consecutive six-month tap monitoring cycles under Section 611.356 and remains at or below the lead trigger level and copper action level in all subsequent tap monitoring cycles under Section 611.356. If a small or mid-sized supplier applying corrosion control treatment exceeds the lead trigger level but does not exceed the lead or copper action level during two consecutive six-month tap monitoring cycles and remains at or below the lead and copper action levels in all subsequent tap monitoring cycles the supplier conducts under Section 611.356, that supplier is deemed to have re-optimized OCCT by complying with this Section. If the Agency issued a SEP setting optimal water quality parameters (OWQPs) under subsection (d) or (e), a supplier is not eligible to be deemed as having optimized or re-optimized OCCT under subsection (b).

3) Results Less Than or Equal to the Practical Quantitation Level (PQL) for Lead. Monitoring results deem A supplier is deemed to have optimized or re-optimized corrosion control treatmentOCCT if itthe supplier submits tap sampling results in compliance with of tap water monitoring under Section 611.356 demonstrating that the 90th percentile lead levelconcentration is less than or equal to the lead PQL of 0.005 mg/ L for two consecutive six-month tap monitoring periods, and it does not exceed the copper action level for two consecutive six-month tap monitoring periodstap monitoring cycles, and it does not have the Agency did not issue a SEP setting OWQPs designated by the Agency under subsection (d) or (e). Any water system this subsection (b)(3) deems to have optimized corrosion control must continue tap water monitoring for lead

~~and copper no less frequently than once every three calendar years using the reduced number of sites Section 611.356(c) specifies and collecting the samples at times and locations Section 611.356(d)(4)(E) specifies. If 90th percentile tap sample results exceeds the lead practical quantitation level (0.005 mg/L) or copper action level during any tap sampling period, the supplier is no longer eligible to be deemed to have optimized OCCT under this subsection without first completing the treatment steps specified in subsection (d) and (e) of this section.~~

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

B) A supplier deemed to have OCCT in compliance with this subsection (b)(3) must continue monitoring for lead and copper at the tap no less frequently than once every three calendar years using the reduced number of sites specified in 611.356(d)(1) and collecting samples at times and locations specified in 611.356(d)(2)(C).

4) A supplier with corrosion control treatment deemed to have OCCT under this subsection (b) must continue to operate and maintain the corrosion control treatment and also meet any additional requirements that the Agency determines are appropriate to ensure OCCT is maintained.

c) This subsection (c) corresponds with 40 CFR 141.81(c), which USEPA marked "Reserved". This statement maintains structural consistency with USEPA's rule.~~Completing Corrosion Control Steps for Small and Mid-Sized Suppliers Not Applying Corrosion Control Treatment~~

~~1) Any small or mid-sized supplier not applying corrosion control treatment, otherwise required to complete the corrosion control steps in subsection (e) because it exceeded the lead or copper action level, may cease completing the steps after not exceeding either the lead or copper action levels during each of two consecutive six-month tap monitoring cycles under Section 611.363 before beginning Step 3 under subsection (e)(3) or Step 5 under subsection (e)(5). The supplier needs not begin the applicable of Step 3 or Step 5, except that a mid-sized supplier with lead service lines or a small supplier with lead service lines choosing the corrosion control option under Section 611.363 must complete a corrosion control treatment study under subsection (e)(3)(A). A supplier initiating~~

~~Step 5 may not cease the steps and must complete all remaining steps in subsections (e)(6) through (e)(8).~~

~~2)~~ ~~A supplier ceasing the steps prior to either Step 3 or Step 5 and later exceeding the lead or copper action level may not cease the steps a second time and must complete the applicable treatment steps beginning with the first treatment step that the supplier previously did not complete in its entirety.~~

~~3)~~ ~~The Agency may issue a SEP requiring a supplier to repeat treatment steps the supplier previously completed if the Agency determines that this is necessary to properly implement the treatment requirements of this Section. The Agency must explain the basis for its decision in any SEP.~~

~~4)~~ ~~A small or mid-sized supplier exceeding the lead or copper action level must implement corrosion control treatment steps under subsection (e) (including a supplier deemed to have optimized corrosion control under subsection (b)(1))~~

d) Treatment steps~~Steps~~ and deadlines~~Deadlines~~ for suppliers re-optimizing~~Suppliers Re-Optimizing~~ OCCT. Suppliers ~~Except as subsection (b)(2) or Section 611.363 provides otherwise, a supplier~~ with corrosion control treatment required to re-optimize ~~-~~OCCT under subsection (a) must complete the following~~certain corrosion control treatment~~ steps (described in~~the referenced portions of~~ Sections 611.352, 611.356, and 611.357 ~~the steps describe~~) by ~~before~~ the indicated time~~times~~ periods.~~:~~ Suppliers must conduct tap sampling for lead and copper in compliance with the requirements of Section 611.356 while they complete the corrosion control steps in this section.

1) Step 1: Initiate mandatory pipe rig/loop or CCT study or treatment recommendation.

A) Large or medium suppliers with lead service lines that exceed the lead action level must harvest lead service lines from its distribution system and construct flowthrough pipe rigs/loops and operate the rigs/loops with finished water within one year after the tap sampling period in which they exceed the lead action level. These suppliers must proceed to Step 3 under subsection (d)(3) and conduct the corrosion control studies for re-optimization under subsection (d)(3)(A) using the pipe rigs/loops. ~~A supplier other than one to which subsection (d)(1)(B) applies must recommend re-optimized OCCT (Section 611.352(c)) within six months after the end of the tap sampling period during which the supplier exceeds either the lead trigger level or copper action level. The~~

~~Agency may issue a SEP allowing a supplier to modify its existing corrosion control treatment without a study for a supplier exceeding the lead trigger level but not the lead or copper action level. The Agency must specify re-optimized OCCT within six months after receiving the supplier's treatment recommendation. The supplier must modify its corrosion control treatment to install re-optimized OCCT within six months after the Agency specifies re-optimized OCCT.~~

B) Large suppliers without lead service lines that exceed the lead action level or copper action level must conduct the corrosion control studies for re-optimization under subsection (d)(3)(B) (step 3). ~~A supplier having lead service lines that exceeds the lead action level must harvest lead pipes from its distribution system, construct flow-through pipe loops, and operate the loops with finished water within one year after the end of the tap sampling period during which the supplier exceeds the lead action level. The supplier must proceed to Step 3 under subsection (d)(3) and conduct the corrosion control studies for re-optimizing OCCT under subsection (d)(3)(A) using the pipe loops.~~

C) A supplier other than those covered in subsection (d)(1)(A) or (B) must recommend re-optimized optimal corrosion control treatment (Section 611.352(a)) within six months after the end of the tap sampling period in which the supplier exceeded the lead action level or copper action level.

D) Suppliers may make an existing corrosion control treatment modification recommendation to the Agency within six months after the end of the tap sampling period in which the supplier exceeded the lead action level. The Agency must evaluate a supplier's past corrosion control treatment study results prior to approving an existing treatment modification. When the Agency approves existing treatment modifications, the Agency must specify re-optimized OCCT within 12 months after the end of the tap sampling period in which the supplier exceeded the lead action level. The supplier must complete modifications to corrosion control treatment to have re-optimized OCCT installed within six months of the Agency specifying re-optimized OCCT. These suppliers must proceed to step 6 in subsection (d)(6) and conduct follow-up monitoring.

2) Step 2: Agency requires CCT study or Agency designates re-optimized OCCT. Within one year after the end of the tap sampling period in which

a medium supplier without led service lines or a small supplier exceeded the lead action level or copper action level, the Agency may require the supplier to perform corrosion control studies for re-optimization (Section 611.352 (c)(2)). If the Agency does not require the supplier to perform such studies, the Agency must specify re-optimized optimal corrosion control treatment (Section 611.352(d) within the timeframes in subsections (d)(2)(A) and (d)(2)(B). The Agency must provide its determination to the supplier in writing:

A) For a medium supplier, within one year after the end of the tap sampling period during which the supplier exceeded the lead action level or copper action level. ~~A large supplier must conduct the corrosion control studies for re-optimizing OCCT under subsection (d)(3) (Step 3) unless the system is at or below the lead action level and the Agency issues a SEP modifying the existing corrosion control treatment the Agency specified under subsection (d)(1)(A) (Step 1).~~

B) For a small supplier, within 18 months after the end of the tap sampling period in which the supplier exceeded the lead action level or copper action level. ~~Within 12 months after the end of the tap sampling period during which a small or mid-sized supplier applying corrosion control treatment exceeds the lead trigger level or copper action level, the Agency may issue a SEP requiring the supplier to perform corrosion control studies for re-optimizing OCCT (Section 611.352(c)(1) or (c)(2)). If the Agency does not require the supplier to perform corrosion control studies, the Agency must issue a SEP specifying re-optimized OCCT (Section 611.352(d)(2)) within the timeframes in subsections (d)(2)(B)(i) and (d)(2)(B)(ii).~~

~~i) A mid-sized supplier must perform corrosion control studies for re-optimizing OCCT within 12 months after the end of the tap sampling period during which the supplier exceeded the lead trigger level or copper action level.~~

~~ii) A small supplier must perform corrosion control studies for re-optimizing OCCT within 18 months after the end of the tap sampling period during which the supplier exceeded the lead trigger level or copper action level.~~

3) Step 3: Study duration.

A) Any~~A~~ supplier with~~having~~ lead service lines that exceeds~~exceed~~ the lead action level in subsection (d)(1)(A) must complete the pipe rig/loop corrosion control treatment studies and recommend re-optimized~~for re-optimizing~~ OCCT within 30 months after the end of the tap sampling period in~~during~~ which the supplier exceeded the lead action level.

B) If the supplier is required to perform corrosion control studies under subsection (d)(1)(B) or (d)(2)~~If subsection (d)(2) (Step 2) requires the supplier to perform corrosion control studies~~, the supplier must complete the studies (Section 611.352(c)~~Section 611.352(e)(2))~~ and recommend re-optimized OCCT within 18 months after the end of the tap sampling period in which the supplier exceeded the lead or copper action level or after the Agency requires~~issues a SEP requiring~~ the supplier to conduct the studies.

4) Step 4: Agency designation of re-optimized OCCT based on CCT study results. The Agency must designate re-optimized OCCT (Section 611.352(d)) within six months after the supplier completes subsection (d)(3)(A) or (B) (step 3).

~~A) The Agency must issue a SEP designating re-optimized OCCT (subsection (d)(3)(A)) within six months after the supplier completes subsection (d)(3)(A) (Step 3).~~

~~B) If the supplier performed corrosion control studies under subsection (d)(2) (Step 2), the Agency must issue a SEP designating re-optimized OCCT (Section 611.352(d)(2) or (d)(4)) within six months after the supplier completes subsection (d)(3)(B) (Step 3).~~

5) Step 5: Re-optimized OCCT installation deadlines. Suppliers must install re-optimized OCCT (611.352(e)) within one year after the Agency completes subsection (d)(4) (Step 4) or the Agency completes subsection (d)(2)(A) or (B) (Step 2)

~~A) A large supplier must complete modifying its corrosion control treatment to have installed re-optimized OCCT within 12 months after the supplier completes subsection (d)(4)(A) (Step 4).~~

~~B) A small or mid-sized supplier must install re-optimized OCCT (Section 611.352(e)(1)) within 12 months after the supplier completes subsection (d)(4)(B) (Step 4).~~

6) Step 6: Follow-up monitoring. Suppliers must complete standard monitoring for at least two consecutive tap monitoring periods under Section 611.356(c)(2)(C)(iv) and water quality parameter monitoring under Section 611.357(b)(3) after completing subsection (d)(5) (step 5). The first tap monitoring period for standard monitoring must begin on January 1 or July 1, whichever is sooner, after completing subsection (d)(5) (step 5). ~~A supplier must complete follow-up sampling (Sections 611.356(d)(2) and 611.357(c)) within 12 months after the supplier completes subsection (d)(5)(A) or (d)(5)(B) (Step 5).~~

7) Step 7: Agency sets optimal water quality parameters.(OWQPs) - The Agency must review the supplier's re-optimized OCCT ~~installed treatment~~ and designate OWQPs (611.352(f)) ~~optimal water quality control parameters (Section 611.352(f)(1))~~ within six months after completing subsection (d)(6) (Step 6).

8) Step 8: Suppliers meet OWQPs to demonstrate compliance. Suppliers~~The supplier~~ must comply ~~operate complying~~ with the Agency-designated OWQPs~~optimal water quality control parameters~~ (Section 611.352(g)) and ~~continue~~ conduct ~~conducting~~ tap sampling under Section 611.356(c)(2)(C)(v)~~(Section 611.356(d)(3)~~ and water quality parameter monitoring ~~water quality parameters~~ under Section 611.357.(b)(4)~~Section 611.357(d))~~.

e) Treatment steps~~Steps~~ and deadlines~~Deadlines~~ for suppliers~~Suppliers~~ without corrosion control treatment~~Not Applying Corrosion Control Treatment~~. Except as provided in subsection (b) ~~or Section 611.363~~ ~~provides otherwise, a~~ suppliers~~supplier~~ without~~not applying~~ corrosion control treatment must complete the following ~~certain~~ corrosion control treatment steps (described in the referenced portions of Sections 611.352, 611.356, and 611.357) by~~before~~ the indicated time periods. Suppliers must conduct tap sampling for lead and copper in compliance with the requirements of Section 611.356 while completing the corrosion control steps in this section.

1) Step 1: Initiate mandatory pipe rig/loop or CCT study or treatment recommendation.

A) A medium or large supplier with lead service lines that exceeds the lead action level must harvest lead pipes from the distribution system and construct flowthrough pipe rigs/loops and operate the rigs/loops with finished water within one year after the end of the tap sampling period during which the supplier exceeded the lead action level. These suppliers must proceed to step 3 in subsection

(e)(3) and conduct the corrosion control studies for optimization under subsection (e)(3)(A) using the pipe rigs/loops. ~~A supplier other than one to which subsection (e)(1)(B) or (e)(1)(C) applies must recommend OCCT (Section 611.352(a)(1), (a)(2), (a)(3), or (a)(4)) within six months after the end of the tap sampling period during which the supplier exceeds either the lead trigger level or copper action level.~~

B) Large water suppliers under subsection (a)(1)(E) must conduct the corrosion control studies for optimization under subsection (e)(3) (step 3). ~~A supplier having lead service lines and exceeding the lead action level must harvest lead pipes from its distribution system, construct flowthrough pipe loops, and operate the loops with finished water within one year after the end of the tap sampling period during which the supplier exceeds the lead action level. The supplier must proceed to Step 3 in subsection (e)(3) of this section and conduct the corrosion control studies under subsection (e)(3) using the pipe loops, for optimizing OCCT under subsection (e)(3)(A).~~

C) A supplier other than those covered in subsection (e)(1)(A) or (B) must recommend optimal corrosion control treatment (OCCT) (Section 611.352(a)) within six months after the end of the tap sampling period during which the supplier exceeded either the lead action level or copper action level. ~~A large supplier subsection (a)(1)(B) directs to perform corrosion control treatment under this subsection (e) must conduct the corrosion control studies for optimizing OCCT under subsection (e)(3) (Step 3).~~

2) Step 2: Agency requires CCT study or designates OCCT. ~~.~~Within one year~~12 months~~ after the end of the tap sampling period in~~during~~ which the~~a~~ supplier exceeded~~exceeds~~ the lead or copper action level, ~~if not otherwise required by this rule,~~ the Agency may require ~~issue a SEP requiring~~ the supplier to perform corrosion control studies (Section 611.352(b)(1)) if those studies are not otherwise required by this subpart. The Agency must notify the supplier in writing when a corrosion control study is required. If the Agency does not require the supplier to perform corrosion control studies, the Agency must specify ~~issue a SEP specifying~~ OCCT (~~under~~ Section 611.352(d)~~Section 611.352(d)(1)~~) within the timeframes ~~applicable timeframe~~ established in subsections (e)(2)(A) and (e)(2)(B). The Agency must provide its determination to the supplier in writing:

A) For a mediummid-sized supplier, within 18 months after the end of the tap sampling period monitoring cycle induring which suchthe supplier exceedsexceed the lead actiontrigger level or copper action level; or

B) For a small supplier, within 24 months after the end of the tap sampling periodmonitoring cycle induring which the supplier exceedsexceeded the lead actiontrigger level or copper action level.

3) Step 3: Study duration.

A) Large and medium suppliers withA large supplier having or not having lead service lines that exceedexceeds the lead action level or a small or mid-sized supplier having lead service lines that exceeds the lead action level must complete the corrosion control treatment studies and recommend for optimizing OCCT within 30 months after the end of the tap sampling period induring which they exceeded the supplier exceeds the lead action level.

B) If a supplier is required the Agency requires a supplier to perform corrosion control studies under subsection (e)(1)(B) or (e)(2)subsection (e)(2) (Step 2), the supplier must complete the studies (Section 611.352(c)Section 611.352(e)(1)) and recommend OCCT within 18 months after the end of the tap sampling period in which the supplier exceeded the lead or copper action level or the Agency notifies the supplier in writing,issues a SEP, that such studies must be conducted. requiring the supplier to conduct the studies.

4) Step 4: Agency designation of OCCT based on CCT study results. The Agency must designate OCCT (Section 611.352(d)) within six months after the supplier completes subsection (e)(3)(A) or (B) (Step 3).

A) The Agency must issue a SEP designating re-optimized OCCT (Section 611.352(d)(3)) within six months after the supplier completes subsection (d)(3)(A) (Step 3).

B) If the supplier has performed corrosion control studies under subsection (e)(2) (Step 2), the Agency must issue a SEP designating OCCT (Section 611.352(d)(1)) within six months after subsection (e)(3) (Step 3) is complete.

5) Step 5: OCCT Installation deadlines. Suppliers~~The supplier~~ must install OCCT (Section 611.352(e)) within 24 months after the Agency designates OCCT under subsection (e)(2) or (e)(4) (Step 2 or Step 4).

6) Step 6: Follow-up monitoring. Suppliers~~The supplier~~ must complete standard monitoring for at least two consecutive tap monitoring periods under Section 611.356(c)(2)(C)(iv) and water quality parameter monitoring under Section 611.357(b)(3) after completing subsection (e)(5) (step 5). The first tap monitoring period for standard monitoring must begin on January 1 or July 1, whichever is sooner, after completing subsection (e)(5) (step 5). ~~follow-up sampling under Sections 611.356(d)(2)(A) and 611.357(c) within 12 months after completing subsection (e)(5) (Step 5).~~

7) Step 7: The Agency sets optimal water quality parameters (OWQPs). The Agency must review the supplier's installation of treatment and ~~issue a SEP~~ designate OWQPs.~~approving optimal water quality control parameters~~ (Section 611.352(f)~~Section 611.352(f)(1)~~) within six months after completing~~the supplier completes~~ subsection (e)(6)(Step 6) ~~subsection (e)(5) (Step 5)~~.

8) Step 8: Suppliers meet OWQPs to demonstrate compliance. Suppliers ~~The supplier~~ must comply with the Agency-designated~~approved~~ OWQPs~~optimal water quality control parameters~~ (Section 611.352(g)~~Section 611.352(g)(1)~~) and conduct~~continue~~ tap sampling under Section 611.356(c)(2)(C)(v)~~(Section 611.356(d)(3))~~ and ~~monitoring~~ water quality parameter monitoring under~~s~~ Section 611.357(b)(4) ~~(Section 611.357(d))~~.

f) Suppliers with lead or galvanized requiring replacement service lines that can complete full service line replacement in five years or less. ~~Treatment Steps and Deadlines for Small CWS and NTNCWS Suppliers Electing Corrosion Control Treatment (CCT) As a Compliance Option under Section 611.363 or As the Agency Requires. A small CWS or NTNCWS supplier selecting the corrosion control treatment option as small supplier compliance flexibility under Section 611.363(a)(2) must complete two steps by the indicated times:~~

1) A supplier with one or more lead or galvanized requiring replacement service lines is not required to complete the steps under subsection (d) or (e) if the supplier meets all the following requirements: ~~Step 1: A supplier must recommend the corrosion control treatment option as small supplier compliance flexibility under Section 611.363(a)(2) within six months after the end of the tap sampling period during which the supplier exceeds either the lead trigger level or the lead action level. When~~

~~recommending to the Agency, the supplier must comply with Section 611.352(a)(1).~~

A) Deadline to complete mandatory service line replacement.

i) A supplier must complete the service line replacement requirements under Section 611.354(d) in five years or less from the date of the end of the tap sampling period in which the supplier first exceeds the lead action level; or

ii) A large supplier without corrosion control treatment must complete the service line replacement requirements under Section 611.354.(d) in five years or less from the date of the end of the tap sampling period in which the supplier's 90th percentile results first exceed the lead practical quantitation limit; and

iii) For a supplier with less than five years remaining to complete mandatory service line replacement in compliance with Section 611.354(d), the supplier must complete the service line replacement requirements under subsection (f)(1)(A) by that deadline

B) At a minimum, a supplier must replace the total number of lead and/or galvanized requiring replacement service lines each year, as identified in that supplier's inventory on the date of the end of the tap sampling period in which the supplier first exceeds the lead action level or in which the supplier's 90th percentile first exceeds the lead practical quantitation limit, whichever applies, at an annual rate equally divided by the total number of years for service line replacement provided in subsection (f)(1)(A). For purposes of calculating the annual rate, the supplier must replace all lead and galvanized requiring replacement service lines within the least number of years feasible not to exceed five years from the date of the end of the tap sampling period in which the supplier first exceeds the lead action level or in which the supplier's 90th percentile first exceeds the lead practical quantitation limit, whichever applies. If the Agency determines a replacement deadline less than five years is feasible for a supplier, the supplier must replace service lines by that deadline and establish an annual replacement rate based on that number of years until that deadline.

C) By the end of the five-year-or-less period in subsection (f)(1)(A), the supplier must have replaced all lead and galvanized requiring

replacement service lines calculated in compliance with Section 611.354(d)(6) (i.e., no lead, galvanized requiring replacement or lead status unknown service lines remain in the inventory), and identified the material of all lead status unknown service lines, completed the inventory validation requirements in compliance with Section 611.354(b)(5), and replaced all unknowns found to be lead or galvanized requiring replacement service lines.

D) Except as provided in this section, all other requirements in Section 611.354(d) apply.

2) Throughout the five-year-or-less period in subsection(f)(1)(A), suppliers with corrosion control treatment must continue to operate and maintain corrosion control treatment in addition to completing the mandatory service line replacement requirements under this section. ~~Step 2. The Agency must issue a SEP approving the recommendation of corrosion control treatment option as small supplier compliance flexibility or designating an alternative option under Section 611.363(a) within six months after the supplier recommends the option under subsection (f)(1) (Step 1). A supplier the Agency requires to optimize or re-optimize OCCT must follow the schedules in subsection (d) or (e), beginning with Step 3 in subsection (d)(3) or (e)(3), unless the Agency specifies OCCT under the applicable of subsection (d)(2)(B) or (e)(2)(B).~~

3) A supplier that does not replace lead and/or galvanized requiring replacement service lines calculated in compliance with Section 611.354(d)(6) at the minimum annual rate provided in subsection (f)(1)(B) in any one year of the five-year-or-less period in subsection (f)(1)(A) or complete the service line replacement requirements under Section 611.354(d) in compliance with subsection (f)(1)(C), must meet the requirements in subsection (d) or (e), as applicable, starting immediately after the supplier fails to meet the annual removal requirement in subsection (f)(1)(B).

4) At the end of each year of the five-year-or-less period, the supplier must submit written documentation to the Agency about the number of lead and galvanized requiring replacement service lines removed that year and whether the minimum annual replacement rate in subsection (f)(1)(B) was met. If a supplier reports or the Agency determines that the supplier did not meet its minimum annual replacement rate that year, the supplier is no longer eligible to defer the requirements under subsection (d) or (e) and must meet those requirements, as applicable.

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

g) Completing corrosion control steps for small and medium suppliers without corrosion control treatment.

1) Any small or medium supplier without corrosion control treatment required to complete the steps in subsection (e) that does not exceed the lead action level and copper action level during two consecutive six-month tap monitoring periods under Section 611.356 prior to the start of step 3 in subsection (e)(3) or before or concurrent with the end of step 4 in subsection (e)(4) may stop completing the steps and is not required to complete subsection (e)(3) or (5) (step 3 or step 5), respectively, except that medium suppliers without corrosion control treatment and with lead service lines must complete a corrosion control treatment study under subsection (e)(3)(A). A 90th percentile level at or below the lead action level or copper action level based on less than the required minimum number of samples under Section 611.356 cannot be used to meet the requirements of this subsection (g)(1). Eligible suppliers can only use the exception in subsection (g)(1) once.

2) Any supplier that starts step 5 in compliance with subsection (e)(5) must complete the remaining steps (*i.e.,* steps 6 through 8) in subsection (e)(6) through (8) and is not permitted to stop the steps.

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

4) The Agency may require a supplier to repeat treatment steps previously completed by the supplier when the Agency determines it is necessary to implement the treatment requirements of this subsection. The Agency must notify the supplier in writing of such a determination and explain the basis for its decision.

h) Notification requirements for upcoming long-term change in treatment or source. At a time specified by the Agency, or if no specific time is designated, as early as possible but no later than six months prior to the addition of a new source or any long-term change in water treatment, a supplier must submit written documentation describing the addition of a new source or long-term change in

treatment to the Agency. Suppliers may not implement the addition of a new source or long-term treatment change without Agency approval. The Agency must review and approve the addition of a new source or long-term change in water treatment before it can be implemented by the supplier. The Agency may require any such supplier to take action before or after the addition of a new source or long-term treatment change to ensure that the supplier operates and maintains optimal corrosion control treatment, such as additional water quality parameter monitoring, additional lead or copper tap sampling, and re-evaluating corrosion control treatment. Examples of long-term treatment changes include but are not limited to the addition of a new treatment process or modification of an existing treatment process. Examples of modifications include switching secondary disinfectants, switching coagulants (*e.g.,* alum to ferric chloride), and switching corrosion inhibitor products (*e.g.,* orthophosphate to blended phosphate). Long-term treatment changes can also include dose changes to existing chemicals if the system is planning long-term changes to its finished water pH or residual inhibitor concentration. Long-term treatment changes would not include chemical dose fluctuations associated with daily raw water quality changes where a new source has not been added.

BOARD NOTE: This Section derives from 40 CFR 141.81.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.352 Corrosion Control Treatment

Description of corrosion control treatment requirements. This section provides the requirements for suppliers and the Agency designating optimal corrosion control treatment (OCCT) for a supplier that is optimizing or re-optimizing OCCT. ~~Designating Optimal Corrosion Control Treatment for Systems Optimizing or Re-Optimizing Corrosion Control Treatment~~. All suppliers ~~A supplier~~ must complete the corrosion control treatment requirements in this Section as applicable under ~~as they apply to the supplier under~~ Section 611.351.

a) Supplier recommendation regarding corrosion control treatment. ~~System Recommendation Regarding Corrosion Control Treatment for Suppliers~~ ~~Not Having Lead Service Lines and Suppliers Having Lead Service Lines but Not Exceeding the Lead Action Level~~

1) Any~~A~~ supplier without corrosion control treatment that is required to~~that must~~ recommend a treatment option in compliance with ~~under~~ Section 611.351(e)(1)(C) must, based on the results of lead and copper tap sampling and water quality parameter monitoring, recommend designating one or more of the corrosion control treatments in subsection(c)(1)~~subsection (c)(1)(A)~~ to~~for~~ the Agency as the optimal corrosion control treatment for that supplier. The Agency may require the

supplier to conduct additional water quality parameter monitoring to assist the Agency in reviewing the supplier's recommendation. ~~to designate must base its recommendation on the results of lead and copper tap monitoring and water quality parameter monitoring.~~

~~A)~~ ~~A small CWS supplier or NTNCWS supplier exceeding the copper action level and recommending corrosion control treatment to the Agency under Section 611.363(a) must comply with this subsection (a)(1).~~

~~B)~~ ~~The Agency may issue a SEP requiring the supplier to conduct additional water quality parameter monitoring to assist the Agency in reviewing the supplier's recommendation.~~

2) Any supplier with corrosion control treatment that exceeds the lead action level that is required to recommend a treatment option to the Agency in compliance with Section 611.351(d)(1)(C) must recommend designating one or more of the corrosion control treatments listed in subsection (c)(2) as the optimal corrosion control treatment for that supplier. ~~A small CWS supplier or NTNCWS supplier subject to this subsection (a) not applying corrosion control treatment that chooses to pursue a small water system compliance flexibility option and is required to recommend an option in compliance with Section 611.351(f) must, based on the results of lead tap sampling and water quality parameter monitoring, recommend designation of one of the options listed in Section 611.363. A supplier not having lead service lines, exceeding the lead action level, and selecting corrosion control under Section 611.363(a)(2) must recommend that the Agency designate one or more of the corrosion control treatments in subsection (c)(1) as OCCT for that system.~~

3) The Agency may waive the requirement for a supplier to recommend OCCT if the Agency requires the supplier, in writing, to complete a corrosion control study within three months after the end of the tap sampling period in which the lead or copper action level exceedance occurred. These suppliers must proceed directly to subsection (c) and complete a corrosion control study. ~~A supplier exceeding the lead action level and selecting corrosion control treatment under Section 611.363(a)(2) must recommend that the Agency designate one or more of the corrosion control treatments in subsection (c)(1)(A) as the OCCT for its system. A small or mid-sized supplier exceeding the lead trigger level but not exceeding the lead or copper action level does not need to perform a corrosion control study under subsection (c) unless the Agency issues a SEP requiring the supplier to do so.~~

~~4)~~ ~~A small CWS or NTNCWS supplier applying corrosion control treatment exceeding the lead action level and selecting corrosion control under Section 611.363(a)(2) must recommend designation of one or more of the corrosion control treatments in subsection (c)(2) as OCCT for its system.~~

~~5)~~ ~~The Agency may issue a SEP waiving subsection (a)(4)'s OCCT-recommendation requirement for a supplier if the SEP requires the supplier to complete a corrosion control study within three months after the end of the tap sampling period during which the supplier exceeded the lead action level. In that case, the supplier must proceed directly to subsection (c) and complete a corrosion control study.~~

b) Agency-decision~~Required Studies~~ to require studies to identify~~Identify~~ initial~~Initial~~ OCCT under Section 611.351.(e)(2) ~~Optimal Corrosion Control Treatment~~ and re-optimized ~~Re-Optimized~~ OCCT under Section 611.351(d)(2). ~~Except for Large Suppliers and Small and Mid-Sized Suppliers Having Lead Service Lines and Exceeding the Lead Action Level. Certain suppliers must conduct corrosion control treatment studies: large suppliers exceeding the lead action level, large suppliers not applying corrosion control treatment whose 90th percentile concentration results exceed either the lead practical quantitation limit of 0.005 mg/ L or the copper action level, mid-sized water system suppliers having lead service lines and exceeding the lead action level, and small suppliers having lead service lines and exceeding the lead action level and selecting the corrosion control treatment option under Section 611.363(a).~~

1) The Agency may require ~~issue a SEP requiring~~ any ~~a~~ small or medium ~~mid-sized~~ supplier without ~~not applying~~ corrosion control treatment that exceeds~~exceeding~~ either the lead action level or copper action level to perform corrosion control treatment studies under subsection (c)(1) to identify OCCT for the supplier's system.

2) The Agency may require any small or medium supplier with corrosion control treatment exceeding either the lead or copper action level to perform corrosion control treatment studies under subsection (c)(2) to identify re-optimized OCCT for its system (i.e., OCCT after a re-optimization evaluation). ~~The Agency may issue a SEP requiring a small or mid-sized supplier not applying corrosion control treatment and exceeding the lead trigger level but not the lead or copper action level to perform corrosion control treatment studies under subsection (c)(1) to identify OCCT for its system. The supplier must install this corrosion control treatment if the supplier subsequently exceeds the lead or copper action level~~.

~~3)~~ ~~The Agency may issue a SEP requiring a small or mid-sized supplier applying corrosion control treatment exceeding either the lead trigger level or copper action level to perform corrosion control treatment studies under subsection (c)(2) to identify re-optimized OCCT for its system (i.e., after evaluating re-optimized OCCT).~~

c) Performing corrosion control studies. ~~Corrosion Control Studies~~

1) Suppliers~~A supplier~~ without~~not applying~~ corrosion control treatment ~~that is~~ required to conduct corrosion control studies under subsection 611.351(e) must evaluate the effectiveness of each of the following treatments, and if appropriate, combinations of the following treatments to identify OCCT for the system:~~complete certain actions:~~

A) Alkalinity and pH adjustment; ~~A supplier not applying corrosion control treatment must evaluate the effectiveness of each of certain treatments and combinations of those treatments if appropriate to identify the OCCT for its system:~~

~~i)~~ ~~Adjusting alkalinity and pH;~~

~~ii)~~ ~~Adding an orthophosphate- or silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective corrosion inhibitor residual concentration in all test samples.;~~

~~iii)~~ ~~Adding an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 1 mg/ L (as PO_4) in all test samples; and~~

~~iv)~~ ~~Adding an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 3 mg/ L (as PO_4) in all test samples.~~

B) 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; ~~The supplier must evaluate each of the corrosion control treatments using pipe rig/loop tests; metal coupon tests; partial system tests; or analyses based on documented analogous treatments in other systems of similar size, water chemistry, and distribution system configuration. A large or mid-sized supplier or a small CWS or~~

~~NTNCWS supplier selecting the corrosion control treatment option under Section 611.363 having lead service lines and exceeding the lead action level must conduct pipe rig/loop studies using harvested lead service lines from its distribution system to assess the effectiveness of corrosion control treatment options on the existing pipe scale. The supplier may use metal coupon tests as a screen to reduce the number of options the supplier evaluates using pipe rig/loop tests to the current conditions and two options.~~

C) The addition of an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 1 mg/ L (as PO_4) in all test samples; and ~~The supplier must measure specific water quality parameters in any tests the supplier conducts under this subsection (c)(1)(C) before and after evaluating the corrosion control treatments in subsections (c)(1)(A) and (c)(1)(B):~~

~~i) Lead;~~

~~ii) Copper;~~

~~iii) pH;~~

~~iv) Alkalinity;~~

~~v) Orthophosphate as PO_4 (when the supplier uses an orthophosphate-based inhibitor); and~~

~~vi) Silicate (when the supplier uses an inhibitor containing a silicate compound).~~

D) The addition of an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 3 mg/ L (as PO_4) in all test samples. ~~The supplier must identify all chemical or physical constraints that limit or prohibit using any particular corrosion control treatment and document those constraints:~~

~~i) With data and documents showing that a particular corrosion control treatment adversely affected other drinking water treatment processes when that treatment was used by another supplier with water having comparable water quality characteristics. Systems using coupon studies to screen 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) With data and documents demonstrating that the supplier previously evaluated a particular corrosion control treatment, finding either that the treatment is ineffective or adversely affects other drinking water quality treatment processes. Systems using coupon studies to screen 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.~~

~~E) The supplier must evaluate the effect of the evaluated corrosion control treatment chemicals on other water quality treatment processes. A supplier using coupon studies to screen or pipe loop/rig studies to evaluate treatment options must not exclude treatment strategies from the studies based on the effects the supplier identifies under this Section~~.

~~F) Based on an analysis of the data the supplier generated during each evaluation, the supplier must recommend in writing to the Agency the treatment option the corrosion control studies indicate constitutes OCCT for the supplier's system. The supplier must give a rationale for its recommendation together with all supporting documentation subsections (c)(2)(A) through (c)(2)(E) specify.~~

2) Suppliers with corrosion control treatment required to conduct corrosion control studies under Section 611.351(d) must evaluate the effectiveness of the following treatments, and if appropriate, combinations of the following treatments, to identify re-optimized OCCT for the system:~~A supplier applying corrosion control treatment that must conduct corrosion control studies to determine re-optimized OCCT must complete specific tasks~~:

A) Alkalinity and/or pH adjustment or re-adjustment;~~The supplier must evaluate the efficacy of certain treatments and appropriate combinations of those treatments to identify the re-optimized OCCT for its system:~~

~~i) Alkalinity or pH adjustment or re-adjustment;~~

~~ii) Adding an orthophosphate- or silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective corrosion inhibitor residual concentration in all test samples if the supplier does not already use the inhibitor;~~

~~iii) Adding an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 1 mg/ L (PO_4) in all test samples unless the current inhibitor process already meets this residual; and~~

~~iv) Adding an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 3 mg/ L (PO_4) in all test samples unless the current inhibitor process already meets this residual.~~

B) The addition of an orthophosphate- or a silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective corrosion inhibitor residual concentration in all test samples if no such inhibitor is currently utilized; ~~The supplier must evaluate each of the corrosion control treatments using pipe rig/loop tests, metal coupon tests, partial-system tests, or analyses based on documented analogous treatments with other systems of similar size, water chemistry, and distribution system configurations. If the supplier's system has lead service lines and exceeds the lead action level, the supplier must conduct pipe rig/loop studies using harvested lead service lines from its distribution system to assess the efficacy of corrosion control treatment options on the existing pipe scale. The supplier can use metal coupon tests as a screen to reduce the number of options it evaluates using pipe rig/loops to the current conditions and two options.~~

C) The addition of an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 1 mg/ L (PO_4) in all test samples unless the current inhibitor process already meets this residual; and ~~The supplier must measure specific water quality parameters in any tests conducted under this subsection (c)(2)(C) before and after evaluating the corrosion control treatments in subsections (c)(2)(A) and (c)(2)(B)~~

~~i) Lead;~~

~~ii) Copper;~~

~~iii) pH;~~

~~iv) Alkalinity;~~

~~v) Orthophosphate as PO_4 (if the supplier uses an orthophosphate-based inhibitor); and~~

~~vi) Silicate (if the supplier uses a silicate-based inhibitor).~~

D) The addition of an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 3 mg/L (as PO_4) in all test samples unless the current inhibitor process already meets this residual. ~~The supplier must identify all chemical or physical constraints limiting or prohibiting using a particular corrosion control treatment and document those constraints with certain information:~~

~~i) Data and documents showing that a particular corrosion control treatment adversely affected other drinking water treatment processes when another supplier with comparable water quality characteristics used the treatment. A supplier using coupon studies to screen or pipe loop/rig studies to evaluate treatment options must not exclude treatment strategies from the studies based on the constraints the supplier identifies under this Section; or~~

~~ii) Data and documents demonstrating that the supplier previously evaluated a particular corrosion control treatment and found that the treatment is ineffective or adversely affects other drinking water quality treatment processes. A supplier using coupon studies to screen or pipe loop/rig studies to evaluate treatment options must not exclude treatment strategies from the studies based on the constraints the supplier identifies under this Section, unless the supplier found the treatment ineffective in a previous pipe loop/rig study.~~

~~E) The supplier must evaluate the effect of the chemicals it uses for corrosion control treatment on other drinking water quality treatment processes. A supplier using coupon studies to screen or pipe loop/rig studies to evaluate treatment options must not~~

~~exclude treatment strategies from the studies based on the effects the supplier identifies under this Section.~~

~~F)~~ ~~Based on its analysis of the data the supplier generated during each evaluation, the supplier must recommend to the Agency in writing the treatment option that the corrosion control studies indicate constitutes OCCT for its system. The supplier must provide a rationale for its recommendation together with all supporting documentation subsections (c)(1)(A) through (c)(1)(E) specify.~~

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

4) Suppliers must measure the following water quality parameters in any tests conducted under subsection (c)(3) both before and after evaluating the corrosion control treatments listed in subsections (c)(1) or (c)(2):

A Lead;

B) Copper;

C) pH;

D) Alkalinity;

E) Orthophosphate as PO_4 (when an orthophosphate-based inhibitor is used);

F) Silicate (when a silicate-based inhibitor is used); and

G) Any additional parameters necessary to evaluate the effectiveness of a corrosion control treatment as determined by the Agency.

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

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

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

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

7) Based on the data and analysis for each treatment option evaluated under this subsection (c), suppliers must recommend to the Agency, in writing, the treatment option that the corrosion control studies indicate constitutes OCCT for its system as defined in Section 611.350(b). Suppliers must provide the Agency with a rationale for the OCCT recommendation, and all supporting documentation specified in subsections (c)(1) or (c)(2) and subsections (c)(3) through (c)(7).

d) Agency designation of OCCT ~~Approval of Optimized~~ and re-optimized ~~Re-Optimized~~ OCCT ~~Corrosion Control Treatment. When designating OCCT, the Agency must consider the effects of additional corrosion control treatment on water quality parameters and other water quality treatment processes. The Agency must notify the supplier of the basis for designating OCCT in any SEP it issues under this subsection (d).~~

1) Designation~~Designating~~ of OCCT or re-optimized OCCT. Based on available information, including, where applicable, studies conducted under subsection (c)(1) or (c)(2) and/or a supplier's recommended corrosion control treatment option, the Agency must either approve the supplier-recommended corrosion control treatment option or designate alternative corrosion control treatment(s) from among those listed in subsection (c)(1) or (c)(2), as applicable. The Agency must notify the supplier, in writing, of its designation of OCCT or re-optimized OCCT and explain the basis for this determination. ~~for a Supplier Without Corrosion Control Treatment~~. ~~Considering available information, including applicable studies conducted under subsection (c)(1) or the supplier's recommended corrosion control treatment option, the Agency must issue a SEP designating from among the supplier-recommended corrosion control treatment option, alternative corrosion control treatments from among those in subsection (c)(1)(A), or an applicable alternative small supplier compliance flexibility option under Section 611.363(a).~~

A) When designating OCCT, the Agency must consider the effects that additional corrosion control treatment has on water quality parameters and other drinking water quality treatment processes.

B) If the Agency requests additional information to aid its review, the supplier must provide that information.

2) This subsection (d)(2) corresponds with 40 CFR 141.82(d)(2), which USEPA marked "Reserved". This statement maintains structural consistency with USEPA's rule. ~~Designating OCCT for a Supplier Without Corrosion Control Treatment. Considering available information, including applicable studies conducted under subsection (c)(1) or the supplier's recommended corrosion control treatment option, the Agency must issue a SEP designating from among the supplier-recommended corrosion control treatment option, alternative corrosion control treatments from among those in subsection (c)(1)(A), or an applicable alternative small supplier compliance flexibility option under Section 611.363(a).~~

e) Installing OCCT and Re-Optimizing OCCT. Each ~~A~~ supplier must ~~properly~~ install and operate the OCCT or re-optimized OCCT designated by the Agency under subsection (d) throughout its distribution system. ~~throughout its distribution system that the Agency approved under subsection (d).~~

f) Agency review of treatment and designation of optimal water quality parameters~~Review of Treatment and Specification of Optimal Water Quality~~

~~Control Parameters~~ for OCCT and re-optimized~~Re-Optimized~~ OCCT. The Agency must evaluate the results of all lead and copper tap ~~sampling~~ and water quality parameter sampling submitted by the supplier~~the supplier submits~~ and determine whether the supplier has~~properly~~ installed~~installs~~ and operated~~operates~~ the OCCT designated by the Agency ~~approves~~ in ~~under~~ subsection(d)~~subsection (d)(1) or (d)(2)~~. Upon reviewing the supplier's tap and water quality parameter sampling results, both before and after the supplier installs OCCT, or re-optimized OCCT, the Agency must designate each of the following:

1) A minimum value or a range of values for pH measured at each entry point to the distribution system.~~Upon reviewing the results of the supplier's tap water and water quality parameter monitoring, both before and after installing OCCT , the Agency must issue a SEP specifying operating parameters:~~

~~A)~~ ~~A minimum value or range of values for pH at each entry point to the distribution system.~~

~~B)~~ ~~A minimum pH value for all tap samples. This value must be equal to or greater than 7.0, unless the Agency determines that a pH 7.0 is not technologically feasible or is not necessary for the supplier to optimize corrosion control.~~

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

~~D)~~ ~~If the supplier uses a corrosion inhibitor, the supplier must maintain a minimum orthophosphate or silicate concentration measured in all tap samples that is necessary to form a passivating film on the interior walls of the pipes of the distribution system, as determined by the Agency in a SEP. If the supplier uses orthophosphate, the supplier must maintain an orthophosphate concentration equal to or greater than 0.5 mg/ L (as PO_4) for OCCT the Agency designates under subsection (d)(1) or 1.0 mg/ L for OCCT the Agency designates under subsection (d)(2), unless the Agency determines that meeting the applicable minimum orthophosphate residual is not technologically feasible or is not necessary for OCCT.~~

~~E)~~ ~~If the supplier adjusts alkalinity as part of OCCT, a minimum concentration or a range of concentrations for alkalinity for each entry point to the distribution system and in all tap samples.~~

2) A minimum pH value measured in all distribution system samples. This value must be equal to or greater than 7.0, unless the Agency determines that meeting a pH level of 7.0 is not technologically feasible or is not necessary for OCCT. ~~The values for the applicable water quality control parameters in subsection (f)(1) must be those the Agency determines reflect OCCT for the supplier~~

3) If a corrosion inhibitor is used, a minimum concentration or a range of concentrations for orthophosphate (as PO_4) or silicate measured at each entry point to the distribution system. ~~The Agency must explain these determinations and give the basis for its decisions when issuing a SEP.~~

4) If a corrosion inhibitor is used, a minimum orthophosphate (as PO_4) or silicate concentration measured in all tap samples that the Agency determines is necessary to form a passivating film on the interior walls of the pipes of the distribution system. When orthophosphate is used, for OCCT designations for suppliers previously without corrosion control treatment, the orthophosphate concentration must be equal to or greater than 0.5 mg/L (as PO_4) and for OCCT designations for suppliers previously with corrosion control treatment, the orthophosphate concentration must be equal to or greater than 1.0 mg/L, unless the Agency determines that meeting the applicable minimum orthophosphate residual is not technologically feasible or is not necessary for OCCT.

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

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

g) Continued operation~~Operation~~ and monitoring~~Monitoring~~ for OCCT and re-optimized~~Re-Optimized~~ OCCT. All suppliers, including those optimizing or re-optimizing OCCT, ~~corrosion control~~ must continue to operate and maintain OCCT, including maintaining water quality parameters~~parameter values~~ at or above the minimum values or within the ranges designated by the Agency ~~approved~~ under subsection (f), in compliance with ~~under~~ this subsection (g) for all water quality parameter samples ~~the supplier~~ collected~~collects~~ under Section

611.357(b)(4) through (d)~~Section 611.357(d) through (f)~~. The~~Th~~ requirements of this ~~is~~ subsection (g) apply~~applies~~ to all suppliers ~~that Section 611.357 does not require to monitor water quality parameters~~, including suppliers with consecutive systems~~system suppliers~~ that distribute~~distributing~~ water that ~~another supplier~~ has been treated to control corrosion by another supplier, ~~and any supplier system with~~applying corrosion control treatment, OCCT, ~~and any suppliers applying corrosion control treatment, OCCT,~~ or re-optimized OCCT that is not required to monitor water quality parameters under Section 611.357.

1) The supplier must determine whether it complies with this subsection (g) every six months, as specified in Section 611.357(b)(4). A supplier is out of compliance with this subsection (g) for a six-month period if it has excursions for any Agency-specified parameter on more than nine days, cumulatively, during the period. An excursion occurs whenever the daily value for one or more of the water quality parameters measured at a sampling location is below the minimum value or outside the range designated by the Agency. Daily values are calculated as set out in subsection (g)(2). The Agency has discretion to not include results of obvious sampling errors from this calculation. The supplier must record sampling errors even when not included in calculations. ~~On days when the supplier collects more than one measurement for a water quality parameter at a sampling location, the daily value is the average of all results the supplier collected during the day, regardless of whether the supplier collected the samples through continuous monitoring, grab sampling, or a combination of both~~.

2) Water quality parameter daily value. ~~On days when the supplier collects only one measurement for a water quality parameter at a sampling location, the daily value is that measurement.~~

   A) On days when the supplier collects more than one measurement for a water quality parameter at a sampling location, the daily value must be the average of all results collected at that sampling location during the same day, regardless of whether they are collected through continuous monitoring, grab sampling, or a combination of both.

   BOARD NOTE: Corresponding 40 CFR 141.82(g)(2)(i)~~40 CFR 141.82(g)(1)~~ further provides as follows: If USEPA approves an alternative formula under 40 CFR 142.16(d)(1)(ii) in the State's application for a program revision submitted under 40 CFR 142.12, the approved formula must be~~is~~ used to aggregate multiple measurements at a sampling point for the water quality parameters in lieu of the formula in this subsection(g)(2)~~subsection (g)(1)~~.

B) On days when the supplier collects only one measurement for a water quality parameter at a sampling location, the daily value must be the result of that measurement.

C) On days when the supplier collects no measurement for a water quality parameter at a sampling location, the daily value must be the daily value calculated on the most recent day on which the supplier measured the water quality parameter at the sampling location.

~~3) On days when the supplier collects no measurement 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 supplier measured the water quality parameter at the sampling location~~

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

~~1) On its own initiative or in response to a request by the supplier, the Agency may issue a SEP modifying its determination of the OCCT under subsection (d) or of the optimal water quality control parameters under subsection (f).~~

~~2) A supplier must request modification in writing, explaining the propriety of the modification and providing supporting documentation.~~

~~3) The Agency may modify its determination if it determines that a change will ensure that the supplier continues optimizing corrosion control treatment. A revised determination must give the new treatment requirements or water quality parameters, explain the basis for the~~

~~Agency's decision, and provide an implementation schedule for completing the treatment modifications for re-optimized OCCT.~~

~~4)~~ ~~Any interested person may submit information to the Agency bearing on whether the Agency should exercise its discretion and issue a SEP modifying its determination under subsection (h)(1). An Agency determination not to act on information an interested person submits is not an Agency determination for the purposes of Sections 39 and 40 of the Act.~~

i) Treatment decisions~~USEPA Treatment Decisions~~ by USEPA in lieu of the Agency on OCCT and re-optimized OCCT. Under the procedures in 40 CFR 142.19, USEPA may~~reserves the prerogative to~~ review ~~Agency~~ OCCT ~~treatment~~ determinations made by the Agency under subsections (d),(f), or (h)~~subsections (d)(1) or (d)(2), (f), or (h)~~ and issue federal corrosion control treatment determinations consistent with the requirements of 40 CFR 141.82(d), (f), or (h)~~40 CFR 141.82(d)(1) or (d)(2), (f), or (h)~~ where ~~if~~ USEPA finds that ~~certain conditions exist~~:

1) The Agency failed~~fails~~ to issue a treatment determination by the applicable deadlines in Section 611.351 (corresponding with 40 CFR 141.81);

2) The Agency abused~~abuses~~ its discretion ~~in a substantial number of instances or in instances affecting a substantial population~~; or

3) The technical aspects of the Agency's determination would be indefensible in a federal enforcement action taken against a~~the~~ supplier.

j) Distribution system and site~~Find-and-fix~~ assessment for tap sampling sites~~Assessment for Tap Sample Sites~~ with lead results that exceed~~Exceeding~~ 0.010 mg/L~~the Lead Action Level~~. The supplier must conduct the following ~~specific~~ steps when the lead results from an individual tap sample site sampled under Section 611.356 exceed 0.010 mg/L and the site is included in the site sample plan under Section 611.356(a)(1):~~a tap sampling site exceeds the lead action level in monitoring under Section 611.356.~~

1) Step 1: Corrosion control treatment assessment. ~~Control Treatment Assessment~~. Within five days of receiving the tap sampling results, the~~The~~ supplier must sample at a ~~new~~ water quality parameter ~~sampling~~ site in compliance with subsection (j)(1)(B) that is on the same-size~~d~~ water main, in the same pressure zone~~,~~ and located within a half mile radius of the ~~sampling~~ site with the lead result that exceeds~~exceeded~~ .010 mg/L. ~~the action lead level within five days after receiving the sample~~

~~results~~. ~~A small~~ Suppliers~~supplier~~ without~~not applying~~ corrosion control treatment are not required to collect these samples. ~~may take up to 14 days to collect the samples. The supplier must measure certain parameters:~~

A) The supplier must measure the following water quality parameters: ~~pH;~~

i) pH;

ii) Alkalinity;

iii) Orthophosphate (as PO_4), when an inhibitor containing an orthophosphate compound is used; and

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

B) The supplier must measure at the following locations: ~~Alkalinity;~~

i) Suppliers with an existing water quality parameter site that meets the requirements in this subsection (j)(1) can conduct this sampling at that site.

ii) All suppliers required to meet optimal water quality parameters but do not have an existing water quality parameter site that meets the requirements in this subsection (j)(1) must add new sites to the minimum number of sites described in Section 611.357(b)(1)(A). Sites must be added until a supplier has twice the minimum number of sites listed in Section 611.357(b)(1)(A). When a supplier exceeds twice the number of sites, the Agency has discretion to determine if these additional newer sites can better assess the effectiveness of the corrosion control treatment and whether to remove existing sites during sanitary survey evaluation of OCCT.

~~C) Orthophosphate (as PO_4), if the supplier uses an inhibitor containing an orthophosphate compound;~~

~~D) Silica, if the supplier uses an inhibitor containing a silicate compound; and~~

E) A supplier having an existing water quality parameter sampling site complying with this Section may sample from that site.

F) A supplier that must meet optimal water quality control parameters but not having an existing water quality parameter sampling site complying with this Section must add new sampling sites to the minimum number of sites Section 611.357(g) requires. The supplier must add sites until it has twice the minimum number of sites Section 611.357(a)(2)(A) requires. If a supplier exceeds this upper threshold for the number of sites, the Agency may issue a SEP determining that a newer site can better assess the efficacy of the corrosion control treatment and remove existing sites during sanitary survey evaluating OCCT.

2) Step 2: Site assessmentAssessment. Within 30 days of receiving the tap sampling results, suppliers A supplier must collect anda analyze a follow-up sample for lead at any tap samplesampling site that exceedsexceeding the lead action level within 30 days after receiving the sample results 0.010 mg/L. The supplier may use thesedifferent follow-up sample volumes or different samplesampling procedures collecting these follow-up samples to assess the source of elevated lead levels. The supplier must submit Samplessamples the supplierit collectedcollects under this Section must be submitted to the Agency but cannotmust not be includedinclude them in calculating the 90th percentile calculationconcentration for compliance monitoring under Section 611.356. If the supplier is unable to cannot collect a follow-up sample at a site, the supplier must provide documentationdocument to the Agency, as specified in Section 611.360(g)(2), explaining why it was unable to collect a follow-up sample.

3) Step 3: Evaluate resultsEvaluating Results and system treatment recommendation.Recommending OCCT or Other Actions. Suppliers Within six months after the end of the tap sampling period during which a supplier exceeds the lead action level, the supplier must evaluate the results of the sampling monitoring conducted under subsections (j)(1) and (j)(2) to determine if either localized or centralized the supplier must either locally or centrally adjustmentadjust ofthe OCCT or other distribution system actions are necessary and submit the recommendation to the Agency within six months after the end of the tap sampling period in which the site(s) exceeded 0.010 mg/L. Modifying Corrosioncorrosion control treatment modification maymight not be necessary to address every exceedance of 0.010 mg/L. Other distribution system actions may include flushing to reduce water age.residence time in the system. If known from the site assessment, the Supplierssupplier must note the cause of the elevated lead level, if known from the site assessment, in

their~~its~~ recommendation to the Agency as~~because~~ site-specific issues can be an important factor in why the supplier does not recommend any adjustment of corrosion control treatment or other distribution system actions. Suppliers ~~A supplier~~ in the process of optimizing or re-optimizing OCCT under subsections (a) through (f) do not need~~needs~~ to~~not~~ submit a treatment recommendation~~recommend~~ for distribution system and site assessment ~~a find-and-fix treatment to the Agency~~.

4) Step 4: Agency approval of treatment recommendation.~~Action~~. The Agency must approve ~~issue a SEP approving~~ the supplier's treatment recommendation or specify a different approach within six months of~~after the supplier~~ completing~~completes~~ Step 3, as described in subsection (j)(3) and notify the supplier in writing. ~~describes~~.

5) Step 5: Modifications to OCCT~~Implementing the Agency's SEP~~. If the Agency-approved treatment recommendation~~issued SEP~~ requires the supplier~~water system~~ to adjust the OCCT process, the supplier must complete modifications to~~modify~~ its corrosion control treatment within 12 months of receiving notification from the Agency ~~after completing Step 4~~, as described in subsection (j)(4). ~~describes~~. Suppliers~~A supplier~~ without ~~not applying~~ corrosion control treatment required ~~and needing~~ to install OCCT must follow the schedule in Section 611.351(e).

6) Step 6: Follow-up sampling~~Sampling~~. Suppliers~~A supplier~~ adjusting ~~its~~ OCCT must complete follow-up sampling ~~(~~in compliance with Sections 611.356(c)(2)(C)(iv)~~Sections 611.356(d)(2)~~ and 611.357(b)(3)~~611.357(c))~~ within 12 months after completing Step 5, as described in subsection (j)(5) and submit sampling results to the Agency in compliance with Sections 611.356 and 611.357~~describes~~.

7) Step 7: Agency OWQP designation~~Review~~. For suppliers ~~a supplier~~ adjusting ~~its~~ OCCT, the Agency must review the supplier's modification~~modified~~ of corrosion control treatment~~,~~ and ~~the Agency must~~ designate optimal water quality ~~control~~ parameters in compliance with subsection (f) ~~(Section 611.352(f)(1))~~ within six months of receiving the sampling result described in ~~after the supplier completes Step 6, as~~ subsection (j)(6) ~~describes~~.

8) Step 8: Operate in compliance~~Operating and Complying~~. For a~~A~~ supplier adjusting ~~its~~ OCCT, the supplier must comply with the Agency-designated optimal water quality ~~control~~ parameters ~~(Section 611.352(g))~~in compliance with subsection (g) and continue to conduct tap sampling ~~(~~in compliance with Sections 611.356(c)(2)(C)(v) and 611.357(b)(4).~~611.356(d)(3) and 611.357(d))~~.

BOARD NOTE: This Section derives from 40 CFR 141.82.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.353 Source Water Treatment

A supplier must complete source water monitoring and treatment requirements (under subsection (b) and Sections 611.356 and 611.358) before specific deadlines.

a) Deadlines for Completing Source Water Treatment Steps

1) Step 1: A supplier exceeding the lead or copper action level must complete lead and copper source water monitoring (under Section 611.358(b)) and recommend treatment to the Agency (under subsection (b)(1)) within 180 days after the end of the tap monitoring period during which the supplier exceeded the action level.

2) Step 2: The Agency must issue a SEP determining source water treatment (under subsection (b)(2)) within six months after the supplier submits monitoring results under step 1.

3) Step 3: If the Agency requires installing source water treatment, the supplier must install that treatment (under subsection (b)(3)) within 24 months after the Agency completes step 2.

4) Step 4: The supplier must complete follow-up tap water monitoring (~~under~~ Section 611.356(c)(2)(C)(vi)~~Section 611.356(d)(2)~~) and source water monitoring (~~under~~ Section 611.358(c)) within 36 months after completion of step 2 as described in subsection (a)(2).

5) Step 5: The Agency must issue a SEP reviewing the supplier's installation and operation of source water treatment and specify MPCs for lead and copper (under subsection (b)(4)) within six months after the supplier completes step 4.

6) Step 6: The supplier must comply with the Agency-specified lead and copper MPCs (under subsection (b)(4)) and continue source water monitoring (under Section 611.358(d)).

b) Source Water Treatment Requirements

1) System Treatment Recommendation. Any supplier exceeding the lead or copper action level must recommend to the Agency in writing one of the

source water treatments in subsection (b)(2). A supplier may recommend installing no treatment based on a demonstration that source water treatment is not necessary to minimize lead and copper levels at users' taps.

2) Agency Determination Regarding Source Water Treatment

A) The Agency must evaluate the results of all source water samples the supplier submitted to determine whether source water treatment is necessary to minimize lead or copper levels in water the supplier delivers to users' taps.

B) If the Agency determines treatment is necessary, the Agency must issue a SEP requiring the supplier to install and operate either the source water treatment the supplier recommended (if any) or another from among specific source water treatment techniques:

i) ion exchange;

ii) reverse osmosis;

iii) lime softening; or

iv) coagulation/filtration.

C) The Agency may require the supplier to submit, by~~on or before~~ a certain date, any additional information as the Agency determines is necessary to aid its review.

D) The Agency must notify the supplier in writing of its determination, stating the basis for its decision.

3) Installing Source Water Treatment. A supplier must properly install and operate the source water treatment the Agency approves under subsection (b)(2).

4) Agency Reviewing Source Water Treatment and Specifying Maximum Permissible Source Water Levels (MPCs)

A) The Agency must review the source water samples the supplier took both before and after the supplier installs source water treatment and determine whether the supplier properly installs and operates the approved source water treatment.

B) Based on its review, the Agency must issue a SEP approving the lead and copper MPCs for finished water entering the supplier's distribution system. The MPC levels must reflect the contaminant removal capability of the treatment when properly operated and maintained.

C) The SEP issued under subsection (b)(4)(B) must include the Agency's explanation of the basis for its decision under subsection (b)(4)(B).

5) Continued Operation and Maintenance. A supplier must maintain lead and copper levels below the MPCs the Agency approved at every sampling point the supplier monitors under Section 611.358. The supplier does not comply with this subsection (b) if the level of lead or copper at any sampling point is greater than the MPC the Agency approved under subsection (b)(4)(B).

6) Modifying Agency Treatment Decisions

A) On its own initiative, or in response to a request by the supplier, the Agency may issue a SEP modifying its determination of the source water treatment under subsection (b)(2) or the lead and copper MPCs under subsection (b)(4).

B) A supplier must make a request to modify in writing, explaining the propriety of the modification, and providing supporting documentation.

C) The Agency may issue a SEP modifying its determination if it concludes that the change is necessary to ensure that the supplier continues minimizing lead and copper concentrations in source water.

D) A revised determination under subsection (b)(6)(C) must state the new treatment requirements, explain the basis for the Agency's decision, and provide a schedule for completing the treatment modifications.

E) Any interested person may submit information to the Agency in writing bearing on whether the Agency should exercise its discretion and issue a SEP modifying its determination under subsection (b)(2). An Agency determination not to act on information an interested person submits is not an Agency determination for the purposes of Sections 39 and 40 of the Act.

7) USEPA Treatment Decisions. Under 40 CFR 142.19, USEPA reserves the prerogative to review Agency treatment determinations under subsections (b)(2), (b)(4), or (b)(6) and issue federal treatment determinations consistent with 40 CFR 141.83(b)(2), (b)(4), and (b)(6) if USEPA finds that certain conditions exist:

A) the Agency fails to issue a treatment determination by the applicable deadline in subsection (a);

B) the Agency abuses its discretion in a substantial number of instances or in instances affecting a substantial population; or

C) the technical aspects of the Agency's determination would be indefensible in a federal enforcement action taken against the supplier.

BOARD NOTE: This Section derives from 40 CFR 141.83.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.354 ~~Lead~~ Service Line Inventory and Replacing ~~Lead~~ Service Lines

a) ~~Lead~~ Service line~~Line~~ and connector inventory~~Inventory~~ development. All suppliers~~A supplier~~ must develop a service line inventory that identifies the material and location of each service line connected to the public water distribution system. The supplier's inventory must include all service lines connected to the public water distribution system regardless of ownership status (*e.g.*, where service line ownership is shared, the inventory includes both the portion of the service line owned by the supplier and the portion of the service line owned by the customer).~~an inventory identifying the materials composition for all service lines connected to its distribution system.~~ The inventory must meet the following ~~specific~~ requirements:

1) All suppliers~~The supplier~~ were required to~~must~~ develop an initial inventory and submit it to the Agency before October 16, 2024 ~~and submit the inventory to the Agency~~ as required in Subpart AH Section 611.2350(a)(4)(A)~~Section 611.360(e) requires~~.

2) All suppliers must develop an updated initial inventory, known as the "baseline inventory". Suppliers must submit the baseline inventory to the Agency by the compliance date in Section 611.350(a)(3). Newly regulated public water systems, as defined in Section 611.101, must develop a baseline inventory on a schedule established by the Agency that

does not exceed three years from the date the system becomes subject to Part 611 Primary Drinking Water Standards. The baseline inventory must include each service line and identified connector that is connected to the public water distribution system regardless of ownership status (*e.g.*, where service line ownership is shared, the inventory includes both the portion of the service line owned by the supplier and the portion of the service line owned by the customer) ~~The inventory must include all service lines connected to the supplier's distribution system regardless of ownership status (e.g., where the supplier shares service line ownership, the inventory would include both the supplier-owned and customer-owned portions of the service line).~~

A) For the baseline inventory, suppliers must conduct a review of any information listed in subsections (b)(2)(A) through (b)(2)(C) that describes connector materials and locations. Suppliers must also conduct a review of any information on lead and galvanized iron or steel materials that they have identified in compliance with § 40 C.F.R. 141.42(d) to identify connector materials and locations. The supplier may use other sources of information not listed in subsections (b)(2)(A) through (b)(2)(C) if approved or required by the Agency.

B) Suppliers must include each connector identified in subsection (a)(2)(A) in their baseline inventory. Connector materials must be categorized in the following manner:

i) "Lead" where the connector is made of lead.

ii) "Non-Lead" where the connector is determined through an evidence-based record, method, or technique not to be made of lead. Suppliers are not required to identify the specific material of a non-lead connector; however, they may use the material (*e.g.*, copper or galvanized) as an alternative to categorizing it as "Non-Lead".

iii) "Unknown" where the material of the connector is not known.

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

C) All suppliers must include any new information on service line materials from all applicable sources described in subsection (b)(2) in the baseline inventory.

3) Each service line, or portion of the service line where ownership is shared, must be categorized in the following manner: ~~When conducting the inventory of service lines in its distribution system for the initial inventory under subsection (a)(1), the supplier must use any information on lead and galvanized iron or steel system components the supplier identified complying with 40 CFR 141.42(d). The supplier must also review the sources of information in subsections (a)(3)(A) through (a)(3)(D) to identify service line materials for the initial inventory. The supplier may use other sources of information the Agency approves in a SEP.~~

A) "Lead" where the service line is a lead service line as defined in Section 611.350(b). ~~All construction and plumbing codes, permits, and existing records or other documents indicating the service line materials connecting structures to its distribution system.~~

B) "Galvanized Requiring Replacement" where the service line is a galvanized requiring replacement service line as defined in Section 611.350(b). ~~All supplier 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.~~

C) "Non-Lead" where the service line is determined through an evidence-based record, method, or technique not to be a lead or galvanized requiring replacement service line. Suppliers are not required to identify the specific material of a non-lead service line; however, they may use the material (*e.g.,* plastic or copper) as an alternative to categorizing it as "Non-Lead". ~~All inspections and distribution system records indicating the materials composing the service connections connecting structures to its distribution system.~~

D) "Lead Status Unknown" or "Unknown" where the service line material is not known to be lead, galvanized requiring replacement, or non-lead, such as where there is no documented evidence or evidence reliably supporting material categorization. Suppliers may elect to provide more information regarding their unknown service lines as long as the inventory clearly distinguishes unknown service lines from those where the categorization of the material is based on the categorization methods approved under subsection (b)(2). ~~Any resource, information, or method for~~

~~identifying and assessing service line materials the Agency provides or requires in a SEP.~~

4) The inventory must include a street address associated with each service line and connector. Where a street address is not available for an individual service line or connector, a unique locational identifier (e.g., block, Global Positioning System or GPS coordinates, intersection, or landmark) may be used. ~~The supplier must categorize every service line and supplier-owned portion of a service line under split ownership:~~

~~A) "Lead" for a lead service line.~~

~~B) "Galvanized Requiring Replacement" for a galvanized service line at any time downstream of a lead service line or currently downstream of a lead status unknown service line. If the supplier cannot demonstrate that a galvanized service line was never downstream of a lead service line, the supplier must presume a lead service line was upstream.~~

~~C) "Non-Lead" for a service line the supplier determines through an evidence-based record, method, or technique is not lead or galvanized requiring replacement under subsection (a)(4)(A) or (a)(4)(B). The supplier may classify the service line using its actual material of construction (e.g., "plastic" or "copper") as an alternative to non-lead.~~

~~D) "Lead Status Unknown" for a service line of material the supplier does not know is lead, galvanized requiring replacement, or non-lead service line under subsection (a)(4)(A), (a)(4)(B), or (a)(4)(C), e.g., if the supplier has no documented evidence supporting material classification. The supplier may classify the line as "unknown", as an alternative to classifying it as lead status unknown, however, all requirements applying to lead status unknown service lines will apply to those the supplier classifies as Unknown. A supplier may provide more information regarding its lead status unknown lines, as long as the inventory clearly distinguishes unknown service lines from those for which the supplier verified the material of construction through records or inspection.~~

~~BOARD NOTE: See the definition of "lead status unknown service line" in Section 611.350(b).~~

5) The inventory must be publicly accessible. ~~The supplier must identify and track service line materials in its inventory as the supplier encounters them in the course of its normal operations (e.g., checking service line materials when reading water meters or performing maintenance activities).~~

A) The publicly accessible inventory must include the information described in subsections (a)(2) through (4) and be updated in compliance with subsection (b).

B) Suppliers serving greater than 50,000 persons must make the publicly accessible inventory available online.

6) When a supplier's system has no lead, galvanized requiring replacement, or lead status unknown service lines, no known lead connectors, and no connectors of unknown material, it may comply with the requirements in subsection (a)(5) using a written statement in lieu of the publicly accessible inventory, declaring that the supplier's distribution system has no lead, galvanized requiring replacement, or lead status unknown service lines, no known lead connectors, and no connectors of unknown material. The statement must include a general description of all applicable sources used in the inventory as described in subsection (a)(1) and (2) and (b)(2) to make this determination. ~~The supplier must update its inventory based on all applicable sources in subsections (a)(3) and (a)(5) and any lead service line replacements or service line material inspections the supplier conducted. The supplier may use other sources of information the Agency approves in a SEP and must use other sources of information the Agency requires in a SEP. The supplier must submit the updated inventory to the Agency as Section 611.360(e) requires. The publicly accessible inventory must reflect inventory updates no less frequently than when the supplier must submit them to the Agency.~~

~~A) A supplier whose inventory contains only non-lead service lines needs not provide inventory updates to the Agency or public. If the supplier subsequently finds a lead service line within its system, the supplier must prepare an updated inventory under subsection (a) on a schedule the Agency establishes in a SEP.~~

~~B) This subsection (a)(6)(B) corresponds with 40 CFR 141.84(a)(6)(ii), which USEPA marked "Reserved". This statement maintains structural consistency with USEPA's rule.~~

7) Instructions to access the publicly accessible inventory (including inventories consisting only of a statement in compliance with subsection (a)(6)) must be included in the Consumer Confidence Report in

compliance with Section 611.883(h)(8)(B). ~~To calculate the number of service line replacements under subsections (f) or (g), the supplier must apply the replacement rate to the sum of known lead and galvanized requiring replacement service lines when the supplier first exceeds the lead trigger level or lead action level plus the number of lead status unknown service lines in the beginning of each year of the supplier's annual goal-based or mandatory full lead service line replacement program.~~

~~A)~~ ~~A supplier must count each service line only once when calculating the required number of service lines it must replace, even if the supplier shares service line ownership, and the supplier must replace both the customer-owned and system-owned portions.~~

~~B)~~ ~~The supplier must annually update the number of service lines it needs to replace by subtracting the number of lead status unknown service lines the supplier discovered are non-lead and adding the number of non-lead service lines the supplier discovered are lead or galvanized requiring replacement service lines.~~

~~C)~~ ~~Verifying a lead status unknown service line as non-lead in its inventory does not count as replacing a service line.~~

~~BOARD NOTE: Using the number of lead and galvanized requiring replacement service lines at the time of first exceeding the lead trigger level applies for subsection (f). The number at the time of first exceeding the lead action level applies for subsection (g). The number of lead status unknown service lines remaining at the beginning of each year applies to both.~~

~~8)~~ ~~The supplier must keep its service line materials inventory publicly accessible.~~

~~A)~~ ~~The inventory must include a locational identifier, such as a street address, block, intersection, or landmark, for each lead or galvanized requiring replacement service line. A supplier may include a locational identifier for lead status unknown service lines or list the exact address of each service line.~~

~~B)~~ ~~A supplier serving more than 50,000 persons must make the publicly accessible inventory available online.~~

~~9)~~ ~~If a supplier has no lead, galvanized requiring replacement, or lead status unknown service lines (regardless of ownership) in its inventory, the~~

~~supplier may comply with subsection (a)(8) using a written statement, in lieu of the inventory, declaring that its distribution system has no lead or galvanized requiring replacement service lines. The statement must include a general description of all applicable sources the supplier used under subsections (a)(3), (a)(5), and (a)(6) to determine these service lines are absent.~~

~~10)~~ ~~The supplier must include instructions for accessing the service line inventory (including inventories consisting only of a statement under subsection (a)(9)) in its Consumer Confidence Report under Section 141.153(d)(4)(K).~~

b) Additional requirements for service line and connector inventory maintenance. ~~Lead Service Line Replacement Plan. A supplier with one or more lead, galvanized requiring replacement, or lead status unknown service lines in its distribution system must submit a lead service line replacement plan to the Agency under Section 611.360(e) before October 16, 2024. The lead service line replacement plan must have sufficient detail to ensure the supplier can comply with lead service line replacement requirements under this Section. The plan must include specific descriptions~~:

1) All suppliers must update the baseline inventory of service lines and connectors developed in subsection (a)(2) and submit the updates to the Agency on an annual basis in compliance with Section 611.360(e)(4). These updates begin one year after the compliance date in Section 611.350 (a)(3). The publicly accessible inventory must reflect any updates no later than the deadline to submit the updated inventory to the Agency. ~~A strategy for determining the composition of lead status unknown service lines in its inventory;~~

A) All suppliers must identify the material of all lead status unknown service lines by the applicable mandatory service line replacement deadline in subsection (d)(4).

B) Suppliers whose inventories contain only non-lead service lines and non-lead connectors or no connectors present are not required to provide updated inventories to the Agency or updates to the publicly accessible inventory. If, in the future, such a supplier discovers a lead service line, galvanized requiring replacement service line, or lead connector within its system, the supplier must notify the Agency no later than 60 days after the discovery, prepare an updated inventory in compliance with this section on a schedule established by the Agency, replace the lead or galvanized requiring replacement service line in compliance with subsection (d)(4)(B),

and replace any lead connector along the service line in compliance with subsection (e).

2) Suppliers must update the inventory annually with any new information acquired from all applicable sources described in subsection (b)(2) through (4) and follow all applicable requirements for the inventory in subsection (a) and (b). The supplier may update the inventory using other sources of information not listed in subsections (b)(2)(A) through (C) if the use of those sources is approved or required by the Agency.~~A procedure for conducting full lead service line replacement;~~

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

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

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

D) Suppliers must update their inventory annually based on any lead or galvanized requiring replacement service line replacements, service line material inspections, or lead connector replacements that have been conducted. Each updated inventory and subsequent update to the publicly accessible inventory must include the following information regarding service line material identification and replacement:

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

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

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

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

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

vi) The total number of connectors of unknown material in the inventory:

vii) The total number of full lead service line replacements and full galvanized requiring replacement service line replacements that have been conducted in each preceding program year as defined in subsection (d)(5)(C); and

viii) The total number of partial lead service line replacements and partial galvanized requiring replacement service line replacements that have been conducted in each preceding program year as defined in subsection (d)(5)(C).

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

3) Suppliers that discover a lead or galvanized requiring replacement service line previously inventoried as non-lead must update their inventory in compliance with subsection (b)(2) and, if applicable, subsection (b)(1)(B). Suppliers must notify the Agency in compliance with Section 611.360(e) and comply with any additional actions required by the Agency to address the inventory inaccuracy. ~~A strategy for informing customers before a full or partial lead service line replacement;~~

4) If a consumer or customer (if different from the person served at that service connection) notifies the supplier of a suspected incorrect categorization of their service line material in the inventory, the supplier must respond to the consumer or customer within 30 days of receiving the notification to make an offer to inspect the service line. ~~For a supplier serving more than 10,000 persons, a lead service line replacement goal rate the supplier recommends if the supplier exceeds the lead trigger level;~~

5) All suppliers must validate the accuracy of the non-lead service line category in the inventory as follows: ~~A procedure for customers to flush particulate lead from service lines and premises plumbing;~~

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

B) The supplier must confirm the service line material of a random sample (*e.g.,* a sample selected by use of a random number generator or lottery method) of non-lead service lines from the validation pool. Confirmation of service line material must be done by visual inspection of the pipe exterior at a minimum of two points. Where ownership is shared, the supplier must conduct at least one visual inspection on each portion of the service line. Where ownership is shared and only one portion of the service line is included in the validation pool, suppliers must conduct at least one point of visual inspection on the unconfirmed portion of the service line. Suppliers must validate at least as many service lines as are required in table 1 to this subsection (b)(5)(B).

Table 1 to Subsection (b)(5)(B)

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

C) If physical access to private property is necessary to complete the validation and the supplier is unable to gain access, the supplier is not required to conduct a validation at that site. The supplier must replace the site by randomly selecting a new service line that meets the requirements of subsection (b)(5)(A) to conduct the validation.

D) The deadlines for inventory validation are:

i) No later than December 31 following seven years after the compliance date in Section 611.350(a)(3) for suppliers subject to the mandatory service line replacement deadline in subsection (d)(4) or suppliers who have reported only non-lead service lines in their baseline inventory, submitted to the Agency in compliance with Section 611.360 (e)(9);

ii) A deadline established by the Agency for suppliers conducting mandatory service line replacement on a shortened deadline for service line replacement as established by the Agency in compliance with subsection (d)(5)(E); or

iii) A deadline established by the Agency to be no later than three years prior to the deadline for completing mandatory service line replacement if the supplier is eligible for and plans to use a deferred deadline under subsection (d)(5)(F) or an extended schedule for mandatory service line replacement pursuant to an exemption or a variance.

E) Suppliers conducting inventory validation in compliance with this subsection (b)(5) must complete the validation by the applicable deadline described in subsection (b)(5)(D), submit the results of the validation in compliance with Section 611.360(e)(9), and comply with any additional actions required by the Agency to address inventory inaccuracies. The supplier must submit to the Agency the specific version (including the date) of the service line inventory used to determine the number of non-lead service lines included in the validation pool in compliance with Section 611.360(e)(9).

F) Suppliers may make a written request to the Agency to approve a waiver of the inventory validation requirements in this subsection (b). To obtain a waiver, the supplier must submit documentation to the Agency to demonstrate the suppler conducted an inventory validation that is at least as stringent as the inventory validation requirements specified in subsections (b)(5)(A) through (C) by the compliance date in Section 611.350(a)(3) and obtain written approval of the waiver from the Agency.

~~6) A prioritization strategy for lead service line replacement based on factors, including targeting known lead service lines, replacing lead service lines for disadvantaged consumers and populations most sensitive to the effects of lead; and~~

~~7) A strategy for funding lead service line replacements considering ways to replace the customer-owned portion for those unable to pay.~~

c) Service line replacement plan.~~Operating Procedures for Replacing Lead Goosenecks, Pigtails, or Connectors~~ All suppliers with one or more lead, galvanized requiring replacement, or lead status unknown service lines in their distribution system must create a service line replacement plan by the compliance date in Section 611.350(a)(3) and submit a service line replacement plan to the Agency in compliance with Section 611.360(e). The service line replacement plan must be sufficiently detailed to ensure a supplier is able to comply with the service line inventory and replacement requirements in this section.

1) The service line replacement plan must include a description of:~~The supplier must replace any lead gooseneck, pigtail, or connector it owns when the supplier encounters it during planned or unplanned water system infrastructure work.~~

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

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

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

D) A procedure for consumers and customers to flush service lines and premise plumbing of particulate lead following disturbance of a lead, galvanized requiring replacement, or lead status unknown service line in compliance with Section 611.355(f) and following full or partial replacement of a lead or galvanized requiring replacement service line consistent with the requirements for notification and mitigation in subsection (h);

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

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

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

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

I) For any supplier that identifies any lead-lined galvanized service lines in the service line inventory as described in subsections (a) and (b), a strategy to determine the extent of the use of lead-lined galvanized service lines in the distribution system and categorize any lead-lined galvanized service lines as lead pursuant to table 1 to subsection (d)(6)(C)(i).

J) For any supplier that is eligible for and plans to use a deferred deadline under subsection (d)(5)(F):

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

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

iii) Information supporting the supplier's determination that replacing lead and galvanized requiring replacement service lines by an earlier date and faster rate than provided under the deferred deadline provision in subsection (d)(5)(F) is not feasible.

2) The service line replacement plan must be made accessible to the public. Suppliers serving greater than 50,000 persons must make the plan available to the public online. ~~The supplier must offer to replace a customer-owned lead gooseneck, pigtail, or connector; however, the supplier needs not bear the cost of replacing the customer-owned parts.~~

3) Suppliers must update the service line replacement plan annually to include any new or updated information and submit the updates to the Agency on an annual basis in compliance with Section 611.360(e). The supplier must make the updated plan publicly accessible no later than the deadline to submit the updated plan to the Agency.~~The supplier needs not replace a customer-owned lead gooseneck, pigtail, or connector if the customer objects to replacing it.~~

A) If there is no new or updated information to include in the service line replacement plan since the previous iteration, the supplier may certify to the Agency that the plan has no updates in lieu of resubmitting the plan unless the supplier is replacing service lines in compliance with a deferred deadline and subsection (c)(3)(B) applies.

B) If there is no new or updated information to include in the service line replacement plan and the supplier is replacing service lines in compliance with a deferred deadline under subsection (d)(5)(F), every three years after the initial submission of the plan, the supplier must update the information specified in subsection (c)(1)(J) to support why the supplier continues to need the deferred deadline and resubmit the plan to the Agency.

C) If there are no longer lead, galvanized requiring replacement, and unknown service lines in the inventory as described in subsections (a) and (b), suppliers are not required to resubmit the service line replacement plan or certify to the Agency that the plan has no updates.

~~4) Replacing a lead gooseneck, pigtail, or connector does not count towards goal-based or mandatory lead service line replacements under subsections (f) or (g).~~

~~5) When replacing any gooseneck, pigtail, or connector attached to a lead service line, the supplier must follow the risk mitigation procedures 40 CFR Section 141.85(f)(2) specifies.~~

d) Mandatory full-service line replacement. ~~Conducting Lead Service Line Replacement That May Result in Partial Replacements~~

1) All suppliers must replace all lead and galvanized requiring replacement service lines under the control of the supplier unless the replacement would leave in place a partial lead service line. ~~A supplier planning to partially replace a lead service line (e.g., replace only the supplier-owned portion) in the course of planned infrastructure work must notify the service line's owner, or the owner's authorized agent, and any non-owner residents the service line serves at least 45 days before the replacement. The notice must explain that the supplier will replace the supplier-owned portion of the service line and offer to replace the customer-owned portion (not supplier-owned). The supplier needs not bear the cost of replacing the customer-owned portion of the lead service line.~~

~~A) Before returning a service line to service, the supplier must provide notice complying with Section 611.355(a) and explaining that consumers may experience a temporary increase of lead levels in their drinking water due to the replacement, providing information about the health effects of lead, and describing actions consumers can take to minimize their exposure to lead in drinking water. If the lead service line undergoing partial replacement serves multi-family dwellings, the supplier may post the information at a conspicuous location instead of providing individual notice to each resident.~~

~~B) The supplier must inform consumers about service line flushing using the procedure in subsection (b)(5) requires before returning the affected service line to service.~~

~~C)~~ ~~The supplier must provide the consumer with a pitcher filter or point-of-use treatment device to reduce lead, six months of replacement cartridges, and use instructions before returning the affected service line to service. 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 unit in the building.~~

~~D)~~ ~~The supplier must offer to collect a follow-up tap sample between three and six months after partially replacing a lead service line. The supplier must provide the results from the follow-up sample under Section 611.355(d).~~

2) Where a supplier has access (*e.g.,* legal access, physical access) to conduct full-service line replacement, the service line is under its control, and the supplier must replace the service line. Where a supplier does not have access to conduct full service line replacement, the supplier is not required by this subpart to replace the line, but the supplier must document the reasons that the supplier does not have access and include any specific laws, regulations, and/or water tariff agreements that affect the supplier's ability to gain access to conduct full replacement of lead and galvanized requiring replacement service lines. The supplier must provide this documentation to the Agency as required in Section 611.360(e)(10). ~~Any supplier replacing the supplier-owned portion of a lead service line in the course of an emergency repair must notify and provide risk mitigation measures to the persons the affected service line serves as subsections (d)(1)(A) through (d)(1)(C) require before returning the line to service.~~

A) This subpart does not establish the criteria for determining whether a supplier has access to conduct full-service line replacement. Any applicable State or local laws or water tariff agreement requirements to gain access to conduct full-service line replacement must be identified in the service line replacement plan as described in subsection (c).

B) This subsection (d)(2)(B) corresponds with 40 CFR 141.84(d)(2)(ii), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.

3) Where a supplier has legal access to conduct full-service line replacement only if property owner consent is obtained, the supplier must make a "reasonable effort" to obtain property owner consent. If such a supplier

does not obtain consent after making a "reasonable effort" to obtain it from any property owner, then the supplier is not required by this subpart to replace any portion of the service line at that address unless there is a change in ownership of the property as described in subsection (d)(3)(B). The supplier must provide documentation of the reasonable effort to the Agency under Section 611.360(e)(10). ~~If a customer notifies a supplier that the customer plans to replace the customer's portion of the lead service line, the supplier must make a good faith effort to coordinate simultaneously replacing the supplier's portion. If simultaneously replacing the supplier- and customer-owned portions cannot be conducted, the supplier must replace the supplier-owned portion as soon as practicable but no later than 45 days after the customer replaces the customer-owned portion of the lead service line. The supplier must notify and provide risk mitigation measures as subsections (d)(1)(A) through (d)(1)(C) require. If the supplier fails to replace its portion of the lead service line within 45 days after the customer replaces the customer's portion of the lead service line, the supplier must notify the Agency under Section 611.360(e) within 30 days after failing to meet the deadline. The supplier must complete replacing the supplier-owned portion of the service line no later than 180 days after the customer replaces the customer-owned portion.~~

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

B) Within six months of any change in ownership of the property, the supplier must offer full-service line replacement to any new property owner. Suppliers may use new service initiation or service transfer to a new customer to identify when there is a change in ownership. Within one year of any change in ownership of the property, the supplier must make a "reasonable effort" to obtain the property owner's consent as described in subsection (d)(3)(A). If the supplier is unable to obtain consent from the current property owner after making a "reasonable effort" to obtain it, the supplier is not required under this subpart to replace the line. This subsection (d)(3)(B) continues to apply until all lead and galvanized requiring replacement service lines are replaced.

4) The deadline for suppliers to replace all lead and galvanized requiring replacement service lines under the control of the supplier is no later than 10 program years after the compliance date specified in Section 611.350(a)(3) unless the supplier is subject to a different deadline under subsections (d)(5)(E) and (F). ~~If a supplier receives notice or otherwise learns that a customer replaced the customer-owned portion of a lead service line within the previous six months leaving the system-owned portion in place, the supplier must replace its portion within 45 days after the supplier becomes aware the customer replaced the customer-owned portion. The supplier must notify and provide risk mitigation measures as subsections (d)(1)(A) through (d)(1)(C) require within 24 hours after the supplier becomes aware of the customer replacing the customer-owned portion. If the supplier fails to replace the supplier-owned portion of the service line within 45 days after becoming aware of the customer replacing the customer-owned portion, the supplier must notify the Agency under Section 611.360(e) within 30 days after failing to meet the deadline. The supplier must complete replacing the supplier-owned portion of the service line no later than 180 days after the customer replaces the customer-owned portion~~.

A) Suppliers must start mandatory service line replacement programs no later than the compliance date specified in Section 611.350(a)(3).

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

i) Update the replacement pool calculated under subsection (d)(6)(A).

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

5) Suppliers must meet a minimum cumulative average annual replacement rate for completing mandatory service line replacement in compliance with this subsection (d)(5): ~~If a supplier receives notice or otherwise learns that a customer replaced the customer-owned portion of a lead service line more than six months in the past, the supplier needs not replace the supplier-owned portion of the lead service line under this subsection (d)(5). However, the supplier must still include the system-owned portion when calculating a lead service line replacement rate under subsection (a)(7).~~

A) Annual replacement rate. A supplier must replace lead and galvanized requiring replacement service lines as described in subsection (d)(6) at an average annual replacement rate of at least 10 percent calculated across a cumulative period unless the supplier is subject to a shortened replacement rate or eligible for a deferred replacement rate in compliance with subsections (d)(5)(E) and (F).

B) Cumulative percent of service lines replaced. To calculate the cumulative percent of service lines replaced, at the end of each mandatory service line replacement "program year" as described in subsection (d)(5)(C), suppliers must divide the total number of lead and galvanized requiring replacement service lines replaced thus far in the program in compliance with subsection (d)(6)(C) by the number of service lines within the replacement pool in compliance with subsection (d)(6)(A).

C) Program year. The first mandatory service line replacement "program year" is from the compliance date specified in Section 611.350(a)(3) to the end of the next calendar year. Every program year thereafter is on a calendar year basis. This subsection (d)(5)(C) applies for the purposes of this section.

D) Cumulative average replacement rate. The annual replacement rate in subsection (d)(5)(A) is assessed annually as a cumulative average. The first cumulative average replacement rate must be assessed at the end of the third program year and is calculated by dividing the cumulative percent of service lines replaced in compliance with subsection (d)(5)(B) by the number of completed program years (or three in this case). Annually thereafter, at the end of each program year, suppliers must assess the cumulative average replacement rate by dividing the most recent cumulative percent of service lines replaced in compliance with subsection (d)(5)(B) by the number of completed program years. Except as

provided in subsection (d)(5)(D)(i), the cumulative average replacement rate must be 10 percent or greater each program year, and the supplier must replace all lead and galvanized requiring replacement service lines under its control by the applicable deadline for completing mandatory service line replacement in compliance with subsection (d)(4).

i) A supplier is not required by this section to meet the cumulative average replacement rate described in subsection (d)(5) where, after the compliance date specified in Section 611.350(a)(3), the supplier has replaced all lead and galvanized requiring replacement service lines in the replacement pool as described in subsection (d)(6)(A) that are under the control of the supplier, identified all unknown service lines in the inventory, and documented and submitted to the Agency the reasons the system currently does not have access to conduct full replacement of the remaining lead and galvanized requiring replacement service lines in the replacement pool in compliance with subsections (d)(2) and (3). When lead and galvanized requiring replacement service lines come under the control of the supplier, the supplier is required to replace the service lines as described in subsection (d). This subsection (d)(5)(D)(i) continues to apply until all lead and galvanized requiring replacement service lines are replaced.

ii) This subsection (d)(5)(D)(ii) corresponds with 40 CFR 141.84(d)(5)(iv)(B), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.

E) Shortened deadline and associated replacement rate. Where the Agency determines that a shortened replacement deadline is feasible for a supplier's system (e.g., by considering the number of lead and galvanized requiring replacement service lines in a supplier's inventory), the supplier must replace service lines by the Agency-determined deadline and by a faster minimum replacement rate in compliance with subsection (d)(5)(E)(i). The Agency must make this determination in writing and notify the supplier of its finding. The Agency must set a shortened deadline at any time throughout a supplier's replacement program if the Agency determines a shorter deadline is feasible. This subsection (d)(5)(E) also applies to suppliers eligible for a deferred deadline as specified in subsection (d)(5)(F).

i) Suppliers must replace lead and galvanized requiring replacement service lines at an average annual replacement rate calculated by dividing 100 by the number of years needed to meet the shortened deadline determined by the Agency, expressed as a percentage. Suppliers must comply with the cumulative average replacement rate in compliance with subsection (d)(5)(D), where the first cumulative average replacement rate is assessed at the end of the program year that is at least one year after the shortened deadline determination, as determined by the Agency, unless the shortened replacement deadline is less than three years. If the supplier's shortened replacement deadline is less than three years, the cumulative average replacement rate must be assessed on a schedule determined by the Agency.

ii) This subsection (d)(5)(E)(ii) corresponds with 40 CFR 141.84(d)(5)(v)(B), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.

F) Deferred deadlines and associated replacement rates. A supplier may defer service line replacement past the deadline in subsection (d)(4) if the supplier's system meets the following criteria:

i) If a supplier replacing 10 percent of the total number of known lead and galvanized requiring replacement service lines in a supplier's replacement pool results in an annual number of service line replacements by the supplier that exceeds 39 per 1,000 service connections, the supplier may complete replacement of all lead and galvanized requiring replacement service lines by a deadline that corresponds to the supplier conducting 39 annual replacements per 1,000 service connections at a cumulative average replacement rate assessed in compliance with subsection (d)(5)(D). This subsection (d)(5)(F)(i) is also applicable if a supplier with service lines newly under their control, after previously not having control as described in subsection (d)(5)(D)(i), is required to conduct more than 39 annual replacements per 1,000 service connections. The number of annual replacements corresponding to 39 annual replacements per 1,000 service connections can be calculated by multiplying the number of service

connections in a system by 0.039. The number of years needed to complete replacement is the total number of known lead and galvanized requiring replacement service lines in a supplier's replacement pool divided by the calculated number of annual replacements. To calculate the minimum cumulative average replacement rate, the supplier must divide 100 by the number of years needed to achieve replacing 39 annual replacements per 1,000 service connections, expressed as a percentage.

ii) Any supplier that is eligible for and plans to use a deferred deadline must include information, in compliance with subsection (c)(1)(J), to support the use of a deferred deadline including identifying the deadline and associated cumulative average rate of replacement to meet this deferred deadline in the supplier's initial service line replacement plan and subsequent updates to the plan in compliance with subsection (c). The supplier must identify an annual replacement rate that is no less than 39 annual replacements per 1,000 service connections.

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

iv) In the first two program years, the supplier must comply with the annual replacement rate identified in its initial replacement plan (unless the Agency determines a faster rate is feasible sooner). In subsequent program years, the supplier must comply with the applicable deferred deadline and associated replacement rate identified in the Agency's written determination of the deadline and replacement rate in subsection (d)(5)(F)(iii).

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

A) Replacement pool. To calculate the replacement pool, suppliers must add the total number of lead, galvanized requiring replacement, and lead status unknown service lines in the baseline inventory submitted by the compliance date specified in Section 611.350(a)(3). The supplier must not subtract lead or galvanized requiring replacement service lines from the replacement pool when they are replaced. The supplier must not subtract service lines that are not under the control of the supplier from the replacement pool. At the beginning of each program year, suppliers must update the replacement pool according to the counts of specific types of recategorized service lines in the inventory annually thereafter as described in this subsection (d)(6)(A):

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

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

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

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

B) Annual number of replacements required. To calculate the number of lead and galvanized requiring replacement service lines a supplier is required to replace in a given program year, divide the number of service lines in the most up-to-date replacement pool, calculated at the beginning of each program year, by the total number of years remaining under subsection (d)(4) to complete mandatory service line replacement (e.g., 10 years).

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

i) For purposes of mandatory service line replacement, suppliers must count each entire service line once, including where ownership of the service line is shared, with a single material categorization in compliance with table 1 to this subsection (d)(6)(C)(i).

Table 1 to Subsection (d)(6)(C)(i)

System-owned portion	Customer-owned portion	Categorization for entire service line
Lead	Lead	Lead.
Lead	Galvanized Requiring Replacement	Lead.
Lead	Non-lead	Lead.
Lead	Lead Status Unknown	Lead.
Non-lead	Lead	Lead.
Non-lead and never previously lead	Non-lead, specifically galvanized pipe material	Non-lead.

Non-lead	Non-lead, material other than galvanized pipe material	Non-lead.
Non-lead	Lead Status Unknown	Lead Status Unknown.
Non-lead, but system is unable to demonstrate it was not previously Lead	Galvanized Requiring Replacement	Galvanized Requiring Replacement.
Lead Status Unknown	Lead	Lead.
Lead Status Unknown	Galvanized Requiring Replacement	Galvanized Requiring Replacement.
Lead Status Unknown	Non-lead	Lead Status Unknown.
Lead Status Unknown	Lead Status Unknown	Lead Status Unknown.

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

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

iv) Suppliers must not count the following as full service line replacement for purposes of this subpart: partially replaced service lines as defined in Section 611.350(b), lead, galvanized requiring replacement, or unknown service lines determined to be non-lead service lines, replacement of only a lead connector, pipe lining or coating technologies used while the lead or galvanized requiring replacement service line remains in use, or unreplaced lead or galvanized requiring replacement service lines not under the control of the supplier as described in subsection (d)(2).

e) Replacement of lead connectors when encountered by a supplier. ~~Conducting Full Lead Service Line Replacements. A supplier conducting a full lead service line replacement must notify the service line's owner, or the owner's authorized agent, and any non-owner residents the service line serves within 24 hours after completing the replacement. The supplier needs not bear the cost of replacing the customer-owned portion of the lead service line.~~

1) The supplier must replace any lead connector when encountered during planned or unplanned water system infrastructure work unless the connector is not under the control of the supplier (e.g., where the supplier does not have and cannot obtain access to conduct the connector replacement). ~~The notice must comply with Section 611.355(a), explain that consumers may experience a temporary increase of lead levels in their drinking water due to the replacement, inform about the health effects of lead, and explain actions a consumer can take to minimize exposure to lead in drinking water. If the lead service line the supplier will replace serves a multi-family dwelling, the supplier may post the information at a conspicuous location instead of providing individual notice to all residents.~~

A) Upon replacement of any connector that is attached to a lead or galvanized requiring replacement service line, the supplier must follow risk mitigation measures for disturbances as specified in Section 611.355(f)(2).

B) Following replacement of a lead connector, the supplier must update the information on the connector material and location in its inventory in compliance with subsections (a)(2)(B) and (b)(2).

2) The supplier must comply with any State or local laws that require additional connectors to be replaced. ~~The supplier must inform about~~

~~flushing the service line using the procedure the supplier developed under subsection (b)(5) before returning the replaced service line to service~~.

~~3)~~ ~~The supplier must provide the consumer with a pitcher filter or point-of-use treatment device to reduce lead, six months of replacement cartridges, and use instructions before returning the replaced service line to service. If the lead service line serves more than one residence or non-residential unit (e.g., a multi-unit building), the supplier must provide a filter and six months of replacement cartridges and use instructions to every unit in the building.~~

~~4)~~ ~~The supplier must offer to the consumer to collect a follow up tap sample between three and six months after replacing a lead service line. The supplier must provide the results from the follow up sample to the consumer under Section 611.355(d).~~

f) Replacement of a service line prompted by the customer. If State or local laws or water tariff agreements do not prevent customers from conducting partial lead or galvanized requiring replacement service line replacements ("customer-initiated replacements"), the supplier must meet the following requirements: ~~Goal-Based Full Lead Service Line Replacement for Suppliers Having a 90th Percentile Lead Concentration Exceeding the Lead Trigger Level But Not the Lead Action Level. A supplier serving more than 10,000 persons having a 90th percentile lead concentration under Section 611.356 that exceeds the lead trigger level but not the lead action level must conduct goal-based full lead service line replacement at a rate approved in an Agency-issued SEP.~~

1) If the supplier is notified by the customer that the customer intends to conduct a partial lead or galvanized requiring replacement service line replacement, the supplier must: ~~The supplier must annually calculate the number of full lead service line replacements it must conduct under subsection (a)(7).~~

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

B) Provide notification and risk mitigation measures in compliance with subsection (h), as applicable, before the affected service line is returned to service; and

C) Notify the Agency within 30 days if it cannot meet the deadline in subsection (f)(1)(A) and complete the replacement no later than 180 days from the date the customer conducted the partial replacement.

2) If the supplier is notified or otherwise learns that a customer-initiated replacement occurred within the previous six months and left in place the supplier-owned portion of a lead or galvanized requiring replacement service line, the supplier must: ~~The supplier must replace lead service lines complying with subsection (d) or (e).~~

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

B) Provide notification and risk mitigation measures in compliance with subsection (h) within 24 hours of becoming aware of the customer replacement.

C) Notify the Agency within 30 days if it cannot meet the deadline in subsection (f)(2)(A) and complete the replacement no later than 180 days of the date the supplier learns of the customer-initiated replacement.

3) When a supplier is notified or otherwise learns of a customer-initiated replacement of a lead or galvanized requiring replacement service line that occurred more than six months in the past, this section does not require the supplier to complete the lead or galvanized requiring replacement service line replacement of the supplier owned portion under this subsection (f). However, the remaining portion of the lead or galvanized requiring replacement service line must be identified in the inventory in compliance with subsection (b) and replaced in compliance with subsection (d). ~~Only a full lead service line replacement counts towards a supplier's annual replacement goal. A partial lead service line replacement does not count towards the goal.~~

~~4) The supplier must inform customers having a lead, galvanized requiring replacement, or lead status unknown service line as Section 611.355(g) requires.~~

~~5) A supplier failing to meet its lead service line replacement goal must take certain actions:~~

~~A) Conduct public outreach activities under Section 611.355(h) until either the supplier meets its replacement goal, or tap sampling~~

~~shows the 90th percentile concentration does not exceed the lead trigger level for two continuous years of monitoring.~~

~~B)~~ ~~Resume its goal-based lead service line replacement program under this subsection (f) if its 90th percentile lead concentration anytime later exceeds the lead trigger level but not the lead action level.~~

~~6)~~ ~~The first year of a supplier's lead service line replacement program begins on the first day after the end of the tap sampling period during which the supplier exceeded the lead trigger level. If the supplier samples annually or less frequently, the end of the tap monitoring cycle is September 30 of the calendar year during which the sampling occurs. If the Agency issues a SEP establishing an alternative tap monitoring cycle, the end of the supplier's tap monitoring cycle is the last day of that cycle.~~

g) Requirements for conducting partial service line replacements. This subsection (g) prohibits suppliers from conducting a partial lead service line replacement or a partial galvanized requiring replacement service line replacement as defined under Section 611.350(b) unless it is conducted as part of an emergency repair or in coordination with planned infrastructure work that impacts service lines, excluding planned infrastructure work solely for the purposes of lead or galvanized requiring replacement service line replacement. Where a supplier has access to conduct full service line replacement as specified in subsection (d)(2), the supplier must fully replace the service line. Where a supplier conducts partial service line replacement, the supplier must comply with the notification and mitigation requirements specified in subsections (h)(1) and (2). ~~Mandatory Full Lead Service Line Replacement for Suppliers Whose 90th Percentile Lead Concentration Exceeds the Lead Action Level. A supplier serving more than 10,000 persons that exceeds the lead action level in tap sampling monitoring under Section 611.356 must replace full lead service lines on its distribution system at an annual rate of at least three percent on a two-year rolling average basis~~.

1) Whenever a supplier conducts a partial replacement of a lead or galvanized requiring replacement service line, the supplier's system must include a dielectric coupling separating the remaining service line and the replaced service line (*i.e.,* newly installed service line) to prevent galvanic corrosion unless the replaced service line is made of plastic. ~~The supplier must calculate its average annual number of full lead service line replacements under subsection (a)(7).~~

2) This subsection (g)(2) corresponds with 40 CFR 141.84(g)(2), which USEPA marked "[reserved]". This statement maintains structural

consistency with USEPA's rule. ~~The supplier must replace lead service lines under subsections (d) and (e).~~

~~3)~~ ~~Only a full lead service line replacement counts towards a supplier's mandatory annual replacement rate of at least three percent. A partial lead service line replacement does not count towards the supplier's mandatory replacement rate.~~

~~4)~~ ~~A supplier must inform its customers having a lead, galvanized requiring replacement, or lead status unknown service line as Section 611.355(g) requires.~~

~~5)~~ ~~A CWS supplier serving 10,000 or fewer persons or a NTNCWS supplier for which the Agency issues a SEP approving or designating replacing lead service lines as a compliance option must replace lead service lines as Section 611.363(a)(1) describes. The supplier must replace lead service lines complying with subsections (d) and (e).~~

~~6)~~ ~~A supplier may stop replacing lead service lines after cumulatively replacing the required number. Unless the Agency issues a SEP under subsection (g)(9) requiring another percentage, the required number is at least three percent of the service lines subsection (a)(7) determines times the number of years between when the supplier most recently began mandatorily replacing lead service lines and when the supplier calculates its lead 90th percentile concentration under Section 611.360(c)(4) to be at or below the lead action level during each of four consecutive six-month tap monitoring cycles. If the supplier later exceeds the lead action level, it must restart mandatorily replacing lead service lines at the same rate on a two-year rolling average basis, unless the Agency issues a SEP under subsection (g)(9) requiring an alternative replacement rate.~~

~~7)~~ ~~A supplier may also cease mandatorily replacing lead service lines if the supplier has no remaining lead status unknown service lines in its inventory, and the supplier obtains refusals or non-responses to its offer to replace the customer-owned portion of the lead service line from every customer on its distribution system still served by a lead service line or a galvanized requiring replacement service line. For this subsection (g)(7) and under Section 611.360(e), a supplier must document customer refusals to the Agency, including any written refusals signed by the customers, any documents memorializing customers verbally refusing, and any documents memorializing no response from customers after the supplier made at least two good faith attempts to reach the customer, each attempt offering to replace the full lead service line. If the supplier's lead 90th percentile concentration later exceeds the lead action level, the supplier must offer to~~

~~replace the customer-owned portion for every customer served through a full or partial lead service line or galvanized requiring replacement service line. The supplier need not bear the cost of replacing the customer-owned portion of any lead service line.~~

~~8)~~ ~~The first year of lead service line replacement begins the first day after the end of the tap sampling period during which the supplier exceeded the lead action level.~~

~~9)~~ ~~If the Agency determines a shorter schedule is feasible, the Agency must issue a SEP requiring a supplier to replace lead service lines on a shorter schedule than this Section otherwise requires, taking into account the number of lead service lines in the supplier's system. The Agency must issue this SEP within six months after the supplier must begin replacing lead service lines under subsection (g).~~

h) Protocols for notification and mitigation for partial and full-service line replacements. ~~Reporting to Demonstrate Compliance to the Agency. To demonstrate that it complies with subsections (a) through (g), a supplier must report the information Section 611.360(e) specifies to the Agency.~~

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

A) Before the affected service line is returned to service, the supplier must provide written notification that explains that consumers may experience a temporary increase of lead levels in their drinking water due to the replacement and that meets the content requirements of Sections 611.355(a)(1)(B) through 611.355(a)(1)(D) and contact information for the supplier. In instances where multi-family dwellings or multiple non-residential occupants are served by the affected service line to be partially replaced, the supplier may elect to post the information at a

conspicuous location instead of providing individual written notification to all residents or non-residential occupants.

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

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

D) The supplier must offer to the consumer to collect a follow up tap sample between three months and six months after the completion of any partial replacement of a lead service line. The tap sample must be a first-and fifth-liter paired sample after at least six hours of stagnation, following the tap sampling protocol under Section 611.356(b). The supplier must provide the results of the sample to the persons served by the service line in compliance with Section 611.355(d).

2) Notification and mitigation requirements for emergency partial service line replacement. Any supplier that creates a partial replacement of a lead or galvanized requiring replacement service line due to an emergency repair must provide notice and risk mitigation measures to the persons served by the affected service line in compliance with subsections (h)(1)(A) through (D) before the affected service line is returned to service. The supplier must offer to the property owner, or the owner's authorized agent, to replace the partial service line created by the emergency repair within 45 days.

3) Notification and mitigation requirements for full-service line replacement. Any supplier that conducts a full lead or galvanized requiring replacement service line replacement must provide written notice to the persons served by the affected service line before the affected service line is returned to service; written notice must be provided to the owner or the owner's

authorized agent, no later than 30 days following completion of the replacement.

A) The written notification must explain that consumers may experience a temporary increase of lead levels in their drinking water due to the replacement and must meet the content requirements of Section 611.355(a)(1)(B) through (D) as well as contact information for the supplier. In instances where multi-family dwellings or multiple non-residential occupants are served by the lead or galvanized requiring replacement service line to be replaced, the supplier may elect to post the information at a conspicuous location instead of providing individual written notification to all persons served in residential and non-residential units.

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

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

D) The supplier must offer to the consumer to collect a follow up tap sample between three months and six months after completion of any full replacement of a lead or galvanized requiring replacement service line. The tap sample must be a first-liter sample after at least six hours of stagnation, following the tap sampling protocol under Section 611.356(b). The supplier must provide the results of the sample to the consumer in compliance with Section 611.355(d).

i) Reporting to demonstrate compliance to the Agency. To demonstrate compliance with subsections (a) through (h), a supplier must report to the Agency the information specified in Section 611.360(e).

BOARD NOTE: This Section derives from 40 CFR 141.84.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.355 Public Education and Supplemental Monitoring and Mitigation

A supplier that exceedsexceeding the lead action level based on tap water samples collected in compliance withunder Section 611.356 must distributedeliver the public education materials contained in subsection (a) in compliance with the delivery requirements in requires under subsection (b). SuppliersA supplier that exceedexceeding the lead action level must offer to sample the tap water of any personcustomer served by the water system who request requesting itsampling in compliance with under subsection (c). Suppliers must offer to sample for lead in the tap water of any person served by a lead, galvanized requiring replacement, or lead status unknown service line who requests it in compliance with subsection (c). All suppliers must deliver a consumer notice of lead tap water monitoring results and copper tap water monitoring results to persons served by the supplier at sites that are sampled, as specified in subsection (d). A supplier with lead, galvanized requiring replacement, or lead status unknown service lines must deliver public education materials to persons with a lead, galvanized requiring replacement, or lead status unknown service line as specified in subsections (e) and (f). All CWSs that do not meet the minimum replacement rate for mandatory service line replacement as required under Section 611.354(d) must conduct outreach activities as specified in subsection (h). All CWSs must conduct annual outreach to local and State health agencies as outlined in subsection (i). Suppliers with multiple lead action level exceedances, as specified in subsection (j)(1), must conduct public outreach and make filters certified to reduce lead available as specified in subsection (j)(2) through (j)(6). For suppliers serving a large proportion of consumers with limited English proficiency, as determined by the Agency, all public education materials required under this section must comply with the language requirements in subsection (b)(1). A small CWS or NTNCWS supplier electing to implement POU devices as a small supplier compliance flexibility option under Section 611.363 must provide public education materials as subsection (j) requires to inform users how to properly use POU devices. A supplier must deliver a consumer notice of lead tap water monitoring results to persons the supplier serves at each site that the supplier samples, as subsection (d) specifies. A supplier with lead, galvanized requiring replacement, or lead status unknown service lines, as defined in Section 611.354(a)(4), must deliver public education materials to persons served through these service lines as subsections (e) through (g) specify. A CWS supplier must conduct annual outreach to the Illinois Department of Public Health and local health agencies as subsection (i) provides. A CWS supplier serving more than 10,000 persons failing to meet its annual lead service line replacement goal under Section 611.354(f) must conduct outreach activities as subsection (h) specifies.

a) Content of written public education materials. Written Public Education Materials.

1) Community water systems and non-transient non community water systemsWater Systems and Non-Transient Non-Community Water

~~Systems. A CWS or NTNCWS~~ Suppliers~~supplier~~ must include the following elements in written~~printed~~ materials (e.g., printed or digital brochures and pamphlets) in the same order as listed in subsections (a)(1)(A) through (a)(1)(G). In addition, ~~the supplier must use the verbatim~~ language in subsections(a)(1)(A), (a)(1)(B), and (a)(1)(G)~~subsections (a)(1)(A), (a)(1)(B), and (a)(1)(F)~~ must be included in the materials, exactly as written, except for ~~replacing~~ the text in brackets for which the supplier must include ~~with the~~ supplier~~system~~-specific information. The Agency may approve changes to the content requirements if the Agency determines the changes are more protective of human health. Any additional information presented by a supplier ~~presents~~ must be consistent with the information in subsections (a)(1)(A), through (a)(1)(G), and be ~~the supplier must present the additional information~~ in plain language that the general public can understand. Suppliers ~~The supplier~~ must submit a copy of all written public education materials to the Agency prior to delivery. The Agency may require the supplier~~A supplier~~ to obtain approval of the content of written public education materials prior to delivery. ~~may change the mandatory language in subsections (a)(1)(A) and (a)(1)(B) only as the Agency approves in a SEP.~~

A) IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER. [INSERT NAME OF SUPPLIER] found elevated levels of lead in drinking water in some homes/buildings. Lead can cause serious health problems, especially for pregnant people~~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~~Effects of Lead~~. There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups, especially pregnant people, infants (both formula-fed and breastfed), and young children. Some of the health effects to infants and children include~~. Infants and children can~~ ~~have~~ decreases in IQ and attention span. Lead exposure can ~~lead to new learning and behavior problems or exacerbate existing~~ also result in new or worsened learning and behavior problems. The children of persons~~women~~ who are exposed to lead before or during pregnancy may be at ~~can have~~ increased risk of these harmful~~adverse~~ health effects. Adults ~~can~~ have increased risks of heart disease, high blood pressure, kidney or nervous system problems. Contact your health care provider for more information about your risks.

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

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

BOARD NOTE: The supplier must use text providing the information this subsection (a)(1)(C) describes.

D) Consumer steps to reduce lead exposure. Discuss the steps the consumer can take to reduce exposure to lead in drinking water.

i) Explain that using a filter certified by an American National Standards Institute accredited certifier to reduce lead is effective in reducing lead exposures. If the supplier makes filters available in compliance with subsection (j)(2), also include information on how the consumer can obtain a filter. ~~Encourage running the water to flush out the lead~~.

ii) Encourage running the water to flush out the lead. Explain that lead levels increase over time as water sits in lead-containing plumbing materials and regular water usage in the building can reduce lead levels in drinking water. Advise consumers served by lead and galvanized requiring replacement service lines that they may need to flush the water for longer periods ~~concerns with using hot water from the tap and specifically caution against the use of hot water for preparing baby formula.~~

iii) Explain concerns with using hot water from the tap and specifically caution against the use of hot water for

preparing baby formula~~Explain that boiling water does not reduce lead levels.~~

iv) Explain that boiling water does not reduce lead levels. ~~Discuss other options consumers can take to reduce exposure to lead in drinking water, such as alternative sources or water treatment.~~

v) Encourage regular cleaning of faucet aerators. ~~Suggest that parents have their child's blood tested for lead.~~

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

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

viii) Tell consumers how to get their water tested, including information in compliance with subsection (c).

BOARD NOTE: The supplier must use text providing the information this (a)(1)(D) describes.

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

BOARD NOTE: The supplier must use text providing the information this (a)(1)(E) describes.

F) Information on lead, galvanized requiring replacement, and unknown service lines. For suppliers with lead, galvanized requiring replacement, or lead status unknown service lines in the supplier's inventory in compliance with Section 611.384(a) and (b), public education materials must meet the requirements of subsection (a)(1)(F)(i) through (vii). For suppliers with lead connectors or connectors of unknown material in the supplier's inventory in compliance with Section 611.384(a) and (b), public education materials must meet the requirements of subsection (a)(1)(F)(iii): ~~For more information, call us at [INSERT THE~~

~~SUPPLIER'S NUMBER] [(IF APPLICABLE), or visit our Web site at [INSERT THE SUPPLIER'S WEB SITE HERE]]. For more information on reducing lead exposure around your home/building and the health effects of lead, visit USEPA's Web site at www.epa.gov/lead or contact your health care provider.~~

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

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

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

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

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

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

vii) Include a statement that provides instructions for the customer or consumer to notify the supplier if they disagree

with the service line material categorization in the inventory.

G) More information about lead. For more information, contact [INSERT NAME OF SUPPLIER] at [INSERT THE SUPPLIER'S NUMBER or EMAIL ADDRESS] (IF APPLICABLE), or visit our Web site at [INSERT THE SUPPLIER'S WEBSITE HERE]. For more information on reducing lead exposure around your home/building and the health effects of lead, visit USEPA's Website at https://www.epa.gov/lead or contact your health care provider.~~Information on Lead Service Lines~~. ~~A supplier having lead service lines must discuss opportunities to replace lead service lines and explain how a consumer may access the supplier's lead service line inventory to determine whether the consumer has a lead service line. The supplier must include information on programs providing financing solutions to assist property owners in replacing their portion of a lead service line, with a statement that the water system must replace the supplier-owned portion of a lead service line when the property owner notifies the supplier that the consumer will replace the property owners portion of the lead service line.~~

2) This subsection (a)(2) corresponds with 40 CFR 141.85(a)(2), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.~~Community Water Systems. In addition to including the elements subsection (a)(1) specifies, a CWS supplier must include two information items:~~

~~A)~~ ~~The supplier must tell consumers how to get their water tested; and~~

~~B)~~ ~~The supplier must discuss lead in plumbing components and the difference between low-lead and lead-free components.~~

BOARD NOTE: At corresponding 40 CFR 141.85(a)(1), USEPA allowed the State to require prior approval of written public information materials. Rather than require prior Agency approval, the Board chooses to allow the Agency to raise any deficiencies that it may perceive using its existing procedure for review of public education materials. The Agency outlines its standard practice for review of public information materials: The Agency provides a comprehensive public education packet to the supplier together with the notice that the supplier exceeds the lead action level. That packet includes guidance and templates for the supplier to use in preparing and distributing its public education materials. The supplier must send a copy of the public education materials that it distributes to the Agency, and the Agency reviews the copy of the materials after their

distribution to the public. The Agency directly communicates to the supplier any perceived defects in the materials. When the Agency perceives minor defects, it will request correction in future distributions of the public education materials. When the Agency perceives major defects in the materials, it will request a redistribution of corrected public education materials the supplier already distributed.

b) Timing, format, and delivery method of public education materials. ~~Delivering Public Education Materials~~

1) For~~The public education materials of a~~ suppliers~~supplier~~ serving a large proportion of consumers with limited English proficiency, ~~non-English-speaking consumers~~ as determined by the Agency, all public education materials required under this section must contain information in the appropriate language(s) regarding the importance of the ~~notice, or the materials must contain a telephone number or address where a water consumer may contact the supplier~~ materials and either contain information on where such consumers may ~~to~~ obtain a translated copy of the public education materials, or ~~to request~~ assistance in the appropriate language(s) or the materials must be in the appropriate language(s).

2) Each time a~~A~~ CWS supplier exceeds~~exceeding~~ the lead action level based on ~~the basis of~~ tap water samples collected in compliance with ~~under~~ Section 611.356, the supplier ~~not already conducting public education tasks under this Section~~ must c~~onduct~~omplete the public education tasks under this subsection (b)(2) within 60 days after the end of the tap sampling period in which the exceedance occurred: For CWS suppliers that are on standard monitoring, the end of the tap sampling period is June 30 or December 31. For CWS suppliers that are required to conduct monitoring annually or less frequently, the end of the tap sampling period is September 30 of the calendar year in which the sampling occurs, or, if the Agency has established an alternate four-month tap sampling period, the last day of that period.

A) The CWS supplier must deliver written~~printed~~ materials complying with subsection (a) to ~~all of its bill-paying customers~~ each customer receiving a bill and to other service connections to which water is delivered by the CWS supplier. In the case of multi-family dwellings, the CWS supplier must deliver the written materials to each unit or post the information at a conspicuous location.

B) Methods of delivery ~~Delivery~~ for a CWS supplier~~Supplier~~.

i) The CWS supplier must contact consumers~~customers~~ who are most at risk by delivering education materials complying with subsection (a) to local public health agencies, even if those agencies are not located within the supplier's service area, along with an informational notice encouraging distribution to all of the agencies~~'~~ potentially affected customers or the supplier's users~~consumers~~. The supplier must contact the local public health agencies directly by phone, email or in person. If~~The~~ local public health agencies ~~may~~ provide a specific list of additional community-based organizations serving ~~the target~~ populations at greatest risk from lead exposure (e.g. pregnant people, children), including ~~, which may include~~ organizations outside the service area of the supplier,~~. If local health agencies provide lists,~~ then the supplier must deliver education materials that comply with subsection (a) to all ~~each of the~~ organizations on the provided lists.

ii) The CWS supplier must contact consumers~~customers~~ who are most at risk by delivering materials complying with subsection (a) to the following organizations listed in subsections (b)(2)(H)(i) through (b)(2)(H)(vii)~~(b)(2)(H)(vi)~~ that are located within the supplier's service area, along with an informational notice encouraging distribution to all the organization's potentially affected customers or CWS supplier's users.

BOARD NOTE: The Board moved the text of 40 CFR 141.85(b)(2)(ii)(B)(*1*) through (b)(2)(ii)(B)(7)~~(b)(2)(ii)(B)(6)~~ to appear as subsections (b)(2)(H)(i) through (b)(2)(H)(vii)~~(b)(2)(H)(vi)~~ to comport with allowed indent levels.

C) No less often than quarterly, the CWS supplier must provide information with ~~on or in~~ each water bill as long as the system exceeds the action level for lead. The message on the water bill must include the verbatim text of the paragraph below, except replacing the text in brackets with supplier~~system~~-specific information~~:~~

[INSERT NAME OF SUPPLIER] found elevated~~high~~ levels of lead in drinking water in some homes/buildings. Lead can cause serious health problems. For more information please contact~~all~~ [INSERT NAME OF

SUPPLIER] [or visit (INSERT SUPPLIER'S WEB-SITE HERE)]. The message or delivery mechanism can be modified in consultation with the Illinois Environmental Protection Agency, Division of Public Water Supply; specifically, the Agency may allow a separate mailing of public education materials to customers if the supplier~~water system~~ cannot place the information on water bills.

D) The CWS supplier must post material complying with subsection (a) on the supplier's Web-site if the CWS supplier serves a population greater than 50,000~~100,000~~. The supplier must retain material on the website for as long as the supplier exceeds the action level.

E) The CWS supplier must submit a press release to media outlets including ~~to~~ newspaper, television, and radio stations. The submitted press release must state the supplier found elevated levels of lead in drinking water in some homes/buildings and meet the content requirements of subsection (a).

F) ~~In addition to subsections (b)(2)(A) through (b)(2)(E)), The~~the CWS supplier must implement at least three activities from one or more of the categories listed in subsections (b)(2)(F)(i) through (b)(2)(F)(x) below. The supplier must consult with the Agency to determine the educational content and selection of these activities.

i) Public service announcements.

ii) Paid advertisements.

iii) Public area information 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) Contact organizations representing plumbers and contractors to provide information about lead in drinking water, sources of lead, and the importance of using lead free plumbing materials. ~~Other Agency-approved methods.~~

x) Other Agency approved methods.

G) This subsection (b)(2)(G) corresponds with 40 CFR 141.85(b)(2)(vii), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule ~~For a CWS supplier that must monitor annually or less frequently, the end of the tap sampling period is September 30 of the calendar year in which the sampling occurs, or on the last day of an alternative tap sampling period the Agency sets in a SEP~~.

H) Organizations That the CWS Supplier Must Contact When Required to Do So under Subsection (b)(2)(B)(ii)

i) Schools, childcare~~child care~~ facilities, and school boards.

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

iii) Public and private hospitals and medical clinics.

vi) Pediatricians.

v) Family planning clinics.

vi) Local welfare agencies.

vii) Obstetricians-gynecologists and midwives.

BOARD NOTE: This subsection (b)(2)(H) derives from 40 CFR 141.85(b)(2)(ii)(B)(1) through (b)(2)(ii)(B)(7), moved here to comport with allowed indent levels.

3) A~~As long as a~~ CWS supplier that exceeds the lead action level~~, it~~ must repeat the activities in subsection (b)(2), until the supplier's system is at or below the lead action level based on tap water samples collected in compliance with Section 611.356. These repeated activities must be completed within 60 days of the end of each tap sampling period. A calculated 90th percentile level at or below the lead action level based on fewer than the minimum number of required samples under Section

611.356 cannot be used to meet the requirements of this subsection (b)(3). ~~as subsections (b)(3)(A) through (b)(3)(D) require~~.

~~A)~~ ~~The CWS supplier must repeat the tasks in subsections (b)(2)(A), (b)(2)(B), and (b)(2)(F) every 12 months.~~

~~B)~~ ~~The CWS supplier must repeat tasks in subsection (b)(2)(C) with each billing cycle.~~

~~C)~~ ~~The CWS supplier serving a population greater than 100,000 must post and retain material on a publicly accessible website under subsection (b)(2)(D).~~

~~D)~~ ~~The CWS supplier must repeat the task in subsection (b)(2)(E) twice every 12 months on a schedule agreed by the Agency in a SEP. The Agency must, on a case-by-case basis, issue a SEP extending the time for the supplier to complete the public education tasks in subsection (b)(2) beyond the 60-day limit if the Agency determines that the supplier needs the extended time to implement the tasks; however, the Agency must issue the SEP granting any extension before the 60-day deadline expires.~~

4) Within 60 days after the end of each~~the~~ tap sampling period in which ~~a NTNCWS supplier exceeds the lead action level (unless it already is repeating public education tasks under subsection (b)(5))~~ a lead action level exceedance occurs, a NTNCWS ~~the~~ supplier must deliver the public education materials specified in subsection (a) ~~specifies~~.

A) The NTNCWS supplier must post informational posters on lead in drinking water in a public place or common area in each of the buildings served by the supplier until the system is at or below the lead action level based on tap water samples collected in compliance with Section 611.356; and the~~The~~ supplier must deliver the public education materials by certain means.~~:~~

~~i)~~ ~~The NTNCWS supplier must post informational posters on lead in drinking water in a public place or common area in each of the buildings the supplier serves; and~~

~~ii)~~ ~~The NTNCWS supplier must distribute informational pamphlets or brochures on lead in drinking water to each person the NTNCWS supplier serves. The Agency may issue a SEP allowing the system to use electronic transmission in lieu of or combined with printed materials~~

~~as long as the electronic transmission achieves the same or better coverage~~.

B) The NTNCWS supplier must distribute informational pamphlets and/or brochures on lead in drinking water to each person served by the NTNCWS supplier. The Agency may allow the supplier to use electronic transmission in lieu of or combined with printed materials as long as the electronic transmission achieves the same coverage. ~~For a NTNCWS supplier that must monitor annually or less frequently, the end of the tap sampling period is September 30 of the calendar year in which the sampling occurs, or on the last day of an alternative tap sampling period the Agency sets in a SEP.~~

C) For a NTNCWS suppliers on standard monitoring, the end of the tap sampling period is June 30 or December 31. For suppliers that must monitor 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 Agency has established an alternate tap sampling period, the last day of that period.

5) A NTNCWS supplier must repeat the tasks in subsection (b)(4) ~~at least once during each calendar year in which~~ until the supplier's~~supplier~~ system is at or below ~~exceeds~~ the lead action level based on tap water samples collected in compliance with Section 611.356. These repeated activities must be completed within 60 days of the end of each tap sampling period. A calculated 90th percentile level at or below the lead action level based on fewer than the minimum number of required samples under Section 611.356 cannot be used to meet the requirements of this provision.~~. The Agency must, on a case-by-case basis, issue a SEP extending the time for the supplier to complete the public education tasks in subsection (b)(2) beyond the 60-day limit if the Agency determines that the extended time is needed for implementation purposes; however, the Agency must issue any SEP granting any extension before the 60-day deadline expires.~~

6) A supplier may discontinue delivery of ~~stop delivering~~ public education materials if~~after~~ the supplier's system is at or below ~~supplier does not exceed~~ the lead action level during the most recent six-month tap sampling period ~~tap monitoring cycle~~ conducted under Section 611.356. Such a~~The~~ supplier must recommence~~begin~~ public education in compliance with ~~anew under~~ this Section if the supplier subsequently exceeds the lead action level during any tap sampling period.

7) A ~~CWS~~ supplier may request an extension from~~apply to~~ the Agency, in writing, ~~to use only the text in subsection (a)(1) in lieu of the text in subsections (a)(1) and (a)(2) and~~ to complete the activities in subsection (b)(2)(B) through (F) for CWS suppliers or subsections (b)(4)(A) and (B) for NTNCWS suppliers as follows: ~~to perform the tasks in subsections (b)(4) and (b)(5) in lieu of the tasks in subsections (b)(2) and (b)(3) under specific circumstances:~~

A) The extension must be approved in writing by the Agency before the 60 day deadline~~The supplier is a facility, such as a prison or a hospital, where the population served is not capable of or is prevented from making improvements to plumbing or installing point of use treatment devices~~; and

B) The Agency may only grant the extension on a case-by-case basis if the supplier has demonstrated that it is not feasible to complete the activities in subsections (b)(2)(B) through (F) for CWS suppliers or subsections (b)(4)(A) and (B) for NTNCWS suppliers; ~~The supplier provides water as part of the cost of services provided, not separately charging for water consumption.~~

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

8) A CWS supplier meeting the criteria of subsections (b)(8)(A) and (b)(8)(B) may apply to the Agency, in writing (unless the Agency has waived the requirement for prior Agency approval), to perform the tasks listed in subsections (b)(4) and (b)(5) in lieu of the tasks in subsections (b)(2) and (b)(3) if: ~~serving 3,300 or fewer people may limit certain aspects of its public education programs:~~

A) The supplier is a facility, such as a prison or a hospital, where the population served is not capable of or is prevented from making improvements to plumbing or installing point-of-use treatment devices; and ~~For notice under subsection (b)(2)(F), a supplier serving 3,300 or fewer people must implement at least one of the activities in that subsection.~~

B) The supplier provides water as part of the cost of services provided and does not separately charge for water consumption. ~~For notice under subsection (b)(2)(B), a supplier serving 3,300 or fewer people may limit the distribution of the public education materials~~

~~to facilities and organizations that pregnant women and children are most likely to visit.~~

~~C)~~ ~~For notice under subsection (b)(2)(E), the Agency may issue a SEP waiving this requirement for a supplier serving 3,300 or fewer persons, as long as the supplier distributes notices to every household the supplier serves.~~

9) A CWS supplier serving 3,300 or fewer persons may limit certain aspects of their public education programs as follows:

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

B) With respect to the requirements of subsection (b)(2)(E), the Agency may waive this requirement for suppliers serving 3,300 or fewer persons as long as the supplier distributes notices to every household served by the system.

C) With respect to the requirements of subsection (b)(2)(F), a supplier serving 3,300 or fewer persons must implement at least one of the activities listed in subsection (b)(2)(F).

c) Supplemental monitoring~~Monitoring~~ and notification of results.~~Notification of Results~~. ~~A supplier failing to meet the lead action level in tap samples under Section 611.356 must offer to sample the tap water of any customer requesting it. The supplier needs not pay for collecting or analyzing the sample, nor must the supplier itself collect and analyze the sample.~~

1) A supplier that exceeds the lead action level based on tap samples collected in compliance with Section 611.356 must offer to sample for lead in the tap water of any person served by the supplier who requests it. At sites served by a lead, galvanized requiring replacement, or lead status unknown service line, the samples must capture both water in contact with premise plumbing and water in contact with the service line (*e.g.,* first- and fifth-liter samples).

2) Suppliers must offer to sample for lead in the tap water of any person served by a lead, galvanized requiring replacement, or lead status unknown service line who requests it, regardless of whether the supplier's water system exceeds the lead action level. The samples must capture both

water in contact with premise plumbing and water in contact with the service line (*e.g.,* first- and fifth-liter samples).

3) All suppliers must provide a consumer notice of the individual tap results from supplemental tap water monitoring carried out under the requirements of this subsection (c) to the persons served by the supplier at the specific sampling site from which the sample was taken (*e.g.,* the occupants of the building where the tap was sampled). Suppliers must provide the consumer notice in compliance with the requirements of subsections (d)(2) through (d)(4).

d) Notification of results. ~~Requirement for Consumer Notice of Tap Water Monitoring Results~~

1) ~~Consumer~~ Notice requirement ~~Requirement~~. All suppliers~~A supplier~~ must provide a consumer notice of the individual tap results from any lead and copper tap water monitoring under Section 611.356 to the persons served by the supplier ~~water system serves~~ at the specific sampling site from which the ~~supplier took the~~ sample was taken(e.g., the occupants of the building where the supplier sampled the tap).

2) Timing of ~~Consumer~~ Notice. The supplier must provide the consumer notice as soon as practicable but no later than three business days after the supplier learns of the tap monitoring results. Notification by mail must be postmarked within three business days of the supplier learning the tap monitoring results. ~~the specified timeframe:~~

~~A) For individual samples not exceeding 15 µg/ L of lead, no later than 30 days after the supplier learns of the tap monitoring results.~~

~~B) For individual samples exceeding 15 µg/ L of lead, as soon as practicable but no later than three calendar days after the supplier learns of the tap monitoring results. A supplier choosing to mail the notification must post those letters so they receive postmarks within the three days.~~

3) Content of notice. ~~Consumer Notice. The consumer notice must include the results of lead tap water monitoring for the tap the supplier tested, an explanation of the health effects of lead, a list of steps consumers can take to reduce exposure to lead in drinking water, and contact information for the water utility. The notice must also provide the maximum contaminant level goal and the action level for lead and the definitions for these two terms from Section 611.883(c).~~

A) The consumer notice for lead must include the results of lead tap water monitoring for the tap that was tested, an explanation of the health effects of lead that meets the requirements of subsection (a)(1)(B), information on possible sources of lead in drinking water that meets the requirements of subsection (a)(1)(C)(ii), a list of steps consumers can take to reduce exposure to lead in drinking water that meets the requirements of subsection (a)(1)(D), and contact information for the supplier. The notice must also provide the maximum contaminant level goal and the action level for lead and the definitions for these two terms from Section 611.883(c).

B) The consumer notice for copper must include the results of copper tap water monitoring for the tap that was tested, an explanation of the health effects of copper as provided in 611.APPENDIX H, a list of steps consumers can take to reduce exposure to copper in drinking water, and contact information for the supplier. The notice must also provide the maximum contaminant level goal and the action level for copper and the definitions for these two terms from Section 611.883(c).

4) Delivery of Notice. ~~Consumer Notice~~ Suppliers must provide consumer notice to persons served at the tap that was sampled. The notice must be provided electronically (*e.g.,* email or text message), by phone call or voice message, hand delivery, by mail, or another method approved by the Agency. For example, upon approval by the Agency, a NTNCWS supplier can post the results in a conspicuous area, such as on a bulletin board, in the facility to allow users to review the information. Suppliers that choose to deliver the notice to consumers by phone call or voice message must follow up with a written notice to consumers hand delivered or postmarked within 30 days of the supplier learning of the tap monitoring results. The notices of lead and copper tap sampling results may be combined in one notice.

~~A) For tap sampling lead results not exceeding 15 µg/ L, the supplier must provide the consumer notice to persons it serves at the tap the supplier sampled, by mail or by another method the Agency approves in a SEP. For example, upon Agency approval, a NTNCWS supplier could post the results on a bulletin board in the facility enabling users to review the information.~~

~~B) For tap sampling lead results exceeding 15 µg/ L, the supplier must provide consumer notice to persons it serves at the tap the supplier sampled; the supplier must provide this notice electronically or by~~

~~phone, hand delivery, mail, or another method the Agency approves in a SEP.~~

e) Notification~~Notice~~ of service line that is known~~Known~~ ~~or Potential Service Line~~ to or may potentially contain lead.~~Containing Lead~~

1) Notification~~Notice~~ requirements. All suppliers ~~A supplier~~ with~~having~~ lead, galvanized requiring replacement, or lead status unknown service lines in their inventory under Section 611.354(a) and 611.354(b) must provide notification of a service line that is known to or may potentially contain lead to customers and ~~inform~~ all persons served by the supplier at the service connection~~the supplier serves~~ with ~~through~~ a lead, galvanized requiring replacement, or lead status unknown service line.

2) Timing of notification ~~notice~~. ~~.~~ A supplier must provide ~~the initial~~ notification~~notice~~ no later than ~~within~~ 30 days after completing the baseline ~~lead service line~~ inventory required under Section 611.354(a)(2)~~Section 611.354~~ and repeat the notice no later than 30 days after the deadline for each annual update to the service line inventory under Section 611.360(e)(4) requires ~~and annually repeat the notice to each person the supplier serves~~ until the supplier's entire service connection is no longer a lead, galvanized requiring replacement, or lead status unknown service line. For notice to ~~each~~ new customers~~customer~~, ~~the~~ suppliers~~supplier~~ must ~~also~~ provide the notice at the time-of-service initiation.~~when the supplier initiates service.~~

3) Notice content~~Content~~.

A) Persons served by a ~~the~~ supplier~~Supplier~~ ~~Serves Through a~~ with confirmed lead service line~~Confirmed Lead Service Line~~ or galvanized requiring replacement service line. The notice must include:~~. The notice must state that the supplier serves the person through a lead service line; explain the health effects of lead in a way complying with subsection (a)(1)(B); give steps persons at the service connection can take to reduce exposure to lead in drinking water; inform about opportunities to replace lead service lines, including programs providing financing solutions to assist property owners to replace the customer-owned portion of a lead service line; and explain that the supplier must replace the supplier-owned portion of a lead service line when the property owner notifies the supplier that the owner will replace the customer-owned portion of the lead service line.~~

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

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

iii) Steps persons at the service connection can take to reduce exposure to lead in drinking water that meet the requirements of subsection (a)(1)(D).

iv) A statement that the consumer can request to have their tap water sampled in compliance with subsection (c).

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

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

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

viii) A statement that provides instructions for the customer to notify the supplier if they disagree with the service line material categorization in the inventory.

B) Persons served by a lead status unknown service line. The notice must include a statement that the person's service line material is unknown but may be lead, the information in subsections (e)(3)(A)(ii) through (v), and information about opportunities to verify the material of the service line. ~~Persons the Supplier Serves Through a Galvanized Requiring Replacement Service Line. The~~

~~notice must state that the supplier serves the person through a galvanized requiring replacement service line, explain the health effects of lead in a way complying with subsection (a)(1)(B), give steps persons at the service connection can take to reduce exposure to lead in drinking water, and inform about opportunities to replace the service line.~~

~~C)~~ ~~Persons the Supplier Serves Through a Lead Status Unknown Service Line. The notice must state that the supplier serves the person through a lead status unknown service line (a service line whose material is unknown but may be lead), explain the health effects of lead in a way complying with subsection (a)(1)(B), give steps persons at the service connection can take to reduce exposure to lead in drinking water, and inform about opportunities to verify the material of the service line.~~

4) Delivery. The supplier must provide notice to customers and persons the supplier serves at the service connection with a lead, galvanized requiring replacement, or lead status unknown service line, by mail or using another method approved by the Agency. ~~approves in a SEP~~.

f) Notification due~~Notice Due~~ to a disturbance to ~~Disturbing~~ a service line ~~Service Line~~ that is known~~Known~~ to or may potentially contain lead. ~~or Potentially Containing Lead~~

1) Suppliers~~A supplier~~ that cause a disturbance to~~disturbing~~ a lead, galvanized requiring replacement, or lead status unknown service line ~~by a water shutoff or bypass to the service line, such as operating a valve on the service line or meter setter, without partially or fully replacing the lead service line~~ must provide~~inform the~~ customers and the persons served by the supplier ~~serves~~ at ~~through~~ the service connection with information about the potential for ~~an~~ elevated lead levels ~~concentration~~ in ~~their~~ drinking water as a result of the disturbance.~~due to the supplier disturbing the service line~~, ~~including instructions for flushing to remove particulate lead. The supplier must comply with this subsection (f)(1) before returning the affected service line to service.~~ Actions taken by a supplier that cause a disturbance include actions that result in a shut off or bypass of water to an individual service line or a group of service lines (*e.g.*, operating a valve on a service line or meter setter, or reconnecting a service line to the main) or other actions that cause a disturbance to a service line or group of service lines, such as undergoing physical action or vibration, that could result in pipe scale dislodging and associated release of particulate lead. The provided information must include:

A) Public education materials that meet the content requirements in subsections (a)(1)(B) through (D) and (F) and contact information for the supplier; and

B) Instructions for a flushing procedure to remove particulate lead.

2) If the disturbance of ~~a supplier disturbs~~ a lead, galvanized requiring replacement, or lead status unknown service line results from the supplier's replacement of ~~while replacing~~ an inline water meter, a water meter setter, or connector ~~gooseneck, pigtail, or connector,~~ or from the replacement of a water main where the service line pipe is physically cut, the supplier must provide ~~inform~~ the persons ~~the supplier~~ served~~serves~~ by~~through~~ the supplier at the service connection with the information ~~about the potential for an elevated lead concentration in their drinking water due to the supplier disturbing the service line, provide public education materials complying with subsection (a)~~ in subsections (f)(1)(A) and (B) and~~,~~ a pitcher filter or point-of-use ~~treatment~~ device certified by an American National Standards Institute accredited certifier to reduce lead,~~ use~~ instructions to use the filter, and six months of ~~replacement~~ filter replacement cartridges. ~~The supplier must comply with this subsection (f)(2) before returning the affected service line to service.~~

3) Notice.~~A supplier partially or fully replacing a lead service line must follow applicable procedures in Section 611.354(d)(1)(A) through (d)(1)(D) or (e)(1)(A) through (e)(1)(D).~~

A) Persons at the service connection. The supplier must comply with the requirements in this subsection (f) for persons served by the supplier's water system at the service connection before any service line that has been shut off or bypassed is returned to service. Where there was a disturbance, but service was not shut off or bypassed, the supplier must comply with the requirements in this subsection (f) as soon as possible, but not to exceed 24 hours following the disturbance.

B) Customers. The supplier must comply with subsection (f)(1) for customers associated with the service connection who are not persons served by the suppliers at the service connection (*e.g.,* a customer who is a property owner and renting their property) no later than 30 days following the disturbance.

4) A supplier that conducts a partial or full replacement of a lead or galvanized requiring replacement service line must follow procedures in compliance with Section 611.354(h). Partial or full replacement of a lead

or galvanized requiring replacement service line is not considered a "disturbance" for purposes of this subsection (f).

g) This subsection (g) corresponds with 40 CFR 141.85(g), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule. ~~Information for Persons the Supplier Serves Through a Service Line Known to or Potentially Containing Lead When the Supplier Exceeds the Lead Trigger Level~~

~~1)~~ ~~Content. A supplier having lead service lines and exceeding the lead trigger level of 10 µg/ L must inform persons the supplier serves through a lead, galvanized requiring replacement, or lead status unknown service line about the supplier's lead service line replacement program and opportunities for replacing the customer's lead service line.~~

~~2)~~ ~~Timing. The supplier must inform persons it serves within 30 days after the end of the tap sampling period during which the supplier exceeded the lead trigger level. The supplier must continue to annually inform the persons it serves until the results of sampling under Section 611.356 do not exceed the lead trigger level.~~

~~3)~~ ~~Delivery. The supplier must inform the persons it serves through a lead, galvanized requiring replacement, or lead status unknown service line by mail or another method the Agency approves in a SEP.~~

h) Outreach activities~~Activities~~ to encourage participation in full service line replacement.~~for Failing to Fulfill the Lead Service Line Replacement Goal~~

1) CWS suppliers that do not meet the service line replacement rate calculated across a cumulative period as required under 611.354(d)(5) must conduct at least one outreach activity listed in subsection (h)(2) to discuss their mandatory service line replacement program and opportunities for replacement and to distribute public education materials that meet the content requirements in subsection (a) except subsections (a)(1)(A) and (E). The supplier must conduct the activity in the year following the program year for which the supplier does not meet their cumulative average replacement rate and annually thereafter until the supplier meets the cumulative average replacement rate or until there are no lead, galvanized requiring replacement, or lead status unknown service lines remaining in the inventory, whichever occurs first. ~~In the first year after a CWS supplier serving more than 10,000 persons does not fulfill its required annual lead service line replacement goal under Section 611.354(f), the supplier must conduct one outreach activity from among those in subsections (h)(1)(A) through (h)(1)(B). The supplier must annually conduct an outreach activity under this subsection (h)(1) until the~~

~~supplier fulfills its replacement goal or until tap sampling shows that its 90th percentile lead concentration does not exceed the trigger level of 10 µg/ L for two consecutive tap monitoring cycles:~~

~~A)~~ ~~Send certified mail to customers the supplier serves through a lead or galvanized requiring replacement service line to inform them about the supplier's goal-based program for replacing lead service lines and opportunities for replacing the customer's service line.~~

~~B)~~ ~~Conduct a townhall meeting.~~

~~C)~~ ~~Participate in a community event providing information about the supplier's program for replacing lead service lines and distribute public education materials whose content complies with subsection (a).~~

~~D)~~ ~~Contact customers by phone, text message, email, or door hanger.~~

~~E)~~ ~~Use another method the Agency approves in a SEP to discuss the supplier's program for replacing lead service lines and opportunities for replacing the customer's lead service line.~~

2) For CWS suppliers serving more than 3,300 persons, the outreach activity must be one of the activities identified in subsections (h)(2)(A) through (D) or the supplier must conduct two activities listed in subsections (h)(2)(E) through (H). For CWS suppliers serving 3,300 persons or fewer, the outreach activity must be one of the activities identified in subsections (h)(2)(A) through (H). ~~Following the first year after the supplier exceeds the lead trigger level, a supplier still failing to fulfill its goal for replacing lead service lines must conduct one activity from subsection (h)(1) and two additional outreach activities each year from among those in subsections (h)(2)(A) through (h)(2)(D):~~

A) Conduct a public meeting. ~~social media campaign.~~

B) Participate in a community event to provide information about its service line replacement program. ~~Conduct outreach via newspaper, television, or radio.~~

C) Contact customers by phone call or voice message, text message, email, or door hanger. ~~Contact organizations representing plumbers and contractors by mail providing information about lead in drinking water, including health effects, sources of lead, and the importance of using lead-free plumbing materials.~~

D) Use another method approved by the Agency to discuss the service line replacement program and opportunities for lead and galvanized requiring replacement service line replacement. ~~Visit targeted customers to discuss the supplier's program for replacing lead service lines and opportunities for replacing the customers' lead service lines.~~

E) Send certified mail to customers and all persons served by the supplier at the service connection with a lead or galvanized requiring replacement service line to inform them about the supplier's service line replacement program and opportunities for replacement of the service line.

F) Conduct a social media campaign.

G) Conduct outreach via the media including newspaper, television, or radio.

H) Visit targeted customers (*e.g.*, customers in areas with lower service line replacement participation rates) to discuss the service line replacement program and opportunities for replacement of the service line.

~~3) The supplier may stop outreach activities when tap sampling shows that its 90th percentile lead concentration no longer exceeds the trigger level of 10 µg/ L for two consecutive tap monitoring cycles or when all customers the supplier serves through lead or galvanized requiring replacement service lines refuse to participate in replacing the customer-owned portion under the supplier's program for replacing lead service lines. Under this subsection (h)(3), a refusal includes a customer-signed statement refusing to participate in replacing the customer-owned portion of the lead service line or supplier-generated documents memorializing the customer's verbal refusal or non-response after two good faith attempts by the supplier to reach the customer.~~

i) Public education to local and state health agencies. ~~Education to Local and State Health Agencies~~

1) Supplier distribution system and site assessment ~~Find-and-Fix Results~~Results. All~~A~~ CWS suppliers~~supplier~~ must inform the Department of Public Health and local health agencies about its Distribution System and Site Assessment ~~find-and-fix~~ activities conducted in compliance with~~under~~ Section 611.352(j), including the location of the tap sample

sites that exceeded ~~exceeding~~ 0.010 mg/L~~15 µg/ L~~, the results~~results~~ of the ~~from~~ initial tap samples~~samples~~, the results~~results~~ of the ~~from~~ follow-up tap samples~~samples~~, the results~~results~~ of~~from~~ water quality parameter monitoring, and any distribution system management actions or corrosion control treatment adjustments the supplier made.

2) Timing and Content. A CWS supplier must annually send Distribution System and Site Assessment information and copies of the public education materials the supplier provided under subsections (a) and (h)~~(1)~~ for actions conducted in the previous~~during a~~ calendar year no later than July 1 of the following year.

3) Delivery. The CWS suppliers~~supplier~~ must send the public education materials and Distribution System and Site Assessment ~~find-and-fix~~ information to the Department of Public Health and local health agencies by mail, email, or by any other ~~another~~ method approved by the Agency ~~approves in a SEP~~.

j) Additional requirements for suppliers with multiple lead action level exceedances. ~~Public Education for Small Supplier Compliance Flexibility POU Devices~~

1) A supplier that exceeds the lead action level at least three times in a rolling five-year period, based on tap water samples collected in compliance with Section 611.356 must conduct the activities in this section. The first rolling five-year period begins on the compliance date in Section 611.350(a)(3). If a supplier exceeds the lead action level at least three times within a five-year period, the supplier must conduct these actions upon the third action level exceedance even if the rolling five-year period has not elapsed. ~~Content. A small CWS or NTNCWS supplier implementing the POU device option under Section 611.363 must provide public education materials to inform users how to properly use POU devices to maximize the units' effectiveness in reducing the lead concentration in drinking water.~~

2) No later than 60 days after the tap sampling period in which a supplier meets the criteria of subsection (j)(1), a supplier must make available to all consumers pitcher filters or point-of-use devices certified by an American National Standards Institute accredited certifier to reduce lead, six months of replacement cartridges, and instructions to use. A supplier must continue to make replacement cartridges available until the supplier may discontinue actions in compliance with subsection (j)(6).~~Timing. The supplier must provide its public education materials when the supplier delivers the POU device.~~

3) No later than 60 days after a supplier exceeds the lead action level for the second time in a rolling five-year period, the supplier must submit a filter plan to the Agency. The Agency must review and approve the filter plan within 60 days. If the supplier subsequently meets the criteria of subsection (j)(1) again, the supplier is not required to re-submit the filter plan, unless the supplier has made updates to the plan or otherwise requested by the Agency. The plan must include: ~~Delivery. The supplier must provide its public education materials in person, by mail, or another method the Agency approves in a SEP, to persons at the locations where the supplier delivers the POU devices.~~

A) A description of which methods the supplier will use to make filters and replacement cartridges available in compliance with subsection (j)(2) (*e.g.,* operating distribution facilities, delivering filters when requested by the consumer); and

B) A description of how the supplier will address any barriers to consumers obtaining filters.

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

A) Conduct a public meeting.

B) Participate in a community event where the supplier can make information about ongoing lead exceedances available to the public.

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

D) Conduct a social media campaign

E) Use another method approved by the Agency.

5) A supplier that is already conducting an outreach activity listed in subsection (j)(4) in order to meet the requirements of subsection (h) may conduct one activity that meets the requirements of subsections (j)(4) and (h), unless otherwise directed by the Agency.

6) A supplier may discontinue the requirements of this subsection (j) when the supplier no longer has at least three lead action level exceedances in a rolling five-year period, based on tap water samples collected in compliance with Section 611.356. A calculated 90th percentile level at or below the lead action level based on fewer than the minimum number of required samples under Section 611.356 cannot be used to meet the requirements of this subsection (j)(6). The Agency has the discretion to allow a supplier to discontinue the requirements of this subsection (j) earlier if the supplier has taken actions to reduce lead levels (e.g., re-optimized optimal corrosion control treatment or completed the service line replacement program) and the supplier is at or below the lead action level for two consecutive tap monitoring periods.

BOARD NOTE: This Section derives from 40 CFR 141.85.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.356 Tap Water Monitoring for Lead and Copper

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

a) Sampling site location~~Site Location~~

1) By the start of the first tap monitoring period in which sampling for lead and copper is required under subsections (c) and (d), each supplier must identify potential tap sampling sites and submit a site sample plan to the Agency as required in Section 611.360(a)(1)(A). The Agency may require modifications to submitted site sample plans. Each supplier must identify a pool of tap sampling sites that will allow the supplier to collect the number of lead and copper tap samples required in subsections (c)(1) and (d)(1).~~Selecting a Pool of Targeted Sampling Sites~~

A) To select sampling sites, a supplier must use information regarding the material of service lines and connectors, including lead, copper, and galvanized iron or steel, required to be collected under Section

611.354. ~~Before the applicable date for beginning monitoring under subsection (d)(1), a supplier must identify a pool of targeted sampling sites complying with this Section based on the service line inventory the supplier developed under Section 611.354(a).~~

B) Suppliers must identify locations in the site sample plan by selecting from sites in the highest tier, unless the site has been found to be unavailable, in compliance with subsection (a)(4). ~~The pool of targeted sampling sites must be large enough to ensure that the supplier can collect the number of lead and copper tap samples subsection (c) requires~~.

C) Sampling sites cannot include sites with installed point-of-entry (POE) treatment devices or taps with point-of-use devices designed to remove inorganic contaminants, except in supplier's water systems using these devices at all service connections for primary drinking water taps to meet other primary and secondary drinking water standards under Section 611.363(c)(1).~~The supplier may not include among its sampling sites any with installed POE treatment devices, and the tap the supplier uses at a sampling site may not have a POU device designed to remove inorganic contaminants. The exceptions are that a supplier monitoring under Section 611.363(a)(3)(D) and a supplier using a POE or POU device for the primary drinking water tap to meet other primary and secondary drinking water standards may sample the connected tap if all service connections on the supplier's system have a POE or POU device to provide localized treatment to comply with those other drinking water standards~~.

~~D) A supplier monitoring under Section 611.363(a)(3)(D) may not use lead and copper sampling results to fulfill the criteria for reduced monitoring under subsection (d)(4).~~

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

supplier or onsite verification by the Agency. ~~Materials Evaluation. A supplier must use the information on lead, copper, and galvanized iron or steel it identified under 40 CFR 141.42(d) when conducting a materials evaluation and the information on lead service lines that Section 611.354(a) requires the supplier to collect to identify potential lead service line sampling sites.~~

~~BOARD NOTE: Suppliers completed identifying and reporting construction materials in their distribution systems under 40 CFR 141.42(d), so the Board omitted this requirement from the Illinois rules.~~

3) A supplier serving sites with premise plumbing made of lead and/or that are served by a lead service line must collect all samples for monitoring under this section from sites with premise plumbing made of lead and/or served by a lead service line. A supplier that cannot identify enough sampling sites with premise plumbing made of lead and/or served by lead service lines to meet the minimum number of sites required in subsections (c)(1) and (d)(1) must still collect samples from every available site, in compliance with subsection (a)(4), containing premise plumbing made of lead and/or served by a lead service line and collect the remaining samples in compliance with the tiering requirements under subsection (a)(4). ~~Sampling Site Tiers. A supplier must categorize the sampling sites within its pool according to tiers:~~

~~A) CWS Tier 1 Sampling Sites. "CWS Tier 1 sampling sites" include single-family structures the supplier serves through a lead service line. The supplier must not use sites with lead status unknown service lines as Tier 4 sampling sites.~~

~~BOARD NOTE: This subsection (a)(3)(A) derives from segments of 40 CFR 141.86(a)(3).~~

~~B) CWS Tier 2 Sampling Sites. "CWS Tier 2 sampling sites" include buildings, including multiple-family structures, the supplier serves through a lead service line. The supplier must not use sites with lead status unknown service lines as Tier 2 sampling sites.~~

~~BOARD NOTE: This subsection (a)(3)(B) derives from segments of 40 CFR 141.86(a)(4).~~

~~C) CWS Tier 3 Sampling Sites. "CWS Tier 3 sampling sites" include single-family structures containing galvanized service lines the supplier identified as currently or formerly downstream of a lead service line or known to be downstream of a lead gooseneck,~~

~~pigtail, or connector. The supplier must not use sites with lead status unknown service lines as Tier 3 sampling sites.~~

~~BOARD NOTE: This subsection (a)(3)(C) derives from segments of 40 CFR 141.86(a)(5).~~

~~D)~~ ~~CWS Tier 4 Sampling Sites. "CWS Tier 4 sampling sites" include single-family structures or buildings containing copper pipes with lead solder installed before June 19, 1986. The supplier must not use sites with lead status unknown service lines as Tier 4 sampling sites.~~

~~BOARD NOTE: This subsection (a)(3)(D) derives from segments of 40 CFR 141.86(a)(6).~~

~~E)~~ ~~CWS Tier 5 Sampling Sites. "CWS Tier 5 sampling sites" include single-family structures, including multiple-family residences, representing sites throughout the supplier's distribution system. The supplier must not use sites with lead status unknown service lines as Tier 5 sampling sites.~~

~~BOARD NOTE: This subsection (a)(3)(E) derives from segments of 40 CFR 141.86(a)(7).~~

~~F)~~ ~~NTNCWS Tier 1 Sampling Sites. "NTNCWS Tier 1 sampling sites" include sites that the supplier serves through a lead service line. The supplier must not use sites with lead status unknown service lines as Tier 1 sampling sites.~~

~~BOARD NOTE: This subsection (a)(3)(F) derives from segments of 40 CFR 141.86(a)(8).~~

~~G)~~ ~~NTNCWS Tier 3 Sampling Sites. "NTNCWS Tier 3 sampling sites" include sites having galvanized lines the supplier identified as currently or formerly downstream of a lead service line or known to be downstream of a lead gooseneck, pigtail, or connector. The supplier must not use sites with lead status unknown service lines as Tier 3 sampling sites.~~

~~BOARD NOTE: This subsection (a)(3)(G) derives from segments of 40 CFR 141.86(a)(9).~~

~~H)~~ ~~NTNCWS Tier 5 Sampling Sites. "NTNCWS Tier 5 sampling sites" include sites representing sites throughout the supplier's~~

~~distribution system. Under this subsection (a)(3)(H), a site representing sites throughout the distribution system has plumbing materials commonly found at the other sites the supplier serves.~~

~~BOARD NOTE: This subsection (a)(3)(H) derives from segments of 40 CFR 141.86(a)(10).~~

4) Sampling sites must be selected from the highest tier available (Tier 1 is the highest tier and Tier 5 is the lowest tier). Sites are available unless a customer refuses to participate in sampling, or a supplier has made at least two outreach attempts at a site and has not received a response. The number of customer refusals and non-responses for compliance sampling during each tap sampling period must be submitted to the Agency in compliance with the requirements at 611.360(a)(2)(H). Suppliers may continue conducting outreach at sites considered unavailable and may subsequently add such sites to the site sample plan for any reason, such as receiving a service initiation request from a new property owner or occupant or receiving a new consumer request for sampling. A supplier without a large enough number of sites from a higher tier to meet the number of sites required in subsections (c)(1) and (d)(1) may sample sites from the next highest tier. For suppliers where Tier 2 sites comprise at least 20 percent of the residential structures served by the CWS supplier, Tier 2 sites may be sampled even when Tier 1 sites are available. ~~Selecting Sampling Sites. A supplier must select sampling sites for its sampling pool using specific criteria~~:

A) Tier 1 sampling sites are single-family structures with premise plumbing made of lead and/or served by a lead service line. ~~CWS Suppliers. A CWS supplier must use CWS Tier 1 sampling sites, except that the supplier may include CWS Tier 2 or CWS Tier 3 sampling sites in its sampling pool under certain circumstances:~~

~~i) If multiple-family residences comprise at least 20 percent of the structures the supplier serves, the supplier may use CWS Tier 2 sampling sites in its Tier 1 sampling pool, if the supplier serves the sampling site through a lead service line.~~

~~BOARD NOTE: This subsection (a)(4)(A)(i) derives from a segment of 40 CFR 141.86(a)(3).~~

~~ii) If the CWS supplier does not have a sufficient number of CWS Tier 1 sampling sites on its distribution system, the~~

~~supplier may use CWS Tier 2 sampling sites the supplier serves through a lead service line in its sampling pool; or~~

~~BOARD NOTE: This subsection (a)(4)(A)(ii) derives from a segment of 40 CFR 141.86(a)(4).~~

~~iii)~~ ~~If the CWS supplier does not have a sufficient number of CWS Tier 1 and CWS Tier 2 sampling sites on its distribution system, the supplier may complete its sampling pool with CWS Tier 3 sampling sites.~~

~~BOARD NOTE: This subsection (a)(4)(A)(iii) derives from a segment of 40 CFR 141.86(a)(5).~~

~~iv)~~ ~~If the CWS supplier does not have a sufficient number of CWS Tier 1 sampling sites, CWS Tier 2 sampling sites, and CWS Tier 3 sampling sites, the supplier must complete its sampling pool with CWS Tier 4 sampling sites.~~

~~BOARD NOTE: This subsection (a)(4)(A)(iv) derives from segments of 40 CFR 141.86(a)(6).~~

~~v)~~ ~~If a CWS supplier does not have a sufficient number of CWS Tier 1, CWS Tier 2, CWS Tier 3, and CWS Tier 4 sampling sites, the CWS supplier must complete its sampling pool with CWS Tier 5 sampling sites.~~

~~BOARD NOTE: This subsection (a)(4)(A)(v) derives from a segment of 40 CFR 141.86(a)(7).~~

~~vi)~~ ~~A supplier may use non-residential buildings representing sites throughout its distribution system only if there are an insufficient number of single-family or multiple-family residential Tier 5 sampling sites available.~~

~~BOARD NOTE: This subsection (a)(4)(A)(vi) derives from a segment of 40 CFR 141.86(a)(7).~~

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

~~i)~~ ~~An NTNCWS supplier must select NTNCWS Tier 1 sampling sites for its sampling pool.~~

~~BOARD NOTE: This subsection (a)(4)(B)(i) derives from segments of 40 CFR 141.86(a)(8).~~

~~ii)~~ ~~If the NTNCWS supplier has an insufficient number of NTNCWS Tier 1 sampling sites, the supplier must complete its sampling pool with NTNCWS Tier 3 sampling sites.~~

~~BOARD NOTE: This subsection (a)(4)(B)(ii) derives from segments of 40 CFR 141.86(a)(9).~~

~~iii)~~ ~~If the NTNCWS supplier has an insufficient number of NTNCWS Tier 1 and Tier 3 sampling sites, the supplier must complete its sampling pool with Tier 5 NTNCWS sampling sites. For the purpose of this subsection (a)(4)(B)(iii), a representative site is a site where the plumbing materials are commonly found at other sites the water system serves.~~

~~BOARD NOTE: This subsection (a)(4)(B)(iii) derives from segments of 40 CFR 141.86(a)(10).~~

C) Tier 3 sampling sites are sites that are served by a lead connector. Tier 3 sites are also sites served by a galvanized service line or containing galvanized premise plumbing identified as ever having been downstream of a lead service line. Tier 3 for CWSs only includes single-family structures. ~~Suppliers with Lead Service Lines. Any supplier whose distribution system contains lead service lines must collect all samples for monitoring under this Section from sites the supplier serves through a lead service line. A supplier that cannot identify a sufficient number of sampling sites that it serves through lead service lines must still collect samples from every site the supplier serves though a lead service line and collect the remaining samples under subsections (a)(4)(A)(iii) through (a)(4)(A)(vi) or subsections (a)(4)(B)(ii) and (a)(4)(B)(iii).~~

~~BOARD NOTE: This subsection (a)(4)(C) derives from segments of 40 CFR 141.86(a)(11).~~

D) Tier 4 sampling sites are sites that contain copper premise plumbing with lead solder installed before the effective date of the

Agency's applicable lead ban. Tier 4 for CWSs only includes single-family structures.

E) Tier 5 sampling sites are sites that are representative of sites throughout the supplier's distribution system. For purpose of this subsection (a), a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the supplier.

b) Sample-collection protocol.~~Collecting Methods~~

1) ~~All tap samples a supplier collects for lead and copper under this Subpart G, with the exception of fifth liter tap samples the supplier collects under subsection (b)(3)~~ Except for ~~and~~ samples the supplier collects under subsections(b)(1)(C) and (D)~~subsections (b)(5) and (h),~~ all tap samples collected for analysis of lead and copper must be one liter in volume and have stood motionless in the plumbing system and/or service line of each sampling site for at least six hours. Bottles used to collect samples for analysis must be wide-mouth, one-liter sample bottles, as defined in Section 611.350 (b). Samples from residential housing must be collected from an interior kitchen or bathroom sink cold-water tap. Samples from a nonresidential building must be collected at an interior cold-water tap from which water is typically drawn for human consumption. Samples may be collected by the supplier, or the supplier may allow members of the public to collect samples after providing instructions for collecting samples in compliance with this subsection (b)(1). Sample collection instructions cannot direct the sample collector to remove or clean the aerator or flush taps prior to the start of the minimum six-hour stagnation period. To protect members of the public from injury due to handling nitric acid, samples may be acidified up to 14 days after the sample is collected. After acidification to resolubilize the metals, the sample must stand in the original container for a period of time, as specified by the approved EPA method in § 40 C.F.R. 141.23 selected for sample analysis. If a supplier allows members of the public to sample, the supplier cannot challenge the accuracy of the sampling results based on alleged sample collection errors.~~ first-draw tap samples. The supplier must analyze the first-draw tap sample for lead and copper during tap sampling periods when the supplier must monitor both contaminants. In tap sampling periods during which the supplier must monitor only lead, the supplier may analyze the first-draw tap sample for lead only~~.

A) The first-liter sample must be analyzed for lead and copper at sample sites where both contaminants are required to be

monitored. At sample sites where only lead is required to be monitored, the first-liter sample may be analyzed for only lead.

B) For sites served by a lead service line, which fall under Tier 1 and Tier 2, an additional fifth-liter sample must be collected at the same time as the first-liter sample and must be analyzed for lead. To collect a first-liter-and-fifth-liter-paired sample, suppliers must collect tap water in five consecutively numbered, wide-mouth, one-liter sample bottles after the water has stood motionless in the plumbing of each sampling site, including the lead service line, for at least six hours without flushing the tap prior to sample collection. Suppliers must collect samples starting with the first sample bottle and then fill each subsequently numbered bottle in consecutive order until the final bottle is filled, with the water running constantly while the samples are being collected. In this sequence, the first-liter sample is the first sample collected and the fifth-liter sample is the final sample collected.

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

D) Suppliers may use different sample volumes and/or different sample collection procedures when they collect follow-up samples for Distribution System and Site Assessment under Section 611.3522(j)(2) and consumer-requested samples under Section 611.355(c) to assess the source of lead. Consumer-requested samples must be collected in compliance with Section 611.355(c). Suppliers must submit these sample results to the Agency in compliance with Section 611.360 (a)(2)(A) and (g).

2) Suppliers must sample at sites listed in the site sample plan. Additionally, suppliers must prioritize sampling at the same sites that were sampled in the previous tap sampling period. If such a site no longer qualifies under the tiering criteria or if, for reasons beyond the control of the supplier, the supplier cannot gain access to a sampling site in order to collect a tap sample, the supplier must collect the tap sample from another site in its site sample plan that meets the original tiering criteria, where such a site exists. Suppliers must report any change in sites from the previous tap sampling period and include an explanation of why sampling sites have changed, as required in Section 611.360(a)(2)(E). If changes are needed

to the site sample plan, suppliers must submit their updated site sample plan, as required under Section 611.360(a)(1)(A), before the start of the next tap sampling period conducted by the supplier. ~~First-Draw Tap Samples~~

~~A)~~ ~~A first-draw tap sample for lead and copper must be one liter in volume and have stood motionless at least six hours in the plumbing system of the sampling site .~~

~~B)~~ ~~The supplier must use wide-mouthed bottles to collect first-draw tap samples.~~

~~C)~~ ~~For residential housing, the supplier must collect first-draw tap samples from the cold-water kitchen or bathroom sink tap.~~

~~D)~~ ~~For non-residential buildings, the supplier must collect first-draw tap samples one-liter in volume from a tap occupants typically use for consuming water.~~

~~E)~~ ~~The Agency-approved substitute non-first-draw tap samples the supplier collects in lieu of first-draw tap samples under subsection (b)(5) must be one liter in volume from an interior tap occupants typically use for consuming water.~~

~~F)~~ ~~The supplier may collect first-draw tap samples or allow residents to collect first-draw tap samples after instructing the residents in the sampling procedures this subsection (b)(2) specifies.~~

~~i)~~ ~~Sampling instructions the supplier provides to residents must not include instructions for removing the aerator and cleaning or flushing taps before the minimum six-hour stagnation period begins.~~

~~ii)~~ ~~To avoid problems of residents handling nitric acid, the supplier may acidify first-draw tap samples up to 14 days after the supplier or a resident collects the sample.~~

~~iii)~~ ~~After adding acid to resolubilize the metals, a sample must stand in its original container for the time the USEPA-approved method specifies before the laboratory analyzes the sample.~~

~~G)~~ ~~If a supplier allows residents to perform sampling under subsection (b)(2)(F), the supplier may not challenge the accuracy of sampling results based on alleged errors in sample collection.~~

3) A NTNCWS supplier, or a CWS supplier that meets the criteria of Section 611.355(b)(8) that does not have enough sites with taps from which first-liter samples or first-liter-and-fifth-liter-paired samples meeting the six-hour minimum stagnation time can be collected, as provided in subsection (b)(1), may apply to the Agency in writing to request approval to substitute first-liter or first-liter-and-fifth-liter-paired samples that do not meet the six-hour minimum stagnation time. Such suppliers must collect as many first-liter or first-liter-and-fifth-liter-paired samples from interior taps used for human consumption as possible towards meeting the minimum number of sites required in subsections (c)(1) and (d)(1). For the remaining samples to meet the minimum number required, suppliers must identify sampling times and locations that would likely result in the longest standing times. The Agency has the discretion to waive the requirement for prior Agency approval of sites not meeting the six-hour stagnation time either through State regulation or written notification to the supplier. ~~Service Line Samples~~

~~A)~~ ~~A supplier must collect all tap samples for copper at sites it serves through a lead service line as a first-draw tap sample using the procedure in this subsection (b)(3). The supplier must collect and analyze tap samples for copper only during tap monitoring cycles when the supplier must monitor copper. B) First-Draw and Fifth-Liter Tap Water Samples~~

~~B)~~ ~~First-Draw and Fifth-Liter Tap Water Samples~~

~~i)~~ ~~A supplier must collect tap water samples in five consecutively numbered wide-mouthed bottles after the water has stood motionless in the sampling site's plumbing for at least six hours without flushing the tap prior to collecting the sample.~~

~~ii)~~ ~~The supplier must analyze first-draw tap samples for copper, when applicable, and fifth-liter tap samples for lead.~~

~~iii)~~ ~~The supplier must use wide-mouthed bottles to collect these samples. The supplier must collect the first-draw tap sample in the first numbered bottle, then sequentially fill each numbered bottle until the final bottle is full with the~~

fifth-liter tap sample, constantly running the water while collecting the samples. The fifth-liter tap sample is the final sample collected in this sequence.

iv) The supplier must collect first-draw and fifth-liter tap samples from residential housing from the cold-water kitchen or bathroom sink tap. The supplier must collect first-draw and fifth-liter tap samples from a nonresidential building at an interior cold water tap typically used for consuming water.

v) The supplier may itself collect first-draw and fifth-liter tap samples or allow residents to collect the samples after instructing the residents on the sampling procedures in this subsection (b)(3)(B). The sampling instructions the supplier provides to customers must not direct the customer to remove the aerator or clean or flush the taps before the minimum six-hour stagnation period begins. To avoid problems from residents handling nitric acid, the supplier may acidify first-draw tap samples up to 14 days after the resident collects the sample. After the supplier acidifies the sample to resolubilize the metals, the sample must stand in its original container for the time a USEPA-approved method provides before analysis. If the supplier allows residents to sample, the supplier may not challenge the accuracy of sampling results based on alleged errors collecting samples.

4) Follow-Up First-Draw Tap Samples

A) A supplier must collect each follow-up first-draw tap sample from the same sampling site where the previous sample originated. A supplier must collect each follow-up fifth-liter tap sample from the same sampling site where the previous sample originated.

B) If the supplier cannot access a sampling site to collect a follow-up tap sample for reasons beyond the control of the supplier, the supplier may collect the follow-up tap sample from another sampling site in its sampling pool, as long as the new site meets the same targeting criteria and is within reasonable proximity of the original site.

5) Substitute Non-First-Draw Tap Samples

~~A)~~ ~~A NTNCWS supplier or a CWS supplier meeting the criteria in Sections 611.355(b)(7)(A) and (b)(7)(B) not having enough taps for first-draw tap samples or fifth-liter tap samples meeting the six-hour minimum stagnation time may apply to the Agency in writing for a SEP allowing the supplier to substitute non-first-draw, first-draw, or fifth-liter tap samples that do not meet the six-hour minimum stagnation time.~~

~~B)~~ ~~A supplier approved to substitute non-first-draw tap samples must collect as many first-draw or fifth-liter tap samples from interior taps typically used for consuming water, as possible and must identify sampling times and locations that likely give the longest standing time for the remaining sites.~~

~~C)~~ ~~The Agency may grant a SEP waiving the requirement for prior Agency approval of sites not meeting the six-hour stagnation time~~.

c) Standard monitoring.~~Number of Samples~~ Standard monitoring consists of six-month tap monitoring periods that begin on January 1 and July 1.

1) Standard monitoring sites. During a standard tap monitoring period, a supplier must collect at least one sample from the number of sites in the following table 1 to this subsection (c)(1). Standard monitoring sites must be selected in compliance with the sampling tiers identified in subsection (a). ~~A supplier must collect at least one sample each from the number of sites in the first column of Table D (labelled "standard monitoring") during each six-month tap monitoring cycle subsection (d) specifies.~~

Table 1 to Subsection (c)(1)	
System size (number of people served)	Standard number of sites for lead and copper sampling
>100,000	100
10,001 to 100,000	60
3,301 to 10,000	40
501 to 3,300	20
101 to 500	10
≤100	5

2) Criteria for standard monitoring. The following suppliers must conduct standard monitoring for at least two consecutive tap monitoring periods beginning January 1 or July 1, whichever is sooner, following the tap sampling period in which the criterion is met. Suppliers may then reduce monitoring in compliance with subsection (d). ~~A supplier conducting reduced monitoring under subsection (d)(4) must collect at least one~~

~~sample each from the number of sites in the second column of Table D (labelled "reduced monitoring") during each reduced tap monitoring cycle subsection (d)(4) specifies. The reduced monitoring sites must represent the sites standard monitoring requires. A supplier whose system has fewer than five drinking water taps capable of use for human consumption that meet the sampling site criteria of subsection (a) must collect multiple samples from individual taps to reach the required number of sampling sites Table D requires. To accomplish this, the supplier must collect at least one sample from each tap, then additional samples from those taps on different days during the tap sampling period, to collect a total number of samples meeting the required number of sampling sites. Alternatively, the Agency may issue a SEP allowing the supplier whose system has fewer than five drinking water taps to collect a number of samples that is fewer than the number of sites this subsection (c) specifies if the Agency determines that the supplier samples 100 percent of all taps capable of use for human consumption and that the reduced number of samples will produce the same results as collecting multiple samples from some taps. The Agency must base any SEP approving a reduced minimum number of samples on a request from the supplier or Agency on on-site verification. The Agency may specify sampling locations in a SEP when a system conducts reduced monitoring.~~

A) All suppliers with lead or galvanized requiring replacement service lines in their inventories as of November 1, 2027, including those deemed optimized under Section 611.351(b)(3) must conduct standard monitoring in the first six-month tap monitoring period following November 1, 2027, unless the supplier has, before or by that date, met all the following criteria:

i) The supplier conducts compliance monitoring of sites that meet the correct priority tiering targeting sites served by lead and galvanized requiring replacement service lines in compliance with subsection (a)(4);

ii) The supplier collects samples in compliance with all sample collection requirements in subsections (b)(1) and (3); and

iii) The supplier collects either first-liter samples or first-liter-and-fifth-liter- paired samples in compliance with subsection (b)(1).

B) Any supplier whose most recent 90th percentile lead and/or copper results as of November 1, 2027, exceeds the lead and/or copper

action level must conduct standard monitoring in the first six-month tap monitoring period following November 1, 2027.

C) Suppliers meeting any of the following criteria:

i) Any supplier that exceeds a lead or copper action level.

ii) Any supplier that fails to operate at or above the minimum value or within the range of values for the optimal water quality parameters designated by the Agency under Section 611.352(f) for more than nine days in any tap monitoring period as specified in Section 611.357.

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

iv) Any supplier that installs OCCT or re-optimizes OCCT as a result of exceeding the lead or copper action level, or any supplier that adjusts OCCT following a Distribution System and Site Assessment. Suppliers conducting standard monitoring under this criterion must continue standard monitoring until the Agency designates new optimal water quality parameters, at which point suppliers must comply with subsection (c)(2)(C)(v).

v) Any supplier the Agency has designated new values for optimal water quality parameters under Section 611.352.

vi) Any supplier that installs source water treatment pursuant to Section 611.353(a)(3).

vii) Any supplier that has notified the Agency in writing in compliance with Section 611.360(a)(4) of an upcoming addition of a new source or long-term change in treatment, unless the Agency determines that the addition of the new source or long-term change in treatment is not significant and, therefore, does not warrant more frequent monitoring.

viii) Any supplier without lead or galvanized requiring replacement service lines in its inventory that notifies the Agency under Section 611.360(e)(4)(B) of any

subsequently discovered lead or galvanized requiring replacement service lines in its distribution system, unless the supplier replaces all the discovered service lines before the start of the next tap monitoring period.

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

1) Reduced monitoring sites. During a reduced tap monitoring period, a supplier must collect at least one sample from the number of sites specified in table 1 to this subsection (d)(1), unless otherwise specified. Reduced monitoring sites must be selected in compliance with the sampling tiers identified in subsection (a). Lead and copper sampling results collected from point-of-use sites under Section 611.363(c)(1) cannot be used to meet the criteria for reduced monitoring under this section. The Agency may specify the locations of sample sites when a supplier is conducting reduced monitoring. ~~Standard Monitoring. Standard monitoring is a six-month tap monitoring cycle beginning on January 1 or July 1 of a year during which the supplier monitors at the standard number of sites under subsection (c).~~

Table 1 to Subsection (d)(1)	
System size (number of people served)	Reduced minimum number of sites for lead and copper sampling
>100,000	50
10,001 to 100,000	30
3,301 to 10,000	20
501 to 3,300	10
101 to 500	5
≤100	5

~~A)~~ ~~A supplier having lead service lines, including a supplier Section 611.351(b)(3) deems to have optimized or re-optimized OCCT or a supplier that did not monitor complying with this Section (i.e., selecting sites under subsection (a), collecting samples under subsection (b), etc.) before January 16, 2024, must begin its first standard tap monitoring cycle on January 1, 2025. After completing the first standard monitoring cycle, the supplier must monitor under subsection (d)(1)(B).~~

B) A supplier that completed monitoring complying with this Section (i.e., selecting sites under subsection (a), collecting samples under subsection (b), etc.) before January 16, 2024 or a supplier that completed monitoring under subsection (d)(1)(A), must continue monitoring:

i) A supplier not meeting the criteria in subsection (d)(4) must conduct standard monitoring.

ii) A supplier meeting the criteria in subsection (d)(4) must continue to monitor under subsection (d)(4).

iii) A supplier monitoring at a reduced frequency under subsection (d)(4) and exceeding the lead or copper action level must resume standard monitoring on January 1 immediately after the tap monitoring cycle during which the supplier exceeded the action level. The supplier must also monitor water quality parameters as Section 611.357(b), (c), or (d) require.

iv) A supplier monitoring at a reduced frequency and exceeding the lead trigger level but not the copper action level must monitor no less frequently than annually and must collect samples from the standard number of sites that subsection (c) establishes. The supplier must begin this monitoring in the calendar year after the tap monitoring cycle during which the supplier exceeded the lead trigger level. The supplier must also monitor water quality parameters as Section 611.357(b), (c), or (d) require.

v) A supplier 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 water quality monitoring period Section 611.357 specifies must conduct standard tap water monitoring and resume sampling for water quality parameters under Section 611.357(d). The supplier must begin this standard monitoring no later than the six-month tap monitoring cycle beginning January 1 of the calendar year after the supplier fails to comply with the Agency-specified water quality parameters.

vi) A supplier becoming a large supplier not applying corrosion control treatment or any large supplier not

~~applying corrosion control treatment having a 90th percentile lead concentration exceeding the lead practical quantitation limit must conduct standard monitoring for at least two consecutive six-month tap monitoring cycles, then continue monitoring under this subsection (d)(1)(B)(vi).~~

2) Criteria for reduced monitoring. Suppliers are eligible for reduced monitoring if they meet all the requirements of this section, including collecting at least the minimum number of samples required, for at least two consecutive tap monitoring periods. The Agency may require an eligible supplier to conduct more frequent monitoring. ~~Monitoring after Installing Initial or Re-Optimized Corrosion Control Treatment, Installing Source Water Treatment, Adding a New Source, or a Change in Treatment~~

A) Annual monitoring for any supplier size. Any supplier that does not exceed the lead and copper action levels and, for suppliers with Agency-designated OWQPs, also maintains the range of optimal water quality parameters designated by the Agency in compliance with Section 611.352(f) for two consecutive six-month tap monitoring periods may reduce the monitoring frequency to annual monitoring. Suppliers with an annual tap monitoring period must sample at least the standard number of sampling sites for lead in subsection (c)(1) and at least the reduced number of sites for copper as specified in subsection (d)(1). Prior to conducting annual monitoring, suppliers must receive a written determination from the Agency approving annual monitoring based on the Agency's review of monitoring, treatment, and other relevant information submitted by the supplier as required by Section 611.360. For suppliers that reduce to annual monitoring, the first annual tap monitoring period must begin no later than six months following the last tap monitoring period .~~A supplier installing or re-optimizing corrosion control treatment after exceeding the lead or copper action level must monitor for lead and copper every six months and comply with applicable Agency-designated water quality parameter values until the Agency issues a SEP specifying new water quality parameter values for optimal corrosion control.~~

B) Triennial monitoring for small and medium water suppliers. Any small or medium water supplier that does not exceed the lead and copper action levels and, for suppliers with Agency-designated OWQPs, also maintains the range of optimal water quality parameters designated by the Agency in compliance with Section 611.352(f), during three consecutive years of monitoring, including monitoring conducted at both standard and annual frequencies

(standard monitoring completed during both six-month periods of a calendar year is considered one year of monitoring), may reduce the monitoring frequency to triennial monitoring. Suppliers on triennial monitoring must sample at least the reduced number of sites for lead and copper in compliance with subsection (d)(1). Prior to conducting triennial monitoring, suppliers must receive a written determination from the Agency approving triennial monitoring based on the Agency's review of monitoring, treatment, and other relevant information submitted by the supplier as required by Section 611.360. For suppliers that reduce to triennial monitoring, the first triennial tap monitoring period must immediately follow the last annual monitoring period, and the first triennial sampling period must begin no later than three calendar years after the last calendar year in which the supplier sampled. ~~A supplier reoptimizing corrosion control treatment as a result of exceeding the lead trigger level but not exceeding the lead or copper action level must annually monitor for lead at the standard number of sites subsection (c) requires. The supplier must triennially analyze samples for copper. A small or mid-sized supplier not exceeding the lead trigger level in three annual tap monitoring cycles may reduce lead monitoring under subsection (d)(4).~~

C) Triennial monitoring for any supplier size. Any supplier that demonstrates for two consecutive tap monitoring periods that its 90th percentile lead level, calculated under Section 611.350(c)(3), is less than or equal to 0.005 mg/L, the 90th percentile copper level, calculated under Section 611.350(c)(3), is less than or equal to 0.65 mg/L and, for suppliers with Agency-designated OWQPs, also maintains the range of optimal water quality parameters designated by the Agency in compliance with Section 611.352(f), may reduce the monitoring frequency to triennial monitoring. Suppliers on triennial monitoring must sample at least the reduced number of sites for lead and copper in compliance with subsection (d)(1). Prior to conducting triennial monitoring, suppliers must receive a written determination from the Agency approving triennial monitoring based on the Agency's review of monitoring, treatment, and other relevant information submitted by the supplier as required by Section 611.360. For suppliers that reduce to triennial monitoring, the first triennial tap monitoring period must immediately follow the last monitoring period, and the first triennial tap sampling period must begin no later than three calendar years after the last calendar year in which the supplier sampled. ~~A supplier installing source water treatment under~~

~~Section 611.353(a)(3) must monitor every six months until the supplier is at or below lead and copper action levels for two consecutive six-month tap sampling periods. A supplier not exceeding the lead or copper action level for two consecutive six-month tap monitoring cycles may reduce monitoring under subsection (d)(4).~~

~~D)~~ ~~If a supplier gives prior notice to the Agency under Section 611.360(a)(3) of adding a new source or making a long-term change in treatment, the supplier must monitor every six months at the standard number of sites subsection (c) requires until the supplier is at or below the lead and copper action levels for two consecutive six-month monitoring cycles, unless the Agency issues a SEP determining that adding the new source or making the long-term change in treatment is not significant and does not warrant more frequent monitoring. A supplier not exceeding the lead action level, copper action level, or lead trigger level for two consecutive six-month tap sampling periods may reduce monitoring under subsection (d)(4).~~

3) Tap sampling period under reduced monitoring. The tap sampling period for suppliers on reduced monitoring must occur within the months of June, July, August, or September, unless the Agency has approved a different tap sampling period in compliance with subsection (d)(3)(A). Only suppliers on reduced monitoring can monitor during a tap sampling period that is shorter than the tap monitoring period. ~~Monitoring after the Agency Specifies Water Quality Parameter Values for OCCT~~

A) The Agency may approve a different tap sampling period for suppliers collecting samples on reduced monitoring. An alternative tap sampling period approved by the Agency must be a continuous period of time no longer than four consecutive months, must occur entirely within one calendar year, and must represent a time of normal operation where the highest levels of lead are most likely to occur. For a NTNCWS supplier that does not operate during the months of June through September and for which the period of normal operation where the highest levels of lead are most likely to occur is not known, the Agency must designate a period that represents normal operation for the supplier. ~~After the Agency specifies the values for water quality control parameters under Section 611.352(f), the supplier must conduct standard monitoring for two consecutive six-month tap monitoring cycles.~~

B) Suppliers that receive Agency-approval for an alternate tap sampling period under subsection (d)(3)(A) and have been sampling in the months of June through September must complete their next tap sampling period no later than 21 months, if on annual monitoring, or no later than 45 months, if on triennial monitoring, following the end of the previous tap sampling period. ~~A supplier that must complete the re-optimization steps in Section 611.351(d) after exceeding the lead trigger level but not exceeding the lead or copper action level must monitor for two consecutive six-month tap monitoring cycles. The supplier may then reduce monitoring under subsection (d)(4) after the Agency issues a SEP approving reduced monitoring.~~

C) Suppliers with waivers granted under subsection (g) that have been collecting samples during the months of June through September and receive Agency approval to alter their sampling period as per subsection (d)(3)(A) must collect their next round of samples before the end of the next nine-year period.

~~4) Reduced Monitoring Based on 90th Percentile Concentrations. Reduced monitoring refers to an annual or triennial tap monitoring cycle. A supplier's 90th percentile concentration determines the reduced monitoring frequency.~~

~~A) Reducing to Annual Monitoring for Suppliers Meeting the Criteria for Reduced Monitoring. A supplier meeting the criteria for reduced monitoring under subsection (d)(4) must collect these samples from sampling sites the supplier identified under subsection (a). A supplier monitoring annually or less frequently must conduct lead and copper tap sampling during June, July, August, or September, unless the Agency approves a different tap sampling period under subsection (d)(4)(A)(i)~~

~~i) The Agency may grant a SEP approving a different tap sampling period for conducting lead and copper tap sampling to a supplier collecting samples at a reduced frequency. The duration of the period must not exceed four consecutive months within one calendar year and must represent a time of normal operation when the highest lead levels are most likely to occur. For a NTNCWS supplier not operating during any of the months June through September and whose normal operating period when the highest levels of lead are most likely to occur is not known, the Agency must designate a period that represents a time~~

~~of normal operation for the system. This reduced monitoring can only begin during the Agency-designated period in the calendar year immediately following the end of the second six-month tap monitoring cycle, for a supplier initiating annual monitoring, or in the three-year period following the end of the third consecutive year of annual monitoring, for a supplier initiating triennial monitoring.~~

~~ii)~~ ~~A supplier monitoring annually and collecting samples during the months of June through September that receives Agency approval to alter its tap sampling period under subsection (d)(4)(A)(i) must collect its next round of samples during a time period ending no later than 21 months after its previous round of sampling. A supplier monitoring once every three years and collecting samples during the months of June through September that receives Agency approval to alter its tap sampling period under subsection (d)(4)(A)(i) must collect its next round of samples during a time period ending no later than 45 months after the previous tap sampling period. The supplier must conduct subsequent monitoring annually or once every three years, as this Section requires.~~

~~iii)~~ ~~A small supplier collecting samples during the months of June through September, receiving a waiver under subsection (g) and receiving Agency approval to alter its tap sampling period under subsection (d)(4)(A)(i) must collect its next round of samples before the end of the nine-year tap monitoring cycle (as Section 611.101 defines the term).~~

~~B)~~ ~~A supplier meeting the lead trigger level and copper action level during two consecutive six-month tap monitoring cycles may reduce its monitoring frequency to annual monitoring and must sample at the standard number of sampling sites for lead and reduced number of sites for copper that subsection (c) specifies. A supplier operating OCCT must also maintain the range of OWQPs the Agency set under Section 611.352(f) during the same period and receive a SEP from the Agency approving annual monitoring based on the Agency's review of the supplier's monitoring, treatment, and other relevant information the supplier reports under Section 611.360. The supplier must begin this sampling no later than the calendar year immediately following the last calendar year during which the supplier sampled.~~

~~C)~~ ~~A supplier exceeding the lead trigger level but neither the lead nor copper action level during two consecutive six-month tap monitoring cycles must monitor no less frequently than annually at the standard number of sampling sites for lead and copper subsection (c) specifies. A supplier operating OCCT must also maintain the range of OWQPs the Agency set under Section 611.352(f) during the same period and receive a SEP from the Agency approving annual monitoring based on the Agency's review of monitoring, treatment, and other relevant information the supplier reports under Section 611.360. The supplier must begin this sampling no later than the calendar year immediately following the last calendar year during which the supplier sampled.~~

~~D)~~ ~~A supplier exceeding the lead trigger level but neither the lead nor copper action level during three consecutive years of monitoring may increase the tap monitoring cycle (reduce its monitoring frequency) for copper to once every three years; however, the supplier may not increase the tap monitoring cycle (reduce its monitoring frequency) for lead. A supplier operating OCCT must also maintain the range of OWQPs the Agency set under Section 611.352(f) during the same period and receive a SEP from the Agency approving triennial monitoring based on the Agency's review of monitoring, treatment, and other relevant information the supplier reports under Section 611.360. The supplier must begin this sampling no later than the third calendar year immediately following the last calendar year during which the supplier sampled.~~

~~E)~~ ~~A small or mid-sized supplier not exceeding the lead trigger level or copper action level during three consecutive years of monitoring (completing standard monitoring during both six-month tap monitoring cycles of a calendar year constitutes one year of monitoring) may sample at the reduced number of sites for lead and copper that subsection (c) provides and reduce its monitoring frequency to triennially monitoring. A supplier operating OCCT must also maintain the range of OWQPs the Agency set under Section 611.352(f) during the same three-year period and receive a SEP from the Agency approving triennial monitoring based on the Agency's review of monitoring, treatment, and other relevant information the supplier reports under Section 611.360. The supplier must begin this sampling no later than three calendar years after the last calendar year during which the supplier sampled.~~

~~F) A supplier demonstrating for two consecutive six-month tap monitoring cycles that its 90th percentile lead concentration, calculated under Section 611.350(c)(4), is less than or equal to 0.005 mg/ L and that its 90th percentile copper concentration, calculated under Section 611.350(c)(4), is less than or equal to 0.65 mg/ L may sample at the reduced number of sites for lead and copper under subsection (c) and reduce its monitoring to triennially. A supplier applying corrosion control treatment must maintain the range of water quality parameter values reflecting OCCT the Agency specifies under Section 611.352(f) to qualify for reduced monitoring under this subsection (d)(4)(F).~~

e) Inclusion of lead and copper tap samples for calculation of the 90th percentile. Suppliers and the Agency must consider the results of any sampling conducted in addition to the minimum number of samples required in subsections (c) or (d), as applicable, in making any determinations (i.e., calculating the 90th percentile lead or copper level in compliance with Section 611.350(c)(3)) under this subpart if the samples meet the requirements of subsections (a) and (b). Consumer-requested sampling conducted in compliance with Section 611.355(c) must be considered if the sample meets the requirements of subsections (a) and (b). If multiple samples from the same site, taken during the same tap sampling period, meet the requirements of this section for consideration of the 90th percentile calculation, only the highest value from each site can be considered, except for suppliers under section (a)(2). ~~Additional Monitoring. The supplier and the Agency must consider the results of any monitoring the supplier conducts in addition to the minimum requirements in this Section (such as customer-requested sampling) in making any determinations (i.e., calculating the 90th percentile lead concentration or copper action level) under this Subpart G. A supplier serving through lead service lines that cannot collect the minimum number of samples from Tier 1 or Tier 2 sites must calculate the 90th percentile concentration using data from all sites it serves through lead service lines (Tier 1 and Tier 2 sites) together with the highest lead and copper results from lower-tier sites to complete the minimum number of sampling sites subsection (c) requires. The supplier must submit data from additional Tier 3, Tier 4 or Tier 5 sites to the Agency but may not use these results in calculating the 90th percentile concentration. The supplier must include customer-requested samples from sites the supplier knows it serves through lead service lines in calculating its 90th percentile concentration if the samples comply with this Section.~~

1) Suppliers sampling at one or more Tier 1 and/or Tier 2 sites in a tap sampling period that are unable to collect the minimum number of samples required in subsection (c) or (d) from Tier 1 or 2 sites must consider the lead and copper values from the next highest tier available in compliance with subsection (a). If a supplier has sufficient samples after

including the samples from the next highest available tier to meet the minimum number of samples required in subsection (c) or (d), the supplier may not consider additional samples from other available lower tiers. Suppliers (or the Agency) must calculate the 90th percentile lead and copper values in compliance with Section 611.350(c)(3)(C) using a total number of samples equal to the minimum number of samples required in subsection (c) or (d). Suppliers must submit all additional sampling results to the Agency that were not used in the 90th percentile calculation.

2) Suppliers (or the Agency when the Agency is calculating the 90th percentile) cannot include samples collected as part of Distribution System and Site Assessment under Section 611.352(j)(2) in the 90th percentile calculation.

3) Suppliers (or the Agency when the Agency is calculating the 90th percentile) cannot include follow-up samples collected as a result of monitoring after service line replacement under Section 611.354(h) in the 90th percentile calculation.

f) Invalidation of lead and copper tap samples used in calculating ~~Lead and Copper Tap Samples Used in Calculating~~ the 90thpercentile concentration ~~Percentile Concentration~~. A sample the Agency invalidates under this subsection (f) does not count towards~~toward~~ determining lead or copper 90th percentile concentrations under Section 611.350(c)(3)~~Section 611.350(c)(4)~~ or towards~~toward~~ meeting the minimum monitoring requirements of subsection (c) or (d). The supplier must report the results of all samples to the Agency and all supporting documentation for samples the supplier believes should be invalidated.

1) The Agency may~~must~~ invalidate a lead or copper tap water sample if at least one of the following ~~it determines that any of certain~~ conditions is met:~~exists:~~

A) The laboratory establishes that improper sample analysis caused erroneous results.~~results;~~

B) The Agency determines that a sample collected for compliance purposes under this section, that is not an additional sample collected under subsection (e) was taken from a site that did not meet the site selection criteria under subsection (a), such as when sites of higher tier were still available. ~~The supplier took the sample from a site that did not meet the site selection criteria in this Section;~~

C) The Agency determines the sample~~The sample~~ was collected in a manner that did not meet the sample collection protocol under subsection (b)(1).~~container sustained damage in transit; or~~

D) The sample container was damaged in transit.~~There is substantial reason to believe that someone tampered with the sample.~~

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

2) To invalidate a sample under subsection (f)(1), the Agency must document in writing both the decision and the rationale for the decision. The Agency may not invalidate a sample solely on the grounds that a follow-up sample result is higher or lower than that of the original sample. ~~The supplier must report the results from all samples to the Agency and submit all supporting documentation for samples the supplier believes the Agency should invalidate.~~

3) The supplier must collect replacement samples for any samples invalidated under this section if, after the invalidation of one or more samples, the supplier has too few samples to meet the minimum requirements of subsection (c)(1) or (d)(1). Any such replacement samples must be taken as soon as possible, but no later than 20 days after the date the Agency notifies the supplier of an invalidated sample or by the end of the tap sampling period, whichever occurs later. Replacement samples taken after the end of the applicable tap sampling period can only be used to meet the monitoring requirements of the applicable tap monitoring period in subsection (c) or (d) and not a subsequent tap monitoring period. The replacement samples must be taken at the same locations as the invalidated samples, except when the sample is invalidated due to an error in meeting the site selection criteria under subsection (a), or a supplier cannot gain access for sampling. The replacement samples must then be taken at locations that meet the site selection criteria other than those locations already used for sampling during the tap monitoring period. ~~To invalidate a sample under subsection (f)(1), the Agency must document its decision and rationale for the decision in writing. The Agency may not invalidate a sample solely because a follow-up sample result is higher or lower than that of the original sample.~~

~~4)~~ ~~The supplier must collect replacement samples for any samples the Agency invalidates under this Section if the supplier has too few samples to meet the minimum requirements of subsection (c) after the Agency invalidates samples. The supplier must take any replacement samples as~~

~~soon as possible but no later than the latter of 20 days after the Agency invalidates the original sample or before the end of the applicable tap sampling period. The supplier must not use replacement samples it takes after the end of the applicable tap sampling period to meet the monitoring requirements of a subsequent tap sampling period. The supplier must take replacement samples at the same locations where it took the invalidated samples or, if that is not possible, at other locations the supplier did not use for sampling during the tap sampling period.~~

g) Monitoring waivers for suppliers serving 3,300 or fewer persons.~~Waivers for Suppliers Serving 3,300 or Fewer Persons.~~ Any supplier serving 3,300 or fewer persons complying with the criteria in this subsection (g) may apply, in writing, to the Agency ~~for a SEP~~ to reduce the frequency of monitoring ~~reducing~~ for~~its~~ lead and/or copper ~~monitoring frequency under this Section~~ to once every nine years. ~~(i.e., a "full waiver") if the supplier complies with all of~~ The supplier must meet the materials criteria specified in subsection (g)(1) ~~specifies~~ and all of the monitoring criteria specified in subsection (g)(2) ~~specifies~~. ~~Any supplier serving 3,300 or fewer persons complying with the criteria subsections (g)(1) and (g)(2) only for lead or copper may apply to the Agency for a SEP reducing its tap water monitoring frequency to once every nine years for that contaminant only (i.e., a "partial waiver").~~ Suppliers meeting only the criteria for lead may apply for a lead waiver, suppliers meeting only the criteria for copper may apply for a copper waiver, and suppliers meeting the criteria for both lead and copper may apply for a full waiver.

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

A) Lead. To qualify for ~~a SEP granting~~ a lead~~full~~ waiver ~~or a partial waiver of the tap water monitoring requirements for lead (i.e., a "lead waiver")~~, the supplier must certify~~provide certification~~ and provide supporting documentation to the Agency demonstrating that its system including distribution system and all premise plumbing is free of all lead-containing materials as follows:

i) The system has no plastic pipes or service lines containing lead plasticizers; and

ii) The system is free of lead service lines, galvanized requiring replacement service lines, lead connectors, lead

pipes, lead soldered pipe joints, and leaded brass- or bronze-alloy fittings and fixtures, unless suchthose fittings and fixtures comply with Section 611.126(b).

BOARD NOTE: Corresponding 40 CFR 141.86(g)(1)(i)(B) specifies "any standard established underpursuant to 42 U.S.C. 300g-6(e) (SDWA section 1417(e))". Congress changed the lead standards for fittings and fixtures in the Reduction of Lead in Drinking Water Act, P.L. 111-380, section 2(a)(2) and (b), 124 Stat. 4131 (Jan. 4, 2011). The Board incorporated the statutory changes into this Section by referencing Section 611.126(b).

B) Copper. To qualify for a SEP granting a copperfull waiver or a partial waiver of the tap water monitoring requirements for copper (i.e., a "copper waiver"), the supplier must certifyprovide certification and provide supporting documentation to the Agency demonstrating that theits system contains no copper pipes or copper service lines or premise plumbing.

2) Monitoring criteriaCriteria. for Waiver Issuance. The supplier must have completed at least one six-month round of standard tap water monitoring for lead and copper at sites approved by the Agency approved sites and from the number of sites required by subsection (c)(1)subsection (c) requires and demonstrate to the Agency that the 90th percentile concentrations for any and all rounds of monitoring conducted since the system became free of all lead-containing or copper-containing materials, as appropriate, meet the followingcertain criteria:

A) Lead levelsLevels. To qualify for a full waiver or a lead partial waiver, the supplier must demonstrate that its 90th percentile lead concentration does not exceed 0.005 mg/ L.

B) Copper levelsLevels. To qualify for a full waiver or a copper partial waiver, the supplier must demonstrate that its 90th percentile copper concentration does not exceed 0.65 mg/ L.

3) Agency approval of waiver applicationApproval of Waiver Application. The Agency must notify the supplier of its waiver determination in writinga SEP stating the basis of its decision and any condition(s) condition of an approvedon the waiver. As a condition of a on the waiver, the Agency may require the supplier to perform specific activities (e.g., limited monitoring, periodic outreach to customers to remind them to avoid installinginstallation of materials that might void the waiver) to

avoid ~~the risk of~~ lead or copper concentrations~~concentration~~ of concern in tap water. The supplier must continue monitoring for lead and copper at the tap as required by subsections(c) and (d)~~subsections (d)(1) through (d)(4) require~~, as appropriate, until the supplier receives written notification from the Agency that a ~~approving the~~ waiver has been approved.

4) Monitoring frequency for suppliers with waivers.~~Frequency for Suppliers with Waivers~~

A) A supplier with a full waiver must conduct tap ~~water~~ monitoring for lead and copper in compliance with subsection (d) ~~under subsection (d)(4)(D)~~ at ~~the reduced number of sampling sites subsection (c) identifies at~~ least once every nine years. A supplier with a full waiver must ~~and~~ provide ~~to~~ the Agency with the materials certification specified in subsection (g)(1) ~~specifies~~ for both lead and copper when submitting their tap sampling results to the Agency~~together with the monitoring results~~. The supplier must collect samples every nine years no later than the ninth calendar year.

B) A supplier with a lead or copper ~~partial~~ waiver must conduct tap ~~water~~ monitoring for only the waived contaminant in compliance with ~~under~~ subsection(d)~~subsection (d)(4)(D)~~ at ~~the reduced number of sampling sites subsection (c) specifies at~~ least once every nine years. A system with a lead waiver or copper waiver must~~and~~ provide ~~to~~ the Agency with the materials certification specified in subsection (g)(1) for only~~specifies pertaining to~~ the waived contaminant ~~together with the monitoring results. Such a supplier also~~ when submitting their tap sampling results to the Agency. Also, a supplier must continue to monitor for the non-waived contaminant in compliance with the requirements ~~under the applicable~~ of subsections(c) and (d)~~subsections (d)(1) through (d)(4)~~ as appropriate.

C) A supplier with a ~~full or partial~~ waiver must notify the Agency in writing in compliance with~~under~~ Section 611.360(a)(4)~~Section 611.360(a)(3) of any upcoming~~ about any addition of a new source water or long-term change in treatment ~~or adding a new source~~, as described in that section~~that rule describes~~. The Agency ~~must review and approve adding a new source or long-term change in water treatment before the supplier implements it. The Agency~~ may add or modify waiver conditions (e.g., require recertification that the supplier's system is free of lead-containing or copper-

containing materials, require additional rounds of monitoring, etc.) if the Agency determines that any~~the~~ modifications are necessary to address system treatment or source water changes at the supplier's system.

D) If a supplier with a ~~full or partial~~ waiver becomes aware that its system is no longer free of lead-containing or copper-containing materials, as appropriate (e.g., as a result of new construction or repairs), the supplier must notify the Agency in writing no later than 60 days after becoming aware of the change.

5) Discontinuation of eligibility~~Continued Eligibility~~. ~~If the supplier continues to comply with subsection (g)(4), the waiver will renew automatically, unless~~ A supplier with a waiver where any of the ~~conditions in subsections (g)(5)(A) through (g)(5)(C) occur. A supplier whose waiver the Agency revokes may re-apply for a waiver when the supplier again meets the appropriate materials and monitoring criteria of subsections (g)(1) and (g)(2).~~following conditions occur is not allowed to continue monitoring under its waiver:

A) ~~A full waiver or a lead partial waiver does not renew if the~~ A supplier with a full waiver or a lead waiver ~~no~~ no longer satisfies the materials criteria of subsection (g)(1)(A) or has a 90th percentile lead concentration greater than 0.005 mg/ L.

B) ~~A full waiver or a copper partial waiver does not renew if the~~ A supplier with a full waiver or a copper waiver no longer satisfies the materials criteria of subsection (g)(1)(B) or has a 90th percentile copper concentration greater than 0.65 mg/ L.

C) ~~A waiver terminates when~~ The~~the~~ Agency notifies the supplier in writing, that ~~the Agency revokes~~ the waiver has been revoked, setting forth the basis of its decision~~, in writing and describing the basis of its decision~~.

6) Requirements following waiver revocation.~~Following Waiver Revocation.~~ A supplier whose ~~full or partial~~ waiver is revoked~~the Agency revokes~~ may reapply for a waiver when it meets the appropriate materials criteria and monitoring criteria of subsections (g)(1) and (2). A supplier whose waiver is revoked by the Agency is subject to the following ~~must comply with specific~~ corrosion control treatment and lead and copper tap water monitoring requirements:

A) If the supplier exceeds the lead and/or copper action level, the supplier must implement or ~~corrosion control treatment~~ re-optimize OCCT in compliance with~~within~~ the deadlines specified in Section 611.351~~Section 611.351(c) specifies~~ and any other applicable requirements of~~under~~ this Subpart G.

B) If the supplier is at or below~~meets~~ both the lead and ~~the~~ copper action levels, the supplier must monitor for lead and copper at the tap no less frequently than once every three years using the reduced number of sampling sites specified in subsection(d)(1)~~subsection (c) specifies~~.

7) Pre-existing waivers~~Pre-Existing Waivers~~. Waivers~~A waiver~~ approved by the Agency ~~granted a supplier~~ in writing prior to ~~April 11, 2000 remains in effect under certain conditions:~~ the compliance date specified in 611.350(a)(3) are still in effect if the supplier has demonstrated that it is both free of lead-containing and copper-containing materials, as required by subsection (g)(1) and that the supplier's 90th percentile lead levels and 90th percentile copper levels meet the criteria of subsection (g)(2), and ~~t~~he supplier does not meet the waiver ineligibility criteria of subsection (g)(5).

~~A) If the supplier demonstrates that its system is free of both lead-containing and copper-containing materials, as subsection (g)(1) requires, and that its 90th percentile lead and copper concentrations comply with subsection (g)(2), the waiver remains in effect so long as the supplier continues to be eligible for a waiver under subsection (g)(5). The supplier must complete its first round of tap water monitoring under subsection (g)(4) no later than nine years after the supplier last monitored for lead and copper at the tap.~~

~~B) If the supplier complies with the materials criteria of subsection (g)(1) but has not complied with the monitoring criteria of subsection (g)(2), the supplier must conduct a round of monitoring for lead and copper at the tap demonstrating that it complied with subsection (g)(2). Thereafter, the waiver remains in effect as long as the supplier complies with the continued eligibility criteria in subsection (g)(5). The supplier must complete its first round of tap water monitoring under subsection (g)(4) no later than nine years after the supplier conducts the monitoring under subsection (g)(2).~~

h) Publicly accessible tap monitoring results used in the 90th percentile calculation. Unless done by the Agency, all suppliers must make the tap monitoring results, including data used in the 90th percentile calculation under Section 611.350(c)(3), publicly accessible within 60 days of the end of the tap sampling period. Under

this subsection (h), suppliers are not required to make the addresses of tap sampling sites publicly accessible. ~~Follow-Up Samples for "Find-and-Fix" Under Section 611.352(j). A supplier must collect a follow-up sample at any site exceeding the lead action level within 30 days after receiving the sample results. For these follow-up samples, the supplier may use different sample volumes or different sample collection procedures to assess the source of elevated lead. A supplier must submit the results from samples it collects under this Section to the Agency but must not include those results in calculating its 90th percentile concentration~~.

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

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

3) Suppliers must certify to the Agency, in writing, compliance with this subsection (h) in compliance with Section 611.360(a)(2)(C) and must retain monitoring data in compliance with the recordkeeping requirements under Section 611.361.

~~i) Public Availability of Tap Monitoring Results the Supplier Used in Calculating its 90th Percentile Concentration. A supplier must make the results of its compliance tap water monitoring data, including data the supplier used in calculating its 90th percentile concentration under Section 611.350(c)(4), available to the public within 60 days after the end of the applicable tap sampling period. This Section does not require a supplier to make publicly available the addresses of the sites where the supplier collected tap samples. A large supplier must make available the monitoring results in a digital format. A small or mid-sized supplier must make available the monitoring results in either a written or digital format. A supplier must retain tap sampling monitoring data per the recordkeeping requirements under Section 611.361~~.

BOARD NOTE: This Section derives from 40 CFR 141.86.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.357 Monitoring for Water Quality Parameters

All large suppliers~~A large supplier~~ and~~or~~ all ~~any small or mid-sized~~medium suppliers~~supplier exceeding the lead or copper action level or a small or mid-sized supplier~~ with ~~applying~~ corrosion control treatment (unless deemed optimized under Section 611.351(b)(3)), and all small and medium suppliers that exceed the lead or copper action levels must sample and monitor water quality parameters in addition to lead and copper in compliance with the

requirements of this section. Any supplier may be required to monitor water quality parameters as determined by the Agency, including as provided in this section. ~~and exceeding the lead trigger level must monitor water quality parameters in addition to lead and copper under this Section.~~

a) General Requirements

1) Distribution system samples~~Sample~~ for water quality parameters. ~~Collection Methods~~

A) ~~Using Tap Samples. In totality,~~ Distribution system ~~all tap~~ samples collected ~~a supplier collects~~ at water taps 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 employed by the supplier ~~employs~~, and seasonal variability. Sites selected for sampling in the supplier's distribution system under this section can be the same or different from tap sampling sites ~~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~~ the supplier targeted for lead and copper sampling under Section 611.356(a). Suppliers may consider selecting sites used for total coliform sampling under 40 C.F.R. 141.21(a)(1). The supplier must include sites it selects for sampling in the distribution system ~~tap samples~~ under this Section in the site sample plan under Section 611.360(a)(1)~~Section 611.356(a)(1)~~. The supplier must update the site sample plan before changing sampling locations.

B) Samples collected in the supplier's distribution system must be analyzed for the following parameters, when applicable, as specified:~~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).~~

i) pH;

ii) Alkalinity;

iii) Orthophosphate (as PO_4), when an inhibitor containing an orthophosphate compound is used;

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

v) Any parameters specified by the Agency under Section 611.352(a)(1) or 611.352(f)(6).

2) Entry point samples for water quality parameters.~~Number of Samples~~

A) Samples collected at the entry point(s) to the supplier's distribution system must be from locations representative of each source water after treatment. If a supplier draws water from more than one source water and the source waters are combined before distribution, the supplier must sample at an entry point to the distribution system during periods of normal operating conditions when water is representative of all sources typically being used. ~~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) Except as provided in subsection (b)(3)(B) for ground water systems, the following parameters must be measured at each entry point to the distribution system, when applicable, as specified:~~Entry Point Samples~~

i) pH;~~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) When alkalinity is adjusted as part of corrosion control, a reading of the dosage rate of the chemical used to adjust alkalinity, and the alkalinity concentration; ~~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.~~

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

iv) Any parameters specified by the Agency under Section 611.352(a)(1) or 611.352(f)(6).

b) Standard monitoring for water quality parameters. ~~Initial Sampling for Suppliers~~

1) Number of samples ~~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.~~

A) Distribution system samples. Suppliers must collect two distribution system samples for applicable water quality parameters during each monitoring period specified under subsections (b)(2) through (b)(4) from each of the minimum number of sites listed in table 1 to this subsection (b)(1)(A). Suppliers that collect distribution system samples for water quality parameters from additional sites as a result of the Distribution System and Site Assessment requirements in Section 611.352(j) must add those sites to the minimum number of sites listed in table 1 to this subsection (b)(1)(A) up to a maximum of not more than twice the minimum number of sites.

Table 1 to Subsection (b)(1)(A)	
System size	Minimum number of sites

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

B) Samples at entry points.

i) Suppliers without installed or re-optimized OCCT and without Agency-designated optimal water quality parameters required to collect entry point samples must collect a minimum of two entry point samples for each applicable water quality parameter at each entry point to the supplier's distribution system at least once during each monitoring period specified in subsection (b)(2).

ii) Suppliers with installed OCCT or re-optimized OCCT and/or Agency-designated optimal water quality parameters required to collect entry point samples, including as provided in subsection (b)(3)(C), must collect one entry point sample for each applicable water quality parameter at each entry point to the supplier's distribution system at least once every two weeks during each monitoring period the supplier is required to conduct sampling as specified in subsections (b)(3) and (b)(4) and (c).

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

end of the tap monitoring period in which the action level exceedance occurred. Suppliers must continue monitoring as described by subsections (b)(3) and (b)(4). ~~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.~~

A) At sites in the supplier's distribution system, collect two samples for:

i) pH; and

ii) Alkalinity.

B) At each entry point to the supplier's distribution system, collect all the applicable parameters listed in subsection (a)(2)(B).

3) Monitoring after installation of OCCT or re-optimized OCCT.~~Water Quality Parameters~~

A) A supplier that modifies or installs OCCT in compliance with Section 611.351(d)(5) or Section 611.351(e)(5) and is required to conduct follow-up monitoring for lead or copper in compliance with Section 611.351(d)(6) or (e)(6) must monitor for applicable distribution system and entry point water quality parameters as specified in subsections (a)(1) and (a)(2) every six months until the Agency designates new water quality parameter values for OCCT in compliance with Section 611.352(f). Suppliers must collect these samples at a regular frequency throughout the six-month monitoring period to reflect seasonal variability. ~~Tap Water Samples. The supplier must collect two samples each for specific parameters:~~

~~i) pH; and~~

~~ii) Alkalinity.~~

B) Any ground water supplier can limit entry point sampling described in subsection (a)(2) to those entry points that are representative of water quality and treatment conditions throughout the supplier's system. If water from untreated ground water

sources mixes with water from treated ground water sources, the supplier must monitor for water quality parameters both at representative entry points receiving treatment and representative entry points receiving no treatment. Prior to the start of any monitoring under this subsection (b)(3)(B), the supplier must provide to the Agency, written information and documentation identifying the selected entry points, including information on seasonal variability, sufficient to demonstrate that the sites are representative of water quality and treatment conditions throughout the supplier's system.~~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) The Agency may require small suppliers with corrosion control treatment for which the Agency has not designated optimal water quality parameters that do not exceed the lead or copper action level to conduct water quality parameter monitoring as described in this subsection (b) or the Agency can develop its own water quality parameter monitoring structure for these systems.

4) Monitoring by suppliers with Agency-designated optimal water quality parameter values for OCCT. Monitoring must occur at a regular frequency throughout the monitoring period to reflect seasonal variability and be consistent with the requirements in subsections (a)(1) and (a)(2).

A) Medium suppliers with corrosion control treatment and all large suppliers must sample for the applicable water quality parameters designated by the Agency and determine compliance with the requirements of Section 611.352(g) every six months with the first six-month monitoring period to begin on either January 1 or July 1, whichever comes first, after the Agency specifies the optimal values under Section 611.352(f).

B) A small supplier with corrosion control treatment that exceeds the lead or copper action level must begin monitoring during the standard six-month tap monitoring period immediately following the tap monitoring period in which the action level exceedance(s) occurs and continue monitoring until the supplier no longer exceeds the lead action level and/or copper action level and meets the Agency-designated optimal water quality parameters in two consecutive six-month tap monitoring periods under Section 611.356(c). For any small supplier that is subject to a reduced monitoring frequency in compliance with Section 611.356(d) at the time of the action level exceedance, the start of the six-month

monitoring period under this subsection (b)(4)(B) must coincide with the start of the tap monitoring period under Section 611.356(c).

C) Compliance with Agency-designated optimal water quality parameter values must be determined as specified in Section 611.352(g).

D) The Agency has the discretion to require suppliers described in subsection (b)(4)(B) to continue to monitor optimal water quality parameters.

c) Reduced monitoring.~~Monitoring after Installing OCCT or Reoptimized OCCT~~

1) A medium or large supplier that maintains the range of values for the water quality parameters reflecting OCCT specified by the Agency under Section 611.352(f) and does not exceed the lead action level or copper action level in either of the two consecutive six-month monitoring periods under subsection (b)(4) must collect two distribution system samples for applicable water quality parameters specified in subsection (a)(1)(B) from each of the minimum number of sites listed in table 1 to this subsection (c)(1) during each six-month monitoring period. These suppliers must collect these samples at a regular frequency throughout the six-month monitoring period to reflect seasonal variability. A supplier meeting the requirements of this subsection (c)(1) must continue to monitor at the entry point(s) to the distribution system as specified in subsection (a)(2). Suppliers with sites added as a result of the Distribution System and Site Assessment requirements in Section 611.352(j) must continue to sample at the added sites up to a maximum of not more than twice the minimum number of sites specified in table 1 to subsection (b)(1)(A). ~~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.~~

Table 1 to Subsection (c)(1)

System size (number of people served)	Reduced minimum number of sites for water quality parameters

>100,000	10
10,001 to 100,000	7
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
≤100	1

~~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) Water quality parameters.~~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.~~

A) A supplier that maintains the range of values for the water quality parameters reflecting OCCT specified by the Agency under Section 611.352(f) and does not exceed the lead or copper action level during three consecutive years of monitoring may reduce the frequency with which it collects distribution system samples for applicable water quality parameters specified in subsection (a)(1)(B) from each of the minimum number of sites listed in table 1 to subsection (c)(1) from every six months to annually. This sampling must begin during the calendar year immediately following the end of the monitoring period in which the third consecutive year of six-month monitoring occurs.

B) A supplier may reduce the frequency with which it collects distribution system samples for water quality parameters specified in subsection (c)(1) to every year if the supplier demonstrates during two consecutive monitoring periods that its tap water lead level at the 90th percentile is less than or equal to the practical quantitation limit for lead of 0.005 mg/L, that its tap water copper level at the 90th percentile is less than or equal to 0.65 mg/L as calculated in compliance with Section 611.350(c)(3), and that the supplier has maintained the range of values for the water quality parameters reflecting OCCT specified by the Agency under Section 611.352(f).

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

4) A supplier monitoring at a reduced frequency that fails to operate at or within the range of values for the optimal water quality parameters

designated by the Agency in Section 611.352(f) for more than nine cumulative days, as specified in Section 611.352(g), in any six-month period under subsection (b)(4) must resume distribution system sampling in compliance with the number and frequency requirements in subsection (b)(4). Such a supplier may resume annual monitoring for water quality parameters in the distribution system at the reduced number of sites specified in subsection (c)(1) after the supplier completes two subsequent consecutive six-month rounds of monitoring that meet the criteria of subsection (c)(1) and/or may resume annual monitoring for water quality parameters in the distribution system at the reduced number of sites after the supplier demonstrates through subsequent rounds of monitoring that it meets the criteria of either subsection (c)(2)(A) or (c)(2)(B).

5) Any supplier monitoring at a reduced frequency that exceeds the lead action level or copper action level must resume standard water quality parameter monitoring beginning with the six-month period immediately following the tap monitoring period in which the action level exceedance(s) occurs. When the supplier no longer exceeds the lead action level and/or copper action level and meets the Agency-designated optimal water quality parameters in two consecutive six-month tap monitoring periods, the supplier may then reduce monitoring in compliance with subsections (c)(1) and (c)(2).

d) Additional monitoring by suppliers. The results of any monitoring conducted in addition to the minimum requirements of this section must be considered by the supplier and the Agency in determining concentrations of water quality parameters under this section or Section 611.352.~~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(e)(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 50 Ill. Reg. _____, effective _____)

Section 611.358 Monitoring for Lead and Copper in Source Water

a) Sampling Location, Collection Methods, and Number of Samples

1) A supplier failing to meet the lead or copper action level on the basis of tap samples under Section 611.356 must collect lead and copper source water samples under specific requirements for sample location, number of samples, and collection methods:

A) A groundwater supplier must take a minimum of one sample at every entry point to the distribution system after the supplier applies any treatment or in the distribution system at a point representing each source after treatment (a "sampling point"). The supplier must take one sample at the same sampling point unless conditions make another sampling point more closely represent a source or treatment plant.

B) A surface water supplier must take a minimum of one sample at every entry point to the distribution system after treatment or in the distribution system at a sampling point. The supplier must take each sample at the same sampling point unless conditions make another sampling point more closely represent a source or treatment plant.

BOARD NOTE: For this subsection (a)(1)(B), a system using a combination of surface water and groundwater sources is a surface water system.

C) 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 periods of normal operating conditions (i.e., when water represents all sources being used).

D) The Agency may issue a SEP reducing the total number of samples a supplier must analyze by allowing the use of compositing. Certified laboratory personnel must composite the samples. A composite sample may include a maximum of five samples. However, if the lead concentration in the composite sample is greater than or equal to 0.001 mg/ L or the copper concentration is greater than or equal to 0.160 mg/ L, the supplier must do either of two things:

i) The supplier must take and analyze a follow-up sample within 14 days at each sampling point included in the composite sample; or

ii) If duplicate samples or sufficient volumes of the original samples are available from each sampling point the certified laboratory used in the composite sample, the supplier may use those instead of resampling.

2) SEP Requiring an Additional Sample

A) Upon determining that sampling indicates exceedance of the lead or copper MPC under Section 611.353(b)(4), the Agency must issue a SEP requiring the supplier to collect one additional sample as soon as possible after the initial sample at the same sampling point but before two weeks after the supplier took the initial sample.

B) If a supplier takes an Agency-required confirmation sample for lead or copper, the supplier must average the results obtained from the initial sample with those from the confirmation sample to determine whether it complies with the Agency-specified lead and copper MPCs.

i) For averaging, consider any analytical result below the MDL as zero.

ii) Consider any value above the MDL but below the PQL either as the measured value or one-half the PQL.

b) Monitoring Frequency after System Exceeds Tap Water Action Level. A supplier exceeding the lead or copper action level in tap for the first time or for the first time after adding a new source or installing source water treatment under Section 611.353(b)(2) must collect one source water sample from each entry point to its distribution system no later than six months after the end of the tap sampling period during which the supplier exceeds the lead or copper action level. For annual or less frequent tap monitoring period~~cycles~~, the end of the tap sampling period is September 30 of the calendar year during which the sampling occurs or the last day of any alternative tap sampling period the Agency establishes in a SEP. If the Agency determines under Section 611.353(b)(2) that source water treatment is not necessary, the Agency may issue a SEP waiving source water monitoring for the supplier subsequently exceeding the lead or copper action level at the tap under subsections (b)(1)(A) through (b)(1)(C).

1) The Agency may issue a SEP waiving source water monitoring for the supplier exceeding the lead or copper action level at the tap under specific conditions:

A) The supplier already conducted source water monitoring after previously exceeding the lead or copper action level;

B) The Agency issued a SEP determining that source water treatment is not necessary; and

C) The supplier has not added any new water sources.

2) This subsection (b)(2) corresponds with 40 CFR 141.88(b)(2), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.

c) Monitoring Frequency after Installing Source Water Treatment or Adding a New Source

1) A supplier installing source water treatment under Section 611.353(a)(3) must collect one source water sample from each entry point to its distribution system during each of two consecutive six-month source water monitoring periods on or before 36 months after completing step 2, as Section 611.353(a)(4) specifies.

2) A supplier adding a new source must collect one source water sample from each entry point to its distribution system during each six-month source water monitoring period until the supplier demonstrates that the supplier has maintained finished drinking water entering the distribution system below the MPCs for lead and copper the Agency specifies under Section 611.353(b)(4), or the Agency issues a SEP determining that the supplier does not need source water treatment.

d) Monitoring Frequency after the Agency Specifies the Lead and Copper MPCs

1) A supplier must monitor at the frequency subsections (d)(1) and (d)(2) specify if the Agency specifies the MPCs under Section 611.353(b)(4).

A) GWS Suppliers

i) A GWS supplier sampling under subsection (d)(1) must collect samples once during the three-year compliance period (as Section 611.101 defines the term) during which the Agency makes its determination under Section 611.353(b)(4) .

ii) A GWS supplier sampling under subsection (d)(1) must sample once during each subsequent compliance period.

iii) A supplier must triennially collect samples every third calendar year.

B) A SWS or mixed system supplier must collect samples once during each calendar year, the first annual source water monitoring period to begin during the year in which the Agency makes its determination under Section 611.353(b)(4) .

2) A supplier needs not sample source water for lead or copper if the supplier meets the action level for the specific contaminant in all tap water samples during the entire source water monitoring period under subsection (d)(1)(A) or (d)(1)(B).

e) Reduced Monitoring Frequency

1) A GWS supplier may reduce its source water monitoring frequency for lead and copper to once during each nine-year compliance cycle (as Section 611.101 defines the term) if~~, provided~~ the supplier collects the

samples ~~no later than~~ every ninth calendar year, and only if the supplier meets certain criteria:

A) The supplier demonstrates that finished drinking water entering the distribution system remains below the MPCs for lead and copper the Agency specifies under Section 611.353(b)(4) during at least three consecutive monitoring periods under subsection (d)(1).

B) This subsection (e)(1)(B) corresponds with 40 CFR 141.88(e)(1)(ii), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.

2) A SWS or mixed system supplier may reduce its monitoring frequency subsection (d)(1) requires to once during each nine-year compliance cycle (as Section 611.101 defines the term) if the supplier collects the samples ~~no later than~~ every ninth calendar year, and only if the supplier meets certain criteria:

A) The supplier demonstrates that finished drinking water entering its distribution system remains below the MPCs for lead and copper the Agency specifies under Section 611.353(b)(4) for at least three consecutive years.

B) This subsection (e)(2~~1~~)(B) corresponds with 40 CFR 141.88(e)(2~~1~~)(ii), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.

3) A supplier using a new source of water must not reduce its monitoring for lead or copper until after the supplier demonstrates, by samples it collected from the new source during three consecutive source water monitoring periods under subsection (d)(1), that lead or copper levels are below the MPC the Agency specifies under Section 611.353(a)(5).

BOARD NOTE: This Section derives from 40 CFR 141.88.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.360 Reporting

A supplier must report the following~~specific~~ information to the Agency in compliance with ~~as~~ this Section ~~provides~~.

a) Reporting requirements for tap monitoring for lead and copper and for distribution system and entry point monitoring for water quality parameters. ~~for Tap, Lead, and Copper, and Water Quality Parameter Monitoring~~

1) By the start of a supplier's first lead and copper tap monitoring period in Section 611.356(c) and 611.356(d), suppliers must submit the following to the Agency: ~~Notwithstanding Section 611.840(a) and except as subsection (a)(1)(H) provides otherwise, a supplier must report the information subsections (a)(1)(A) through (a)(1)(I) specify for all samples and for all water quality parameter samples Section 611.357 specifies within ten days after the end of each applicable tap sampling period Sections 611.356 and 611.357 specify (i.e., every six months, annually, triennially, or every nine years). For a tap monitoring cycle shorter than six months, the end of the tap monitoring cycle is the last date on which the supplier may collect samples during that tap sampling period, as Sections 611.356 and 611.357 specify.~~

A) A site sample plan, including a list of tap sample site locations for lead and copper sampling identified from the inventory in Section 611.354(a), and a list of tap sampling sites and entry point to the distribution system sites for water quality parameter monitoring selected under Section 611.357(a)(1) and 611.357(a)(2). Changes to the site sample plan require suppliers to submit an updated site sample plan to the Agency before the start of the next tap sampling period conducted by the supplier. The Agency may require modifications to the site sample plan as necessary. ~~The results of all tap samples for lead and copper, including the location of each site and the criteria under Section 611.356(a)(3) through (a)(10) the supplier used as the basis for selecting the site for its sampling pool, accounting for Section 611.356(a)(11);~~

i) Suppliers with lead, galvanized requiring replacement, and/or lead status unknown service lines in the service line inventory conducted under Section 611.354(a) and (b) must evaluate the tap sampling locations for lead and copper used in their sampling pool prior to the start of each tap sampling period, beginning with the compliance date specified in 611.350(a)(3). Evaluations that result in changes to the site sample plan require suppliers to submit an updated site sample plan to the Agency prior to each tap sampling period conducted by the supplier.

ii) A supplier that cannot identify enough sampling sites with premise plumbing made of lead and/or served by lead

service lines to meet the minimum number of sample sites required in Section 611.356(c)(1) or (d)(1), as required under Section 611.356(a)(3), must submit documentation, including documentation of applicable customer refusals for sampling, in support of the conclusion that there are an insufficient number of available sites with premise plumbing made of lead and/or served by lead service lines, prior to the next tap sampling period.

B) A copy of the sample collection instructions provided to individuals who are sampling, which meets the requirements of Section 611.356(b). If supplier seeks to modify its sample collection instructions specified in this subsection (a)(1)(B), it must submit the updated version of the instructions to the Agency for review prior to the next tap sampling period. ~~Supporting documents for each tap water lead or copper sample the supplier requests the Agency invalidate under Section 611.356(f)(2);~~

~~C)~~ ~~A supplier having lead, galvanized requiring replacement, or lead status unknown service lines in its lead service line inventory under Section 611.354(a) must re-evaluate the tap sampling locations the supplier uses in its sampling pool prior to the compliance date Section 611.350(a) specifies, then the more frequent of annually or prior to the each subsequent round of tap sampling the supplier conducts, whichever is more frequent;~~

~~i)~~ ~~Before the first applicable tap monitoring cycle under Section 611.356(d), the supplier must submit a site sample plan to the Agency under Section 611.356, including a list of tap sample site locations identified in the inventory under Section 611.354(a), and a list a tap sampling WQP sites the supplier selected under Section 611.357(a)(1). The supplier must update and submit the site sample plan to the Agency before changing any sample site locations. The Agency may issue a SEP requiring the supplier to modify its site sample plan as necessary.~~

~~ii)~~ ~~For a supplier having lead service line sites but an insufficient number to meet the minimum number Section 611.356 requires, the supplier must document support for its conclusion that it has an insufficient number of lead service line sites complying with the applicable of 40 CFR Section 141.86(a)(3) or (a)(4) (for a CWS supplier) or 40 CFR Section 141.86(a)(8) (for an NTNCWS supplier);~~

~~D)~~ ~~The 90th percentile lead and copper concentrations the supplier measures from among all lead and copper tap samples the supplier collects during each tap sampling period (calculated under Section 611.350(c)(4)), unless the Agency calculates the supplier's 90th percentile lead and copper concentrations under subsection (h);~~

~~E)~~ ~~With the exception of initial tap sampling under Section 611.356(d)(1), the supplier must identify any site it did not sample during previous tap sampling periods and explain why sampling sites have changed;~~

~~F)~~ ~~The results of all water quality parameter tap samples the supplier must collect under Section 611.357(b) through (g);~~

~~G)~~ ~~The results of all samples the supplier collects at entry points for applicable water quality parameters under Section 611.357(b) through (e);~~

~~H)~~ ~~A supplier must report the results of all water quality parameter samples the supplier collects under Section 611.357(c) through (f) during each six-month water quality monitoring period Section 611.357(d) specifies within the first ten days following the end of the water quality monitoring period, unless the Agency specifies a more frequent reporting requirement in a SEP; and~~

~~I)~~ ~~Before the first applicable tap sampling period under Section 611.356(d), the supplier must submit to the Agency, a copy of the tap sampling protocol the supplier provides to persons sampling. The Agency must verify that the supplier uses wide-mouth collection bottles and the supplier does not recommend pre-stagnation flushing or aerator cleaning or removal before collecting samples under Section 611.356(b). The tap sampling protocol must contain instructions for correctly collecting a first draw sample at a site without a lead service line and a first draw and a fifth liter sample at a site with a lead service line, as applicable. If the supplier seeks to modify the tap sampling protocol it submitted this subsection (a)(1)(I), the supplier must submit the updated version of the protocol to the Agency for review and approval at least 60 days before using it.~~

2) Notwithstanding the requirements of § 40 C.F.R. 141.31(a), a supplier must report the information specified in subsections (a)(2)(A) through (G), for all lead and copper tap samples specified in Section 611.356 and for all

water quality parameter distribution system and entry point samples specified in Section 611.357, within the first 10 days following the end of each applicable sampling period specified in Sections 611.356 and 611.357, unless the Agency specified an earlier reporting requirement. For tap sampling periods with a duration less than six months, the end of the sampling period is the last date samples can be collected as specified in Section 611.356. ~~For an NTNCWS supplier, or a CWS supplier complying with Section 611.356(b)(5), not having enough taps for first-draw or fifth liter tap samples, the supplier must do one of two things:~~

A) The results of all tap samples for lead and copper collected during the tap sampling period, including results for both first- and fifth-liter samples collected at lead service line sites, the location of each site, and the site selection criteria under Section 611.356(a)(3) and (a)(4) used as the basis for which the site was selected for the supplier's sampling pool; ~~The supplier must identify to the Agency in writing standing times and locations for enough non-first-draw and fifth liter tap samples to make up its sampling pool under Section 611.356(b)(5) by the start of the first applicable monitoring period under Section 611.356(d), unless the Agency waives prior Agency approval of non-first-draw and fifth liter tap sampling sites the supplier selects under Section 611.356(b)(5); or~~

B) Documentation for each tap water lead or copper sample for which the supplier requests invalidation under Section 611.356(f); ~~If the Agency waives prior approval of non-first-draw sampling sites the supplier selects, the supplier must identify each site that did not meet the six-hour minimum standing time and the length of standing time for that particular substitute sample collected under Section 611.356(b)(5) in writing and include this information with the lead and copper tap sample results the supplier must submit under subsection (a)(1)(A).~~

C) With the exception of initial tap sampling conducted under Section 611.356(c)(2)(A), a certification the results of monitoring from the tap monitoring period before the tap monitoring period described in this subsection (a)(2) were publicly accessible, as specified in Section 611.356(h);

D) The 90th percentile lead and copper concentrations calculated from lead and copper tap water samples collected during each tap sampling period in compliance with Section 611.350 (c)(3), unless the Agency calculates the supplier's 90th percentile lead and copper levels under subsection (h);

E) With the exception of initial tap sampling conducted under Section 611.356(c)(2)(A), the supplier must identify any site which was not sampled during the tap monitoring period previous to the applicable tap monitoring period described in this subsection (a)(2), and include an explanation of why sampling sites have changed;

F) The results of all tap samples for water quality parameters required to be collected under Sections 611.357(b) through 611.357(d);

G) The results of all samples collected at the entry point(s) to the distribution system for water quality parameters as required in Section 611.357(b) through 611.357(d); and

H) The number of sites from which the supplier requested customer participation for sampling during the tap sampling period and the customer did not respond after two attempts or refused to participate.

3) For a NTNCWS, or a CWS supplier meeting the criteria of Section 611.355(b)(8), that does not have enough taps and can provide first liter or first-and fifth-liter paired samples meeting the six-hour minimum stagnation time, the supplier must either: ~~At a time the Agency specifies in a SEP, a supplier must document adding a new source or any change in water treatment to the Agency describing the addition or change. If the Agency does not specify a time in a SEP, the supplier must document the changes to the Agency as early as possible but no later than six months before adding a new source or any change in water treatment. The Agency may issue a SEP requiring a supplier to take actions before or after adding a new source or making a long-term change in treatment to ensure the supplier will operate and maintain OCCT, such as additional water quality parameter monitoring, additional lead or copper tap sampling, and re-evaluating corrosion control treatment.~~

A) Provide written documentation identifying standing times and locations for samples that do not meet the six-hour minimum stagnation time to make up a supplier's sampling pool in order to meet the minimum number of sites to sample required in Section 611.356(b)(3) by the start of the supplier's first applicable tap monitoring period under Section 611.356(c), or if there are changes to the documentation, prior to the next tap sampling period, unless the Agency waived prior approval of sample sites

not meeting the six-hour stagnation time selected by the supplier under Section 611.356(b)(3); or

B) If the Agency waived prior approval of sample sites not meeting the six-hour stagnation time selected by the supplier, identify, in writing, each site that did not meet the six-hour minimum stagnation time and the length of standing time for that particular substitute sample collected under Section 611.356(b)(3) and include this information with the lead and copper tap sample results required to be submitted in compliance with subsection (a)(2)(A).

BOARD NOTE: USEPA gives examples of long-term changes in treatment ~~as~~ including adding a new treatment process or modifying an existing treatment process. USEPA gives examples of modifying treatment ~~as~~ including switching secondary disinfectants, coagulants (*e.g.,* alum to ferric chloride), or corrosion inhibitor (*e.g.,* orthophosphate to blended phosphate). USEPA said that long-term changes can also include dose changes to existing chemicals if the supplier plans long-term changes to its finished water pH or residual inhibitor concentration. USEPA said that long-term treatment changes would not include chemical dose fluctuations associated with daily raw water quality changes where the supplier does not add a new source.

4) At a time specified by the Agency, or if no specific time is designated, as early as possible but no later than six months prior to the addition of a new source or any long-term change in water treatment, a supplier must submit written documentation describing the addition of a new source or long-term change in treatment to the Agency. Suppliers may not implement the addition of a new source or long-term treatment change without Agency approval. The Agency must review and approve the addition of a new source or a long-term change in water treatment before it can be implemented by the supplier. The Agency may require any such supplier to take actions before or after the addition of a new source or long-term treatment change to ensure that the supplier will operate and maintain optimal corrosion control treatment, such as additional water quality parameter monitoring, additional lead or copper tap sampling, and re-evaluating corrosion control treatment. Examples of long-term treatment changes include but are not limited to the addition of a new treatment process or modification of an existing treatment process. Examples of modifications include switching secondary disinfectants, switching coagulants (*e.g.,* alum to ferric chloride), and switching corrosion inhibitor products (*e.g.,* orthophosphate to blended phosphate). Long-term treatment changes can also include dose changes to existing chemicals if

the system is planning long-term changes to its finished water pH or residual inhibitor concentration. Long-term treatment changes would not include chemical dose fluctuations associated with daily raw water quality changes where a new source has not been added. ~~A small supplier applying for a monitoring waiver under Section 611.356(g) or subject to a waiver granted under Section 611.356(g)(3) must provide certain information to the Agency in writing before the applicable deadline:~~

~~A)~~ ~~Before the start of the first applicable tap monitoring cycle in Section 611.356(d), a small supplier applying for a monitoring waiver must provide the documents demonstrating that the supplier qualifies for a waiver under Section 611.356(g)(1) and (g)(2).~~

~~B)~~ ~~No later than nine years after the monitoring the supplier previously conducted under Section 611.356(g)(2) or Section 611.356(g)(4)(A), a small supplier wanting to maintain its monitoring waiver must provide the information Section 611.356(g)(4)(A) and (g)(4)(B) requires.~~

~~C)~~ ~~No later than 60 days after the small supplier becomes aware that it is no longer free of lead-containing or copper-containing material, a small supplier having a monitoring waiver must notify the Agency in writing, stating the circumstances introducing lead- or copper-containing materials into the system and describing any corrective action the supplier plans to remove these materials.~~

5) Any suppler serving 3,300 or fewer persons applying for a monitoring waiver under Section 611.356(g), or subject to a waiver granted under Section 356 (g)(3), must provide the following information to the Agency in writing by the specified deadline: ~~A GWS supplier limiting its water quality parameter monitoring to a subset of entry points under Section 611.357(c)(3) must identify its selected entry points to the Agency in writing, including information sufficiently demonstrating that the sites represent water quality and treatment conditions throughout the supplier's system.~~

A) By the start of the supplier's first applicable tap monitoring period in Section 611.356(c) and 611.356 (d), any supplier applying for a monitoring waiver must provide the documentation required to demonstrate that it meets the waiver criteria of Sections 611.356(g)(1) and 611.356(g)(2) to the Agency.

B) Prior to the beginning of each tap monitoring period in which the supplier desires to maintain its monitoring waiver under Section 611.356(g)(2) or 611.356(g)(4), the supplier must provide the

information required by Section 611.356(g)(4)(A) and 611.356(g)(4)(B) to the Agency.

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

6) Each supplier that limits water quality parameter monitoring to a subset of entry points under Section 611.357(b)(3)(B) must provide, by the commencement of such monitoring, written correspondence to the Agency that identifies the selected entry points and includes information sufficient to demonstrate that the sites are representative of water quality and treatment conditions throughout the system.

b) Source water monitoring reporting requirements ~~Reporting . for Source Water Monitoring~~ A supplier must report the following within the first 10 days following the end of each source water monitoring period (*i.e.,* annually, per compliance period, per compliance cycle) specified in Section 611.358.

1) The sampling results for all source water samples collected in compliance with Section 611.358. ~~A supplier must report its sampling results for all source water samples it collects under Section 611.358 within ten days after the end of each source water monitoring period Section 611.358 specifies.~~

2) With the exception of the first round of source water sampling a supplier conducts under Section 611.358(b), a supplier must specify any site it did not sample during the previous ~~source water~~ monitoring periods~~periods~~, and include an explanation ~~explaining~~ of why the supplier changed the sampling point.

c) Corrosion control treatment reporting requirements~~Reporting for Corrosion Control Treatment~~. Before the applicable dates under Section 611.351, a supplier must report the following~~certain~~ information:

1) For suppliers~~A supplier~~ demonstrating that they~~it~~ have already optimized OCCT ~~corrosion control~~ without optimized water quality parameters set by the Agency, ~~must provide the~~ information required in Section 611.351(b)(1) through (b)(3) ~~requires~~.

2) For suppliers ~~A supplier~~ required to ~~that must~~ optimize corrosion control, ~~must~~ provide its recommendation regarding OCCT under Section 611.352(a).

3) For suppliers~~A supplier~~ required to ~~that must~~ evaluate the effectiveness of corrosion control treatments under Section 611.352(c), ~~must provide the~~ information required in Section 611.352(c) ~~requires~~.

4) For suppliers~~A supplier~~ required to ~~that must~~ install OCCT ~~optimal corrosion control~~ or re-optimized OCCT designated by the Agency ~~approves~~ under Section 611.352(d), a~~must provide a copy of the Agency permit~~ letter, certifying ~~which acts as certification~~ that the supplier completed installing that~~the permitted~~ treatment.

5) For suppliers not required to complete the corrosion control treatment steps under Section 611.351(f), a letter certifying the suppler completed the mandatory service line replacement program or that the supplier met the minimum annual replacement rate calculated under Section 611.351(f)(1)(B).

d) Source water treatment reporting requirements. ~~Reporting for Source Water Treatment.~~ By~~Before~~ the applicable dates in Section 611.353, ~~a~~ supplier must provide the following ~~certain~~ information to the Agency:

1) If required under Section 611.353(b)(1) ~~requires~~, the supplier must provide its recommendation regarding~~on~~ source water treatment; ~~or~~

2) A supplier required to ~~that must~~ install source water treatment under Section 611.353(b)(2) must provide a copy of the Agency permit letter, which acts as certification that the supplier completed installing the Agency-approved treatment within 24 months after Agency approval.

e) Service line inventory and replacement ~~Reporting for Lead Service Line Inventory and Replacement~~ reporting requirements. For the purposes of this subsection (e), the first mandatory service line replacement program year is from the compliance date specified in 611.350(a)(3) to the end of the next calendar year, where every program year afterwards is on a calendar year basis. A supplier must report the following ~~certain~~ information to the Agency to demonstrate~~demonstrating~~ it complies with Section~~Sections~~ 611.354 ~~and 611.355~~:

1) No later than October 16, 2024, the supplier must submit an initial inventory of service lines to the Agency, as Section 611.354(a)(1) requires, including the following:~~.~~

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

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

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

D) Where ownership of the service line is shared, the supplier must report the information in subsections (e)(1)(A) through (C) counting each full service line only once.

2) No later than the compliance date in Section 611.350(a)(3) ~~October 16, 2024~~, a supplier ~~that inventoried a lead, galvanized requiring replacement, or lead status unknown service line in its distribution system~~ must submit a baseline inventory of service lines and connectors ~~lead service line replacement plan~~ to the Agency, as required in Sections 611.354(a)(2) through 611.354(a)(4), including the following:~~141.84(b) requires~~.

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

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

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

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

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

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

G) Where ownership of the service line is shared, the supplier must report the information in subsections (e)(2)(A) through (F) counting each full service line only once.

3) Any supplier that has inventoried one or more lead, galvanized requiring replacement, or lead status unknown service lines in its distribution system must: ~~The supplier must provide the Agency with an updated version of its inventory under Section 611.354(a) consistent with its tap monitoring~~

~~cycle schedule under Section 611.356(d), but no more frequently than annually. The supplier must submit its updated inventory within 30 days after the end of each tap monitoring cycle.~~

A) No later than the compliance date in Section 611.350 (a)(3), submit a service line replacement plan as specified in Section 611.354(c) to the Agency. ~~If the supplier demonstrates that it has no lead, galvanized requiring replacement, or lead status unknown service lines in its inventory, the supplier needs no longer submit inventory updates to the Agency, except as subsection (e)(3)(B) requires.~~

B) By January 30 after the end of the first program year, and annually by January 30 thereafter, certify to the Agency that there have been no updates to the service line replacement plan or, if there have been updates, submit an updated service line replacement plan. A supplier may provide instructions on how to access the updated plan online instead of providing the entire updated plan to the Agency. ~~If a supplier complying with subsection (e)(3)(A) subsequently discovers that it must replace any service lines in its distribution system, the supplier must notify the Agency within 30 days after identifying the service lines and prepare an updated inventory under Section 611.354(a) on a schedule the Agency establishes in a SEP.~~

C) Suppliers replacing service lines under a schedule based on the deferred deadlines criteria in Section 611.354(d)(5)(F) must meet the requirements described in Section 611.354(c)(3) for submitting information to the Agency.

4) The supplier must provide the Agency with an updated inventory by January 30 after the end of the first program year, and annually by January 30 thereafter. The updated inventory must conform with inventory requirements under Section 611.354(a) and (b). A supplier must provide the information regarding service line material identification and replacement as specified in Section 611.354(b)(2)(D) if providing instructions on how to access the updated inventory online instead of providing a fixed copy of the entire updated inventory as described in Section 611.354(b) to the Agency. ~~Within 30 days after the end of each tap monitoring cycle, the supplier must certify replacing any encountered lead goosenecks, pigtails, and connectors under Section 611.354(c).~~

A) When the supplier demonstrates that its inventory does not contain lead, galvanized requiring replacement, and lead status unknown

service lines, and known lead connectors and connectors of unknown material, it is no longer required to submit inventory updates to the Agency, except as required in subsection (e)(4)(B).

B) In the case that a supplier meeting the requirements of subsection (e)(4)(A) subsequently discovers any lead or galvanized requiring replacement service lines or lead connectors in its distribution system, it must notify the Agency within 60 days of discovering the service line(s) and connector(s) and prepare an updated inventory in compliance with Section 611.354(b) on a schedule established by the Agency.

5) By January 30 after the end of the first program year, and annually by January 30 thereafter, the supplier must certify to the Agency that it replaced any encountered lead connectors in compliance with Section 611.354(e) or that it encountered no lead connectors during the calendar year. ~~Within 30 days after the end of each tap monitoring cycle, the supplier must certify to the Agency that the supplier made any partial and full lead service line replacements under Section 611.354(d) and (e).~~

6) By January 30 after the end of the first program year, and annually by January 30 thereafter, the supplier must certify to the Agency that it conducted the notification and mitigation requirements for any partial and full service line replacements in compliance with Section 611.354(h) or that it conducted no replacements of lead or galvanized requiring replacement service lines during the calendar year. ~~If it fails to meet the 45-day deadline for completing a customer-initiated lead service line replacement under Section 611.354(d)(4), a supplier must notify the Agency within 30 days after the deadline to request that the Agency extend the deadline up to 180 days for completing the customer-initiated lead service line replacement. The supplier must annually certify that it has completed all customer-initiated lead service line replacements under Section 611.354(d)(4).~~

7) The supplier must provide the following information about customer-initiated lead and galvanized requiring replacement service line replacements: ~~No later than 30 days after the end of the supplier's annual period for replacing lead service lines under Section 611.354(f) or (g), the supplier must submit certain information to the Agency and continue submitting the information each year the supplier conducts lead service line replacements under Section 611.354(f) or (g):~~

A) By January 30 after the end of the first program year, and annually by January 30 thereafter, the supplier must certify that it completed

all customer-initiated lead and galvanized requiring replacement service line replacements in compliance with Section 611.354(f). ~~The number of lead service lines, as Section 611.354(a)(4) defines the term, in its inventory at the beginning of the annual period;~~

B) If the supplier cannot meet the 45-day deadline to complete a customer-initiated lead or galvanized requiring replacement service line replacement as required in Section 611.354(f), it must notify the Agency within 30 days following the replacement deadline. ~~The number of galvanized requiring replacement service lines in its inventory at the beginning of the annual period;~~

~~C) The number of lead status unknown service lines, as Section 611.354(a)(4) defines the term, in its inventory at the beginning of the annual period;~~

~~D) The number of full lead service line replacements the supplier has made and the street address for each service line the supplier replaced;~~

~~E) The number of galvanized requiring replacement service lines the supplier replaced and the street address for each service line the supplier replaced;~~

~~F) The number of lead status unknown service lines, as Section 611.354(a)(4) defines the term, remaining in its inventory;~~

~~G) The total number of lead status unknown service lines the supplier determines are non-lead, as Section 611.354(a)(4) defines the terms; and~~

~~H) The total number of service lines the supplier initially inventoried as non-lead later and later discovered are lead or galvanized requiring replacement service lines.~~

8) By January 30 after the end of the first program year, and annually by January 30 thereafter, suppliers conducting mandatory service line replacement under Section 611.354(d) must submit the following information to the Agency.~~No later than 30 days after the end of each tap sampling period, a supplier that received a customer refusal for a lead service line replacement or no customer response after the supplier makes a minimum of two good-faith efforts to contact customers regarding a full lead service line replacement under Section 611.354(g)(7) must certify to the Agency the number of customer refusals or non-responses it received~~

~~from customers the supplier serves through a lead or galvanized requiring replacement service line. The supplier must maintain these documents.~~

A) The following information from the most recent updated inventory submitted under subsection (e)(4), in compliance with table 1 to Section 611.354(d)(6)(C)(i):

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

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

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

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

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

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

vii) Where ownership of the service line is shared, the supplier must report the information in subsections (e)(8)(A)(i) through (vi) counting each full service line only once;

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

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

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

E) The number of service lines in the replacement pool updated at the beginning of the preceding program year in compliance with Section 611.354(d)(6)(A);

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

G) The address of each non-lead service line discovered in the preceding program year to be a lead or galvanized requiring replacement service line and the method(s) originally used to categorize the material of the service line;

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

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

9) Suppliers validating service line inventories under Section 611.354(b)(5) must submit a list of the locations of any non-lead service lines identified to be a lead or galvanized requiring replacement service line as well as the method(s) used to categorize the service lines as a result of the assessment. The supplier must submit the specific version (including the date) of the service line inventory used to determine the number of non-lead service lines used when the number of non-lead service lines in the validation pool was determined. The supplier may not use an inventory older than the inventory update that was submitted to the Agency under Section 611.354(b)(2)(D) at the start of the year in which the validation pool was determined. The information must be submitted no later than January 30 following seven years after the compliance date in Section 611.350(a)(3) unless otherwise specified by the Agency in compliance with Section 611.354(b)(5)(D). Documentation of previous validation efforts may be submitted by the compliance date in Section 611.350(a)(3) for approval by the Agency as described in Section 611.354(b)(5)(F). ~~No later than 12 months after the end of a tap sampling period during which a supplier exceeds the lead action level in sampling under Section 611.356, the supplier must provide to the Agency its schedule for annually replacing an average annual rate of at least three percent on a two-year rolling average basis, or as specified in Section 611.354(g), of the number of known lead service lines and galvanized lines requiring replacement 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.:~~

10) By January 30 after the end of the first program year, and annually by January 30 thereafter, the supplier must submit to the Agency

documentation of the reasons for each service line not replaced due to lack of access in compliance with Section 611.354(d)(2). The supplier must also submit to the Agency documentation of each reasonable effort conducted where the supplier was not able to obtain property owner consent in compliance with Section 611.354(d)(3) where consent is required by State or local law. ~~No later than 12 months after the end of a sampling period during which a supplier exceeds the lead trigger level in monitoring under Section 611.356 and every 12 months after that, the supplier must certify to the Agency in writing:~~

~~A)~~ ~~That the supplier conducted consumer notification, as Sections 611.354(f)(4) and 611.355(g) require; and~~

~~B)~~ ~~That the supplier delivered public education materials to the affected consumers, as specified in Section 611.355(a).~~

~~C)~~ ~~If a supplier does not fulfill its annual service line replacement goal under Section 611.354(f), it must certify to the Agency in writing that the supplier conducted public outreach, as Section 141.85(h) requires. The supplier must also submit the outreach materials it used to the Agency.~~

11) This subsection (e)(11) corresponds with 40 CFR 141.90(e)(11), which USEPA marked "reserved". This statement maintains structural consistency with the corresponding USEPA rules. ~~The annual certification the supplier submits to the Agency under subsection (e)(10) must certify that the supplier provided the results from samples it collected between three months and six months after fully or partially replacing a lead service line to the resident within the timeframe Section 611.355(d)(2) requires. A mailed notice postmarked within three business days after receiving the results is timely.~~

12) Any supplier collecting samples following a partial or full lead or galvanized requiring replacement service line replacement required by Section 611.354(h)(1)(D) or (h)(3)(D) ~~requirements~~ must report the results to the Agency within the first ~~before the~~ ten days~~tenth day~~ ~~of the next month~~ following the month in which ~~after~~ the supplier receives the ~~laboratory~~ results or as specified by the Agency. ~~specifies in a SEP~~. ~~The Agency may issue a SEP waiving the supplier reporting these monitoring results, but the supplier must retain these records.~~ Suppliers~~A supplier~~ must also report any additional information the Agency specifies in a time and manner the Agency prescribes to verify that the supplier completed all partial lead and galvanized requiring replacement service line replacement activities.

13) By January 30 after the end of the first program year, and annually by January 30 thereafter, the supplier must certify to the Agency that it offered to inspect service lines that consumers who suspected the inventory incorrectly categorized their service line material within 30 days of receiving the customer notification in compliance with Section 611.354(b)(4). ~~A supplier having lead service lines in its inventory must certify on an annual basis that the supplier complied with consumer notification of service line containing lead under Section 611.355(e).~~

f) Public education program reporting requirements.~~Reporting for Public Education Program~~

1) A supplier subject to Section 611.355 must submit~~send~~ a copy of all written public education materials ~~documents~~ to the Agency prior to delivery. The Agency may require ~~containing certain items within ten days after the end of each period in which~~ the supplier to obtain approval of the content of written ~~must perform~~ public education materials prior to delivery in compliance with Section 611.355(a)(1). ~~under Section 611.355(b)~~:

~~A)~~ ~~The public education materials the supplier delivered, and documents showing that the supplier delivered the public education materials complying with the content requirements in Sections 611.355(a) and the delivery requirements in Section 611.355(b); and~~

~~B)~~ ~~A list of all newspapers, radio stations, television stations, and facilities and organizations to which the supplier delivered public education materials when this Subpart G required the supplier to perform public education tasks.~~

2) A supplier subject to the public education requirements in Section 611.355 must within 10 days after the end of each period in which the supplier is required to perform public education in compliance with Section 611.355(b), send written documentation to the Agency that contains: ~~Unless the Agency issues a SEP requiring a supplier to do so, a supplier that previously submitted the information subsection (f)(1)(B) requires need not resubmit the information subsection (f)(1)(B) requires, as long as no changes in the distribution list occurred, and the supplier certifies that it distributed the public education materials to the same list the supplier previously submitted.~~

A) The public education materials delivered, and a statement certifying that the supplier delivered the public education materials meeting the content requirements in Section 611.355(a) and the delivery requirements in Section 611.355(b); and

B) A list of all the newspapers, radio stations, television stations, and facilities and organizations to which the supplier delivered public education materials during the period in which the supplier was required to perform public education tasks. Unless required by the Agency, a supplier that previously submitted this information need not resubmit it as long as there have been no changes in the distribution list and the supplier certifies that the public education materials were distributed to the same list submitted previously.

3) Each supplier must send a copy of the consumer notice of tap results to the Agency and certification that the notice has been distributed consistent with the requirements of Section 611.355(d), in compliance with the following schedule: ~~No later than three months after the end of the tap sampling period, each supplier must mail a sample copy of the consumer notification of tap water monitoring results to the Agency, certifying that the supplier distributed the notification in a manner complying with Section 611.355(d).~~

A) No later than three months following the end of the tap sampling period, for tap samples used to calculate the 90th percentile value described in Section 611.356, a copy of the consumer notice provided and certification the notice has been distributed consistent with the requirements of Section 611.355(d).

B) Annually by January 30, for tap samples from the previous program year not included in subsection (f)(3)(A), including, but not limited to consumer-requested samples outside the tap sampling period for suppliers on reduced monitoring, a copy of the consumer notice provided and certification that the notice has been distributed consistent with the requirements of Section 611.355(d).

4) Annually by January 30, the~~The~~ supplier must certify~~demonstrate~~ to the Agency ~~before July 1 of each year that~~ that it~~the supplier~~ delivered annual ~~consumer~~ notification~~notice~~ and ~~lead~~ service line information materials ~~under Section 611.355(e)~~ to customers and all persons ~~affected consumers~~ served by the supplier ~~serves~~ at the service connection with ~~through~~ a lead, galvanized requiring replacement, or lead status unknown service line in compliance with Section 611.355(e) for ~~during~~ the previous calendar year. The supplier must also provide an~~a~~ example copy of the ~~consumer~~

notification~~notice~~ and information materials for lead, galvanized requiring replacement, and lead status unknown service lines to the Agency.

5) This subsection (f)(5) corresponds with 40 CFR 141.90(f)(5), which USEPA marked "reserved". This statement maintains structural consistency with the corresponding USEPA rules. ~~The supplier must demonstrate to the Agency before July 1 of each year that the supplier conducted an outreach activity under Section 611.355(h) if the supplier failed to meet the lead service line replacement goal under Section 611.354(f) during the previous calendar year. The supplier must also submit a copy to the Agency of the outreach it provided to customers~~.

6) Annually by January 30, the supplier must certify to the Agency that it delivered notification to affected customers and the persons served by the supplier at the service connection and complied with the filter requirements after any disturbance of a service line known to contain or potentially containing lead in compliance with Section 611.355(f) for the previous calendar year, or that the supplier has not caused any disturbance of a service line known to contain or potentially contain lead, during the preceding year. The supplier must also submit an example copy of the notification to the Agency. Suppliers that are required to provide filters under Section 611.355(f) must also report the number of sites with disturbances that require filters as specified under Section 611.355(f) and number of filters provided. ~~The supplier must certify to the Agency before July 1 of each year that the supplier delivered notice to affected customers under Section 611.355(f) after any lead service line disturbance during the previous calendar year. The supplier must also submit a copy of the notice to the Agency.~~

7) Annually by January 30, the~~The~~ supplier must certify to the Agency ~~before July 1 of each year that the supplier~~ that it conducted an outreach activity in compliance with Section 611.355(h) when it does not meet the service line replacement rate specified in Section 611.354(d) for the previous calendar year. The supplier must also submit a copy to the Agency of the outreach materials provided. ~~delivered the required find-and-fix information to the Agency and local health departments under Section 611.356(i) during the previous calendar year.~~

8) Annually by January 30, the supplier must certify to the Agency that it delivered the required distribution system and site assessment information and public education materials to the Agency and local health departments for the previous calendar year in compliance with Section 611.355(i).

9) No later than 60 days after a supplier exceeds the lead action level for the second time in a rolling five-year period, the supplier must submit a filter plan to the Agency as specified in Section 611.355(j)(3). Thereafter, a supplier is not required to resubmit a filter plan unless requested by the Agency or if the supplier made updates to its plan.

10) Every six months, specifically by January 30 and July 30, any supplier that meets the criteria of multiple lead action level exceedances in Section 611.355(j)(1) must:

A) Certify compliance with the filter requirements in the previous six months (the previous July through December for January 30 reports and the previous January through June for July 30 reports) in compliance with Section 611.355(j)(2) and report the number of filters provided; and

B) Certify the supplier completed a public outreach activity in the previous six months (the previous July through December for January 30 reports and the previous January through June for July 30 reports) in compliance with Section 611.355(j)(4) and submit a copy of the public education materials provided to consumers.

g) Reporting additional monitoring data.~~Additional Monitoring Data~~. ~~Any supplier collecting more samples than the required minimum must report those sampling data results to the Agency within the first ten days following the end of the applicable sampling periods Sections 611.356 through 611.358 specify during which the supplier collected the samples. This includes the monitoring data for "find-and-fix" under Sections 611.356(h) and 611.357(g). The supplier must certify to the Agency the number of customer refusals or nonresponses for follow-up sampling it received under Section 611.352(j) with information supporting the accuracy of the refusals or non-responses. The supplier must certify within the first ten days after the end of the applicable tap sampling period during which any individual sample exceeded the lead action level.~~

1) Any supplier collecting more samples than the minimum required must report the results to the Agency within the first ten days following the end of the applicable monitoring period under Sections 611.356 through 611.358 during which the samples are collected. This includes the monitoring data pertaining to distribution system and site assessment under Sections 611.352(j) and 611.356(b)(1)(D).

2) The supplier must certify to the Agency the number of customer refusals or non-responses for follow-up sampling under Section 611.352(j)(2) it received and documentation explaining why it was unable to collect a

follow-up sample, within the first 10 days following the end of the applicable tap monitoring period in which an individual sample exceeded the action level.

h) Reporting of 90th percentile lead and copper concentrations ~~Percentile Lead and Copper Concentrations~~ where~~If~~ the Agency calculates~~Calculates~~ a supplier's~~Supplier's~~ 90th percentile concentrations~~Percentile Concentrations~~. A water supplier is not required to report ~~needs not report its~~ the 90th percentile lead and copper concentrations during each tap sampling period~~tap monitoring cycle~~, as required by subsection (a)(2~~1~~)(D) ~~requires~~ if:~~, under certain circumstances~~:

1) The Agency previously notified the supplier that the Agency will calculate the supplier's 90th percentile lead and copper concentrations based on the lead and copper tap results the supplier submitted under subsection (h)(2)(A), and the supplier provides the results from lead and copper tap water samples no later than ten days after the end of the applicable tap sampling period~~tap monitoring cycle~~; and

2) The supplier provides the following ~~specific~~ information to the Agency by~~before~~ the date specified in subsection (h)(1) ~~specifies~~:

A) The results of~~from~~ all tap ~~water~~ samples for lead and copper, including the location of each site and the site selection criteria under Section 611.356(a)(4)~~Section 611.356(a)(3) through (a)(10) criteria under~~ used as the basis for which the supplier selected the site for its sampling pool; and

B) The supplier must identify sampling sites it used during the current monitoring period~~tap monitoring cycle~~ that it did not sample during previous tap monitoring period~~tap monitoring cycles~~, and explain ~~explaining~~ why the supplier changed sampling sites; and

3) The Agency provides ~~the~~ written results of ~~calculating~~ the 90th percentile lead and copper calculation~~concentrations~~ to the supplier within 15 days of~~after~~ the end of the tap sampling period.

i) Reporting requirements~~Requirements~~ for CWS supplier's public education and sampling in schools and childcare facilities. ~~Public Education and Sampling in Schools and Child Care Facilities~~

1) A CWS supplier must provide a list of the schools and childcare facilities they serve, or provide certification that no schools or childcare facilities are served, to the Agency by the compliance date in Section 611.350(a)(3)

in compliance with Section 611.362(b)(1). A supplier that certifies that no schools or childcare facilities are served is not required to report the information in subsections (i)(2) and (3). Annually by January 30, beginning one year after the compliance date in Section 611.350(a)(3), the supplier must certify that there are no schools or childcare facilities served by the supplier. When the supplier becomes aware of one or more schools or childcare facilities that it serves, it must provide a list to the Agency and begin to report the information in subsections (i)(2) and (3). ~~report to the Agency before July 1 of each year the previous calendar year's activity. The report must include certain information:~~

~~A)~~ ~~The supplier must certify that it made a good faith effort to identify schools and child care facilities under Section 611.362(e). The good faith effort may include reviewing customer records and requesting lists of schools and child care facilities from the Agency, the Department of Children and Family Services, the State Board of Education, or other pertinent local agency. A supplier certifying that it serves no schools or child care facilities needs not include the information subsections (i)(1)(B) through (i)(1)(D) require in the report. If changes occur to schools and child care facilities a supplier serves, the supplier must submit an updated list at least once every five years under Section 611.362(e).~~

~~BOARD NOTE: The Department of Children and Family Services regulates daycare facilities in Illinois, and the State Board of Education regulates primary and secondary schools. Local agencies may play a role, and many facilities and schools are not regulated under Illinois law. E.g., 225 ILCS 10 and 105 ILCS 5.~~

~~B)~~ ~~The supplier must certify that it delivered information about health risks from lead in drinking water to the school and child care facilities it serves under Section 611.362(a)(2) and (g)(1).~~

~~C)~~ ~~The supplier must certify that it completed notifying and sampling under Section 611.362 and subsections (i)(1)(C)(i) through (i)(1)(C)(v) at a minimum of 20 percent of elementary schools and 20 percent of child care facilities the supplier serves. The supplier must certify that it completed notifying and sampling under Section 611.362(g) and subsections (i)(1)(C)(i), (i)(1)(C)(ii), and (i)(1)(C)(v) for secondary schools the supplier sampled. After a supplier completes one cycle of required sampling in all elementary schools and child care facilities it identified under Section 611.362(a)(1), the supplier must subsequently certify that it completed notifying and sampling under Section 611.362(g) and~~

~~subsections (i)(1)(C)(i), (i)(1)(C)(ii), and (i)(1)(C)(v) for all sampling the supplier later completes in any school or child care facility.~~

~~i)~~ ~~The number of schools and child care facilities the supplier serves;~~

~~ii)~~ ~~The number of schools and child care facilities the supplier sampled in the calendar year;~~

~~iii)~~ ~~The number of schools and child care facilities that refused sampling;~~

~~iv)~~ ~~Information about outreach attempts for sampling that a school or child care facility declined; and~~

~~v)~~ ~~The analytical results for all schools and child care~~childcare ~~facilities the supplier sampled in the calendar year.~~

~~D)~~ ~~The supplier must certify that it provided its sampling results to schools, child care facilities, and the Illinois Department of Public Health and local health agencies.~~

2) A CWS supplier must report the lead analytical sampling results for schools and childcare facilities within 30 days of receipt of the results in compliance with Section 611.362(g)(1)(C). ~~This subsection (i)(2) corresponds with 40 CFR 141.90(i)(2), which USEPA marked "reserved". This statement maintains structural consistency with the corresponding USEPA rules.~~

3) Beginning one year after the compliance date in Section 611.350(a)(3), a CWS supplier must send a report to the Agency annually by January 30 for the previous year's activity as calculated from the compliance date in Section 611.350(a)(3). The report must include the following: ~~The Agency has provided the results of the 90th percentile lead and copper calculations, in writing, to the supplier before the end of the monitoring period.~~

A) Certification that the supplier made a good faith effort to identify schools and childcare facilities in compliance with Section 611.362(b). The good faith effort may include reviewing customer records and requesting lists of schools and childcare facilities from the Agency or other licensing agency. If there are changes to the list of schools and childcare facilities that a supplier serves, an

updated list must be submitted at least once every five years in compliance with Section 611.362(b)(2). If there are no changes to the list of schools or childcare facilities the supplier serves, the supplier must certify there are no changes to the list.

B) Certification that the supplier delivered information about health risks from lead in drinking water to the school and childcare facilities that they serve in compliance with Section 611.362(c)(1).

C) During the first five years after the compliance date in Section 611.350(a)(3), certification the supplier completed the notification and sampling requirements in Section 611.362(c)(2)(A) and (d)(1) for elementary schools and childcare facilities and the information in subsections (i)(3)(C)(i) through (v).

i) The number and names of schools and childcare facilities served by the supplier;

ii) The number and names of schools and childcare facilities sampled in the previous year;

iii) The number and names of elementary schools and childcare facilities that declined sampling;

iv) The number and names of elementary schools and childcare facilities that did not respond to outreach attempts for sampling; and

v) Information pertaining to outreach attempts for sampling declined or not responded to by the elementary school or childcare facility.

D) During the first five years after the compliance date in Section 611.350(a)(3), certification that the supplier completed the notification and sampling requirements of Section 611.362(c)(2)(B) and (e) for secondary schools and the information in subsections (i)(3)(C)(i) and (ii).

E) Starting with the sixth year after the compliance date in Section 611.350(a)(3), the supplier must certify completion of the notification requirements of Section 611.362(c)(3) and sampling requirements of Section 363(d)(2) in elementary schools and childcare facilities and Section 611.362(e) for secondary schools and the information in subsections (i)(3)(C)(i) and (ii), thereafter.

F) Certification that sampling results were provided to schools, childcare facilities, and local and State health departments.

j) Reporting~~-~~ requirements for small supplier compliance flexibility options~~Requirements for Small Supplier Compliance Flexibility Options~~. ~~Before~~By the dates provided in~~times~~ subsections (j)(1) and (j)(2) ~~provide~~, a supplier implementing a small supplier compliance option under Section 611.363 must provide~~-~~the following information ~~certain information~~ to the Agency:

1) ~~Point-of-Use Device Option.~~ ~~-~~Small~~A small CWS~~ suppliers serving 3,300 or fewer and~~or~~ NTNCWS suppliers implementing the point-of-use device option under Section 611.363(c)(1)~~Section 611.363(a)(3)~~, must report the results from tap sampling required under Section 611.363.(c)(1)(D)~~Section 611.363~~ no later than ten days after the end of the tap sampling period~~tap monitoring cycle~~. ~~If results exceed the lead trigger level, the supplier must reach out to the homeowner or building management or, if applicable, both within 24 hours after receiving the tap sample results~~. If the~~The~~ supplier does not~~must~~ complete corrective action within 30 days of a POU sample exceeding 0.010 mg/L.~~, If the supplier does not complete corrective action within 30 days,~~ the supplier must provide documentation~~document~~ to the Agency within 30 days~~ of the failure~~ explaining why it~~the supplier~~ was unable to correct the issue. Unless waived by the Agency, the~~A~~ supplier~~ selecting the point-of-use device option under Section 611.363(a)(3)~~ must provide documentation~~document to the Agency~~ to certify~~ certifying~~ maintenance of ~~that the supplier maintains~~ the point-of-use devices~~, unless the Agency issues a SEP waiving this requirement~~.

2) ~~Replacing Lead-Bearing Plumbing Option.~~ ~~-~~Small suppliers serving 3,300 or fewer~~ A small CWS~~ and~~or~~ NTNCWS suppliers~~supplier~~ implementing the option of replacing all lead-bearing plumbing under Section 611.363(c)(2)~~Section 611.363(a)(4)~~ must certify to the Agency that~~ the supplier replaced~~ all lead-bearing material has been replaced on the schedule established by the Agency~~ establishes in a SEP~~ within one year of~~after~~ designating the option under Section 611.363(c)(2)~~ Section 611.363(a)(4)~~.

BOARD NOTE: This Section derives from 40 CFR 141.90.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.361 Recordkeeping

Any supplier subject to this Subpart G must keep~~retain~~ original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, Agency determinations, and any other information Sections 611.351 through 611.360, 611.362, and 611.363 require. Each supplier must keep~~retain~~ the records this Section requires on its premises for at least 12 years.

BOARD NOTE: This Section derives from 40 CFR 141.91.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.362 Monitoring for Lead in Schools and Childcare~~Child Care~~ Facilities

~~A CWS supplier must conduct directed public education and lead monitoring at those schools and child care facilities it serves that were constructed prior to January 1, 2014. A supplier must sample for lead at elementary schools and child care facilities it serves once and afterwards on request of the school or facility. The supplier must also sample for lead at secondary schools it serves on request. This Section does not apply to a school or child care facility that is a regulated PWS. This subsection (a) applies until the supplier samples all the elementary schools and child care facilities it serves once under subsection (c). After sampling all elementary schools and child care facilities, the supplier must comply with subsection (g).~~

a) General requirements. ~~Public Education to Schools and Child Care Facilities~~

1) All CWS suppliers must conduct public education and lead monitoring at the schools and childcare facilities they serve unless those schools or childcare facilities: ~~Before the compliance date Section 611.350(a)(3) specifies, a supplier must compile a list of schools and child care facilities the supplier serves.~~

A) Were constructed or had full plumbing replacement on or after January 1, 2014, or the date the Agency adopted standards that meet the definition of lead free in compliance with section 1417 of the Safe Drinking Water Act, as amended by the Reduction of Lead in Drinking Water Act, whichever is earlier; and

B) Are not served by a lead, a galvanized requiring replacement, or an unknown service line

2) The provisions of this section do not apply to a school or childcare facility that is regulated as a public water system. ~~A supplier must contact elementary schools and child care facilities the supplier listed under subsection (a)(1):~~

~~A) The supplier must annually or more frequently provide information about health risks from lead in drinking water that complies with Section 611.355(a);~~

~~B) Notice that the supplier must sample for lead at elementary schools and child care facilities, including certain information:~~

~~i) A proposed schedule for sampling at the facility;~~

~~ii) Information about sampling for lead in schools and child care facilities; and~~

~~BOARD NOTE: USEPA has guidance available from USEPA, National Center for Environmental Publications: "3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities: A Training, Testing, and Taking Action Approach, Revised Manual" (October 2018), USEPA, Office of Water, doc. no. EPA 815-B-18-007 (search: "815B18007") and "U.S. EPA 3Ts Program Training, Testing & Taking Action: Lead Sample Collection Field Guide for Schools and Child Care Facilities" (July 2022), USEPA, Office of Water, doc. no. EPA 815-F-22-009 (search: "815F22009") or subsequent EPA guidance.~~

~~iii) Instructions for identifying sampling outlets and preparing for a sampling event 30 days prior to the event.~~

~~3) The supplier must document under Section 611.360(i) if an elementary school or child care facility fails to respond or otherwise declines to participate in monitoring or education under this Section. Under this Section, a school or child care facility fails to respond after the supplier makes at least two separate good faith attempts to contact the facility to schedule sampling and receives no response.~~

~~4) The supplier must annually or more frequently contact all secondary schools it listed under subsection (a)(1) to provide information on health risks from lead in drinking water and how to request lead sampling under subsection (g)(1).~~

b) List of schools and childcare facilities. ~~Lead Sampling in Schools and Child Care Facilities~~

1) All CWS suppliers must compile a list of schools and childcare facilities they serve that meet the criteria of subsection (a) and submit the list to the Agency in compliance with Section 611.360(i)(1) by the compliance date specified in Section 611.350(a)(3). ~~The supplier must collect five samples~~

~~per school and two samples per child care facility at outlets typically used for consumption. Except as subsections (b)(1)(A) through (b)(1)(D) provide otherwise, the outlets must not have a POU device. The supplier must sample at specific locations:~~

~~A)~~ ~~For schools: two drinking water fountains, one kitchen faucet persons use for preparing food or drink, one classroom faucet or other outlet persons use for drinking, and one nurse's office faucet, as available.~~

~~B)~~ ~~For child care facilities: one drinking water fountain and one of either a kitchen faucet persons use for preparing food or drink or one classroom faucet or other outlet persons use for drinking.~~

~~C)~~ ~~If any school or facility has fewer than the required number of outlets, the supplier must sample all outlets persons use for consumption.~~

~~D)~~ ~~The supplier may sample at outlets having POU devices if the school or facility has POU devices installed on all outlets persons typically use for consumption.~~

~~E)~~ ~~If any school or facility does not contain the type of faucet listed above, the supplier must collect a sample from another outlet the school or facility identifies as one persons typically use for consumption.~~

~~F)~~ ~~The supplier must collect all samples from cold water taps fulfilling specific additional requirements:~~

~~i)~~ ~~All samples for lead must be first-draw samples;~~

~~ii)~~ ~~All samples must be 250 ml in volume;~~

~~iii)~~ ~~The water must remain stationary in the sampling site's (building's) plumbing system for at least eight but no more than 18 hours before sampling; and~~

~~iv)~~ ~~The supplier must acidify samples and analyze them using the analytical methods in Section 611.359.~~

2) Within five years following the compliance date in Section 611.350(a)(3) and at least once every five-year period after, all CWS suppliers must either certify in writing to the Agency there have been no changes to the

list of schools and childcare facilities or submit a revised list to the Agency in compliance with Section 611.360(i)(3)(A). ~~Appropriately trained personnel of the water system, school, or child care facility or another appropriately trained person may collect samples under subsection (b)(1).~~

c) Public education to schools and childcare facilities. ~~Sampling Frequency at Elementary Schools and Child Care Facilities~~

1) At least once a year beginning with the compliance date in Section 611.350(a)(3), CWS suppliers must contact all schools and childcare facilities identified by the supplier in subsection (b) to provide information about the health risks from lead in drinking water consistent with the content requirements of Section 611.355(a)(1)(B) through 611.355(a)(1)(D) and (F). ~~Annually, or on an alternative Agency-approved schedule, the supplier must collect samples from no fewer than 20 percent of elementary schools and 20 percent of child care facilities the supplier serves, until the supplier samples all schools and child care facilities it listed under subsection (a)(1) that did not decline to participate. Under this Section, a supplier may count an elementary school or child care facility failing to respond or otherwise declining to participate as part of its annual 20 percent minimum.~~

2) Within the first five years following the compliance date in Section 611.350(a)(3), CWS suppliers must: ~~A supplier must sample all elementary schools and child care facilities it serves at least once in the five years following the compliance date under Section 611.350(a)(1)(A).~~

A) Notify elementary schools and childcare facilities, in compliance with the frequency requirements in subsection (d)(1), that they are eligible to be sampled for lead by the supplier. This notice must include:

i) A proposed schedule for sampling at the facility; and

ii) Information about sampling for lead in schools and childcare facilities (EPA's 3Ts for Reducing Lead in Drinking Water Toolkit, EPA-815-B-18-007, or subsequent EPA guidance).

B) Notify all secondary schools identified in subsection (b) at least once a year that they are eligible to be sampled for lead by the CWS supplier on request. The notice must provide:

i) Information on how to request sampling for lead at the facility; and

ii) Information about sampling for lead in schools and childcare facilities (EPA's 3Ts for Reducing Lead in Drinking Water Toolkit, EPA-815-B-18-007, or subsequent EPA guidance).

3) Starting with the sixth year after the compliance date in Section 611.350(a)(3), a CWS supplier must contact all elementary schools, secondary schools, and childcare facilities identified in subsection (b) to notify them that they are eligible to be sampled for lead by the CWS supplier on request and provide the information in subsections (c)(2)(B)(i) and (ii). ~~After a supplier completes one required cycle of sampling in all elementary schools and child care facilities it serves, the supplier must sample at the request of any elementary school or child care facility under subsection (g).~~

4) Thirty days prior to any sampling event, CWS suppliers must provide schools and childcare facilities with instructions to identify outlets for lead sampling and prepare for a sampling event. ~~A supplier must sample at the request of a secondary school under subsection (g). If a supplier receives requests from more than 20 percent of secondary schools it listed under subsection (a)(1) in any of the five years following the compliance date under 40 CFR Section 141.80(a)(3), the supplier may schedule the requests exceeding 20 percent for the following year, and the supplier needs not sample an individual secondary school more than once during the five years.~~

d) Frequency of sampling at elementary schools and childcare facilities. ~~Alternative School and Child Care Lead Sampling Programs.~~

1) Within the first five years following the compliance date in Section 611.350(a)(3), CWS suppliers must collect samples from at least 20 percent of the total of elementary schools served by the supplier per year and at least 20 percent of the total of childcare facilities served by the supplier per year, or according to an alternative schedule approved by the Agency, until all elementary schools and childcare facilities identified under subsection (b) have been sampled once or have declined to participate or are non-responsive. ~~If a CWS supplier conducts mandatory sampling for lead in drinking water for schools and child care facilities the supplier serves under another State or local law or program, the Agency may issue a SEP exempting the supplier from duplicative requirements under this Section:~~

A) CWS suppliers must provide documentation to the Agency in compliance with Section 611.360(i)(3)(C)(iv) and (v) if an elementary school or childcare facility is non-responsive or otherwise declines to participate in the monitoring or education requirements of this section. For the purposes of this section: ~~If the sampling under that State or local law or program is consistent with subsections (b) and (c);~~

i) A CWS supplier may consider an elementary school or childcare facility non-responsive after the CWS supplier makes at least two separate outreach attempts to contact the facility to schedule sampling and does not receive any response on either attempt; and

ii) A CWS supplier may count a refusal or non-response from an elementary school or childcare facility as part of the minimum 20 percent of elementary schools and childcare facilities sampled per year.

B) This subsection (B) corresponds with 40 CFR 141.92(d)(1)(ii), which USEPA removed and reserved. This statement maintains structural consistency with the federal regulations. ~~If the sampling under that State or local law or program is consistent with subsections (b)(1)(A) through (b)(1)(F) and (c) and the sampling is coupled with certain remediation actions:~~

~~i) Disconnecting affected fixtures;~~

~~ii) Replacing affected fixtures with fixtures certified lead-free as Section 611.126(j) requires; or~~

~~iii) Installing POU devices;~~

~~C) If the sampling under that State or local law or program occurs in schools and child care facilities the supplier serves less frequently than once every five years, and the sampling is coupled with any of the remediation actions in subsection (d)(1)(B); or~~

~~D) If the sampling is conducted under a voluntary school and child care program lead testing grant awarded under section 1464(d) of SDWA (42 U.S.C. 300j-24(d)), consistent with the requirements of the grant.~~

2) Starting with the sixth year after the compliance date in Section 611.350(a)(3), CWS suppliers must conduct sampling as specified in subsection (f) when requested by an elementary school or childcare facility. ~~The term of the waiver may not exceed the duration of the mandatory or voluntary sampling, and the waiver must automatically expire at the end of any 12-month period during which sampling does not occur at the required number of schools or child care facilities.~~

A) A CWS supplier is not required under this subsection (d)(2) to sample more than 20 percent of the elementary schools and childcare facilities identified in subsection (b) in any given year. A CWS supplier is not required under this subsection (d)(2) to sample an individual elementary school or childcare facility more than once in any five-year period.

B) This subsection (B) corresponds with 40 CFR 141.92(d)(2)(ii), which USEPA removed and reserved.

3) The first time a supplier includes an elementary school or childcare facility in an update to the list of schools and childcare facilities required to be submitted to the Agency in subsection (b)(2), the supplier must conduct outreach at those elementary schools and childcare facilities as specified in subsection (c)(2) once prior to conducting sampling in compliance with subsection (d)(2). ~~The Agency may issue a SEP granting the supplier a partial waiver if the sampling covers only a subset of the schools or child care facilities the supplier serves as it listed under subsection (a)(1).~~

A) A CWS supplier may consider an elementary school or childcare facility non-responsive after the CWS supplier makes at least two separate outreach attempts to contact the facility to schedule sampling and does not receive any response on either attempt.

B) This subsection (B) corresponds with 40 CFR 141.92(d)(3)(ii), which USEPA removed and reserved. This statement maintains structural consistency with the federal regulations

~~4) The Agency may issue a SEP granting a waiver applicable to more than one supplier (e.g., one waiver for all suppliers subject to a statewide sampling program complying with subsection (d)).~~

e) Frequency of sampling at secondary schools. ~~Confirming or Revising Schools and Child Care Facilities in Inventory. At least once every five years, a supplier~~

~~must either confirm that the list it assembled under subsection (a)(1) of schools and child care facilities it serves has not changed or submit a revised list.~~

1) Starting with the compliance date in Section 611.350(a)(3), CWS suppliers must conduct sampling as specified in subsection (f) when requested by a secondary school

2) A CWS supplier is not required under this subsection (e) to sample more than 20 percent of the secondary schools identified in subsection (b) in any given year. A CWS supplier is not required under this subsection (e) to sample an individual secondary school more than once in any five-year period.

f) Lead sampling protocol for schools and childcare facilities. ~~Notice of results.~~

1) CWS suppliers must collect five samples per school and two samples per childcare facility at outlets typically used to provide water for human consumption. Except as provided in subsections (f)(1)(C) through (E), the outlets cannot have point-of-use devices. The CWS supplier must sample the following types and number of outlets: ~~A supplier must provide analytical results to the school or child care facility as soon as practicable but no later than 30 days after receiving them with information about remediation options.~~

A) For schools, two drinking water fountains, one kitchen faucet used for drinking or cooking, one classroom faucet or other outlet used to provide water for human consumption, and one nurse's office faucet, as available.

B) For childcare facilities, one drinking water fountain, and one of either a kitchen faucet used for drinking or cooking or one classroom faucet or other outlet used to provide water for human consumption.

C) If any school or childcare facility has fewer than the required number of outlets, the CWS supplier must sample all outlets used to provide water for human consumption.

D) The CWS supplier may sample at outlets with point-of-use devices if the facility has point-of-use devices installed on all outlets typically used to provide water for human consumption or if the school or childcare facility has fewer than the required number of outlets.

E) If any school or childcare facility does not contain the type of outlet listed in subsections (f)(1)(A) through (D), the CWS supplier must collect a sample from another outlet typically used to provide water for human consumption as identified by the facility, to meet the required number of samples provided in this subsection (f)(1).

2) CWS suppliers must collect the samples from the cold water tap subject to the following additional requirements: ~~A water system must annually provide analytical results:~~

A) Each sample for lead must be a first draw sample; ~~To the local and State health departments; and~~

B) The sample must be 250 ml in volume; ~~To the Agency under Section 611.360(i).~~

C) The water must have remained stationary in the plumbing system of the sampling site (building) for at least 8 but no more than 18 hours; and

D) Samples must be analyzed using acidification and the corresponding analytical methods in Section 611.359.

3) CWS suppliers, school, or childcare facility staff, or other appropriately trained individuals must collect samples in compliance with subsection (f)(1) and (2).

g) Notification of results. ~~Lead Sampling in Schools and Child Care Facilities on Request~~

1) CWS suppliers must provide sampling results, regardless of lead sample concentration, as soon as practicable but no later than 30 days after receipt of the results to: ~~A supplier must contact schools and child care facilities the supplier identified under subsection (a)(1) at least annually to provide:~~

A) The sampled school or childcare facility, along with information about potential options to remediate lead in drinking water (consistent with EPA's 3Ts for Reducing Lead in Drinking Water Toolkit, EPA-815-B-18-007, or subsequent EPA guidance); ~~Information about health risks from lead in drinking water;~~

B) The local and State health department; and ~~Information about how to request sampling for lead at the facility; and~~

C) The Agency in compliance with Section 611.360(i). ~~Information about sampling for lead in schools and child care facilities.~~

BOARD NOTE: USEPA has guidance available from USEPA, National Center for Environmental Publications: "3Ts for Reducing Lead in Drinking Water in Schools and Childcare~~Child Care~~ Facilities: A Training, Testing, and Taking Action Approach, Revised Manual" (October 2018), USEPA, Office of Water, doc. no. EPA 815-B-18-007 (search: "815B18007") and "U.S. EPA 3Ts Program Training, Testing & Taking Action: Lead Sample Collection Field Guide for Schools and Childcare~~Child Care~~ Facilities" (July 2022), USEPA, Office of Water, doc. no. EPA 815-F-22-009 (search: "815F22009") or subsequent EPA guidance.

2) This subsection (g)(2) corresponds with 40 CFR 141.92(g)(2), which USEPA removed and reserved. This statement maintains structural consistency with the federal regulations ~~A supplier must conduct sampling under subsection (b) when the school or facility requests, and the supplier must provide information to the facility:~~

~~A) Instructions for identifying outlets for sampling and preparing for sampling at least 30 days before it occurs; and~~

~~B) Results as subsection (f) requires.~~

~~3) If a supplier receives requests from more than 20 percent of the schools and child care facilities the supplier listed under subsection (a)(1) in a given year, the supplier may schedule sampling for those exceeding 20 percent for the following year. A supplier needs not sample an individual school or child care facility more than once every five years.~~

~~4) The Agency may issue a SEP exempting a CWS supplier from this Section by issuing a written waiver under subsection (d) if the supplier conducts voluntary sampling for lead in drinking water complying with this Section at schools and child care facilities the supplier serves.~~

h) Alternative school and childcare lead sampling programs.

1) If schools and childcare facilities served by a CWS supplier are sampled for lead in drinking water under a State or local law or program, the Agency may exempt one or more CWS(s) suppliers from the sampling requirements of this section by issuing a written waiver:

A) If the sampling meets the frequency requirements in subsection (d) for elementary schools and childcare facilities and subsection (e) for secondary schools and the protocol requirements in subsection (f); or

B) If the sampling meets the frequency requirements in subsection (d) for elementary schools and childcare facilities and subsection (e) for secondary schools and the protocol requirements in subsection (f) with the exception of sample size and stagnation time in subsections (f)(2)(B) and (C) and the sampling is conducted in addition to any of the following actions to remediate lead in drinking water:

i) Disconnect affected fixtures;

ii) Replace affected fixtures with fixtures certified as lead free; and

iii) Install and maintain point-of-use devices certified by an American National Standards Institute accredited certifier to reduce lead levels; or

C) If the sampling is conducted in schools and childcare facilities served by the CWS supplier less frequently than once every five years and that sampling is conducted in addition to any of the actions to remediate lead in drinking water specified in subsection (h)(1)(B); or

D) If the school or childcare facility maintains point-of use treatment devices as defined in Section 611.101 on all outlets used to provide water for human consumption; or

E) If the sampling is conducted under a grant awarded under section 1464(d) of the SDWA, consistent with the requirements of the grant and at least the minimum number of samples required in subsection (f) are collected.

2) The duration of the waiver cannot exceed the time period covered by the sampling and will automatically expire at the end of any 12-month period during which sampling is not conducted at the required number of schools or childcare facilities.

3) The Agency must only issue a waiver to the CWS supplier for the subset of the schools or childcare facilities served by the supplier as designated

under subsection (b) that are sampled under an alternative program as described in subsection (h)(1).

4) The Agency may issue a written waiver applicable to more than one CWS supplier (*e.g.*, one waiver for all CWS suppliers subject to a statewide sampling program that meets the requirements of this subsection (h)).

5) The Agency may issue a waiver for CWS suppliers to conduct the sampling requirements for the first five years following the compliance date in Section 611.350(a)(3) in the schools and childcare facilities that were sampled for lead between January 1, 2021, and the compliance date in Section 611.350(a)(3) that otherwise meets the requirements of subsection (h)(1).

BOARD NOTE: This Section derives from 40 CFR 141.92

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.363 Small Supplier Compliance Flexibility

~~This section gives compliance flexibility options applying to~~ Small CWS suppliers~~a small CWS supplier~~ serving 3,300~~10,000~~ or fewer persons and all~~or an~~ NTNCWS suppliers~~supplier~~ that exceed the lead action level, but do not exceed the copper action level, may elect to use this provision in lieu of the corrosion control treatment requirements otherwise applicable to small and NTNCWS suppliers in Section 611.351(a)(3), if approved by the Agency. This compliance flexibility is not available to suppliers where the Agency has obtained primacy for this subpart and the Agency does not adopt regulations to provide compliance flexibility consistent with this section. ~~A CWS or NTNCWS supplier having corrosion control treatment in place must continue operating and maintaining OCCT until the Agency issues a SEP determining this no longer necessary, and the supplier must comply with any conditions the Agency are appropriate before implementing an Agency-approved compliance flexibility option under this Section.~~

a) Small CWS suppliers and NTNCWS suppliers that elect to use this section must: ~~A small CWS or NTNCWS supplier exceeding the lead trigger level but neither the lead nor copper action level must collect samples for water quality parameters under Section 611.357(b), evaluate compliance flexibility options under subsections (a)(1) through (a)(4), and recommend a compliance flexibility option to the Agency within six months of the end of the tap sampling period in which the exceedance occurred. When recommending to the Agency, the supplier must comply with Section 611.382(a)(1). The Agency must either approve the supplier's recommended compliance flexibility option or designate an alternative under subsections (a)(1) through (a)(4) within six months after the supplier recommends an option. If the supplier subsequently exceeds the lead action level, the supplier must implement the Agency-approved compliance flexibility option~~

~~under subsection (b). A supplier must select one from among specific compliance flexibility options:~~

1) ~~Replacing Lead Service Lines. A supplier must implement a program for full lead service line replacement on an Agency-approved schedule not exceeding 15 years. The supplier must begin replacing lead service lines within one year after the Agency approves or designates this compliance flexibility option.~~

   ~~A)~~ ~~The supplier must replace lead service lines complying with Section 611.354(e) and (g)(4), (g)(8), and (g)(9).~~

   ~~B)~~ ~~The supplier must continue replacing lead service lines even if the supplier's 90th percentile lead concentration is at or below the lead action level in future tap monitoring cycles.~~

   ~~C)~~ ~~The supplier must have no lead, galvanized requiring replacement, or lead status unknown service lines in its inventory before ending its lead service line replacement program.~~

2) For suppliers without corrosion control, collect water quality parameters in compliance with Section 611.357 and, if the supplier has not installed OCCT in compliance with Section 611.351(e), evaluate compliance options in subsections (c)(1) and (2) and corrosion control treatment under Section 611.351(e)(1). ~~Corrosion Control Treatment. A supplier must install and maintain OCCT under Sections 611.351 and 611.352, even if its 90th percentile concentration is at or below the lead action level in future tap monitoring cycles. A supplier having installed corrosion control treatment must re-optimize its corrosion control treatment under Section 611.351(d). A supplier the Agency requires to optimize or re-optimize corrosion control treatment must follow the appropriate schedule in Section 611.351(d) or (e), beginning with Step 3 in Section 611.351(d)(3) or (e)(3), unless the Agency specifies OCCT under the applicable of Section 611.351(d)(2)(B) or (e)(2).~~

~~3)~~ ~~Point-of-Use Devices. A supplier must continue installing, maintaining, and monitoring POU devices in each household or building it serves even if its 90th percentile lead concentration is at or below the action level in future tap monitoring cycles.~~

   ~~A)~~ ~~Schedule for Installing POU Devices~~

      ~~i)~~ ~~A CWS supplier must install a minimum of one POU device (at one tap) in every household and at every tap~~

persons use for cooking or drinking in every non-residential building the supplier serves on a schedule not exceeding one year the Agency specifies in a SEP.

ii) An NTNCWS supplier must provide a POU device to every tap persons use for cooking or drinking on a schedule not exceeding three months the Agency specifies in a SEP.

B) A third party must independently certify the POU device to meet the American National Standards Institute standard applying to the specific type of POU unit for reducing lead in drinking water.

C) The supplier must maintain each POU device according to its manufacturer's recommendations to ensure the POU device continues effectively filtering, including changing filter cartridges and resolving any operational issues. The POU devices must have mechanical warnings ensuring automatic notice to customers of operational problems. The supplier must certify to the Agency under Section 611.360(j)(1) that it maintains the POU devices, unless the Agency issues a SEP waiving this requirement.

D) The supplier must monitor one-third of the POU devices each year and all POU devices within a three-year cycle. The supplier must collect first draw tap samples under this Section after water passes through the POU device to assess its performance. Samples must be one-liter in volume and have had a minimum six-hour stagnation time. Results from all samples must not exceed the lead trigger level. The supplier must report its tap sampling results no later than 10 days after the end of the tap monitoring cycle under Section 611.360(j)(1). The supplier must document the problem and take corrective action at any site exceeding the lead trigger level. If a site exceeds the lead trigger level, the supplier must reach out to the homeowner or building manager or, if applicable, both no later than 24 hours after receiving the tap sample results. The supplier must complete the corrective action within 30 days. If the supplier does not complete the corrective action within 30 days, the supplier must document to the Agency within 30 days explaining why the supplier was unable to correct the issue.

E) The supplier must provide public education to consumers under Section 611.355(j) informing them how to properly use POU devices to maximize their effectiveness in reducing lead concentrations.

~~F) The supplier must operate and maintain the POU devices until the Agency approves another compliance flexibility option, and supplier implements it.~~

~~4) Replacing Lead-Bearing Plumbing. A supplier controlling all plumbing in buildings the supplier serves and having no lead status unknown, galvanized requiring replacement, or lead service lines must replace all plumbing that is not lead free as Section 611.126(c) defines the term when the supplier replaces it. Replacing all lead-bearing plumbing must occur on a schedule not exceeding one year as established by the Agency in a SEP. The supplier must certify to the Agency that it has replaced all lead-bearing material under Section 611.360(j)(2).~~

b) The supplier must make a compliance option recommendation to the Agency within six months of the end of the tap sampling period in which the lead action level exceedance occurred. Within six months of the recommendation by the supplier, the Agency must approve or disapprove the recommendation. If the Agency disapproves the recommendation, the Agency may designate the other compliance alternative as an option for the supplier. If the Agency does not designate the other compliance alternative as an option for the supplier, the supplier must comply with the otherwise applicable corrosion control treatment requirements under Section 611.351(d) for suppliers with corrosion control or Section 611.351(e) for suppliers without corrosion control treatment. Suppliers must follow the schedules in Section 351(d) or (e), beginning with step 3 in Section 611.351(d)(3) or (e)(3) unless the Agency specifies optimal corrosion control treatment under either Section 611.351(d)(2) or (e)(2), as applicable. If the supplier fails to implement the approved alternative compliance option, or the Agency revokes approval for the alternative compliance option, then the supplier must follow the requirements for small and NTNCWS suppliers as described under Section 611.351(a)(3). ~~Implementing a Compliance Option after Exceeding an Action Level~~

~~1) A supplier exceeding the lead action level after exceeding the lead trigger level but not exceeding the copper action level must implement the compliance option the Agency approved under subsection (a).~~

~~2) A supplier exceeding the lead action level but not the copper action level and not previously exceeding the lead trigger level must comply with subsection (a) and implement the compliance option the Agency approved under subsection (a).~~

~~3) A supplier exceeding the lead trigger level after implementing a compliance option the Agency approved under subsection (a) must complete the steps in subsection (a). If the supplier later exceeds the lead~~

~~action level, the supplier must implement the compliance option the Agency approved under subsection (a).~~

c) Alternative compliance options:

1) Alternative compliance option: point-of-use devices. A supplier that elects the compliance option in this subsection (c)(1), must install, maintain, and monitor POU devices in each household and each building served by the supplier.

A) POU device installation.

i) A CWS supplier must install a minimum of one POU device (at one tap) in every household and at every tap that is used for cooking and/or drinking in every non-residential building in its distribution system on a schedule specified by the Agency, but not to exceed one year after Agency approval.

ii) An NTNCWS supplier must provide a POU device to every tap that is used for cooking and/or drinking on a schedule specified by the Agency, but not to exceed three months.

B) 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.

C) The POU device must be maintained by the supplier in compliance with the manufacturer's recommendations or on a more frequent schedule if required by the Agency to ensure continued effective filtration, including but not limited to changing filter cartridges and resolving any operational issues. The POU device must be equipped with mechanical warnings to ensure that consumers are automatically notified of operational problems. The supplier must provide documentation to the Agency to certify maintenance of the POU devices, unless the Agency waives this requirement, in compliance with Section 611.360(j)(1).

D) The supplier must monitor, in compliance with this subsection (c)(1)(D), one-third of the POU devices each year and all POU devices must be monitored within a three-year cycle. First liter tap samples collected under this section must be taken after water passes through the POU device to assess its performance. Samples

must be one liter in volume and have had a minimum 6-hour stagnation time. All samples must be at or below 0.010 mg/L. Suppliers must report the results from the tap sampling no later than 10 days after the end of the tap sampling period in compliance with Section 611.360(j)(1). If a sample exceeds 0.010 mg/L, the supplier must notify the persons served by the POU device, and/or building management no later than one business day of receiving the tap sample results. The supplier must document and take corrective action at each site where the sample result exceeds the lead action level. Corrective action must be completed within 30 days. If the corrective action is not completed within 30 days, the supplier must provide documentation to the Agency within 30 days explaining why it was unable to correct the issue.

E) The supplier must provide public education to consumers to inform them of proper use of POU devices.

i) Content. All small CWS suppliers serving 3,300 or fewer persons and NTNCWS suppliers approved to implement POU devices under this subsection (c)(1) must provide public education materials to inform users how to properly use POU devices to maximize the units' effectiveness in reducing lead levels in drinking water. Public education materials must meet the requirements of Sections 611.355(a)(1)(B) through (D).

ii) Timing. Suppliers must provide the public education materials at the time of POU device delivery.

iii) Delivery. Suppliers must provide the public education materials in person, by mail, or by another method approved by the Agency, to persons at locations where the supplier has delivered POU devices.

F) The supplier must operate and maintain the POU devices even if the supplier's system is at or below the action level in future tap monitoring periods until the supplier receives Agency approval to select the other compliance flexibility option or follow Section 611.351(d) or (e) and the supplier has fully implemented it.

2) Alternative compliance option: replacement of lead-bearing plumbing. A supplier that has control over all plumbing in its buildings, and is not served by lead, galvanized requiring replacement, or unknown service lines, must replace all plumbing that does not meet the definition of "lead

free" in section 1417 of the Safe Drinking Water Act, as amended by the Reduction of Lead in Drinking Water Act and any future amendments applicable at the time of replacement. The replacement of all lead-bearing plumbing must occur on a schedule established by the Agency but not to exceed one year. Suppliers must provide certification to the Agency that all lead-bearing material has been replaced in compliance with Section 611.360(j)(2).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART I: DISINFECTANT RESIDUALS, DISINFECTION BYPRODUCTS, AND DISINFECTION BYPRODUCT PRECURSORS

Section 611.380 General Requirements

a) This Subpart I Constitutes NPDWRs

1) This Subpart I establishes standards for a CWS supplier or an NTNCWS supplier adding a chemical disinfectant to its water in any part of the treatment process modifying its practices to comply with MCLs and MRDLs in Sections 611.312 and 611.313, respectively, and complying with the treatment technique requirements for DBP precursors in Section 611.385.

2) This Subpart I establishes standards for a transient non-CWS supplier using chlorine dioxide as a disinfectant or oxidant modifying its practices to comply with the MRDL for chlorine dioxide in Section 611.313.

3) MCLs for TTHM and HAA5 and treatment technique requirements for DBP precursors limit the levels of known and unknown DBPs that may have adverse health effects. These DBPs may include chloroform, bromodichloromethane, dibromochloromethane, bromoform, dichloroacetic acid, and trichloroacetic acid.

b) This subsection (b) corresponds with 40 CFR 141.130(b), which recites past implementation deadlines. This statement maintains structural consistency with the corresponding federal rules.

c) Qualified personnel complying with 35 Ill. Adm. Code 681 must operate the water system for each CWS or NTNCWS supplier subject to subsection (a).

d) Controlling Disinfectant Residuals. DespiteNotwithstanding the MRDLs in Section 611.313, a supplier may increase residual disinfectant levels of chlorine or chloramines (but not chlorine dioxide) in its distribution system to a level and for a

time necessary to protect public health, to address specific microbiological contamination problems caused by circumstances such as distribution line breaks, storm run-off events, source water contamination events, or cross-connection events.

BOARD NOTE: This Section derives from 40 CFR 141.130.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.381 Analytical Requirements

a) A supplier must use only the analytical methods this Section specifies, each incorporated by reference in Section 611.102, or alternative methods that the Agency approved under Section 611.480 to demonstrate that it complies with this Subpart I and Subparts W and Y.

b) Disinfection Byproducts (DBPs)

1) Methods for Disinfection Byproducts (DBPs)

A) TTHM

i) By Purge and Trap, Gas Chromatography, Electrolytic Conductivity Detector, and Photoionization Detector. USEPA 502.2 (95). If TTHMs are the only analytes the laboratory measures in the sample, it needs not use a photoionization detector.

ii) By Purge and Trap, Gas Chromatography-Mass Spectrometer. USEPA 524.2 (95) or USEPA 524.3 (09), or USEPA 524.4 (13).

iii) By Liquid-Liquid Extraction, Gas Chromatography, Electron Capture Detector. USEPA 551.1 (95).

B) HAA5

i) Liquid-Liquid Extraction (Diazomethane), Gas Chromatography, Electron Capture Detector. SM 6251 B (94) or SM 6251 B (07).

ii) Solid Phase Extractor (Acidic Methanol), Gas Chromatography, Electron Capture Detector. USEPA 552.1 (92).

iii) Liquid-Liquid Extraction (Acidic Methanol), Gas Chromatography, Electron Capture Detector. USEPA 552.2 (95) or 552.3 (03).

iv) Ion Chromatography, Electrospray Ionization, Tandem Mass Spectrometry. USEPA 557 (09).

v) Two-Dimensional Ion Chromatography (IC) with Suppressed Conductivity Detection. Thermo-Fisher 557.1 (17).

C) Bromate

i) Ion Chromatography. ASTM D6581-00 or USEPA 300.1 (97).

ii) Ion Chromatography and Post-Column Reaction. USEPA 317.0 (01) or USEPA 326.0 (02).

iii) Inductively Coupled Plasma-Mass Spectrometer. USEPA 321.8 (97).

iv) Two-Dimensional Ion Chromatography. USEPA 302.0 (09).

v) Ion Chromatography, Electrospray Ionization, Tandem Mass Spectrometry. USEPA 557 (09).

vi) Chemically Suppressed Chromatography. ASTM D6581-08 A.

vii) Electrolytically Suppressed Chromatography. ASTM D6581-08 B.

BOARD NOTE: The supplier must use ion chromatography and post column reaction or inductively coupled plasma-mass spectrometry to monitor bromate to demonstrate eligibility for reduced monitoring under Section 611.382(b)(3)(B). For inductively coupled plasma-mass spectrometry, the supplier must preserve samples at the time of sampling with 50 mg ethylenediamine (EDA) per liter of sample, and the supplier must analyze the samples within 28 days.

D) Chlorite

i) Amperometric Titration for Daily Monitoring Under Section 611.382(b)(2)(A)(i). SM 4500-ClO_2 E (93) or 4500-ClO_2 E (00).

ii) Amperometric Sensor for Daily Monitoring Under Section 611.382(b)(2)(A)(i). Palintest ChlordioX Plus (13) or Palintest ChlordioX Plus (20).

iii) Spectrophotometry. USEPA 327.0 (05).

iv) Ion Chromatography. USEPA 300.0 (09), USEPA 300.1 (97), USEPA 317.0 (01), USEPA 326.0 (02), or ASTM D6581-00.

v) Chemically Suppressed Chromatography. ASTM D6581-08 A.

vi) Electrolytically Suppressed Chromatography. ASTM D6581-08 B.

BOARD NOTE: The supplier may use amperometric titration or spectrophotometry for routine daily monitoring of chlorite at the entrance to the distribution system under Section 611.382(b)(2)(A)(i). The supplier must use ion chromatography for routine monthly chlorite monitoring and additional chlorite monitoring in the distribution system, as Section 611.382(b)(2)(A)(ii) and (b)(2)(B) require.

2) Only a certified laboratory in one of the categories in Section 611.490(a) may conduct analyses for DBPs under this Section except as subsection (b)(3) specifies otherwise. To receive certification to conduct analyses for the DBP contaminants in Sections 611.312 and 611.381 and Subparts W and Y, the laboratory must fulfill the specific conditions in subsections (b)(2)(A), (b)(2)(C), and (b)(2)(D).

A) The laboratory must analyze performance evaluation (PE) samples acceptable to the Agency at least once during each consecutive 12-month period by each method for which the laboratory seeks certification.

B) This subsection corresponds with 40 CFR 141.131(b)(2)(ii), which has expired by its own terms. This statement maintains structural

consistency with the corresponding federal rule.

C) The laboratory must achieve quantitative results on the PE sample analyses within the acceptance limits in subsections (b)(2)(C)(i) through (b)(2)(B)(xi), subject to subsections (b)(2)(C)(xii) and (b)(2)(C)(xiii):

i) Chloroform (a THM): ±20% of true value;

ii) Bromodichloromethane (a THM): ±20% of true value;

iii) Dibromochloromethane (a THM): ±20% of true value;

iv) Bromoform (a THM): ±20% of true value;

v) Monochloroacetic Acid (an HAA5): ±40% of true value;

vi) Dichloroacetic Acid (an HAA5): ±40% of true value;

vii) Trichloroacetic Acid (an HAA5): ±40% of true value;

viii) Monobromoacetic Acid (an HAA5): ±40% of true value;

ix) Dibromoacetic Acid (an HAA5): ±40% of true value;

x) Chlorite: ±30% of true value; and

xi) Bromate: ±30% of true value.

xii) The laboratory must meet all four of the individual THM acceptance limits in subsections (b)(2)(B)(i) through (b)(2)(B)(iv) to successfully pass a PE sample for TTHM.

xiii) The laboratory must meet the acceptance limits for four out of the five HAA5 compounds in subsections (b)(2)(B)(v) through (b)(2)(B)(ix) to successfully pass a PE sample for HAA5.

D) The laboratory must report quantitative data for concentrations at least as low as the minimum reporting levels (MRLs) in subsections (b)(2)(D)(i) through (b)(2)(D)(xi), subject to subsections (b)(2)(D)(xii) and (b)(2)(D)(xiii), for all DBP samples it analyzes to comply with Sections 611.312 and 611.385 and Subparts W and Y:

i) Chloroform (a THM): 0.0010 mg/L;

ii) Bromodichloromethane (a THM): 0.0010 mg/ L;

iii) Dibromochloromethane (a THM): 0.0010 mg/ L;

iv) Bromoform (a THM): 0.0010 mg/ L;

v) Monochloroacetic Acid (an HAA5): 0.0020 mg/ L;

vi) Dichloroacetic Acid (an HAA5): 0.0010 mg/ L;

vii) Trichloroacetic Acid (an HAA5): 0.0010 mg/ L;

viii) Monobromoacetic Acid (an HAA5): 0.0010 mg/ L;

ix) Dibromoacetic Acid (an HAA5): 0.0010 mg/ L;

x) Chlorite: 0.020 mg/ L, applicable to monitoring as required by Section 611.382(b)(2)(A)(ii) and (b)(2)(B); and

xi) Bromate: 0.0050, or 0.0010 mg/ L if the laboratory uses USEPA 317.0 (01), USEPA 321.8 (97), or USEPA 326.0 (02).

xii) The calibration curve must encompass the regulatory MRL concentration. The laboratory may report data for concentrations lower than the regulatory MRL if the laboratory meets the precision and accuracy criteria by analyzing an MRL check standard at the lowest reporting limit the laboratory chooses. The laboratory must verify the accuracy of the calibration curve at the MRL concentration by analyzing an MRL check standard with a concentration less than or equal to 110% of the MRL with each batch of samples. The measured concentration for the MRL check standard must be ±50% of the expected value if any field sample in the batch has a concentration less than five times the regulatory MRL. The laboratory must analyze higher concentration check standards and meet tighter acceptance criteria in addition to the MRL check standard.

xiii) When adding the individual trihalomethane or haloacetic

acid concentrations for the compounds listed in subsections (b)(2)(D)(v) through (b)(2)(D)(ix) to calculate the TTHM or HAA5 concentrations, a zero is used for any analytical result that is less than the MRL concentration for that DBP, unless the Agency specifies otherwise.

3) A party must measure daily chlorite samples at the entrance to the distribution system as the Agency requires.

c) Disinfectant Residuals

1) A supplier must measure residual disinfectant concentrations for free chlorine, combined chlorine (chloramines), and chlorine dioxide using the methods in subsections (c)(1)(A) through (c)(1)(D), subject to subsection (c)(1)(E):

A) Free Chlorine

i) Amperometric Titration. ASTM D1253-86, ASTM D1253-96, ASTM D1253-03, ASTM D1253-08, ASTM D1253-14, SM 4500-Cl D (93), or SM 4500-Cl D (00).

ii) DPD Ferrous Titration. SM 4500-Cl F (93) or SM 4500-Cl F (00).

iii) DPD Colorimetric. Hach 10260 (13), SM 4500-Cl G (93), or SM 4500-Cl G (00).

iv) Syringaldazine (FACTS). SM 4500-Cl H (93) or SM 4500-Cl H (00).

v) Test Strips. ITS D99-003 (03) if approved by the Agency under subsection (c)(2).

vi) Amperometric Sensor. Palintest ChloroSense (09) or Palintest ChloroSense (20).

vii) On-Line Chlorine Analyzer. USEPA 334.0 (09).

viii) Indenophenol Colorimetric. Hach 10241 (15).

B) Combined Chlorine

i) Amperometric Titration. ASTM D1253-86, ASTM D1253-

96, ASTM D1253-03, ASTM D1253-08, or ASTM D1253-14, SM 4500-Cl D (93), or SM 4500-CL D (00).

ii) DPD Ferrous Titration. SM 4500-Cl F (93) or SM 4500-Cl F (00).

iii) DPD Colorimetric. Hach 10260 (13), SM 4500-Cl G (93), or SM 4500-Cl G (00).

C) Total Chlorine

i) Amperometric Titration. ASTM D1253-86, ASTM D1253-96, ASTM D1253-03, ASTM D1253-08, or ASTM D1253-14, SM 4500-Cl D (93), or SM 4500-Cl D (00).

ii) Low-Level Amperometric Titration. SM 4500-Cl E (93) or SM 4500-Cl E (00).

iii) DPD Ferrous Titration. SM 4500-Cl F (93) or SM 4500-Cl F (00).

iv) DPD Colorimetric. Hach 10260 (13), SM 4500-Cl G (93), or SM 4500-Cl G (00).

v) Iodometric Electrode. SM 4500-Cl I (93) or SM 4500-Cl I (00).

vi) Amperometric Sensor. Palintest ChloroSense (09) or Palintest ChloroSense (20).

vii) On-Line Chlorine Analyzer. USEPA 334.0 (09).

D) Chlorine Dioxide

i) DPD. SM 4500-ClO_2 D (93) or SM 4500-ClO_2 D (00).

ii) Amperometric Method II. SM 4500-ClO_2 E (93) or SM 4500-ClO_2 E (00).

iii) Amperometric Sensor. Palintest ChlordioX Plus (13) or Palintest ChlordioX Plus (20).

iv) Lissamine Green Spectrophotometric. USEPA 327.0 (05).

E) USEPA approved these methods for measuring the specified disinfectant residual. The supplier may measure free chlorine or total chlorine for the chlorine MRDL and combined chlorine. The supplier may measure total chlorine for the chloramine MRDL.

2) Alternative Methods Available Only upon Specific Agency Approval

A) Test Strips. ITS Method D99-003 (03).
BOARD NOTE: USEPA added ITS Method D99-003 (03) as an approved alternative method, contingent upon specific State approval. The Agency may issue a SEP approving this method on a case-by-case basis.

B) If the Agency approves in a SEP, a supplier may also measure residual disinfectant concentrations for chlorine, chloramines, and chlorine dioxide using DPD colorimetric test kits.

3) An Agency-approved party must measure residual disinfectant concentration.

d) A supplier that must analyze parameters not included in subsections (b) and (c) must use the methods in this subsection (d). An Agency-approved party must measure certain parameters:

1) Alkalinity. All methods in Section 611.611(a)(21) for alkalinity.

2) Bromide. Ion Chromatography. ASTM D6581-00, USEPA 300.0 (93), USEPA 300.1 (97), USEPA 317.0 (01), or USEPA 326.0 (02).

3) Total Organic Carbon (TOC), by any of the methods in subsection (d)(3)(A), subject to subsection (d)(3)(B).

A) Analytical Methods

i) High-Temperature Combustion. SM 5310 B (92), SM 5310 B (96), SM 5310 B (00), SM 5310 B (14), SM 5310 B (22), USEPA 415.3 (05), or USEPA 415.3 (09).

ii) Persulfate-Ultraviolet or Heated-Persulfate Oxidation. Hach 10267 (15), SM 5310 C (92), SM 5310 C (96), SM 5310 C (00), SM 5310 C (14), USEPA 415.3 (05), or USEPA 415.3 (09).

iii) Wet Oxidation Method. SM 5310 D (92), SM 5310 D (96),

SM 5310 D (00), SM 5310 D (14), USEPA 415.3 (05), or USEPA 415.3 (09).

iv) Ozone Oxidation. Hach 10261 (15).

B) The supplier must remove inorganic carbon from the samples prior to analysis. The supplier and supplier must not filter TOC samples prior to analysis. The supplier must acidify TOC samples at the time of sample collection to achieve pH less than or equal to 2 with minimal addition of the acid the method specifies or instrument manufacturer recommends. The supplier must analyze acidified TOC samples within 28 days.

4) Specific Ultraviolet Absorbance (SUVA). SUVA is equal to the UV absorption at 254 nm (UV_{254}) (measured in m^{-1}) divided by the dissolved organic carbon (DOC) concentration (measured as mg/ L). To determine SUVA, the supplier must separately measure UV_{254} and DOC. When determining SUVA, a supplier must use the methods in subsection (d)(4)(A) for DOC and the method in subsection (d)(4)(B) for UV_{254}. The supplier must determine SUVA on water prior to the supplier adding disinfectants or oxidants. The supplier must take DOC and UV_{254} samples for a SUVA value at the same time and at the same location.

A) Dissolved Organic Carbon (DOC). Prior to analysis, the supplier must filter DOC samples through the 0.45 µm pore-diameter filter as soon as practical after sampling, not to exceed 48 hours. After filtration, the supplier must acidify DOC samples to achieve pH less than or equal to 2 with minimal addition of the acid the method or instrument manufacturer specifies. The supplier must analyze acidified DOC samples within 28 days after sample collection. The supplier must remove inorganic carbon from the samples prior to analysis. The supplier must use water passed through the filter as the filtered blank. The supplier must analyze this filtered blank using procedures identical to those it used for analysis of the samples, and the blank must less than 0.5 mg/ L DOC.

i) High-Temperature Combustion Method. SM 5310 B (92), SM 5310 B (96), SM 5310 B (00), SM 5310 B (14), SM 5310 B (22) USEPA 415.3 (05), or USEPA 415.3 (09).

ii) Persulfate-Ultraviolet or Heated-Persulfate Oxidation Method. SM 5310 C (92), SM 5310 C (96), SM 5310 C (00), SM 5310 C (14), USEPA 415.3 (05), or USEPA 415.3

(09).

iii) Wet-Oxidation Method. SM 5310 D (92), (96), SM 5310 D (00), USEPA 415.3 (05), or USEPA 415.3 (09).

B) Ultraviolet Absorption at 254 nm (UV_{254}) by Spectrometry. SM 5910 B (94), SM 5910 B (00), 5910 B (11), 5910 B (13), USEPA 415.3 (05), or USEPA 415.3 (09). The supplier must measure UV absorption at 253.7 nm (may be rounded off to 254 nm). Prior to analysis, the supplier must filter UV_{254} samples through a 0.45 μm pore-diameter filter. The supplier must not adjust pH of UV_{254} samples. The supplier must analyze samples as soon as practical after sampling, not to exceed 48 hours.

5) pH. All methods in Section 611.611(a)(17) for pH.

6) Magnesium. All methods in Section 611.611(a) for magnesium.

BOARD NOTE: This Section derives from 40 CFR 141.131 and appendix A to 40 CFR 141. The Board did not separately list approved alternative methods from Standard Methods Online that are the same version as a method appearing in a printed edition of Standard Methods. Using the Standard Methods Online copy is acceptable.

Standard Methods Online, Methods 4500-Cl D-93, 4500-Cl E-93, 4500-Cl F-93, 4500-Cl G-93, 4500-Cl H-93, and 4500-Cl I-93 appear in the 19th and 20th editions as Methods 4500-Cl D, 4500-Cl E, 4500-Cl F, 4500-Cl G, 4500-Cl H, and 4500-Cl I. These appear in this Section as SM 4500-Cl D (93), SM 4500-Cl E (93), SM 4500-Cl F (93), SM 4500-Cl G (93), SM 4500-Cl H (93), and SM 4500-Cl I (93).

Standard Methods Online, Methods 4500-Cl D-00, 4500-Cl E-00, 4500-Cl F-00, 4500-Cl G-00, 4500-Cl H-00, and 4500-Cl I-00 appear in the 21st, 22nd, and 23rd editions as Methods 4500-Cl D, 4500-Cl E, 4500-Cl F, 4500-Cl G, 4500-Cl H, and 4500-Cl I. These appear in this Section as SM 4500-Cl D (00), 4500-Cl E (00), 4500-Cl F (00), 4500-Cl G (00), 4500-Cl H (00), and 4500-Cl I (00).

Standard Methods Online, Methods 4500-ClO_2 D-93 and 4500-ClO_2 E-93 appear in the 19th and 20th editions as Methods 4500-ClO_2 D and 4500-ClO_2 E. These appear in this Section as SM 4500-ClO_2 D (93) and SM 4500-ClO_2 E (93).

Standard Methods Online, Methods 4500-ClO_2 D-00 and 4500-ClO_2 E-00 appear in the 21st, 22nd, and 23rd editions as Methods 4500-ClO_2 D and 4500-ClO_2 E. These appear in this Section as SM 4500-ClO_2 D (00) and SM 4500-ClO_2 E (00).

Standard Methods Online, Methods 5310 B-00, 5310 C-00, and 5310 D-00 appear in the

21st and 22nd editions as Methods 5310 B, 5310 C, and 5310 D. These appear in this Section as SM 5310 B (00), SM 5310 C (00), and SM 5310 D (00).

Standard Methods Online, Method 5910 B-00 appears in the 21st edition as Method 5910 B. This appears in this Section as SM 5910 B (00).

Standard Methods Online, Method 5910 B-11 appears in the 22nd edition as Method 5910 B. This appears in this Section as SM 5910 B (11).

Standard Methods Online, Method 6251 B-94 appears in the 19th, 20th, and 21st editions as Method 6251 B. This appears in this Section as SM 6251 B (94).

Standard Methods Online, Method 6251 B-07 appears in the 22nd and 23rd editions as Method 5910 B. This appears in this Section as SM 6251 B (07).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.382 Monitoring Requirements

a) General Requirements

1) A supplier must take all samples during normal operating conditions.

2) A supplier may consider multiple wells drawing water from a single aquifer as one treatment plant for determining the minimum number of TTHM and HAA5 samples required with Agency approval.

3) Failure to monitor in compliance~~accordance~~ with the monitoring plan required under subsection (f) is a monitoring violation.

4) If compliance is based on a running annual average of monthly or quarterly samples or averages and the supplier's failure to monitor makes it impossible to determine compliance with MCLs or MRDLs, this failure to monitor will be treated as a violation for the entire period covered by the annual average.

5) A supplier must use only data collected under the provisions of this Subpart I to qualify for reduced monitoring.

b) Monitoring Requirements for Disinfection Byproducts (DBPs)

1) TTHMs and HAA5

A) Routine Monitoring. A supplier must monitor at the following frequency:

i) A Subpart B system supplier that serves 10,000 or more persons must collect four water samples per quarter per treatment plant. At least 25 percent of all samples collected each quarter must be collected at locations representing maximum residence time. The remaining samples may be taken at locations representative of at least average residence time in the distribution system and representing the entire distribution system, taking into account the number of persons served, the different sources of water, and the different treatment methods.

ii) A Subpart B system supplier that serves from 500 to 9,999 persons must collect one water sample per quarter per treatment plant. The samples must be collected from locations representing maximum residence time.

iii) A Subpart B system supplier that serves fewer than 500 persons must collect one sample per year per treatment plant during month of warmest water temperature. The samples must be collected from locations representing maximum residence time. If the sample (or average of annual samples, if more than one sample is taken) exceeds the MCL, the supplier must increase the monitoring frequency to one sample per treatment plant per quarter, taken at a point reflecting the maximum residence time in the distribution system, until the supplier meets the standards in subsection (b)(1)(D).

iv) A supplier that uses only groundwater not under direct influence of surface water, that uses chemical disinfectant, and that serves 10,000 or more persons must collect one water sample per quarter per treatment plant. The samples must be collected from locations representing maximum residence time.

v) A supplier that uses only groundwater not under direct influence of surface water, that uses chemical disinfectant, and that serves fewer than 10,000 persons must collect one sample per year per treatment plant during month of warmest water temperature. The samples must be collected from locations representing maximum residence time. If

the sample (or average of annual samples, if more than one sample is taken) exceeds MCL, the supplier must increase monitoring to one sample per treatment plant per quarter, taken at a point reflecting the maximum residence time in the distribution system, until the supplier meets standards in subsection (b)(1)(D).

BOARD NOTE: If a supplier elects to sample more frequently than the minimum required, at least 25 percent of all samples collected each quarter (including those taken in excess of the required frequency) must be taken at locations that represent the maximum residence time of the water in the distribution system. The remaining samples must be taken at locations representative of at least average residence time in the distribution system. For a supplier using groundwater not under the direct influence of surface water, multiple wells drawing water from a single aquifer may be considered one treatment plant for determining the minimum number of samples required, with Agency approval.

B) A supplier may reduce monitoring, except as otherwise provided, in compliance~~accordance~~ with the following:

i) A Subpart B system supplier that serves 10,000 or more persons and that has a source water annual average TOC level, before any treatment, of less than or equal to 4.0 mg/ℓ may reduce monitoring if it has monitored for at least one year and its TTHM annual average is less than or equal to 0.040 mg/ℓ and HAA5 annual average is less than or equal to 0.030 mg/ℓ. The reduced monitoring allowed is a minimum of one sample per treatment plant per quarter at a distribution system location reflecting maximum residence time.

ii) A Subpart B system supplier that serves from 500 to 9,999 persons and that has a source water annual average TOC level, before any treatment, of less than or equal to 4.0 mg/ℓ may reduce monitoring if it has monitored at least one year and its TTHM annual average is less than or equal to 0.040 mg/ℓ and HAA5 annual average is less than or equal to 0.030 mg/ℓ. The reduced monitoring allowed is a minimum of one sample per treatment plant per year at a distribution system location reflecting maximum residence time during month of warmest water temperature.

BOARD NOTE: Any Subpart B system supplier that serves fewer than 500 persons may not reduce its monitoring to less than one sample per treatment plant per year.

iii) A supplier using only groundwater not under direct influence of surface water using chemical disinfectant and that serves 10,000 or more persons may reduce monitoring if it has monitored at least one year and its TTHM annual average is less than or equal to 0.040 mg/ℓ and HAA5 annual average is less than or equal to 0.030 mg/ℓ. The reduced monitoring allowed is a minimum of one sample per treatment plant per year at a distribution system location reflecting maximum residence time during month of warmest water temperature.

iv) A supplier using only groundwater not under direct influence of surface water that uses chemical disinfectant and that serves fewer than 10,000 persons may reduce monitoring if it has monitored at least one year and its TTHM annual average is less than or equal to 0.040 mg/ℓ and HAA5 annual average is less than or equal to 0.030 mg/ℓ for two consecutive years or TTHM annual average is less than or equal to 0.020 mg/ℓ and HAA5 annual average is less than or equal to 0.015 mg/ℓ for one year. The reduced monitoring allowed is a minimum of one sample per treatment plant per three year monitoring cycle at a distribution system location reflecting maximum residence time during month of warmest water temperature, with the three-year cycle beginning on January 1 following the quarter in which the supplier qualifies for reduced monitoring.

C) Monitoring Requirements for Source Water TOC. In order to qualify for reduced monitoring for TTHM and HAA5 under subsection (b)(1)(B), a Subpart B system supplier not monitoring under the provisions of subsection (d) must take monthly TOC samples every 30 days at a location prior to any treatment. In addition to meeting other criteria for reduced monitoring in subsection (b)(1)(B), the source water TOC running annual average must be ≤4.0 mg/ℓ (based on the most recent four quarters of monitoring) on a continuing basis at each treatment plant to reduce or remain on reduced monitoring for TTHM and HAA5. Once qualified for reduced monitoring for TTHM and HAA5

under subsection (b)(1)(B), a system may reduce source water TOC monitoring to quarterly TOC samples taken every 90 days at a location prior to any treatment.

D) A Subpart B system supplier on a reduced monitoring schedule may remain on that reduced schedule as long as the average of all samples taken in the year (for a supplier that must monitor quarterly) or the result of the sample (for a supplier that must monitor no more frequently than annually) is no more than 0.060 mg/ℓ and 0.045 mg/ℓ for TTHMs and HAA5, respectively. A supplier that does not meet these levels must resume monitoring at the frequency identified in subsection (b)(1)(A) in the quarter immediately following the monitoring period in which the supplier exceeds 0.060 mg/ℓ for TTHMs or 0.045 mg/ℓ for HAA5. For a supplier that uses only groundwater not under the direct influence of surface water and that serves fewer than 10,000 persons, if either the TTHM annual average is greater than 0.080 mg/ℓ or the HAA5 annual average is greater than 0.060 mg/ℓ, the supplier must go to increased monitoring identified in subsection (b)(1)(A) in the quarter immediately following the monitoring period in which the supplier exceeds 0.080 mg/ℓ for TTHMs or 0.060 mg/ℓ for HAA5.

E) The Agency may return a supplier to routine monitoring.

2) Chlorite. A CWS or NTNCWS supplier using chlorine dioxide, for disinfection or oxidation, must conduct monitoring for chlorite.

A) Routine Monitoring

i) Daily Monitoring. A supplier must take daily samples at the entrance to the distribution system. For any daily sample that exceeds the chlorite MCL, the supplier must take additional samples in the distribution system the following day at the locations required by subsection (b)(2)(B), in addition to the sample required at the entrance to the distribution system.

ii) Monthly Monitoring. A supplier must take a three-sample set each month in the distribution system. The supplier must take one sample at each of the following locations: near the first customer, at a location representative of average residence time, and at a location reflecting maximum residence time in the distribution system. Any additional

routine sampling must be conducted in the same manner (as three-sample sets, at the specified locations). The supplier may use the results of additional monitoring conducted under subsection (b)(2)(B) to meet the requirement for monitoring in this subsection (b)(2)(A)(ii).

B) Additional Monitoring. On each day following a routine sample monitoring result that exceeds the chlorite MCL at the entrance to the distribution system, the supplier must take three chlorite distribution system samples at the following locations: as close to the first customer as possible, in a location representative of average residence time, and as close to the end of the distribution system as possible (reflecting maximum residence time in the distribution system).

C) Reduced Monitoring

i) Chlorite monitoring at the entrance to the distribution system required by subsection (b)(2)(A)(i) may not be reduced.

ii) Chlorite monitoring in the distribution system required by subsection (b)(2)(A)(ii) may be reduced to one three-sample set per quarter after one year of monitoring if no individual chlorite sample taken in the distribution system under subsection (b)(2)(A)(ii) has exceeded the chlorite MCL and the supplier has not been required to conduct monitoring under subsection (b)(2)(B). The supplier may remain on the reduced monitoring schedule until either any of the three individual chlorite samples taken quarterly in the distribution system under subsection (b)(2)(A)(ii) exceeds the chlorite MCL or the supplier is required to conduct monitoring under subsection (b)(2)(B), at which time the supplier must revert to routine monitoring.

3) Bromate

A) Routine Monitoring. A CWS or NTNCWS supplier using ozone, for disinfection or oxidation, must take one sample per month for each treatment plant in the system using ozone. A supplier must take samples monthly at the entrance to the distribution system while the ozonation system is operating under normal conditions.

B) Reduced Monitoring. A supplier required to analyze for bromate may reduce monitoring from monthly to quarterly if the supplier's

running annual average bromate concentration is not greater than 0.0025 mg/ℓ based on monthly bromate measurements under subsection (b)(3)(A) for the most recent four quarters, with samples analyzed using USEPA 302.0 (09), USEPA 317.0 (01), USEPA 321.8 (97), USEPA 326.0 (02), or USEPA 557 (09), each incorporated by reference in Section 611.102. If a supplier has qualified for reduced bromate monitoring under subsection (b)(3)(B)(i), that supplier may remain on reduced monitoring as long as the running annual average of quarterly bromate samples not greater than 0.0025 mg/ℓ based on samples analyzed using USEPA 302.0 (09), USEPA 317.0 (01), USEPA 321.8 (97), 326.0 (02), or USEPA 557 (09). If the running annual average bromate concentration is greater than 0.0025 mg/ℓ, the supplier must resume routine monitoring required by subsection (b)(3)(A).

c) Monitoring Requirements for Disinfectant Residuals

1) Chlorine and Chloramines

A) Routine Monitoring. A CWS or NTNCWS supplier that uses chlorine or chloramines must measure the residual disinfectant level in the distribution system at the same point in the distribution system and at the same time as total coliforms are sampled, as specified in Sections 611.1054 through 611.1058. A Subpart B system supplier may use the results of residual disinfectant concentration sampling conducted under Section 611.532 for unfiltered systems or Section 611.533 for systems that filter, in lieu of taking separate samples.

B) Reduced Monitoring. Monitoring may not be reduced.

2) Chlorine Dioxide

A) Routine Monitoring. A CWS, an NTNCWS, or a transient non-CWS supplier that uses chlorine dioxide for disinfection or oxidation must take daily samples at the entrance to the distribution system. For any daily sample that exceeds the MRDL, the supplier must take samples in the distribution system the following day at the locations required by subsection (c)(2)(B), in addition to the sample required at the entrance to the distribution system.

B) Additional Monitoring. On each day following a routine sample monitoring result that exceeds the MRDL, the supplier must take three chlorine dioxide distribution system samples. If chlorine

dioxide or chloramines are used to maintain a disinfectant residual in the distribution system, or if chlorine is used to maintain a disinfectant residual in the distribution system and there are no disinfection addition points after the entrance to the distribution system (i.e., no booster chlorination), the supplier must take three samples as close to the first customer as possible, at intervals of at least six hours. If chlorine is used to maintain a disinfectant residual in the distribution system and there are one or more disinfection addition points after the entrance to the distribution system (i.e., booster chlorination), the supplier must take one sample at each of the following locations: as close to the first customer as possible, in a location representative of average residence time, and as close to the end of the distribution system as possible (reflecting maximum residence time in the distribution system).

C) Reduced Monitoring. Monitoring may not be reduced.

d) Monitoring Requirements for Disinfection Byproduct (DBP) Precursors

1) Routine Monitoring. A Subpart B system supplier that uses conventional filtration treatment (as defined in Section 611.101) must monitor each treatment plant for TOC not past the point of combined filter effluent turbidity monitoring and representative of the treated water. A supplier required to monitor under this subsection (d)(1) must also monitor for TOC in the source water prior to any treatment at the same time as monitoring for TOC in the treated water. These samples (source water and treated water) are referred to as paired samples. At the same time as the source water sample is taken, a system must monitor for alkalinity in the source water prior to any treatment. A supplier must take one paired sample and one source water alkalinity sample per month per plant at a time representative of normal operating conditions and influent water quality.

2) Reduced Monitoring. A Subpart B system supplier with an average treated water TOC of less than 2.0 mg/ℓ for two consecutive years, or less than 1.0 mg/ℓ for one year, may reduce monitoring for both TOC and alkalinity to one paired sample and one source water alkalinity sample per plant per quarter. The supplier must revert to routine monitoring in the month following the quarter when the annual average treated water TOC greater than or equal to 2.0 mg/ℓ.

e) Bromide. A supplier required to analyze for bromate may reduce bromate monitoring from monthly to once per quarter, if the supplier demonstrates

that the average source water bromide concentration is less than 0.05 mg/ℓ based upon representative monthly measurements for one year. The supplier must continue bromide monitoring to remain on reduced bromate monitoring.

f) Monitoring Plans. Each supplier required to monitor under this Subpart I must develop and implement a monitoring plan. The supplier must maintain the plan and make it available for inspection by the Agency and the general public no later than 30 days following the applicable compliance dates in Section 611.380(b). A Subpart B system supplier that serves more than 3,300 persons must submit a copy of the monitoring plan to the Agency no later than the date of the first report required under Section 611.384. After review, the Agency may require changes in any plan elements. The plan must include at least the following elements:

1) Specific locations and schedules for collecting samples for any parameters included in this Subpart I;

2) How the supplier will calculate compliance with MCLs, MRDLs, and treatment techniques; and

3) If approved for monitoring as a consecutive system, or if providing water to a consecutive system, under the provisions of Section 611.500, the sampling plan must reflect the entire distribution system.

BOARD NOTE: Derived from 40 CFR 141.132.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.383 Compliance Requirements

a) General Requirements

1) If compliance is based on a running annual average of monthly or quarterly samples or averages and the supplier fails to monitor for TTHM, HAA5, or bromate, this failure to monitor will be treated as a monitoring violation for the entire period covered by the annual average. If compliance is based on a running annual average of monthly or quarterly samples or averages and the supplier's failure to monitor makes it impossible to determine compliance with the MRDL for chlorine or chloramines, this failure to monitor will be treated as a monitoring violation for the entire period covered by the annual average.

2) All samples taken and analyzed under the provisions of this Subpart I must be included in determining compliance, even if that number is greater than the minimum required.

3) If, during the first year of monitoring under Section 611.382, any individual quarter's average will cause the running annual average of that supplier to exceed the MCL for TTHM, HAA5, or bromate or the MRDL for chlorine or chloramine, the supplier is out of compliance at the end of that quarter.

b) Disinfection Byproducts (DBPs)

1) TTHMs and HAA5

A) For a supplier monitoring quarterly, compliance with MCLs in Section 611.312 must be based on a running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of all samples collected by the supplier as prescribed by Section 611.382(b)(1).

B) For a supplier monitoring less frequently than quarterly, the supplier demonstrates MCL compliance if the average of samples taken that year under the provisions of Section 611.382(b)(1) does not exceed the MCLs in Section 611.312. If the average of these samples exceeds the MCL, the supplier must increase monitoring to once per quarter per treatment plant, and such a system is not in violation of the MCL until it has completed one year of quarterly monitoring, unless the result of fewer than four quarters of monitoring will cause the running annual average to exceed the MCL, in which case the supplier is in violation at the end of that quarter. A supplier required to increase to quarterly monitoring must calculate compliance by including the sample that triggered the increased monitoring plus the following three quarters of monitoring.

C) If the running annual arithmetic average of quarterly averages covering any consecutive four-quarter period exceeds the MCL, the supplier is in violation of the MCL and must notify the public under Subpart V in addition to reporting to the Agency under Section 611.384.

D) If a PWS fails to complete four consecutive quarter's monitoring, compliance with the MCL for the last four-quarter compliance period must be based on an average of the available data.

2) Bromate. Compliance must be based on a running annual arithmetic average, computed quarterly, of monthly samples (or, for months in which the supplier takes more than one sample, the average of all samples taken during the month) collected by the supplier, as prescribed by Section 611.382(b)(3). If the average of samples covering any consecutive four-quarter period exceeds the MCL, the supplier is in violation of the MCL and must notify the public under Subpart V, in addition to reporting to the Agency under Section 611.384. If a PWS supplier fails to complete 12 consecutive months' monitoring, compliance with the MCL for the last four-quarter compliance period must be based on an average of the available data.

3) Chlorite. Compliance must be based on an arithmetic average of each three sample set taken in the distribution system as prescribed by Section 611.382(b)(2)(A)(ii) and Section 611.382(b)(2)(B). If the arithmetic average of any three sample set exceeds the MCL, the supplier is in violation of the MCL and must notify the public under Subpart V, in addition to reporting to the Agency under Section 611.384.

c) Disinfectant Residuals

1) Chlorine and Chloramines

A) Compliance must be based on a running annual arithmetic average, computed quarterly, of monthly averages of all samples collected by the supplier under Section 611.382(c)(1). If the average of quarterly averages covering any consecutive four-quarter period exceeds the MRDL, the supplier is in violation of the MRDL and must notify the public under Subpart V, in addition to reporting to the Agency under Section 611.384.

B) If a supplier switches between the use of chlorine and chloramines for residual disinfection during the year, compliance must be determined by including together all monitoring results of both chlorine and chloramines in calculating compliance. Reports submitted under Section 611.384 must clearly indicate that residual disinfectant was analyzed for each sample.

2) Chlorine Dioxide

A) Acute Violations. Compliance must be based on consecutive daily samples collected by the supplier under Section 611.382(c)(2). If any daily sample taken at the entrance to the distribution system exceeds the MRDL, and on the following day one (or more) of the

three samples taken in the distribution system exceeds the MRDL, the supplier is in violation of the MRDL and must take immediate corrective action to lower the level of chlorine dioxide below the MRDL and must notify the public under the procedures for acute health risks in Subpart V, in addition to reporting to the Agency under Section 611.384. Failure to take samples in the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system will also be considered an MRDL violation and the supplier must notify the public of the violation in compliance~~accordance~~ with the provisions for acute violations under Subpart V, in addition to reporting to the Agency under Section 611.384.

B) Nonacute Violations. Compliance must be based on consecutive daily samples collected by the supplier under Section 611.382(c)(2). If any two consecutive daily samples taken at the entrance to the distribution system exceed the MRDL and all distribution system samples taken are below the MRDL, the supplier is in violation of the MRDL and must take corrective action to lower the level of chlorine dioxide below the MRDL at the point of sampling and must notify the public under the procedures for nonacute health risks in Subpart V, in addition to reporting to the Agency under Section 611.384. Failure to monitor at the entrance to the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system is also an MRDL violation and the supplier must notify the public of the violation in compliance~~accordance~~ with the provisions for nonacute violations under Subpart V, in addition to reporting to the Agency under Section 611.384.

d) Disinfection Byproduct (DBP) Precursors. Compliance must be determined as specified by Section 611.385(c). A supplier may begin monitoring to determine whether Step 1 TOC removals can be met 12 months prior to the compliance date for the supplier. This monitoring is not required and failure to monitor during this period is not a violation. However, any supplier that does not monitor during this period, and then determines in the first 12 months after the compliance date that it is not able to meet the Step 1 requirements in Section 611.141(b)(2) and must therefore apply for alternate minimum TOC removal (Step 2) requirements, is not eligible for retroactive approval of alternate minimum TOC removal (Step 2) requirements as allowed under Section 611.385(b)(3) and is in violation of an NPDWR. A supplier may apply for alternate minimum TOC removal (Step 2) requirements any time after the compliance date. For a supplier required to meet Step 1 TOC removals, if the value calculated under Section 611.385(c)(1)(D) is less than 1.00, the supplier is in violation of the treatment technique requirements

and must notify the public under Subpart V, in addition to reporting to the Agency under Subpart V.

BOARD NOTE: Derived from 40 CFR 141.133.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.384 Reporting and Recordkeeping Requirements

a) A supplier required to sample quarterly or more frequently must report to the Agency within ten days after the end of each quarter in which samples were collected, despite~~notwithstanding~~ the provisions of Section 611.840. A supplier required to sample less frequently than quarterly must report to the Agency within ten days after the end of each monitoring period in which samples were collected.

b) Disinfection Byproducts (DBPs). A supplier must report the following specified information:

1) A supplier that monitors for TTHMs and HAA5 under the requirements of Section 611.382(b) on a quarterly or more frequently basis must report the following:

A) The number of samples taken during the last quarter;

B) The location, date, and result of each sample taken during the last quarter;

C) The arithmetic average of all samples taken over the last quarter;

D) The annual arithmetic average of the quarterly arithmetic averages of this Section for the last four quarters; and

E) Whether, based on Section 611.383(b)(1), the MCL was violated.

2) A supplier that monitors for TTHMs and HAA5 under the requirements of Section 611.382(b) less frequently than quarterly (but at least annually) must report the following:

A) The number of samples taken during the last year;

B) The location, date, and result of each sample taken during the last monitoring period;

C) The arithmetic average of all samples taken over the last year; and

D) Whether, based on Section 611.383(b)(1), the MCL was violated.

3) A supplier that monitors for TTHMs and HAA5 under the requirements of Section 611.382(b) less frequently than annually must report the following:

A) The location, date, and result of the last sample taken; and

B) Whether, based on Section 611.383(b)(1), the MCL was violated.

4) A supplier that monitors for chlorite under the requirements of Section 611.382(b) must report the following:

A) The number of entry point samples taken each month for the last three months;

B) The location, date, and result of each sample (both entry point and distribution system) taken during the last quarter;

C) For each month in the reporting period, the arithmetic average of each three-sample set for all sample sets taken in the distribution system; and

D) Whether, based on Section 611.383(b)(3), the MCL was violated, in which month it was violated, and how many times it was violated in each month.

5) A supplier that monitors for bromate under the requirements of Section 611.382(b) must report the following:

A) The number of samples taken during the last quarter;

B) The location, date, and result of each sample taken during the last quarter;

C) The arithmetic average of the monthly arithmetic averages of all samples taken in the last year; and

D) Whether, based on Section 611.383(b)(2), the MCL was violated.

BOARD NOTE: The Agency may choose to perform calculations and determine whether the MCL was exceeded, in lieu of having the supplier report the required information.

c) Disinfectants. A supplier must report the following specified information:

1) A supplier that monitors for chlorine or chloramines under the requirements of Section 611.382(c) must report the following:

A) The number of samples taken during each month of the last quarter.

B) The monthly arithmetic average of all samples taken in each month for the last 12 months.

C) The arithmetic average of all monthly averages for the last 12 months.

D) Whether, based on Section 611.383(c)(1), the MRDL was violated.

2) A supplier that monitors for chlorine dioxide under the requirements of Section 611.382(c) must report the following:

A) The dates, results, and locations of samples taken during the last quarter;

B) Whether, based on Secton 611.383(c)(2), the MRDL was violated; and

C) Whether the MRDL was exceeded in any two consecutive daily samples and whether the resulting violation was acute or nonacute.

BOARD NOTE: The Agency may choose to perform calculations and determine whether the MRDL was exceeded, in lieu of having the supplier report the required information.

d) Disinfection Byproduct (DBP) Precursors and Enhanced Coagulation or Enhanced Softening. A supplier must report the following specified information:

1) A supplier that monitors monthly or quarterly for TOC under the requirements of Section 611.382(d) and required to meet the enhanced coagulation or enhanced softening requirements in Section 611.385(b)(2) or (b)(3) must report the following:

A) The number of paired (source water and treated water) samples taken during the last quarter;

B) The location, date, and result of each paired sample and associated alkalinity taken during the last quarter;

C) For each month in the reporting period that paired samples were taken, the arithmetic average of the percent reduction of TOC for each paired sample and the required TOC percent removal;

D) Calculations for determining compliance with the TOC percent removal requirements, as provided in Section 611.385(c)(1); and

E) Whether the supplier is in compliance with the enhanced coagulation or enhanced softening percent removal requirements in Section 611.385(b) for the last four quarters.

2) A supplier that monitors monthly or quarterly for TOC under the requirements of Section 611.382(d) and meeting one or more of the alternative compliance standards in Section 611.385(a)(2) or (a)(3) must report the following:

A) The alternative compliance criterion that the supplier is using;

B) The number of paired samples taken during the last quarter;

C) The location, date, and result of each paired sample and associated alkalinity taken during the last quarter;

D) The running annual arithmetic average based on monthly averages (or quarterly samples) of source water TOC for a supplier meeting a criterion in Section 611.385(a)(2)(A) or (a)(2)(C) or of treated water TOC for a supplier meeting the criterion in Section 611.385(a)(2)(B);

E) The running annual arithmetic average based on monthly averages (or quarterly samples) of source water SUVA for a supplier meeting the criterion in Section 611.385(a)(2)(E) or of treated water SUVA for a supplier meeting the criterion in Section 611.385(a)(2)(F);

F) The running annual average of source water alkalinity for a supplier meeting the criterion in Section 611.385(a)(2)(C) and of treated water alkalinity for a supplier meeting the criterion in Section 611.385(a)(3)(A);

G) The running annual average for both TTHM and HAA5 for a supplier meeting the criterion in Section 611.385(a)(2)(C) or (D);

H) The running annual average of the amount of magnesium hardness removal (as $CaCO_3$ in mg/ℓ) for a supplier meeting the criterion in Section 611.385(a)(3)(B); and

I) Whether the supplier is in compliance with the particular alternative compliance criterion in Section 611.385(a)(2) or (a)(3).

BOARD NOTE: The Agency may choose to perform calculations and determine whether the treatment technique was met, in lieu of having the supplier report the required information.

BOARD NOTE: Derived from 40 CFR 141.134.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.385 Treatment Technique for Control of Disinfection Byproduct (DBP) Precursors

a) Applicability

1) A Subpart B system supplier using conventional filtration treatment (as defined in Section 611.101) must operate with enhanced coagulation or enhanced softening to achieve the TOC percent removal levels specified in subsection (b) unless the supplier meets at least one of the alternative compliance standards listed in subsection (a)(2) or (a)(3).

2) Alternative compliance standards for enhanced coagulation and enhanced softening systems. A Subpart B system supplier using conventional filtration treatment may use the alternative compliance standards in subsections (a)(2)(A) through (a)(2)(F) to comply with this Section in lieu of complying with subsection (b). A supplier must comply with monitoring requirements in Section 611.382(d).

A) The supplier's source water TOC level, measured according to Section 611.381(d)(3), is less than 2.0 mg/ℓ, calculated quarterly as a running annual average.

B) The supplier's treated water TOC level, measured according to Section 611.381(d)(3), is less than 2.0 mg/ℓ, calculated quarterly as a running annual average.

C) The supplier's source water TOC level, measured according to Section 611.381(d)(3), is less than 4.0 mg/ℓ, calculated quarterly as a running annual average; the source water alkalinity, measured according to Section 611.381(d)(1), is greater than 60 mg/ℓ (as $CaCO_3$), calculated quarterly as a running annual average; and either the TTHM and HAA5 running annual averages are no greater than 0.040 mg/ℓ and 0.030 mg/ℓ, respectively; or prior to the effective date for compliance in Section 611.380(b), the system has made a clear and irrevocable financial commitment, not later than the effective date for compliance in Section 611.380(b), to use technologies that will limit the levels of TTHMs and HAA5 to no more than 0.040 mg/ℓ and 0.030 mg/ℓ, respectively. A supplier must submit evidence of a clear and irrevocable financial commitment, in addition to a schedule containing milestones and periodic progress reports for installation and operation of appropriate technologies, to the Agency for approval. Failure to install and operate these technologies by the date in the approved schedule will constitute a violation of an NPDWR.

D) The TTHM and HAA5 running annual averages are no greater than 0.040 mg/ℓ and 0.030 mg/ℓ, respectively, and the supplier uses only chlorine for primary disinfection and maintenance of a residual in the distribution system.

E) The supplier's source water SUVA, prior to any treatment and measured monthly according to Section 611.381(d)(4), is less than or equal to 2.0 ℓ/mg-m, calculated quarterly as a running annual average.

F) The supplier's finished water SUVA, measured monthly according to Section 611.381(d)(4), is less than or equal to 2.0 ℓ/mg-m, calculated quarterly as a running annual average.

3) Additional Alternative Compliance Standards for Softening Systems. A supplier practicing enhanced softening that cannot achieve the TOC removals required by subsection (b)(2) may use the alternative compliance standards in subsections (a)(3)(A) and (a)(3)(B) in lieu of complying with subsection (b). A supplier must comply with monitoring requirements in Section 611.382(d). The alternative compliance standards are as follows:

A) The supplier may undertake softening that results in lowering the treated water alkalinity to less than 60 mg/ℓ (as $CaCO_3$), measured monthly according to Section 611.381(d)(1) and calculated quarterly as a running annual average; and

B) The supplier may undertake softening that results in removing at least 10 mg/ℓ of magnesium hardness (as $CaCO_3$), measured monthly according to Section 611.381(d)(6) and calculated quarterly as a running annual average.

b) Enhanced Coagulation and Enhanced Softening Performance Requirements

1) A supplier must achieve the percent reduction of TOC specified in subsection (b)(2) between the source water and the combined filter effluent, unless the Agency approves a supplier's request for alternate minimum TOC removal (Step 2) requirements under subsection (b)(3).

2) Required Step 1 TOC reductions, indicated in the following table, are based upon specified source water parameters measured in compliance~~accordance~~ with Section 611.381(d). A supplier practicing softening must meet the Step 1 TOC reductions in the far-right column (source water alkalinity greater than 120 mg/ℓ) for the following specified source water TOC:

Step 1 Required Removal of TOC by Enhanced Coagulation and Enhanced Softening for a Subpart B System Supplier Using Conventional Treatment[1,2]

Source-water TOC, mg/ℓ	Source-water alkalinity, mg/ℓ as $CaCO_3$		
	0-60	>60-120	>120[3]
>2.0-4.0	35.0%	25.0%	15.0%
>4.0-8.0	45.0%	35.0%	25.0%
>8.0	50.0%	40.0%	30.0%

[1] A supplier meeting at least one of the conditions in subsections (a)(2)(A) through (a)(2)(F) are not required to operate with enhanced coagulation.

[2] A softening system that meets one of the alternative compliance standards in subsection (a)(3) is not required to operate with enhanced softening.

[3] A supplier that practices softening must meet the TOC removal requirements in this column.

3) A Subpart B conventional treatment system supplier that cannot achieve the Step 1 TOC removals required by subsection (b)(2) due to water quality parameters or operational constraints must apply to the Agency, within

three months after failure to achieve the TOC removals required by subsection (b)(2), for approval of alternative minimum TOC (Step 2) removal requirements submitted by the supplier. If the PWS cannot achieve the Step 1 TOC removal requirement due to water quality parameters or operational constraints, the Agency must approve the use of the Step 2 TOC removal requirement. If the Agency approves the alternative minimum TOC removal (Step 2) requirements, the Agency may make those requirements retroactive for the purposes of determining compliance. Until the Agency approves the alternative minimum TOC removal (Step 2) requirements, the supplier must meet the Step 1 TOC removals contained in subsection (b)(2).

4) Alternative Minimum TOC Removal (Step 2) Requirements. An application made to the Agency by an enhanced coagulation system supplier for approval of alternative minimum TOC removal (Step 2) requirements under subsection (b)(3) must include, at a minimum, results of bench- or pilot-scale testing conducted under subsection (b)(4)(B). The submitted bench- or pilot-scale testing must be used to determine the alternative enhanced coagulation level.

A) For the purposes of this Subpart I, "alternative enhanced coagulation level" is defined as coagulation at a coagulant dose and pH, as determined by the method described in subsections (b)(4)(A) through (b)(4)(E), such that an incremental addition of 10 mg/ℓ of alum (or equivalent amount of ferric salt) results in a TOC removal of less than or equal to 0.3 mg/ℓ. The percent removal of TOC at this point on the "TOC removal versus coagulant dose" curve is then defined as the minimum TOC removal required for the supplier. Once approved by the Agency, this minimum requirement supersedes the minimum TOC removal required by the table in subsection (b)(2). This requirement will be effective until such time as the Agency approves a new value based on the results of a new bench- and pilot-scale test. Failure to achieve alternative minimum TOC removal levels is a violation of National Primary Drinking Water Regulations.

B) Bench- or pilot-scale testing of enhanced coagulation must be conducted by using representative water samples and adding 10 mg/ℓ increments of alum (or equivalent amounts of ferric salt) until the pH is reduced to a level less than or equal to the enhanced coagulation Step 2 target pH shown in the following table:

Enhanced Coagulation Step 2 Target pH

Alkalinity (mg/ℓ as $CaCO_3$)	Target pH
0-60	5.5
>60-120	6.3
>120-240	7.0
>240	7.5

C) For waters with alkalinities of less than 60 mg/ℓ for which addition of small amounts of alum or equivalent addition of iron coagulant drives the pH below 5.5 before significant TOC removal occurs, the supplier must add necessary chemicals to maintain the pH between 5.3 and 5.7 in samples until the TOC removal of 0.3 mg/ℓ per 10 mg/ℓ alum added (or equivalent addition of iron coagulant) is reached.

D) The supplier may operate at any coagulant dose or pH necessary (consistent with other NPDWRs) to achieve the minimum TOC percent removal approved under subsection (b)(3).

E) If the TOC removal is consistently less than 0.3 mg/ℓ of TOC per 10 mg/ℓ of incremental alum dose at all dosages of alum (or equivalent addition of iron coagulant), the water is deemed to contain TOC not amenable to enhanced coagulation. The supplier may then apply to the Agency for a waiver of enhanced coagulation requirements. If the TOC removal is consistently less than 0.3 mg/ℓ of TOC per 10 mg/ℓ of incremental alum dose at all dosages of alum (or equivalent addition of iron coagulant), the Agency must grant the waiver of enhanced coagulation requirements.

c) Compliance Calculations

1) A Subpart B system supplier other than those identified in subsection (a)(2) or (a)(3) must comply with requirements contained in subsection (b)(2) or (b)(3). A supplier must calculate compliance quarterly, beginning after the supplier has collected 12 months of data, by determining an annual average using the following method:

A) Determine actual monthly TOC percent removal, equal to the following:

$$\left(1-\left(\frac{\text{treated water TOC}}{\text{source water TOC}}\right)\right)\times 100$$

B) Determine the required monthly TOC percent removal.

C) Divide the value in subsection (c)(1)(A) by the value in subsection (c)(1)(B).

D) Add together the results of subsection (c)(1)(C) for the last 12 months and divide by 12.

E) If the value calculated in subsection (c)(1)(D) is less than 1.00, the supplier is not in compliance with the TOC percent removal requirements.

2) A supplier may use the provisions in subsections (c)(2)(A) through (c)(2)(E) in lieu of the calculations in subsection (c)(1)(A) through (c)(1)(E) to determine compliance with TOC percent removal requirements.

A) In any month that the supplier's treated or source water TOC level, measured according to Section 611.381(d)(3), is less than 2.0 mg/ℓ, the supplier may assign a monthly value of 1.0 (in lieu of the value calculated in subsection (c)(1)(C)) when calculating compliance under the provisions of subsection (c)(1).

B) In any month that a system practicing softening removes at least 10 mg/ℓ of magnesium hardness (as $CaCO_3$), the supplier may assign a monthly value of 1.0 (in lieu of the value calculated in subsection (c)(1)(C)) when calculating compliance under the provisions of subsection (c)(1).

C) In any month that the system's source water SUVA, prior to any treatment and measured according to Section 611.381(d)(4), is less than or equal to 2.0 ℓ/mg-m, the supplier may assign a monthly value of 1.0 (in lieu of the value calculated in subsection (c)(1)(C)) when calculating compliance under the provisions of subsection (c)(1).

D) In any month that the system's finished water SUVA, measured according to Section 611.381(d)(4), is less than or equal to 2.0 ℓ/mg-m, the supplier may assign a monthly value of 1.0 (in lieu of the value calculated in subsection (c)(1)(C)) when calculating compliance under the provisions of subsection (c)(1).

E) In any month that a system practicing enhanced softening lowers alkalinity below 60 mg/ℓ (as $CaCO_3$), the supplier may assign a monthly value of 1.0 (in lieu of the value calculated in subsection

(c)(1)(C)) when calculating compliance under the provisions of subsection (c)(1).

3) A Subpart B system supplier using conventional treatment may also comply with the requirements of this Section by meeting the standards in subsection (a)(2) or (a)(3).

d) Treatment Technique Requirements for Disinfection Byproduct (DBP) Precursors. Treatment techniques to control the level of disinfection byproduct (DBP) precursors in drinking water treatment and distribution systems, for a Subpart B system supplier using conventional treatment, are enhanced coagulation or enhanced softening.

BOARD NOTE: Derived from 40 CFR 141.135.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART K: GENERAL MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.490 Certified Laboratories

a) For the purpose of determining compliance with Subparts G, K through O, Q, ~~and~~ S, and AZ samples will be considered only if they have been analyzed by one of the following:

1) A laboratory certified under Section 4(o) of the Act;

2) A laboratory certified by USEPA;

3) When no laboratory has been certified under subsection (a)(1) to analyze a particular contaminant, a laboratory certified, registered, accredited, licensed, or otherwise approved by another state with primary enforcement responsibility, or an agency of the federal government, unless the Agency has, by written notice, informed the supplier that a particular laboratory or laboratories may not be used; or

4) For measurements of alkalinity, calcium, conductivity, disinfectant residual, orthophosphate, silica, turbidity, free chlorine residual, temperature, and pH, a person under the supervision of a certified operator (35 Ill. Adm. Code 603.103).

b) Nothing in this Part must be construed to preclude the Agency or any duly designated representative of the Agency from taking samples or from using the

results from thosesuch samples to determine compliance by a supplier of water with the applicable requirements of this Part.

c) The CWS supplier must have required analyses performed either at an Agency laboratory or a certified laboratory. The Agency may require that some or all of the required samples be submitted to its laboratories.

BOARD NOTE: Subsections (a)(1), (a)(2), (a)(4), and (b) are derived from 40 CFR 141.28. Subsections (a)(3) and (c) are additional State requirements.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.500 Consecutive PWSs

When a PWS supplies water to one or more other PWSs, the Agency must modify the monitoring requirements imposed by this Part to the extent that the interconnection of the PWSs justifies treating them as a single PWS for monitoring purposes. Any modified monitoring must be conducted under a schedule specified by a SEP. The Agency must not approve thesuch modified monitoring without the concurrence of USEPA.

BOARD NOTE: Derived from 40 CFR 141.29.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.531 Analytical Requirements

A supplier must use the analytical methods in this Section or Agency-approved alternative methods under Section 611.480 to demonstrate compliance with only 611.Subpart B. A supplier must measure pH, temperature, turbidity, and RDCs under the supervision of a certified operator. A supplier must conduct measurements for total coliforms, fecal coliforms and HPC using a certified laboratory in one of the categories in Section 611.490(a). The supplier must perform analyses using the methods in this Section, each incorporated by reference in Section 611.102:

a) Basic Water Parameters and Microbiological Quality

1) The supplier must analyze for pH and temperature using one of the methods in Section 611.611; and

2) The supplier must analyze for total coliforms, fecal coliforms, heterotrophic bacteria, and turbidity using specific methods and analytical test procedures in USEPA Technical Notes, incorporated by reference in Section 611.102:

A) Total Coliforms

BOARD NOTE: The time from sample collection to beginning analysis for source (raw) water samples must not exceed eight hours. The supplier should but needs not hold samples below 10 °C during transit.

i) Total Coliform Fermentation Technique. SM 9221 A (93), SM 9221 A (94), SM 9221 A (99), SM 9221 A (06), SM 9221 A (14), SM 9221 B (93), SM 9221 B (94), SM 9221 B (99), SM 9221 B (06), SM 9221 B (14), SM 9221 C (93), SM 9221 C (94), SM 9221 C (99), SM 9221 C (06), or SM 9221 C (14).

BOARD NOTE: The supplier may use commercially available lactose broth in lieu of lauryl tryptose broth if the supplier conducts at least 25 parallel tests between this medium and lauryl tryptose broth using the water it normally tests, and this comparison demonstrates that the false-positive rate and false-negative rate for total coliforms is less than ten percent using lactose broth. If the supplier uses inverted tubes to detect gas production, the media should cover these tubes at least one-half to two-thirds after the supplier adds the sample. The supplier needs not run the completed phase on ten percent of all total coliform-positive confirmed tubes.

ii) Total Coliform Membrane Filter Technique. SM 9222 A (91), SM 9222 A (94), SM 9222 A (97), SM 9222 A (06), SM 9222 A (15), SM 9222 A (22), SM 9222 B (91), SM 9222 B (94), SM 9222 B (97), 9222 B (06), SM 9222 B (15), SM 9222 B (22), SM 9222 C (91), SM 9222 C (94), SM 9222 C (97), SM 9222 C (06), ~~or~~ SM 9222 C (15), or SM 9222 C (22),.

iii) ONPG-MUG (also known as Colilert®). SM 9223 (92), SM 9223 (94), SM 9223 (97), SM 9223 B (04), or SM 9223 B (16).

B) Fecal Coliforms

BOARD NOTE: The time from collecting the sample to beginning analysis of source (raw) water samples must not exceed eight hours. The supplier should but needs not hold samples below 10 °C during transit.

i) Fecal Coliform Procedure. SM 9221 E (93), SM 9221 E (94), SM 9221 E (99), SM 9221 E (06), or SM 9221 E (14).

BOARD NOTE: A-1 broth may be held up to seven days in a tightly closed screwcap tube at 4 °C (39 °F).

BOARD NOTE: The supplier may hold A-1 broth up to seven days in a tightly closed screwcap tube at 4 °C (39 °F).

ii) Fecal Coliform Membrane Filter Procedure. SM 9222 D (91), SM 9222 D (94), SM 9222 D (97), SM 9222 D (06), ~~or~~ SM 9222 D (15), SM 9222 D (22). ~~.~~

C) Heterotrophic Bacteria

i) Pour Plate Method. SM 9215 B (88), SM 9215 B (94), SM 9215 B (00), SM 9215 B (04), ~~or~~ SM 9215 B (16), SM 9215 B (22).

BOARD NOTE: The time from collecting the sample to beginning analysis must not exceed eight hours. The supplier should but needs not hold samples below 10 °C during transit.

ii) SimPlate (00).

D) Turbidity

BOARD NOTE: Styrene divinyl benzene beads (*e.g.*, AMCO-AEPA–1 or equivalent) and stabilized formazin (*e.g.*, Hach StablCal™ or equivalent) are acceptable substitutes for formazin.

i) Nephelometric Method. SM 2130 B (88), SM 2130 B (94), SM 2130 B (01); USEPA 180.1 (93); or Hach 8195 (18).

ii) GLI Method 2 (92).

iii) Laser Nephelometry. Hach 10133 (00) (FilterTrak).

iv) Laser Nephelometry (On-Line). Lovibond PTV 6000 (16), Mitchell-M5271 (09), or Mitchell-M5331 (16).

v) Laser Nephelometry (Portable). Lovibond TB 6000 (21).

vi) LED Nephelometry (On-Line). AMI Turbiwell (09), Lovibond PTV 1000 (16), Lovibond PTV 2000 (16), Mitchell-M5331 (09), ~~or~~ Mitchell M5331 (16), Yokogawa 820 (22).

vii) LED Nephelometry (Portable). Orion AQ4500 (09), Lovibond TB 3500 (21), Lovibond TB 5000 (21).

viii) 360° Nephelometry. Hach 10258 (16) or Hach 10258 (18).

b) A supplier must measure residual disinfectant concentrations with specific analytical methods:

1) Free Chlorine

A) Amperometric Titration. ASTM D1253-03, ASTM D1253-08, ASTM D1253-14, SM 4500-Cl D (89), SM 4500-Cl D (93), or SM 4500-Cl D (00).

B) DPD Ferrous Titrimetric. SM 4500-Cl F (89), SM 4500-Cl F (93), or SM 4500-Cl F (00).

C) DPD Colimetric. Hach 10260 (13), SM 4500-Cl G (89), SM 4500-Cl G (93), or SM 4500-Cl G (00).

D) Syringaldazine (FACTS). SM 4500-Cl H (89), SM 4500-Cl H (93), or SM 4500-Cl H (00).

E) On-Line Chlorine Analyzer. USEPA 334.0 (09).

F) Amperometric Sensor. Palintest ChloroSense (09) and Palintest ChloroSense (20).

G) Indophenol Colorimetric. Hach 10241 (15).

2) Total Chlorine

A) Amperometric Titration. ASTM D1253-03, ASTM D1253-08, ASTM D1253-14, SM 4500-Cl D (89), SM 4500-Cl D (93), or SM 4500-Cl D (00).

B) Amperometric Titration (low level measurement). SM 4500-Cl E

(89), SM 4500-Cl E (93), or SM 4500-Cl E (00).

C) DPD Ferrous Titrimetric. SM 4500-Cl F (89), SM 4500-Cl F (93), or SM 4500-Cl F (00).

D) DPD Colimetric. SM 4500-Cl G (89), SM 4500-Cl G (93), SM 4500-Cl G (00), or Hach 10260 (13).

E) Iodometric Electrode. SM 4500-Cl I (89), SM 4500-Cl I (93), or SM 4500-Cl I (00).

F) On-Line Chlorine Analyzer. USEPA 334.0 (09).

G) Amperometric Sensor. Palintest ChloroSense (09) and Palintest ChloroSense (20).

H) Indophenol Colorimetric. USEPA 127 (21).

3) Chlorine Dioxide

A) Amperometric Titration. ~~Palintest ChlordioX Plus (13), Palintest ChlordioX Plus (20),~~ SM 4500-ClO_2 C (88), SM 4500-ClO_2 C (93), SM 4500-ClO_2 C (00), SM 4500-ClO_2 E (88), SM 4500-ClO_2 E (93), or SM 4500-ClO_2 E (00).

B) DPD Method. SM 4500-ClO_2 D (88) or SM 4500-ClO_2 D (93).

C) Spectrophotometric. USEPA 327.0 (05).

D) Amperometric Sensor. Palintest ChlordioX Plus (13), Palintest ChlordioX Plus (20).

4) Ozone. Indigo Method. SM 4500-O_3 B (88), SM 4500-O_3 B (93), or SM 4500-O_3 B (97).~~SM 4500-O_3 B (00).~~

5) Alternative Test Methods. The Agency may issue a SEP allowing a supplier to use alternative chlorine test methods:

A) DPD Colorimetric Test Kits. A supplier may measure residual disinfectant concentrations for free chlorine and combined chlorine using ITS Method D99-003.

B) Continuous Monitoring for Free and Total Chlorine. A supplier may measure free and total chlorine residuals continuously by

adapting a specified chlorine residual method for use with a continuous monitoring instrument if~~, provided~~ the chemistry, accuracy, and precision remain the same. A supplier must calibrate instruments it uses for continuous monitoring with a grab sample measurement at least every five days or as the Agency provides otherwise in a SEP.

BOARD NOTE: This Section derives from 40 CFR 141.74(a) and appendix A to subpart C of 40 CFR 141. The Board did not separately list approved alternative methods from Standard Methods Online that are the same version as a method appearing in a printed edition of Standard Methods. Using the Standard Methods Online copy is acceptable.

Standard Methods Online, Method 2130 B-01 appears in the 21st, 22nd,~~ and~~ 23rd, and 24th~~-~~editions as Method 2130 B. This appears in this Section as SM 2130 B (01).

Standard Methods Online, Methods 4500-Cl D-93, 4500-Cl E-93, 4500-Cl F-93, 4500-Cl G-93, 4500-Cl H-93, and 4500-Cl I-93 appear in the 19th and 20th editions as Methods 4500-Cl D, 4500-Cl E, 4500-Cl F, 4500-Cl G, 4500-Cl H, and 4500-Cl I. These appear in this Section as SM 4500-Cl D (93), SM 4500-Cl E (93), SM 4500-Cl F (93), SM 4500-Cl G (93), SM 4500-Cl H (93), and SM 4500-Cl I (93).

Standard Methods Online, Methods 4500-Cl D-00, 4500-Cl E-00, 4500-Cl F-00, 4500-Cl G-00, 4500-Cl H-00, and 4500-Cl I-00 appear in the 21st, 22nd, ~~and~~ 23rd, and 24th editions as Methods 4500-Cl D, 4500-Cl E, 4500-Cl F, 4500-Cl G, 4500-Cl H, and 4500-Cl I. These appear in this Section as SM 4500-Cl D (00), SM 4500-Cl E (00), SM 4500-Cl F (00), SM 4500-Cl G (00), SM 4500-Cl H (00), and SM 4500-Cl I (00).

Standard Methods Online, Methods 4500-ClO_2 C-93, 4500-ClO_2 D-93, and 4500-ClO_2 E-93 appear in the 19th and 20th editions as Methods 4500-ClO_2 C, 4500-ClO_2 D, and 4500-ClO_2 E. These appear in this Section as SM 4500-ClO_2 C (93), SM 4500-ClO_2 D (93), and SM 4500-ClO_2 E (93).

Standard Methods Online, Methods 4500-ClO_2 C-00 and 4500-ClO_2 E-00 appear in the 19th, ~~and~~ 20th, 21st, 22nd, 23rd, and 24th ~~-~~editions as Methods 4500-ClO_2 C and 4500-ClO_2 E. These appear in this Section as SM 4500-ClO_2 C (00) and SM 4500-ClO_2 E (00).

Standard Methods Online, Method 4500-O_3 B-97 appears in the 20th, 21st, 22nd, 23rd, and 24th editions~~edition~~ as Method 4500-O_3 B. This appears in this Section as SM 4500-O_3 B (97).

Standard Methods Online, Method 9215 B-00 appears in the 21st edition as Method 9215 B. This appears in this Section as SM 9215 B (00).

Standard Methods Online, Method 9215 B-04 appears in the 22nd edition as Method

9215 B. This appears in this Section as SM 9215 B (04).

Standard Methods Online, Methods 9221 A-99, 9221 B-99, and 9221 C-99 appear in the 21st edition as Methods 9221 A, 9221 B, and 9221 C. These appear in this Section as SM 9221 A (99), SM 9221 B (99), and SM 9221 C (99).

Standard Methods Online, Methods 9221 A-06, 9221 B-06, 9221 C-06, and 9221 E-06 appear in the 22nd edition as Methods 9221 A, 9221 B, 9221 C, and 9221 E. These appear in this Section as SM 9221 A (06), SM 9221 B (06), SM 9221 C (06), and SM 9221 E (06).

Standard Methods Online, Methods 9222 A-97, 9222 B-97, and 9222 C-97 appear in the 20th and 21st editions as Methods 9222 A, 9222 B, and 9222 C. These appear in this Section as SM 9222 A (97), SM 9222 B (97), and SM 9222 C (97).

Standard Methods Online, Method 9223 B-97 appears in the 20th and 21st editions as Method 9223 B. This appears in this Section as SM 9223 B (97).

Standard Methods Online, Method 9223 B-04 appears in the 22nd edition as Method 9223 B. This appears in this Section as SM 9223 B (04).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.533 Filtered PWSs

A supplier using a surface water source or a groundwater source under the direct influence of surface water and providing filtration treatment must monitor in compliance~~accordance~~ with this Section.

a) The supplier must perform turbidity measurements Section 611.250 requires on representative samples of the PWS's filtered water every four hours (or more frequently) when the supplier serves water to the public. A supplier may substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a protocol the Agency approved in a SEP. For a supplier using slow sand filtration or filtration treatment other than conventional treatment, direct filtration, or diatomaceous earth filtration, the Agency must reduce the sampling frequency to once per day in a SEP if the Agency determines that less frequent monitoring is sufficient to indicate effective filtration performance. For a supplier serving 500 or fewer persons, the Agency must reduce the turbidity sampling frequency to once per day in a SEP if the Agency determines that less frequent monitoring is sufficient to indicate effective filtration performance regardless of the type of filtration treatment used.

b) RDC Entering Distribution System

1) Suppliers Serving More Than 3300 Persons. The supplier must continuously monitor the RDC of the water entering the distribution system, and the supplier must record the lowest value each day, except that the supplier may conduct grab sampling every four hours in lieu of continuous monitoring if there is a failure in the continuous monitoring equipment, but not for more than five working days following the equipment failure.

2) Suppliers Serving 3,300 or Fewer Persons. The supplier may take grab samples in lieu of providing continuous monitoring on an ongoing basis at the frequencies each day Table C prescribes. If at any time the RDC falls below 0.2 mg/ L in a system using grab sampling in lieu of continuous monitoring, the supplier must take a grab sample every four hours until RDC is equal to or greater than 0.2 mg/ L.

c) Points of Measurement

1) The supplier must measure the RDC at least at the same points in the distribution system and at the same time as sampling total coliforms, as Sections 611.1054 through 611.1058 specify. The Agency must allow a supplier using both a surface water source and a groundwater source or a groundwater source under direct influence of surface water and a groundwater source to take RDC samples at points other than the total coliform sampling points if the Agency determines that those~~such~~ points are more representative of treated (disinfected) water quality within the distribution system. The supplier may measure HPC, as Section 611.531(a) specifies, in lieu of RDC.

2) Subsection (c)(1) does not apply if the Agency determines under Section 611.213(c) that a system has no means for having a certified laboratory analyze a sample for PHC under the requisite time and temperature conditions Section 611.531(a) specifies and the supplier provides adequate disinfection in its distribution system.

BOARD NOTE: This Section derives from 40 CFR 141.74(c).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.601 Monitoring Frequency

Monitoring must be conducted as follows:

a) Required Sampling

1) Each supplier must take a minimum of one sample at each sampling point at the times required by Section 611.610 beginning in the initial compliance period.

2) Each sampling point must produce samples that are representative of the water from each source after treatment or from each treatment plant, as required by subsection (b). The total number of sampling points must be representative of the water delivered to users throughout the PWS.

3) The supplier must take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant and the Agency has granted a SEP under subsection (b)(5).

b) Sampling Points

1) Sampling points for GWSs. Unless otherwise provided by SEP, a GWS supplier must take at least one sample from each of the following points: each entry point that is representative of each well after treatment.

2) Sampling points for an SWS or a mixed system supplier. Unless otherwise provided by SEP, an SWS or mixed system supplier must take at least one sample from each of the following points:

A) Each entry point after the application of treatment; or

B) A point in the distribution system that is representative of each source after treatment.

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

4) Additional sampling points. The Agency must, by SEP, designate additional sampling points in the distribution system or at the consumer's tap if it determines that additional~~such~~ samples are necessary to more accurately determine consumer exposure.

5) Alternative sampling points. The Agency must, by SEP, approve alternate sampling points if the supplier demonstrates that the points are more representative than the generally required point.

c) This subsection corresponds with 40 CFR 141.23(a)(4), an optional provision relating to compositing of samples that USEPA does not require for state programs. This statement maintains structural consistency with USEPA rules.

d) The frequency of monitoring for the following contaminants must be in compliance~~accordance~~ with the following Sections:

1) Asbestos: Section 611.602;

2) Antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, and thallium: Section 611.603;

3) Nitrate: Section 611.604; and

4) Nitrite: Section 611.605.

BOARD NOTE: Derived from 40 CFR 141.23(a) and (c).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.602 Asbestos Monitoring Frequency

The frequency of monitoring conducted to determine compliance with the MCL for asbestos in Section 611.301 is as follows:

a) Unless the Agency has determined under subsection (c) that the PWS is not vulnerable, each CWS and NTNCWS supplier must monitor for asbestos during the first compliance period of each compliance cycle.

b) CWS suppliers may apply to the Agency, by way of an application for a SEP, for a determination that the CWS is not vulnerable based on consideration of the criteria listed in subsection (c).

c) The Agency must determine that the CWS is "not vulnerable" if the CWS is not vulnerable to contamination either from asbestos in its source water, from corrosion of asbestos-cement pipe, or from both, based on a consideration of the following factors:

1) Potential asbestos contamination of the water source; and

2) The use of asbestos-cement pipe for finished water distribution and the corrosive nature of the water.

d) A SEP based on a determination that a CWS is not vulnerable to asbestos contamination expires at the end of the compliance cycle for which it was issued.

e) A supplier of a PWS vulnerable to asbestos contamination due solely to corrosion of asbestos-cement pipe must take one sample at a tap served by asbestos-cement pipe and under conditions that asbestos contamination is most likely to occur.

f) A supplier of a PWS vulnerable to asbestos contamination due solely to source water must monitor in compliance~~accordance~~ with Section 611.601.

g) A supplier of a PWS vulnerable to asbestos contamination due both to its source water supply and corrosion of asbestos-cement pipe must take one sample at a tap served by asbestos-cement pipe and under conditions that asbestos contamination is most likely to occur.

h) A supplier that exceeds the MCL, as determined in Section 611.609, must monitor quarterly beginning in the next quarter after the violation occurred.

i) Reduction of Quarterly Monitoring

1) The Agency must issue a SEP that reduces the monitoring frequency to that specified by subsection (a) if it determines that the sampling point is reliably and consistently below the MCL.

2) The request must, at a minimum, include the following information:

A) For a GWS: two quarterly samples.

B) For an SWS or mixed system: four quarterly samples.

3) In issuing a SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. All SEPs that allow less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring under subsection (h) if it violates the MCL specified by Section 611.609.

j) This subsection (j) corresponds with 40 CFR 141.23(b)(10), which pertains to a compliance period long since expired. This statement maintains structural consistency with the federal regulations.

BOARD NOTE: Derived from 40 CFR 141.23(b).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.603 Inorganic Monitoring Frequency

The frequency of monitoring conducted to determine compliance with the revised MCLs in Section 611.301 for antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, and thallium is as follows:

a) Suppliers must take samples at each sampling point, beginning in the initial compliance period, as follows:

1) For a GWS supplier: at least one sample during each compliance period;

2) For an SWS or a mixed system supplier: at least one sample each year.

BOARD NOTE: Derived from 40 CFR 141.23(c)(1).

b) SEP Application

1) The supplier may apply to the Agency for a SEP that allows reduction from the monitoring frequencies specified in subsection (a) under subsections (d) through (f) and 35 Ill. Adm. Code 602.600.

2) The supplier may apply to the Agency for a SEP that relieves it of the requirement for monitoring cyanide under subsections (d) through (f) and 35 Ill. Adm. Code 602.600 if it can demonstrate that its system is not vulnerable due to a lack of any industrial source of cyanide.

BOARD NOTE: Derived from 40 CFR 141.23(c)(2) and (c)(6).

c) SEP Procedures. The Agency must review the request under the SEP procedures of 35 Ill. Adm. Code 602.600 based on consideration of the factors in subsection (e).

BOARD NOTE: Derived from 40 CFR 141.23(c)(6).

d) Standard for SEP Reduction in Monitoring. The Agency must grant a SEP that allows a reduction in the monitoring frequency if the supplier demonstrates that all previous analytical results were less than the MCL if~~, provided~~ the supplier meets the following minimum data requirements:

1) For GWS suppliers: a minimum of three rounds of monitoring.

2) For an SWS or mixed system supplier: annual monitoring for at least three years.

3) A supplier that uses a new water source is not eligible for a SEP until it completes three rounds of monitoring from the new source.

BOARD NOTE: Derived from 40 CFR 141.23(c)(4).

e) Standard for SEP Monitoring Conditions. As a condition of any SEP, the Agency must require that the supplier take a minimum of one sample during the term of the SEP. In determining the appropriate reduced monitoring frequency, the Agency must consider the following:

1) Reported concentrations from all previous monitoring;

2) The degree of variation in reported concentrations; and

3) Other factors that may affect contaminant concentrations, such as changes in groundwater pumping rates, changes in the CWS's configuration, the CWS's operating procedures, or changes in stream flows or characteristics.

BOARD NOTE: Derived from 40 CFR 141.23(c)(3) and (c)(5).

f) SEP Conditions and Revision

1) A SEP will expire at the end of the compliance cycle for which it was issued.

BOARD NOTE: Derived from 40 CFR 141.23(c)(3).

2) In issuing a SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. A SEP must provide that the Agency will review and, if appropriate, revise its determination of the appropriate monitoring frequency when the supplier submits new monitoring data or when other data relevant to the supplier's appropriate monitoring frequency become available.

BOARD NOTE: Derived from 40 CFR 141.23(c)(6).

g) A supplier that exceeds the MCL as determined in Section 611.609, must monitor quarterly for that contaminant, beginning in the next quarter after the violation occurred.

BOARD NOTE: Derived from 40 CFR 141.23(c)(7).

h) Reduction of Quarterly Monitoring

1) The Agency must grant a SEP that reduces the monitoring frequency to that specified by subsection (a) if it determines that the sampling point is reliably and consistently below the MCL.

2) A request for a SEP must include the following minimal information:

A) For a GWS: two quarterly samples.

B) For an SWS or mixed system supplier: four quarterly samples.

3) In issuing the SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. Any SEP that allows less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring for any contaminant under subsection (g) if it violates the MCL specified by Section 611.609 for that contaminant.

BOARD NOTE: Derived from 40 CFR 141.23(c)(8).

i) A new system supplier or a supplier whose system uses a new source of water must demonstrate compliance with the MCL within a period of time specified by a permit issued the Agency. The supplier must also comply with the initial sampling frequencies specified by the Agency to ensure a system can demonstrate compliance with the MCL. Routine and increased monitoring frequencies must be conducted in compliance~~accordance~~ with ~~the requirements in~~ this Section.

BOARD NOTE: Derived from 40 CFR 141.23(c)(9).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.606 Confirmation Samples

a) If the results of sampling for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, or thallium indicate a level in excess of the MCL, the supplier must collect one additional sample as soon as possible after the initial sample was taken (but not to exceed two weeks) at the same sampling point.

b) If nitrate or nitrite sampling results indicate a level in excess of the MCL, the supplier must take a confirmation sample within 24 hours after the supplier's receipt of notification of the analytical results of the first sample.

1) Suppliers unable to comply with the 24-hour sampling requirement must immediately notify the persons served in compliance~~accordance~~ with Section 611.902 and meet other Tier 1 public notification requirements under Subpart V of this Part.

2) Suppliers exercising this option must take and analyze a confirmation sample within two weeks after notification of the analytical results of the first sample.

c) Averaging rules are specified in Section 611.609. The Agency must delete the original or confirmation sample if it determines that a sampling error occurred, in which case the confirmation sample will replace the original sample.

BOARD NOTE: Derived from 40 CFR 141.23(f).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.608 Additional Optional Monitoring

Suppliers may conduct additional, more frequent monitoring than the minimum frequencies specified in this Subpart N, without prior approval from the Agency. The supplier must report the results of all its~~such~~ monitoring to the Agency.
BOARD NOTE: Derived from 40 CFR 141.23(h).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.609 Determining Compliance

Compliance with the MCLs of Section 611.300 or 611.301 (as appropriate) must be determined based on the analytical results obtained at each sampling point.

a) For suppliers that monitor at a frequency greater than annual, compliance with the MCLs for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, or thallium is determined by a running annual average at each sampling point.

1) If the average at any sampling point is greater than the MCL, then the supplier is out of compliance.

2) If any one sample would cause the annual average to be exceeded, then the supplier is out of compliance immediately.

3) Any sample below the method detection limit must be calculated at zero for the purpose of determining the annual average.

BOARD NOTE: The "method detection limit" is different from the "detection limit, "~~as set forth~~ in Section 611.600. The "method detection limit" is the level of contaminant that can be determined by a particular method with a 95 percent degree of confidence, as determined by the method outlined in appendix B to 40 CFR 136, incorporated by reference at Section 611.102.

4) If a system fails to collect the required number of samples, compliance (average concentration) will be based on the total number of samples collected.

b) For suppliers that monitor annually or less frequently, compliance with the MCLs for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, or thallium is determined by the level of the contaminant at any sampling point. If confirmation samples are required by the Agency, the determination of compliance will be based on the average of the annual average of the initial MCL exceedance and any Agency-required confirmation samples. If a supplier fails to collect the required number of samples, compliance (average concentration) will be based on the total number of samples collected.

c) Compliance with the MCLs for nitrate and nitrite is determined based on one sample if the levels of these contaminants are below the MCLs. If the levels of nitrate or nitrite in the initial sample exceed the MCLs, Section 611.606 requires confirmation sampling, and compliance is determined based on the average of the initial and confirmation samples.

d) Arsenic sampling results must be reported to the nearest 0.001 mg/ℓ.

BOARD NOTE: Derived from 40 CFR 141.23(i).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.611 Inorganic Analysis

Analytical methods are from documents incorporated by reference in Section 611.102. The substantive rules mostly reference these by a short name Section 611.102(a) defines. Section 611.101 defines other abbreviations.

a) A certified laboratory must conduct analyses for contaminants in this Section using the indicated methods or an alternative method the Agency approved under Section 611.480. USEPA Technical Notes, incorporated by reference in Section 611.102, includes criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chloride, chromium, copper, lead, nickel, selenium, sodium, sulfate, and thallium with digestion or directly without digestion, and other analytical procedures.

BOARD NOTE: Because a laboratory determines MDLs it reports under USEPA 200.7 (94) and USEPA 200.9 (94) using a 2× preconcentration step during sample digestion, MDLs the laboratory determines analyzing samples by direct analysis (i.e., no sample digestion) are higher. For direct analysis of cadmium and arsenic using USEPA 200.7 (94) and arsenic using SM 3120 B (89), SM 3120 B (93), or SM 3120 B (99), it may be necessary to engage in sample preconcentration using pneumatic nebulization to achieve lower detection limits. Direct analysis of antimony, lead, and thallium using USEPA 200.9 (94); antimony and lead using SM 3113 B (89), SM 3113 B (99), or SM 3113 B (10); and lead using ASTM D3559-96 D, ASTM D3559-03 D, ASTM D3559-08 D, or ASTM D3559-15 D may require preconcentration, unless the laboratory makes multiple in-furnace depositions.

1) Alkalinity

A) Titrimetric. ASTM D1067-92 B, ASTM D1067-02 B, ASTM D1067-06 B, ASTM D1067-11 B, ASTM D1067-16 B, SM 2320 B (91),-or SM 2320 B (97).

B) Electrometric Titration. USGS I-1030-85.-

2) Antimony

A) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

B) Atomic Absorption, Hydride Technique. ASTM D3697-92, ASTM D3697-02, ASTM D3697-07, ASTM D3697-12, or ASTM D3697-17.

C) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

D) Atomic Absorption, Furnace Technique. SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), or SM 3113 B

(10).

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

3) Arsenic

BOARD NOTE: If the laboratory uses ultrasonic nebulization in determining arsenic using USEPA 200.8 (94), the arsenic must be in the pentavalent state to provide uniform signal response. For direct analysis of arsenic with USEPA 200.8 (94) using ultrasonic nebulization, samples and standards must contain one mg/ L of sodium hypochlorite.

A) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

B) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

C) Atomic Absorption, Furnace Technique. ASTM D2972-97 C, ASTM D2972-03 C, ASTM D2972-08 C, ASTM D2972-15 C, SM 3113 B (89), SM 3113 B (93), 3113 B (99), 3113 B (04), or 3113 B (10).

D) Atomic Absorption, Hydride Technique. ASTM D2972-97 B, ASTM D2972-03 B, ASTM D2972-08 B, ASTM D2972-15 B, SM 3114 B (89), SM 3114 B (93), SM 3114 B (97), ~~SM 3114 B (04),~~ or SM 3114 B (09).

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (94).

4) Asbestos. Transmission Electron Microscopy. USEPA 100.1 (83) or USEPA 100.2 (94).

5) Barium

A) Inductively Coupled Plasma. USEPA 200.7 (94), SM 3120 B (83), SM 3120 B (93), or SM 3120 B (99).

B) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

C) Atomic Absorption, Direct Aspiration Technique. SM 3111 D

(89), SM 3111 D (93), or SM 3111 D (99).

D) Atomic Absorption, Furnace Technique. SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), and SM 3113 B (10).

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

6) Beryllium

A) Inductively Coupled Plasma. USEPA 200.7 (94), SM 3120 B (83), SM 3120 B (93), or SM 3120 B (99).

B) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

C) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

D) Atomic Absorption, Furnace Technique. ASTM D3645-97 B, ASTM D3645-03 B, ASTM D3645-08 B, ASTM D3645-15 B, SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), or SM 3113 B (10).

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

7) Cadmium

A) Inductively Coupled Plasma Arc Furnace. USEPA 200.7 (94).

B) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

C) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

D) Atomic Absorption, Furnace Technique. SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), and SM 3113 B (10).

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

8) Calcium

A) EDTA Titrimetric. ASTM D511-93 A, ASTM D511-03 A, ASTM D511-09 A, ASTM D511-14 A, SM 3500-Ca B (97), or 3500-Ca D (91).

B) Atomic Absorption, Direct Aspiration. ASTM D511-93 B, ASTM D511-03 B, ASTM D511-09 B, ASTM D511-14 B, SM 3111 B (89), SM 3111 B (93), or SM 3111 B (99).

C) Inductively Coupled Plasma. USEPA 200.7 (94), SM 3120 B (83), SM 3120 B (93), or SM 3120 B (99).

D) Ion Chromatography. ASTM D6919-03, ASTM D6919-09, or ASTM D6919-17.

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

9) Chloride. Ion Chromatography. ASTM D4327-17.

10) Chromium

A) Inductively Coupled Plasma. USEPA 200.7 (94), SM 3120 B (83), SM 3120 B (93), or SM 3120 B (99).

B) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

C) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

D) Atomic Absorption, Furnace Technique. SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), and SM 3113 B (10).

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

11) Copper

A) Atomic Absorption, Furnace Technique. ASTM D1688-95 C, ASTM D1688-02 C, ASTM D1688-07 C, ASTM D1688-12 C,

ASTM D1688-17 C, SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), and SM 3113 B (10).

B) Atomic Absorption, Direct Aspiration. ASTM D1688-95 A, ASTM D1688-02 A, ASTM D1688-07 A, ASTM D1688-12 A, ASTM D1688-17 A, SM 3111 B (89), SM 3111 B (93), or SM 3111 B (99).

C) Inductively Coupled Plasma. USEPA 200.7 (94), SM 3120 B (83), SM 3120 B (93), or SM 3120 B (99).

D) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

E) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

F) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

G) Colorimetric. Hach 8026 (15) or Hach 10272 (15).

12) Conductivity; Conductance. ASTM D1125-95(1999) A, ASTM D1125-14 A, SM 2510 B (91), or SM 2510 B (97).

13) Cyanide

A) Manual Distillation with $MgCl_2$. (ASTM D2036-98 A, ASTM D2036-06 A, SM 4500-CN^- C (90), SM 4500-CN^- C (97), SM 4500-CN^- C (99), or SM 4500-CN^- C (16)), followed by spectrophotometric, amenable (ASTM D2036-98 B, ASTM D2036-06 B, SM 4500-CN^- G (90), SM 4500-CN^- G (97), SM 4500-CN^- G (99), or SM 4500-CN^- G (16)).

B) Manual Distillation with $MgCl_2$. Distillation (ASTM D2036-98 A or ASTM D2036-06 A or SM 4500-CN^- C (90), SM 4500-CN^- C (97), SM 4500-CN^- C (99), or SM 4500-CN^- C (16)), followed by Spectrophotometric, Manual (ASTM D2036-98 A, ASTM D2036-06 A, SM 4500-CN^- E (90), 4500-CN^- E (97), 4500-CN^- E (99), 4500-CN^- E (16), or USGS I-3300-85).

C) Spectrophotometric, Semiautomated. USEPA 335.4 (93).

D) Selective Electrode. SM 4500-CN^- F (90), SM 4500-CN^- F (97),

SM 4500-CN^- F (99), or SM 4500-CN^- F (16).

E) UV/Distillation/Spectrophotometric. Kelada 01 (01).

F) Microdistillation/Flow Injection/Spectrophotometric. QuikChem 10-204-00-1-X (00).

G) Ligand Exchange and Amperometry. ASTM D6888-04 or OIA-1677 DW (04).

H) Gas Chromatography-Mass Spectrometry Headspace. ME355.01 (09).

14) Fluoride

A) Ion Chromatography. USEPA 300.0 (93), USEPA 300.1 (97), ASTM D4327-97, ASTM D4327-03, ASTM D4327-11, ASTM D4327-17, SM 4110 B (90), SM 4110 B (91), SM 4110 B (97), or SM 4110 B (00).

B) Manual Distillation, Colorimetric SPADNS. SM 4500-F^- B (88), SM 4500-F^- B (94), SM 4500-F^- B (97), SM 4500-F^-, D (88), SM 4500-F^- D (94), ~~SM 4500-F^- B (94)~~, or SM 4500-F^- D (97) ~~SM 4500-F^- B (97)~~.

C) Manual Electrode. ASTM D1179-93 B, ASTM D1179-99 B, ASTM D1179-04 B, ASTM D1179-10 B, ASTM D1179-16 B, SM 4500-F^- C (88), SM 4500-F^- C (94), or SM 4500-F^- C (97).

D) Automated Electrode. Technicon #380-75WE (76).

E) Automated Alizarin. SM 4500-F^- E (88), SM 4500-F^- E (94), SM 4500-F^- E (97), or Technicon #129-71W.

F) Arsenite-Free Colorimetric SPADNS. Hach 10225 (11) (SPADNS 2). Hach 10312 (22)

G) Capillary Ion Electrophoresis. ASTM D6508-00.
BOARD NOTE: On March 12, 2007 (at 72 Fed. Reg. 11200), USEPA amended the entry for fluoride to add capillary ion electrophoresis in the table at corresponding 40 CFR 141.23(k)(1) to allow the use of "Waters Method D6508, Rev. 2". The Board cited the ASTM Method D6508-00(2005). On May 2, 2012 (at 77 Fed. Reg. 26072, 26096-97; in corrections to UCMR 3), USEPA

changed the entries for nitrate, nitrite, and orthophosphate to ASTM D6508-00.

15) Lead

A) Atomic Absorption, Furnace Technique. ASTM D3559-96 D, ASTM D3559-03 D, ASTM D3559-08 D, ASTM D3559-15 D, SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), or SM 3113 B (10).

B) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

C) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

D) Differential Pulse Anodic Stripping Voltammetry. Palintest 1001 (99). Palintest 1001 (20).

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

~~F) Differential Pulse Anode Stripping Voltametry. Palintest 1001 (20).~~

16) Magnesium

A) Atomic Absorption. ASTM D511-93 B, ASTM D511-03 B, ASTM D511-09 B, ASTM D511-14 B, SM 3111 B (89), SM 3111 B (93), or SM 3111 B (99).

B) Inductively Coupled Plasma. USEPA 200.7 (94), SM 3120 B (89), SM 3120 B (93), or SM 3120 B (99).

C) Complexation Titrimetric. ASTM D511-93 A, ASTM D511-03 A, ASTM D511-09 A, ASTM D511-14 A, SM 3500-Mg B (97), SM 3500-Mg E (90), or SM 3500-Mg E (91).

D) Ion Chromatography. ASTM D6919-03, ASTM D6919-09, or ASTM D6919-17.

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

17) Mercury

A) Manual Cold Vapor Technique. ASTM D3223-97, ASTM D3223-02, ASTM D3223-12, ASTM D3223-17, SM 3112 B (88), SM 3112 B (93), SM 3112 B (99), SM 3112 B (09), or USEPA 245.1 (91).

B) Automated Cold Vapor Technique. USEPA 245.2 (74).

C) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

18) Nickel

A) Inductively Coupled Plasma. SM 3120 B (89), SM 3120 B (93), SM 3120 B (99), or USEPA 200.7 (94).

B) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

C) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

D) Atomic Absorption, Direct Aspiration Technique. SM 3111 B (89), 3111 B (93), or 3111 B (99).

E) Atomic Absorption, Furnace Technique. SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), or SM 3113 B (10).

F) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

19) Nitrate

A) Ion Chromatography. ASTM D4327-97, ASTM D4327-03, ASTM D4327-11, ASTM D4327-17, SM 4110 B (90), SM 4110 B (97), SM 4110 B (00), USEPA 300.0 (93), USEPA 300.1 (97), or Waters B-1011 (87).

B) Automated Cadmium Reduction. ASTM D3867-90 A; SM 4500-NO_3^- F (88), 4500-NO_3^- F (93), 4500-NO_3^- F (97), 4500-NO_3^- F (00), 4500-NO_3^- F (16), or USEPA 353.2 (93).

C) Ion Selective Electrode. ATI Orion Technical Bulletin 601 (94), SM 4500-NO_3^- D (88), SM 4500-NO_3^- D (93), SM 4500-NO_3^- D (97), SM 4500-NO_3^- D (00), or SM 4500-NO_3^- D (16).

D) Manual Cadmium Reduction. ASTM D3867-90 B, SM 4500-NO_3^- E (88), SM 4500-NO_3^- E (93), SM 4500-NO_3^- E (97), SM 4500-NO_3^- E (00), or SM 4500-NO_3^- E (16).

E) Capillary Ion Electrophoresis. ASTM D6508-00 or ASTM D6508-15.

F) Reduction-Colorimetric. Systea Easy (1-Reagent) (09) or NECi Nitrate-Reductase (06).

G) Direct Colorimetric. Hach 10206 (TNTplus 835/836).

20) Nitrite

A) Ion Chromatography. ASTM D4327-97, ASTM D4327-03, ASTM D4327-11, ASTM D4327-17, SM 4110 B (90), SM 4110 B (97), SM 4110 B (00), USEPA 300.0 (93), USEPA 300.1 (97), or Waters B-1011 (87).

B) Automated Cadmium Reduction. ASTM D3867-90 A, SM 4500-NO_3^- F (93), 4500-NO_3^- F (97), 4500-NO_3^- F (00), 4500-NO_3^- F (16), or USEPA 353.2 (93).

C) Manual Cadmium Reduction. ASTM D3867-90 B, SM 4500-NO_3^- E (93), 4500-NO_3^- E (97), 4500-NO_3^- E (00), or 4500-NO_3^- E (16).

D) Spectrophotometric. SM 4500-NO_2^- B (88), 4500-NO_2^- B (93), or 4500-NO_2^- B (00).

E) Capillary Ion Electrophoresis. ASTM D6508-00 or ASTM D6508-15.

F) Reduction-Colorimetric. Systea Easy (1-Reagent) (09) or NECi Nitrate-Reductase (06).

21) Orthophosphate (unfiltered, without digestion or hydrolysis)

A) Automated Colorimetric, Ascorbic Acid. SM 4500-P F (88), SM 4500-P F (93), SM 4500-P F (97), SM 4500-P F (99), SM 4500-P

F (05), Thermo-Fisher Discrete Analyzer (16), or USEPA 365.1 (93).

B) Single-Reagent Colorimetric, Ascorbic Acid. ASTM D515-88 A, SM 4500-P E (88), 4500-P E (93), 4500-P E (97), or 4500-P E (99), or 4500-P E (05).

C) Colorimetric, Phosphomolybdate. USGS I-1601-85.

D) Phosphorus, Orthophosphate, Colorimetry, Phosphomolybdate, Automated-Segmented Flow. USGS I-2601-90.

E) Colorimetric, Phosphomolybdate, Automated Discrete. USGS I-2598-85.

F) Ion Chromatography. ASTM D4327-97, ASTM D4327-03, ASTM D4327-11, ASTM D4327-17, SM 4110 B (90), SM 4110 B (91), SM 4110 B (97), SM 4110 B (00), USEPA 300.0 (93), or USEPA 300.1 (97).

G) Capillary Ion Electrophoresis. ASTM D6508-00 or ASTM D6508-15.

22) pH, Electrometric. ASTM D1293-95, ASTM D1293-99, ASTM D1293-12, ASTM D1293-18, SM 4500-H^+ B (90), SM 4500-H^+ B (96), SM 4500-H^+ B (00), USEPA 150.1 (71), USEPA 150.2 (82), or USEPA 150.3 (13).

23) Selenium

A) Atomic Absorption, Hydride. ASTM D3859-98 A, ASTM D3859-03 A, ASTM D3859-08 A, ASTM D3859-15 A, SM 3114 B (89), SM 3114 (93), SM 3114 (97), or SM 3114 (09).

B) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

C) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

D) Atomic Absorption, Furnace Technique. ASTM D3859-98 B, ASTM D3859-03 B, ASTM D3859-08 B, ASTM D3859-15 B, SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), or SM 3113 B (10).

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

24) Silica

A) Colorimetric, Molybdate Blue. USGS I-1700-85.

B) Colorimetric, Molybdate Blue, Automated-Segmented Flow. USGS I-2700-85.

C) Colorimetric. ASTM D859-94, ASTM D859-00, ASTM D859-05, ASTM D859-10, or ASTM D859-16.

D) Molybdosilicate. SM 4500-Si D (88), SM 4500-Si D (93), or SM 4500-SiO_2 C (97).

E) Heteropoly Blue. SM 4500-Si E (88), SM 4500-Si E (93), or SM 4500-SiO_2 D (97).

F) Automated Method for Molybdate-Reactive Silica. SM 4500-Si F (88), SM 4500-Si F (93), or SM 4500-SiO_2 E (97).

G) Inductively Coupled Plasma. SM 3120 B (89), SM 3120 B (93), SM 3120 B (99), or USEPA 200.7 (94).

H) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

25) Sodium

A) Inductively Coupled Plasma. USEPA 200.7 (94).

B) Atomic Absorption, Direct Aspiration. SM 3111 B (89), SM 3111 B (93), or SM 3111 B (99).

C) Ion Chromatography. ASTM D6919-03, ASTM D6919-09, or ASTM D6919-17.

D) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

26) Sulfate. Ion Chromatography. ASTM D4327-17.

27) Temperature; Thermometric. SM 2550 (88), SM 2550 (93), SM 2550 (00), or SM 2550 (10).

28) Thallium

A) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

B) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

b) The supplier must use specific sample preservation, container, and maximum holding time procedures when collecting samples for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate, nitrite, selenium, and thallium under Sections 611.600 through 611.604:

BOARD NOTE: For cyanide determinations, the supplier must adjust samples to pH 12 with sodium hydroxide to pH 12 when collecting them. When a sample needs chilling, the supplier must ship and store the sample at 4° C or less. The supplier may acidify nitrate or metals samples using a concentrated acid or a dilute (50% by volume) solution of the concentrated acid. USEPA encourages acidifying samples for metals analysis and that the laboratory acidify, rather than at the time of sampling if~~, provided~~ the supplier follows the shipping time and other instructions in Section 8.3 of USEPA 200.7 (94), USEPA 200.8 (94), or USEPA 200.9 (94).

1) Antimony

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within six months.

2) Arsenic

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within six months.

3) Asbestos

A) Preservative: Cool to 4 °C.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within 48 hours.

4) Barium

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within six months.

5) Beryllium

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within six months.

6) Cadmium

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within six months.

7) Chromium

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within six months.

8) Cyanide

A) Preservative: Cool to 4 °C. Add sodium hydroxide to pH greater than 12. See the analytical methods for information on sample preservation.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within 14 days.

9) Fluoride

A) Preservative: None.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within one month.

10) Mercury

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within 28 days.

11) Nickel

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within six months.

12) Nitrate, Chlorinated

A) Preservative: Cool to 4 °C.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within 14 days.

13) Nitrate, Non-Chlorinated

A) Preservative: Concentrated sulfuric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within 14 days.

14) Nitrite

A) Preservative: Cool to 4 °C.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within 48 hours.

15) Selenium

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within six months.

16) Thallium

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding Time. Samples must be analyzed as soon after collection as possible, but in any event within six months.

c) A certified laboratory in one of the categories in Section 611.490(a) must conduct analyses under this Subpart N. The Agency must certify laboratories to conduct analyses for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate, nitrite, selenium, and thallium if the

laboratory fulfills certain conditions:

1) The laboratory analyzes performance evaluation (PE) samples the Agency provides under 35 Ill. Adm. Code 186 including those substances at levels not exceeding reasonably expected levels in drinking water; and

2) The laboratory achieves quantitative results on the analyses within specified acceptance limits:

A) Antimony: ± 30% at greater than or equal to 0.006 mg/ L.

B) Arsenic: ± 30% at greater than or equal to 0.003 mg/ L.

C) Asbestos: 2 standard deviations based on study statistics.

D) Barium: ± 15% at greater than or equal to 0.15 mg/ L.

E) Beryllium: ± 15% at greater than or equal to 0.001 mg/ L.

F) Cadmium: ± 20% at greater than or equal to 0.002 mg/ L.

G) Chromium: ± 15% at greater than or equal to 0.01 mg/ L.

H) Cyanide: ± 25% at greater than or equal to 0.1 mg/ L.

I) Fluoride: ± 10% at 1 to 10 mg/ L.

J) Mercury: ± 30% at greater than or equal to 0.0005 mg/ L.

K) Nickel: ± 15% at greater than or equal to 0.01 mg/ L.

L) Nitrate: ± 10% at greater than or equal to 0.4 mg/ L.

M) Nitrite: ± 15% at greater than or equal to 0.4 mg/ L.

N) Selenium: ± 20% at greater than or equal to 0.01 mg/ L.

O) Thallium: ± 30% at greater than or equal to 0.002 mg/ L.

BOARD NOTE: This Section derives from 40 CFR 141.23(k) and appendix A to subpart C of 40 CFR 141. The Board did not separately list approved alternative methods from Standard Methods Online that are the same version as a method appearing in a printed edition of Standard Methods. Using the Standard Methods Online copy is acceptable.

Standard Methods Online, Method 2320 B-97 appears in the 21st, 22nd, ~~and~~ 23rd, and 24th editions as Method 2320 B.~~.~~ This appears in this Section as SM 2320 B (97).

Standard Methods Online, Method 2510 B-97 appears in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th ~~-~~editions as Method 2510 B. This appears in this Section as SM 2510 B (97).

Standard Methods Online, Method 2550-00 appears in the 21st edition as Method 2550. This appears in this Section as SM 2550 (00).

Standard Methods Online, Method 2550-10 appears in the 22nd, 23rd, and 24th ~~-~~edition as Method 2550. This appears in this Section as SM 2550 (10).

Standard Methods Online, Methods 3111 B-99 and 3111 D-99 appear in the 21st, 22nd, ~~and~~ 23rd, and 24th ~~-~~editions as Methods 3111 B and 3111 D. These appear in this Section as SM 3111 B (99) and SM 3111 D (99).

Standard Methods Online, Method 3112 B-09 appears in the 22nd, ~~and~~ 23rd, and 24th editions as Method 3112 B. This appears in this Section as SM 3112 B (09).

Standard Methods Online, Method 3113 B-99 appears in the 21st edition as Method 3113 B. This appears in this Section as SM 3113 B (99).

Standard Methods Online, Method 3113 B-04 appears in the 21st edition as Method 3113 B. This appears in this Section as SM 3113 B (04).

Standard Methods Online, Method 3113 B-10 appears in the 22nd, ~~and~~ 23rd, and 24th editions as Method 3113 B~~.~~ This appears in this Section as SM 3113 B (10).

Standard Methods Online, Method 3114 B-97 appears in the 21st edition as Method 3114 B. This appears in this Section as SM 3114 B (97).

Standard Methods Online, Method 3114 B-09 appears in the 22nd, ~~and~~ 23rd, and 24th editions as Method 3114 B. This appears in this Section as SM 3114 B (09).

Standard Methods Online, Method 3120 B-99 appears in the 21st edition as Method 3120 B. This appears in this Section as SM 3120 B (99).

Standard Methods Online, Methods 3500-Ca B-97 and 3500-Ca D-97 appear in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th ~~-~~editions as Methods 3500-Ca B and 3500-Ca D. These appear in this Section as SM 3500-Ca B (97) and SM 3500-Ca D (97).

Standard Methods Online, Method 3500-Mg B-97 appears in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th ~~-~~editions as Method 3500-Mg B. This appears in this Section as SM 3500-Mg B (97).

Standard Methods Online, Method 4110 B-00 appears in the 21st, 22nd, ~~and~~ 23rd, and 24th ~~-~~editions as Method 4110 B. This appears in this Section as SM 4110 B (00).

Standard Methods Online, Methods 4500-CN^- C-90, 4500-CN^- E-90, 4500-CN^- F-90, and 4500-CN^- G-90 appear in the 18th and 19th editions as Methods 4500-CN^- C, 4500-CN^- E, 4500-CN^- F, and 4500-CN^- G. These appear in this Section as SM 4500-CN^- C (90), SM 4500-CN^- E (90), SM 4500-CN^- F (90), and SM 4500-CN^- G (90).

Standard Methods Online, Methods 4500-CN^- C-99, 4500-CN^- E-99, 4500-CN^- F-99, and 4500-CN^- G-99 appear in the 21st and 22nd editions as Methods 4500-CN^- C, 4500-CN^- E, 4500-CN^- F, and 4500-CN^- G. These appear in this Section as SM 4500-CN^- C (99), SM 4500-CN^- E (99), SM 4500-CN^- F (99), and SM 4500-CN^- G (99).

Standard Methods Online, Methods 4500-CN^- C-16, 4500-CN^- E-16, 4500-CN^- F-16, and 4500-CN^- G-16 appear in the 23rd and 24th editions as Methods 4500-CN^- C, 4500-CN^- E, 4500-CN^- F, and 4500-CN^- G. These appear in this Section as SM 4500-CN^- C (16), SM 4500-CN^- E (16), SM 4500-CN^- F (16), and SM 4500-CN^- G (16).

Standard Methods Online, Methods 4500-F^- B-97, 4500-F^- C-97, 4500-F^- D-97, and 4500-F^- E-97 appear in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th editions as Methods 4500-F^- B, 4500-F^- C, 4500-F^- D, and 4500-F^- E. These appear in this Section as SM 4500-F^- B (97), SM 4500-F^- C (97), SM 4500-F^- D (97), and SM 4500-F^- E (97).

Standard Methods Online, Methods 4500-NO_3^- D-00, 4500-NO_3^- E-00, and 4500-NO_3^- F-00 appear in the 21st, 22nd, and 23rd editions as Methods 4500-NO_3^- D, 4500-NO_3^- E, and 4500-NO_3^- F. These appear in this Section as SM 4500-NO_3^- D (00), SM 4500-NO_3^- E (00), and SM 4500-NO_3^- F (00).

Standard Methods Online, Methods 4500-NO_3^- D-16, 4500-NO_3^- E-16, and 4500-NO_3^- F-0 16 appear in the 23rd and 24th editions as Methods 4500-NO_3^- D, 4500-NO_3^- E, and 4500-NO_3^- F. These appear in this Section as SM 4500-NO_3^- D (16), SM 4500-NO_3^- E (16), and SM 4500-NO_3^- F (16).

Standard Methods Online, Methods 4500-NO_2^- B-00 appears in the 21st, 22nd, ~~and~~ 23rd, and 24th editions as Method 4500-NO_2^- B. This appears in this Section as SM 4500-NO_2^- B (00).

Standard Methods Online, Method 4500-H^+ B-90 appears in the 18th and 19th editions as Method 4500-H^+ B. This appears in this Section as SM 4500-H^+ B (90).

Standard Methods Online, Method 4500-H^+ B-00 appears in the 21st, 22nd, ~~and~~ 23rd, and 24th editions as Method 4500-H^+ B. This appears in this Section as SM 4500-H^+ B (00).

Standard Methods Online, Methods 4500-P E-99 and 4500-P F-99 appear in the 21st and 22nd editions as Methods 4500-P E and 4500-P F. These appear in this Section as SM 4500-P E (97) and SM 4500-P F (97).

Standard Methods Online, Methods 4500-P E-05 and 4500-P F-05 appear in the 23rd and 24th editions as Methods 4500-P E and 4500-P F. These appear in this Section as SM 4500-P E (05) and SM 4500-P F (05).

Standard Methods Online, Methods 4500-SiO_2 C-97, 4500-SiO_2 D-97, and 4500-SiO_2 E-97 appear in the 20th, 21st, 22nd, ~~and~~ 23rd, and 24th editions as Methods 4500-SiO_2 C, 4500-SiO_2 D, and 4500-SiO_2 E. These appear in this Section as SM 4500-SiO_2 C (97), SM 4500-SiO_2 D (97), and SM 4500-SiO_2 E (97).

Standard Methods Online, Method 6251 B-07 appears in the 22nd, ~~and~~ 23rd, and 24th editions as Method 6251 B. This appears in this Section as SM 6251 B (07).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.612 Monitoring Requirements for Old Inorganic MCLs

a) Analyses for the purpose of determining compliance with the old inorganic MCLs of Section 611.300 are required as follows:

1) Analyses for all CWSs utilizing surface water sources must be repeated at yearly intervals.

2) Analyses for all CWSs utilizing only groundwater sources must be repeated at three-year intervals.

3) This subsection (a)(3) corresponds with 40 CFR 141.23(1)(3), which requires monitoring for the repealed old MCL for nitrate at a frequency specified by the state. The Board has followed the USEPA lead and repealed that old MCL. This statement maintains structural consistency with USEPA rules.

4) This subsection (a)(4) corresponds with 40 CFR 141.23(1)(4), which authorizes the state to determine compliance and initiate enforcement action. This statement maintains structural consistency with USEPA rules.

b) If the result of an analysis made under subsection (a) indicates that the level of any contaminant listed in Section 611.300 exceeds the old MCL, the supplier must report to the Agency within seven days and initiate three additional analyses at the same sampling point within one month.

c) When the average of four analyses made under subsection (b), rounded to the same number of significant figures as the old MCL for the substance in question, exceeds the old MCL, the supplier must notify the Agency and give notice to the public under Subpart V. Monitoring after public notification must be at a frequency designated by the Agency by a SEP and must continue until the old MCL has not been exceeded in two successive samples or until a different monitoring schedule becomes effective as a condition to a variance, an adjusted standard, a site specific rule, an enforcement action, or another SEP.

d) This subsection (d) corresponds with 40 CFR 141.23(o), which pertains to monitoring for the repealed old MCL for nitrate. This statement maintains structural consistency with USEPA rules.

e) This subsection (e) corresponds with 40 CFR 141.23(p), which pertains to the use of existing data up until a date long since expired. This statement maintains structural consistency with USEPA rules.

f) Analyses conducted to determine compliance with the old MCLs of Section 611.300 must be made in compliance~~accordance~~ with the following methods, incorporated by reference in Section 611.102, or alternative methods approved by the Agency under Section 611.480. Criteria for analyzing iron, manganese, and zinc samples with digestion or directly without digestion, and other analytical test procedures are contained in USEPA Technical Notes (94), incorporated by reference in Section 611.102.

1) Fluoride. The methods specified in Section 611.611(c) must apply for the purposes of this Section.

2) Iron

A) Atomic Absorption, Direct Aspiration Technique. SM 3111 B (89), SM 3111 B (93), or SM 3111 B (99).

B) Atomic Absorption, Graphite Furnace Technique. SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), or SM 3113 B (10).

C) Atomic Absorption, Inductively Coupled Plasma Technique. SM 3120 B (89), SM 3120 B (93), or SM 3120 B (99).

D) Inductively Coupled Plasma Arc Furnace Technique. USEPA 200.7 (94).

E) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

F) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

3) Manganese

A) Atomic Absorption, Direct Aspiration Technique. SM 3111 B (89), SM 3111 B (93), or SM 3111 B (99).

B) Atomic Absorption, Graphite Furnace Technique. SM 3113 B (89), SM 3113 B (93), SM 3113 B (99), SM 3113 B (04), or SM 3113 B (10).

C) Atomic Absorption, Inductively Coupled Plasma Technique. SM 3120 B (89), SM 3120 B (93), or SM 3120 B (99).

D) Inductively Coupled Plasma Arc Furnace Technique. USEPA 200.7 (94).

E) Inductively Coupled Plasma-Mass Spectrometry. USEPA 200.8 (94).

F) Atomic Absorption, Platform Furnace Technique. USEPA 200.9 (94).

G) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

4) Zinc

A) Atomic Absorption, Direct Aspiration Technique. SM 3111 B (89), SM 3111 B (93), or SM 3111 B (99).

B) Atomic Absorption, Inductively Coupled Plasma Technique. SM 3120 B (89), SM 3120 B (93), or SM 3120 B (99).

C) Inductively Coupled Plasma Arc Furnace Technique. USEPA 200.7 (94).

D) Atomic Absorption, Platform Furnace Technique. USEPA 200.8 (94).

E) Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry (AVICP-AES). USEPA 200.5 (03).

BOARD NOTE: The provisions of subsections (a) through (e) derive from 40 CFR 141.23(l) through (p). Subsections (f)(2) through (f)(4) relate exclusively to additional State requirements. The Board retained subsection (f) to set forth methods for the inorganic contaminants for which there is a State-only MCL. The methods specified are those ~~set forth~~ in 40 CFR 143.4(b) and appendix A to subpart C of 40 CFR 141, for secondary MCLs. The Board has not separately listed the following approved alternative methods from Standard Methods Online that are the same version as a method that appears in a printed edition of Standard Methods. Use of the Standard Methods Online copy is acceptable.

Standard Methods Online, Method 3111 B-99 appears in the 21st, 22nd, ~~and~~ 23rd, and 24th editions as Method 3111 B. In this Section, this appears as SM 3111 B (99).

Standard Methods Online, Method 3113 B-99 appears in the 21st edition as Method 3113 B. In this Section, this appears as SM 3113 B (99).

Standard Methods Online, Method 3113 B-10 appears in the 22nd, ~~and~~ 23rd, and 24th editions as Method 3113 B. In this Section, this appears as SM 3113 B (10).

Standard Methods Online, Method 3120 B-99 appears in the 21st edition as Method 3120 B. In this Section, this appears as SM 3120 B (99).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART O: ORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.641 State-Only MCLs

a) An analysis of substances for the purpose of determining compliance with the State-only MCLs of Section 611.310 must be made as follows:

1) The Agency must issue a SEP requiring CWS suppliers utilizing surface water sources to collect samples during the period of the year when contamination by pesticides is most likely to occur. The Agency must require the supplier to repeat these analyses at least annually.

2) The Agency must issue a SEP requiring CWS suppliers utilizing only groundwater sources to collect samples at least once every three years.

b) If the result of an analysis made under subsection (a) indicates that the level of any contaminant exceeds its State-only MCL, the CWS supplier must report to the Agency within seven days and initiate three additional analyses within one month.

c) When the average of four analyses made under subsection (a), rounded to the same number of significant figures as the MCL for the substance in question, exceeds the State-only MCL, the CWS supplier must report to the Agency and give notice to the public under Subpart T of this Part. Monitoring after public notification must be at a frequency designated by the Agency and must continue until the MCL has not been exceeded in two successive samples or until a monitoring schedule as a condition to a variance, adjusted standard, or enforcement action becomes effective.

d) Analysis made to determine compliance with the State-only MCLs of Section 611.310 must be made in compliance~~accordance~~ with the appropriate methods specified in Section 611.645.

BOARD NOTE: This provision now applies only to State-only MCLs. This Section originally derived from 40 CFR 141.24(a) through (e), which USEPA removed and reserved.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.646 Phase I, Phase II, and Phase V Volatile Organic Contaminants

Monitoring of the Phase I, Phase II, and Phase V VOCs for the purpose of determining compliance with the MCL must be conducted as follows:

a) Definitions. As used in this Section the following have the given meanings:

"Detect" and "detection" mean that the contaminant of interest is present at a level greater than or equal to the "detection limit".

"Detection limit" means 0.0005 mg/ℓ.

BOARD NOTE: Derived from 40 CFR 141.24(f)(7), (f)(11), (f)(14)(i), and (f)(20). This is a "trigger level" for Phase I, Phase II, and Phase V VOCs inasmuch as it prompts further action. The use of the term "detect" in this Section is not intended to include any analytical capability of quantifying lower levels of any contaminant, or the "method detection limit". Note, however, that certain language at the end of federal paragraph (f)(20) is capable of meaning that the "method detection limit" is used to derive the "detection limit". The Board has chosen to disregard that language at the end of paragraph (f)(20) in favor of the more direct language of paragraphs (f)(7) and (f)(11).

"Method detection limit", as used in subsections (q) and (t) 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.

BOARD NOTE: Derived from appendix B to 40 CFR 136. The method detection limit is determined by the procedure ~~set forth~~ in appendix B to 40 CFR 136, incorporated by reference in Section 611.102(c). See subsection (t).

b) Required Sampling. Each supplier must take a minimum of one sample at each sampling point at the times required in subsection (u).

c) Sampling Points

1) Sampling Points for a GWS. Unless otherwise provided by a SEP granted by the Agency, a GWS supplier must take at least one sample from each of the following points: each entry point that is representative of each well after treatment.

2) Sampling Points for an SWS or Mixed System Supplier. Unless otherwise provided by a SEP granted by the Agency, an SWS or mixed system supplier must sample from each of the following points:

A) Each entry point after treatment; or

B) Points in the distribution system that are representative of each source.

3) The supplier must take each sample at the same sampling point unless the Agency has granted a SEP that designates another location as more representative of each source, treatment plant, or within the distribution system.

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

BOARD NOTE: Subsections (b) and (c) derived from 40 CFR 141.24(f)(1) through (f)(3).

d) Each CWS and NTNCWS supplier must take four consecutive quarterly samples for each of the Phase I VOCs, excluding vinyl chloride, and Phase II VOCs

during each compliance period, beginning in the compliance period starting in the initial compliance period.

e) This subsection (e) corresponds with 40 CFR 141.24(f)(5), which no longer has operative effect. This statement maintains structural consistency with the federal regulations.

f) GWS Reduction to Triennial Monitoring Frequency. After a minimum of three years of annual sampling, GWS suppliers that have not previously detected any of the Phase I VOCs, including vinyl chloride; Phase II VOCs; or Phase V VOCs must take one sample during each three-year compliance period.

g) A CWS or NTNCWS supplier that has completed the initial round of monitoring required by subsection (d) and that did not detect any of the Phase I VOCs, including vinyl chloride; Phase II VOCs; and Phase V VOCs may apply to the Agency for a SEP that releases it from the requirements of subsection (f). A supplier that serves fewer than 3300 service connections may apply to the Agency for a SEP that releases it from the requirements of subsection (d) as to 1,2,4-trichlorobenzene.

BOARD NOTE: Derived from 40 CFR 141.24(f)(7) and (f)(10), and the discussion at 57 Fed. Reg. 31825 (July 17, 1992). Provisions concerning the term of the waiver appear in subsections (i) and (j). The definition of "detect", parenthetically added to the federal counterpart paragraph, is in subsection (a).

h) Vulnerability Assessment. The Agency must consider the factors of Section 611.110(a) in granting a SEP from the requirements of subsection (d), (e), or (f) under subsection (g).

i) A SEP issued to a GWS under subsection (g) is for a maximum of six years, except that a SEP as to the subsection (d) monitoring for 1,2,4-trichlorobenzene must apply only to the initial round of monitoring. As a condition of a SEP, except as to a SEP from the initial round of subsection (d) monitoring for 1,2,4-trichlorobenzene, the supplier must~~shall~~, within 30 months after the beginning of the period for which the waiver was issued, reconfirm its vulnerability assessment required by subsection (h) and submitted under subsection (g), by taking one sample at each sampling point and reapplying for a SEP under subsection (g). Based on this application, the Agency must do either of the following:

1) If it determines that the PWS meets the standard of Section 611.610(e), issue a SEP that reconfirms the prior SEP for the remaining three-year compliance period of the six-year maximum term; or

2) Issue a new SEP requiring the supplier to sample annually.

BOARD NOTE: Subsection (i) does not apply to an SWS or mixed system supplier.

j) Special Considerations for a SEP for an SWS or Mixed-System Supplier

1) The Agency must determine that an SWS is not vulnerable before issuing a SEP to an SWS supplier. A SEP issued to an SWS or mixed system supplier under subsection (g) is for a maximum of one compliance period; and

2) The Agency may require, as a condition to a SEP issued to an SWS or mixed supplier, that the supplier take the~~such~~ samples for Phase I, Phase II, and Phase V VOCs at such a frequency as the Agency determines are necessary, based on the vulnerability assessment.

BOARD NOTE: There is a great degree of similarity between 40 CFR 141.24(f)(7), the provision applicable to GWSs, and 40 CFR 141.24(f)(10), the provision for SWSs. The Board has consolidated the common requirements of both paragraphs into subsection (g). Subsection (j) represents the elements unique to an SWSs or mixed system, and subsection (i) relates to a GWS supplier. Although 40 CFR 141.24(f)(7) and (f)(10) are silent as to a mixed system supplier, the Board has included a mixed system supplier with an SWS supplier because this best follows the federal scheme for all other contaminants.

k) If one of the Phase I VOCs, excluding vinyl chloride; a Phase II VOC; or a Phase V VOC is detected in any sample, then the following must occur:

1) The supplier must monitor quarterly for that contaminant at each sampling point that resulted in a detection.

2) Annual Monitoring

A) The Agency must grant a SEP that allows a supplier to reduce the monitoring frequency to annual at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.

B) A request for a SEP must include the following minimal information:

i) For a GWS, two quarterly samples.

ii) For an SWS or mixed system supplier, four quarterly samples.

C) In issuing a SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. Any SEP that allows less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring under subsection (k)(1) if it violates the MCL specified by Section 611.311.

3) Suppliers that monitor annually must monitor during the quarters that previously yielded the highest analytical result.

4) Suppliers that do not detect a contaminant at a sampling point in three consecutive annual samples may apply to the Agency for a SEP that allows it to discontinue monitoring for that contaminant at that point, as specified in subsection (g).

5) A GWS supplier that has detected one or more of the two-carbon contaminants listed in subsection (k)(5)(A) must monitor quarterly for vinyl chloride as described in subsection (k)(5)(B), subject to the limitation of subsection (k)(5)(C).

A) "Two-carbon contaminants" (Phase I or II VOC) are the following:

1,2-Dichloroethane (Phase I)

1,1-Dichloroethylene (Phase I)

cis-1,2-Dichloroethylene (Phase II)

trans-1,2-Dichloroethylene (Phase II)

Tetrachloroethylene (Phase II)

1,1,1-Trichloroethylene (Phase I)

Trichloroethylene (Phase I)

B) The supplier must sample quarterly for vinyl chloride at each sampling point at which it detected one or more of the two-carbon contaminants listed in subsection (k)(5)(A).

C) The Agency must grant a SEP that allows the supplier to reduce the monitoring frequency for vinyl chloride at any sampling point

to once in each three-year compliance period if it determines that the supplier has not detected vinyl chloride in the first sample required by subsection (k)(5)(B).

l) Quarterly Monitoring Following MCL Violations

1) Suppliers that violate an MCL for one of the Phase I VOCs, including vinyl chloride; Phase II VOCs; or Phase V VOCs, as determined by subsection (o), must monitor quarterly for that contaminant, at the sampling point where the violation occurred, beginning the next quarter after the violation.

2) Annual Monitoring

A) The Agency must grant a SEP that allows a supplier to reduce the monitoring frequency to annually if it determines that the sampling point is reliably and consistently below the MCL.

B) A request for a SEP must include the following minimal information: four quarterly samples.

C) In issuing a SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. Any SEP that allows less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring under subsection (l)(1) if it violates the MCL specified by Section 611.311.

D) The supplier must monitor during the quarters that previously yielded the highest analytical result.

m) Confirmation Samples. The Agency may issue a SEP to require a supplier to use a confirmation sample for results that it finds dubious for whatever reason. The Agency must state its reasons for issuing the SEP if the SEP is Agency-initiated.

1) If a supplier detects any of the Phase I, Phase II, or Phase V VOCs in a sample, the supplier must take a confirmation sample as soon as possible, but no later than 14 days after the supplier receives notice of the detection.

2) Averaging is as specified in subsection (o).

3) The Agency must delete the original or confirmation sample if it determines that a sampling error occurred, in which case the confirmation sample will replace the original or confirmation sample.

n) This subsection (n) corresponds with 40 CFR 141.24(f)(14), an optional USEPA provision relating to compositing of samples that USEPA does not require for state programs. This statement maintains structural consistency with USEPA rules.

o) Compliance with the MCLs for the Phase I, Phase II, and Phase V VOCs must be determined based on the analytical results obtained at each sampling point. If one sampling point is in violation of an MCL, the system is in violation of the MCL.

1) For a supplier that monitors more than once per year, compliance with the MCL is determined by a running annual average at each sampling point.

2) A supplier that monitors annually or less frequently whose sample result exceeds the MCL must begin quarterly sampling. The system will not be considered in violation of the MCL until it has completed one year of quarterly sampling.

3) If any sample result will cause the running annual average to exceed the MCL at any sampling point, the supplier is out of compliance with the MCL immediately.

4) If a supplier fails to collect the required number of samples, compliance will be based on the total number of samples collected.

5) If a sample result is less than the detection limit, zero will be used to calculate the annual average.

p) This subsection (p) corresponds with 40 CFR 141.24(f)(16), which USEPA removed and reserved. This statement maintains structural consistency with the federal regulations.

q) Analysis under this Section must only be conducted by a laboratory in one of the categories listed in Section 611.490(a) that has been certified according to the following conditions:

1) To receive certification to conduct analyses for the Phase I VOCs, excluding vinyl chloride; Phase II VOCs; and Phase V VOCs, the laboratory must do the following:

A) It must analyze performance evaluation (PE) samples that include these substances provided by the Agency under 35 Ill. Adm. Code 186.170;

B) It must achieve the quantitative acceptance limits under subsections (q)(1)(C) and (q)(1)(D) for at least 80 percent of the regulated organic contaminants in the PE sample;

C) It must achieve quantitative results on the analyses performed under subsection (q)(1)(A) that are within ± 20 percent of the actual amount of the substances in the PE sample when the actual amount is greater than or equal to 0.010 mg/ℓ;

D) It must achieve quantitative results on the analyses performed under subsection (q)(1)(A) that are within ± 40 percent of the actual amount of the substances in the PE sample when the actual amount is less than 0.010 mg/ℓ; and

E) It must achieve a method detection limit of 0.0005 mg/ℓ, according to the procedures in appendix B to 40 CFR 136, incorporated by reference in Section 611.102.

2) To receive certification to conduct analyses for vinyl chloride the laboratory must do the following:

A) It must analyze PE samples provided by the Agency under 35 Ill. Adm. Code 186.170;

B) It must achieve quantitative results on the analyses performed under subsection (q)(2)(A) that are within ± 40 percent of the actual amount of vinyl chloride in the PE sample;

C) It must achieve a method detection limit of 0.0005 mg/ℓ, according to the procedures in appendix B to 40 CFR 136, incorporated by reference in Section 611.102; and

D) It must obtain certification under subsection (q)(1) for Phase I VOCs, excluding vinyl chloride; Phase II VOCs; and Phase V VOCs.

r) This subsection (r) corresponds with 40 CFR 141.24(f)(18), an obsolete provision that relates to the initial compliance period from 1993 through 1995. This statement maintains consistency with the federal regulations.

s) The Agency must, by a SEP, increase the number of sampling points or the frequency of monitoring if it determines that it is necessary to detect variations within the PWS.

t) Each laboratory certified for the analysis of Phase I, Phase II, or Phase V VOCs under subsection (q)(1) or (q)(2) must do the following:

1) Determine the method detection limit (MDL), as defined in appendix B to 40 CFR 136, incorporated by reference in Section 611.102, at which it is capable of detecting the Phase I, Phase II, and Phase V VOCs; and,

2) Achieve an MDL for each Phase I, Phase II, and Phase V VOC that is less than or equal to 0.0005 mg/ℓ.

u) Each supplier must monitor, within each compliance period, at the time designated by the Agency by SEP.

v) A new system supplier or a supplier that uses a new source of water must demonstrate compliance with the MCL within a period of time specified by a permit issued by the Agency. The supplier must also comply with the initial sampling frequencies specified by the Agency to ensure the supplier can demonstrate compliance with the MCL. Routine and increased monitoring frequencies must be conducted in compliance~~accordance~~ with ~~the requirements in~~ this Section.

BOARD NOTE: Derived from 40 CFR 141.24(f).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.648 Phase II, Phase IIB, and Phase V Synthetic Organic Contaminants

Analysis of the Phase II, Phase IIB, and Phase V SOCs for the purposes of determining compliance with the MCL must be conducted as follows:

BOARD NOTE: This Section does not apply to regulated PFAS see Section 611.7902 and no monitoring is required for aldicarb, aldicarb sulfoxide, or aldicarb sulfone):

a) Definitions. As used in this Section, the following terms will have the following meanings:

"Detect" or "detection" means that the contaminant of interest is present at a level greater than or equal to the "detection limit".

"Detection limit" means the level of the contaminant of interest that is specified in subsection (r).

BOARD NOTE: This is a "trigger level" for Phase II, Phase IIB, and Phase V SOCs since ~~inasmuch as~~ it prompts further action. The use of the term "detect" or "detection" in this Section is not intended to include any analytical capability of quantifying lower levels of any contaminant, or the "method detection limit".

b) Required Sampling. Each supplier must take a minimum of one sample at each sampling point at the times required in subsection (q).

BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

c) Sampling Points

1) Sampling Points for GWSs. Unless otherwise provided in a SEP, a GWS supplier must take at least one sample from each of the following points: each entry point that is representative of each well after treatment.

2) Sampling Points for an SWS or Mixed System Supplier. Unless otherwise provided in a SEP, an SWS or mixed system supplier must sample from each of the following points:

A) Each entry point after treatment; or

B) Points in the distribution system that are representative of each source.

3) The supplier must take each sample at the same sampling point unless the Agency issues a SEP that designates another location as more representative of each source, treatment plant, or within the distribution system.

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

BOARD NOTE: Subsections (b) and (c) derive from 40 CFR 141.24(h)(1) through (h)(3).

d) Monitoring Frequency

1) Each CWS and NTNCWS supplier must take four consecutive quarterly samples for each of the Phase II, Phase IIB, and Phase V SOCs during each compliance period, beginning in the three-year compliance period starting in the initial compliance period.

2) Suppliers serving more than 3,300 persons that do not detect a contaminant in the initial compliance period must take a minimum of two quarterly samples in one year of each subsequent three-year compliance period.

3) Suppliers serving fewer than or equal to 3,300 persons that do not detect a contaminant in the initial compliance period must take a minimum of one sample during each subsequent three-year compliance period.

e) Reduction to Annual Monitoring Frequency. A CWS or NTNCWS supplier may apply to the Agency for a SEP releasing the supplier from the requirements of subsection (d). A SEP from the requirement of subsection (d) may last for only a single three-year compliance period.

f) Vulnerability Assessment. The Agency must issue a SEP from the requirements of subsection (d) based on consideration of the factors in ~~set forth at~~ Section 611.110(a).

g) If one of the Phase II, Phase IIB, or Phase V SOCs is detected in any sample, then the following must occur:

1) The supplier must monitor quarterly for the contaminant at each sampling point that resulted in a detection.

2) Annual Monitoring

A) A supplier may request that the Agency issue a SEP reducing the monitoring frequency to annual.

B) A request for a SEP must include the following minimal information:

i) For a GWS, two quarterly samples.

ii) For an SWS or mixed system supplier, four quarterly samples.

C) The Agency must issue a SEP allowing annual monitoring at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.

D) When issuing the SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently below the MCL" determination was based. Any SEP allowing less frequent monitoring based on an Agency "reliably and consistently below the MCL" determination must include a condition requiring the supplier to resume quarterly monitoring under subsection (g)(1) if it detects any Phase II SOC.

3) Suppliers that monitor annually must monitor during the quarters that previously yielded the highest analytical result.

4) Suppliers that have three consecutive annual samples with no detection of a contaminant at a sampling point may apply to the Agency for a SEP with respect to that point, as specified in subsections (e) and (f).

5) Monitoring for Related Contaminants

A) If monitoring results in detection of one or more of the related contaminants listed in subsection (g)(5)(B), subsequent monitoring must analyze for all the related compounds in the respective group.

B) Related Contaminants

i) First Group

aldicarb

aldicarb sulfone

aldicarb sulfoxide

BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

ii) Second Group

heptachlor

heptachlor epoxide.

h) Quarterly Monitoring Following MCL Violations

1) Suppliers that violate an MCL for one of the Phase II, Phase IIB, or Phase V SOCs, as determined by subsection (k), must monitor quarterly for that contaminant at the sampling point where the violation occurred, beginning the next quarter after the violation.

2) Annual Monitoring

A) A supplier may request that the Agency issue a SEP reducing the monitoring frequency to annual.

B) A request for a SEP must include, at a minimum, the results from four quarterly samples.

C) The Agency must issue a SEP allowing annual monitoring at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.

D) When issuing the SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently below the MCL" determination was based. Any SEP allowing less frequent monitoring based on an Agency "reliably and consistently below the MCL" determination must include a condition requiring the supplier to resume quarterly monitoring under subsection (h)(1) if it detects any Phase II SOC.

E) The supplier must monitor during the quarters that previously yielded the highest analytical result.

i) Confirmation Samples

1) If any of the Phase II, Phase IIB, or Phase V SOCs are detected in a sample, the supplier must take a confirmation sample as soon as possible, but no later than 14 days after the supplier receives notice of the detection.

2) Averaging is as specified in subsection (k).

3) The Agency must delete the original or confirmation sample if it determines that a sampling error occurred, in which case the confirmation sample will replace the original or confirmation sample.

j) This subsection (j) corresponds with 40 CFR 141.24(h)(10), an optional USEPA provision relating to compositing of samples that USEPA does not require for state programs. This statement maintains structural consistency with USEPA rules.

k) Compliance with the MCLs for the Phase II, Phase IIB, and Phase V SOCs must be determined based on the analytical results obtained at each sampling point. If one sampling point is in violation of an MCL, the supplier is in violation of the MCL.

1) For a supplier that monitors more than once per year, compliance with the MCL is determined by a running annual average at each sampling point.

2) A supplier that monitors annually or less frequently whose sample result exceeds the regulatory detection level as defined by subsection (r) must begin quarterly sampling. The system will not be considered in violation of the MCL until it has completed one year of quarterly sampling.

3) If any sample result will cause the running annual average to exceed the MCL at any sampling point, the supplier is out of compliance with the MCL immediately.

4) If a supplier fails to collect the required number of samples, compliance will be based on the total number of samples collected.

5) If a sample result is less than the detection limit, zero will be used to calculate the annual average.

l) This subsection (l) corresponds with 40 CFR 141.24(h)(12), which USEPA removed and reserved. This statement maintains structural consistency with the federal regulations.

m) Analysis for PCBs must be conducted as follows using the methods in Section 611.645:

1) Each supplier that monitors for PCBs must analyze each sample using either USEPA 505 (95) or USEPA 508 (95).

2) If PCBs are detected in any sample analyzed using USEPA 505 (95) or USEPA 508 (95), the supplier must reanalyze the sample using USEPA 508A (89) to quantitate the individual Aroclors (as decachlorobiphenyl).

3) Compliance with the PCB MCL must be determined based upon the quantitative results of analyses using USEPA 508A (89).

n) This subsection (n) corresponds with 40 CFR 141.24(h)(14), an obsolete provision that relates to the initial compliance period from 1993 through 1995. This statement maintains consistency with the federal regulations.

o) The Agency must issue a SEP increasing the number of sampling points or the frequency of monitoring if it determines that this is necessary to detect variations within the PWS due to such factors as fluctuations in contaminant concentration due to seasonal use or changes in the water source.

BOARD NOTE: At 40 CFR 141.24(h)(15), the factors are non-limiting examples of circumstances making additional monitoring necessary.

p) This subsection (p) corresponds with 40 CFR 141.24(h)(16), a USEPA provision relating to reserving enforcement authority to the State that would serve no useful function as part of the State's rules. This statement maintains structural consistency with USEPA rules.

q) Each supplier must monitor, within each compliance period, at the time designated by the Agency in a SEP.

r) "Detection" means greater than or equal to the following concentrations for each contaminant:

1) For PCBs (Aroclors), the following:

Aroclor	Detection Limit (mg/ L)
1016	0.00008
1221	0.02
1232	0.0005
1242	0.0003
1248	0.0001
1254	0.0001
1260	0.0002

2) For other Phase II, Phase IIB, and Phase V SOCs, the following:

Contaminant	Detection Limit (mg/ L)
Alachlor	0.0002
Aldicarb	0.0005
Aldicarb sulfoxide	0.0005
Aldicarb sulfone	0.0008
Atrazine	0.0001

Benzo(a)pyrene	0.00002
Carbofuran	0.0009
Chlordane	0.0002
2,4-D	0.0001
Dalapon	0.001
1,2-Dibromo-3-chloropropane (DBCP)	0.00002
Di(2-ethylhexyl)adipate	0.0006
Di(2-ethylhexyl)phthalate	0.0006
Dinoseb	0.0002
Diquat	0.0004
Endothall	0.009
Endrin	0.00001
Ethylene dibromide (EDB)	0.00001
Glyphosate	0.006
Heptachlor	0.00004
Heptachlor epoxide	0.00002
Hexachlorobenzene	0.0001
Hexachlorocyclopentadiene	0.0001
Lindane	0.00002
Methoxychlor	0.0001
Oxamyl	0.002
Picloram	0.0001
Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl)	0.0001
Pentachlorophenol	0.00004
Simazine	0.00007
Toxaphene	0.001
2,3,7,8-TCDD (dioxin)	0.000000005
2,4,5-TP (silvex)	0.0002

BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

s) Laboratory Certification

1) Analyses under this Section must only be conducted by a laboratory in one of the categories listed in Section 611.490(a) that has been certified according to the conditions of subsection (s)(2).

2) To receive certification to conduct analyses for the Phase II, Phase IIB, and Phase V SOCs, the laboratory must do the following:

A) Analyze PE samples provided by the Agency under 35 Ill. Adm. Code 183.125(c) that include these substances; and

B) Achieve quantitative results on the analyses performed under subsection (s)(2)(A) that are within the following acceptance limits:

SOC	Acceptance Limits
Alachlor	± 45%
Aldicarb	2 standard deviations
Aldicarb sulfone	2 standard deviations
Aldicarb sulfoxide	2 standard deviations
Atrazine	± 45%
Benzo(a)pyrene	2 standard deviations
Carbofuran	± 45%
Chlordane	± 45%
Dalapon	2 standard deviations
Di(2-ethylhexyl)adipate	2 standard deviations
Di(2-ethylhexyl)phthalate	2 standard deviations
Dinoseb	2 standard deviations
Diquat	2 standard deviations
Endothall	2 standard deviations
Endrin	± 30%
Glyphosate	2 standard deviations
Dibromochloropropane (DBCP)	± 40%
Ethylene dibromide (EDB)	± 40%
Heptachlor	± 45%
Heptachlor epoxide	± 45%
Hexachlorobenzene	2 standard deviations
Hexachlorocyclopentadiene	2 standard deviations
Lindane	± 45%
Methoxychlor	± 45%
Oxamyl	2 standard deviations
PCBs (as decachlorobiphenyl)	0-200%
Pentachlorophenol	± 50%
Picloram	2 standard deviations
Simazine	2 standard deviations
Toxaphene	± 45%
2,4-D	± 50%
2,3,7,8-TCDD (dioxin)	2 standard deviations
2,4,5-TP (silvex)	± 50%

BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of

requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

t) A new system supplier or a supplier using a new source of water must demonstrate compliance with the MCL within a period of time specified by a permit issued by the Agency. The supplier must also comply with the initial sampling frequencies specified by the Agency to ensure the supplier can demonstrate compliance with the MCL. Routine and increased monitoring frequencies must be conducted in compliance~~accordance~~ with ~~the requirements in~~ this Section.

BOARD NOTE: This Section derives from 40 CFR 141.24(h).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART Q: RADIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.720 Analytical Methods

a) A certified laboratory must use specific methods or alternative methods the Agency approved under Section 611.480 to determine whether the supplier complies with Section 611.330.

1) Gross Alpha and Beta

A) Evaporation Methods. SM 302 (71); SM 7110 B (85); SM 7110 B (91); SM 7110 B (96); SM 7110 B (00); SM 7110 B (21); USEPA 900.0 (80); USEPA 900.0 (18); USEPA 00-01 (84); USEPA IRM (76), pages 1-3; USEPA RCA (79), pages 1-5; or USGS R1120-76.

B) Liquid Scintillation Methods. ASTM D7283-17, ~~or~~ SM 7110 D (17), or SM 7110 D (21).

2) Gross Alpha. Coprecipitation Methods. SM 7110 C (91), SM 7110 C (96), SM 7110 C (00), SM 7110 C (21) or USEPA 00-02 (84).

3) Radium-226

A) Radiochemical Methods. ASTM D2460-97; ASTM D2460-07; Georgia Radium (04); New York Radium (82); SM 304 (71); SM 7500-Ra B (88); SM 7500-Ra B (93); SM 7500-Ra B (01); USEPA 903.0 (80); USEPA 903.0 (21); USEPA Ra-03 (84); USEPA IRM (76), pages 13-15; USEPA RCA (79), pages 19-32; or USGS R-1140-76.

B) Radon Emanation Methods. ASTM D3454-97; ASTM D3454-05; ASTM D3454-18; ASTM D3454-21; EML (97) Ra-04; EML (90) Ra-05; SM 305 (71); SM 7500-Ra C (88); SM 7500-Ra C (93); SM 7500-Ra C (01); USEPA 903.1 (80); USEPA 903.1 (21); USEPA Ra-04 (84); USEPA IRM (76), pages 16-23; or USGS R-1141-76.

C) Gamma Spectrometry. SM 7500-Ra E (01) or SM 7500-Ra E (07).

4) Radium-228

A) Radiochemical Methods. Georgia Radium (04); New Jersey Radium (90); New York Radium (82); SM 7500-Ra D (88); SM 7500-Ra D (93); SM 7500-Ra D (01); USEPA 904.0 (80); USEPA904.0 (22); USEPA Ra-05 (90); USEPA IRM (76), pages 24-28; USEPA RCA (79), pages 19-32; or USGS R-1142-76.

B) Gamma Spectrometry. SM 7500-Ra E (01) or SM 7500-Ra E (07).

5) Uranium

A) Radiochemical Methods. SM 7500-U B (88), SM 7500-U B (91), SM 7500-U B (96), SM 7500-U B (00), or USEPA 908.0 (80).

B) Fluorometric Methods. ASTM D2907-97, EML (90) U-04, EML (97) U-04, SM 7500-U C (88), SM 7500-U C (91), SM 7500-U C (96), SM 7500-U C (00), USEPA 908.1 (80), USGS R-1180-76, or USGS R-1181-76.

C) ICP-MS Methods. ASTM D5673-03, ASTM D5673-05, ASTM D5673-10, ASTM D5673-16; SM 3125 (97); or USEPA 200.8 (94).

D) Alpha Spectrometry. ASTM D3972-97; ASTM D3972-02; ASTM D3972-09; EML (90) U-02; EML (97) U-02; USEPA 00-07 (84); USEPA RCA (79), pages 33-48; or USGS R-1182-76; 7500-U C (00).

E) Laser Spectrometry. ASTM D5174-97, ASTM D5174-02, or ASTM D5174-07.

F) Alpha Liquid Scintillation Spectrometry. ASTM D6239-09.

BOARD NOTE: If the laboratory determines uranium (U) by mass, it must use a conversion factor of 0.67 pCi/µg U. This conversion factor reflects the characteristic 1:1 activity ratio of ^{234}U and ^{238}U of naturally occurring uranium.

6) Radioactive Cesium

A) Radiochemical Methods. ASTM D2459-72; SM 7500-Cs B (88), SM 7500-Cs B (93); SM 7500-Cs B (00); USEPA 901.0 (80); USEPA IRM (76), pages 4-5; or USGS R-1111-76.

B) Gamma Ray Spectrometry. ASTM D3649-91; ASTM D3649-98a; ASTM D3649-06; EML (90) Ga-01; EML (97) Ga-01-R; SM 7120 (94); SM 7120 (97); SM 7120 (21); USEPA 901.1 (80); USEPA RCA (79), pages 92-95; or USGS R-1110-76.

7) Radioactive Iodine

A) Radiochemical Methods. ASTM D3649-91; ASTM D3649-98a; ASTM D3649-06; SM 7500-I B (88); SM 7500-I B (93); SM 7500-I B (00); SM 7500-I C (88); SM 7500-I C (93); SM 7500-I C (00); SM 7500-I D (88); SM 7500-I D (93); SM 7500-I D (00); USEPA 902.0 (80); USEPA IRM (76), pages 6-8; or USEPA IRM (76), pages 9-12.

B) Gamma Ray Spectrometry. ASTM D4785-93; ASTM D4785-00a; ASTM D4785-08; ASTM D4785-20; EML (90) Ga-01; EML (97) Ga-01-R; SM 7120 (94); SM 7120 (97); SM 7120 (21); USEPA 901.1 (80); or USEPA RCA (79), pages 92-95.

8) Radioactive Strontium-89 and -90. Radiochemical Methods. EML (90) Sr-01; EML (97) Sr-01; EML (90) Sr-02; EML (97) Sr-02; SM 303 (71); SM 7500-Sr B (88); SM 7500-Sr B (93); SM 7500-Sr B (01); USEPA 905.0 (80); USEPA Sr-04 (84); USEPA IRM (76), pages 29-33; USEPA RCA (79), pages 65-73; or USGS R-1160-76.

9) Tritium. Liquid Scintillation. ASTM D4107-91; ASTM D4107-98; ASTM D4107-08; ASTM D4107-20; SM 306 (71); SM 7500-^{3}H B (88); SM 7500-^{3}H B (93); SM 7500-^{3}H B (00); SM 7500-^{3}H B (22); USEPA 906.0 (80); USEPA H-02 (84); USEPA IRM (76), pages 34-37; USEPA RCA (79), pages 87-91; or USGS R-1171-76.

10) Gamma Emitters. Gamma Ray Spectrometry. ASTM D3649-91; ASTM D3649-98a; ASTM D3649-06; ASTM D4785-93; ASTM D4785-00a;

ASTM D4785-08; ASTM D4785-20; EML (90) Ga-01; EML (97) Ga-01-R; SM 7120 (94); SM 7120 (97); SM 7120 (21); SM 7500-Cs B (88); SM 7500-Cs B (93); SM 7500-Cs B (00); SM 7500-I B (88); SM 7500-I B (93); SM 7500-I B (00); USEPA 901.0 (80); USEPA 901.1 (80); USEPA 902.0 (80); USEPA RCA (79), pages 92-95; or USGS R-1110-76.

b) When the laboratory must identify and measure radionuclides other than those in subsection (a), it must use methods from either of two sources, incorporated by reference in Section 611.102, except if the Agency approves alternative methods under Section 611.480:

1) USEPA ARP (73).

2) EML (90) or EML (97).

c) For monitoring radioactivity concentrations in drinking water, a detection limit defines the required sensitivity of the radio analysis. The detection limit is the concentration a laboratory can measure with a precision of plus or minus 100 percent at the 95 percent confidence level (1.96σ, where σ is the standard deviation of the net counting rate of the sample).

1) When determining compliance with Section 611.330(b), (c), and (e), the detection limit must not exceed certain concentrations:

Contaminant	Detection Limit
Gross alpha particle activity	3 pCi/ L
Radium-226	1 pCi/ L
Radium-228	1 pCi/ L
Uranium	1 µg/ L

BOARD NOTE: This subsection (c)(1) derives from 40 CFR 141.25(c) Table B.

2) When determining compliance with Section 611.330(d), the detection limits must not exceed certain concentrations:

Radionuclide	Detection Limit
Tritium	1,000 pCi/ L

Strontium-89	10 pCi/ L
Strontium-90	2 pCi/ L
Iodine-131	1 pCi/ L
Cesium-134	10 pCi/ L
Gross beta	4 pCi/ L
Other radionuclides	1/10 of applicable limit

BOARD NOTE: This subsection (c)(2) derives from 40 CFR 141.25(c) Table C.

d) When determining compliance with the MCLs in Section 611.330, the laboratory must use averages of data and round results to the same number of significant figures as the MCL.

BOARD NOTE: This Section derives from 40 CFR 141.25 and appendix A to subpart C of 40 CFR 141. The Board did not separately list approved alternative methods from Standard Methods Online that are the same version as a method appearing in a printed edition of Standard Methods. Using the Standard Methods Online copy is acceptable.

Standard Methods Online, Methods 7110 B-91 and 7110 C-91 appear in the 18th and 19th editions as Methods 7110 B and 7110 C. These appear in this Section as SM 7110 B (91) and SM 7110 C (91).

Standard Methods Online, Methods 7110 B-00 and 7110 C-00 appear in the 21st, 22nd, and 23rd editions as Methods 7110 B and 7110 C. These appear in this Section as SM 7110 B (00) and SM 7110 C (00).

Standard Methods Online, Methods 7110 D-17 appears in the 21st, 22nd, and 23rd editions as Methods 7110 D. This appears in this Section as SM 7110 D (00) and SM 7110 D (00).

Standard Methods Online, Method 7120-97 appears in the 20th, 21st, 22nd, and 23rd editions as Method 7120. This appears in this Section ~~appears~~ as SM 7120 (97).

Standard Methods Online, Method 7500-Cs B-00 appears in the 21st, 22nd, ~~and~~ 23rd, and 24th editions as Method 7500-Cs B. This appears in~~In~~ this Section~~, thus appears~~ as SM 7500-Cs B (00).

Standard Methods Online, Methods 7500-I B-00, 7500-I C-00, and 7500-I D-00 appear in the 21st, 22nd, ~~and~~ 23rd, and 24th editions as Methods 7500-I B, 7500-I C, and 7500-I D. These appear in this Section as SM 7500-I B (00), SM 7500-I C (00), and SM 7500-I D (00).

Standard Methods Online, Methods 7500-Ra B-01, 7500-Ra C-01, and 7500-Ra D-01 appears in the 21st, ~~and~~ 22nd, 23rd, and 24th ~~editions~~ as Methods 7500-Ra B, 7500-Ra C, and 7500-Ra D. These appear in this Section as SM 7500-Ra B (01), SM 7500-Ra C (01), and SM 7500-Ra D (01).

Standard Methods Online, Methods ~~7500-Ra B-07, 7500-Ra C-07, 7500-Ra D-07, and~~ 7500-Ra E-07 appears in the 22nd, 23rd, and 24th editions as Method~~s 7500-Ra B, 7500-Ra C, 7500-Ra D, and~~ 7500-Ra E. This~~ese~~ appears in this Section as ~~SM 7500-Ra B (07), SM 7500-Ra C (07), SM 7500-Ra D (07), and~~ SM 7500-Ra E (07).

Standard Methods Online, Method 7500-Sr B-01 appears in the 21st, 22nd, ~~and~~ 23rd, and 24th ~~editions~~ as Method 7500-Sr B. This appears in this Section as SM 7500-Sr B (01).

Standard Methods Online, Method 7500-^{3}H B-00 appears in the 21st, 22nd, and 23rd editions as Method 7500-^{3}H B. This appears in this Section as SM 7500-^{3}H B (00)

Standard Methods Online, Methods 7500-U B and 7500-U C-00 appear in the 21st, 22nd, ~~and~~ 23rd, and 24th editions as Methods 7500-U B and 7500-U C. These appear in this Section as SM 7500-U B (00) and SM 7500-U C (00).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.731 Gross Alpha

Monitoring for Gross Alpha Particle Activity, Radium-226, Radium-228, and Uranium

a) A CWS supplier must monitor to determine whether it complies with Section 611.330(b), (c), and (e). For monitoring gross alpha particle activity, radium-226, radium-228, uranium, and beta particle and photon radioactivity in drinking water, "detection limit" is defined as in Section 611.720(c).

1) Applicability and Sampling Location for an Existing CWS Supplier. An existing CWS supplier using groundwater, surface water, or both groundwater and surface water must sample at every entry point to the distribution system representing all sources the supplier uses (a sampling point) under normal operating conditions. The supplier must take each sample at the same sampling point, unless conditions make another sampling point more representative of each source or the Agency designates a distribution system location under subsection (b)(2)(C).

2) Applicability and Sampling Location for a New CWS Supplier. A new CWS supplier or a CWS supplier using a new source of water must begin initial monitoring for the new source within the first quarter after beginning to use the source. A CWS supplier must conduct more frequent monitoring as directed by the Agency in a SEP due to possible contamination or changes in the distribution system or treatment processes that may increase the concentration of radioactivity in the supplier's finished water.

b) Initial Monitoring. The Agency may issue a SEP directing a CWS supplier to monitor for gross alpha particle activity, radium-226, radium-228, and uranium for four consecutive quarters at all sampling points. The Agency may revise the SEP waiving the final two quarters of initial monitoring for a sampling point if the results of the samples from the previous two quarters are below the detection limit. For gross alpha particle activity, uranium, radium-226, and radium-228 monitoring, the Agency may issue a SEP waiving the final two quarters of initial monitoring for a sampling point if the results of the samples from the previous two quarters are below the detection limit. If the average of the initial monitoring results for a sampling point is above the MCL, the supplier must collect and analyze quarterly samples at that sampling point until its results from four consecutive quarters are at or below the MCL, unless the Agency issues a SEP requiring another schedule as part of a formal compliance agreement.

c) Reduced Monitoring. The Agency may allow a CWS supplier to reduce the future frequency of monitoring from once every three years to once every six or nine years at each sampling point, based on certain criteria:

1) If the average of the initial monitoring results for each contaminant (i.e., gross alpha particle activity, uranium, radium-226, or radium-228) is below the detection limit Section 611.720(c)(1) specifies, the supplier must collect and analyze for that contaminant using at least one sample at that sampling point every nine years.

2) For gross alpha particle activity and uranium, if the average of the initial monitoring results for each contaminant is at or above the detection limit but at or below one-half the MCL, the supplier must collect and analyze for that contaminant using at least one sample at that sampling point every six years. For combined radium-226 and radium-228, the supplier must combine the analytical results. If the average of the combined initial monitoring results for radium-226 and radium-228 is at or above the detection limit but at or below one-half the MCL, the supplier must collect and analyze for that contaminant using at least one sample at that sampling point every six years.

3) For gross alpha particle activity and uranium, if the average of the initial monitoring results for each contaminant is above one-half the MCL but at or below the MCL, the supplier must collect and analyze at least one sample at that sampling point every three years. For combined radium-226 and radium-228, the supplier must combine the analytical results. If the average of the combined initial monitoring results for radium-226 and radium-228 is above one-half the MCL but at or below the MCL, the supplier must collect and analyze at least one sample at that sampling point every three years.

4) A supplier must use the samples it collected during the reduced monitoring period to determine the monitoring frequency for subsequent monitoring periods (e.g., if a supplier's sampling point is on a nine year monitoring period, and the sample result is above one-half the MCL, then the next monitoring period for that sampling point is three years).

5) If a supplier has a monitoring result exceeding the MCL while on reduced monitoring, the supplier must collect and analyze quarterly samples at that sampling point until the supplier has results from four consecutive quarters below the MCL, unless the supplier enters into another schedule as part of a formal compliance agreement with the Agency.

d) Compositing. To fulfill quarterly monitoring requirements for gross alpha particle activity, radium-226, radium-228, or uranium, a supplier may composite up to four consecutive quarterly samples from a single entry point if analysis is done within a year after collecting the first sample. The supplier must treat analytical results from the composited sample as the average analytical result to determine whether the supplier complies with the MCLs and the future monitoring frequency. If the analytical result from the composited sample is greater than one-half the MCL, the Agency may issue a SEP directing the supplier to take additional quarterly samples before allowing the supplier to sample under a reduced monitoring schedule.

e) A supplier may substitute a gross alpha particle activity measurement for the required radium-226 measurement if~~, provided~~ the measured gross alpha particle activity does not exceed 5 pCi/ L. A supplier may substitute a gross alpha particle activity measurement for the required uranium measurement if~~, provided~~ the measured gross alpha particle activity does not exceed 15 pCi/ L.

1) The gross alpha measurement must have a confidence interval of 95% (1.65σ, where σ is the standard deviation of the net counting rate of the sample) for radium-226 and uranium.

2) When a supplier uses a gross alpha particle activity measurement in lieu of a radium-226 or uranium measurement, the supplier must use the gross alpha particle activity analytical result to determine the future monitoring frequency for radium-226 or uranium.

3) If the laboratory does not detect gross alpha particle activity, the supplier must use one-half the detection limit to determine whether it complies and its future monitoring frequency.

BOARD NOTE: This Section derives from 40 CFR 141.26(a).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART S: GROUNDWATER RULE

Section 611.801 Sanitary Surveys for GWS Suppliers

a) A GWS supplier must provide the Agency, at the Agency's request, any existing information that will enable the Agency to conduct a sanitary survey.

b) For the purposes of this Subpart S, a "sanitary survey", as conducted by the Agency, includes an onsite review of the delineated WHPAs (identifying sources of contamination within the WHPAs and evaluations of the hydrogeologic sensitivity of the delineated WHPAs conducted under source water assessments or utilizing other relevant information if available), facilities, equipment, operation, maintenance, and monitoring compliance of a PWS to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water.

c) The sanitary survey must include an evaluation of the applicable components listed in subsections (c)(1) through (c)(8):

1) Source;

2) Treatment including any corrosion control treatment and water quality parameters;

3) Distribution system;

4) Finished water storage;

5) Pumps, pump facilities, and controls;

6) Monitoring, reporting, and data verification;

7) System management and operation; and

8) Operator compliance with Agency requirements.

d) The Agency must repeat the sanitary survey as follows:

1) The Agency must conduct a sanitary survey that addresses the eight sanitary survey components listed in subsection (c) no less frequently than every three years for a CWS supplier, except as provided in subsection (d)(3), and every five years for a non-CWS supplier. The Agency may conduct more frequent sanitary surveys for any supplier. The sanitary survey must include an evaluation of each of the elements ~~set forth~~ in subsection (c), as applicable.

2) The Agency may use a phased review process to meet the requirements of subsection (d)(1) if all the applicable elements of subsection (c) are evaluated within the required interval.

3) The Agency may conduct sanitary surveys once every five years for CWSs under any of the following circumstances:

A) If the system either provides at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log inactivation and removal) before or at the first customer for all its groundwater sources; or

B) If the supplier has an outstanding performance record, as determined by the Agency and documented in previous sanitary surveys, and the supplier had no history of total coliform MCL or monitoring violations under former Sections 611.521 through 611.527 since the last sanitary survey.

4) This subsection (d)(4) corresponds with 40 CFR 142.16(o)(2)(iv), which imposes requirements for describing the elements of the State's regulatory system. This statement maintains structural consistency with the corresponding federal provision.

5) The Agency must provide a GWS supplier with written notice in a SEP that describes any significant deficiency that it has found no later than 30 days after the Agency has identified the significant deficiency. The notice may specify corrective actions and deadlines for completion of corrective actions. The Agency may provide the written notice at the time of the sanitary survey.

BOARD NOTE: Subsections (a) through (c) derive from 40 CFR 141.401. Subsection (d) derives from 40 CFR 142.16(o)(2).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.802 Groundwater Source Microbial Monitoring and Analytical Methods

a) Triggered Source Water Monitoring

1) General Requirements. A GWS supplier must conduct triggered source water monitoring if the following conditions exist.

A) The supplier does not provide at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for each groundwater source.

B) This subsection (a)(1)(B) corresponds with 40 CFR 141.802(a)(1)(ii), which has no operative effect after a past implementation date. This statement maintains structural consistency with the federal regulations.

C) The system is notified that a sample collected under Sections 611.1054 through 611.1057 is total coliform-positive and the sample is not invalidated under Section 611.1053(c).

2) Sampling Requirements. A GWS supplier must collect, within 24 hours after notification of the total coliform-positive sample, at least one groundwater source sample from each groundwater source in use at the time the total coliform-positive sample was collected under Sections 611.1054 through 611.1057, except as provided in subsection (a)(2)(B).

A) The Agency may issue a SEP extending the 24-hour time limit on a case-by-case basis if it determines that the supplier cannot collect the groundwater source water sample within 24 hours due to circumstances beyond the supplier's control. In the case of an extension, the Agency must specify how much time the supplier has to collect the sample.

B) If approved by the Agency, a supplier with more than one groundwater source may meet the requirements of this subsection (a)(2) by sampling a representative groundwater source or sources. If directed by the Agency in a SEP, the supplier must submit for Agency approval a triggered source water monitoring plan that

identifies one or more groundwater sources that are representative of each monitoring site in the system's sample siting plan under Section 611.1053 and that the system intends to use for representative sampling under this subsection (a).

C) This subsection (a)(2)(C) corresponds with 40 CFR 141.802(a)(1)(ii), a now-obsolete implementing provision. This statement maintains structural consistency with the federal regulations.

D) A GWS supplier serving 1,000 or fewer people may use a repeat sample collected from a groundwater source to meet both the requirements of Subpart AA and to satisfy the monitoring requirements of subsection (a)(2) for that groundwater source only if the Agency issues a SEP approving the use of E. coli as a fecal indicator for source water monitoring under this subsection (a) and approves the use of a single sample for meeting both the triggered source water monitoring requirements in this subsection (a) and the repeat monitoring requirements in Section 611.1058. If the repeat sample collected from the groundwater source is E. coli-positive, the system must comply with subsection (a)(3).

3) Additional Requirements. If the Agency does not require corrective action under Section 611.803(a)(2) for a fecal indicator-positive source water sample collected under subsection (a)(2) that is not invalidated under subsection (d), the supplier must collect five additional source water samples from the same source within 24 hours after being notified of the fecal indicator-positive sample.

4) Consecutive and Wholesale Systems

A) In addition to the other requirements of this subsection (a), a consecutive GWS supplier that has a total coliform-positive sample collected under Sections 611.1054 through 611.1057, must notify the wholesale systems within 24 hours after being notified of the total coliform-positive sample.

B) In addition to the other requirements of this subsection (a), a wholesale GWS supplier must comply with the following requirements:

i) A wholesale GWS supplier that receives notice from a consecutive system it serves that a sample collected under Sections 611.1054 through 611.1057 is total coliform-

positive must, within 24 hours after being notified, collect a sample from its groundwater sources under subsection (a)(2) and analyze it for a fecal indicator under subsection (c).

ii) If the sample collected under subsection (a)(4)(B)(i) is fecal indicator-positive, the wholesale GWS supplier must notify all consecutive systems served by that groundwater source of the fecal indicator source water positive within 24 hours after being notified of the groundwater source sample monitoring result and must meet the requirements of subsection (a)(3).

5) Exceptions to the Triggered Source Water Monitoring Requirements. A GWS supplier is not required to comply with the source water monitoring requirements of subsection (a) if either of the following conditions exists:

A) The Agency issues a SEP determining and documenting that a distribution system deficiency caused the total coliform-positive sample collected under Sections 611.1054 through 611.1057; or

B) The total coliform-positive sample collected under Sections 611.1054 through 611.1057 is collected at a location that meets Agency criteria for distribution system conditions that will cause total coliform-positive samples.

b) Assessment Source Water Monitoring. If the Agency directs in a SEP, a GWS supplier must conduct assessment source water monitoring that meets Agency-determined requirements for such monitoring. A GWS supplier conducting assessment source water monitoring may use a triggered source water sample collected under subsection (a)(2) to meet the requirements of subsection (b). Agency-determined assessment source water monitoring requirements may include the following:

1) Collection of a total of 12 groundwater source samples that represent each month the system provides groundwater to the public;

2) Collection of samples from each well, unless the system obtains written Agency approval to conduct monitoring at one or more wells within the GWS that are representative of multiple wells used by that system and that draw water from the same hydrogeologic setting;

3) Collection of a standard sample volume of at least 100 mL for fecal indicator analysis, regardless of the fecal indicator or analytical method

used;

4) Analysis of all groundwater source samples using one of the analytical methods listed in subsection (c)(2) for the presence of E. coli, enterococci, or coliphage;

5) Collection of groundwater source samples at a location prior to any treatment of the groundwater source unless the Agency approves a sampling location after treatment; and

6) Collection of groundwater source samples at the well itself, unless the system's configuration does not allow for sampling at the well itself and the Agency approves in a SEP an alternate sampling location that is representative of the water quality of that well.

c) Analytical Methods

1) A GWS supplier subject to the source water monitoring requirements of subsection (a) must collect a standard sample volume of at least 100 mL for fecal indicator analysis, regardless of the fecal indicator or analytical method used.

2) A GWS supplier must analyze all groundwater source samples collected under subsection (a) using one of the analytical methods listed in subsections (c)(2)(A) through (c)(2)(C), each incorporated by reference in Section 611.102, or alternative methods approved by the Agency under Section 611.480, subject to the limitations of subsection (c)(2)(D), for the presence of E. coli, enterococci, or coliphage:

A) E. coli. Enzyme Substrate Technique

i) Colilert®. SM 9223 B (97), SM 9223 B (04), or SM 9223 B (16).

ii) Colisure®. SM 9223 B (97), SM 9223 B (04), or SM 9223 B (16).

iii) Membrane Filter Method with MI Agar. USEPA 1604 (02).

iv) E*Colite (98).

v) EC–MUG. SM 9221 F (94), SM 9221 F (06), or SM 9221 F (14).

vi) NA–MUG. SM 9222 G (97) (20th ed. only) or SM 9222 I (15), SM 9222 I (22).

vii) Colilert®-18. SM 9223 B (97), SM 9223 B (04), or SM 9223 B (16).

viii) Readycult® (07).

ix) Modified Colitag™ (09) or Modified Colitag™ (20).

x) Chromocult® (00).

xi) Tecta (14) or Tecta (17).

xii) RAPID'E. coli (20).

BOARD NOTE: EC–MUG (SM 9221 F (94) (20th ed. only)) or NA–MUG (SM 9222 G (97) (20th ed. only)), both incorporated by reference in Section 611.102, can be used for E. coli testing step, as described in 40 CFR 141.21(f)(6)(i) or (f)(6)(ii), incorporated by reference in Section 611.102, after use of SM 9221 B (93), SM 9221 B (94), SM 9221 B (99), SM 9221 B (06), SM 9221 D (93), SM 9221 D (94), SM 9221 D (99), SM 9221 D (06), SM 9222 B (91), SM 9222 B (94), SM 9222 B (97), SM 9222 C (91), SM 9222 C (94), or SM 9222 C (97).

B) E. coli. Fermentation Technique

i) Hach 10029 (99) (m-ColiBlue24®).

ii) SM 9222 J (15), SM 9222 J (22).

C) Enterococci

i) Multiple-Tube Technique. SM 9230 B (93) (20th ed. only), SM 9230 B (04), SM 9230 B (13), SM 9230 B (22), SM 9230 C (93) (20th ed. only), SM 9230 C (13), SM 9230 C (22), or USEPA 1600 (02).
BOARD NOTE: The holding time and temperature for groundwater samples are specified in subsection (c)(2)(D), rather than as specified in Section 8 of USEPA 1600 (02).

ii) Fluorogenic Substrate Enterococcus Test (using Enterolert).

Enterolert (96), ~~or~~ SM 9230 D (13), or SM 9230 D (22). BOARD NOTE: Medium is available through IDEXX Laboratories, Inc., at the address ~~set forth~~ in Section 611.102(b). Preparation and use of the medium must be as stated~~set forth~~ in the article that embodies the method as incorporated by reference in Section 611.102(b).

D) Coliphage

i) Two-Step Enrichment Presence-Absence Procedure. USEPA 1601 (01) or Charm Fast Phage (12).

ii) Single Agar Layer Procedure. USEPA 1602 (01).

E) Limitation on Methods Use. The time from sample collection to initiation of analysis may not exceed 30 hours. The GWS supplier is encouraged but is not required to hold samples below 10 °C during transit.

d) Invalidation of a Fecal Indicator-Positive Groundwater Source Sample

1) A GWS supplier may obtain Agency invalidation of a fecal indicator-positive groundwater source sample collected under subsection (a) only under either of the following conditions:

A) The supplier provides the Agency with written notice from the laboratory that improper sample analysis occurred; or

B) The Agency issues a SEP determining and documenting that substantial evidence that a fecal indicator-positive groundwater source sample is not related to source water quality.

2) If the Agency invalidates a fecal indicator-positive groundwater source sample, the GWS supplier must collect another source water sample under subsection (a) within 24 hours after being notified by the Agency of its invalidation decision, and the supplier must have it analyzed for the same fecal indicator using the analytical methods in subsection (c). The Agency may extend the 24-hour time limit on a case-by-case basis if the supplier cannot collect the source water sample within 24 hours due to circumstances beyond its control. In the case of an extension, the Agency must specify how much time the system has to collect the sample.

e) Sampling Location

1) Any groundwater source sample required under subsection (a) must be collected at a location prior to any treatment of the groundwater source unless the Agency approves a sampling location after treatment.

2) If the supplier's system configuration does not allow for sampling at the well itself, it may collect a sample at an Agency-approved location to meet the requirements of subsection (a) if the sample is representative of the water quality of that well.

f) New Sources. If the Agency directs in a SEP, a GWS supplier placing a new groundwater source into service must conduct assessment source water monitoring under subsection (b). If the SEP directs, the supplier must begin monitoring before the groundwater source is used to provide water to the public.

g) Public Notification. A GWS supplier with a groundwater source sample collected under subsection (a) or (b) that is fecal indicator-positive and that is not invalidated under subsection (d), including a consecutive system supplier served by the groundwater source, must conduct public notification under Section 611.902.

h) Monitoring Violations. A failure to meet the requirements of subsections (a) through (f) is a monitoring violation that requires the GWS supplier to provide public notification under Section 611.904.

BOARD NOTE: This Section derives from 40 CFR 141.402 and appendix A to subpart C of 40 CFR 141. The Board did not separately list approved alternative methods from Standard Methods Online that are the same version as a method appearing in a printed edition of Standard Methods. Using the Standard Methods Online copy is acceptable.

Standard Methods Online, Method 9221 F-06 appears in the 22nd edition as Method 9221 F. This appears in this Section as SM 9221 F (06).

Standard Methods Online, Method 9222 G-97 appears in the 20th and 21st editions as Method 9222 G. This appears in this Section as SM 9222 G (97).

Standard Methods Online, Method 9223 B-97 appears in the 20th and 21st editions as Method 9223 B. This appears in this Section as SM 9223 B (97).

Standard Methods Online, Method 9223 B-04 appears in the 22nd edition as Method 9223 B. This appears in this Section as SM 9223 B (04).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.803 Treatment Technique Requirements for GWS Suppliers

a) GWS Suppliers with Significant Deficiencies or Source Water Fecal Contamination

1) The treatment technique requirements of this Section must be met by GWS suppliers when a significant deficiency is identified or when a groundwater source sample collected under Section 611.802(a)(3) is fecal indicator-positive.

2) If directed by the Agency by a SEP, a GWS supplier with a groundwater source sample collected under Section 611.802(a)(2), (a)(4), or (b) that is fecal indicator-positive must comply with the treatment technique requirements of this Section.

3) When a significant deficiency is identified at a Subpart B PWS that uses both groundwater and surface water or groundwater under the direct influence of surface water, the system must comply with provisions of this subsection (a) except if the Agency determines that the significant deficiency is in a portion of the distribution system that is served solely by surface water or groundwater under the direct influence of surface water.

4) Unless the Agency, by a SEP, directs the GWS supplier to implement a specific corrective action, the GWS supplier must consult with the Agency regarding the appropriate corrective action within 30 days after receiving written notice from the Agency of a significant deficiency, written notice from a laboratory that a groundwater source sample collected under Section 611.802(a)(3) was found to be fecal indicator-positive, or direction from the Agency that a fecal indicator-positive collected under Section 611.802(a)(2), (a)(4), or (b) requires corrective action. For the purposes of this Subpart S, significant deficiencies include defects in design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that the Agency determines to be causing, or have potential for causing, the introduction of contamination into the water delivered to consumers.

5) Within 120 days (or earlier if directed by the Agency) after receiving written notification from the Agency of a significant deficiency, written notice from a laboratory that a groundwater source sample collected under Section 611.802(a)(3) was found to be fecal indicator-positive, or written notice from the Agency that a fecal indicator-positive sample collected under Section 611.802(a)(2), (a)(4), or (b) requires corrective action, the GWS supplier must do either of the following:

A) It must have completed corrective action in compliance~~accordance~~ with any applicable plan review processes adopted by the Agency or with any SEP issued by the Agency, if any, including Agency-specified interim measures; or

B) It must be in compliance with an Agency-approved corrective action plan and schedule, subject to the following conditions:

i) Any subsequent modifications to an Agency-approved corrective action plan and schedule must also be approved by the Agency; and

ii) If the Agency specifies interim measures for protection of the public health pending Agency approval of the corrective action plan and schedule or pending completion of the corrective action plan, the supplier must comply with those interim measures, as well as with any schedule specified by the Agency.

6) Corrective Action Alternatives. A GWS supplier that meets the conditions of subsection (a)(1) or (a)(2) must implement one or more of the following corrective action alternatives:

A) It must correct all significant deficiencies;

B) It must provide an alternate source of water;

C) It must eliminate the source of contamination; or

D) It must provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for the groundwater source.

7) Special Notice to the Public of Significant Deficiencies or Source Water Fecal Contamination

A) In addition to the applicable public notification requirements of Section 611.902, a community GWS supplier that receives notice from the Agency of a significant deficiency or notification of a fecal indicator-positive groundwater source sample that is not invalidated by the Agency under Section 611.802(d) must inform the public served by the water system under Section 611.883(h)(6) of the fecal indicator-positive source sample or of any significant

deficiency that has not been corrected. The supplier must continue to inform the public annually until the significant deficiency is corrected or the fecal contamination in the groundwater source is determined by the Agency to be corrected under subsection (a)(5).

B) In addition to the applicable public notification requirements of Section 611.902, a non-community GWS supplier that receives notice from the Agency of a significant deficiency must inform the public served by the water system in a manner approved by the Agency of any significant deficiency that has not been corrected within 12 months after being notified by the Agency, or earlier if directed by the Agency. The supplier must continue to inform the public annually until the significant deficiency is corrected. The information must include the following information:

i) The nature of the significant deficiency and the date the significant deficiency was identified by the Agency;

ii) The Agency-approved plan and schedule for correction of the significant deficiency, including interim measures, progress to date, and any interim measures completed; and

iii) For a supplier with a large proportion of non-English speaking consumers, as determined by the Agency, information in the appropriate languages regarding the importance of the notice or a telephone number or address where consumers may contact the system to obtain a translated copy of the notice or assistance in the appropriate language.

C) If directed by the Agency, a non-CWS supplier with significant deficiencies that have been corrected must inform its customers of the significant deficiencies, how the deficiencies were corrected, and the dates of correction under subsection (a)(7)(B).

b) Compliance Monitoring

1) Existing Groundwater Sources. A GWS supplier that is not required by Section 611.802(a)(1) to meet the source water monitoring requirements of this Subpart S for any groundwater source must notify the Agency in writing that it provides at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for the specified groundwater source and begin compliance monitoring in

compliance~~accordance~~ with subsection (b)(3). Notification to the Agency must include engineering, operational, or other information that the Agency requests to evaluate the submission. If the supplier subsequently discontinues 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for a groundwater source, the supplier must conduct groundwater source monitoring, as required under Section 611.802.

2) New Groundwater Sources. A GWS supplier that places a groundwater source in service that is not required by Section 611.802(a)(1) to meet the source water monitoring requirements of this Subpart S must comply with the requirements of subsections (b)(2)(A), (b)(2)(B), and (b)(2)(C).

A) The supplier must notify the Agency in writing that it provides at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for the groundwater source. Notification to the Agency must include engineering, operational, or other information that the Agency requests by a SEP to evaluate the submission.

B) The supplier must conduct compliance monitoring, as required under Section 611.803(b)(3), within 30 days after placing the source in service.

C) The supplier must conduct groundwater source monitoring under Section 611.802 if it subsequently discontinues 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for the groundwater source.

3) Monitoring Requirements. A GWS supplier subject to the requirements of subsection (a), (b)(1), or (b)(2) must monitor the effectiveness and reliability of treatment for that groundwater source before or at the first customer as follows:

A) Chemical Disinfection

i) GWS Suppliers Serving More Than 3,300 People. A GWS supplier that serves more than 3,300 people must continuously monitor the residual disinfectant concentration using analytical methods specified in Section 611.531(b) at a location approved by the Agency and must

record the lowest residual disinfectant concentration each day that water from the groundwater source is served to the public. The GWS supplier must maintain the Agency-approved residual disinfectant concentration every day it serves water from the groundwater source to the public. If there is a failure in the continuous monitoring equipment, the GWS supplier must conduct grab sampling every four hours until the continuous monitoring equipment is returned to service. The supplier must resume continuous residual disinfectant monitoring within 14 days.

ii) GWS Suppliers Serving 3,300 or Fewer People. A GWS supplier that serves 3,300 or fewer people must monitor the residual disinfectant concentration using analytical methods specified in Section 611.531(b) at a location approved by the Agency and record the residual disinfection concentration each day that water from the groundwater source is served to the public. The GWS supplier must determine and maintain the Agency-approved residual disinfectant concentration every day that it serves water from the groundwater source to the public. The GWS supplier must take a daily grab sample during the hour of peak flow or at another time specified by the Agency. If any daily grab sample measurement falls below the Agency-approved residual disinfectant concentration, the GWS supplier must take follow-up samples every four hours until the residual disinfectant concentration is restored to the Agency-approved level. Alternatively, a GWS supplier that serves 3,300 or fewer people may monitor continuously and meet the requirements of subsection (b)(3)(A)(i).

B) Membrane Filtration. A GWS supplier that uses membrane filtration to meet the requirements of this Subpart S must monitor the membrane filtration process in compliance~~accordance~~ with all Agency-specified monitoring requirements and must operate the membrane filtration in compliance~~accordance~~ with all Agency-specified compliance requirements. A GWS supplier that uses membrane filtration is in compliance with the requirement to achieve at least 4-log removal of viruses when it fulfills the following conditions:

i) The membrane has an absolute molecular weight cut-off, or an alternative parameter that describes the exclusion

characteristics of the membrane, that can reliably achieve at least 4-log removal of viruses;

ii) The membrane process is operated in compliance~~accordance~~ with Agency-specified compliance requirements; and

iii) The integrity of the membrane is intact.

C) Alternative Treatment. A GWS supplier that uses an Agency-approved alternative treatment to meet the requirements of this Subpart S by providing at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer must do both of the following:

i) It must monitor the alternative treatment in compliance~~accordance~~ with all Agency-specified monitoring requirements; and

ii) It must operate the alternative treatment in compliance~~accordance~~ with all operational requirements determined by the supplier that the Agency has approved as necessary to achieve at least 4-log treatment of viruses.

c) Discontinuing Treatment. A GWS supplier may discontinue 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for a groundwater source if the supplier determines and documents and the Agency approves in writing that 4-log treatment of viruses is no longer necessary for that groundwater source. A system that discontinues 4-log treatment of viruses is subject to the source water monitoring and analytical methods requirements of Section 611.802 of this Subpart S.

d) A failure to meet the monitoring requirements of subsection (b) is a monitoring violation and requires the GWS supplier to provide public notification under Section 611.904.

BOARD NOTE: Derived from 40 CFR 141.403.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.804 Treatment Technique Violations for GWS Suppliers

a) A GWS supplier with a significant deficiency is in violation of the treatment technique requirement if, within 120 days (or earlier if directed by the Agency by a SEP) after receiving written notice from the Agency of the significant deficiency, the system does not do either of the following:

1) It does not complete corrective action in compliance~~accordance~~ with any applicable Agency plan review processes or other Agency guidance and direction, including Agency specified interim actions and measures; or

2) It is not in compliance with an Agency-approved corrective action plan and schedule.

b) Unless the Agency invalidates a fecal indicator-positive groundwater source sample under Section 611.802(d), a GWS supplier is in violation of the treatment technique requirement if, within 120 days (or earlier if directed by the Agency) after meeting the conditions of Section 611.803(a)(1) or (a)(2), the supplier does not do either of the following:

1) It does not complete corrective action in compliance~~accordance~~ with any applicable Agency plan review processes or other Agency guidance and direction, including Agency-specified interim measures; or

2) It is not in compliance with an Agency-approved corrective action plan and schedule.

c) A GWS supplier subject to the requirements of Section 611.803(b)(3) that fails to maintain at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for a groundwater source is in violation of the treatment technique requirement if the failure is not corrected within four hours after determining the supplier is not maintaining at least 4-log treatment of viruses before or at the first customer.

d) A GWS supplier must give public notification under Section 611.903 for the treatment technique violations specified in subsections (a), (b), and (c).

BOARD NOTE: Derived from 40 CFR 141.404.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.805 Reporting and Recordkeeping for GWS Suppliers

a) Reporting. In addition to the requirements of Section 611.840, a GWS supplier regulated under this Subpart S must provide the following information to the Agency:

1) A GWS supplier conducting compliance monitoring under Section 611.803(b) must notify the Agency any time the supplier fails to meet any Agency-specified requirements including minimum residual disinfectant concentration, membrane operating criteria or membrane integrity, and alternative treatment operating criteria, if operation in compliance~~accordance~~ with the criteria or requirements is not restored within four hours. The GWS supplier must notify the Agency as soon as possible, but in no case later than the end of the next business day.

2) After completing any corrective action under Section 611.803(a), a GWS supplier must notify the Agency within 30 days after completion of the corrective action.

3) If a GWS supplier subject to the requirements of Section 611.802(a) does not conduct source water monitoring under Section 611.802(a)(5)(B), the supplier must provide documentation to the Agency within 30 days after the total coliform-positive sample that it met the Agency criteria.

b) Recordkeeping. In addition to the requirements of Section 611.860, a GWS supplier regulated under this Subpart S must maintain the following information in its records:

1) Documentation of corrective actions. Documentation must be kept for at least ten years.

2) Documentation of notice to the public as required under Section 611.803(a)(7). Documentation must be kept for at least three years.

3) Records of decisions under Section 611.802(a)(5)(B) and records of invalidation of fecal indicator-positive groundwater source samples under Section 611.802(d). Documentation must be kept for at least five years.

4) For a consecutive system supplier, documentation of notification to the wholesale systems of total coliform-positive samples that are not invalidated under Section 611.1053. Documentation must be kept for at least five years.

5) For a supplier, including a wholesale system supplier, that is required to perform compliance monitoring under Section 611.803(b), the following information:

A) Records of the supplier-specified, Agency-approved minimum disinfectant residual. Documentation must be kept for at least ten years;

B) Records of the lowest daily residual disinfectant concentration and records of the date and duration of any failure to maintain the Agency-prescribed minimum residual disinfectant concentration for a period of more than four hours. Documentation must be kept for at least five years; and

C) Records of supplier-specified, Agency-approved compliance requirements for membrane filtration and of parameters specified by the supplier for Agency-approved alternative treatment and records of the date and duration of any failure to meet the membrane operating, membrane integrity, or alternative treatment operating requirements for more than four hours. Documentation must be kept for at least five years.

BOARD NOTE: Derived from 40 CFR 141.405.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART T: REPORTING AND RECORDKEEPING

Section 611.840 Reporting

a) Except when this Part specifies a shorter period, a supplier must report to the Agency the results of any test measurement or analysis this Part requires within the earlier of the following timeframes:

1) The ten days after the month when the supplier receives the result; or

2) The ten days after the end of the monitoring period the Agency specifies in a SEP.

b) Except as this Part specifies a different reporting period, a supplier must report to the Agency within 48 hours any failure to comply with any provision (including failure to comply with monitoring requirements) of this Part.

c) The supplier needs not report analytical results to the Agency if an Agency laboratory performs the analysis.

d) Notice to the Agency

1) Within ten days after completing the public notification requirements under Subpart V for the initial public notice and any repeat public notices, the PWS must certify to the Agency that it has fully complied with the public notification rules under subpart V.~~. For Tier 2 and 3 public notices~~, The~~the~~ PWS must include with this certification a representative copy of each type of notice that the PWS distributed, published, posted, or made available to the persons served and to the media.

2) For a Tier 1 public notice for exceeding the lead action level, the PWS must provide a copy of the~~any~~ Tier 1 public notice to USEPA and the Agency as soon as practicable but no later than 24 hours after the supplier learns of the exceedance.

e) The supplier must submit to the Agency within the time the Agency states in a request copies of any records Section 611.860 requires or copies of any existing documents that Section 4 of the Act [415 ILCS 5/4] entitles the Agency to inspect.

BOARD NOTE: This Section derives from 40 CFR 141.31.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.860 Record Maintenance

A supplier must keep~~retain~~ on its premises or at a convenient location near its premises the following records:

a) Records of bacteriological analyses and turbidity analyses made under this Part must be kept for not less than five years. Records of chemical analyses made under this Part must be kept for not less than ten years. Actual laboratory reports may be kept, or data may be transferred to tabular summaries if~~, provided that~~ the following information is included:

1) The date, place, and time of sampling, and the name of the person who collected the sample;

2) Identification of the sample as to whether it was a routine distribution system sample, check sample, raw or process water sample, or other special purpose sample;

3) The date of analysis;

4) The laboratory and person responsible for performing analysis;

5) The analytical technique or method used; and

6) The results of the analysis.

b) Records of action taken by the supplier to correct violations of this Part must be kept for a period not less than three years after the last action taken with respect to the particular violation involved.

c) Copies of any written reports, summaries, or communications relating to sanitary surveys of the system conducted by the supplier itself, by a private consultant, by USEPA, the Agency, or a unit of local government delegated under Section 611.108, must be kept for a period not less than ten years after completion of the sanitary survey involved.

d) Records concerning a variance or adjusted standard granted to the supplier must be kept for a period ending not less than five years following the expiration of the~~such~~ variance or adjusted standard.

e) Copies of public notices issued under Subpart V and certifications made to the Agency under Section 611.840 must be kept for three years after issuance.

f) Copies of monitoring plans developed under this Part must be kept for the same period of not less than five years that applies to the records of analyses taken under the plan under subsection (a), except as specified otherwise elsewhere in this Part.

BOARD NOTE: Derived from 40 CFR 141.33.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART U: CONSUMER CONFIDENCE REPORTS

Section 611.881 Purpose and Applicability

a) This Subpart U establishes the minimum requirements for the content of~~annual~~ reports that community water systems (CWSs) must deliver to their customers. These reports must contain information on the quality of the water delivered by the systems and characterize the risks (if any) from exposure to contaminants detected in the drinking water in an accurate and understandable manner. This subpart also includes requirements for suppliers serving more than 100,000 persons to develop and annually update a plan for providing assistance to consumers with limited English proficiency.

b) DespiteNotwithstanding the provisions of Section 611.100(d), this Subpart U only applies to CWSs.

c) For the purpose of this Subpart U, "customers" are defined as billing units or service connections to which water is delivered by a CWS. For purposes of this subpart consumers are defined as people served by the water system, including customers and people that do not receive a bill.

d) For the purpose of this Subpart U, "detected" means the following: at or above the detection limit levels prescribed by Section 611.600(d) for inorganic contaminants; at or above the levels prescribed by Section 611.646(ga) for Phase I, II, and V VOCs; at or above the levels prescribed by Section 611.648(r) for Phase II, IIB, and V SOCs (except for PFAS); at or above the levels prescribed by Section 611.381(b)(2)(D) for the disinfection byproducts listed in Section 611.312; and at or above the levels prescribed by Section 611.720(c)(2)Section 611.720(c)(3) for radioactive contaminants; and at or above the levels prescribed by Section 611.7902(a)(5) for PFAS listed in Section 611.311(c)(2).

BOARD NOTE: Derived from 40 CFR 141.151.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.882 Compliance Dates

a) Between June 24, 2024 and December 31, 2026, CWS suppliers must comply with Sections 611.881 through 611.885 (except Section 611.883(d)(4)(G)), as codified in Subpart AH. Beginning January 1, 2027, CWS suppliers must comply with Section 611.881 through 611.886 (except Section 611.883(h)(8)(A)) as codified in this subpart U. Beginning November 1, 2027, CWS suppliers must comply with Sections 611.881 through 611.886, as codified in subpart U. Each existing CWS must deliver its reports by July 1 annually. Each report must contain data collected during, or prior to, the previous calendar year as prescribed in Section 661.883(d)(3).

b) Each existing CWS supplier must deliver its reports in compliance with 611.885 by July 1 each year.annually. Each report delivered by July 1 must contain data collected during, or prior to, the previous calendar year, or the most recent calendar year before the previous calendar year. as prescribed in Section 661.883(d)(3).

cb) A new CWS must deliver its first report by July 1 of the year after its first full calendar year in operation. and annually thereafter.

de) A CWS~~community water system~~ supplier that sells water to another CWS~~community water system~~ supplier must deliver the applicable information required in Section 611.883 to the buyer supplier~~system~~ as follows:

1) By ~~no later than~~ April 1, 2027 and annually thereafter; or

2) On a date mutually agreed upon by the seller and the purchaser, and specifically included in a contract between the parties: and~~.~~

3) A CWS supplier that sells water to another CWS supplier that is required to provide reports biannually in compliance with Section 611.855(i) must provide the applicable information required in 611.855(j) by October 1, 2027, to the buyer system, and annually thereafter, or a date mutually agreed upon by the seller and the purchaser, included in a contract between the parties.

BOARD NOTE: Derived from 40 CFR 141.152.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.883 Content of the Reports

a) Each CWS supplier must provide to its customers a~~an annual~~ report(s) containing the information specified in this Section ~~and Section~~ 611.884, and include a summary as specified in Section 611.886.~~ specify~~.

b) Information on the Source of the Water the Supplier Delivers

1) Each report must identify the sources of the water the CWS delivers providing certain information:

A) The type of the water (i.e., surface water, groundwater, or groundwater under the direct influence of surface water); and

B) The commonly used name (if any) and location of the source body (or bodies) of water.

2) If the supplier has a complete source water assessment, the report must notify consumers of the availability of this assessment, the year it was completed or most recently updated, ~~-~~and how to obtain it. In addition, the supplier should highlight in the report significant sources of contamination in the source water area if the supplier readily has that information. If the supplier received the source water assessment from the Agency, the report must include a brief summary of the system's susceptibility to potential

sources of contamination, using language the Agency provides or as the supplier writes.

c) Definitions

1) Each report must include two definitions:

A) Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which USEPA determines no known or expected risk to health exists. MCLGs allow for a margin of safety.
BOARD NOTE: Although an MCLG is not an NPDWR that the Board must include in the Illinois SDWA regulations, USEPA mandates using this definition.

B) Maximum Contaminant Level or MCL: The highest level of a contaminant that USEPA allows in drinking water. USEPA sets MCLs as close to the MCLGs as feasible using the best available treatment technology.

C) Contaminant: Any physical, chemical, biological, or radiological substance or matter in the water.

2) A CWS operating under relief from an NPDWR issued under Section 611.111, 611.112, 611.130, or 611.131 must include the following definition in its report: "Variances, Adjusted Standards, and Site-specific Rules: State permission not to meet an MCL or a treatment technique under certain conditions."

3) A report containing data on contaminants that USEPA regulates using any of certain terms must include the applicable definitions:

A) Treatment technique: A required process for reducing the concentration of a contaminant in drinking water.

B) Action level: The concentration of a contaminant above which a supplier must follow treatment or other requirements.

C) Maximum residual disinfectant level goal or MRDLG: The concentration of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of using disinfectants to control microbial contaminants.

BOARD NOTE: Although an MRDLG is not an NPDWR that the

Board must include in the Illinois SDWA regulations, USEPA mandates using this definition if the report uses the term "MRDLG".

D) Maximum residual disinfectant level or MRDL: The highest concentration of a disinfectant USEPA allows in drinking water. There is convincing evidence that adding a disinfectant is necessary to control microbial contaminants.

E) Hazard Index or HI. The Hazard Index is an approach that determines the health concerns associated with mixtures of certain PFAS in finished drinking water. Low levels of multiple PFAS that individually would not likely result in adverse health effects may pose health concerns when combined in a mixture. The Hazard Index MCL represents the maximum level for mixtures of PFHxS, PFNA, HFPO-DA, and/or PFBS allowed in water delivered by a public water supplier. A Hazard Index greater than 1 requires a supplier to take action.

4) A report containing information about a Level 1 or Level 2 assessment under Subpart AA requires must include the applicable definition:

A) "Level 1 assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system."

B) "Level 2 assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation occurred or why monitoring found total coliform bacteria in our water system on multiple occasions."

5) Suppliers must use the following definitions for the terms listed below if the terms are used in the report unless the supplier obtains written approval form the Agency to use an alternate definition:

A) Pesticide: Generally, any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.

B) Herbicide: Any chemical(s) used to control undesirable vegetation.

d) Information on Detected Contaminants

1) This subsection (d) specifies the information a supplier must include in each report for contaminants subject to mandatory monitoring (except Cryptosporidium):

A) Contaminants subject to an MCL, action level, MRDL, or treatment technique (regulated contaminants); and

B) Contaminants for which monitoring is required by USEPA under 40 CFR 141.40 (unregulated contaminants).

2) The data relating to these contaminants must be presented in the reports~~report must display these contaminants~~ in a manner that is clear and understandable for consumers. For example, the data may be displayed in one table or in several adjacent tables. The CWS must separately display any additional monitoring results it chooses to include in its report.

3) The supplier must derive the data in the report from data it collected to comply with monitoring and analytical requirements during the previous~~each~~ calendar year or the most recent calendar year before the previous calendar year except that ~~. If the Agency allows a supplier to monitor for regulated contaminants less frequently than annually, the tables must include the date and results of the most recent sampling, and the report must include a brief statement indicating that the data in the report is from the most recent testing done under the regulations. The supplier must not include data older than five years.~~

A) Where a supplier is allowed to monitor for regulated contaminants less often than once a year, the contaminant data section must include the date and results of the most recent sampling and the report must include a brief statement indicating that the data presented in the report are from the most recent testing done in compliance with the regulations. No data older than 5 years need be included.

B) This subsection (d)(3)(B) corresponds with 40 CFR 141.153(d)(3)(ii), which USEPA has designated as "reserved". This statement maintains structural correspondence with the corresponding federal regulation.

4) For each detected regulated contaminant (listed in Appendix A to this subpart), data section(s) must contain:~~the tables must contain specific information:~~

A) The MCL for the contaminant expressed as a number equal to or greater than 1.0 (as Appendix A provides);

B) The federal Maximum Contaminant Level Goal (MCLG) for that contaminant expressed in the same units as the MCL;

C) If there is no MCL for a detected contaminant, the contaminant data section(s)~~table~~ must indicate that there is a treatment technique or specify the action level for the contaminant, and the report must include the applicable of the definitions for treatment technique or action level that subsection (c)(3) specifies;

D) For contaminants subject to an MCL, except turbidity~~, total coliforms, fecal coliforms,~~ and E. coli, the contaminant data sections must contain the highest contaminant level the supplier used to determine compliance with the applicable NPDWR and the range of detected levels as follows:

i) When the supplier determines compliance with the MCL annually or less frequently: the highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.

ii) When the supplier determines compliance with the MCL by calculating a running annual average of all samples taken at a monitoring location: the highest average of all monitoring locations and the range of individual sample results for all monitoring locations expressed in the same units as the MCL. For TTHM and HAA5 MCLs in Section 611.312(b), the supplier must include the highest locational running annual average for TTHM and HAA5 and the range of individual sample results for all monitoring locations expressed in the same units as the MCL. If results from more than one location exceed the TTHM or HAA5 MCL, the supplier must include the locational running annual average for each location having results exceeding the MCL.

~~iii) When the supplier determines compliance with the MCL on a system-wide basis by calculating a running annual average of all samples at all monitoring locations: the average and range of detected concentrations expressed in the same units as the MCL. The supplier must include individual sample results for the IDSE the supplier conducted under Subpart~~

~~W when determining the range of TTHM and HAA5 results to report in its annual consumer confidence report for the calendar year when the supplier took the IDSE samples;~~

BOARD NOTE: If a rule allows rounding results to determine compliance with an MCL, the supplier should round before multiplying the results by the applicable factor in Appendix A.

E) For turbidity:

i) Corresponding 40 CFR 141.153(d)(4)(v)(A) relates to an MCL for turbidity applicable to unfiltered systems, which do not exist in Illinois. This statement maintains structural consistency with the federal rules.

ii) If the supplier reports under Section 611.211(b): the highest monthly value. The report must explain the reasons for measuring turbidity.

iii) If the supplier reports under Section 611.250, 611.743, or 611.955(b): the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits Section 611.250, 611.743, or 611.955(b) specifies for the filtration technology the supplier uses. The report must explain the reasons for measuring turbidity;

F) For lead and copper: the 90th percentile concentration of the most recent rounds of sampling, the number of sampling sites exceeding the action level, and the range of tap sampling results;

G) This subsection (d)(4)(G) corresponds with 40 CFR 141.153(d)(4)(vii), which has no operative effect after a past implementation date. This statement maintains structural consistency with the federal regulations;

H) This subsection (d)(4)(H) corresponds with 40 CFR 141.153(d)(4)(viii), a now-obsolete implementing provision. This statement maintains structural consistency with the federal regulations;

I) The likely sources of detected contaminants to the best of the supplier's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments

and must be used when available to the supplier. If the supplier lacks specific information on the likely source, the report must include one or more of the typical sources for that contaminant listed in Appendix G that are most applicable to the CWS; and

J) For E. coli analytical results under Subpart AA, the total number of E. coli positive samples;

~~K)~~ ~~The report must state that the supplier inventoried its service lines (including if only a statement that the supplier serves no lead service lines) and instruct how to access the service line inventory; and~~

~~L)~~ ~~The report must notify consumers that complete lead tap sampling data are available for review and must inform how to access the data.~~

5) If a CWS distributes water to its customers from multiple hydraulically independent distribution systems fed by different raw water sources, the contaminant data section(s) should differentiate contaminant data ~~table must contain a separate column~~ for each service area, and the report must identify each separate distribution system. For example, if displayed in a table, it should contain a separate column for each service area. Alternatively, a CWS may produce separate reports tailored to include data for each service area.

6) The detected contaminant data section(s) ~~tables~~ must clearly identify any data indicating violations of MCLs, MRDLs, or treatment techniques, and the report must contain a clear and readily understandable explanation of the violation, including specific information: the length of the violation, the potential adverse health effects, and actions the CWS took to address the violation. To describe the potential health effects, the CWS must use the relevant language from Appendix A.

7) For detected unregulated contaminants for which USEPA requires monitoring under 40 CFR 141.40 ~~(except Cryptosporidium)~~, the reports must present~~tables must contain~~ the average and range at which the supplier detected the contaminant. The report must~~may~~ briefly explain the reasons for monitoring for unregulated contaminants such as:~~.~~

A) Unregulated contaminant monitoring helps the Agency to determine where certain contaminants occur and whether the Agency should consider regulating those contaminants in the future.

B) May use an alternative educational statement in the CCR if approved by the Agency.

8) For suppliers that exceeded the lead action level in Section 611.350(c), the detected contaminant data section must clearly identify the exceedance if any corrective action has been required by the USEPA or the Agency during the monitoring period covered by the report. The report must include a clear and readily understandable explanation of the exceedance, the steps consumers can take to reduce their exposure to lead in drinking water, and a description of any corrective actions the supplier has or will take to address the exceedance.

e) Information on Cryptosporidium, radon, and other contaminants:

1) If the CWS monitored for Cryptosporidium, which ~~including monitoring under Subpart L, and the monitoring~~ indicates the possible presence of Cryptosporidium in the supplier's source water or finished water, the report must include ~~specific information~~:

A) A summary of the results of the monitoring~~It must summarize the monitoring results~~; and

B) An explanation of the significance of the results.~~It must explain the results' significance~~.

2) If the CWS monitored for radon, and the monitoring indicates the possible presence of radon in the supplier's finished water, the report must include ~~specific information~~:

A) The results of the monitoring~~monitoring results~~; and

B) An explanation of the significance of the results.~~It must explain the results' significance~~.

3) If the CWS conducted additional monitoring indicating the presence of other contaminants in the supplier's finished water, the report must include specific information:

A) The monitoring results; and

B) It must explain the results' significance noting any ~~pertinent~~ health advisory or proposed regulation.

f) Complying with an NPDWR. In addition to the information subsection (d)(6)

requires, the report must note any ~~of~~ specific violations that~~in subsections (f)(1) through (f)(7)~~ occurred~~occurring~~ during the period~~year~~ the report covers and include a clear and readily understandable explanation of the violation, any potential adverse health effects, and the steps the CWS took to correct the violation.

1) Monitoring and reporting compliance data.

2) Filtration and Disinfection Under Subpart B. For a CWS failing to install adequate filtration or disinfection equipment or processes or having filtration or disinfection equipment or processes fail, causing a violation, the report must include specific language to explain potential adverse health effects: "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."

3) Lead and copper control requirements under Subpart G~~Copper Control Requirements Under Subpart G.~~ For suppliers~~ a supplier~~ that fail~~failing~~ to take one or more actions under Sections 611.350 through 611.363~~Section 611.350(d), 611.351, 611.352, 611.353, or 611.354,~~ the report must include the applicable language from Appendix A for lead, copper, or both.

4) Treatment Techniques for Acrylamide and Epichlorohydrin Under Section 611.296. For a supplier violating Section 611.296, the report must include the applicable language from Appendix A.

5) A supplier failing to maintain required compliance data records.

6) A supplier not complying with special monitoring requirements under Section 611.630.

7) A supplier violating the terms of a variance, adjusted standard, site-specific rule, or administrative or judicial order.

g) Variances, Adjusted Standards, and Site-Specific Rules. If a supplier operates under the terms of a variance, adjusted standard, or site-specific rule the Board issued under Section 611.111, 611.112, or 611.131, the report must contain~~ certain information~~:

1) It must explain the reasons for the variance, adjusted standard, or site-specific rule;

2) It must state when the Board issued the variance, adjusted standard, or site-specific rule;

3) It must include a brief status report on the steps the CWS is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance, adjusted standard, or site-specific rule; and

4) It must include a notice of any opportunity for public input in any review or renewal of the variance, adjusted standard, or site-specific rule.

h) Additional Information

1) The report must briefly explain about contaminants that one may reasonably expect to find in drinking water, including bottled water. This may include the language from subsections (h)(1)(A) through (h)(1)(C), or the CWS may use its own comparable language. The report also must include the language from subsection (h)(1)(D).

A) ~~The sources of drinking water (~~Both~~both~~ tap water and bottled water come from ~~) 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. The water can also pick up and transport substances resulting from the presence of animals or from human activity. These substances are also called contaminants.

B) ~~Source water may include any of several~~ Contaminants ~~contaminants~~ are any physical, chemical, biological, or radiological substance or matter in water. Contaminants that may be present in source water include:

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

ii) Inorganic contaminants, such as salts and metals, which can occur ~~be~~ naturally in the soil or groundwater or may ~~occurring or~~ result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

iii) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, or residential uses;

iv) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are products and byproducts of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, or septic systems; and

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

C) To protect public health, ~~In order to ensure that tap water is safe to drink,~~ USEPA prescribes regulations that limit the amount of certain contaminants in tap water PWSs provide. United States Food and Drug Administration (USFDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

D) One may reasonably expect drinking water, including bottled water, to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily mean~~indicate~~ that water poses a health risk. More information about contaminants and potential health effects is available from the USEPA Safe Drinking Water Hotline (800-426-4791) or USEPA's Safe Drinking Water Information webpage (www.epa.gov/safewater)~~ground-water-and-drinking-water/safe-drinking-water-information)~~.

2) The report must include a telephone number for the CWS's owner, operator, or designee as a source of additional information about the report. If a supplier uses a website or social media to share additional information, the USEPA recommends including information about how to access such media platforms in the report.

3) In communities with a large proportion of consumers with limited English proficiency~~non-English speaking residents~~, as the Agency determines, the report must contain information in the appropriate languages regarding the importance of the report ~~or contain a telephone number or address~~ and either contain information where consumers~~residents~~ may obtain~~contact the supplier for~~ a translated copy of the report, or assistance in the appropriate language(s) or the report must be in the appropriate language(s).

4) The report must inform about opportunities for public participation in decisions potentially affecting water quality.

5) The CWS may include any additional information it deems necessary for

public education that is consistent with and does not detract from the purpose of the report.

6) Suppliers That Must Comply with Subpart S

A) Any GWS supplier that receives~~receiving~~ written notice from the Agency of a significant deficiency or notice from a laboratory of a fecal indicator-positive ground water source sample that is not invalidated by the Agency under Section 611.802(d) must inform its customers of any significant deficiency that is ~~still~~ uncorrected at the time of the next reporting~~report~~ period or of any ~~. Any GWS supplier receiving notice from a laboratory of a~~ fecal indicator-positive groundwater source sample in the next report or 6-month updated in compliance with Section 611.885~~that the Agency does not invalidate under Section 611.802(d) must inform its customers of the fecal indicator-positive groundwater source sample in the next report.~~ The supplier must continue to ~~annually~~ inform the public annually until the Agency determines that ~~issues a SEP determining the supplier corrected~~ the particular significant deficiency is corrected or ~~addressed~~ the fecal contamination in the groundwater source is addressed under Section 611.803(a). Each report must include the following elements~~specific information~~:

i) The nature of the particular significant deficiency or the source of the fecal contamination (if the supplier knows the source) and the date the Agency identified the significant deficiency or the dates of the fecal indicator-positive groundwater source samples;

ii) Whether or not the supplier has addressed the fecal contamination in the groundwater source under Section 611.803(a) and the date the supplier did so;

iii) For each significant deficiency or fecal contamination in the groundwater source that the supplier has not addressed under Section 611.803(a), the Agency-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures the supplier completed; and

iv) If the supplier receives notice of a fecal indicator-positive groundwater source sample that the Agency does not invalidate under Section 611.802(d), the potential health effects using the pertinent health effects language from

appendix~~Appendix~~ A to this subpart.

B) If the Agency issues a SEP directing a supplier to do so, a supplier with significant deficiencies that the supplier corrected before issuing the next report must inform its customers under subsection (h)(7)(A)(iv) of the significant deficiency, how the supplier corrected the deficiency, and the date the supplier corrected the deficiency.

7) Suppliers That Must Comply with Subpart AA

A) Any supplier that must comply with the Level 1 assessment requirement or a Level 2 assessment requirement that is not due to an E. coli MCL violation must include in the report the text found in subsections (h)(7)(A)(i) through ~~and (h)(7)(A)(ii) or (h)(7)(A)(i) and~~ (h)(7)(A)(iii), as appropriate, filling in the blanks accordingly and the text found in subsection (h)(7)(A)(iv), if appropriate.

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."

ii) "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."

iii) "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."

iv) Any supplier that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate: "During the past year we failed to conduct all ~~of~~ the required assessment(s)." or "During the past year we failed to correct all identified defects that were found during the assessment."

B) Any supplier that must conduct a Level 2 assessment due to an E. coli MCL violation must include in the report the text found in subsections (h)(7)(B)(i) and (h)(7)(B)(ii), and health effects language in appendix A to this subpart, filling in the blanks accordingly and the appropriate alternative text found in subsection (h)(7)(B)(iii)~~(h)(7)(B)(ii)~~, if appropriate. Suppliers may use an alternative statement with equivalent information for paragraphs (h)(7)(B)(i) through (iii), if approved by the primacy agency.

i) ~~"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), also known as level 2 assessment, to identify problems and to correct any problems that were found during these assessments."

ii) "We were required to complete a detailed assessment of our water system, also known as 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."

iii) Any supplier that has failed to complete the required assessment or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate: "We failed to conduct the required

assessment." or "We failed to correct all ~~sanitary~~ defects that were identified during the assessment that we conducted."

C) If a supplier detects E. coli and has violated the E. coli MCL, in addition to completing the table, as subsection (d)(4) requires, the supplier must include one or more of specific statements best describing the noncompliance:

i) "We had an E. coli-positive repeat sample following a total coliform-positive routine sample."

ii) "We had a total coliform-positive repeat sample following an E. coli-positive routine sample."

iii) "We failed to take all required repeat samples following an E. coli-positive routine sample."

iv) "We failed to test for E. coli when any repeat sample tested positive for total coliform."

D) If a supplier detects E. coli and has ~~but does~~ not violated the E. coli MCL, in addition to completing the table as required in subsection (d)(4) ~~requires~~, the supplier may include a statement explaining that although the supplier detected E. coli, it did not violate the E. coli MCL.

8) Suppliers required to comply with subpart G.

A) The report must notify consumers that complete lead tap sampling data is available for review and must include information on how to access the data.

B) The report must include a statement that a service line inventory (including inventories where the publicly accessible inventory consist of a written statement that there are no lead, galvanized requiring replacement, lead status unknown service lines, known lead connectors or connectors of unknown material) has been prepared and include instructions to access the publicly accessible service line inventory. If the service line inventory is available online, the report must include the direct link to the inventory.

C) For suppliers with lead, galvanized requiring replacement, or lead status unknown service lines in the supplier's inventory under

Section 611.354(a) and (b), the report must include information on how to obtain a copy of the service line replacement plan or a direct link to the plan if the supplier is required to make the service line replacement plan available online.

D) The report must contain a plainly worded explanation of the corrosion control efforts the supplier is taking in compliance with subpart G, and AH, if applicable. Corrosion control efforts consist of treatment (e.g., pH adjustment, alkalinity adjustment, or corrosion inhibitor addition) and other efforts contributing to the control of the corrosivity of water, e.g., monitoring to assess the corrosivity of water. The supplier may use one of the following templates or use their own explanation that includes equivalent information.

i) For suppliers with Agency or USEPA-designated Optimal Corrosion Control Treatment:
Corrosion of pipes, plumbing fittings and fixtures may cause lead and copper to enter drinking water. To assess corrosion of lead and copper, [name of supplier] conducts tap sampling for lead and copper at selected sites [insert frequency at which supplier conducts tap sampling]. [Name of supplier] treats water using [identify treatment method] to control corrosion, which was designated as the optimal corrosion control treatment by [the Agency or USEPA, as applicable]. To ensure the treatment is operating effectively, [name of supplier] monitors water quality parameters set by the [Agency or USEPA, as applicable] [insert frequency at which supplier conducts water quality parameter monitoring]. If applicable add: "[Name of supplier] is currently conducting a study of corrosion control to determine if any changes to treatment methods are needed to minimize the corrosivity of the water."

ii) For suppliers without Agency or USEPA designated Optimal Corrosion Control Treatment: Corrosion of pipes, plumbing fittings and fixtures may cause metals, including lead and copper, to enter drinking water. To assess corrosion of lead and copper, [name of supplier] conducts tap sampling for lead and copper at selected sites [insert frequency at which supplier conducts tap sampling]. If applicable, add: "[Name of supplier] treats water using [identify treatment method] to control corrosion. If applicable add: "[Name of supplier] is currently conducting

a study of corrosion control to determine if any changes to treatment methods are needed to minimize the corrosivity of the water.

E) The report must include a statement that the supplier is required to sample for lead in schools and licensed childcare facilities as requested by the facility and that directs the public to contact their school or childcare facility for further information about potential sampling results.

BOARD NOTE: This Section derives from 40 CFR 141.153.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.884 Required Additional Health Information

a) All reports must prominently display the following language: "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. USEPA or Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline (800-426-4791) or on USEPA's website epa.gov/safewater."

b) A supplier that detects arsenic above 0.005 mg/ L and up to and including 0.010 mg/ L must do the following:

1) The supplier must include in its report a short informational statement about arsenic, using the following language: "Arsenic is known to cause cancer in humans. Arsenic also may cause other health effects such as skin damage and circulatory problems. [NAME OF SUPPLIER] meets the USEPA arsenic drinking water standard, also known as a Maximum Contaminant Level (MCL). However, you should know that USEPA's MCL for arsenic balances the scientific community's understanding of arsenic-related health effects and ~~While your drinking water meets USEPA's standard for arsenic, it does contain low levels of arsenic. USEPA's standard balances the current understanding of arsenic's possible health effects against~~ the costs of removing arsenic from drinking water. The highest concentration of arsenic found in [YEAR] was [INSERT MAX ARSENIC LEVEL per Section 611.884(d)(4)(D) ppb. ~~USEPA continues to research the health~~

~~effects of low levels of arsenic, which is a naturally-occurring mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems."; or~~

2) May use an alternative educational statement in the CCR if approved by the Agency.~~The supplier may write its own educational statement, but only in consultation with the Agency~~.

c) A supplier that detects nitrate at levels above 5 mg/ L, but below the MCL, must do the following:

1) The supplier must include a short informational statement about the impacts of nitrate on children, using the following language: ~~"Nitrate in drinking water at~~ Even though [`NAME of SUPPLIER] meets USEPA nitrate drinking water standard, also known as Maximum Contaminant Level (MCL), if you are caring for an infant and using tap water to prepare formula, you may want to use alternate sources of water or ask for advice from your health care provider. Nitrate levels above 10 ppm pose~~is~~ a particularly high health concern~~risk~~ for infants under ~~of less than~~ six months of age ~~.~~and can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness. Symptoms of serious illness include shortness of breath and blueness of the skin, known as "blue baby syndrome." ~~High~~ Nitrate~~nitrate~~ levels in drinking water can ~~cause blue baby syndrome. Nitrate levels may rise quickly~~ increase for short periods of time due to high levels of ~~because of~~ rainfall or agricultural activity~~. If you are caring for an infant you should ask advice from your health care provider"; or~~ therefore we test for nitrate [INSERT APPLICABLE SAMPLING FREQUENCY]. The highest level for nitrate found during [YEAR] was [INSERT MAX NITRATE LEVEL per Section 611.883(d)(4)(D)] ppm.

2) The CWS supplier may write its own educational statement in the CCR, but only if approved by the ~~in consultation with the~~ Agency.

d) Every report must include the following lead-specific information:

1) A short informational statement about lead in drinking water and its effects on children. The statement must include the following information:

Lead can cause serious health effects in people of all ages ~~problems~~, especially for pregnant people, infants(both formula-fed and breastfed), ~~women~~ and young children. Lead in drinking water is primarily from materials and parts used in ~~components associated with~~ service lines and

in home plumbing. [INSERT NAME OF SUPPLIER] is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in the 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~~ Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. ~~Before drinking tap water~~, Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this 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 have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish~~, you may wish~~ to have your water tested, contact [INSERT NAME OF SUPPLIER~~UTILITY~~ and CONTACT INFORMATION]. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at: https://www.epa.gov/safewater/lead

2) A supplier may use an alternative~~write its own~~ educational statement in the CCR, if approved by ~~but only in consultation with~~ the Agency.

~~e) A CWS supplier that detects TTHM above 0.080 mg/L, but below the MCL in Section 611.312, as an annual average, monitored and calculated under the provisions of former Section 611.680, must include the health effects language prescribed by Appendix A of this Part.~~

~~BOARD NOTE: Former Section 611.680 originally derived from 40 CFR 141.30(a) and (b). USEPA removed 40 CFR 141.30 in its entirety in 2006. The Board repealed former Section 611.680 in 2012. The references to former Section 611.680 in this subsection (e) relate to use of existing monitoring data collected under those provisions as they existed before their repeal.~~

BOARD NOTE: This Section derives from 40 CFR 141.154.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.885 Report Delivery and Recordkeeping

a) Except as provided in subsection (g), each CWS must ~~mail or otherwise~~ directly deliver a~~one~~ copy of the report to each customer.

1) Suppliers must use at a minimum, one of the following forms of delivery:

A) Mail or hand deliver a paper copy of the report;

B) Mail a notification that the report is available on a website via a direct link;

C) Email a direct link or electronic version of the report; or

D) Another direct delivery method approved in writing by the primacy agency.

2) Suppliers using electronic delivery methods in subsection (a)(1)(B), (C), or (D) of this section must provide a paper copy of the report to any customer upon request. The notification method must prominently display directions for requesting such copy.

3) For suppliers that choose to electronically deliver the reports by posting the report to a website and providing a notification either by mail or email:

A) The report must be publicly available on the website at time notification is made;

B) Notifications must prominently display the link and include an explanation of the nature of the link; and

C) Suppliers may use a web page to convey the information required in Sections 611.883, 611.884, and 611.886.

4) Suppliers that use a publicly available website to provide reports must maintain public access to the report for no less than 3 years.

b) The CWS must make a good faith effort to reach consumers who do not get water bills, using a means approved by the Agency ~~by a SEP~~. A good faith effort to reach consumers includes a mix of methods to reach the broadest possible range of persons served by the supplier such as but not limited to: ~~the following:~~ Posting~~posting~~ the reports on the internet~~Internet~~, mailing reports or postcards with links to the reports to all service addresses or postal customers; using an opt in

notification system to send emails or texts with links to the reports to interested consumers; advertising the availability of the report in the news media and on social media~~,~~; publication in a local newspaper or ~~,~~newsletter; posting a copy of the report or notice of availability with the links or equivalent, such as Quick Response (QR) codes in public places such as cafeterias or lunch rooms of public buildings; delivery of multiple copies for distribution by single-biller customers such as apartment buildings or large private employers;~~or~~ delivery to community organizations; holding a public meeting to educate consumers on the reports.

1) Where a supplier is aware that it serves a substantial number of non-bill paying consumers, the supplier is encouraged to directly deliver the reports or notices of availability of the reports to service addresses.

2) Where a supplier is aware of a substantial number of bill-paying consumers without access to electronic forms of the report, the supplier should use at least one non-electronic form of delivery.

c) No later than 10 days after the date the CWS is required to distribute the report to its customers, each CWS must provide ~~mail~~ a copy of the report to the Agency, ~~followed within three months by~~ and a certification that the report(s)~~report~~ has/have~~has~~ been distributed to customers, and that the information is correct and consistent with the compliance monitoring data previously submitted to the Agency.

d) No later than the date the CWS is required to distribute the report to its customers, each CWS must deliver the report to any other agency or clearinghouse identified by the Agency.

e) Each CWS must make its reports available to the public upon request. Suppliers should make a reasonable effort to provide the reports in an accessible format to anyone who requests an accommodation.

f) Each CWS serving 50,000~~100,000~~ or more persons must post its current year's report to a publicly-accessible site on the internet~~Internet~~.

g) The Governor or their~~his~~ designee ~~may waive the requirement of subsection (a) for a CWS serving fewer than 10,000 persons.~~ or the Tribal Leader where the Tribe has met the eligibility requirements contained in 40 C.F.R. § 142.72 for the purposes of waiving the mailing requirement, can waive the requirement of subsection (a) for CWSs serving fewer than 10,000 persons. In consultation with the tribal government, the USEPA Regional Administrator may waive the requirement of Section 611.855(a) in areas in Indian country where no tribe has been deemed eligible.

1) TheSuch a CWS must do the following:

A) The CWS must publish the report in one or more local newspapers or on one or more local online news sites serving the county in which the CWS is located;

B) The CWS must inform the customers that the reportsreport will not be mailed, either in the newspapers in which the report is published or by other means approved by the Agency; and

C) The CWS must make the report available to the public upon request.

2) Systems serving fewer than 500 or fewer persons may forgo the requirements of subsections (g)(1)(A) and (g)(1)(B) if they provide notice that the report is available upon request at least once per year to their customers by mail, by door-to-door delivery, or by posting in a location approved by the Agency that the report is available upon request one or more locations where persons served by the supplier can reasonably be expected to see it.

h) Any system subject to this Subpart U must keep retain copies of its consumer confidence report for no less than three years.

i) Suppliers serving 100,000 or more persons, must develop a plan for providing assistance to consumers with limited English proficiency. The supplier must evaluate the languages spoken by persons with limited English proficiency served by the supplier, and the supplier's anticipated approach to address translation needs. The first plan must be provided to the Agency with the first report in 2027. Plans must be evaluated annually and updated as necessary and reported with the certification required in subsection (c).

j) Delivery timing and biannual delivery:

1) Each CWS must distribute reports by July 1 each year. Each report distributed by July 1 must use data collected during, or prior to, the previous calendar year using methods described in subsection (a).

2) Each CWS serving 10,000 or more persons must distribute the report biannually, or twice per calendar year, by December 31 using methods described in subsection (a).

3) Suppliers required to comply with subsection (j)(2), with a violation or action level exceedance that occurred between January 1 and June 30 of the

current year, or have received monitoring results from required monitoring under the Unregulated Contaminant Monitoring Rule in 40 C.F.R § 141.40, must include a 6-month update with the second report with the following:

A) A short description of the nature of the 6-month update and the biannual delivery.

B) If a supplier receives an MCL, MRDL, or treatment technique violation, the 6-month update must include the applicable contaminant section information in Section 611.883(d)(4), and a readily understandable explanation of the violation including: the length of the violation, the potential adverse health effects, actions taken by the supplier to address the violation, and timeframe the supplier expects to complete those actions. To describe the potential health effects, the supplier must use the relevant language of appendix A to this subpart.

C) If a supplier receives any other violation, the 6-month update must include the information in Section 611.883(f).

D) If a supplier exceeded the lead action level following monitoring conducted between January 1 and June 30 of the current year, the supplier must include information identified in Section 611.883(d)(4)(F) and (d)(8).

E) For suppliers monitoring under 40 C.F.R. § 141.40 that become aware of results for samples collected during the reporting year but were not included in the reports distributed by July 1, the supplier must include information as required by Section 611.883(d)(7).

BOARD NOTE: Derived from 40 CFR 141.155.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.886 Summary of Report Contents

a) Each report must include a summary displayed prominently at the beginning of the report, including a brief description of the nature of the report.

b) Suppliers must include, at a minimum, the following information in the summary:

1) Summary of violations and compliance information included in the report required by Section 611.883(d)(6) and (8), (f), and (h)(6) and (7).

2) Contact information for owner, operator, or supplier of the CWS as a source of additional information concerning the report, per Section 611.883(h)(2).

c) If applicable, suppliers must include the following in the summary:

1) For suppliers using delivery methods in Section 611.885(a)(1)(B), (C), or (D), the summary must include directions for consumers to request a paper copy of the report, as described in Section 611.885(a)(2).

2) For suppliers subject to Section 611.883(h)(3) because they serve a large proportion of consumers with limited English proficiency, the summary must include information where consumers may obtain a translated copy of the report, or get assistance in the appropriate language(s).

3) For suppliers using the report to also meet the public notification requirements of subpart V, the summary must specify that it is also serving to provide public notification of one or more violations or situations, provide a brief statement about the nature of the notice(s), and a brief description of how to locate the notice(s) in the report.

d) The summary should be written in plain language and may use infographics.

e) For those suppliers required to include a 6-month update with the second report under Section 611.885(j)(2), the summary should include a brief description of the nature of the report and update, noting the availability of new information for the current year (between January and June).

f) The report summary must include the following standard language to encourage the distribution of the report to all persons served:

Please share this information with anyone who drinks this water (or their guardians), especially those who may not have received this report directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this report in a public place or distributing copies by hand, mail, email, or another method.

BOARD NOTE: Derived from 40 CFR 141.156

(Source: Added at 50 Ill. Reg. _____, effective _____)

SUBPART V: PUBLIC NOTIFICATION OF DRINKING WATER VIOLATIONS

Section 611.901 General Public Notification Requirements

The requirements of this Subpart V replace former notice requirements.

a) Who Must Give Public Notice. Each owner or operator of a PWS (a CWS, an NTNCWS, or a transient non-CWS) must give notice for all violations of an NPDWR and for other situations, as listed in this subsection (a). The term "NPDWR violation" is used in this Subpart V to include violations of an MCL, an MRDL, a treatment technique, monitoring requirements, or a testing procedure ~~set forth~~ in this Part. Appendix G identifies the tier assignment for each specific violation or situation requiring a public notice.

1) NPDWR Violations

A) A failure to comply with an applicable MCL or MRDL.

B) A failure to comply with a prescribed treatment technique.

C) A failure to perform water quality monitoring, as required by this Part.

D) A failure to comply with testing procedures as prescribed by this Part.

2) Relief Equivalent to a Variance and Exemptions under Sections 1415 and 1416 of SDWA.

A) Operation under relief equivalent to a SDWA section 1415 variance, under Section 611.111, or a SDWA section 1416 exemption, under Section 611.112.

B) A failure to comply with the requirements of any schedule that has been set under relief equivalent to a SDWA section 1415 variance, under Section 611.111, or a SDWA section 1415 exemption, under Section 611.112.

3) Special Public Notices

A) The occurrence of a waterborne disease outbreak or other waterborne emergency.

B) An exceedance of the nitrate MCL by a non-CWS, if granted permission by the Agency under Section 611.300(d).

C) The notice required by Section 611.908 for an exceedance of 2 mg/

L fluoride (the federal secondary MCL for fluoride (see 40 CFR 143.3)).

BOARD NOTE: See the Board Note appended to Section 611.908 for explanation.

D) The availability of unregulated contaminant monitoring data collected as required by USEPA under 40 CFR 141.40.

E) Other violations and situations determined by the Agency in a SEP to require a public notice under this Subpart V, not already listed in Appendix G.

F) Exceeding the lead action level.

b) The Type of Public Notice Required for Each Violation or Situation. The public notice requirements of this Subpart V are divided into three tiers, to take into account the seriousness of the violation or situation and of any potential adverse health effects that may be involved. The public notice requirements for each violation or situation listed in subsection (a) are determined by the tier to which it is assigned. This subsection (b) provides the definition of each tier. Appendix G identifies the tier assignment for each specific violation or situation.

1) Tier 1 public notice: required for NPDWR violations and situations with significant potential to have serious adverse effects on human health as a result of short-term exposure.

2) Tier 2 public notice: required for all other NPDWR violations and situations with potential to have serious adverse effects on human health.

3) Tier 3 public notice: required for all other NPDWR violations and situations not included in Tier 1 and Tier 2.

c) Who Must Receive Notice

1) Each PWS supplier must provide public notice to persons served by the water supplier under this Subpart V. A PWS supplier that sells or otherwise provides drinking water to another PWS supplier (i.e., to a consecutive system) is required to give public notice to the owner or operator of the consecutive system; the consecutive system supplier is responsible for providing public notice to the persons it serves.

2) If a PWS supplier has a violation in a portion of the distribution system that is physically or hydraulically isolated from other parts of the

distribution system, the Agency may allow the system to limit distribution of the public notice to only persons served by that portion of the system that is out of compliance. The Agency must issue a SEP when allowing the supplier to limit distributing notice.

3) The supplier must also submit a copy of the notice to the Agency and the Administrator (for exceeding the lead action level) under Section 611.840(d).

BOARD NOTE: This Section derives from 40 CFR 141.201.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.902 Tier 1 Public Notice: Form, Manner, and Frequency of Notice

a) Violations or Situations That Require a Tier 1 Public Notice. This subsection (a) lists the violation categories and other situations requiring a Tier 1 public notice. Appendix G identifies the tier assignment for each specific violation or situation. The violation categories include:

1) Violation of the MCL for E. coli (as specified in Section 611.325(c)).

2) Violation of the MCL for nitrate, nitrite, or total nitrate and nitrite, as defined in Section 611.301, or when the water supplier fails to take a confirmation sample within 24 hours after the supplier's receipt of the results from the first sample showing an exceedance of the nitrate or nitrite MCL, as specified in Section 611.606(b).

3) Exceedance of the nitrate MCL by a non-CWS supplier, if permitted to exceed the MCL by the Agency under Section 611.300(d), as required under Section 611.909.

4) Violation of the MRDL for chlorine dioxide, as defined in Section 611.313(a), when one or more samples taken in the distribution system the day following an exceedance of the MRDL at the entrance of the distribution system exceed the MRDL, or when the water supplier does not take the required samples in the distribution system, as specified in Section 611.383(c)(2)(A).

5) This subsection (a)(5) refers to a violation of the former turbidity standard of Section 611.320, which the Board repealed because it applied to no suppliers in Illinois. This statement maintains structural consistency with the federal regulations.

6) Violation of the Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR), or Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit (as identified in Appendix G), if the Agency determines after consultation that a Tier 1 public notice is required or if consultation does not take place within 24 hours after the supplier learns of the violation.

7) Occurrence of a waterborne disease outbreak, as defined in Section 611.101, or other waterborne emergency (such as a 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).

8) Detection of E. coli, enterococci, or coliphage in source water samples, as specified in Section 611.802(a) and (b).

9) Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the Agency in a SEP.

10) Exceeding the lead action level, as Section 141.80(c) specifies.

b) When the Tier 1 Public Notice Is to Be Provided. Additional Steps Required. A PWS supplier must do the following:

1) It must provide a public notice as soon as practical but no later than 24 hours after the supplier learns of the violation or situation requiring Tier 1 public notice;

2) It must initiate consultation with the Agency as soon as practical, but no later than 24 hours after the PWS supplier learns of the violation or situation, to determine additional public notice requirements; and

3) It must comply with any additional public notification requirements (including any repeat notices or direction on the duration of the posted notices) that are established as a result of the consultation with the Agency. The~~Such~~ requirements may include the timing, form, manner, frequency, and content of repeat notices (if any) and other actions designed to reach all persons served.

c) The Form and Manner of the Public Notice. A PWS supplier must provide the notice within 24 hours in a form and manner reasonably calculated to reach all persons served. The form and manner used by the PWS supplier are to fit the specific situation, but must be designed to reach residential, transient, and non-transient users of the water system. In order to reach all persons served, a water supplier is to use, at a minimum, one or more of the following forms of delivery:

1) Appropriate broadcast media (such as radio and television);

2) Posting of the notice in conspicuous locations throughout the area served by the water supplier;

3) Hand delivery of the notice to persons served by the water supplier; or

4) Another delivery method approved in writing by the Agency in a SEP.

BOARD NOTE: This Section derives from 40 CFR 141.202.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.903 Tier 2 Public Notice: Form, Manner, and Frequency of Notice

a) Violations or Situations That Require a Tier 2 Public Notice. This subsection (a) lists the violation categories and other situations requiring a Tier 2 public notice. Appendix G identifies the tier assignment for each specific violation or situation.

1) All violations of the MCL, MRDL, and treatment technique requirements, except if a Tier 1 notice is required under Section 611.902(a) or if the Agency determines by a SEP that a Tier 1 notice is required.

2) Violations of the monitoring and testing procedure requirements, if the Agency determines by a SEP that a Tier 2 rather than a Tier 3 public notice is required, taking into account potential health impacts and persistence of the violation.

3) Failure to comply with the terms and conditions of any relief equivalent to a SDWA section 1415 variance or a SDWA section 1416 exemption in place.

4) Failure to take corrective action or failure to maintain at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer under Section 611.803(a).

b) When Tier 2 Public Notice Is to Be Provided

1) A PWS supplier must provide the public notice as soon as practical, but no later than 30 days after the supplier learns of the violation. If the public notice is posted, the notice must remain in place for as long as the violation or situation persists, but in no case for less than seven days, even if the violation or situation is resolved. The Agency may, in appropriate circumstances, by a SEP, allow additional time for the initial notice of up to three months from the date the supplier learns of the violation. It is not appropriate for the Agency to grant an extension to the 30-day deadline for any unresolved violation or to allow across-the-board extensions by rule or policy for other violations or situations requiring a Tier 2 public notice. Extensions granted by the Agency must be in writing.

2) The PWS supplier must repeat the notice every three months as long as the violation or situation persists, unless the Agency determines that appropriate circumstances warrant a different repeat notice frequency. In no circumstance may the repeat notice be given less frequently than once per year. It is not appropriate for the Agency to allow less frequent repeat notice for an MCL or treatment technique violation under the Total Coliform Rule or Subpart AA or a treatment technique violation under the Surface Water Treatment Rule or Interim Enhanced Surface Water Treatment Rule. It is also not appropriate for the Agency to allow across-the-board reductions in the repeat notice frequency for other ongoing violations requiring a Tier 2 repeat notice. An Agency determination allowing repeat notices to be given less frequently than once every three months must be in writing.

3) For the turbidity violations specified in this subsection (b)(3), a PWS supplier must consult with the Agency as soon as practical but no later than 24 hours after the supplier learns of the violation, to determine whether a Tier 1 public notice under Section 611.902(a) is required to protect public health. When consultation does not take place within the 24-hour period, the supplier ~~water system~~ must distribute a Tier 1 notice of the violation within the next 24 hours (i.e., no later than 48 hours after the supplier learns of the violation), following the requirements under Section 611.902(b) and (c). Consultation with the Agency is required for the following:

A) Violation of the turbidity MCL under Section 611.320(b); or

B) Violation of the SWTR, IESWTR, or treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit.

c) The Form and Manner of Tier 2 Public Notice. A PWS supplier must provide the initial public notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it must at a minimum meet the following requirements:

1) Unless directed otherwise by the Agency in writing, by a SEP, a CWS supplier must provide notice by the following:

A) Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the PWS supplier; and

B) Any other method reasonably calculated to reach other persons regularly served by the supplier, if they would not normally be reached by the notice required in subsection (c)(1)(A). The~~Such~~ persons may include those who do not pay water bills or do not have service connection addresses (e.g., house renters, apartment dwellers, university students, nursing home patients, prison inmates, etc.). Other methods may include: Publication in a local newspaper; delivery of multiple copies for distribution by customers that provide their drinking water to others (e.g., apartment building owners or large private employers); posting in public places served by the supplier or on the Internet; or delivery to community organizations.

2) Unless directed otherwise by the Agency in writing, by a SEP, a non-CWS supplier must provide notice by the following means:

A) Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the supplier, or by mail or direct delivery to each customer and service connection (if known); and

B) Any other method reasonably calculated to reach other persons served by the system if they would not normally be reached by the notice required in subsection (c)(2)(A). The~~Such~~ persons may include those served who may not see a posted notice because the posted notice is not in a location they routinely pass by. Other methods may include the following: Publication in a local newspaper or newsletter distributed to customers; use of E-mail to notify employees or students; or delivery of multiple copies in central locations (e.g., community centers).

BOARD NOTE: Derived from 40 CFR 141.203.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.904 Tier 3 Public Notice: Form, Manner, and Frequency of Notice

a) Violations or Situations That Require a Tier 3 Public Notice. This subsection (a) lists the violation categories and other situations requiring a Tier 3 public notice. Appendix G identifies the tier assignment for each specific violation or situation.

1) Monitoring violations under this Part, except if a Tier 1 notice is required under Section 611.902(a) or if the Agency determines by a SEP that a Tier 2 notice is required;

2) Failure to comply with a testing procedure established in this Part, except if a Tier 1 notice is required under Section 611.902(a) or if the Agency determines by a SEP that a Tier 2 notice is required;

3) Operation under relief equivalent to a SDWA section 1415 variance granted under Section 611.111 or relief equivalent to a SDWA section 1416 exemption granted under Section 611.112;

4) Availability of unregulated contaminant monitoring results, as required under Section 611.907;

5) The notice for an exceedance of 2 mg/ℓ fluoride (the federal secondary MCL for fluoride (see 40 CFR 143.3)), as required under Section 611.908; and

BOARD NOTE: See the Board Note appended to Section 611.908 for explanation.

6) Reporting and recordkeeping violations under Subpart AA.

b) When the Tier 3 Public Notice Is To Be Provided

1) A PWS supplier must provide the public notice not later than one year after the supplier learns of the violation or situation or begins operating under relief equivalent to a SDWA section 1415 variance or section 1416 exemption. Following the initial notice, the supplier must repeat the notice annually for as long as the violation, relief equivalent to a SDWA section 1415 variance or section 1416 exemption, or other situation persists. If the public notice is posted, the notice must remain in place for

as long as the violation, relief equivalent to a SDWA section 1415 variance or section 1416 exemption, or other situation persists, but in no case less than seven days (even if the violation or situation is resolved).

2) Instead of individual Tier 3 public notices, a PWS supplier may use an annual report detailing all violations and situations that occurred during the previous twelve months, as long as the timing requirements of subsection (b)(1) are met.

c) The Form and Manner of the Tier 3 Public Notice. A PWS supplier must provide the initial notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it must at a minimum meet the following requirements:

1) Unless directed otherwise by the Agency by a SEP in writing, a CWS supplier must provide notice by the following:

A) Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the supplier; and

B) Any other method reasonably calculated to reach other persons regularly served by the supplier, if they would not normally be reached by the notice required in subsection (c)(1)(A). The~~Such~~ persons may include those who do not pay water bills or do not have service connection addresses (e.g., house renters, apartment dwellers, university students, nursing home patients, prison inmates, etc.). Other methods may include the following: publication in a local newspaper; delivery of multiple copies for distribution by customers that provide their drinking water to others (e.g., apartment building owners or large private employers); posting in public places or on the Internet; or delivery to community organizations.

2) Unless directed otherwise by the Agency by a SEP in writing, a non-CWS supplier must provide notice by the following:

A) Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the supplier, or by mail or direct delivery to each customer and service connection (if known); and

B) Any other method reasonably calculated to reach other persons served by the supplier, if they would not normally be reached by the notice required in subsection (c)(2)(A). The~~Such~~ persons may include those who may not see a posted notice because the notice is not in a location they routinely pass by. Other methods may include the following: publication in a local newspaper or newsletter distributed to customers; use of E-mail to notify employees or students; or delivery of multiple copies in central locations (e.g., community centers).

d) When the Consumer Confidence Report May Be Used to Meet the Tier 3 Public Notice Requirements. For a CWS supplier, the Consumer Confidence Report (CCR) required under Subpart U may be used as a vehicle for the initial Tier 3 public notice and all required repeat notices, as long as the following is true:

1) The CCR is provided to persons served no later than 12 months after the supplier learns of the violation or situation as required under Section 611.904(b);

2) The Tier 3 notice contained in the CCR follows the content requirements under Section 611.905; and

3) The CCR is distributed following the delivery requirements under Section 611.904(c).

BOARD NOTE: Derived from 40 CFR 141.204.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.908 Special Notice for Exceedance of the Fluoride Secondary Standard

a) When to Give Special Notice. A CWS supplier that exceeds the federal fluoride secondary MCL of 2 mg/ℓ (see 40 CFR 143.3)) (determined by the last single sample taken in compliance~~accordance~~ with Section 611.603), but does not exceed the maximum contaminant level (MCL) of 4 mg/ℓ for fluoride (as specified in Section 611.301), must provide the public notice in subsection (c) to persons served. Public notice must be provided as soon as practical but no later than 12 months from the day the supplier learns of the exceedance. A copy of the notice must also be sent to all new billing units and new customers at the time service begins and to the Department of Public Health. The PWS supplier must repeat the notice at least annually for as long as the SMCL is exceeded. If the public notice is posted, the notice must remain in place for as long as the fluoride SMCL is exceeded, but in no case less than seven days (even if the exceedance is

eliminated). On a case-by-case basis, the Agency may require an initial notice sooner than 12 months and repeat notices more frequently than annually.

BOARD NOTE: The federal regulations provide at 40 CFR 143.1 that secondary MCLs relate to the aesthetic qualities of water; they are not enforceable standards. The National Primary Drinking Water Regulations, however, include an enforceable requirement, at corresponding 40 CFR 141.208, that requires public notice upon exceedance of the secondary MCL for fluoride.

b) The Form and Manner of a Special Notice. The form and manner of the public notice (including repeat notices) must follow the requirements for a Tier 3 public notice in Section 611.904(c), (d)(1), and (d)(3).

c) Mandatory Language in a Special Notice. The notice must contain the following language, including the language necessary to fill in the blanks:

> This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/ℓ) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by your community water system (name) has a fluoride concentration of (insert value) mg/ℓ. Dental fluorosis, in its moderate or severe forms, may result in a brown staining or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.
>
> Drinking water containing more than 4 mg/ℓ of fluoride (the USEPA's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/ℓ of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/ℓ because of this cosmetic dental problem.
>
> For more information, please call (name of water system contact) of (name of community water system) at (phone number). Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.

BOARD NOTE: Derived from 40 CFR 141.208.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART W: INITIAL DISTRIBUTION SYSTEM EVALUATION

Section 611.921 Standard Monitoring

a) Standard Monitoring Plan. A supplier's standard monitoring plan must comply with subsections (a)(1) through (a)(4). The supplier must prepare and submit its standard monitoring plan to the Agency according to the appropriate of the schedules provided in Section 611.920(c).

1) The supplier's standard monitoring plan must include a schematic of its distribution system (including distribution system entry points and their sources, and storage facilities), with notes indicating locations and dates of all projected standard monitoring, and all projected Subpart I compliance monitoring.

2) The supplier's standard monitoring plan must include justification of standard monitoring location selection and a summary of data the supplier relied on to justify standard monitoring location selection.

3) The supplier's standard monitoring plan must specify the population served and its system type (i.e., that it is a Subpart B or groundwater system).

4) The supplier must keep~~retain~~ a complete copy of its standard monitoring plan submitted under this subsection (a), including any Agency modification of the plan, for as long as the supplier is required to keep~~retain~~ its IDSE report under subsection (c)(4).

b) Standard Monitoring

1) The supplier must monitor as indicated in the applicable of subsections (b)(1)(A) through (b)(1)(P), subject to the limitations of subsections (b)(1)(Q) and (b)(1)(R). The supplier must collect dual sample sets at each monitoring location. One sample in the dual sample set must be analyzed for TTHM. The other sample in the dual sample set must be analyzed for HAA5. The supplier must conduct one monitoring period during the peak historical month for TTHM levels or HAA5 levels or the month of warmest water temperature. The supplier must review available

compliance, study, or operational data to determine the peak historical month for TTHM or HAA5 levels or warmest water temperature.

A) A Subpart B system supplier that serves fewer than 500 persons and that operates a consecutive system must collect samples once each calendar year during the peak historical month: one near an entry point to the distribution system and one at a high TTHM location, for a total of two samples during each monitoring period.

B) A Subpart B system supplier that serves fewer than 500 persons and that does not operate a consecutive system must collect samples once each calendar year during the peak historical month: one at a high TTHM location and one at a high HAA5 location, for a total of two samples during each monitoring period.

C) A Subpart B system supplier that serves 500 to 3,300 persons and that operates a consecutive system must collect samples four times each calendar year (once every 90 days): one near an entry point to the distribution system and one at a high TTHM location, for a total of two samples during each monitoring period.

D) A Subpart B system supplier that serves 500 to 3,300 persons and that does not operate a consecutive system must collect samples four times each calendar year (once every 90 days): one at a high TTHM location and one at a high HAA5 location, for a total of two samples during each monitoring period.

E) A Subpart B system supplier that serves 3,301 to 9,999 persons must collect samples four times each calendar year (once every 90 days): one at a location in the distribution system that represents the average residence time, two at high TTHM locations, and one at a high HAA5 location, for a total of four samples during each monitoring period.

F) A Subpart B system supplier that serves 10,000 to 49,999 persons must collect samples six times each calendar year (once every 60 days): one near an entry point to the distribution system, two at locations in the distribution system that represent the average residence time, three at each TTHM location, and two at high HAA5 locations, for a total of eight samples during each monitoring period.

G) A Subpart B system supplier that serves 50,000 to 249,999 persons must collect samples six times each calendar year (once every 60

days): three near entry points to the distribution system, four at locations in the distribution system that represent the average residence time, five at high TTHM locations, and four at high HAA5 locations, for a total of 16 samples during each monitoring period.

H) A Subpart B system supplier that serves 250,000 to 999,999 persons must collect samples six times each calendar year (once every 60 days): four near entry points to the distribution system, six at locations in the distribution system that represent the average residence time, eight at high TTHM locations, and six at high HAA5 locations, for a total of 24 samples during each monitoring period.

I) A Subpart B system supplier that serves 1,000,000 to 4,999,999 persons must collect samples six times each calendar year (once every 60 days): six near entry points to the distribution system, eight at locations in the distribution system that represent the average residence time, ten at high TTHM locations, and eight at high HAA5 locations, for a total of 32 samples during each monitoring period.

J) A Subpart B system supplier that serves 5,000,000 or more persons must collect samples six times each calendar year (once every 60 days): eight near entry points to the distribution system, ten at locations in the distribution system that represent the average residence time, 12 at high TTHM locations, and ten at high HAA5 locations, for a total of 40 samples during each monitoring period.

K) A groundwater system supplier that serves fewer than 500 persons and that operates a consecutive system must collect samples once each calendar year during the peak historical month: one near an entry point to the distribution system and one at a high TTHM location, for a total of two samples during each monitoring period.

L) A groundwater system supplier that serves fewer than 500 persons and that does not operate a consecutive system must collect samples once each calendar year during the peak historical month: one at a high TTHM location and one at a high HAA5 location, for a total of two samples during each monitoring period.

M) A groundwater system supplier that serves 500 to 9,999 persons must collect samples four times each calendar year (once every 90

days): one at a high TTHM location and one at a high HAA5 location, for a total of two samples during each monitoring period.

N) A groundwater system supplier that serves 10,000 to 99,999 persons must collect samples four times each calendar year (once every 90 days): one near an entry point to the distribution system, one at a location in the distribution system that represents the average residence time, two at high TTHM locations, and two at high HAA5 locations, for a total of six samples during each monitoring period.

O) A groundwater system supplier that serves 100,000 to 499,999 persons must collect samples four times each calendar year (once every 90 days): one near an entry point to the distribution system, one at a location in the distribution system that represents the average residence time, three at high TTHM locations, and three at high HAA5 locations, for a total of eight samples during each monitoring period.

P) A groundwater system supplier that serves 500,000 or more persons must collect samples four times each calendar year (once every 90 days): two near an entry point to the distribution system, two at locations in the distribution system that represent the average residence time, four at high TTHM locations, and four at high HAA5 locations, for a total of 12 samples during each monitoring period.

Q) A dual sample set (i.e., a TTHM and an HAA5 sample) must be taken at each monitoring location during each monitoring period.

R) The "peak historical month", for the purposes of subsections (b)(1)(A), (b)(1)(B), (b)(1)(K), and (b)(1)(L), means the month with the highest TTHM or HAA5 levels or the warmest water temperature.

2) The supplier must take samples at locations other than the existing Subpart I monitoring locations. Monitoring locations must be distributed throughout the distribution system.

3) If the number of entry points to the distribution system is fewer than the specified number of entry point monitoring locations, excess entry point samples must be equally replaced at high TTHM and HAA5 locations. If there is an odd extra location number, the supplier must take a sample at a high TTHM location. If the number of entry points to the distribution

system is more than the specified number of entry point monitoring locations, the supplier must take samples at the entry points to the distribution system that have the highest annual water flows.

4) The supplier's monitoring under this subsection (b) may not be reduced under the provisions of Section 611.500, and the Agency may not reduce the supplier's monitoring using the provisions of Section 611.161.

c) IDSE Report. A supplier's IDSE report must include the elements required in subsections (c)(1) through (c)(4). The supplier must submit its IDSE report to the Agency according to the applicability~~applicable~~ of the schedules ~~set forth~~ in Section 611.920(c).

1) The supplier's IDSE report must include all TTHM and HAA5 analytical results from Subpart I compliance monitoring and all standard monitoring conducted during the period of the IDSE as individual analytical results and LRAAs presented in a tabular or spreadsheet format acceptable to the Agency. If changed from the supplier's standard monitoring plan submitted under subsection (a), the supplier's report must also include a schematic of the supplier's distribution system, the population served, and system type (Subpart B system or groundwater system).

2) The supplier's IDSE report must include an explanation of any deviations from the supplier's approved standard monitoring plan.

3) The supplier must recommend and justify Subpart Y compliance monitoring locations and timing based on the protocol in Section 611.925.

4) The supplier must keep~~retain~~ a complete copy of its IDSE report submitted under this Section for ten years after the date on which the supplier submitted the supplier's report. If the Agency modifies the Subpart Y monitoring requirements that the supplier recommended in its IDSE report or if the Agency approves alternative monitoring locations under Section 611.161, the supplier must keep a copy of the Agency's notification on file for ten years after the date of the Agency's notification. The supplier must make the IDSE report and any Agency notification available for review by the Agency or the public.

BOARD NOTE: Derived from 40 CFR 141.601.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.922 System-Specific Studies

a) System-Specific Study Plan. A supplier's system-specific study plan must be based on either existing monitoring results, as required under subsection (a)(1), or modeling, as required under subsection (a)(2). The supplier must prepare and submit the supplier's system-specific study plan to the Agency according to the schedule in Section 611.920(c).

1) Existing Monitoring Results. A supplier may comply by submitting monitoring results collected before it is required to begin monitoring under Section 611.920(c). The monitoring results and analysis must meet the criteria in subsections (a)(1)(A) and (a)(1)(B).

A) Minimum Requirements

i) TTHM and HAA5 results must be based on samples collected and analyzed in compliance~~accordance~~ with Section 611.381. Samples must be collected no earlier than five years prior to the study plan submission date.

ii) The monitoring locations and frequency must meet the conditions identified in the applicable of subsections (a)(1)(A)(iii) through (a)(1)(A)(xv). Each location must be sampled once during the peak historical month for TTHM levels or HAA5 levels or the month of warmest water temperature for every 12 months of data submitted for that location. Monitoring results must include all Subpart I compliance monitoring results, plus additional monitoring results as necessary to meet minimum sample requirements.

iii) A Subpart B system supplier that serves fewer than 500 persons must collect samples from three monitoring locations: three samples for TTHM and three samples for HAA5.

iv) A Subpart B system supplier that serves 500 to 3,300 persons must collect samples from three monitoring locations: nine samples for TTHM and nine samples for HAA5.

v) A Subpart B system supplier that serves 3,301 to 9,999 persons must collect samples from six monitoring locations: 36 samples for TTHM and 36 samples for HAA5.

vi) A Subpart B system supplier that serves 10,000 to 49,999 persons must collect samples from each of 12 monitoring locations: 72 samples for TTHM and 72 samples for HAA5.

vii) A Subpart B system supplier that serves 50,000 to 249,999 persons must collect samples from 24 monitoring locations: 144 samples for TTHM and 144 samples for HAA5.

viii) A Subpart B system supplier that serves 250,000 to 999,999 persons must collect samples from 36 monitoring locations: 216 samples for TTHM and 216 samples for HAA5.

ix) A Subpart B system supplier that serves 1,000,000 to 4,999,999 persons must collect samples from 48 monitoring locations: 288 samples for TTHM and 288 samples for HAA5.

x) A Subpart B system supplier that serves 5,000,000 or more persons must collect samples from 60 monitoring locations: 360 samples for TTHM and 360 samples for HAA5.

xi) A groundwater system supplier that serves fewer than 500 persons must collect samples from three monitoring locations: three samples for TTHM and three samples for HAA5.

xii) A groundwater system supplier that serves 500 to 9,999 persons must collect samples from three monitoring locations: nine samples for TTHM and nine samples for HAA5.

xiii) A groundwater system supplier that serves 10,000 to 99,999 persons must collect samples from 12 monitoring locations: 48 samples for TTHM and 48 samples for HAA5.

xiv) A groundwater system supplier that serves 100,000 to 499,999 persons must collect samples from 18 monitoring locations: 72 samples for TTHM and 72 samples for HAA5.

xv) A groundwater system supplier that serves 500,000 or more persons must collect samples from 24 monitoring locations: 96 samples for TTHM and 96 samples for HAA5.

B) Reporting Monitoring Results. A supplier must report the following information:

i) The supplier must report previously collected monitoring results and certify that the reported monitoring results include all compliance and noncompliance results generated during the time period that began with the first reported result and that ended with the most recent Subpart I results;

ii) The supplier must certify that the samples were representative of the entire distribution system and treatment and that the distribution system and treatment have not changed significantly since the samples were collected;

iii) The supplier's study monitoring plan must include a schematic of its distribution system (including distribution system entry points and their sources and storage facilities in the system), with notes indicating the locations and dates of all completed or planned system-specific study monitoring;

iv) The supplier's system-specific study plan must specify the population served and its system type (i.e., that it is a Subpart B or groundwater system);

v) The supplier must keep~~retain~~ a complete copy of its system-specific study plan submitted under this subsection (a)(1), including any Agency modification of the supplier's system-specific study plan, for as long as the supplier is required to keep~~retain~~ its IDSE report under subsection (b)(5); and

vi) If the supplier submits previously collected data that fully meet the number of samples required under subsection (a)(1)(A)(ii), and the Agency rejects some of the data in writing, by a SEP, the supplier must either conduct additional monitoring to replace rejected data on a schedule

approved by the Agency in the SEP, or it must conduct standard monitoring under Section 611.921.

2) Modeling. A supplier may comply through analysis of an extended-period simulation hydraulic model. The extended-period simulation hydraulic model and analysis must meet the following criteria:

A) Minimum Extended-Period Hydraulic Model Requirements

i) The extended-period hydraulic model must simulate 24-hour variation in demand and show a consistently repeating 24-hour pattern of residence time.

ii) The extended-period hydraulic model must represent the criteria listed in subsection (a)(2)(D).

BOARD NOTE: This subsection (a)(2)(A)(ii) is derived from 40 CFR 141.602(a)(2)(i)(B). The Board has codified 40 CFR 141.602(a)(2)(i)(B)(*1*) through (a)(2)(i)(B)(*9*) as subsections (a)(2)(D)(i) through (a)(2)(D)(ix) to comport with Illinois Administrative Code codification requirements.

iii) The extended-period hydraulic model must be calibrated or have calibration plans for the current configuration of the distribution system during the period of high TTHM formation potential. All storage facilities in the system must be evaluated as part of the calibration process. All required calibration must be completed no later than 12 months after the supplier has submitted the plan.

B) Reporting Modeling. The supplier's system-specific study plan must include the information described in subsections (a)(2)(B)(i) through (a)(2)(B)(vii), subject to the requirements of subsection (a)(2)(B)(vii).

i) Tabular or spreadsheet data demonstrating that the model meets requirements in subsections (a)(2)(A)(ii) and (a)(2)(D).

ii) A description of all calibration activities undertaken and, if calibration is complete, a graph of predicted tank levels versus measured tank levels for the system storage facility with the highest residence time in each pressure zone, and a time-series graph of the residence time at the longest residence time storage facility in the distribution system showing the predictions for the entire simulation period (i.e., from time zero until the time it takes

for the model to reach a consistently repeating pattern of residence time).

iii) Model output showing preliminary 24-hour average residence time predictions throughout the distribution system.

iv) The timing and the number of samples representative of the distribution system planned for at least one monitoring period of TTHM and HAA5 dual-sample monitoring at a number of locations no fewer than would be required for the system under standard monitoring in Section 611.921 during the historical month of high TTHM. These samples must be taken at locations other than existing Subpart I compliance monitoring locations.

v) A description of how all requirements will be completed no later than 12 months after the supplier submits the supplier's system-specific study plan.

vi) A schematic of the supplier's distribution system (including distribution system entry points and their sources and system storage facilities), with notes indicating the locations and dates of all completed system-specific study monitoring (if calibration is complete) and all Subpart I compliance monitoring.

vii) The population served and system type (i.e., that it is a Subpart B or groundwater system).

viii) The supplier must keep~~retain~~ a complete copy of the supplier's system-specific study plan submitted under this subsection (a)(2), including any Agency modification of the supplier's system-specific study plan, for as long as the supplier is required to keep~~retain~~ the supplier's IDSE report under subsection (b)(7).

C) If the supplier submits a model that does not fully meet the requirements under subsection (a)(2), the supplier must correct the Agency-cited deficiencies and respond to Agency inquiries concerning the model. If the supplier fails to correct deficiencies or respond to inquiries to the Agency's satisfaction, the supplier must conduct standard monitoring under Section 611.921.

D) The extended-period hydraulic model must represent the following criteria:

i) 75 percent of pipe volume;

ii) 50 percent of pipe length;

iii) All pressure zones;

iv) All 12-inch diameter and larger pipes;

v) All eight-inch and larger pipes that connect pressure zones, influence zones from different sources, storage facilities, major demand areas, pumps, and control valves or that are known or expected to be significant conveyors of water;

vi) All six-inch and larger pipes that connect remote areas of a distribution system to the main portion of the system;

vii) All storage facilities with standard operations represented in the model;

viii) All active pump stations with controls represented in the model; and

ix) All active control valves.

BOARD NOTE: This subsection (a)(2)(D) is derived from 40 CFR 141.602(a)(2)(i)(B). The Board has codified 40 CFR 141.602(a)(2)(i)(B)(*1*) through (a)(2)(i)(B)(*9*) as subsections (a)(2)(D)(i) through (a)(2)(D)(ix) to comport with Illinois Administrative Code codification requirements.

b) IDSE Report. The supplier's IDSE report must include the elements required in subsections (b)(1) through (b)(6). The supplier must submit its IDSE report according to the applicable of the schedules in Section 611.920(c).

1) The supplier's IDSE report must include all TTHM and HAA5 analytical results from Subpart I compliance monitoring and all system-specific study monitoring conducted during the period of the system-specific study presented in a tabular or spreadsheet format acceptable to the Agency. If changed from the supplier's system-specific study plan submitted under subsection (a), the supplier's IDSE report must also include a schematic of its distribution system, the population served, and system type (i.e., that it is a Subpart B or groundwater system).

2) If the supplier used the modeling provision under subsection (a)(2), it must include final information for the elements described in subsection

(a)(2)(B), and a 24-hour time-series graph of residence time for each Subpart Y compliance monitoring location selected.

3) The supplier must recommend and justify Subpart Y compliance monitoring locations and timing based on the protocol in Section 611.925.

4) The supplier's IDSE report must include an explanation of any deviations from its approved system-specific study plan.

5) The supplier's IDSE report must include the basis (analytical and modeling results) and justification that it used to select the recommended Subpart Y monitoring locations.

6) The supplier may submit its IDSE report in lieu of its system-specific study plan on the schedule identified in Section 611.920(c) for submission of the system-specific study plan if the supplier believes that it has the necessary information before the time that the system-specific study plan is due. If the supplier elects this approach, its IDSE report must also include all information required under subsection (a).

7) The supplier must keep~~retain~~ a complete copy of its IDSE report submitted under this Section for ten years after the date that the supplier submitted its IDSE report. If the Agency modifies the Subpart Y monitoring requirements that the supplier recommended in the supplier's IDSE report or if the Agency approves alternative monitoring locations, the supplier must keep a copy of the Agency's notification on file for ten years after the date of the Agency's notification. The supplier must make the IDSE report and any Agency notification available for review by the Agency or the public.

BOARD NOTE: Derived from 40 CFR 141.602.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.923 40/30 Certification

a) Eligibility. A supplier was eligible for 40/30 certification if it had no TTHM or HAA5 monitoring violations under Subpart I and no individual sample exceeded 0.040 mg/ L for TTHM or 0.030 mg/ L for HAA5 during an eight consecutive calendar quarter period implementing this Subpart W. Eligibility for 40/30 certification required eight consecutive calendar quarters of Subpart I compliance monitoring results, unless the supplier was on reduced monitoring under Subpart I and needed not monitor. If the supplier did not monitor, the supplier was to base its eligibility on compliance samples during the preceding 12 months.

BOARD NOTE: Implementing this Subpart W occurred in stages from October 1, 2006 through October 1, 2014. The monitoring for 40/30 certification began either January 2004 or January 2005, depending on population served and other factors. See 40 CFR 141.600(c) and 141.603(a). The Board removed the now-obsolete implementation dates.

b) 40/30 Certification

1) A supplier was to certify to the Agency that no compliance sample under Subpart I during the applicable period under subsection (a) exceeded 0.040 mg/ L for TTHM or 0.030 mg/ L for HAA5, and the supplier had no TTHM or HAA5 monitoring violations during the period under subsection (a).

2) The Agency could require the supplier to submit compliance monitoring results, distribution system schematics, or recommended Subpart Y compliance monitoring locations in addition to the supplier's certification. If the supplier failed to submit the Agency-requested information, the Agency could require standard monitoring under Section 611.921 or a system-specific study under Section 611.922.

3) The Agency could still require standard monitoring under Section 611.921 or a system-specific study under Section 611.922 even if the supplier met the criteria in subsection (a).

4) The supplier was to keep~~retain~~ a complete copy of its certification under this Section for ten years after submitting it to the Agency. The supplier was to make the certification, all data upon which it based the certification, and any Agency notification available for Agency or public review.

BOARD NOTE: This Section derives from 40 CFR 141.603. Although this Section is an implementing provision with compliance deadlines long past, the Board removed the obsolete compliance dates but retained the rule in past-tense to avoid a gap in the Illinois rules.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.925 Subpart Y Compliance Monitoring Location Recommendations

a) A supplier's IDSE report must include its recommendations and justification for where and during what months it will conduct TTHM and HAA5 monitoring for Subpart Y. The supplier must base its recommendations on the criteria ~~set forth~~ in subsections (b) through (e).

b) The supplier must select the number of monitoring locations specified in the applicable of subsections (b)(1) through (b)(13), subject to the limitations of subsections (b)(14) and (b)(15). The supplier will use these recommended locations as Subpart Y routine compliance monitoring locations, unless the Agency requires different or additional locations. The supplier should distribute locations throughout the distribution system to the extent possible.

1) A Subpart B system supplier that serves fewer than 500 persons must annually collect samples from two monitoring locations: one sample from the highest TTHM location and one sample from the highest HAA5 location.

2) A Subpart B system supplier that serves 500 to 3,300 persons must quarterly collect samples from two monitoring locations: one sample from the highest TTHM location and one sample from the highest HAA5 location.

3) A Subpart B system supplier that serves 3,301 to 9,999 persons must quarterly collect samples from two monitoring locations: one sample from the highest TTHM location and one sample from the highest HAA5 location.

4) A Subpart B system supplier that serves 10,000 to 49,999 persons must quarterly collect samples from four monitoring locations: two samples from the highest TTHM locations, one sample from the highest HAA5 location, and one sample from an existing Subpart I compliance location.

5) A Subpart B system supplier that serves 50,000 to 249,999 persons must quarterly collect samples from eight monitoring locations: three samples from the highest TTHM location, three samples from the highest HAA5 locations, and two samples from existing Subpart I compliance locations.

6) A Subpart B system supplier that serves 250,000 to 999,999 persons must quarterly collect samples from 12 monitoring locations: five samples from the highest TTHM location, four samples from the highest HAA5 locations, and three samples from existing Subpart I compliance locations.

7) A Subpart B system supplier that serves 1,000,000 to 4,999,999 persons must quarterly collect samples from 16 monitoring locations: six samples from the highest TTHM location, six samples from the highest HAA5 locations, and four samples from existing Subpart I compliance locations.

8) A Subpart B system supplier that serves more than 5,000,000 persons must quarterly collect samples from 20 monitoring locations: eight samples from the highest TTHM location, seven samples from the highest HAA5 locations, and five samples from existing Subpart I compliance locations.

9) A groundwater system supplier that serves fewer than 500 persons must annually collect samples from two monitoring locations: one sample from the highest TTHM location and one sample from the highest HAA5 location.

10) A groundwater system supplier that serves 500 to 9,999 persons must annually collect samples from two monitoring locations: one sample from the highest TTHM location and one sample from the highest HAA5 location.

11) A groundwater system supplier that serves 10,000 to 99,999 persons must quarterly collect samples from four monitoring locations: two samples from the highest TTHM locations, one sample from the highest HAA5 location, and one sample from an existing Subpart I compliance location.

12) A groundwater system supplier that serves 100,000 to 499,999 persons must quarterly collect samples from six monitoring locations: three samples from the highest TTHM locations, two samples from the highest HAA5 locations, and one sample from an existing Subpart I compliance location.

13) A groundwater system supplier that serves more than 500,000 persons must quarterly collect samples from eight monitoring locations: three samples from the highest TTHM locations, three samples from the highest HAA5 locations, and two samples from existing Subpart I compliance locations.

14) The supplier must monitor during the month of highest DBP concentrations.

15) A supplier on quarterly monitoring must take dual sample sets every 90 days at each monitoring location, except for a Subpart B system supplier that serves 500 to 3,300 persons. A groundwater system supplier that serves 500 to 9,999 persons that is on annual monitoring must take dual sample sets at each monitoring location. Any other supplier that is on annual monitoring or that is a Subpart B system supplier that serves 500 to 3,300 persons is required to take individual TTHM and HAA5 samples (instead of a dual sample set) at the locations with the highest TTHM and

HAA5 concentrations, respectively. For a supplier that serves fewer than 500 people, only one location with a dual sample set per monitoring period is needed if the highest TTHM and HAA5 concentrations occur at the same location and month.

c) The supplier must recommend Subpart Y compliance monitoring locations based on standard monitoring results, system-specific study results, and Subpart I compliance monitoring results. The supplier must follow the protocol in subsections (c)(1) through (c)(8). If required to monitor at more than eight locations, the supplier must repeat the protocol as necessary. If the supplier does not have existing Subpart I compliance monitoring results or if the supplier does not have enough existing Subpart I compliance monitoring results, the supplier must repeat the protocol, skipping the provisions of subsections (c)(3) and (c)(7) as necessary, until the supplier has identified the required total number of monitoring locations.

1) The location with the highest TTHM LRAA not previously selected as a Subpart Y monitoring location.

2) The location with the highest HAA5 LRAA not previously selected as a Subpart Y monitoring location.

3) The existing Subpart I average residence time compliance monitoring location (maximum residence time compliance monitoring location for a groundwater system) with the highest HAA5 LRAA not previously selected as a Subpart Y monitoring location.

4) The location with the highest TTHM LRAA not previously selected as a Subpart Y monitoring location.

5) The location with the highest TTHM LRAA not previously selected as a Subpart Y monitoring location.

6) The location with the highest HAA5 LRAA not previously selected as a Subpart Y monitoring location.

7) The existing Subpart I average residence time compliance monitoring location (maximum residence time compliance monitoring location for a groundwater system) with the highest TTHM LRAA not previously selected as a Subpart Y monitoring location.

8) The location with the highest HAA5 LRAA not previously selected as a Subpart Y monitoring location.

d) The supplier may recommend locations other than those specified in subsection (c) if the supplier includes a rationale for selecting other locations. If the Agency approves the alternative locations, the supplier must monitor at these locations to determine compliance under Subpart Y.

e) The supplier's recommended schedule must include Subpart Y monitoring during the peak historical month for TTHM and HAA5 concentration, unless the Agency approves another month. Once the supplier has identified the peak historical month, and if the supplier is required to conduct routine monitoring at least quarterly, the supplier must schedule Subpart Y compliance monitoring at a regular frequency of every 90 or fewer days.

BOARD NOTE: Derived from 40 CFR 141.605.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART X: ENHANCED FILTRATION AND DISINFECTION – SYSTEMS SERVING FEWER THAN 10,000 PEOPLE

Section 611.953 Disinfection Profile

a) Applicability. A disinfection profile is a graphical representation of a system's level of Giardia lamblia or virus inactivation measured during the course of a year. A Subpart B community or non-transient non-community water system supplier that serves fewer than 10,000 persons must develop a disinfection profile unless the Agency, by a SEP, determines that a profile is unnecessary. The Agency may approve the use of a more representative data set for disinfection profiling than the data set required under subsections (c) through (g).

b) Determination That a Disinfection Profile Is Not Necessary. The Agency may only determine that a disinfection profile is not necessary if the system's TTHM and HAA5 levels are below 0.064 mg/ℓ and 0.048 mg/ℓ, respectively. To determine these levels, TTHM and HAA5 samples must have been collected during the month with the warmest water temperature, and at the point of maximum residence time in the distribution system. The Agency may, by a SEP, approve the use of a different data set to determine these levels if it determines that the data set is representative TTHM and HAA5 data.

c) Development of a Disinfection Profile. A disinfection profile consists of the following three steps:

1) First, the supplier must collect data for several parameters from the plant, as discussed in subsection (d), over the course of 12 months;

2) Second, the supplier must use this data to calculate weekly log inactivation as discussed in subsections (e) and (f); and

3) Third, the supplier must use these weekly log inactivations to develop a disinfection profile as specified in subsection (g).

d) Data Required for a Disinfection Profile. A supplier must monitor the following parameters to determine the total log inactivation using the analytical methods in Section 611.531, once per week on the same calendar day, over 12 consecutive months:

1) The temperature of the disinfected water at each residual disinfectant concentration sampling point during peak hourly flow;

2) If a supplier uses chlorine, the pH of the disinfected water at each residual disinfectant concentration sampling point during peak hourly flow;

3) The disinfectant contact times ("T") during peak hourly flow; and

4) The residual disinfectant concentrations ("C") of the water before or at the first customer and prior to each additional point of disinfection during peak hourly flow.

e) Calculations Based on the Data Collected. The tables in Appendix B must be used to determine the appropriate $CT_{99.9}$ value. The supplier must calculate the total inactivation ratio as follows, and multiply the value by 3.0 to determine log inactivation of Giardia lamblia:

1) If the supplier uses only one point of disinfectant application, it must determine either of the following:

A) One inactivation ratio ($CT_{calc}/CT_{99.9}$) before or at the first customer during peak hourly flow; or

B) Successive $CT_{calc}/CT_{99.9}$ values, representing sequential inactivation ratios, between the point of disinfectant application and a point before or at the first customer during peak hourly flow. Under this alternative, the supplier must calculate the total inactivation ratio by determining $CT_{calc}/CT_{99.9}$ for each sequence and then adding the $CT_{calc}/CT_{99.9}$ values together to determine $\sum CT_{calc}/CT_{99.9}$.

2) If the supplier uses more than one point of disinfectant application before the first customer, it must determine the $CT_{calc}/CT_{99.9}$ value of each

disinfection segment immediately prior to the next point of disinfectant application, or for the final segment, before or at the first customer, during peak hourly flow using the procedure specified in subsection (e)(1)(B).

f) Use of Chloramines, Ozone, or Chlorine Dioxide as a Primary Disinfectant. If a supplier uses chloramines, ozone, or chlorine dioxide for primary disinfection, the supplier must also calculate the logs of inactivation for viruses and develop an additional disinfection profile for viruses using methods approved by the Agency.

g) Development and Maintenance of the Disinfection Profile in Graphic Form. Each log inactivation serves as a data point in the supplier's disinfection profile. A supplier will have obtained 52 measurements (one for every week of the year). This will allow the supplier and the Agency the opportunity to evaluate how microbial inactivation varied over the course of the year by looking at all 52 measurements (the supplier's disinfection profile). The supplier must keep~~retain~~ the disinfection profile data in graphic form, such as a spreadsheet, which must be available for review by the Agency as part of a sanitary survey. The supplier must use this data to calculate a benchmark if the supplier is considering changes to disinfection practices.

BOARD NOTE: Derived from 40 CFR 141.530 through 141.536.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.955 Combined Filter Effluent Turbidity Limits

a) Applicability. A Subpart B system supplier that serves fewer than 10,000 persons, that is required to filter, and that uses~~utilizes~~ filtration other than slow sand filtration or diatomaceous earth filtration must meet the combined filter effluent turbidity requirements of subsections (b) through (d). If the supplier uses slow sand or diatomaceous earth filtration the supplier is not required to meet the combined filter effluent turbidity limits of this Subpart X, but the supplier must continue to meet the combined filter effluent turbidity limits in Section 611.250.

b) Combined Filter Effluent Turbidity Limits. A supplier must meet two strengthened combined filter effluent turbidity limits.

1) The first combined filter effluent turbidity limit is a "95th percentile" turbidity limit that a supplier must meet in at least 95 percent of the turbidity measurements taken each month. Measurements must continue to be taken as described in Sections 611.531 and 611.533. Monthly reporting must be completed according to Section 611.957(a). The following are the required limits for specific filtration technologies:

A) For a system with conventional filtration or direct filtration, the 95th percentile turbidity value is 0.3 NTU.

B) For a system with any other alternative filter technology, the 95th percentile turbidity value is a value (not to exceed 1 NTU) to be determined by the Agency, by a SEP, based on the demonstration described in subsection (c).

2) The second combined filter effluent turbidity limit is a "maximum" turbidity limit that a supplier may at no time exceed during the month. Measurements must continue to be taken as described in Sections 611.531 and 611.533. Monthly reporting must be completed according to Section 611.957(a). The following are the required limits for specific filtration technologies:

A) For a system with conventional filtration or direct filtration, the maximum turbidity value is 1 NTU.

B) For a system with any other alternative filter technology, the maximum turbidity value is a value (not to exceed 5 NTU) to be determined by the Agency, by a SEP, based on the demonstration described in subsection (c).

c) Requirements for an Alternative Filtration System

1) If a supplier's system consists of alternative filtration (filtration other than slow sand filtration, diatomaceous earth filtration, conventional filtration, or direct filtration) the supplier is required to conduct a demonstration (see tables in subsection (b)). The supplier must demonstrate to the Agency, using pilot plant studies or other means, that its system's filtration, in combination with disinfection treatment, consistently achieves the following:

A) 99 percent removal of Cryptosporidium oocysts;

B) 99.9 percent removal or inactivation of Giardia lamblia cysts; and

C) 99.99 percent removal or inactivation of viruses.

2) This subsection (c)(2) corresponds with 40 CFR 141.552(b), which USEPA has designated as "reserved". This statement maintains structural correspondence with the corresponding federal regulation.

d) Requirements for a Lime-Softening System. If a supplier practices lime

softening, the supplier may acidify representative combined filter effluent turbidity samples prior to analysis using a protocol approved by the Agency.

BOARD NOTE: Derived from 40 CFR 141.550 through 141.553.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.956 Individual Filter Turbidity Requirements

a) Applicability. A Subpart B system supplier that serves fewer than 10,000 persons and utilizing conventional filtration or direct filtration must conduct continuous monitoring of turbidity for each individual filter in a supplier's system. The following requirements apply to continuous turbidity monitoring:

1) Monitoring must be conducted using an approved method in Section 611.531;

2) Calibration of turbidimeters must be conducted using procedures specified by the manufacturer;

3) Results of turbidity monitoring must be recorded at least every 15 minutes;

4) Monthly reporting must be completed according to Section 611.957(a); and

5) Records must be maintained according to Section 611.957(b).

b) Failure of Turbidity Monitoring Equipment. If there is a failure in the continuous turbidity monitoring equipment, the supplier must conduct grab sampling every four hours in lieu of continuous monitoring until the turbidimeter is back on-line. The supplier has 14 days to resume continuous monitoring before a violation is incurred.

c) Special Requirements for Systems with Two or Fewer Filters. If a supplier's system only consists of two or fewer filters, the supplier may conduct continuous monitoring of combined filter effluent turbidity in lieu of individual filter effluent turbidity monitoring. Continuous monitoring must meet the same requirements ~~set forth~~ in subsections (a)(1) through (a)(4) and (b).

d) Follow-Up Action. Follow-up action is required according to the following requirements:

1) If the turbidity of an individual filter (or the turbidity of combined filter

effluent (CFE) for a system with two filters that monitor CFE in lieu of individual filters) exceeds 1.0 NTU in two consecutive recordings 15 minutes apart, the supplier must report to the Agency by the 10th of the following month and include the filter numbers, corresponding dates, turbidity values that exceeded 1.0 NTU, and the cause (if known) for the exceedances.

2) If a supplier was required to report to the Agency for three months in a row and turbidity exceeded 1.0 NTU in two consecutive recordings 15 minutes apart at the same filter (or CFE for systems with two filters that monitor CFE in lieu of individual filters), the supplier must conduct a self-assessment of the filters within 14 days after the day on which the filter exceeded 1.0 NTU in two consecutive measurements for the third straight month, unless a CPE, as specified in subsection (d)(3), was required. A supplier that has a system with two filters that monitor CFE in lieu of individual filters must conduct a self-assessment on both filters. The self-assessment must consist of at least the following components: assessment of filter performance, development of a filter profile, identification and prioritization of factors limiting filter performance, assessment of the applicability of corrections, and preparation of a filter self-assessment report.

3) If a supplier was required to report to the Agency for two months in a row and turbidity exceeded 2.0 NTU in two consecutive recordings 15 minutes apart at the same filter (or CFE for systems with two filters that monitor CFE in lieu of individual filters), the supplier must arrange to have a comprehensive performance evaluation (CPE) conducted by the Agency or a third party approved by the Agency not later than 60 days following the day the filter exceeded 2.0 NTU in two consecutive measurements for the second straight month. If a CPE has been completed by the Agency or a third party approved by the Agency within the 12 prior months or the system and Agency are jointly participating in an ongoing comprehensive technical assistance (CTA) project at the system, a new CPE is not required. If conducted, a CPE must be completed and submitted to the Agency no later than 120 days following the day the filter exceeded 2.0 NTU in two consecutive measurements for the second straight month.

e) Special Individual Filter Monitoring for a Lime-Softening System. If a supplier's system uses~~utilizes~~ lime softening, the supplier may apply to the Agency for alternative turbidity exceedance levels for the levels specified in subsection (d). The supplier must be able to demonstrate to the Agency that higher turbidity levels are due to lime carryover only, and not due to degraded filter performance.

BOARD NOTE: Derived from 40 CFR 141.560 through 141.564.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.957 Reporting and Recordkeeping Requirements

a) Reporting. This Subpart X requires a supplier to report several items to the Agency. Subsections (a)(1) through (a)(4) describe the items that must be reported and the frequency of reporting. (The supplier is required to report the information described in subsections (a)(1) through (a)(4), if it is subject to the specific requirement indicated.)

1) If a supplier is subject to the combined filter effluent requirements (Section 611.955), it must report as follows:

A) The total number of filtered water turbidity measurements taken during the month, by the 10th of the following month.

B) The number and percentage of filtered water turbidity measurements taken during the month that are less than or equal to the supplier's required 95th percentile limit, by the 10th of the following month.

C) The date and value of any turbidity measurements taken during the month that exceed the maximum turbidity value for the supplier's filtration system, by the 10th of the following month.

2) If the supplier is subject to the individual filter turbidity requirements (Section 611.956), it must report as follows:

A) The fact that the supplier's system conducted individual filter turbidity monitoring during the month, by the 10th of the following month.

B) The filter numbers, corresponding dates, and the turbidity values that exceeded 1.0 NTU during the month, by the 10th of the following month, but only if two consecutive measurements exceeded 1.0 NTU.

C) If a self-assessment is required, the date that it was triggered and the date that it was completed, by the 10th of the following month (or 14 days after the self-assessment was triggered only if the self-assessment was triggered during the last four days of the month).

D) If a CPE is required, the fact that the CPE is required and the date that it was triggered, by the 10th of the following month.

E) A copy of completed CPE report, within 120 days after the CPE was triggered.

3) If the supplier is subject to the disinfection profiling (Section 611.953), it must report results of optional monitoring that show TTHM levels 0.064 mg/ℓ and HAA5 levels 0.048 mg/ℓ (only if the supplier wishes to forgo profiling) or that the supplier has begun disinfection profiling.

4) If the supplier is subject to the disinfection benchmarking (Section 611.954), it must report a description of the proposed change in disinfection, its system's disinfection profile for Giardia lamblia (and, if necessary, viruses) and disinfection benchmark, and an analysis of how the proposed change will affect the current levels of disinfection, anytime the supplier is considering a significant change to its disinfection practice.

b) Recordkeeping. A supplier must keep several types of records based on the requirements of this Subpart X, in addition to recordkeeping requirements under Sections 611.261 and 611.262. Subsections (b)(1) through (b)(3) describe the necessary records, the length of time these records must be kept, and for which requirement the records pertain. (The supplier is required to maintain records described in subsections (b)(1) through (b)(3), if it is subject to the specific requirement indicated.)

1) If the supplier is subject to the individual filter turbidity requirements (Section 611.956), it must keep~~retain~~ the results of individual filter monitoring as necessary records for at least three years.

2) If the supplier is subject to disinfection profiling (Section 611.953), it must keep~~retain~~ the results of its disinfection profile (including raw data and analysis) as necessary records indefinitely.

3) If the supplier is subject to disinfection benchmarking (Section 611.954), it must keep~~retain~~ its disinfection benchmark (including raw data and analysis) as necessary records indefinitely.

BOARD NOTE: Derived from 40 CFR 141.570 and 141.571.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART Y: STAGE 2 DISINFECTION BYPRODUCTS REQUIREMENTS

Section 611.970 General Requirements

a) General. The requirements of this Subpart Y constitute NPDWRs. The regulations in this Subpart Y establish monitoring and other requirements for achieving compliance with MCLs based on LRAAs for TTHM and HAA5, and for achieving compliance with MRDLs for chlorine and chloramine for certain consecutive systems.

b) Applicability. A supplier is subject to these requirements if its system is a CWS or a NTNCWS that uses a primary or residual disinfectant other than ultraviolet light or that delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light.

c) A supplier must comply with ~~the requirements in~~ this Subpart Y as follows:

1) The supplier's monitoring frequency is specified in Section 611.971(a)(2).

A) If a supplier is required to conduct quarterly monitoring, it must begin monitoring in the first full calendar quarter that includes the applicable compliance date ~~set forth~~ in this subsection (c).

B) If a supplier is required to conduct monitoring less frequently than quarterly, it must begin monitoring in the calendar month recommended in the IDSE report prepared under Section 611.921 or Section 611.922 or in the calendar month identified in the Subpart Y monitoring plan developed under Section 611.972, but in no instance later than 12 months after the applicable compliance date ~~set forth~~ in this subsection (c).

2) If a supplier is required to conduct quarterly monitoring, it must make compliance calculations at the end of the fourth calendar quarter that follows the compliance date and at the end of each subsequent quarter (or earlier if the LRAA calculated based on fewer than four quarters of data would cause the MCL to be exceeded regardless of the monitoring results of subsequent quarters). If a supplier is required to conduct monitoring less frequently than quarterly, it must make compliance calculations beginning with the first compliance sample taken after the compliance date.

3) The Agency may, by a SEP, determine that the combined distribution system does not include certain consecutive systems based on factors such as receipt of water from a wholesale system only on an emergency basis or receipt of only a small percentage and small volume of water from a wholesale system. The Agency may also determine that the combined

distribution system does not include certain wholesale systems based on factors such as delivery of water to a consecutive system only on an emergency basis or delivery of only a small percentage and small volume of water to a consecutive system.

BOARD NOTE: Implementation of this Subpart Y occurred in stages during October 1, 2012 through October 1, 2014, depending on population served. See 40 CFR 141.620(c)(1) through (c)(5). The Board removed the now-obsolete implementation dates.

d) Monitoring and Compliance

1) Suppliers Required to Monitor Quarterly. To comply with Subpart Y MCLs in Section 611.312(b)(2), the supplier must calculate LRAAs for TTHM and HAA5 using monitoring results collected under this Subpart Y, and it must determine that each LRAA does not exceed the MCL. If the supplier fails to complete four consecutive quarters of monitoring, it must calculate compliance with the MCL based on the average of the available data from the most recent four quarters. If the supplier takes more than one sample per quarter at a monitoring location, it must average all samples taken in the quarter at that location to determine a quarterly average to be used in the LRAA calculation.

2) Suppliers Required to Monitor Yearly or Less Frequently. To determine compliance with Subpart Y MCLs in Section 611.312(b)(2), the supplier must determine that each sample taken is less than the MCL. If any sample exceeds the MCL, the supplier must comply with the requirements of Section 611.975. If no sample exceeds the MCL, the sample result for each monitoring location is considered the LRAA for that monitoring location.

e) Violation for Failure to Monitor. A supplier is in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if the supplier fails to monitor.

BOARD NOTE: Derived from 40 CFR 141.620.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.971 Routine Monitoring

a) Monitoring

1) If a supplier submitted an IDSE report, it must begin monitoring at the locations and during the months that the supplier has recommended in its IDSE report submitted under Section 611.925, following the schedule ~~set forth~~ in Section 611.970(c), unless the Agency, by a SEP, requires other locations or additional locations after its review. If the supplier submitted a 40/30 certification under Section 611.923, it qualified for a very small system waiver under Section 611.924, or it is a NTNCWS that serves fewer than 10,000 persons, the supplier must monitor at the locations and on the dates identified in its monitoring plan as described in Section 611.382(f), updated as required by Section 611.972.

2) The supplier must monitor at no fewer than the number of locations identified in the applicable of subsections (a)(2)(A) through (a)(2)(M), subject to the limitations of subsections (a)(2)(N) and (a)(2)(O).

A) A Subpart B system supplier that serves fewer than 500 persons must monitor annually at two distribution system monitoring locations during each monitoring period.

B) A Subpart B system supplier that serves 500 to 3,300 persons must monitor quarterly at two distribution system monitoring locations during each monitoring period.

C) A Subpart B system supplier that serves 3,301 to 9,999 persons must monitor quarterly at two distribution system monitoring locations during each monitoring period.

D) A Subpart B system supplier that serves 10,000 to 49,999 persons must monitor quarterly at four distribution system monitoring locations during each monitoring period.

E) A Subpart B system supplier that serves 50,000 to 249,999 persons must monitor quarterly at eight distribution system monitoring locations during each monitoring period.

F) A Subpart B system supplier that serves 250,000 to 999,999 persons must monitor quarterly at 12 distribution system monitoring locations during each monitoring period.

G) A Subpart B system supplier that serves 1,000,000 to 4,999,999 persons must monitor quarterly at 16 distribution system monitoring locations during each monitoring period.

H) A Subpart B system supplier that serves 5,000,000 or more persons must monitor quarterly at 20 distribution system monitoring locations during each monitoring period.

I) A groundwater system supplier that serves fewer than 500 persons must monitor annually at two distribution system monitoring locations during each monitoring period.

J) A groundwater system supplier that serves 500 to 9,999 persons must monitor annually at two distribution system monitoring locations during each monitoring period.

K) A groundwater system supplier that serves 10,000 to 99,999 persons must monitor quarterly at four distribution system monitoring locations during each monitoring period.

L) A groundwater system supplier that serves 100,000 to 499,999 persons must monitor quarterly at six distribution system monitoring locations during each monitoring period.

M) A groundwater system supplier that serves 500,000 or more persons must monitor quarterly at eight distribution system monitoring locations during each monitoring period.

N) The supplier must monitor during month of highest DBP concentrations.

O) A supplier on quarterly monitoring must take dual sample sets every 90 days at each monitoring location, except for a Subpart B system supplier that serves 500 to 3,300. A groundwater system supplier that serves 500 to 9,999 persons that is on annual monitoring must take dual sample sets at each monitoring location. Any other supplier that is on annual monitoring or that is a Subpart B system supplier that serves 500 to 3,300 is required to take individual TTHM and HAA5 samples (instead of a dual sample set) at the locations with the highest TTHM and HAA5 concentrations, respectively. For a supplier that serves fewer than 500 people, only one location with a dual sample set per monitoring period is needed if the highest TTHM and HAA5 concentrations occur at the same location and month.

3) If a supplier is an undisinfected system that begins using a disinfectant other than UV light after the dates ~~set forth~~ in Subpart W for complying with the IDSE requirements, the supplier must consult with the Agency to

identify compliance monitoring locations for this Subpart Y. The supplier must then develop a monitoring plan under Section 611.972 that includes those monitoring locations.

b) Analytical Methods. A supplier must use an approved method listed in Section 611.381 for TTHM and HAA5 analyses in this Subpart Y. Analyses must be conducted by laboratories that have received certification as specified in Section 611.381.

BOARD NOTE: Derived from 40 CFR 141.621.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.977 Requirements for Remaining on Reduced TTHM and HAA5 Monitoring Based on Subpart I Results

A supplier may remain on reduced monitoring after the applicable dates identified in Section 611.970(c) for compliance with this Subpart Y only if the supplier fulfills each of the requirements ~~set forth~~ in subsections (a) through (c), subject to the limitations of subsection (d):

a) The supplier qualifies for a 40/30 certification under Section 611.923 or it has received a very small system waiver under Section 611.924;

b) The supplier meets the reduced monitoring criteria ~~set forth~~ in Section 611.973(a);

c) The supplier does not change or add monitoring locations from those used for compliance monitoring under Subpart I; and

d) If the supplier's monitoring locations under this Subpart Y differ from its monitoring locations under Subpart I, the supplier may not remain on reduced monitoring after the dates identified in Section 611.970(c) for the purposes of compliance with this Subpart Y.

BOARD NOTE: Derived from 40 CFR 141.627.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.979 Reporting and Recordkeeping Requirements

a) Reporting

1) A supplier must report the following information to the Agency within ten days after the end of any quarter in which monitoring is required for each monitoring location:

A) The number of samples taken during the last quarter;

B) The date and results of each sample taken during the last quarter;

C) The arithmetic average of quarterly results for the last four quarters for each monitoring location (LRAA), beginning at the end of the fourth calendar quarter that follows the compliance date and at the end of each subsequent quarter. If the LRAA calculated based on fewer than four quarters of data would cause the MCL to be exceeded regardless of the monitoring results of subsequent quarters, the supplier must report this information to the Agency as part of the first report due following the compliance date or anytime after~~thereafter that~~ this determination is made. If the supplier is required to conduct monitoring at a frequency that is less than quarterly, it must make compliance calculations beginning with the first compliance sample taken after the compliance date, unless the supplier is required to conduct increased monitoring under Section 611.975;

D) A statement whether, based on Section 611.312(b)(2) and this Subpart Y, the MCL was violated at any monitoring location; and

E) Any operational evaluation levels that were exceeded during the quarter and, if so, the location and date, and the calculated TTHM and HAA5 levels.

2) If a supplier is a Subpart B system supplier that seeks to qualify for or remain on reduced TTHM and HAA5 monitoring, it must report the following source water TOC information for each treatment plant that treats surface water or groundwater under the direct influence of surface water to the Agency within ten days after the end of any quarter in which monitoring is required:

A) The number of source water TOC samples taken each month during last quarter;

B) The date and result of each sample taken during last quarter;

C) The arithmetic average of monthly samples taken during the last quarter or the result of the quarterly sample;

D) The running annual average (RAA) of quarterly averages from the past four quarters; and

E) Whether the RAA exceeded 4.0 mg/ℓ.

3) The Agency may, by a SEP, choose to perform calculations and determine whether the MCL was exceeded or the system is eligible for reduced monitoring in lieu of having the system report that information under this Section.

b) Recordkeeping. A supplier must keep~~retain~~ any Subpart Y monitoring plans and the supplier's Subpart Y monitoring results as required by Section 611.860.

BOARD NOTE: Derived from 40 CFR 141.629.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART Z: ENHANCED TREATMENT FOR CRYPTOSPORIDIUM

Section 611.1001 Source Water Monitoring Requirements: Source Water Monitoring

a) Initial Round of Source Water Monitoring. A supplier must conduct the following monitoring on the schedule in subsection (c), unless it meets the monitoring exemption criteria in subsection (d).

1) A filtered system supplier serving 10,000 or more people must sample its source water for Cryptosporidium, E. coli, and turbidity at least monthly for 24 months.

2) An unfiltered system supplier serving 10,000 or more people must sample its source water for Cryptosporidium at least monthly for 24 months.

3) Smaller System Suppliers Monitoring for E. coli

A) A filtered system supplier serving fewer than 10,000 people must sample its source water for E. coli at least once every two weeks for 12 months.

B) A filtered system supplier serving fewer than 10,000 people may avoid E. coli monitoring if the system notifies the Agency that it will monitor for Cryptosporidium as described in subsection (a)(4). The system must notify the Agency no later than three months prior to the date before which the system is otherwise required to start E. coli monitoring under subsection (c).

4) Smaller System Suppliers Monitoring for Cryptosporidium. A filtered system supplier serving fewer than 10,000 people must sample its source water for Cryptosporidium at least twice per month for 12 months or at least monthly for 24 months if it meets any of the conditions ~~set forth~~ in subsections (a)(4)(A) through (a)(4)(C), subject to the limitations of subsection (a)(4)(D), based on monitoring conducted under subsection (a)(3).

A) For a supplier using a lake or reservoir source, the annual mean E. coli concentration is greater than 10 E. coli/100 mL.

B) For a supplier using a flowing stream source, the annual mean E. coli concentration is greater than 50 E. coli/100 mL.

C) The supplier does not conduct E. coli monitoring as described in subsection (a)(3).

D) A supplier using groundwater under the direct influence of surface water must comply with the requirements of subsection (a)(4) based on the E. coli level that applies to the nearest surface water body. If no surface water body is nearby, the system must comply based on the requirements that apply to a supplier using a lake or reservoir source.

5) For a filtered system supplier serving fewer than 10,000 people, the Agency may issue a SEP approving monitoring for an indicator other than E. coli under subsection (a)(3). The Agency may also issue a SEP approving an alternative to the E. coli concentration in subsection (a)(4)(A), (a)(4)(B), or (a)(4)(D) to trigger Cryptosporidium monitoring. This approval by the Agency must be provided to the supplier in writing, and it must include the basis for the Agency's determination that the alternative indicator or trigger level will provide a more accurate identification of whether a system will exceed the Bin 1 Cryptosporidium level ~~set forth~~ in Section 611.1010.

6) An unfiltered system supplier serving fewer than 10,000 people must sample its source water for Cryptosporidium at least twice per month for 12 months or at least monthly for 24 months.

7) A supplier may sample more frequently than required by this Section if the sampling frequency is evenly spaced throughout the monitoring period.

b) Second Round of Source Water Monitoring. A supplier must conduct a second round of source water monitoring that meets the requirements for monitoring

parameters, frequency, and duration described in subsection (a), unless it meets the monitoring exemption criteria in subsection (d). The supplier must conduct this monitoring on the schedule ~~set forth~~ in subsection (c).

c) Monitoring Schedule. A supplier must perform the two rounds of monitoring subsections (a) and (b) require on the schedule in this subsection (c), unless the supplier meets the monitoring exemption criteria in subsection (d).

1) Suppliers That Serve at Least 100,000 People

A) The suppliers must have begun the first round of source water monitoring no later than the end of October 2006.

B) The suppliers must have begun the second round of source water monitoring no later than the end of April 2015.

2) Suppliers That Serve from 50,000 to 99,999 People

A) The suppliers must have begun the first round of source water monitoring no later than the end of April 2007.

B) The suppliers must have begun the second round of source water monitoring no later than the end of October 2015.

3) Suppliers That Serve from 10,000 to 49,999 People

A) The suppliers must have begun the first round of source water monitoring no later than the end of April 2008.

B) The suppliers must have begun the second round of source water monitoring no later than the end of October 2016.

4) Suppliers That Serve Fewer Than 10,000 People and That Monitor for E. coli

A) The suppliers must have begun the first round of source water monitoring no later than the end of October 2008.

B) The suppliers must have begun the second round of source water monitoring no later than the end of October 2017.

5) Suppliers That Serve Fewer Than 10,000 People and That Monitor for Cryptosporidium

A) The suppliers must have begun the first round of source water monitoring no later than the end of April 2010.

B) The suppliers must have begun the second round of source water monitoring no later than the end of April 2019.

BOARD NOTE: The Board retained the past implementation dates until implementation of the Long Term 2 Enhanced Surface Water Treatment Rule in this Subpart Z is complete.

d) Monitoring Avoidance

1) A filtered system supplier is not required to conduct source water monitoring under this Subpart Z if the system will provide a total of at least 5.5-log of treatment for Cryptosporidium, equivalent to meeting the treatment requirements of Bin 4 in Section 611.1011.

2) An unfiltered system supplier is not required to conduct source water monitoring under this Subpart Z if the system will provide a total of at least 3-log Cryptosporidium inactivation, equivalent to meeting the treatment requirements for an unfiltered system supplier with a mean Cryptosporidium concentration of greater than 0.01 oocysts/L in Section 611.1012.

3) If a supplier chooses to provide the level of treatment ~~set forth~~ in subsection (d)(1) or (d)(2), as applicable, rather than start source water monitoring, it must notify the Agency in writing no later than the date on which the system is otherwise required to submit a sampling schedule for monitoring under Section 611.1002. Alternatively, a supplier may choose to stop sampling at any point after it has initiated monitoring if it notifies the Agency in writing that it will provide this level of treatment. The supplier must install and operate technologies to provide this level of treatment before the applicable treatment compliance date ~~set forth~~ in Section 611.1013.

e) Plants Operating Only Part of the Year. A supplier that has a Subpart B plant that operates for only part of the year must conduct source water monitoring in compliance~~accordance~~ with this Subpart Z, but with the following modifications:

1) The supplier must sample its source water only during the months that the plant operates, unless the Agency issue a SEP specifying another monitoring period based on plant operating practices.

2) A supplier with plants that operate less than six months per year and that monitors for Cryptosporidium must collect at least six Cryptosporidium samples per year during each of two years of monitoring. Samples must be evenly spaced throughout the period during which the plant operates.

f) New Sources and New Systems

1) New sources. A supplier that begins using a new source of surface water or groundwater under the direct influence of surface water after the supplier was required to begin monitoring under subsection (c) must monitor the new source on a schedule that the Agency has approved in a SEP. Source water monitoring must meet the requirements of this Subpart Z. The supplier must also meet the bin classification and Cryptosporidium treatment requirements of Sections 611.1010 and 611.1011 or Section 611.1012, as applicable, for the new source on a schedule that the Agency has approved in a SEP.

2) The requirements of Section 611.1001(f) apply to a Subpart B system supplier that begins operation after the applicable monitoring start date ~~set forth~~ in subsection (c).

3) The supplier must begin a second round of source water monitoring no later than six years following initial bin classification under Section 611.1010 or determination of the mean Cryptosporidium level under Section 611.1012.

g) Failure to collect any source water sample required under this Section in compliance~~accordance~~ with the sampling schedule, sampling location, analytical method, approved laboratory, and reporting requirements of Sections 611.1002 through 611.1006 is a monitoring violation.

h) Grandfathering Monitoring Data. A supplier may use (grandfather) monitoring data collected prior to the applicable monitoring start date in subsection (c) to meet the initial source water monitoring requirements in subsection (a). Grandfathered data may substitute for an equivalent number of months at the end of the monitoring period. All data submitted under this subsection must meet the requirements ~~set forth~~ in Section 611.1007.

BOARD NOTE: This Section derives from 40 CFR 141.701.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1006 Source Water Monitoring Requirements: Reporting Source Water Monitoring Results

a) A supplier must report results from the source water monitoring required under Section 611.1001 no later than ten days after the end of the first month following the month when the sample is collected.

b) Submission of Analytical Results to USEPA

1) A supplier serving at least 10,000 people must report the results from the initial source water monitoring required under Section 611.1001(a) to the Data Collection and Tracking System (DCTS) through USEPA's Central Data Exchange (CDX).

BOARD NOTE: The supplier must register with the CDX to use the DCTS. For information see "Step-by-Step Guide to the Data Collection and Tracking System (DCTS)", USEPA, Office of Water (4606) (document number EPA 815/B-08-001), available from USEPA, National Center for Environmental Publications, www.epa.gov/nscep (search "815B08001"); telephone 888-890-1995; e-mail epacdx@csc.com ("Technical Support" in the subject line); or fax 301-429-3905.

2) If a supplier is unable to report monitoring results into the DCTS, the supplier may use an alternative approach for reporting monitoring results that USEPA has approved in writing.

c) A supplier serving fewer than 10,000 people must report results from the initial source water monitoring required under Section 611.1001(a) to the Agency.

d) A supplier must report results from the second round of source water monitoring required under Section 611.1001(b) to the Agency.

e) A supplier must report the applicable information in subsections (e)(1) and (e)(2) for the source water monitoring required under Section 611.1001.

1) A supplier must report the data elements ~~set forth~~ in subsection (e)(1)(D) for each Cryptosporidium analysis.

A) For matrix spike samples, a supplier must also report the sample volume spiked and estimated number of oocysts spiked. These data are not required for field samples.

B) For samples in which less than 10 L is filtered or less than 100% of the sample volume is examined, the supplier must also report the number of filters used and the packed pellet volume.

C) For samples in which less than 100% of sample volume is examined, the supplier must also report the volume of resuspended concentrate and volume of this resuspension processed through immunomagnetic separation.

D) Data Elements

i) The PWS ID;

ii) The Facility ID;

iii) The sample collection date;

iv) The sample type (field or matrix spike);

v) The sample volume filtered (L), to nearest 1⁄4 L;

vi) Whether 100 percent of the filtered volume was examined; and

vii) The number of oocysts counted.

BOARD NOTE: Subsection (e)(1)(D) derives from unnumbered tabulated text in 40 CFR 141.706(e)(1).

2) A supplier must report the following data elements for each E. coli analysis:

A) The PWS ID;

B) The Facility ID;

C) The sample collection date;

D) The analytical method number;

E) The method type;

F) The source type (flowing stream, lake or reservoir, groundwater under the direct influence of surface water);

G) The E. coli count per 100 mL.

H) The turbidity, except that a supplier that serves fewer than 10,000 people that is not required to monitor for turbidity under Section 611.1001 is not required to report turbidity with its E. coli results.

BOARD NOTE: This Section derives from 40 CFR 141.706.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1007 Source Water Monitoring Requirements: Grandfathering Previously Collected Data

a) Initial Source Monitoring and Cryptosporidium Samples

1) A supplier may comply with the initial source water monitoring requirements of Section 611.1001(a) by grandfathering sample results collected before the supplier is required to begin monitoring (i.e., previously collected data). To be grandfathered, the sample results and analysis must meet the criteria in this Section and the Agency must approve the use of the data by a SEP.

2) A filtered system supplier may grandfather Cryptosporidium samples to meet the requirements of Section 611.1001(a) when the supplier does not have corresponding E. coli and turbidity samples. A supplier that grandfathers Cryptosporidium samples without E. coli and turbidity samples is not required to collect E. coli and turbidity samples when it completes the requirements for Cryptosporidium monitoring under Section 611.1001(a).

b) E. coli Sample Analysis. The analysis of E. coli samples must meet the analytical method and approved laboratory requirements of Sections 611.1004 and 611.1005.

c) Cryptosporidium Sample Analysis. The analysis of Cryptosporidium samples must meet the criteria in this subsection (c).

1) Laboratories must analyze Cryptosporidium samples using one of the following filtration, immunomagnetic separation, and immunofluorescence assay analytical methods, incorporated by reference in Section 611.102, or alternative methods approved by the Agency under Section 611.480:

A) USEPA 1623 (05);

B) USEPA 1622 (05);

C) USEPA 1623 (01);

D) USEPA 1622 (01); or

E) USEPA 1623 (99).

2) For each Cryptosporidium sample, the laboratory analyzed at least 10 ℓ of sample or at least 2 mℓ of packed pellet or as much volume as could be filtered by two filters that USEPA approved for the methods listed in subsection (c)(1).

d) Sampling Location. The sampling location must meet the conditions in Section 611.1003.

e) Sampling Frequency. Cryptosporidium samples were collected no less frequently than each calendar month on a regular schedule, beginning no earlier than January 1999. Sample collection intervals may vary for the conditions specified in Section 611.1002(b)(1) and (b)(2) if the supplier provides documentation of the condition when reporting monitoring results.

1) The Agency may, by a SEP, approve grandfathering of previously collected data if there are time gaps in the sampling frequency if the supplier conducts additional monitoring that the Agency has specified by a SEP to ensure that the data used to comply with the initial source water monitoring requirements of Section 611.1001(a) are seasonally representative and unbiased.

2) A supplier may grandfather previously collected data if the sampling frequency within each month varied. If the Cryptosporidium sampling frequency varied, the supplier must follow the monthly averaging procedure in Section 611.1010(b)(5) or Section 611.1012(a)(3), as applicable, when calculating the bin classification for a filtered system supplier or the mean Cryptosporidium concentration for an unfiltered system supplier.

f) Reporting Monitoring Results for Grandfathering. A supplier that requests to grandfather previously collected monitoring results must report the following information by the applicable dates listed in this subsection. A supplier must report this information to the Agency.

1) A supplier must report that it intends to submit previously collected monitoring results for grandfathering. This report must specify the number of previously collected results the supplier will submit, the dates

of the first and last sample, and whether a supplier will conduct additional source water monitoring to meet the requirements of Section 611.1001(a). The supplier must report this information no later than the applicable date ~~set forth~~ in Section 611.1002.

2) A supplier must report previously collected monitoring results for grandfathering, along with the associated documentation listed in subsections (f)(2)(A) through (f)(2)(D), no later than two months after the applicable date listed in Section 611.1001(c).

A) For each sample result, a supplier must report the applicable data elements in Section 611.1006.

B) A supplier must certify that the reported monitoring results include all results that it generated during the time period beginning with the first reported result and ending with the final reported result. This applies to samples that were collected from the sampling location specified for source water monitoring under this Subpart Z, that were not spiked, and that were analyzed using the laboratory's routine process for the analytical methods listed in this Section.

C) The supplier must certify that the samples were representative of a plant's source waters and the source waters have not changed. It must report a description of the sampling locations, which must address the position of the sampling location in relation to its water sources and treatment processes, including points of chemical addition and filter backwash recycle.

D) For Cryptosporidium samples, the laboratory or laboratories that analyzed the samples must provide a letter certifying that the quality control criteria specified in the methods listed in subsection (c)(1) were met for each sample batch associated with the reported results. Alternatively, the laboratory may provide bench sheets and sample examination report forms for each field, matrix spike, initial precision and recovery, ongoing precision and recovery, and method blank sample associated with the reported results.

g) If the Agency determines that a previously collected data set submitted for grandfathering was generated during source water conditions that were not normal for the supplier, such as a drought, the Agency may, by a SEP, disapprove the data. Alternatively, the Agency may, by a SEP, approve the previously collected data if the supplier reports additional source water monitoring data, as determined

by the Agency, to ensure that the data set used under Section 611.1010 or Section 611.1012 represents average source water conditions for the supplier.

h) If a supplier submits previously collected data that fully meet the number of samples required for initial source water monitoring under Section 611.1001(a), and some of the data are rejected due to not meeting the requirements of this Section, the supplier must conduct additional monitoring to replace rejected data on a schedule that the Agency has approved by a SEP. A supplier is not required to begin this additional monitoring until two months after notification that data have been rejected and additional monitoring is necessary.

BOARD NOTE: Derived from 40 CFR 141.707.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1010 Treatment Technique Requirements: Bin Classification for Filtered System Suppliers

a) Following completion of the initial round of source water monitoring required under Section 611.1001(a), a filtered system supplier must calculate an initial Cryptosporidium bin concentration for each plant for which monitoring was required. Calculation of the bin concentration must use the Cryptosporidium results reported under Section 611.1001(a) and must follow the appropriate of the procedures ~~set forth~~ in subsection (b).

b) Bin Concentration Calculation Procedures

1) For a supplier that collects a total of at least 48 samples, the bin concentration is equal to the arithmetic mean of all sample concentrations.

2) For a supplier that collects a total of at least 24 samples, but not more than 47 samples, the bin concentration is equal to the highest arithmetic mean of all sample concentrations in any 12 consecutive months during which Cryptosporidium samples were collected.

3) For a supplier that serves fewer than 10,000 people and that monitors for Cryptosporidium for only one year (i.e., collect 24 samples in 12 months), the bin concentration is equal to the arithmetic mean of all sample concentrations.

4) For a supplier with plants operating only part of the year that monitors fewer than 12 months per year under Section 611.1001(e), the bin concentration is equal to the highest arithmetic mean of all sample concentrations during any year of Cryptosporidium monitoring.

5) If the monthly Cryptosporidium sampling frequency varies, a supplier must first calculate a monthly average for each month of monitoring. A supplier must then use these monthly average concentrations, rather than individual sample concentrations, in the applicable calculation for bin classification in subsections (b)(1) through (b)(4).

c) A filtered system supplier must determine its initial bin classification according to subsections (c)(1) through (c)(5), subject to the limitations of subsection (c)(6), and using the Cryptosporidium bin concentration calculated under subsections (a) and (b).

1) For a supplier that is required to monitor for Cryptosporidium under Section 611.1001 and that has a Cryptosporidium bin concentration of less than 0.075 oocysts/ℓ, the bin classification is Bin 1.

2) For a supplier that is required to monitor for Cryptosporidium under Section 611.1001 and that has a Cryptosporidium bin concentration of 0.075 oocysts/ℓ or more, but less than 1.0 oocysts/ℓ, the bin classification is Bin 2.

3) For a supplier that is required to monitor for Cryptosporidium under Section 611.1001 and that has a Cryptosporidium bin concentration of 1.0 oocysts/ℓ or more, but less than 3.0 oocysts/ℓ, the bin classification is Bin 3.

4) For a supplier that is required to monitor for Cryptosporidium under Section 611.1001 and that has a Cryptosporidium bin concentration of 3.0 oocysts/ℓ or more, the bin classification is Bin 4.

5) For a supplier that that serves fewer than 10,000 people and that is not required to monitor for Cryptosporidium under Section 611.1001(a)(4), the bin classification is Bin 1.

6) The Cryptosporidium concentration is based on the applicable ~~of the~~ calculations ~~set forth~~ in subsection (a) or (d).

d) Following completion of the second round of source water monitoring required under Section 611.1001(b), a filtered system supplier must recalculate its Cryptosporidium bin concentration using the Cryptosporidium results reported under Section 611.1001(b) and following the applicable ~~of the~~ procedures ~~set forth~~ in subsections (b)(1) through (b)(4). A supplier must then redetermine its bin classification using this bin concentration and subsection (c).

e) Reporting the Bin Classification

1) A filtered system supplier must report its initial bin classification under subsection (c) to the Agency for approval no later than six months after the supplier is required to complete initial source water monitoring based on the applicable schedule ~~set forth~~ in Section 611.1001(c).

2) A supplier must report its bin classification under subsection (d) to the Agency for approval no later than six months after the supplier is required to complete the second round of source water monitoring based on the applicable schedule ~~set forth~~ in Section 611.1001(c).

3) The bin classification report to the Agency must include a summary of source water monitoring data and the calculation procedure used to determine bin classification.

f) A failure to comply with the conditions of subsection (e) is a violation of the treatment technique requirement.

BOARD NOTE: Derived from 40 CFR 141.710.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1011 Treatment Technique Requirements: Filtered System Additional Cryptosporidium Treatment Requirements

a) A filtered system supplier must provide the level of additional treatment for Cryptosporidium specified in subsections (a)(1) through (a)(4) based on its bin classification, as determined under Section 611.1010, and according to the applicable schedule ~~set forth~~ in Section 611.1013.

1) If the supplier's bin classification is Bin 1, and the supplier uses conventional filtration treatment (including softening) in full compliance with the applicable provisions of Subparts B, R, and X, no additional treatment is required.

2) If the supplier's bin classification is Bin 2, and the supplier uses conventional filtration treatment (including softening) in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are a 1-log treatment.

3) If the supplier's bin classification is Bin 2, and the supplier uses direct filtration in full compliance with the applicable provisions of Subparts B,

R, and X, then the additional Cryptosporidium treatment requirements are a 1.5-log treatment.

4) If the supplier's bin classification is Bin 2, and the supplier uses slow sand or diatomaceous earth filtration in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are a 1-log treatment.

5) If the supplier's bin classification is Bin 2, and the supplier uses alternative filtration technologies in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are as determined by the Agency, by a SEP issued under Section 611.110, such that the total Cryptosporidium removal and inactivation is at least 4.0-log.

6) If the supplier's bin classification is Bin 3, and the supplier uses conventional filtration treatment (including softening) in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are a 2-log treatment.

7) If the supplier's bin classification is Bin 3, and the supplier uses direct filtration in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are a 2.5-log treatment.

8) If the supplier's bin classification is Bin 3, and the supplier uses slow sand or diatomaceous earth filtration in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are a 2-log treatment.

9) If the supplier's bin classification is Bin 3, and the supplier uses alternative filtration technologies in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are as determined by the Agency, by a SEP, such that the total Cryptosporidium removal and inactivation is at least 5.0-log.

10) If the supplier's bin classification is Bin 4, and the supplier uses conventional filtration treatment (including softening) in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are a 2.5-log treatment.

11) If the supplier's bin classification is Bin 4, and the supplier uses direct filtration in full compliance with the applicable provisions of Subparts B,

R, and X, then the additional Cryptosporidium treatment requirements are a 3-log treatment.

12) If the supplier's bin classification is Bin 4, and the supplier uses slow sand or diatomaceous earth filtration in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are a 2.5-log treatment.

13) If the supplier's bin classification is Bin 4, and the supplier uses alternative filtration technologies in full compliance with the applicable provisions of Subparts B, R, and X, then the additional Cryptosporidium treatment requirements are as determined by the Agency, by a SEP, such that the total Cryptosporidium removal and inactivation is at least 5.5-log.

b) Required Treatment

1) A filtered system supplier must use one or more of the treatment and management options listed in Section 611.1015, termed the microbial toolbox, to comply with the additional Cryptosporidium treatment required in subsection (a).

2) A supplier classified in Bin 3 or Bin 4 must achieve at least 1-log of the additional Cryptosporidium treatment required under subsection (a) using either one or a combination of the following: bag filters, bank filtration, cartridge filters, chlorine dioxide, membranes, ozone, or UV, as described in Sections 611.1016 through 611.1020.

c) A failure by a supplier in any month to achieve treatment credit by meeting criteria in Sections 611.1016 through 611.1020 for microbial toolbox options that is at least equal to the level of treatment required in subsection (a) is a violation of the treatment technique requirement.

d) If the Agency determines, by a SEP, during a sanitary survey or an equivalent source water assessment that after a supplier completed the monitoring conducted under Section 611.1001(a) or 611.1001(b), significant changes occurred in the supplier's watershed that could lead to increased contamination of the source water by Cryptosporidium, the supplier must take actions specified by the Agency in the SEP to address the contamination. These actions may include additional source water monitoring or implementing microbial toolbox options listed in Section 611.1015.

BOARD NOTE: Derived from 40 CFR 141.711.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1012 Treatment Technique Requirements: Unfiltered System Cryptosporidium Treatment Requirements

a) Determination of the Mean Cryptosporidium Level

1) Following completion of the initial source water monitoring required by Section 611.1001(a), an unfiltered system supplier is required to have calculated the arithmetic mean of all Cryptosporidium sample concentrations reported under Section 611.1001(a). The supplier is required to have reported this value to the Agency for approval no later than six months after the month the supplier is required to have completed initial source water monitoring based on the applicable schedule ~~set forth~~ in Section 611.1001(c).

2) Following completion of the second round of source water monitoring required by Section 611.1001(b), an unfiltered system supplier must calculate the arithmetic mean of all Cryptosporidium sample concentrations reported under Section 611.1001(b). The supplier must report this value to the Agency for approval no later than six months after the month the supplier is required to complete the second round of source water monitoring based on the applicable schedule ~~set forth~~ in Section 611.1001(c).

3) If the monthly Cryptosporidium sampling frequency varies, a supplier must first calculate a monthly average for each month of monitoring. The supplier must then use these monthly average concentrations, rather than individual sample concentrations, in the calculation of the mean Cryptosporidium level in subsection (a)(1) or (a)(2).

4) The report to the Agency of the mean Cryptosporidium levels calculated under subsections (a)(1) and (a)(2) must include a summary of the source water monitoring data used for the calculation.

5) A failure to comply with the conditions of subsection (a) is a violation of the treatment technique requirement.

b) Cryptosporidium Inactivation Requirements. An unfiltered system supplier must provide the level of inactivation for Cryptosporidium specified in this subsection, based on its mean Cryptosporidium levels, as determined under subsection (a) and according to the applicable schedule ~~set forth~~ in Section 611.1013.

1) An unfiltered system supplier with a mean Cryptosporidium level of 0.01 oocysts/ℓ or less must provide at least 2-log Cryptosporidium inactivation.

2) An unfiltered system supplier with a mean Cryptosporidium level of greater than 0.01 oocysts/ℓ must provide at least 3-log Cryptosporidium inactivation.

c) Inactivation Treatment Technology Requirements. An unfiltered system supplier must use chlorine dioxide, ozone, or UV, as described in Section 611.1020, to meet the Cryptosporidium inactivation requirements of this Section.

1) A supplier that uses chlorine dioxide or ozone and fails to achieve the Cryptosporidium inactivation required in subsection (b) on more than one day in the calendar month is in violation of the treatment technique requirement.

2) A supplier that uses UV light and fails to achieve the Cryptosporidium inactivation required in subsection (b) by meeting the criteria in Section 611.1020(d)(3)(B) is in violation of the treatment technique requirement.

d) Use of Two Disinfectants. An unfiltered system supplier must meet the combined Cryptosporidium inactivation requirements of this Section and Giardia lamblia and virus inactivation requirements of Section 611.241 using a minimum of two disinfectants, and each of two disinfectants must separately achieve the total inactivation required for any of Cryptosporidium, Giardia lamblia, or viruses.

BOARD NOTE: Derived from 40 CFR 141.712.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1013 Treatment Technique Requirements: Schedule for Compliance with Cryptosporidium Treatment Requirements

a) Following initial bin classification under Section 611.1010(c), a filtered system supplier must provide the level of treatment for Cryptosporidium required by Section 611.1011 according to the applicable schedule ~~set forth~~ in subsection (c).

b) Following initial determination of the mean Cryptosporidium level under Section 611.1012(a)(1), an unfiltered system supplier must provide the level of treatment for Cryptosporidium required by Section 611.1012 according to the applicable schedule ~~set forth~~ in subsection (c).

c) Cryptosporidium Treatment Compliance Dates

BOARD NOTE: The federal compliance dates and possible two-year extension corresponding 40 CFR 141.713(c) provides are all past dates. The Board

keepretains the text of subsections (c)(1) through (c)(5) as amended for guidance implementing the rules under Sections 611.1001(f) and 611.1013(d) and (e).

1) A supplier serving 100,000 or more persons was required to comply with Cryptosporidium treatment requirements before April 1, 2012.

2) A supplier serving 50,000 to 99,999 persons was required to comply with Cryptosporidium treatment requirements before October 1, 2012.

3) A supplier serving 10,000 to 49,999 persons was required to comply with Cryptosporidium treatment requirements before October 1, 2013.

4) A supplier serving fewer than 10,000 persons was required to comply with Cryptosporidium treatment requirements before October 1, 2014.

5) The Agency may allow no more than an additional two years for complying with the treatment requirement if it determines that additional time is necessary for the supplier to make capital improvements to implement the treatment.

d) If the bin classification for a filtered system supplier changes following the second round of source water monitoring, as determined under Section 611.1010(d), the supplier must provide the level of treatment for Cryptosporidium required by Section 611.1011 on a schedule approved by the Agency in a SEP.

e) If the mean Cryptosporidium level for an unfiltered system supplier changes following the second round of monitoring, as determined under Section 611.1012(a)(2), and if the supplier must provide a different level of Cryptosporidium treatment under Section 611.1012 due to this change, the supplier must meet this treatment requirement on a schedule approved by the Agency in a SEP.

BOARD NOTE: This Section derives from 40 CFR 141.713.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1015 Requirements for Microbial Toolbox Components: Microbial Toolbox Options for Meeting Cryptosporidium Treatment Requirements

a) Treatment Credits

1) A supplier receives the applicable of the treatment credits set forth in subsection (b) by meeting the conditions for microbial toolbox options described in Sections 611.1016 through 611.1020. The supplier applies

these treatment credits to meet the applicable treatment requirements ~~set forth~~ in Section 611.1011 or Section 611.1012.

2) An unfiltered system supplier is eligible for treatment credits for the microbial toolbox options described in Section 611.1020 only.

b) Subsections (b)(1) through (b)(5) summarize options in the microbial toolbox.

1) Source Protection and Management Toolbox Options

A) Watershed Control Program. 0.5-log credit for Agency-approved program comprising required elements, annual program status report to Agency, and regular watershed survey. An unfiltered system supplier is not eligible for credit. Specific criteria are ~~set forth~~ in Section 611.1016(a).

B) Alternative source or intake management: No prescribed credit. A supplier may conduct simultaneous monitoring for treatment bin classification at alternative intake locations or under alternative intake management strategies. Specific criteria are ~~set forth~~ in Section 611.1016(b).

2) Pre-Filtration Toolbox Options

A) Presedimentation Basin with Coagulation. 0.5-log credit during any month that presedimentation basins achieve a monthly mean reduction of 0.5-log or greater in turbidity or alternative Agency-approved performance criteria. To be eligible, basins must be operated continuously with coagulant addition and all plant flow must pass through basins. Specific criteria are ~~set forth~~ in Section 611.1017(a).

B) Two-stage Lime Softening. 0.5-log credit for two-stage softening if chemical addition and hardness precipitation occur in both stages. All plant flow must pass through both stages. Single-stage softening is credited as equivalent to conventional treatment. Specific criteria are ~~set forth~~ in Section 611.1017(b).

C) Bank Filtration. 0.5-log credit for 25-foot setback or 1.0-log credit for 50-foot setback; the aquifer must be unconsolidated sand containing at least ten percent fines and average turbidity in the wells must be less than 1 NTU. A supplier using wells followed by filtration when conducting source water monitoring must sample the well to determine bin classification and is not eligible

for additional credit. Specific criteria are ~~set forth~~ in Section 611.1017(c).

3) Treatment Performance Toolbox Options

A) Combined Filter Performance. 0.5-log credit for combined filter effluent turbidity less than or equal to 0.15 NTU in at least 95 percent of measurements each month. Specific criteria are ~~set forth~~ in Section 611.1018(a).

B) Individual Filter Performance. 0.5-log credit (in addition to 0.5-log combined filter performance credit) if individual filter effluent turbidity is less than or equal to 0.15 NTU in at least 95 percent of samples each month in each filter and is never greater than 0.3 NTU in two consecutive measurements in any filter. Specific criteria are ~~set forth~~ in Section 611.1018(b).

C) Demonstration of Performance. Credit awarded to unit process or treatment train based on a demonstration to the Agency with an Agency-approved protocol. Specific criteria are ~~set forth~~ in Section 611.1018(c).

4) Additional Filtration Toolbox Options

A) Bag or Cartridge Filters (individual filters). Up to 2-log credit based on the removal efficiency demonstrated during challenge testing with a 1.0-log factor of safety. Specific criteria are ~~set forth~~ in Section 611.1019(a).

B) Bag or Cartridge Filters (in series). Up to 2.5-log credit based on the removal efficiency demonstrated during challenge testing with a 0.5-log factor of safety. Specific criteria are ~~set forth~~ in Section 611.1019(a).

C) Membrane Filtration. Log credit equivalent to removal efficiency demonstrated in challenge test for device if supported by direct integrity testing. Specific criteria are ~~set forth~~ in Section 611.1019(b).

D) Second Stage Filtration. 0.5-log credit for second separate granular media filtration stage if treatment train includes coagulation prior to first filter. Specific criteria are ~~set forth~~ in Section 611.1019(c).

E) Slow Sand Filters. 2.5-log credit as a secondary filtration step or 3.0-log credit as a primary filtration process. No prior chlorination for either option. Specific criteria are ~~set forth~~ in Section 611.1019(d).

5) Inactivation Toolbox Options

A) Chlorine Dioxide. Log credit based on measured CT in relation to CT table. Specific criteria are ~~set forth~~ in Section 611.1020(b).

B) Ozone. Log credit based on measured CT in relation to CT table. Specific criteria are ~~set forth~~ in Section 611.1020(b).

C) UV. Log credit based on validated UV dose in relation to UV dose table; reactor validation testing required to establish UV dose and associated operating conditions. Specific criteria are ~~set forth~~ in Section 611.1020(d).

BOARD NOTE: This Section derives from 40 CFR 141.715.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1016 Requirements for Microbial Toolbox Components: Source Toolbox Components

a) Watershed Control Program. A supplier receives 0.5-log Cryptosporidium treatment credit for implementing a watershed control program that meets the requirements of this Section.

1) A supplier that intends to apply for the watershed control program credit must notify the Agency of its intent no later than two years prior to the treatment compliance date applicable to the supplier in Section 611.1013.

2) A supplier must submit to the Agency a proposed watershed control plan no later than one year before the applicable treatment compliance date in Section 611.1013. The Agency must approve the watershed control plan for the supplier to receive watershed control program treatment credit. The watershed control plan must include the following elements:

A) Identification of an "area of influence" outside of which the likelihood of Cryptosporidium or fecal contamination affecting the treatment plant intake is not significant. This is the area to be evaluated in future watershed surveys under subsection (a)(5)(B);

B) Identification of both potential and actual sources of Cryptosporidium contamination and an assessment of the relative impact of these sources on the supplier's source water quality;

C) An analysis of the effectiveness and feasibility of control measures that could reduce Cryptosporidium loading from sources of contamination to the supplier's source water; and

D) A statement of goals and specific actions the supplier will undertake to reduce source water Cryptosporidium levels. The plan must explain how the actions are expected to contribute to specific goals, identify watershed partners and their roles, identify resource requirements and commitments, and include a schedule for plan implementation with deadlines for completing specific actions identified in the plan.

3) A supplier with an existing watershed control program (i.e., a program in place on January 5, 2006) is eligible to seek this credit. Its watershed control plans must meet the criteria in subsection (a)(2) and must specify ongoing and future actions that will reduce source water Cryptosporidium levels.

4) If the Agency does not respond to a supplier regarding approval of a watershed control plan submitted under this Section and the supplier meets the other requirements of this Section, the watershed control program will be considered approved and 0.5 log Cryptosporidium treatment credit will be awarded, unless and until the Agency subsequently withdraws the~~such~~ approval by a SEP.

5) A supplier must complete each of the following actions to maintain the 0.5-log credit.

A) It must submit an annual watershed control program status report to the Agency. The annual watershed control program status report must describe the supplier's implementation of the approved plan and assess the adequacy of the plan to meet its goals. The report must explain how the supplier is addressing any shortcomings in plan implementation, including those previously identified by the Agency or as the result of the watershed survey conducted under subsection (a)(5)(B). The report must also describe any significant changes that have occurred in the watershed since the last watershed sanitary survey. If a supplier determines during implementation that making a significant change to its approved watershed control program is necessary, the

supplier must notify the Agency prior to making any such changes. If any change is likely to reduce the level of source water protection, the supplier must also list in its notification the actions the supplier will take to mitigate this effect;

B) The supplier must undergo a watershed sanitary survey every three years for a CWS supplier and every five years for a non-CWS supplier and submit the survey report to the Agency. The survey must be conducted according to Agency guidelines and by persons that the Agency approves.

i) The watershed sanitary survey must meet the following criteria: it must encompass the region identified in the Agency-approved watershed control plan as the area of influence; assess the implementation of actions to reduce source water Cryptosporidium levels; and identify any significant new sources of Cryptosporidium.

ii) If the Agency determines that significant changes may have occurred in the watershed since the previous watershed sanitary survey, the supplier must undergo another watershed sanitary survey before a date the Agency requires by a SEP, which may be earlier than the regular date in subsection (a)(5)(B); and

C) The supplier must make the watershed control plan, annual status reports, and watershed sanitary survey reports available to the public upon request. These documents must be in a plain language style and include criteria by which to evaluate the success of the program in achieving plan goals. The Agency may, by a SEP, approve that a supplier withhold from the public portions of the annual status report, watershed control plan, and watershed sanitary survey based on water supply security considerations.

6) If the Agency determines that a supplier is not carrying out the approved watershed control plan, the Agency may, by a SEP, withdraw the watershed control program treatment credit.

b) Alternative Source

1) A supplier may conduct source water monitoring that reflects a different intake location (either in the same source or for an alternate source) or a different procedure for the timing or level of withdrawal from the source (alternative source monitoring). If the Agency approves by a SEP, a

supplier may determine its bin classification under Section 611.1010 based on the alternative source monitoring results.

2) If a supplier conducts alternative source monitoring under subsection (b)(1), it must also monitor their current plant intake concurrently as described in Section 611.1001.

3) Alternative source monitoring under subsection (b)(1) must meet the requirements for source monitoring to determine bin classification, as described in Sections 611.1001 through 611.1006. A supplier must report the alternative source monitoring results to the Agency, along with supporting information documenting the operating conditions under which the samples were collected.

4) If a supplier determines its bin classification under Section 611.1010 using alternative source monitoring results that reflect a different intake location or a different procedure for managing the timing or level of withdrawal from the source, the supplier must relocate the intake or permanently adopt the withdrawal procedure, as applicable, no later than the applicable treatment compliance date in Section 611.1013.

BOARD NOTE: Derived from 40 CFR 141.716.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1019 Requirements for Microbial Toolbox Components: Additional Filtration Toolbox Components

a) Bag and Cartridge Filters. A supplier receives Cryptosporidium treatment credit of up to 2.0-log for individual bag or cartridge filters and up to 2.5-log for bag or cartridge filters operated in series by meeting the criteria ~~set forth~~ in subsections (a)(1) through (a)(10). To be eligible for this credit, the supplier must report the results of challenge testing that meets the requirements of subsections (a)(2) through (a)(9) to the Agency. The filters must treat the entire plant flow taken from a Subpart B source.

1) The Cryptosporidium treatment credit awarded to bag or cartridge filters must be based on the removal efficiency demonstrated during challenge testing that is conducted according to the criteria ~~set forth~~ in subsections (a)(2) through (a)(9). A factor of safety equal to 1-log for individual bag or cartridge filters and 0.5-log for bag or cartridge filters in series must be applied to challenge testing results to determine removal credit. A supplier may use results from challenge testing conducted prior to January

5, 2006 if the prior testing was consistent with the criteria specified in subsections (a)(2) through (a)(9).

2) Challenge testing must be performed on full-scale bag or cartridge filters, and the associated filter housing or pressure vessel, that are identical in material and construction to the filters and housings the supplier will use for removal of Cryptosporidium. Bag or cartridge filters must be challenge tested in the same configuration that the supplier will use, either as individual filters or as a series configuration of filters.

3) Challenge testing must be conducted using Cryptosporidium or a surrogate that is removed no more efficiently than Cryptosporidium. The microorganism or surrogate used during challenge testing is referred to as the challenge particulate. The concentration of the challenge particulate must be determined using a method capable of discreetly quantifying the specific microorganism or surrogate used in the test; gross measurements such as turbidity may not be used.

4) The maximum feed water concentration that can be used during a challenge test must be based on the detection limit of the challenge particulate in the filtrate (i.e., filtrate detection limit) and must be calculated using the following equation:

Maximum Feed Concentration = $1 \times 10^4 \times$ (Filtrate Detection Limit)

5) Challenge testing must be conducted at the maximum design flow rate for the filter as specified by the manufacturer.

6) Each filter evaluated must be tested for a duration sufficient to reach 100 percent of the terminal pressure drop, which establishes the maximum pressure drop under which the filter may be used to comply with the requirements of this Subpart Z.

7) Removal efficiency of a filter must be determined from the results of the challenge test and expressed in terms of log removal values using the following equation:

$$\text{LRV} = \text{Log}_{10}(C_f) - \text{Log}_{10}(C_p)$$

Where:

LRV = log removal value demonstrated during challenge testing

C_f = the feed concentration measured during the challenge test

C_p = the filtrate concentration measured during the challenge test. In applying this equation, the same units must be used for the feed and filtrate concentrations. If the challenge particulate is not detected in the filtrate, then the term Cp must be set equal to the detection limit.

8) Each filter tested must be challenged with the challenge particulate during three periods over the filtration cycle: within two hours after start-up of a new filter; when the pressure drop is between 45 and 55 percent of the terminal pressure drop; and at the end of the cycle after the pressure drop has reached 100 percent of the terminal pressure drop. An LRV must be calculated for each of these challenge periods for each filter tested. The LRV for the filter (LRV_{filter}) must be assigned the value of the minimum LRV observed during the three challenge periods for that filter.

9) If fewer than 20 filters are tested, the overall removal efficiency for the filter product line must be set equal to the lowest LRV_{filter} among the filters tested. If 20 or more filters are tested, the overall removal efficiency for the filter product line must be set equal to the 10th percentile of the set of LRV_{filter} values for the various filters tested. The percentile is defined by (i/(n+1)) where i is the rank of n individual data points ordered lowest to highest. If necessary, the 10th percentile may be calculated using linear interpolation.

10) If a previously tested filter is modified in a manner that could change the removal efficiency of the filter product line, challenge testing to demonstrate the removal efficiency of the modified filter must be conducted and submitted in writing to the Agency.

b) Membrane Filtration

1) A supplier receives Cryptosporidium treatment credit for membrane filtration that meets the criteria of this subsection (b). Membrane cartridge filters that meet the definition of membrane filtration in Section 611.102 are eligible for this credit. The level of treatment credit a supplier receives is equal to the lower of the following values:

A) The removal efficiency demonstrated during challenge testing conducted under the conditions in subsection (b)(2); or

B) The maximum removal efficiency that can be verified through direct integrity testing used with the membrane filtration process under the conditions in subsection (b)(3).

2) Challenge Testing. The membrane used by the supplier must undergo challenge testing to evaluate removal efficiency, and the supplier must report the results of challenge testing to the Agency. Challenge testing must be conducted according to the criteria ~~set forth~~ in subsections (b)(2)(A) through (b)(2)(G). A supplier may use data from challenge testing conducted prior to January 5, 2006 if the prior testing was consistent with the criteria ~~set forth~~ in subsections (b)(2)(A) through (b)(2)(G).

A) Challenge testing must be conducted on either a full-scale membrane module, identical in material and construction to the membrane modules used in the supplier's treatment facility, or a smaller-scale membrane module, identical in material and similar in construction to the full-scale module. A module is defined as the smallest component of a membrane unit in which a specific membrane surface area is housed in a device with a filtrate outlet structure.

B) Challenge testing must be conducted using Cryptosporidium oocysts or a surrogate that is removed no more efficiently than Cryptosporidium oocysts. The organism or surrogate used during challenge testing is referred to as the challenge particulate. The concentration of the challenge particulate, in both the feed and filtrate water, must be determined using a method capable of discretely quantifying the specific challenge particulate used in the test; gross measurements such as turbidity may not be used.

C) The maximum feed water concentration that can be used during a challenge test is based on the detection limit of the challenge particulate in the filtrate and must be determined according to the following equation:

$$\text{Maximum Feed Concentration} = 3.16 \times 10^6 \times (\text{Filtrate Detection Limit})$$

D) Challenge testing must be conducted under representative hydraulic conditions at the maximum design flux and maximum design process recovery specified by the manufacturer for the membrane module. Flux is defined as the throughput of a pressure driven membrane process expressed as flow per unit of membrane area. Recovery is defined as the volumetric percent of feed water that is converted to filtrate over the course of an operating cycle

uninterrupted by events such as chemical cleaning or a solids removal process (i.e., backwashing).

E) Removal efficiency of a membrane module must be calculated from the challenge test results and expressed as a log removal value according to the following equation:

$$LRV = \text{Log}_{10}(C_f) - \text{Log}_{10}(C_p)$$

Where:

LRV = log removal value demonstrated during the challenge test

C_f = the feed concentration measured during the challenge test

C_p = the filtrate concentration measured during the challenge test. Equivalent units must be used for the feed and filtrate concentrations. If the challenge particulate is not detected in the filtrate, the term C_p is set equal to the detection limit for the purpose of calculating the LRV. An LRV must be calculated for each membrane module evaluated during the challenge test.

F) The removal efficiency of a membrane filtration process demonstrated during challenge testing must be expressed as a log removal value ($LRV_{C\text{-}Test}$). If fewer than 20 modules are tested, then $LRV_{C\text{-}Test}$ is equal to the lowest of the representative LRVs among the modules tested. If 20 or more modules are tested, then LRVC-Test is equal to the 10th percentile of the representative LRVs among the modules tested. The percentile is defined by (i/(n+1)) where i is the rank of n individual data points ordered lowest to highest. If necessary, the 10th percentile may be calculated using linear interpolation.

G) The challenge test must establish a quality control release value (QCRV) for a non-destructive performance test that demonstrates the Cryptosporidium removal capability of the membrane filtration module. This performance test must be applied to each production membrane module used by the supplier that was not directly challenge tested in order to verify Cryptosporidium removal capability. Production modules that do not meet the established

QCRV are not eligible for the treatment credit demonstrated during the challenge test.

H) If a previously tested membrane is modified in a manner that could change the removal efficiency of the membrane or the applicability of the non-destructive performance test and associated QCRV, additional challenge testing to demonstrate the removal efficiency of, and determine a new QCRV for, the modified membrane must be conducted and submitted to the Agency.

3) Direct Integrity Testing. A supplier must conduct direct integrity testing in a manner that demonstrates a removal efficiency equal to or greater than the removal credit awarded to the membrane filtration process and meets the requirements described in subsections (b)(3)(A) through (b)(3)(F). A "direct integrity test" is defined as a physical test applied to a membrane unit in order to identify and isolate integrity breaches (i.e., one or more leaks that could result in contamination of the filtrate).

A) The direct integrity test must be independently applied to each membrane unit in service. A membrane unit is defined as a group of membrane modules that share common valving that allows the unit to be isolated from the rest of the treatment system for the purpose of integrity testing or other maintenance.

B) The direct integrity method must have a resolution of three micrometers or less, if resolution is defined as the size of the smallest integrity breach that contributes to a response from the direct integrity test.

C) The direct integrity test must have a sensitivity sufficient to verify the log treatment credit awarded to the membrane filtration process by the Agency, if sensitivity is defined as the maximum log removal value that can be reliably verified by a direct integrity test. Sensitivity must be determined using the appropriate of the following approaches, considering the type of direct integrity test the supplier uses:

i) For a direct integrity test that uses an applied pressure or vacuum, the direct integrity test sensitivity must be calculated according to the following equation:

$$\mathrm{LRV_{DIT}} = \mathrm{Log_{10}}\left(\frac{Q_p}{\mathrm{VCF} \times Q_{\mathrm{breach}}}\right)$$

Where:

LRV_{DIT} = the sensitivity of the direct integrity test

Q_p = total design filtrate flow from the membrane unit

Q_{breach} = flow of water from an integrity breach associated with the smallest integrity test response that can be reliably measured

VCF = volumetric concentration factor. The volumetric concentration factor is the ratio of the suspended solids concentration on the high pressure side of the membrane relative to that in the feed water; or

ii) For a direct integrity test that uses a particulate or molecular marker, the direct integrity test sensitivity must be calculated according to the following equation:

$$LRV_{DIT} = \text{Log}_{10}(C_f) - \text{Log}_{10}(C_p)$$

Where:

LRV_{DIT} = the sensitivity of the direct integrity test

C_f = the typical feed concentration of the marker used in the test

C_p = the filtrate concentration of the marker from an integral membrane unit

D) A supplier must establish a control limit within the sensitivity limits of the direct integrity test that is indicative of an integral membrane unit capable of meeting the removal credit awarded by the Agency.

E) If the result of a direct integrity test exceeds the control limit established under subsection (b)(3)(D), the supplier must remove the membrane unit from service. The supplier must conduct a direct integrity test to verify any repairs, and it may return the membrane unit to service only if the direct integrity test is within the established control limit.

F) A supplier must conduct direct integrity testing on each membrane unit at a frequency of not less than once each day that the membrane unit is in operation. The Agency may, by a SEP, approve less frequent testing, based on demonstrated process reliability, the use of multiple barriers effective for Cryptosporidium, or reliable process safeguards.

4) Indirect Integrity Monitoring. A supplier must conduct continuous indirect integrity monitoring on each membrane unit according to the criteria in subsections (b)(4)(A) through (b)(4)(E). "Indirect integrity monitoring" is defined as monitoring some aspect of filtrate water quality that is indicative of the removal of particulate matter. A supplier that implements continuous direct integrity testing of membrane units in compliance~~accordance~~ with the criteria in subsections (b)(3)(A) through (b)(3)(E) is not subject to the requirements for continuous indirect integrity monitoring. The supplier must submit a monthly report to the Agency summarizing all continuous indirect integrity monitoring results triggering direct integrity testing and the corrective action that was taken in each case.

A) Unless the Agency approves an alternative parameter by a SEP, continuous indirect integrity monitoring must include continuous filtrate turbidity monitoring.

B) Continuous indirect integrity monitoring must be conducted at a frequency of no less than once every 15 minutes.

C) Continuous indirect integrity monitoring must be separately conducted on each membrane unit.

D) If continuous indirect integrity monitoring includes turbidity and if the filtrate turbidity readings are above 0.15 NTU for a period greater than 15 minutes (i.e., two consecutive 15-minute readings above 0.15 NTU), direct integrity testing must immediately be performed on the associated membrane unit, as specified in subsections (b)(3)(A) through (b)(3)(E).

E) If indirect integrity monitoring includes an Agency-approved alternative parameter and if the alternative parameter exceeds an Agency-approved control limit for a period greater than 15 minutes, direct integrity testing must immediately be performed on the associated membrane units, as specified in subsections (b)(3)(A) through (b)(3)(E).

c) Second Stage Filtration. A supplier receives 0.5-log Cryptosporidium treatment credit for a separate second stage of filtration that consists of sand, dual media, GAC, or other fine grain media following granular media filtration if the Agency approves by a SEP. To be eligible for this credit, the first stage of filtration must be preceded by a coagulation step and both filtration stages must treat the entire plant flow taken from a surface water or groundwater under the direct influence of surface water source. A cap, such as GAC, on a single stage of filtration is not eligible for this credit. The Agency must approve the treatment credit based on an assessment of the design characteristics of the filtration process.

d) Slow Sand Filtration (as secondary filter). A supplier is eligible to receive 2.5-log Cryptosporidium treatment credit by a SEP for a slow sand filtration process that follows a separate stage of filtration if both filtration stages treat entire plant flow taken from a surface water or groundwater under the direct influence of surface water source and no disinfectant residual is present in the influent water to the slow sand filtration process. The Agency must approve the treatment credit based on an assessment of the design characteristics of the filtration process. This subsection (d) does not apply to treatment credit awarded to slow sand filtration used as a primary filtration process.

BOARD NOTE: Derived from 40 CFR 141.719.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1020 Requirements for Microbial Toolbox Components: Inactivation Toolbox Components

a) Calculation of CT Values

1) CT is the product of the disinfectant contact time (T, in minutes) and disinfectant concentration (C, in milligrams per liter). A supplier with treatment credit for chlorine dioxide or ozone under subsection (b) or (c) must calculate CT at least once each day, with both C and T measured during peak hourly flow, as specified in Sections 611.531 and 611.532.

2) A supplier with several disinfection segments in sequence may calculate CT for each segment, if a disinfection segment is defined as a treatment unit process with a measurable disinfectant residual level and a liquid volume. Under this approach, the supplier must add the Cryptosporidium CT values in each segment to determine the total CT for the treatment plant.

b) CT Values for Chlorine Dioxide and Ozone

1) A supplier receives the Cryptosporidium treatment credit listed in Table H by meeting the corresponding chlorine dioxide CT value for the applicable water temperature, as described in subsection (a).

2) A supplier receives the Cryptosporidium treatment credit listed in Table I by meeting the corresponding ozone CT values for the applicable water temperature, as described in subsection (a).

c) Site-Specific Study. The Agency may, by a SEP, approve alternative chlorine dioxide or ozone CT values to those listed in Tables H and I on a site-specific basis. The Agency must base this approval on a site-specific study conducted by the supplier according to an Agency-approved protocol.

d) Ultraviolet Light. A supplier receives Cryptosporidium, Giardia lamblia, and virus treatment credits for ultraviolet (UV) light reactors by achieving the corresponding UV dose values shown in Table J. The supplier must validate and monitor UV reactors, as described in subsections (d)(2) and (d)(3), to demonstrate that they are achieving a particular UV dose value for treatment credit.

1) UV Dose Table. The treatment credits listed in Table J are for UV light at a wavelength of 254 nm as produced by a low-pressure mercury vapor lamp. To receive treatment credit for other lamp types, a supplier must demonstrate an equivalent germicidal dose through reactor validation testing, as described in subsection (d)(2). The UV dose values in this table are applicable only to post-filter applications of UV in a filtered system supplier and to an unfiltered system supplier.

2) Reactor Validation Testing. A supplier must use UV reactors that have undergone validation testing to determine the operating conditions under which the reactor delivers the UV dose required in subsection (d)(1) (i.e., validated operating conditions). These operating conditions must include flow rate; UV intensity, as measured by a UV sensor; and UV lamp status.

A) When determining validated operating conditions, a supplier must account for the following factors: UV absorbance of the water; lamp fouling and aging; measurement uncertainty of on-line sensors; UV dose distributions arising from the velocity profiles through the reactor; failure of UV lamps or other critical treatment system components; and inlet and outlet piping or channel configurations of the UV reactor.

B) Validation testing must include the following: Full scale testing of a reactor that conforms uniformly to the UV reactors used by the

supplier and inactivation of a test microorganism whose dose response characteristics have been quantified with a low pressure mercury vapor lamp.

C) The Agency may, by a SEP, approve an alternative approach to validation testing.

3) Reactor Monitoring

A) A supplier must monitor its UV reactors to determine if the reactors are operating within validated conditions, as determined under subsection (d)(2). This monitoring must include UV intensity, as measured by a UV sensor; flow rate; lamp status; and other parameters that the Agency has designated by a SEP based on UV reactor operation. A supplier must verify the calibration of UV sensors and must recalibrate sensors in compliance~~accordance~~ with a protocol that the Agency has approved by the SEP.

B) To receive treatment credit for UV light, a supplier must treat at least 95 percent of the water delivered to the public during each month by UV reactors operating within validated conditions for the required UV dose, as described in subsections (d)(1) and (d)(2). The supplier must demonstrate compliance with this condition by the monitoring required under subsection (d)(3)(A).

BOARD NOTE: Derived from 40 CFR 141.720.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1021 Reporting and Recordkeeping Requirements: Reporting Requirements

a) A supplier must report sampling schedules under Section 611.1002 and source water monitoring results under Section 611.1006 unless it notifies the Agency that it will not conduct source water monitoring because the supplier meets the criteria of Section 611.1001(d).

b) A supplier must report the use of uncovered finished water storage facilities to the Agency, as described in Section 611.1014.

c) A filtered system supplier must report its Cryptosporidium bin classification, as described in Section 611.1010.

d) An unfiltered system supplier must report its mean source water Cryptosporidium level, as described in Section 611.1012.

e) A supplier must report disinfection profiles and benchmarks to the Agency, as described in Sections 611.1008 and 611.1009, prior to making a significant change in disinfection practice.

f) A supplier must report to the Agency in compliance~~accordance~~ with subsections (f)(1) through (f)(15) for any microbial toolbox options used to comply with treatment requirements under Section 611.1011 or Section 611.1012. Alternatively, the Agency may, by a SEP, approve a supplier to certify operation within required parameters for treatment credit rather than reporting monthly operational data for toolbox options.

1) A supplier that uses the watershed control program toolbox option must submit the following information on the indicated schedule:

A) A notice of intention to develop a new or continue an existing watershed control program no later than two years before the applicable treatment compliance date in Section 611.1013;

B) A watershed control plan no later than one year before the applicable treatment compliance date in Section 611.1013;

C) An annual watershed control program status report every 12 months, beginning one year after the applicable treatment compliance date in Section 611.1013; and

D) A watershed sanitary survey report: for a CWS supplier, every three years beginning three years after the applicable treatment compliance date in Section 611.1013 or, for a non-CWS supplier, every five years beginning five years after the applicable treatment compliance date in Section 611.1013.

2) A supplier that uses the alternative source or intake management toolbox option must submit verification that it has relocated the intake or adopted the intake withdrawal procedure reflected in monitoring results no later than the applicable treatment compliance date in Section 611.1013.

3) A supplier that uses the presedimentation toolbox option must submit monthly verification of the information ~~set forth~~ in each of subsections (f)(3)(A) through (f)(3)(D), subject to the limitations of subsection (f)(3)(E).

A) Continuous basin operation;

B) Treatment of 100% of the flow;

C) Continuous addition of a coagulant; and

D) At least 0.5-log mean reduction of influent turbidity or compliance with alternative Agency-approved performance criteria.

E) Monthly reporting must occur within 10 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.

4) A supplier that uses the two-stage lime softening toolbox option must submit monthly verification of the information ~~set forth~~ in each of subsections (f)(4)(A) and (f)(4)(B), subject to the limitations of subsection (f)(4)(C).

A) That chemical addition and hardness precipitation occurred in two separate and sequential softening stages prior to filtration; and

B) That both stages treated 100% of the plant flow.

C) Monthly reporting must occur within 10 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.

5) A supplier that uses the bank filtration toolbox option must submit the following information on the indicated schedule:

A) An initial demonstration of the following no later than the applicable treatment compliance date in Section 611.1013:

i) The existence of unconsolidated, predominantly sandy aquifer; and

ii) A setback distance of at least 25 ft. (0.5-log credit) or 50 ft. (1.0-log credit).

B) If the monthly average of daily maximum turbidity is greater than 1 NTU, then the supplier must report that result and submit an assessment of the cause within 30 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.

6) A supplier that uses the combined filter performance toolbox option must submit monthly verification of combined filter effluent (CFE) turbidity levels less than or equal to 0.15 NTU in at least 95 percent of the four-hour CFE measurements taken each month. Monthly reporting must occur within 10 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.

7) A supplier that uses the individual filter performance toolbox option must submit monthly verification of the information ~~set forth~~ in each of subsections (f)(7)(A) and (f)(7)(B), subject to the limitations of subsection (f)(7)(C).

A) That individual filter effluent (IFE) turbidity levels were less than or equal to 0.15 NTU in at least 95 percent of samples each month in each filter; and

B) That no individual filter measured greater than 0.3 NTU in two consecutive readings 15 minutes apart.

C) Monthly reporting must occur within 10 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.

8) A supplier that uses the demonstration of performance toolbox option must submit the information ~~set forth~~ in each of subsections (f)(8)(A) and (f)(8)(B) on the indicated schedule:

A) Results from testing following an Agency-approved protocol no later than the applicable treatment compliance date in Section 611.1013; and

B) As required by the Agency, monthly verification of operation within conditions of Agency approval for demonstration of performance credit within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.

9) A supplier that uses the bag filters and cartridge filters toolbox option must submit the information ~~set forth~~ in each of subsections (f)(9)(A) and (f)(9)(B) on the indicated schedule:

A) A demonstration, no later than the applicable treatment compliance date in Section 611.1013, that the following criteria are met:

i) It must demonstrate that the process meets the definition of bag or cartridge filtration; and

ii) It must demonstrate that the removal efficiency established through challenge testing that meets criteria in this Subpart Z; and

B) Monthly verification, within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, that 100% of plant flow was filtered.

10) A supplier that uses the membrane filtration toolbox option must submit the following information on the indicated schedule:

A) Results of verification testing no later than the applicable treatment compliance date in Section 611.1013 that demonstrate the following:

i) It must demonstrate that the removal efficiency established through challenge testing that meets criteria ~~set forth~~ in this Subpart Z; and

ii) It must demonstrate the integrity test method and parameters, including resolution, sensitivity, test frequency, control limits, and associated baseline; and

B) A monthly report within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, that summarizes the following:

i) It must summarize all direct integrity tests above the control limit; and

ii) If applicable, it must summarize any turbidity or alternative Agency-approved indirect integrity monitoring results triggering direct integrity testing and the corrective action that was taken.

11) A supplier that uses the second stage filtration toolbox option must submit monthly verification within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment

compliance date in Section 611.1013, that 100% of flow was filtered through both stages and that first stage was preceded by coagulation step.

12) A supplier that uses the slow sand filtration (as secondary filter) toolbox option must submit monthly verification within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, that both a slow sand filter and a preceding separate stage of filtration treated 100% of flow from Subpart B sources.

13) A supplier that uses the chlorine dioxide toolbox option must submit a monthly summary of CT values for each day within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, as described in Section 611.1020.

14) A supplier that uses the ozone toolbox option must submit a monthly summary of CT values for each day within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, as described in Section 611.1020.

15) A supplier that uses the UV toolbox option must submit the following information on the indicated schedule:

A) Validation test results no later than the applicable treatment compliance date in Section 611.1013, that demonstrate operating conditions that achieve required UV dose.

B) A monthly report summarizing the percentage of water entering the distribution system that was not treated by UV reactors operating within validated conditions for the required dose within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, as specified in Section 611.1020(d).

BOARD NOTE: Derived from 40 CFR 141.721.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1023 Requirements to Respond to Significant Deficiencies Identified in Sanitary Surveys Performed by USEPA or the Agency

a) A "sanitary survey" is an onsite review of the water source (identifying sources of contamination by using results of source water assessments if available), facilities,

equipment, operation, maintenance, and monitoring compliance of a PWS to evaluate the adequacy of the PWS, its sources and operations, and the distribution of safe drinking water.

b) For the purposes of this Section, a "significant deficiency" includes a defect in design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution supplier that USEPA or the Agency determines to be causing, or has the potential for causing, the introduction of contamination into the water delivered to consumers.

c) For sanitary surveys performed by USEPA or the Agency, the supplier must respond in writing to significant deficiencies identified in sanitary survey reports no later than 45 days after receipt of the report, indicating how and on what schedule the supplier will address significant deficiencies noted in the survey.

d) A supplier must correct significant deficiencies identified in sanitary survey reports according to the schedule approved by USEPA or the Agency, or if there is no approved schedule, according to the schedule reported under subsection (c) if the~~such~~ deficiencies are within the control of the supplier.

BOARD NOTE: Derived from 40 CFR 141.723.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART AA: REVISED TOTAL COLIFORM RULE

Section 611.1052 Analytical Methods and Laboratory Certification

a) Analytical Methodology

1) The standard sample volume required for analysis is 100 mL, regardless of analytical method the supplier uses.

2) A supplier needs only determine the presence or absence of total coliforms and E. coli; a supplier needs not determine density.

3) The time from sample collection to initiating test medium incubation may not exceed 30 hours. Suppliers should but need not hold samples below 10 ºC during transit.

4) If the supplier is to analyze water having residual chlorine (measured as free, combined, or total chlorine), the supplier must add sufficient sodium thiosulfate ($Na_2S_2O_3$) to the sample bottle before sterilization to neutralize any residual chlorine in the water sample. Section 2 of SM 9060 A (97),

incorporated by reference in Section 611.102, addresses dichlorination procedures.

5) The supplier must conduct total coliform and E. coli analyses in using certain analytical methods, each incorporated by reference in Section 611.102:

BOARD NOTE: The supplier must monitor and analyze only using the version of the approved method in this subsection (a) and incorporated by reference in Section 611.102. The methods listed are the only versions the supplier may use for compliance with this Subpart AA. Laboratories should carefully use only the approved versions of methods, as product package inserts may not be the same as the approved versions of the methods.

A) Total Coliforms, Lactose Fermentation Methods

i) Total Coliform Fermentation Technique. Sections 1 and 2 of SM 9221 B (94) (only the 20th ed.), SM 9221 B (99), SM 9221 B (06), sections 1 through 2 ~~or sections 1 through 4~~ of SM 9221 B (06) ~~SM 9221 B (14)~~, or sections 1 through 4 of SM 9221 B (14).

BOARD NOTE: The supplier may use commercially available lactose broth in lieu of lauryl tryptose broth if the supplier conducts at least 25 parallel tests between lactose broth and lauryl tryptose broth using the water normally tested and this comparison demonstrates false-positive and false-negative rates for total coliforms are less than ten percent using lactose broth.

ii) Presence-Absence (P–A) Coliform Test. Sections 1 and 2 of SM 9221 D (94), SM 9221 D (99), or sections 1 through 3 of SM 9221 D (14).

BOARD NOTE: A supplier may use a multiple tube enumerative format, as SM 9221 D (94), SM 9221 D (99), or SM 9221 D (14) describes, for presence-absence determination under this Subpart AA.

B) Total Coliforms, Membrane Filtration Methods

i) Standard Total Coliform Membrane Filter Procedure Using Endo Medium. SM 9222 B (97), SM 9222 B (15), SM

9222 B (22), SM 9222 C (97), or SM 9222 C (15), SM 9222 C (22).

ii) Membrane Filtration Using MI Medium. USEPA 1604 (02).

iii) Hach 10029 (99) (m-ColiBlue24®).

BOARD NOTE: A supplier must begin all filtration series with membrane filtration equipment the supplier sterilized by autoclaving. Exposing filtration equipment to UV light is not adequate to ensure sterilization. Subsequent to the initial autoclaving, the supplier may expose the filtration equipment to UV light to sanitize the funnels between filtrations within a filtration series. Alternatively, the supplier may use manufacturer-pre-sterilized membrane filtration equipment (i.e., disposable funnel units).

iv) Chromocult® (00).

v) RAPID'E. coli (20).

BOARD NOTE: A supplier must begin all filtration series with membrane filtration equipment the supplier sterilized by autoclaving. Exposing filtration equipment to UV light is not adequate to ensure sterilization. Subsequent to the initial autoclaving, the supplier may expose the filtration equipment to UV light to sanitize the funnels between filtrations within a filtration series. Alternatively, the supplier may use manufacturer-pre-sterilized membrane filtration equipment (i.e., disposable funnel units).

C) Total Coliforms, Enzyme Substrate Methods

i) Colilert®. SM 9223 B (97), SM 9223 B (04), or SM 9223 B (16).

BOARD NOTE: A supplier may use multiple-tube and multi-well enumerative formats for this method in presence-absence determination under this Subpart AA.

ii) Colilert®-18. SM 9223 B (97), SM 9223 B (04), or SM 9223 B (16).

iii) Colisure®. SM 9223 B (97), SM 9223 B (04), or SM 9223 B (16).

BOARD NOTE: A supplier may use multiple-tube and multi-well enumerative formats for this method in presence-absence determination under this Subpart AA. A supplier may read Colisure™ Test results after an incubation time of 24 hours.

iv) E*Colite® (98).

v) Readycult® (07).

vi) Modified Colitag™ (09) or Modified Colitag™ (20).

vii) Tecta (14) or Tecta (17).

D) E. coli (following lactose fermentation methods), EC-MUG Medium. Section 1 of SM 9221 F (94), section 1 of SM 9221 F (01), section 1 of SM 9221 F (06), or section 1 of SM 9221 F (14).

E) E. coli, Partition Methods (following membrane filtration methods)

i) EC Broth with MUG (EC-MUG). Section 1.c(2) of SM 9222 G (97), ~~or~~ SM 9222 H (15), SM 9222 H (22).

BOARD NOTE: The supplier must make certain changes to the EC broth with MUG (EC-MUG) formulation: 1.5 g potassium dihydrogen phosphate (KH_2PO_4) and 0.05 g 4-methylumbelliferyl-β-D-glucuronide.

ii) NA-MUG Medium. Section 1.c(1) of SM 9222 G (97), ~~or~~ SM 9222 I (15), SM 9222 I (22).

F) E. coli, Membrane Filtration Methods

i) Membrane Filtration Using MI Medium. USEPA 1604 (02).

ii) Hach 10029 (99) (m-ColiBlue24®).

BOARD NOTE: A supplier must begin all filtration series with membrane filtration equipment the supplier sterilized by autoclaving. Exposing filtration equipment to UV light

is not adequate to ensure sterilization. Subsequent to the initial autoclaving, the supplier may expose the filtration equipment to UV light to sanitize the funnels between filtrations within a filtration series. Exposure of filtration equipment to UV light is not adequate to ensure sterilization. Alternatively, the supplier may use manufacturer-pre-sterilized membrane filtration equipment (i.e., disposable funnel units).

iii) Chromocult® (00).

iv) RAPID'E. coli (20).

BOARD NOTE: A supplier must begin all filtration series with membrane filtration equipment the supplier sterilized by autoclaving. Exposing filtration equipment to UV light is not adequate to ensure sterilization. Subsequent to the initial autoclaving, the supplier may expose the filtration equipment to UV light to sanitize the funnels between filtrations within a filtration series. Exposure of filtration equipment to UV light is not adequate to ensure sterilization. Alternatively, the supplier may use manufacturer-pre-sterilized membrane filtration equipment (i.e., disposable funnel units).

G) E. coli, Enzyme Substrate Methods

i) Colilert®. SM 9223 B (97), SM 9223 B (04), SM 9223 B (16).

BOARD NOTE: Multiple-tube and multi-well enumerative formats for this method are approved for use in presence-absence determination under this Subpart AA.

ii) Colilert®-18. SM 9223 B (97), SM 9223 B (04), SM 9223 B (16).

iii) Colisure®. SM 9223 B (97), SM 9223 B (04), SM 9223 B (16).

BOARD NOTE: A supplier may use multiple-tube and multi-well enumerative formats for this method in presence-absence determination under this Subpart AA. A supplier may read Colisure™ Test results after an incubation time of 24 hours.

iv) E*Colite® (98).

v) Readycult® (07).

vi) Modified Colitag™ (09) or Modified Colitag™ (20).

vii) Tecta (14) or Tecta (17).

H) Simultaneous Detection of Total Coliforms and E. coli by Dual Chromogen Membrane Filter Procedure (using m-ColiBlue24® medium). SM 9222 J (15) and SM 9222 J (22).

b) Laboratory Certification. A supplier must have a certified laboratory in one of the categories in Section 611.490(a) analyze all compliance samples this Subpart AA requires. The laboratory the supplier uses for compliance monitoring under this Subpart AA must be certified for each method (and associated contaminants).

c) This subsection (c) corresponds with 40 CFR 141.1052(c), a centralized listing of incorporations by reference for the purposes of subpart Y to 40 CFR 141. The Board has centrally located all incorporations by reference in Section 611.102. This statement maintains structural consistency with the federal rules.

BOARD NOTE: This Section derives from 40 CFR 141.852 and appendix A to subpart C of 40 CFR 141. The Board did not separately list approved alternative methods from Standard Methods Online that are the same version as a method appearing in a printed edition of Standard Methods. Using the Standard Methods Online copy is acceptable.

Standard Methods Online, Methods 9221 B-99 and 9221 D-99 appear in the 21st edition as Methods 9221 B and D. This appears in this Section as Methods 9221 B and 9221 D. In this Section, these appear as SM 9221 B (99) and SM 9221 D (99).

Standard Methods Online, Methods 9221 B-06, 9221 D-06, and 9221 F-06 appear in the 22nd edition as Methods 9221 B, D, and F. These appear in this Section as SM 9221 B (06), 9221 D (06), and SM 9221 F (06).

Standard Methods Online, Methods 9222 B-97, 9222 C-97, and 9222 G-97 appear in the 20th edition as Methods 9222 B, 9222 C, and 9222 G. These appear in this Section as SM 9222 B (97), 9222 C (97), and SM 9222 G (97).

Standard Methods Online, Method 9223 B-97 appears in the 20th and 21st editions as Method 9223 B. This appears in this Section as SM 9223 B (97).

Standard Methods Online, Method 9223 B-04 appears in the 22nd edition as Method

9223 B. This appears in this Section as SM 9223 B (04).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1053 General Monitoring Requirements for all PWSs

a) Sample Siting Plans

1) A supplier must develop a written sample siting plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system. These plans are subject to Agency review and revision. The supplier must collect total coliform samples according to the written sample siting plan. Monitoring required by Sections 611.1054 through 611.1058 may take place at a customer's premises, a dedicated sampling station, or another designated compliance sampling location. Routine and repeat sample sites and any sampling points necessary to meet the requirements of Subpart S must be reflected in the sampling plan.

2) A supplier must collect samples at regular time intervals throughout the month, except that systems that use only ground water and serve 4,900 or fewer people may collect all required samples on a single day if they are taken from different sites.

3) A supplier must take at least the minimum number of required samples even if the system has had an E. coli MCL violation or has exceeded the coliform treatment technique triggers in Section 611.1059(a).

4) A supplier may conduct more compliance monitoring than is required by this Subpart AA to investigate potential problems in the distribution system and use monitoring as a tool to assist in uncovering problems. A supplier may take more than the minimum number of required routine samples and must include the results in calculating whether the coliform treatment technique trigger in Section 611.1059(a)(1)(A) and (a)(1)(B) has been exceeded only if the samples are taken in compliance~~accordance~~ with the existing sample siting plan and are representative of water throughout the distribution system.

5) A supplier must identify repeat monitoring locations in the sample siting plan. Unless the provisions of subsection (a)(5)(A) or (a)(5)(B) are met, the supplier must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections

downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one service connection away from the end of the distribution system, the supplier must still take all required repeat samples. However, the Agency may grant a SEP that allows an alternative sampling location in lieu of the requirement to collect at least one repeat sample upstream or downstream of the original sampling site. Except as provided for in subsection (a)(5)(B), a supplier required to conduct triggered source water monitoring under Section 611.802(a) must take ground water source samples in addition to repeat samples required under this Subpart AA.

A) A supplier may propose repeat monitoring locations to the Agency that the supplier believes to be representative of a pathway for contamination of the distribution system. A supplier may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan. The supplier must design its SOP to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations. The Agency may, by a SEP, modify the SOP or require alternative monitoring locations as the Agency determines is necessary.

B) A GWS supplier that serves 1,000 or fewer people may propose repeat sampling locations to the Agency that differentiate potential source water and distribution system contamination (e.g., by sampling at entry points to the distribution system). A GWS supplier that has a single well and that is required to conduct triggered source water monitoring may, as allowed by a SEP, take one of its repeat samples at the monitoring location required for triggered source water monitoring under Section 611.802(a). The supplier must justify an Agency determination that the sample siting plan remains representative of water quality in the distribution system. If approved by a SEP, the supplier may use that sample result to meet the monitoring requirements in both Section 611.802(a) and this Section.

i) If a repeat sample taken at the monitoring location required for triggered source water monitoring is E. coli-positive, the supplier has violated the E. coli MCL and must also comply with Section 611.802(a)(3). If a supplier takes more than one repeat sample at the monitoring location required for triggered source water monitoring, the supplier may reduce the number of additional source water samples

required under Section 611.802(a)(3) by the number of repeat samples taken at that location that were not E. coli-positive.

ii) If a supplier takes more than one repeat sample at the monitoring location required for triggered source water monitoring under Section 611.802(a), and more than one repeat sample is E. coli-positive, the supplier has violated the E. coli MCL and must also comply with Section 611.803(a)(1).

iii) If all repeat samples taken at the monitoring location required for triggered source water monitoring are E. coli-negative and a repeat sample taken at a monitoring location other than the one required for triggered source water monitoring is E. coli-positive, the supplier has violated the E. coli MCL, but is not required to comply with Section 611.802(a)(3).

6) The Agency may, by a SEP, review, revise, and approve, as appropriate, repeat sampling proposed by a supplier under subsections (a)(5)(A) and (a)(5)(B). The supplier must justify an Agency determination that the sample siting plan remains representative of the water quality in the distribution system. The Agency may determine that monitoring at the entry point to the distribution system (especially for undisinfected ground water systems) is effective to differentiate between potential source water and distribution system problems.

b) Special Purpose Samples. Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, must not be used to determine whether the coliform treatment technique trigger has been exceeded. Repeat samples taken under Section 611.1058 are not considered special purpose samples, and must be used to determine whether the coliform treatment technique trigger has been exceeded.

c) Invalidation of Total Coliform Samples. A total coliform-positive sample invalidated under this subsection (c) does not count toward meeting the minimum monitoring requirements of this Subpart AA.

1) The Agency may, by a SEP, invalidate a total coliform-positive sample only if the conditions of subsection (c)(1)(A), (c)(1)(B), or (c)(1)(C) are met.

A) The laboratory establishes that improper sample analysis caused the total coliform-positive result.

B) The Agency, on the basis of the results of repeat samples collected as required under Section 611.1058(a), determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. The Agency cannot invalidate a sample on the basis of repeat sample results unless all repeat samples collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected at a location other than the original tap are total coliform-negative (e.g., a Agency cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the system has only one service connection).

C) The Agency has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. In this case, the system must still collect all repeat samples required under Section 611.1058(a), and use them to determine whether a coliform treatment technique trigger in Section 611.1059 has been exceeded. To invalidate a total coliform-positive sample under this subsection (c)(1), the decision and supporting rationale must be documented in writing and approved and signed by the Agency, as a SEP. The Agency must make this document available to USEPA and the public. The written documentation must state the specific cause of the total coliform-positive sample, and what action the supplier has taken, or will take, to correct this problem. The Agency may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.

2) A laboratory must invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method if gas formation is examined (e.g., the multiple-tube fermentation technique), produces a turbid culture in the absence of an acid reaction in the presence-absence (P–A) coliform test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., membrane filter technique). If a laboratory invalidates a sample because of such interference, the supplier must collect another sample from the same location as the original sample within 24 hours after being notified of the interference problem, and have it analyzed for the presence of total coliforms. The supplier must continue to re-sample within 24

hours and have the samples analyzed until it obtains a valid result. The Agency may, by a SEP, waive the 24-hour time limit on a case-by-case basis. Alternatively, the Agency or any interested person may file a petition for rulemaking, under Sections 27 and 28 of the Act, to establish criteria for waiving the 24-hour sampling time limit to use in lieu of case-by-case extensions.

BOARD NOTE: Derived from 40 CFR 141.853.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1054 Routine Monitoring Requirements for Non-CWSs That Serve 1,000 or Fewer People Using Only Groundwater

a) General

1) This Section applies to non-CWS suppliers that use only groundwater (except groundwater under the direct influence of surface water, as defined in Section 611.102) and that serve 1,000 or fewer people.

2) Following any total coliform-positive sample taken under this Section, a supplier must comply with the repeat monitoring requirements and E. coli analytical requirements in Section 611.1058.

3) Once all monitoring required by this Section and Section 611.1058 for a calendar month has been completed, a supplier must determine whether any coliform treatment technique triggers specified in Section 611.1059 have been exceeded. If any trigger has been exceeded, the supplier must complete assessments as required by Section 611.1059.

4) For the purpose of determining eligibility for remaining on or qualifying for quarterly monitoring under the provisions of subsections (f)(4) and (g)(2), respectively, for transient non-CWS suppliers, the Agency may elect to not count monitoring violations under Section 611.1060(c)(1) if the missed sample is collected no later than the end of the monitoring period following the monitoring period in which the sample was missed. The supplier must collect the make-up sample in a different week than the routine sample for that monitoring period and should collect the sample as soon as possible during the monitoring period. The Agency may not use this provision under subsection (h). This authority does not affect the provisions of Sections 611.1060(c)(1) and 611.1061(a)(4).

b) Monitoring Frequency for Total Coliforms. A supplier must monitor each calendar quarter that the supplier provides water to the public, except for a

seasonal system supplier or as provided under subsections (c) through (h) and (j). A seasonal system supplier must meet the monitoring requirements of subsection (i).

c) Transition to This Subpart AA. The Agency must perform a special monitoring evaluation during each sanitary survey to review the status of the supplier's system, including the distribution system, to determine whether the supplier is on an appropriate monitoring schedule. After the Agency has performed the special monitoring evaluation during each sanitary survey, the Agency may modify the supplier's monitoring schedule, as the Agency determines is necessary, or the Agency may allow the supplier to stay on its existing monitoring schedule, consistent with the provisions of this Section. The Agency may not allow a supplier to begin less frequent monitoring under the special monitoring evaluation unless the supplier has already met the applicable criteria for less frequent monitoring in this Section. For a seasonal system supplier on quarterly or annual monitoring, this evaluation must include review of the approved sample siting plan, which must designate the time periods for monitoring based on site-specific considerations (e.g., during periods of highest demand or highest vulnerability to contamination). The seasonal system supplier must collect compliance samples during these time periods.

d) Annual Site Visits. A supplier on annual monitoring, including a seasonal system supplier, must have an initial and recurring annual site visit by the Agency that is equivalent to a Level 2 assessment or an annual voluntary Level 2 assessment that meets the criteria in Section 611.1059(b) to remain on annual monitoring. The periodic required sanitary survey may be used to meet the requirement for an annual site visit for the year in which the sanitary survey was completed.

e) Criteria for Annual Monitoring. The Agency may, by a SEP, reduce the monitoring frequency for a well-operated GWS supplier from quarterly routine monitoring to no less than annual monitoring, if the supplier demonstrates that it meets the criteria for reduced monitoring in subsections (e)(1) through (e)(3), except for a supplier that has been on increased monitoring under the provisions of subsection (f). A supplier on increased monitoring under subsection (f) must meet the provisions of subsection (g) to go to quarterly monitoring and must meet the provisions of subsection (h) to go to annual monitoring.

1) The supplier's system has a clean compliance history for a minimum of 12 months;

2) The most recent sanitary survey shows that the supplier's system is free of sanitary defects or has corrected all identified sanitary defects, has a protected water source, and meets Agency-approved construction standards; and

3) The Agency has conducted an annual site visit within the last 12 months, and the supplier has corrected all identified sanitary defects. The supplier may substitute a Level 2 assessment that meets the criteria in Section 611.1059(b) for the Agency annual site visit.

f) Increased Monitoring Requirements for Suppliers on Quarterly or Annual Monitoring. A supplier on quarterly or annual monitoring that experiences any of the events identified in subsections (f)(1) through (f)(4) must begin monthly monitoring the month following the event. A supplier on annual monitoring that experiences the event identified in subsections (f)(5) must begin quarterly monitoring the quarter following the event. The supplier must continue monthly or quarterly monitoring until the requirements in subsection (g) for quarterly monitoring or subsection (h) for annual monitoring are met. A supplier on monthly monitoring for reasons other than those identified in subsections (f)(1) through (f)(4) is not considered to be on increased monitoring for the purposes of subsections (g) and (h).

1) The supplier's system triggers a Level 2 assessment or two Level 1 assessments under the provisions of Section 611.1059 in a rolling 12-month period.

2) The supplier's system has an E. coli MCL violation.

3) The supplier's system has a coliform treatment technique violation.

4) The supplier's system has two Subpart AA monitoring violations or one Subpart AA monitoring violation and one Level 1 assessment under the provisions of Section 611.1059 in a rolling 12-month period for a system on quarterly monitoring.

5) The supplier's system has one Subpart AA monitoring violation for a system on annual monitoring.

g) Requirements for Returning to Quarterly Monitoring. The Agency may, by a SEP, reduce the monitoring frequency for a supplier on monthly monitoring triggered under subsection (f) to quarterly monitoring if the supplier's system meets the criteria in subsections (g)(1) and (g)(2).

1) Within the last 12 months, the supplier must have a completed sanitary survey or a site visit of its system by the Agency or a voluntary Level 2 assessment of its system by a party approved by the Agency, the supplier's system must be free of sanitary defects, and the supplier's system must have a protected water source; and

2) The supplier's system must have a clean compliance history for a minimum of 12 months.

h) Requirements for a Supplier on Increased Monitoring to Qualify for Annual Monitoring. The Agency may, by a SEP, reduce the monitoring frequency for a supplier on increased monitoring under subsection (f) if the supplier's system meets the criteria in subsection (g) and the criteria in subsections (h)(1) and (h)(2).

1) An annual site visit by the Agency and correction of all identified sanitary defects. The supplier may substitute a voluntary Level 2 assessment by a party approved by the Agency for the Agency annual site visit in any given year.

2) The supplier must have in place or adopt one or more of the following additional enhancements to the water system barriers to contamination:

A) Cross connection control, as approved by the Agency.

B) An operator certified by an appropriate Agency certification program or regular visits by a circuit rider certified by an appropriate Agency certification program.

C) Continuous disinfection entering the distribution system and a residual in the distribution system in compliance~~accordance~~ with criteria specified by the Agency.

D) Demonstration of maintenance of at least a four-log removal or inactivation of viruses as provided for under Section 141.403(b)(3).

E) Other equivalent enhancements to water system barriers as approved by the State.

i) Seasonal Systems

1) All seasonal system suppliers must demonstrate completion of an Agency-approved start-up procedure, which may include a requirement for startup sampling prior to serving water to the public.

2) A seasonal system supplier must monitor every month that it is in operation unless it meets the criteria in subsections (i)(2)(i) through (iii) to

be eligible for monitoring less frequently than monthly, except as provided under subsection (c).

A) Seasonal a system supplier monitoring less frequently than monthly must have an approved sample siting plan that designates the time period for monitoring based on site-specific considerations (e.g., during periods of highest demand or highest vulnerability to contamination). A seasonal system supplier must collect compliance samples during this time period.

B) To be eligible for quarterly monitoring, the supplier must meet the criteria in subsection (g).

C) To be eligible for annual monitoring, the supplier must meet the criteria under subsection (h).

3) The Agency may, by a SEP, exempt any seasonal system supplier from some or all of the requirements for seasonal system suppliers if the entire distribution system remains pressurized during the entire period that the supplier's system is not operating, except that a supplier that monitors less frequently than monthly must still monitor during the vulnerable period designated by the Agency.

j) Additional Routine Monitoring the Month Following a Total Coliform-Positive Sample. A supplier that collects samples on a quarterly or annual frequency must conduct additional routine monitoring the month following one or more total coliform-positive samples (with or without a Level 1 treatment technique trigger). The supplier must collect at least three routine samples during the next month, except that the Agency may, by a SEP, waive this requirement if the conditions of subsection (j)(1), (j)(2), or (j)(3) are met. The supplier may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. The supplier must use the results of additional routine samples in coliform treatment technique trigger calculations under Section 611.1059(a).

1) The Agency may, by a SEP, waive the requirement to collect three routine samples the next month in which the supplier provides water to the public if the Agency, or an agent approved by the Agency, performs a site visit before the end of the next month in which the supplier's system provides water to the public. Although a sanitary survey need not be performed, the site visit must be sufficiently detailed to allow the Agency to determine whether additional monitoring or any corrective action is needed. The Agency cannot approve an employee of the supplier to

perform this site visit, even if the employee is an agent approved by the Agency to perform sanitary surveys.

2) The Agency may, by a SEP, waive the requirement to collect three routine samples the next month in which the supplier provides water to the public if the Agency has determined why the sample was total coliform-positive and has established that the supplier has corrected the problem or will correct the problem before the end of the next month in which the supplier's system serves water to the public. In this case, the Agency must document this decision to waive the following month's additional monitoring requirement in writing, have it approved and signed by the supervisor of the Agency official who recommends such a decision, and make this document available to USEPA and public. The written documentation must describe the specific cause of the total coliform-positive sample and what action the supplier has taken or will take to correct this problem.

3) The Agency may not waive the requirement to collect three additional routine samples the next month in which the supplier's system provides water to the public solely on the grounds that all repeat samples are total coliform-negative. If the Agency determines that the supplier has corrected the contamination problem before the supplier takes the set of repeat samples required in Section 611.1058, and all repeat samples were total coliform-negative, the Agency may, by a SEP, waive the requirement for additional routine monitoring the next month.

BOARD NOTE: Derived from 40 CFR 141.854.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1055 Routine Monitoring Requirements for CWSs That Serve 1,000 or Fewer People Using Only Groundwater

a) General

1) This Section applies to CWS suppliers that use only ground water (except ground water under the direct influence of surface water, as defined in Section 611.102) and that serve 1,000 or fewer people.

2) Following any total coliform-positive sample taken under the provisions of this Section, the supplier must comply with the repeat monitoring requirements and E. coli analytical requirements in Section 611.1058.

3) Once all monitoring required by this Section and Section 611.1058 for a

calendar month has been completed, the supplier must determine whether any coliform treatment technique triggers specified in Section 611.1059 have been exceeded. If any trigger has been exceeded, the supplier must complete assessments as required by Section 611.1059.

b) Monitoring Frequency for Total Coliforms. The monitoring frequency for total coliforms is one sample per month, except as provided for under subsections (c) through (f).

c) Transition to Subpart AA. The Agency must perform a special monitoring evaluation during each sanitary survey to review the status of the supplier's system, including the distribution system, to determine whether the system is on an appropriate monitoring schedule. After the Agency has performed the special monitoring evaluation during each sanitary survey, the Agency may, by a SEP issued under Section 611.110, modify the supplier's monitoring schedule, as necessary. Alternatively, the Agency may allow the supplier to stay on its existing monitoring schedule, consistent with the provisions of this Section. The Agency may not allow a supplier to begin less frequent monitoring under the special monitoring evaluation unless the supplier has already met the applicable criteria for less frequent monitoring in this Section.

d) Criteria for Reduced Monitoring

1) The Agency may, by a SEP, reduce the monitoring frequency from monthly monitoring to no less than quarterly monitoring if the supplier is in compliance with Agency-certified operator provisions and demonstrates that it meets the criteria in subsections (d)(1)(A) through (d)(1)(C). A supplier that loses its certified operator must return to monthly monitoring the month following that loss.

A) The supplier has a clean compliance history for a minimum of 12 months.

B) The most recent sanitary survey shows the supplier is free of sanitary defects (or has an approved plan and schedule to correct them and is in compliance with the plan and the schedule), has a protected water source, and meets Agency-approved construction standards.

C) The supplier meets at least one of the following criteria:

i) An annual site visit by the Agency that is equivalent to a Level 2 assessment or an annual Level 2 assessment by a party approved by the Agency and correction of all

identified sanitary defects (or an approved plan and schedule to correct them and is in compliance with the plan and schedule).

ii) Cross connection control, as approved by the Agency.

iii) Continuous disinfection entering the distribution system and a residual in the distribution system in compliance~~accordance~~ with criteria specified by the Agency.

iv) Demonstration of maintenance of at least a 4-log removal or inactivation of viruses as provided for under Section 611.803(b)(3).

v) Other equivalent enhancements to water system barriers as approved by the Agency.

2) This subsection (d)(2) corresponds with 40 CFR 141.855(d)(2), which USEPA has marked "reserved". This statement maintains structural consistency with the corresponding federal provision.

e) Return to Routine Monthly Monitoring Requirements. A supplier on quarterly monitoring that experience any of the events in subsections (e)(1) through (e)(4) must begin monthly monitoring the month following the event. The supplier must continue monthly monitoring until it meets the reduced monitoring requirements in subsection (d).

1) The supplier triggers a Level 2 assessment or two Level 1 assessments in a rolling 12-month period.

2) The supplier has an E. coli MCL violation.

3) The supplier has a coliform treatment technique violation.

4) The supplier has two Subpart AA monitoring violations in a rolling 12-month period.

f) Additional Routine Monitoring the Month Following a Total Coliform-Positive Sample. A supplier collecting samples on a quarterly frequency must conduct additional routine monitoring the month following one or more total coliform-positive samples (with or without a Level 1 treatment technique trigger). A supplier must collect at least three routine samples during the next month, except that the Agency may, by a SEP, waive this requirement if the conditions of

subsection (f)(1), (f)(2), or (f)(3) are met. A supplier may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. A supplier must use the results of additional routine samples in coliform treatment technique trigger calculations.

1) The Agency may, by a SEP, waive the requirement to collect three routine samples the next month in which the supplier's system provides water to the public if the Agency, or an agent approved by the Agency, performs a site visit before the end of the next month in which the supplier's system provides water to the public. Although a sanitary survey need not be performed, the site visit must be sufficiently detailed to allow the Agency to determine whether additional monitoring or any corrective action is needed. The Agency cannot approve an employee of the supplier to perform this site visit, even if the employee is an agent approved by the Agency to perform sanitary surveys.

2) The Agency may, by a SEP, waive the requirement to collect three routine samples the next month in which the supplier's system provides water to the public if the Agency has determined why the sample was total coliform-positive and has established that the supplier has corrected the problem or will correct the problem before the end of the next month in which the supplier's system serves water to the public. In this case, the Agency must document this decision to waive the following month's additional monitoring requirement in writing, have it approved and signed by the supervisor of the Agency official who recommends such a decision, and make this document available to USEPA and the public. The written documentation must describe the specific cause of the total coliform-positive sample and what action the supplier has taken or will take to correct this problem.

3) The Agency may not waive the requirement to collect three additional routine samples the next month in which the supplier's system provides water to the public solely on the grounds that all repeat samples are total coliform-negative. If the Agency determines that the supplier has corrected the contamination problem before the supplier takes the set of repeat samples required in Section 611.1058, and all repeat samples were total coliform-negative, the Agency may, by a SEP, waive the requirement for additional routine monitoring the next month.

BOARD NOTE: Derived from 40 CFR 141.855.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1059 Coliform Treatment Technique Triggers and Assessment Requirements for Protection Against Potential Fecal Contamination

a) Treatment Technique Triggers. A supplier must conduct assessments in compliance~~accordance~~ with subsection (b) after exceeding treatment technique triggers in subsections (a)(1) and (a)(2).

1) Level 1 Treatment Technique Triggers

A) For a supplier taking 40 or more samples per month, the supplier exceeds 5.0% total coliform-positive samples for the month.

B) For a supplier taking fewer than 40 samples per month, the supplier has two or more total coliform-positive samples in the same month.

C) The supplier fails to take every required repeat sample after any single total coliform-positive sample.

2) Level 2 Treatment Technique Triggers

A) An E. coli MCL violation, as specified in Section 611.1060(a).

B) A second Level 1 trigger as defined in subsection (a)(1), within a rolling 12-month period, unless the Agency, by a SEP, has determined a likely reason that the samples that caused the first Level 1 treatment technique trigger were total coliform-positive and has established that the supplier has corrected the problem.

C) For a supplier with approved annual monitoring, a Level 1 trigger in two consecutive years.

b) Requirements for Assessments

1) A supplier must ensure that Level 1 and Level 2 assessments are conducted in order to identify the possible presence of sanitary defects and defects in distribution system coliform monitoring practices. Level 2 assessments must be conducted by parties approved by the Agency.

2) When conducting assessments, the supplier must ensure that the assessor evaluates minimum elements that include review and identification of inadequacies in sample sites; sampling protocol; sample processing; atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system

maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, if appropriate (e.g., small ground water systems); and existing water quality monitoring data. The supplier must conduct the assessment consistent with any Agency directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system.

3) Level 1 Assessments. A supplier must conduct a Level 1 assessment consistent with Agency requirements if the supplier exceeds one of the treatment technique triggers in subsection (a)(1).

A) The supplier must complete a Level 1 assessment as soon as practical after any trigger in subsection (a)(1). In the completed assessment form, the supplier must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective actions not already completed. The assessment form may also note that no sanitary defects were identified. The supplier must submit the completed Level 1 assessment form to the Agency within 30 days after the supplier learns that it has exceeded a trigger.

B) If the Agency reviews the completed Level 1 assessment and determines that the assessment is not sufficient (including any proposed timetable for any corrective actions not already completed), the Agency must consult with the supplier. If the Agency, by a SEP, requires revisions after consultation, the supplier must submit a revised assessment form to the Agency on an agreed-upon schedule not to exceed 30 days from the date of the consultation.

C) Upon completion and submission of the assessment form by the supplier, the Agency must determine if the supplier has identified a likely cause for the Level 1 trigger and, if so, establish that the supplier has corrected the problem, or has included a schedule acceptable to the Agency for correcting the problem.

4) Level 2 Assessments. A supplier must ensure that a Level 2 assessment consistent with Agency requirements is conducted if the supplier exceeds one of the treatment technique triggers in subsection (a)(2). The supplier must comply with any expedited actions or additional actions required by the Agency, by a SEP, in the case of an E. coli MCL violation.

A) The supplier must ensure that a Level 2 assessment is completed by the Agency or by a party approved by the Agency as soon as practical after any trigger in subsection (a)(2). The supplier must submit a completed Level 2 assessment form to the Agency within 30 days after the supplier learns that it has exceeded a trigger. The assessment form must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective actions not already completed. The assessment form may also note that no sanitary defects were identified.

B) The supplier may conduct Level 2 assessments if the supplier has staff or management with the certification or qualifications specified by the Agency unless otherwise directed by the Agency, by a SEP.

C) If the Agency reviews the completed Level 2 assessment and determines that the assessment is not sufficient (including any proposed timetable for any corrective actions not already completed), the Agency must consult with the system. If the Agency requires revisions after consultation, the supplier must submit a revised assessment form to the Agency on an agreed-upon schedule not to exceed 30 days.

D) Upon completion and submission of the assessment form by the supplier, the Agency must determine if the system has identified a likely cause for the Level 2 trigger and determine whether the supplier has corrected the problem, or has included a schedule acceptable to the Agency for correcting the problem.

c) Corrective Action. A supplier must correct sanitary defects found through either Level 1 or 2 assessments conducted under subsection (b). For corrections not completed by the time of submission of the assessment form, the supplier must complete the corrective actions in compliance with a timetable approved by the Agency, by a SEP, in consultation with the supplier. The supplier must notify the Agency when each scheduled corrective action is completed.

d) Consultation. At any time during the assessment or corrective action phase, either the water supplier or the Agency may request a consultation with the other party to determine the appropriate actions to be taken. The supplier may consult with the Agency on all relevant information that may impact on its ability to comply with a requirement of this Subpart AA, including the method of accomplishment, an appropriate timeframe, and other relevant information.

BOARD NOTE: Derived from 40 CFR 141.859.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1061 Reporting and Recordkeeping

a) Reporting

1) E. coli

A) A supplier must notify the Agency by the end of the day when the system learns of an E. coli MCL violation, unless the supplier learns of the violation after the Agency office is closed and the Agency does not have either an after-hours phone line or an alternative notification procedure, in which case the supplier must notify the Agency before the end of the next business day, and the supplier notifies the public in compliance~~accordance~~ with Subpart V.

B) A supplier must notify the Agency by the end of the day when the supplier is notified of an E. coli-positive routine sample, unless the supplier is notified of the result after the Agency office is closed and the Agency does not have either an after-hours phone line or an alternative notification procedure, in which case the supplier must notify the Agency before the end of the next business day.

2) A supplier that has violated the treatment technique for coliforms in Section 611.1059 must report the violation to the Agency no later than the end of the next business day after it learns of the violation, and notify the public in compliance~~accordance~~ with Subpart V.

3) A supplier required to conduct an assessment under the provisions of Section 611.1059 must submit the assessment report within 30 days. The supplier must notify the Agency in compliance~~accordance~~ with Section 611.1059(c) when each scheduled corrective action is completed for corrections not completed by the time of submission of the assessment form.

4) A supplier that has failed to comply with a coliform monitoring requirement must report the monitoring violation to the Agency within ten days after the supplier discovers the violation, and notify the public in compliance~~accordance~~ with Subpart V.

5) A seasonal system supplier must certify, prior to serving water to the public, that it has complied with the Agency-approved start-up procedure.

b) Recordkeeping

1) The supplier must maintain any assessment form, regardless of who conducts the assessment, and documentation of corrective actions completed as a result of those assessments, or other available summary documentation of the sanitary defects and corrective actions taken under Section 611.1059 for Agency review. This record must be maintained by the supplier for a period not less than five years after completion of the assessment or corrective action.

2) The supplier must maintain a record of any repeat sample taken that meets Agency criteria for an extension of the 24-hour period for collecting repeat samples as provided for under Section 611.1058(a)(1).

BOARD NOTE: Derived from 40 CFR 141.861.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART AG: INTERIM LEAD AND COPPER RULES

Section 611.1350 General Requirements

a) Applicability and Scope

1) Applicability and Complying with this Subpart AG. Subpart G and this Subpart AG constitute NPDWRs for lead and copper. Subpart G and this Subpart AG apply to all community water systems (CWSs) and non-transient, non-community water systems (NTNCWSs).

A) A supplier must comply with this Subpart AG until the earlier of when the supplier complies with Subpart AG or October 16, 2024.

B) If the Agency issued a SEP prior to December 16, 2021, exempting a supplier under any rule in former Subpart G (now this Subpart AG), the supplier must comply with this Subpart AG until that SEP expires.

C) The Agency may issue a SEP requiring a supplier to comply with specified rules in Subpart G before Section 611.350(a)(1)(A) or (a)(1)(B) otherwise requires or as necessary to address issues in a notice the Agency received from USEPA under 40 CFR 142.23 or 142.30. The SEP must specify the rules in Subpart G with which the supplier must comply and their counterparts in this Subpart AG

with which the supplier needs no longer comply. The supplier must comply with the SEP-specified Subpart G rules in lieu of their counterparts in this Subpart AG.

D) Relationship Between Subpart G and Subpart AG Rules

i) The rules in this Subpart AG are based on Subpart G as it existed on December 16, 2021, the effective date of USEPA's Lead and Copper Rule Revisions.

ii) Each rule in this Subpart AG corresponds with a rule in Subpart G by adding the digit "1" immediately after "611." in the Section number. Removing that "1" from the Section number of a rule in this Subpart AG gives the corresponding rule in Subpart G.

iii) Any action under a rule that was in Subpart G before December 16, 2021, satisfies the corresponding rule in this Subpart AG.

BOARD NOTE: USEPA's LCRR apply to all suppliers on December 16, 2021. However, USEPA delays requiring compliance with LCRR until October 16, 2024, when any previously granted exemption expires, or as provided otherwise by any of several specified rules for corrosion control treatment; lead service line replacement; public education, supplemental monitoring, and mitigation; monitoring; and reporting (corresponding with 35 Ill. Adm. Code 611.351, 611.354, 611.355, 611.356, or 611.360). Until a supplier must comply with the LCRR, USEPA requires the supplier to comply with subpart I of 40 CFR 141 (2020). This requires the Board to codify two versions of the Lead and Copper Rule: one in this Subpart AG, representing the Lead and Copper Rules prior to the LCRR (40 CFR 141 (2020)), and the other in Subpart G, representing 40 CFR 141 incorporating the LCRR.

2) Scope. This Subpart AG establishes a treatment technique including corrosion control treatment, source water treatment, lead service line replacement, and public education. Lead and copper action levels the supplier measures in samples collected at consumers' taps trigger ~~some of~~ these requirements.

b) Definitions. For this Subpart AG only, this subsection (b) defines certain terms:

"Action level" means the computed concentration of lead or copper in water under subsection (c) determining applicability of some treatment

requirements under this Subpart AG. The action level for lead is 0.015 mg/L. The action level for copper is 1.3 mg/L.

"Corrosion inhibitor" means a substance that can reduce corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

"Effective corrosion inhibitor residual" means a concentration of corrosion inhibitor in the drinking water sufficient to form a passivating film on the interior walls of pipe.

"Exceed" or "exceedance", relative to either the lead or the copper action level, means that the 90th percentile level of the samples the supplier collected during a six-month monitoring period is greater than the lead or copper action level.

"First-liter sample~~First-draw tap sample~~" means a one-liter sample of tap water, a supplier collects under Section 611.1356(b)(2), that stood in plumbing pipes for at least six hours and the supplier collects without flushing the tap.

"Large system" means a water system regularly serving water to more than 50,000 persons.

"Lead service line" means a service line made of lead connecting the water main to the building inlet, including any lead pigtail, gooseneck, or other fitting that is connected to such lead line.

"Maximum permissible concentration" or "MPC" means the concentration of lead or copper in finished water entering the supplier's distribution system, which the Agency designates in a SEP based on the contaminant removal ability of the treatment properly operated and maintained.

BOARD NOTE: This definition derives from 40 CFR 141.83(b)(4) (2020). (See Section 611.1353(b)(4)(B).)

"Medium-sized water system" means a water system regularly serving water to 3,301 to 50,000 persons.

"Meet" or "comply with", relating to either the lead or the copper action level, means that the 90th percentile level of the supplier's samples collected during a six-month monitoring period is less than or equal to the lead or copper action level.

"Monitoring period" means any of the six-month periods during which a supplier must complete a cycle of monitoring under this Subpart AG.

"Multiple-family residence" means a building that is currently used as a multiple-family residence, but not one that is also a "single-family structure".

"90th percentile level" means the concentration of lead or copper that ten percent or fewer of all samples tap water samples under Section 611.1356 exceed during a six-month monitoring period (i.e., that contaminant concentration greater than or equal to the results obtained from 90 percent of the samples). The supplier must determine the 90th percentile levels for copper and lead under subsection (c)(3).

BOARD NOTE: This definition derives from 40 CFR 141.80(c) (2020).

"Optimal corrosion control treatment" means the corrosion control treatment minimizing the lead and copper concentrations at users' taps while ensuring that the treatment will not violate any national primary drinking water regulations.

"Practical quantitation limit" or "PQL" means the lowest concentration of a contaminant that a well-operated laboratory can reliably analyze within specified limits of precision and accuracy during routine laboratory operating conditions. The PQL for lead is 0.005 mg/ L. The PQL for copper is 0.050 mg/ L.

BOARD NOTE: This definition derives from 40 CFR 141.89(a)(1)(ii) and (a)(1)(iv) (2020).

"Service line sample" means a one-liter sample of water under Section 611.1356(b)(3) that stood for at least six hours in a service line.

"Single-family structure" means a building constructed as a residence for a single-family that the occupant currently uses as a residence or place of business.

"Small system" means a water system regularly serving water to 3,300 or fewer persons.
BOARD NOTE: A small system for purposes of a small system variance under Section 611.131 is distinct from small-sized water system under this Subpart AG.

BOARD NOTE: This subsection (b) derives from 40 CFR 141.2 (2020).

c) Lead and Copper Action Levels

1) The supplier exceeds the lead action level if the 90th percentile lead level is greater than 0.015 mg/L.

2) The supplier exceeds the copper action level if the 90th percentile copper level is greater than 1.3 mg/L.

3) Suppliers must compute the 90th percentile lead and copper levels using the specified procedure:

A) The supplier must list the results of all lead or copper samples it took during the six-month monitoring period in ascending order, ranging from the sample with the lowest concentration to the sample with the highest concentration. The supplier must assign each sampling result an ordinal number, ascending by single integers, assigning the number 1 for the sample with the lowest contaminant level. The number the supplier assigns to the sample with the highest contaminant level must equal the total number of samples the supplier took.

B) To determine the 90th percentile sample, the supplier must multiply the total number of samples taken during the six-month monitoring period times 0.9.

C) The contaminant concentration in the sample corresponding with the ordinal number calculating under subsection (c)(3)(B) yields is the 90th percentile contaminant level.

D) For a supplier collecting five samples per six-month monitoring period, the 90th percentile is the average of the highest and second highest concentrations.

E) For a supplier the Agency allows to collect fewer than five samples under Section 611.1356(c), the result for the sample with the highest concentration is the 90th percentile value.

d) Corrosion Control Treatment Requirements

1) Every supplier must install and operate optimal corrosion control treatment.

2) Any supplier complying with the applicable corrosion control treatment requirements the Agency specifies under Sections 611.1351 and 611.1352 is deemed as complying with subsection (d)(1).

e) Source Water Treatment Requirements. Any supplier whose system exceeds the lead or copper action level must implement all applicable source water treatment requirements the Agency specifies under Section 611.1353.

f) Lead Service Line Replacement Requirements. Any supplier whose system exceeds the lead action level after implementing applicable corrosion control and source water treatment must complete the lead service line replacement under Section 611.1354.

g) Public Education Requirements. Under Section 611.1355, the supplier must provide a consumer notice of the lead tap water monitoring results to the persons served at each tested site (tap). Any supplier exceeding the lead action level must implement the public education requirements.

h) Monitoring and Analytical Requirements. A supplier must complete all tap water monitoring for lead and copper, monitoring for water quality parameters, and source water monitoring for lead and copper and analyze the monitoring results under this Subpart AG as Sections 611.1356, 611.1357, 611.1358, and 611.1359 require.

i) Reporting Requirements. A supplier must report any information the treatment provisions of this Subpart AG and Section 611.1360 require to the Agency.

j) Recordkeeping Requirements. A supplier must maintain records as Section 611.1361 requires.

k) Violation of National Primary Drinking Water Regulations. Failing to comply with this Subpart AG, including conditions the Agency imposes in a SEP, violates the lead or copper NPDWRs.

BOARD NOTE: This Section corresponds with Section 611.1350 and derives from 40 CFR 141.80 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1351 Applicability of Corrosion Control

a) Corrosion Control Required. A supplier must complete the applicable corrosion control treatment under Section 611.1352 by ~~on or before~~ the deadlines in this Section.

1) Large Systems. Each large system supplier (one regularly serving more than 50,000 persons) must complete the corrosion control treatment steps subsection (d) specifies, unless subsection (b)(2) or (b)(3) deems the supplier to have optimized corrosion control.

2) Small and Medium-Sized Systems. Each small system supplier (one regularly serving 3,300 or fewer persons) and each medium-sized water system (one regularly serving 3,301 to 50,000 persons) must complete the corrosion control treatment steps subsection (e) specifies, unless subsection (b)(1), (b)(2), or (b)(3) deems the supplier to have optimized corrosion control.

b) Suppliers Deemed to Have Optimized Corrosion Control. Subsection (b)(1), (b)(2), or (b)(3) deems a supplier to have optimized corrosion control treatment if the supplier satisfies the criterion the subsection specifies, freeing the supplier from the obligation to complete the applicable corrosion control treatment steps in this Section. Any system subsection (b)(1), (b)(2), or (b)(3) deems to have optimized corrosion control having treatment in place must continue operating and maintaining optimal corrosion control treatment and meeting any requirements the Agency determines are appropriate to ensure that the supplier maintains optimal corrosion control treatment.

1) Small and Medium-Sized Systems Meeting Action Levels. Meeting the lead and copper action levels during each of two consecutive six-month monitoring periods under Section 611.1356 deems a small or medium-sized system supplier to have optimized corrosion control.

2) SEP for Activities Equivalent to Corrosion Control. The Agency must issue a SEP deeming a supplier to have optimized corrosion control treatment upon determining that the supplier conducts activities equivalent to the corrosion control steps under this Section. In making this determination, the Agency must specify the water quality control parameters representing optimal corrosion control under Section 611.1352(f). A water supplier the Agency deems as having optimized corrosion control under this subsection (b)(2) must operate in compliance with the Agency-designated optimal water quality control parameters under Section 611.1352(g) and must continue to conduct lead and copper tap and water quality parameter sampling under Sections 611.1356(d)(3) and 611.1357(d). A supplier must provide the Agency with the following information to support the Agency issuing a SEP under this subsection (b)(2):

A) The results of all test samples the supplier collected for each of the water quality parameters in Section 611.1352(c)(3);

B) A report explaining the test methods the supplier used to evaluate the corrosion control treatments in Section 611.1352(c)(1), the results of all tests conducted, and the basis for the supplier selecting the optimal corrosion control treatment;

C) A report explaining how the supplier installed corrosion control and how the supplier maintains the corrosion control to insure minimal lead and copper concentrations at consumers' taps; and

D) The results of tap water samples the supplier collected under Section 611.1356 at least once every six months for one year after the supplier installed corrosion control.

3) Results Less Than Practical Quantitation Level (PQL) for Lead. Monitoring results deem supplier to have optimized corrosion control if the supplier submits results of tap water monitoring under Section 611.1356 and source water monitoring under Section 611.1358 demonstrating that for two consecutive six-month monitoring periods the difference between the 90th percentile tap water lead level, computed under Section 611.1350(c)(3), and the highest source water lead concentration is less than the PQL that Section 611.1359(a)(2)(A) specifies.

A) Having a highest source water lead level below the MDL deems a supplier to have optimized corrosion control under this subsection (b)(3) if the 90th percentile tap water lead level is less than or equal to the lead PQL for two consecutive six-month monitoring periods.

B) Any supplier this subsection (b)(3) deems to have optimized corrosion control must continue tap water monitoring for lead and copper no less frequently than once every three calendar years using the reduced number of sites Section 611.1356(c) specifies and collecting the samples at times and locations Section 611.1356(d)(4)(D) specifies.

C) Any supplier this subsection (b)(3) deems to have optimized corrosion control must notify the Agency in writing under Section 611.1360(a)(3) of any upcoming long-term change in treatment or the addition of a new source, as that Section describes. The Agency must review and approve the addition of a new source or

any long-term change in water treatment before the supplier adds the source or implements the long-term change.

D) A supplier is not deemed to have optimized corrosion control under this subsection (b)(3) and must implement corrosion control treatment under subsection (b)(3)(E), unless the supplier meets the copper action level.

E) Any supplier this subsection (b)(3) no longer deems to have optimized corrosion control must implement corrosion control treatment under subsection (e). Any large system supplier this subsection (b)(3) no longer deems to have optimized corrosion control must adhere to the schedule that subsection (e) specifies for a medium-sized water system supplier, with the time periods for completing each step being triggered by the date the supplier is no longer deemed to have optimized corrosion control under this subsection (b)(3).

c) Suppliers Not Required to Complete Corrosion Control Steps for Having Met Both Action Levels

1) Any small or medium-sized water system supplier, otherwise required to complete the corrosion control steps because it exceeded the lead or copper action level, may cease completing the treatment steps after fulfilling specific conditions:

A) The supplier meets both the copper and lead action levels during each of two consecutive six-month monitoring periods under Section 611.1356; and

B) The supplier submits the results for those two consecutive six-month monitoring periods to the Agency.

2) A supplier that ceases completing the corrosion control steps under subsection (c)(1) (or the Agency, if appropriate) must resume completion of the applicable treatment steps, beginning with the first treatment step that the supplier previously did not complete in its entirety, if the supplier ~~thereafter~~ exceeds the lead or copper action level during any monitoring period.

3) The Agency may issue a SEP requiring a supplier to repeat treatment steps the supplier previously completed if the Agency determines that this is necessary to properly implement the treatment requirements of this

sectionSection. The Agency must explain the basis for its decision in any SEP.

4) A small or medium-sized water system supplier exceeding the lead or copper action level triggers the requirement to implement corrosion control treatment steps under subsection (e) (including systems deemed to have optimized corrosion control under subsection (b)(1)).

d) Treatment Steps for Large Systems. Except as subsections (b)(2) and (b)(3) provide otherwise, a large system must complete certain corrosion control treatment steps as specific rules provide).

1) Step 1: Initial monitoring during two consecutive six-month monitoring periods (under Sections 611.1356(d)(1) and 611.1357(b)).

2) Step 2: Corrosion control studies (under Section 611.1352(c)).

3) Step 3: The Agency approving optimal corrosion control treatment in a SEP (under Section 611.1352(d)).

4) Step 4: Installing optimal corrosion control treatment (under Section 611.1352(e)).

5) Step 5: Completing follow-up sampling (under Sections 611.1356(d)(2) and 611.1357(c)).

6) Step 6: The Agency reviewing installed treatment and approving optimal water quality control parameters (under Section 611.1352(f)).

7) Step 7: Complying with the Agency-specified optimal water quality control parameters (under Section 611.1352(g)) and continuing tap sampling (under Sections 611.1356(d)(3) and 611.1357(d)).

e) Treatment Steps and Deadlines for Small and Medium-Sized Water Systems. Except as subsection (b) provides otherwise, a small and medium-sized system supplier must complete certain corrosion control treatment steps as specific rules provide before the indicated time periods.

1) Step 1: The supplier must conduct initial tap sampling (under Sections 611.1356(d)(1) and 611.1357(b)) until the supplier either exceeds the lead or copper action level or becomes eligible for reduced monitoring under Section 611.1356(d)(4). A supplier exceeding the lead or copper action level must recommend optimal corrosion control treatment (under Section

611.1352(a)) within six months after the end of the monitoring period during which the exceedance occurred.

2) Step 2: Within 12 months after the end of the monitoring period during which a supplier exceeds the lead or copper action level, the Agency may require the supplier to perform corrosion control studies (under Section 611.1352(b)). If the Agency does not require the supplier to perform corrosion control studies, the Agency must issue a SEP specifying optimal corrosion control treatment (under Section 611.1352(d)) within the appropriate of specific timeframes:

   A) For a medium-sized water system, within 18 months after the end of the monitoring period during which the supplier exceeded the lead or copper action level; or

   B) For a small system, within 24 months after the end of the monitoring period during which the supplier exceeded the lead or copper action level.

3) Step 3: If the Agency requires a supplier to perform corrosion control studies under step 2 (subsection (e)(2)), the supplier must complete the studies (under Section 611.1352(c)) within 18 months after the Agency requires the supplier to conduct the studies.

4) Step 4: If a supplier performs corrosion control studies under step 2 (subsection (e)(2)), the Agency must issue a SEP approving optimal corrosion control treatment (under Section 611.1352(d)) within six months after the supplier completes step 3 (under subsection (e)(3)).

5) Step 5: The supplier must install optimal corrosion control treatment (under Section 611.1352(e)) within 24 months after the Agency approves that treatment.

6) Step 6: The supplier must complete follow-up sampling (under Sections 611.1356(d)(2) and 611.1357(c)) within 36 months after the Agency approves optimal corrosion control treatment.

7) Step 7: The Agency must review the supplier's installation of treatment and issue a SEP approving optimal water quality control parameters (under Section 611.1352(f)) within six months after the supplier completes step 6 (under subsection (e)(6)).

8) Step 8: The supplier must comply with the Agency-approved optimal water quality control parameters (under Section 611.1352(g)) and continue tap sampling (under Sections 611.1356(d)(3) and 611.1357(d)).

BOARD NOTE: This Section corresponds with Section 611.1351 and derives from 40 CFR 141.81 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1353 Source Water Treatment

A supplier must complete source water monitoring and treatment requirements (under subsection (b) and Sections 611.1356 and 611.1358) before specific deadlines.

a) Deadlines for Completing Source Water Treatment Steps

1) Step 1: A supplier exceeding the lead or copper action level must complete lead and copper and source water monitoring (under Section 611.1358(b)) and recommend treatment to the Agency (under subsection (b)(1)) within 180 days after the end of the tap monitoring period during which the supplier exceeded the action level.

2) Step 2: The Agency must issue a SEP determining source water treatment (under subsection (b)(2)) within six months after the supplier submits monitoring results under step 1.

3) Step 3: If the Agency requires installing source water treatment, the supplier must install that treatment (under subsection (b)(3)) within 24 months after the Agency completes step 2.

4) Step 4: The supplier must complete follow-up tap water monitoring (under Section 611.1356(d)(2)) and source water monitoring (under Section 611.1358(c)) within 36 months after completion of step 2.

5) Step 5: The Agency must issue a SEP reviewing the supplier's installation and operation of source water treatment and specify MPCs for lead and copper (under subsection (b)(4)) within six months after the Agency completes step 4.

6) Step 6: The supplier must comply with the Agency-specified lead and copper MPCs (under subsection (b)(4)) and continue source water monitoring (under Section 611.1358(d)).

b) Source Water Treatment Requirements

1) System Treatment Recommendation. Any supplier exceeding the lead or copper action level must recommend to the Agency in writing one of the source water treatments in subsection (b)(2). A supplier may recommend installing no treatment based on a demonstration that source water treatment is not necessary to minimize lead and copper levels at users' taps.

2) Agency Determination Regarding Source Water Treatment

A) The Agency must evaluate the results of all source water samples the supplier submitted to determine whether source water treatment is necessary to minimize lead or copper levels in water the supplier delivers to users' taps.

B) If the Agency determines treatment necessary, the Agency must issue a SEP requiring the supplier to install and operate either the source water treatment the supplier recommended (if any) or another from among specific source water treatment techniques:

i) ion exchange;

ii) reverse osmosis;

iii) lime softening; or

iv) coagulation/filtration.

C) The Agency may require the supplier to submit, by~~on or before~~ a certain date, any additional information as the Agency determines is necessary to aid its review.

D) The Agency must notify the supplier in writing of its determination, stating the basis for its decision.

3) Installing Source Water Treatment. A supplier must properly install and operate the source water treatment the Agency approves under subsection (b)(2).

4) Agency Reviewing Source Water Treatment and Specifying Maximum Permissible Source Water Levels (MPCs)

A) The Agency must review the source water samples the supplier took both before and after the supplier installs source water

treatment and determine whether the supplier properly installs and operates the approved source water treatment.

B) Based on its review, the Agency must issue a SEP approving the lead and copper MPCs for finished water entering the supplier's distribution system. The MPC levels must reflect the contaminant removal capability of the treatment when properly operated and maintained.

C) The Agency must explain the basis for its decision under subsection (b)(4)(B).

5) Continued Operation and Maintenance. A supplier must maintain lead and copper levels below the MPCs the Agency approved at every sampling point the supplier monitors under Section 611.1358. The supplier does not comply with this subsection (b) if the level of lead or copper at any sampling point is greater than the MPC the Agency approved under subsection (b)(4)(B).

6) Modifying Agency Treatment Decisions

A) On its own initiative, or in response to a request by the supplier, the Agency may issue a SEP modifying its determination of the source water treatment under subsection (b)(2) or the lead and copper MPCs under subsection (b)(4).

B) A supplier must make a request to modify in writing, explaining the propriety of the modification, and providing supporting documentation.

C) The Agency may issue a SEP modifying its determination if it concludes that the change is necessary to ensure that the supplier continues minimizing lead and copper concentrations in source water.

D) A revised determination under subsection (b)(6)(C) must state the new treatment requirements, explain the basis for the Agency's decision, and provide a schedule for completing the treatment modifications.

E) Any interested person may submit information to the Agency in writing bearing on whether the Agency should exercise its discretion and issue a SEP modifying its determination under subsection (b)(2). An Agency determination not to act on

information an interested person submits is not an Agency determination for the purposes of Sections 39 and 40 of the Act.

7) USEPA Treatment Decisions. Under 40 CFR 142.19, USEPA reserves the prerogative to review Agency treatment determinations under subsections (b)(2), (b)(4), or (b)(6) and issue federal treatment determinations consistent with 40 CFR 141.83(b)(2), (b)(4), and (b)(6) (2020) if USEPA finds that certain conditions exist:

A) the Agency fails to issue a treatment determination by the applicable deadline in subsection (a);

B) the Agency abuses its discretion in a substantial number of instances or in instances affecting a substantial population; or

C) the technical aspects of the Agency's determination would be indefensible in a federal enforcement action taken against the supplier.

BOARD NOTE: This Section corresponds with Section 611.1353 and derives from 40 CFR 141.83 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1354 Lead Service Line Replacement

a) Suppliers That Must Replace Lead Service Lines

1) If the results from tap samples the supplier took under Section 611.1356(d)(2) exceed the lead action level after the supplier installs corrosion control or source water treatment (whichever sampling occurs later), the supplier must recommence replacing lead service lines under subsection (b).

2) If a supplier violates Section 611.1351 or 611.1353 by failing to install source water or corrosion control treatment, the Agency may issue a SEP requiring the supplier to begin lead service line replacement under this Section after the date when Section 611.1356(d)(2) required the supplier to conduct monitoring.

b) Annually Replacing Lead Service Lines

1) Initiating a Lead Service Line Replacement Program

A) A supplier that subsection (a) requires to begin replacing lead service lines must annually replace at least seven percent of the initial number of lead service lines in its distribution system.

B) The initial number of lead service lines in a distribution system is the number of lead lines in place when the supplier begins its replacement program.

C) The supplier must identify the initial number of lead service lines in its distribution system, indicating the portions of the system the supplier owns, based on a materials evaluation, including the evaluation Section 611.1356(a) requires and relevant legal authorities (e.g., contracts, local ordinances, etc.) regarding the portion the supplier owns.

D) The first year of lead service line replacement must begin on the first day after the end of the monitoring period during which the supplier exceeded the action level under subsection (a).

E) If the supplier must monitor annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the supplier took the sample exceeding the action level.

F) If the Agency establishes an alternative monitoring period in a SEP, the end of the monitoring period is the last day of that period.

2) Resuming a Lead Service Line Replacement Program after Cessation

A) A supplier resuming after ceasing its lead service line replacement program, as subsection (f) allows, must update its remaining lead service lines inventory to include the sites the supplier previously determined did not require replacement under subsection (c).

B) The supplier must divide its updated remaining lead service lines inventory by the number of remaining years in the program to determine the number of lines that the supplier must replace each year. (Seven percent lead service line replacement is based on a 15-year replacement program, so that, for example, a supplier resuming lead service line replacement after previously conducting two years of replacement would divide its updated inventory by 13.)

C) For a supplier completing a 15-year lead service line replacement program, the Agency must issue a SEP determining a schedule for

replacing or retesting lines under the completed program that the supplier previously tested, whenever the supplier re-exceeds the action level.

c) Service Lines Not Needing Replacement. A supplier is not required to replace any individual lead service line for which the lead concentrations in all tap samples taken under Section 611.1356(b)(3) are less than or equal to the lead action level (0.015 mg/L).

d) A water supplier must replace that portion of the lead service line that it owns. If the supplier does not own the entire lead service line, the supplier must notify the owner of the line, or the owner's authorized agent, that the supplier will replace the portion of the service line that it owns and offer to replace the owner's portion of the line at the owner's expense. A supplier needs not bear the cost of replacing the privately-owned portion of the service line, nor needs the supplier replace the privately-owned portion of the service line if the owner chooses not to pay the cost of replacing that portion of the line or if State, local, or common law precludes replacing the privately-owned portion of the line. A water supplier that does not replace the entire length of the service line also must complete certain tasks:

1) Notice Prior to Beginning Work

A) At least 45 days prior to beginning partial replacement of a lead service line, the water supplier must notify the residents of all buildings the line serves explaining that the residents may experience a temporary increase of lead levels in their drinking water, along with guidance on measures consumers can take to minimize their exposure to lead.

B) The Agency may issue a SEP allowing the water supplier to provide notice under the previous sentence less than 45 days before beginning partial service line replacement ~~partial lead service line replacement~~ if the Agency determines that the replacement is together with emergency repairs.

C) The supplier must also inform the residents the line serves that the supplier will, at the supplier's expense, collect a representative sample of the water from the partially replaced service line for analysis of lead content, as Section 611.1356(b)(3) requires, within 72 hours after partially replacing the service line. The supplier must collect the sample and report the results of the analysis to the owner and the residents the line serves within three business days after receiving the results.

D) Mailed notices post-marked within three business days after the supplier receives the results are timely.

2) The water supplier must provide the information subsection (d)(1) requires to the residents of individual dwellings by mail or by other methods the Agency approved in a SEP. If the service line serves multi-family dwellings, the Agency must allow the water supplier to post the information at a conspicuous location.

e) Agency Determining a Shorter Replacement Schedule

1) The Agency must issue a SEP requiring a supplier to replace lead service lines on a shorter schedule than this Section otherwise requires if the Agency determines, taking into account the number of lead service lines in the system, that the supplier's shorter replacement schedule is feasible.

2) The Agency must notify the supplier of its finding under subsection (e)(1) within six months after monitoring triggers the supplier into beginning lead service line replacement under subsection (a).

f) Ceasing Service Line Replacement

1) Any supplier may cease replacing lead service lines whenever the supplier fulfills both two conditions:

A) First-liter samples ~~First-draw tap samples~~ the supplier collected under Section 611.1356(b)(2) meet the lead action level during each of two consecutive six-month monitoring periods; and

B) The supplier submitted those results to the Agency.

2) If any of the supplier's first-liter samples~~first-draw tap samples~~ later exceeds the lead action level, the supplier must resume replacing lead service lines under subsection (b)(2).

g) To demonstrate that it complies with subsections (a) through (d), a supplier must report to the Agency the information Section 611.1360(e) specifies.

BOARD NOTE: This Section corresponds with Section 611.1354 and derives from 40 CFR 141.84 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1355 Public Education and Supplemental Monitoring

A supplier exceeding the lead action level based on tap water samples under Section 611.1356 must deliver the public education materials subsection (a) requires under subsection (b). A supplier exceeding the lead action level must sample the tap water of any customer requesting sampling under subsection (c). A supplier must deliver a consumer notice of lead tap water monitoring results to persons the supplier serves at each site that the supplier tests, as subsection (d) specifies.

a) Content of Written Public Education Materials

1) Community Water Systems and Non-Transient Non-Community Water Systems. A CWS or NTNCWS supplier must include the following elements in printed materials (e.g., brochures and pamphlets) in the same order as listed in subsections (a)(1)(A) through (a)(1)(F). In addition, the supplier must use the verbatim language in subsections (a)(1)(A), (a)(1)(B), and (a)(1)(F), except for replacing the text in brackets with the system-specific information. Any additional information a supplier presents must be consistent with the information in subsections (a)(1)(A) through (a)(1)(F), and the supplier must present the additional information in plain language that the general public can understand. The supplier must submit all written public education materials to the Agency.

A) IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER. [INSERT NAME OF SUPPLIER] 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. Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

C) 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 and 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).

BOARD NOTE: The supplier must use text providing the information this subsection (a)(1)(C) describes.

D) Discuss the steps the consumer can take to reduce 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 water treatment.

v) Suggest that parents have their child's blood tested for lead.

BOARD NOTE: The supplier must use text providing the information this (a)(1)(D) describes.

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

BOARD NOTE: The supplier must use text providing the information this (a)(1)(E) describes.

F) For more information, call us at [INSERT THE SUPPLIER'S NUMBER] [(IF APPLICABLE), or visit our Web site at [INSERT THE SUPPLIER'S WEB SITE HERE]]. For more information on reducing lead exposure around your home/building and the health

effects of lead, visit USEPA's Web site at www.epa.gov/lead or contact your health care provider.

2) Community Water Systems. In addition to including the elements subsection (a)(1) specifies, a CWS supplier must include two information items:

A) The supplier must tell consumers how to get their water tested; and

B) The supplier must discuss lead in plumbing components and the difference between low-lead and lead-free components.

BOARD NOTE: At corresponding 40 CFR 141.85(a)(1) (2020), USEPA allowed the State to require prior approval of written public information materials. Rather than require prior Agency approval, the Board chooses to allow the Agency to raise any deficiencies that it may perceive using its existing procedure for review of public education materials. The Agency outlines its standard practice for review of public information materials: The Agency provides a comprehensive public education packet to the supplier together with the notice that the supplier exceeds the lead action level. That packet includes guidance and templates for the supplier to use in preparing and distributing its public education materials. The supplier must send a copy of the public education materials that it distributes to the Agency, and the Agency reviews the copy of the materials after their distribution to the public. The Agency directly communicates to the supplier any perceived defects in the materials. The Agency will request correction when it perceives minor defects in future distributions of the public education materials, or the Agency will request a redistribution of corrected public education materials when it perceives major defects in the materials the supplier already distributed.

b) Delivering Public Education Materials

1) The public education materials of a supplier serving a large proportion of non-English-speaking consumers must contain information in the appropriate languages regarding the importance of the notice, or the materials must contain a telephone number or address where a water consumer may contact the supplier to obtain a translated copy of the public education materials or to request assistance in the appropriate language.

2) A CWS supplier exceeding the lead action level on the basis of tap water samples under Section 611.1356 not already conducting public education tasks under this Section must complete public education tasks within 60 days after the end of the monitoring period in which the exceedance occurred:

A) The CWS supplier must deliver printed materials complying with subsection (a) to all of its bill-paying customers.

B) Methods of Delivery for a CWS Supplier

i) The CWS supplier must contact customers who are most at risk by delivering education materials complying with subsection (a) to local public health agencies, even if those agencies not located within the supplier's service area, along with an informational notice encouraging distribution to all of the agencies' potentially affected customers or the supplier's consumers. The supplier must 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 the target populations, which may include organizations outside the service area of the supplier. If local health agencies provide lists, the supplier must deliver education materials that comply with subsection (a) to each of the organizations on the provided lists.

ii) The CWS supplier must contact customers who are most at risk by delivering materials complying with subsection (a) to the organizations in subsections (b)(2)(H)(i) through (b)(2)(H)(vi) that are located within the supplier's service area, along with an informational notice encouraging distribution to all the organization's potentially affected customers or supplier's users.

BOARD NOTE: The Board moved the text of 40 CFR 141.85(b)(2)(ii)(B)(1) through (b)(2)(ii)(B)(6) (2020) to appear as subsections (b)(2)(H)(i) through (b)(2)(H)(vi) to comport with allowed indent levels.

iii) The CWS supplier must make a good faith effort to locate the organizations in subsections (b)(2)(I)(i) through (b)(2)(I)(iii) that are located within the service area and deliver materials complying with subsection (a) to those organizations, along with an informational notice encouraging distribution to all potentially affected customers or users. The good faith effort to contact at-risk customers may include requesting a specific contact list of these organizations from the local public health agencies,

even if those organizations are not located within the supplier's service area.

BOARD NOTE: The Board moved the text of 40 CFR 141.85(b)(2)(ii)(C)(*1*) through (b)(2)(ii)(C)(*3*) (2020) to appear as subsections (b)(2)(I)(i) through (b)(2)(I)(iii) to comport with allowed indent levels.

C) No less often than quarterly, the CWS supplier must provide information on or in each water bill as long as the system exceeds the action level for lead. The message on the water bill must include the verbatim text of the paragraph below, except replacing the text in brackets with system-specific information:

> [INSERT NAME OF SUPPLIER] 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 SUPPLIER] [or visit (INSERT SUPPLIER'S WEB SITE HERE)]. The message or delivery mechanism can be modified in consultation with the Illinois Environmental Protection Agency, Division of Public Water Supply; specifically, the Agency may allow a separate mailing of public education materials to customers if the water system cannot place the information on water bills.

D) The CWS supplier must post material complying with subsection (a) on the supplier's website if the CWS supplier serves a population greater than 100,000.

E) The CWS supplier must submit a press release to newspaper, television, and radio stations.

F) In addition to subsections (b)(2)(A) through (b)(2)(E), the CWS supplier must implement at least three activities from one or more of the categories listed below. The supplier must determine the educational content and selection of these activities consulting with the Agency.

i) Public service announcements.

ii) Paid advertisements.

iii) Public area information 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 Agency-approved methods.

G) For a CWS supplier that must monitor annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or on the last day of an alternative monitoring period the Agency sets in a SEP.

H) Organizations That the CWS Supplier Must Contact When Required to Do So under Subsection (b)(2)(B)(iii)

i) Public and private schools or school boards.

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

iii) Public and private hospitals and medical clinics.

vi) Pediatricians.

v) Family planning clinics.

vi) Local welfare agencies.

BOARD NOTE: This subsection (b)(2)(H) derives from 40 CFR 141.85(b)(2)(ii)(B)(*1*) through (b)(2)(ii)(B)(*6*) (2020), moved here to comport with allowed indent levels.

I) Organizations That the CWS Supplier Must Contact When Required to Do So Under Subsection (b)(2)(B)(iii)

i) Licensed childcare centers.

ii) Public and private preschools.

iii) Obstetricians-gynecologists and midwives.

BOARD NOTE: This subsection (b)(2)(H) derives from 40 CFR 141.85(b)(2)(ii)(C)(*1*) through (b)(2)(ii)(C)(*3*) (2020), moved here to comport with allowed indent levels.

3) As long as a CWS supplier exceeds the action level, it must repeat the activities in subsection (b)(2), as subsections (b)(3)(A) through (b)(3)(D) require.

A) The CWS supplier must repeat the tasks in subsections (b)(2)(A), (b)(2)(B), and (b)(2)(D) every 12 months.

B) The CWS supplier must repeat tasks in subsection (b)(2)(C) with each billing cycle.

C) The CWS supplier serving a population greater than 100,000 must post and keep~~retain~~ material on a publicly accessible website under subsection (b)(2)(D).

D) The CWS supplier must repeat the task in subsection (b)(2)(E) twice every 12 months on a schedule agreed by the Agency in a SEP. The Agency must, on a case-by-case basis, issue a SEP extending the time for the supplier to complete the public education tasks in subsection (b)(2) beyond the 60-day limit if the Agency determines that the supplier needs the extended time to implement; however, the Agency must issue the SEP granting any extension before the 60-day deadline expires.

4) Within 60 days after the end of the monitoring period in which a NTNCWS supplier exceeds the lead action level (unless it already is repeating public education tasks under subsection (b)(5)), the supplier must deliver the public education materials subsection (a) specifies.

A) The supplier must deliver the public education materials by certain means:

i) The NTNCWS supplier must post informational posters on lead in drinking water in a public place or common area in each of the buildings the supplier serves; and

ii) The NTNCWS supplier must distribute informational pamphlets or brochures on lead in drinking water to each person the NTNCWS supplier serves. The Agency may issue a SEP allowing the system to use electronic transmission in lieu of or combined with printed materials as long as the electronic transmission achieves the same or better coverage.

B) For a NTNCWS supplier that must monitor annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or on the last day of an alternative monitoring period the Agency sets in a SEP.

5) A NTNCWS supplier must repeat the tasks in subsection (b)(4) at least once during each calendar year in which the supplier exceeds the lead action level. The Agency must, on a case-by-case basis, issue a SEP extending the time for the supplier to complete the public education tasks in subsection (b)(2) beyond the 60-day limit if the Agency determines that the extended time is needed for implementation purposes; however, the Agency must issue any SEP granting any extension prior to when the 60-day deadline expires.

6) A supplier may stop delivering public education materials after the supplier meets the lead action level during the most recent six-month monitoring period under Section 611.1356. The supplier must begin public education anew under this Section if the supplier subsequently exceeds the lead action level during any six-month monitoring period.

7) A CWS supplier may apply to the Agency in writing to use only the text in subsection (a)(1) in lieu of the text in subsections (a)(1) and (a)(2) and to perform the tasks in subsections (b)(4) and (b)(5) in lieu of the tasks in subsections (b)(2) and (b)(3) under specific circumstances:

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

B) The supplier provides water as part of the cost of services provided, not separately charging for water consumption.

8) A CWS supplier serving 3,300 or fewer people may limit certain aspects of its public education programs:

A) For notice under subsection (b)(2)(F), a supplier serving 3,300 or fewer people must implement at least one of the activities.

B) For notice under subsection (b)(2)(B), a supplier serving 3,300 or fewer people may limit the distribution of the public education materials to facilities and organizations pregnant women and children are most likely to visit.

C) For notice under subsection (b)(2)(E), the Agency may issue a SEP waiving this requirement for a supplier serving 3,300 or fewer persons, as long as the supplier distributes notices to every household the supplier serves.

c) Supplemental Monitoring and Notification of Results. A supplier failing to meet the lead action level in tap samples under Section 611.1356 must offer to sample the tap water of any customer requesting it. The supplier needs not pay for collecting or analyzing the sample, nor must the supplier itself collect and analyze the sample.

d) Requirement for Consumer Notice of Tap Water Monitoring Results

1) Consumer Notice Requirement. A supplier must provide a notice of the individual tap results from lead tap water monitoring under Section 611.1356 to the persons the water system serves at the specific sampling site from which the supplier took the sample (e.g., the occupants of the residence where the supplier tested the tap).

2) Timing of Consumer Notice. The supplier must provide the consumer notice as soon as practical, but no later than 30 days after the supplier learns of the tap monitoring results.

3) Content of Consumer Notice. The consumer notice must include the results of lead tap water monitoring for the tap the supplier tested, an explanation of the health effects of lead, a list of steps consumers can take to reduce exposure to lead in drinking water, and contact information for the water utility. The notice must also provide the maximum contaminant level goal and the action level for lead and the definitions for these two terms from Section 611.883(c).

4) Delivery of Consumer Notice. The supplier must provide the consumer notice to persons it serves at the tap the supplier tested, either by mail or by another method the Agency approves in a SEP. For example, upon Agency approval, a NTNCWS supplier could post the results on a bulletin board in the facility enabling users to review the information. The

supplier must provide the notice to customers at sample taps the supplier tested, including consumers who do not receive water bills.

BOARD NOTE: This Section corresponds with Section 611.1355 and derives from 40 CFR 141.85 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1356 Tap Water Monitoring for Lead and Copper

a) Sampling Site Location

1) Selecting a Pool of Targeted Sampling Sites

A) Before the applicable date for beginning monitoring under subsection (d)(1), a supplier must complete evaluating the materials in its distribution system to identify a pool of targeted sampling sites complying with this Section.

B) The pool of targeted sampling sites must be large enough to ensure that the supplier can collect the number of lead and copper tap that the supplier can collect the number of lead and copper tap samples subsection (c) requires.

C) The supplier must select the sites for collecting first-liter samples ~~first-draw tap samples~~ from this pool of targeted sampling sites.

D) The supplier must not select as sampling sites any faucets having point-of-use or point-of-entry treatment devices designed to remove or capable of removing inorganic contaminants.

2) Materials Evaluation

A) A supplier must use the information on lead, copper, and galvanized steel it collected under 40 CFR 141.42(d) (special monitoring for corrosivity characteristics) when conducting a materials evaluation.

B) When evaluating the information collected under 40 CFR 141.42(d) is insufficient to locate the requisite number of lead and copper sampling sites under subsection (a), the supplier must review other sources of information to identify sufficient sampling sites:

i) All plumbing codes, permits, and records in building department files indicating the installed plumbing materials in publicly- and privately-owned structures connected to the distribution system;

ii) All inspections and records of the distribution system indicating the material composition of the service connections connecting a structure to the distribution system;

iii) All existing water quality information, including the results of all prior analyses of the system or individual structures connected to the system, that would indicate locations particularly susceptible to high lead or copper concentrations; and

iv) The supplier must seek to collect this information when possible in the course of its normal operations (e.g., checking service line materials when reading water meters or performing maintenance activities).

3) Tiers of Sampling Sites. A supplier must categorize the sampling sites within its pool according to tiers:

A) CWS Tier 1 Sampling Sites. "CWS Tier 1 sampling sites" must include certain single-family structures:

i) Those containing copper pipes with lead solder installed after 1982 or containing lead pipes; or

ii) Those having a lead service line.

BOARD NOTE: This subsection (a)(3)(A) derives from segments of 40 CFR 141.86(a)(3) (2020). This allows the pool of CWS tier 1 sampling sites to consist exclusively of structures having lead service lines.

B) CWS Tier 2 Sampling Sites. "CWS Tier 2 sampling sites" must include certain buildings, including multiple-family structures:

i) Those containing copper pipes with lead solder installed after 1982 or containing lead pipes; or

ii) Those having a lead service line.

BOARD NOTE: This subsection (a)(3)(B) derives from segments of 40 CFR 141.86(a)(4) (2020). This allows the pool of CWS tier 2 sampling sites to consist exclusively of structures having lead service lines.

C) CWS Tier 3 Sampling Sites. "CWS Tier 3 sampling sites" must include certain single-family structures: those containing copper pipes with lead solder installed before 1983.

BOARD NOTE: This subsection (a)(3)(C) derives from segments of 40 CFR 141.86(a)(5) (2020).

D) NTNCWS Tier 1 Sampling Sites. "NTNCWS Tier 1 sampling sites" must include certain buildings:

i) Those containing copper pipes with lead solder installed after 1982 or containing lead pipes; or

ii) Those having a lead service line.

BOARD NOTE: This subsection (a)(3)(D) derives from segments of 40 CFR 141.86(a)(6) (2020). This allows the pool of NTNCWS tier 1 sampling sites to consist exclusively of buildings having lead service lines.

E) Alternative NTNCWS Sampling Sites. "Alternative NTNCWS sampling sites" must include certain buildings: those containing copper pipes with lead solder installed before 1983.

BOARD NOTE: This subsection (a)(3)(E) derives from segments of 40 CFR 141.86(a)(7) (2020).

4) Selection of Sampling Sites. A supplier must select sampling sites for its sampling pool using specific criteria:

A) CWS Suppliers. A CWS supplier must use CWS tier 1 sampling sites, except that the supplier may include CWS tier 2 or CWS tier 3 sampling sites in its sampling pool under certain circumstances:

i) If multiple-family residences comprise at least 20 percent of the structures the supplier serves, the supplier may use CWS tier 2 sampling sites in its sampling pool; or

BOARD NOTE: This subsection (a)(4)(A)(i) derives from a segment of 40 CFR 141.86(a)(3)(ii) (2020).

ii) If the CWS supplier does not have a sufficient number of CWS tier 1 sampling sites on its distribution system, the supplier may use CWS tier 2 sampling sites in its sampling pool; or

BOARD NOTE: This subsection (a)(4)(A)(ii) derives from a segment of 40 CFR 141.86(a)(4) (2020).

iii) If the CWS supplier does not have a sufficient number of CWS tier 1 and CWS tier 2 sampling sites on its distribution system, the supplier may complete its sampling pool with CWS tier 3 sampling sites.

BOARD NOTE: This subsection (a)(4)(A)(iii) derives from a segment of 40 CFR 141.86(a)(5) (2020).

iv) If the CWS supplier does not have a sufficient number of CWS tier 1 sampling sites, CWS tier 2 sampling sites, and CWS tier 3 sampling sites, the supplier must use those CWS tier 1 sampling sites, CWS tier 2 sampling sites, and CWS tier 3 sampling sites that it has and complete its sampling pool with representative sites throughout its distribution system for the balance of its sampling sites. For this subsection (a)(4)(A)(iv), a representative site is a site having plumbing materials commonly found at other sites the water system serves.

BOARD NOTE: This subsection (a)(4)(A)(iv) derives from segments of 40 CFR 141.86(a)(5) (2020).

B) NTNCWS Suppliers

i) An NTNCWS supplier must select NTNCWS tier 1 sampling sites for its sampling pool.

BOARD NOTE: This subsection (a)(4)(B)(i) derives from segments of 40 CFR 141.86(a)(6) (2020).

ii) If the NTNCWS supplier has an insufficient number of NTNCWS tier 1 sampling sites, the supplier may complete

its sampling pool with alternative NTNCWS sampling sites.

BOARD NOTE: This subsection (a)(4)(B)(ii) derives from segments of 40 CFR 141.86(a)(7) (2020).

iii) If the NTNCWS supplier has an insufficient number of NTNCWS tier 1 sampling sites and NTNCWS alternative sampling sites, the supplier must use representative sites throughout its distribution system. For the purpose of this subsection (a)(4)(B)(ii), a representative site is a site where the plumbing materials are commonly found at other sites served by the water system serves.

BOARD NOTE: This subsection (a)(4)(B)(iii) derives from segments of 40 CFR 141.86(a)(7) (2020).

C) Suppliers with Lead Service Lines. Any supplier whose distribution system contains lead service lines must draw samples during each six-month monitoring period from specific sampling sites:

i) 50 percent of the samples from sampling sites containing lead pipes or having copper pipes with lead solder; and

ii) 50 percent of those samples from sites having a lead service line.

iii) A supplier that cannot identify a sufficient number of sampling sites having a lead service line must collect first-liter samples~~first-draw tap samples~~ from all of the sites identified as having lead service lines.

BOARD NOTE: This subsection (a)(4)(C) derives from segments of 40 CFR 141.86(a)(8) (2020). This allows the pool of sampling sites to consist exclusively of structures or buildings having lead service lines.

b) Sample Collection Methods

1) All tap samples a supplier collects for lead and copper under this Subpart AG, with the exception of lead service line samples under Section 611.1354(d) and samples under subsection (b)(5), must be first-liter samples~~first-draw tap samples~~.

2) First-liter samples~~First-Draw Tap Samples~~

A) Every first-liter sample ~~first-draw tap sample~~ for lead and copper must be one liter in volume and have stood motionless in the plumbing system of the sampling site for at least six hours.

B) For residential buildings, the supplier must collect first-liter samples ~~first-draw tap samples~~ from residential housing from the cold-water kitchen or bathroom sink tap.

C) For non-residential buildings, the supplier must collect first-liter samples ~~first-draw tap samples~~ one-liter in volume from an interior tap occupants typically use for consuming water.

D) The supplier must collect non- first-liter samples ~~first-draw tap samples~~ that it collects in lieu of first-liter samples~~first-draw tap samples~~ under subsection (b)(5) one liter in volume from an interior tap occupants typically use for consuming water.

E) The supplier may collect first-liter samples~~first-draw tap samples~~ or allow residents to collect first-liter samples~~first-draw tap samples~~ after instructing the residents in the sampling procedures this subsection (b) specifies.

i) To avoid problems of residents handling nitric acid, the supplier may acidify first-liter samples~~first-draw tap samples~~ up to 14 days after the supplier or a resident collects the sample.

ii) After adding acid to resolubilize the metals, a sample must stand in its original container for the time the USEPA-approved method specifies before the laboratory analyzes the sample.

F) If a supplier allows residents to perform sampling under subsection (b)(2)(D), the supplier may not challenge the accuracy of sampling results based on alleged errors in sample collection.

3) Service Line Samples

A) Each service line sample must be one liter in volume and have stood motionless in the lead service line for at least six hours.

B) Lead service line samples must be collected in one of three ways:

i) At the tap after flushing the calculated volume of water between the tap and the lead service line (based on the interior diameter and length of the pipe between the tap and the lead service line);

ii) Tapping directly into the lead service line; or

iii) If the sampling site is a single-family structure, allowing the water to run until there is a significant change in temperature indicating water that stood in the lead service line.

4) Follow-Up First-liter samples~~First-Draw Tap Samples~~

A) A supplier must collect each follow-up first-liter sample ~~first-draw tap sample~~ from the same sampling site where the previous samples originated.

B) If, for any reason, the supplier cannot access a sampling site to collect a follow-up tap sample, the supplier may collect the follow-up tap sample from another sampling site in its sampling pool, as long as the new site meets the same targeting criteria and is within reasonable proximity of the original site.

5) Substitute Non-First-liter samples~~First-Draw Tap Samples~~

A) A NTNCWS supplier or a CWS supplier meeting the criteria in Sections 611.1355(b)(7)(A) and (b)(7)(B) not having enough taps for first-liter samples~~first-draw tap samples~~, as Section 611.102 defines the term, may apply to the Agency in writing for a SEP allowing the supplier to substitute non- first-liter samples. ~~first-draw tap samples.~~

B) A supplier approved to substitute non- first-liter samples ~~first-draw tap samples~~ must collect as many first-liter samples~~first-draw tap samples~~ from appropriate taps as possible and identify sampling times and locations that likely give the longest standing time for the remaining sites.

C) The Agency may grant a SEP waiving the requirement for prior Agency approval of a supplier's chosen non-first-draw sampling sites.

c) Number of Samples

1) A supplier must collect at least one sample each from the number of sites in the first column of Table D (labelled "standard monitoring") during each six-month monitoring period subsection (d) specifies.

2) A supplier conducting reduced monitoring under subsection (d)(4) must collect one sample each from the number of sites in the second column of Table D (labelled "reduced monitoring") during each reduced monitoring period subsection (d)(4) specifies. The reduced monitoring sites must represent the sites standard monitoring requires. A supplier whose system has fewer than five drinking water taps capable of use for human consumption that meet the sampling site criteria of subsection (a) must collect multiple samples from individual taps to reach the required number of sampling sites Table D requires. To accomplish this, the supplier must collect at least one sample from each tap, then additional samples from those taps on different days during the monitoring period, to collect a total number of samples meeting the required number of sampling sites. Alternatively, the Agency may issue a SEP allowing the supplier whose system has fewer than five drinking water taps to collect a number of samples that is fewer than the number of sites this subsection (c) specifies if the Agency determines that the supplier samples 100 percent of all taps capable of use for human consumption and that the reduced number of samples will produce the same results as collecting multiple samples from some taps. The Agency must base any approval of reducing the minimum number of samples on a request from the supplier or Agency on on-site verification. The Agency may specify sampling locations in a SEP when a system conducts reduced monitoring.

d) Timing of Monitoring

1) Six-Month Sampling Periods. Six-month sampling periods begin on January 1 and July 1 of each year.

A) A large system must monitor during each consecutive six-month period, except as subsection (d)(4)(B) provides otherwise.

B) A small or medium-sized system must monitor during each consecutive six-month monitoring period until either of two occurrences:

i) The supplier exceeds the lead or copper action level and must, therefore, implement the corrosion control treatment

requirements under Section 611.1351 and continue monitoring under subsection (d)(2); or

ii) The supplier meets the lead and copper action levels during each of two consecutive six-month monitoring periods, which allows the supplier to reduce monitoring under subsection (d)(4).

2) Monitoring after Installation of Corrosion Control and Source Water Treatment

A) Any large system supplier installing optimal corrosion control treatment under Section 611.1351(d)(4) must monitor during two consecutive six-month monitoring periods.

B) Any small or medium-sized system supplier installing optimal corrosion control treatment under Section 611.1351(e)(5) must monitor during two consecutive six-month monitoring periods within 36 months after the Agency approves optimal corrosion control treatment, as Section 611.1351(e)(6) specifies.

C) Any supplier installing source water treatment under Section 611.1353(a)(3) must monitor during two consecutive six-month monitoring periods within 36 months after completing step 2, as Section 611.1353(a)(4) specifies.

3) Monitoring after the Agency Specifies Water Quality Parameter Values for Optimal Corrosion Control. After the Agency specifies the values for water quality control parameters under Section 611.1352(f), the supplier must monitor during each subsequent six-month monitoring period, with the first six-month monitoring period beginning on the date the Agency specifies the optimal values.

4) Reduced Monitoring

A) Reducing to Annual Monitoring for Small and Medium-Sized System Suppliers Meeting the Lead and Copper Action Levels. A small or medium-sized system supplier meeting the lead and copper action levels during each of two consecutive six-month monitoring periods may reduce the number of samples under subsection (c) and sampling frequency to once per year. A small or medium-sized system supplier collecting fewer than five samples as subsection (c) specifies and meeting the lead and copper action levels during each of two consecutive six-month

monitoring periods may reduce its frequency of sampling to once per year. In no instance may the supplier reduce the number of samples below the minimum of one sample per available tap. The supplier may begin this reduced sampling only during the calendar year immediately following the end of the second consecutive six-month monitoring period.

B) SEP Allowing Reduction to Annual Monitoring for Suppliers Maintaining Water Quality Control Parameters

i) The Agency may issue a SEP allowing a supplier meeting the lead action level and maintaining the range of values for water quality control parameters reflecting optimal corrosion control treatment that the Agency specifies under Section 611.1352(f) during each of two consecutive six-month monitoring periods to reduce its monitoring frequency to once per year and its number of lead and copper samples to that subsection (c) specifies. This reduced sampling may only begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.

ii) The Agency must review monitoring, treatment, and other relevant information the supplier submits under Section 611.1360, and the Agency must issue a SEP upon determining that the supplier is eligible to reduce its monitoring frequency to once every three years under this subsection (d)(4).

iii) The Agency must review its determination under subsection (d)(4)(B)(i) when the supplier submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available to the Agency. The Agency must revise its determination if the Agency deems this appropriate based on its review.

C) Reduction to Triennial for Small and Medium-Sized System Suppliers

i) Small- and Medium-Sized Water System Suppliers Meeting Lead and Copper Action Levels. A small or medium-sized system supplier meeting the lead and copper action levels during three consecutive years of monitoring

may reduce the frequency of monitoring for lead and copper from annually to once every three years.

ii) SEP for Suppliers Meeting Optimal Corrosion Control Treatment. The Agency may issue a SEP allowing any supplier meeting the range of values for the water quality control parameters reflecting optimal corrosion control treatment the Agency specifies under Section 611.1352(f) during three consecutive years of monitoring may reduce its monitoring frequency from annual to once every three years. A supplier collecting samples once every three years must collect the samples no later than every third calendar year.

iii) The Agency must review its determination under subsection (d)(4)(C)(ii) when the supplier submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available to the Agency. The Agency must revise its determination if the Agency deems this appropriate based on its review.

D) Sampling at a Reduced Frequency. A supplier reducing the number and frequency of sampling must collect these samples from the pool of targeted sampling sites the supplier selected under subsection (a), preferentially using those sampling sites from the highest tier first. A supplier sampling annually or less frequently must conduct lead and copper tap sampling during June, July, August, or September, unless the Agency approves a different sampling period under subsection (d)(4)(D)(i).

i) The Agency may grant a SEP approving a different period for a supplier to conduct lead and copper tap sampling to a system collecting a reduced number of samples. The duration of the period must not exceed four consecutive months and must represent a time of normal operation when the highest lead levels are most likely to occur. For a NTNCWS supplier not operating during any of June through September and whose normal operating period when the highest levels of lead are most likely to occur is not known, the Agency must designate a period that represents a time of normal operation for the system. This reduced sampling may only begin during the Agency-designated period in the calendar year immediately

following the end of the second consecutive six-month monitoring period, for a system initiating annual monitoring, or in the three-year period following the end of the third consecutive calendar year of annual monitoring, for a supplier initiating triennial monitoring.

ii) A supplier monitoring annually and collecting samples during the months of June through September that receives Agency approval to alter its sampling period under subsection (d)(4)(D)(i) must collect its next round of samples during a time period ending no later than 21 months after its previous round of sampling. A supplier monitoring once every three years and collecting samples during the months of June through September that receives Agency approval to alter the sampling collection period under subsection (d)(4)(D)(i) must collect its next round of samples during a time period ending no later than 45 months after the previous round of sampling. The supplier must collect subsequent rounds of sampling annually or once every three years, as this Section requires. A small system supplier collecting samples during the months of June through September, receiving a waiver under subsection (g) and receiving Agency approval to alter its sample collection period under subsection (d)(4)(D)(i) must collect its next round of samples before the end of the nine-year compliance cycle (as Section 611.101 defines the term).

E) Any water system demonstrating for two consecutive six-month monitoring periods that the tap water lead level computed under Section 611.1350(c)(3) is less than or equal to 0.005 mg/L and that the tap water copper level computed under Section 611.1350(c)(3) is less than or equal to 0.65 mg/L may reduce its number of samples under subsection (c) and reduce its sampling frequency to once every three calendar years.

F) Resumption of Standard Monitoring

i) Small or Medium-Sized Suppliers Exceeding the Lead or Copper Action Level. A small or medium-sized system supplier subject to reduced monitoring exceeding the lead or copper action level must resume sampling under subsection (d)(3) and collect the number of samples that subsection (c) specifies for standard monitoring. The small

or medium-sized system supplier exceeding the lead or copper action level must also conduct water quality parameter monitoring under Section 611.1357 (b), (c), or (d) (as appropriate) during the six-month monitoring period during which the supplier exceeded the action level. The small or medium-sized system supplier may resume annual tap monitoring for lead and copper at the reduced number of sites subsection (c) specifies after the supplier completes two subsequent consecutive six-month rounds of monitoring complying with subsection (d)(4)(A). The small or medium-sized system supplier may resume monitoring once every three years for lead and copper at the reduced number of sites after demonstrating through subsequent rounds of monitoring that comply with subsection (d)(4)(C) or (d)(4)(E).

ii) Suppliers Failing to Operate within Water Quality Control Parameters. Any supplier subject to reduced monitoring frequency failing to meet the lead action level during any four-month monitoring period or failing to operate within the range of values for the water quality control parameters Section 611.1352(f) specifies for more than nine days in any six-month period Section 611.1357(d) specifies must conduct tap water sampling for lead and copper at the frequency subsection (d)(3) specifies, must collect the number of samples subsection (c) specifies for standard monitoring, and must resume monitoring for water quality parameters within the distribution system under Section 611.1357(d). This standard tap water sampling must begin no later than the six-month period beginning January 1 of the calendar year after the supplier exceeds the lead action level or deviates from a water quality parameter. A supplier may resume reduced monitoring for lead and copper at the tap and for water quality parameters within the distribution system only if the supplier fulfills the conditions in subsection (d)(4)(H).

BOARD NOTE: The Board moved the last sentence of 40 CFR 141.86(d)(4)(vi)(B) and 40 CFR 141.86(d)(4)(vi)(B)(*1*) through (d)(4)(vi)(B)(*3*) (2020) to subsections (d)(4)(H) and (d)(4)(H)(i) through (d)(4)(H)(iii) to comport with allowed indent levels.

G) Any supplier subject to reduced monitoring under subsection (d)(4) must notify the Agency in writing under Section 611.1360(a)(3) of

any upcoming long-term change in treatment or adding a new source as that Section describes. The Agency must review and approve the addition of a new source or long-term change in water treatment before the supplier may implement it. The Agency may issue a SEP requiring the system to resume sampling under subsection (d)(3) and collecting the number of samples for standard monitoring under subsection (c) or take other appropriate steps, such as increased water quality parameter monitoring or re-evaluating its corrosion control treatment, considering the potentially different water quality considerations.

H) A supplier that subsection (d)(4)(F) requires to resume monitoring under Section 611.1357(d) may resume reduced monitoring for lead and copper at the tap and water quality parameters within the distribution system under the specific conditions:

i) The supplier may resume annual monitoring for lead and copper at the tap at the reduced number of sites subsection (c) specifies after the supplier completes two subsequent six-month rounds of monitoring complying with subsection (d)(4)(B) and the supplier receives written approval from the Agency in a SEP appropriate to resuming reduced monitoring on an annual frequency. The supplier must begin this sampling during the calendar year immediately following the end of the second consecutive six-month monitoring period.

ii) The supplier may resume tap monitoring for lead and copper once every three years at the reduced number of sites after demonstrating through subsequent rounds of monitoring that the supplier complies with either subsection (d)(4)(C) or (d)(4)(E) and the Agency issues a SEP allowing the supplier to resume monitoring once every three years.

iii) The supplier may reduce the number of water quality parameter tap water samples it collects under Section 611.1357(e)(1) and its sampling frequency under Section 611.1357(e)(2). The supplier may not resume triennial tap water monitoring for water quality parameters until after the supplier demonstrates requalifying for triennial monitoring under Section 611.1357(e)(2).

BOARD NOTE: Subsections (d)(4)(H) and (d)(4)(H)(i) through (d)(4)(H)(iii) derive from the last sentence of 40 CFR 141.86(d)(4)(vi)(B) and (d)(4)(vi)(B)(*1*) through (d)(4)(vi)(B)(*3*) (2020), moved here to comport with allowed indent levels.

e) Additional Monitoring. The supplier and the Agency must consider the results of any monitoring the supplier conducts in addition to the minimum requirements in this Section in making any determinations (i.e., calculating the 90th percentile lead action level or the copper level) under this Subpart G.

f) Invalidation of Lead or Copper Tap Water Samples. A sample the Agency invalidates under this subsection (f) does not count toward determining lead or copper 90th percentile levels under Section 611.1350(c)(3) or toward complying with subsection (c).

1) The Agency must invalidate a lead or copper tap water sample if it determines that any of certain conditions exists:

A) The laboratory establishes that improper sample analysis caused erroneous results;

B) The supplier took the sample from a site that did not meet the site selection criteria in this Section;

C) The sample container sustained damage in transit; or

D) There is substantial reason to believe that someone tampered with the sample.

2) The supplier must report the results from all samples to the Agency and submit all supporting documentation for samples the supplier believes the Agency should invalidate.

3) To invalidate a sample under subsection (f)(1), the Agency must document its decision and rationale for the decision in writing. The Agency may not invalidate a sample solely because a follow-up sample result is higher or lower than that of the original sample.

4) The supplier must collect replacement samples for any samples the Agency invalidates under this Section if the supplier has too few samples to meet the minimum requirements of subsection (c) after the Agency invalidates samples. The supplier must take any replacement samples as soon as possible but no later than the latter of 20 days after the Agency invalidates the original sample or before the end of the applicable

monitoring period. The supplier must not use replacement samples it takes after the end of the applicable monitoring period to meet the monitoring requirements of a subsequent monitoring period. The supplier must take replacement samples at the same locations where it took the invalidated samples or, if that is not possible, at other locations the supplier did not use for sampling during the monitoring period.

g) Monitoring Waivers for Small System Suppliers. Any small system supplier complying with the criteria in this subsection (g) may apply to the Agency for a SEP reducing its lead and copper monitoring frequency under this Section to once every nine years (i.e., a "full waiver") if the supplier meets all of the materials criteria subsection (g)(1) specifies and all of the monitoring criteria subsection (g)(2) specifies. Any small system supplier that meets the criteria subsections (g)(1) and (g)(2) only for lead or copper may apply to the Agency for a SEP reducing its tap water monitoring frequency to once every nine years for that contaminant only (i.e., a "partial waiver").

1) Materials Criteria. The supplier must demonstrate that its distribution system, service lines, and all drinking water supply plumbing, including plumbing conveying drinking water within all residences and buildings connected to the system, are free of lead-containing materials or copper-containing materials, as this subsection (g)(1) defines these terms:

A) Lead. To qualify for a SEP granting a full waiver or a partial waiver of the tap water monitoring requirements for lead (i.e., a "lead waiver"), the supplier must provide certification and supporting documentation to the Agency demonstrating that its system is free of all lead-containing materials:

i) The system has no plastic pipes or service lines containing lead plasticizers; and

ii) The system is free of lead service lines, lead pipes, lead soldered pipe joints, and leaded brass- or bronze-alloy fittings and fixtures, unless those fittings and fixtures comply with Section 611.126(b).

BOARD NOTE: Corresponding 40 CFR 141.86(g)(1)(i)(B) (2020) specifies "any standard established underpursuant to 42 U.S.C. 300g-6(e) (SDWA section 1417(e))". Congress changed the lead standards for fittings and fixtures in the Reduction of Lead in Drinking Water Act, P.L. 111-380, section 2(a)(2) and (b), 124 Stat. 4131 (Jan. 4, 2011). The

Board incorporated the statutory changes into this Section by referencing Section 611.126(b).

B) Copper. To qualify for a SEP granting a full waiver or a partial waiver of the tap water monitoring requirements for copper (i.e., a "copper waiver"), the supplier must provide certification and supporting documentation to the Agency demonstrating that its system contains no copper pipes or copper service lines.

2) Monitoring Criteria for Waiver Issuance. The supplier must have completed at least one six-month round of standard tap water monitoring for lead and copper at Agency-approved sites and from the number of sites subsection (c) requires and demonstrate to the Agency that the 90th percentile levels for any and all rounds of monitoring conducted since the system became free of all lead-containing or copper-containing materials, as appropriate, meet certain criteria:

A) Lead Levels. To qualify for a full waiver or a lead partial waiver, the supplier must demonstrate that its 90th percentile lead level does not exceed 0.005 mg/L.

B) Copper Levels. To qualify for a full waiver or a copper partial waiver, the supplier must demonstrate that its 90th percentile copper level does not exceed 0.65 mg/L.

3) Agency Approval of Waiver Application. The Agency must notify the supplier of its waiver determination in a SEP stating the basis of its decision and any condition on the waiver. As a condition on the waiver, the Agency may require the supplier to perform specific activities (e.g., limited monitoring, periodic outreach to customers to remind them to avoid installation of materials that might void the waiver, etc.) to avoid the risk of lead or copper concentration of concern in tap water. The small system supplier must continue monitoring for lead and copper at the tap as subsections (d)(1) through (d)(4) require, as appropriate, until the supplier receives written notification from the Agency approving the waiver.

4) Monitoring Frequency for Suppliers with Waivers

A) A supplier with a full waiver must conduct tap water monitoring for lead and copper under subsection (d)(4)(D) at the reduced number of sampling sites subsection (c) identifies at least once every nine years and provide to the Agency the materials certification subsection (g)(1) specifies for both lead and copper

together with the monitoring results. The supplier must collect samples every nine years no later than the ninth calendar year.

B) A supplier with a partial waiver must conduct tap water monitoring for the waived contaminant under subsection (d)(4)(D) at the reduced number of sampling sites subsection (c) specifies at least once every nine years and provide to the Agency the materials certification subsection (g)(1) specifies pertaining to the waived contaminant together with the monitoring results. The~~Such a~~ supplier also must continue to monitor for the non-waived contaminant in under the applicable of subsections (d)(1) through (d)(4).

C) A supplier with a full or partial waiver must notify the Agency in writing under Section 611.1360(a)(3) of any upcoming long-term change in treatment or adding a new source, as that rule describes. The Agency must review and approve adding a new source or long-term change in water treatment before the supplier implements it. The Agency may add or modify waiver conditions (e.g., require recertification that the supplier's system is free of lead-containing or copper-containing materials, require additional rounds of monitoring, etc.) if the Agency determines that the modifications are necessary to address system treatment or source water changes.

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

5) Continued Eligibility. If the supplier continues to comply with subsection (g)(4), the waiver will renew automatically, unless any of the conditions in subsections (g)(5)(A) through (g)(5)(C) occur. A supplier whose waiver the Agency revokes may re-apply for a waiver when the supplier again meets the appropriate materials and monitoring criteria of subsections (g)(1) and (g)(2).

A) A full waiver or a lead partial waiver does not renew if the supplier no longer satisfies the materials criteria of subsection (g)(1)(A) or has a 90th percentile lead level greater than 0.005 mg/L.

B) A full waiver or a copper partial waiver does not renew if the supplier no longer satisfies the materials criteria of subsection

(g)(1)(B) or has a 90th percentile copper level greater than 0.65 mg/L.

C) A waiver terminates when the Agency notifies the supplier that the Agency revokes the waiver, in writing and describing the basis of its decision.

6) Requirements Following Waiver Revocation. A supplier whose full or partial waiver the Agency revokes must comply with specific corrosion control treatment and lead and copper tap water monitoring requirements:

A) If the supplier exceeds the lead or copper action level, the supplier must implement corrosion control treatment within the deadlines Section 611.1351(e) specifies and any other applicable requirements under this Subpart AG.

B) If the supplier meets both the lead and the copper action levels, the supplier must monitor for lead and copper at the tap no less frequently than once every three years using the reduced number of sampling sites subsection (c) specifies.

7) Pre-Existing Waivers. A small system supplier waiver the Agency granted in writing prior to April 11, 2000 remains in effect under certain conditions:

A) If the supplier demonstrates that its system is free of both lead-containing and copper-containing materials, as subsection (g)(1) requires, and that its 90th percentile lead levels and 90th percentile copper levels comply with subsection (g)(2), the waiver remains in effect so long as the supplier continues to be eligible for a waiver under subsection (g)(5). The supplier must complete its first round of tap water monitoring under subsection (g)(4) no later than nine years after the supplier last monitored for lead and copper at the tap.

B) If the supplier complies with the materials criteria of subsection (g)(1) but has not complied with the monitoring criteria of subsection (g)(2), the supplier must conduct a round of monitoring for lead and copper at the tap demonstrating that it complied with subsection (g)(2). Then~~Thereafter~~, the waiver remains in effect as long as the supplier complies with the continued eligibility criteria in subsection (g)(5). The supplier must complete its first round of tap water monitoring under subsection (g)(4) no later than nine

years after the supplier conducts the monitoring under subsection (g)(2).

BOARD NOTE: This Section corresponds with Section 611.1356 and derives from 40 CFR 141.86 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1357 Monitoring for Water Quality Parameters

A large system supplier or any small or medium-sized system supplier exceeding the lead or copper action 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 uses~~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, the supplier needs not do so, and the supplier needs not perform tap sampling under this Section at taps it targeted for lead and copper sampling under Section 611.1356(a).

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 monitoring period under subsections (b) through (e) from the number of sites the first column of Table F (labelled "standard monitoring") indicates.

B) Entry Point Samples

i) Initial Monitoring. Except as subsection (c)(3) provides otherwise, a supplier must collect two samples for each applicable water quality parameter at each entry point to its distribution system during each six-month 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 monitoring period subsections (c) through (e) specify.

b) Initial Sampling

1) Large Systems. A large system supplier must measure the applicable water quality parameters subsection (b)(3) specifies at taps and at each entry point to its distribution system during each six-month monitoring period Section 611.1356(d)(1) specifies.

2) Small and Medium-Sized Systems. A small or medium-sized water system supplier must measure the applicable water quality parameters subsection (b)(3) specifies at the locations this subsection (b) specifies during each six-month monitoring period Section 611.1356(d)(1) specifies during which the supplier exceeds the lead or copper action level.

3) Water Quality Parameters

A) pH;

B) Alkalinity;

C) Orthophosphate, when the supplier uses an inhibitor containing a phosphate compound;

D) Silica, when the supplier uses an inhibitor containing a silicate compound;

E) Calcium;

F) Conductivity; and

G) Water temperature.

c) Monitoring after Installing Corrosion Control

1) Large Systems. A large system supplier installing optimal corrosion control treatment under Section 611.1351(d)(4) must measure the water quality parameters at the locations and frequencies subsections (c)(4) and (c)(5) specify during each six-month monitoring period Section 611.1356(d)(2)(A) specifies.

2) Small and Medium-Sized Systems. A small or medium-sized system installing optimal corrosion control treatment under Section 611.1351(e)(5) must measure the water quality parameters at the locations and frequencies subsections (c)(4) and (c)(5) specify during each six-month monitoring period Section 611.1356(d)(2)(B) specifies during which the supplier exceeds the lead or copper action level.

3) Groundwater Systems. A groundwater system supplier can limit entry point sampling under subsection (c)(5) 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. Prior to starting monitoring under this subsection (c)(3), 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.

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

A) pH;

B) Alkalinity;

C) Orthophosphate if the supplier uses an inhibitor containing a phosphate compound;

D) Silica if the supplier uses an inhibitor containing a silicate compound; and

E) Calcium if the supplier uses calcium carbonate stabilization as part of corrosion control.

5) Entry Point Samples. Except as subsection (c)(3) provides otherwise, a supplier must collect one sample at each entry point to its distribution system every two weeks (bi-weekly) for three water quality parameters:

A) pH;

B) 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

C) 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.

BOARD NOTE: Subsections (c)(1) and (c)(2) derive from 40 CFR 141.87(c) (2020), subsection (c)(3) derives from 40 CFR 141.87(c)(3) (2020), subsection (c)(4) derives from 40 CFR 141.87(c)(1) (2020), and subsection (c)(5) derives from 40 CFR 141.87(c)(2) (2020).

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

1) Large-Sized Water Systems. After the Agency specifies the values for water quality control parameters reflecting optimal corrosion control treatment under Section 611.1352(f), a large-sized water system supplier must monitor the applicable water quality parameters under subsection (c) and determine whether the supplier complies with Section 611.1352(g) every six months, with the first six-month period to begin on the sooner of January 1 or July 1 after the Agency specifies the optimal values under Section 611.1352(f).

2) Small and Medium-Sized System Suppliers. A small or medium-sized system supplier must monitor during each six-month monitoring period this subsection (d) specifies during which the supplier exceeds the lead or copper action level. For a small or medium-sized system supplier subject to a reduced monitoring frequency under Section 611.1356(d)(4) at the time it exceeds the action level, the start of the applicable six-month monitoring period under this subsection (d) coincides with the start of the applicable monitoring period under Section 611.1356(d)(4).

3) A supplier must determine whether it complies with Agency-designated optimal water quality parameter as Section 611.1352(g) specifies.

e) Reduced Monitoring

1) Reduced Tap Monitoring. A supplier maintaining the range of values for the water quality parameters reflecting optimal corrosion control treatment during each of two consecutive six-month monitoring periods under subsection (d) must continue monitoring at the entry points to the distribution system as subsection (c)(5) 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 monitoring period.

2) Reduced Monitoring Frequency

A) Staged Reductions in Monitoring Frequency

i) Annual Monitoring. A supplier maintaining the range of values for the water quality parameters reflecting optimal corrosion control treatment under Section 611.1352(f) 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 may only begin this reduced sampling during the calendar year immediately following the end of the monitoring period in which the third consecutive year of six-month monitoring occurs.

ii) Triennial Monitoring. A supplier maintaining the range of values for the water quality parameters reflecting optimal corrosion control treatment under Section 611.1352(f) during three consecutive years of annual monitoring under subsection (e)(2)(A)(i) may reduce its tap sampling frequency for applicable water quality parameters subsection (e)(1) specifies from annually to once every three years. The supplier must conduct this triennial monitoring no later than every third calendar year.

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

i) The supplier must demonstrate that its tap water 90th percentile level for lead is less than or equal to the PQL for lead in Section 611.1359(a)(1)(B).

ii) The supplier must demonstrate that its tap water 90th percentile level for copper is less than or equal to 0.65 mg/L for copper in Section 611.1350(c)(2).

iii) The supplier must demonstrate that it maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment the Agency specified under Section 611.1352(f).

iv) The supplier must complete triennial monitoring no later than every third calendar year.

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 611.1352(f) for more than nine days in any six-month period Section 611.1352(g) specifies 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 triennial tap water 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 any monitoring results and what this Section requires in making any determinations (i.e., determining concentrations of water quality parameters) under this Section or Section 611.1352.

BOARD NOTE: This Section corresponds with Section 611.357 and derives from 40 CFR 141.87 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1358 Monitoring for Lead and Copper in Source Water

a) Sampling Location, Collection Methods, and Number of Samples

1) A supplier failing to meet the lead or copper action level on the basis of tap samples under Section 611.1356 must collect lead and copper source water samples under specific requirements for sample location, number of samples, and collection methods:

A) A groundwater supplier must take a minimum of one sample at every entry point to the distribution system representing each well after treatment (a "sampling point"). The supplier must take one sample at the same sampling point unless conditions make another sampling point more closely represent a source or treatment plant.

B) A surface water supplier must take a minimum of one sample at every entry point to the distribution system after treatment or in the distribution system at a sampling point. The supplier must take each sample at the same sampling point unless conditions make another sampling point more closely represent a source or treatment plant.

BOARD NOTE: For this subsection (a)(1)(B), a system using a combination of surface water and groundwater sources is a surface water system.

C) 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 periods of normal operating conditions (i.e., when water represents all sources being used).

D) The Agency may issue a SEP reducing the total number of samples a supplier must analyze by allowing the supplier to composite samples. Certified laboratory personnel must composite the samples. A composite sample may include a maximum of five samples. However, if the lead concentration in the composite sample is greater than or equal to 0.001 mg/L or the copper concentration is greater than or equal to 0.160 mg/L, the supplier must do either of two things:

i) The supplier must take and analyze a follow-up sample within 14 days at each sampling point included in the composite sample; or

ii) If duplicate samples or sufficient volumes of the original samples are available from each sampling point the certified laboratory used in the composite sample, the supplier may use those instead of resampling.

2) SEP Requiring an Additional Sample

A) Upon determining that sampling indicates exceedance of the lead or copper MPC under Section 611.1353(b)(4), the Agency must issue a SEP requiring the supplier to collect one additional sample as soon as possible after the initial sample at the same sampling point but before two weeks after the supplier took the initial sample.

B) If a supplier takes an Agency-required confirmation sample for lead or copper, the supplier must average the results obtained from the initial sample with those from the confirmation sample to determine whether it complies with the Agency-specified lead and copper MPCs.

i) For averaging, consider any analytical result below the MDL as zero.

ii) Consider any value above the MDL but below the PQL either as the measured value or one-half the PQL.

b) Monitoring Frequency after System Exceeds Tap Water Action Level. A supplier exceeding the lead or copper action level in tap sampling must collect one source water sample from each entry point to its distribution system no later than six months after the end of the monitoring period during which the supplier exceeds the lead or copper action level. For annual or less frequent monitoring periods, the end of the monitoring period is September 30 of the calendar year during which the sampling occurs or the last day of any alternate period the Agency establishes in a SEP.

c) Monitoring Frequency after Installation of Source Water Treatment. A supplier installing source water treatment under Section 611.1353(a)(3) must collect an additional source water sample from each entry point to its distribution system during each of two consecutive six-month monitoring periods within~~on or before~~ 36 months after completing step 2, as Section 611.1353(a)(4) specifies.

d) Monitoring Frequency after the Agency Specifies the Lead and Copper MPCs or Determines That Source Water Treatment Is Not Needed

1) A supplier must monitor at the frequency subsection (d)(1)(A) or (d)(1)(B) specifies if the Agency specifies the MPCs under Section 611.1353(b)(4) or determines that the supplier needs not install source water treatment under Section 611.1353(b)(2).

A) GWS Suppliers

i) A GWS supplier sampling under subsection (d)(1) must collect samples once during the three-year compliance period (as Section 611.101 defines the term) during which the Agency makes its determination under Section 611.1353(b)(4) or 611.1353(b)(2).

ii) A GWS supplier sampling under subsection (d)(1) must sample once during each subsequent compliance period.

iii) A supplier must collect triennial samples every third calendar year.

B) A SWS or mixed system supplier must collect samples once during each calendar year, the first annual monitoring period to begin during the year in which the Agency makes its determination under Section 611.1353(b)(4) or 611.1353(b)(2).

2) A supplier needs not sample source water for lead or copper if the supplier meets the action level for the specific contaminant in all tap water samples during the entire source water sampling period under subsection (d)(1)(A) or (d)(1)(B).

e) Reduced Monitoring Frequency

1) A GWS supplier may reduce its source water monitoring frequency for lead and copper to once during each nine-year compliance cycle (as Section 611.101 defines the term) if~~, provided~~ the supplier collects the samples no later than every ninth calendar year, and only if the supplier meets one of certain criteria:

A) The supplier demonstrates that finished drinking water entering the distribution system remains below the MPCs for lead and copper the Agency specifies under Section 611.1353(b)(4) during at least three consecutive compliance periods under subsection (d)(1); or

B) The Agency determines in a SEP that the supplier does not need source water treatment, and the supplier demonstrates that its source water concentrations of lead was less than or equal to 0.005 mg/L and copper was less than or equal to 0.65 mg/L during at least three consecutive compliance periods during which the supplier sampled under subsection (d)(1).

2) A SWS or mixed system supplier may reduce its monitoring frequency subsection (d)(1) requires to once during each nine-year compliance cycle (as Section 611.101 defines the term) if the supplier collects the samples no later than every ninth calendar year, and only if the supplier meets one of certain criteria:

A) The supplier demonstrates that finished drinking water entering its distribution system remains below the MPCs for lead and copper the Agency specifies under Section 611.1353(b)(4) for at least three consecutive years; or

B) The Agency issues a SEP determining that the supplier does not need source water treatment, and the supplier demonstrates that its source water concentrations of lead was less than or equal to 0.005 mg/L and copper was less than or equal to 0.65 mg/L during at least three consecutive years.

3) A supplier using a new source of water may not reduce its monitoring for lead or copper until after the supplier demonstrates by samples it collected from the new source during three consecutive monitoring periods of the appropriate duration subsection (d)(1) provides that lead or copper levels are below the MPC the Agency specifies under Section 611.1353(a)(4).

BOARD NOTE: This Section corresponds with Section 611.358 and derives from 40 CFR 141.88 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1360 Reporting

A supplier must report specific information to the Agency as this Section provides.

a) Reporting for Tap, Lead, and Copper, and Water Quality Parameter Monitoring

1) Except as subsection (a)(1)(H) provides otherwise, a supplier must report certain information for all samples Section 611.1356 specifies and for all water quality parameter samples Section 611.1357 specifies within ten

days after the end of each applicable sampling period Sections 611.1356 and 611.1357 specify (i.e., every six months, annually, triennially, or every nine years). For a monitoring period shorter than six months, the end of the monitoring period is the last date on which the supplier may collect samples during that period, as Sections 611.1356 and 611.1357 specify.

A) The results of all tap samples for lead and copper, including the location of each site and the criteria under Section 611.1356(a)(3) through (a)(7) under which the supplier selected the site for the supplier's sampling pool;

B) Supporting documents for each tap water lead or copper sample the supplier requests the Agency invalidate under Section 611.1356(f)(2);

C) This subsection (a)(1)(C) corresponds with 40 CFR 141.90(a)(1)(iii) (2020), a provision that USEPA removed and marked "reserved". This statement preserves structural parity with the federal rules;

D) The 90th percentile lead and copper concentrations the supplier measures from among all lead and copper tap samples the supplier collects during each sampling period (calculated under Section 611.1350(c)(3)), unless the Agency calculates the system's 90th percentile lead and copper levels under subsection (h);

E) With the exception of initial tap sampling under Section 611.1356(d)(1), the supplier must designate any site it did not sample during previous sampling periods and explain why sampling sites have changed;

F) The results of all tap samples for pH and the applicable of alkalinity, calcium, conductivity, temperature, and orthophosphate, and silica the supplier collects under Section 611.1357(b) through (e);

G) The results of all samples the supplier collects at entry points for applicable water quality parameters under Section 611.1357(b) through (e); and

H) A supplier must report the results of all water quality parameter samples the supplier collects under Section 611.1357(c) through (f) during each six-month monitoring period Section 611.1357(d)

specifies within the first ten days following the end of the monitoring period, unless the Agency specifies a more frequent reporting requirement in a SEP.

2) For an NTNCWS supplier, or a CWS supplier in Section 611.1355(b)(7)(A) and (b)(7)(B) that does not have enough taps for first-liter samples, ~~first-draw tap samples,~~ the supplier must do one of two things:

A) The supplier must identify to the Agency in writing standing times and locations for enough non- first-liter samples,~~first-draw tap samples~~ to make up its sampling pool under Section 611.1356(b)(5), unless the Agency waives prior Agency approval of non-first-draw sampling sites the supplier selects under Section 611.1356(b)(5); or

B) If the Agency waives prior approval of non-first-draw sampling sites the supplier selects, the supplier must identify each site that did not meet the six-hour minimum standing time and the length of standing time for that particular substitute sample collected under Section 611.1356(b)(5) in writing and include this information with the lead and copper tap sample results the supplier must submit under subsection (a)(1)(A).

3) At a time the Agency specifies in a SEP, a supplier deemed by rule to have optimized corrosion control under Section 611.1351(b)(3), a water supplier subject to reduced monitoring under Section 611.1356(d)(4), or a water supplier the Agency grants a monitoring waiver under Section 611.1356(g), must document adding a new source or any change in water treatment to the Agency describing the change or addition. If the Agency does not specify a time in a SEP, the supplier must document the changes to the Agency as early as possible prior to adding a new source or any change in water treatment.

4) A small system supplier applying for a monitoring waiver under Section 611.1356(g) or subject to a waiver granted under Section 611.1356(g)(3) must provide certain information to the Agency in writing before the applicable deadline:

A) Before the start of the first applicable monitoring period in Section 611.1356(d), any small water system supplier applying for a monitoring waiver must provide the documents demonstrating that the supplier qualifies for a waiver under Section 611.1356(g)(1) and (g)(2).

B) No later than nine years after the monitoring the supplier previously conducted under Section 611.1356(g)(2) or Section 611.1356(g)(4)(A), a small system supplier wanting to maintain its monitoring waiver must provide the information Section 611.1356(g)(4)(A) and (g)(4)(B) requires.

C) No later than 60 days after the small-sized system water supplier becomes aware that it is no longer free of lead-containing or copper-containing material, a small system supplier having a monitoring waiver must notify the Agency in writing, stating the circumstances introducing lead- or copper-containing materials into the system and describing any corrective action the supplier plans to remove these materials.

5) A GWS supplier limiting its water quality parameter monitoring to a subset of entry points under Section 611.1357(c)(3) must identify its selected entry points to the Agency in writing, including information sufficiently demonstrating that the sites represent water quality and treatment conditions throughout the supplier's system.

b) Reporting for Source Water Monitoring

1) A supplier must report its sampling results for all source water samples it collects under Section 611.1358 within ten days after the end of each source water sampling period (i.e., annually, per compliance period (triennially), per compliance cycle (every nine years)) Section 611.1358 specifies.

2) With the exception of the first round of source water sampling a supplier conducts under Section 611.1358(b), a supplier must specify any site it did not sample during previous sampling periods, explaining why the supplier changed the sampling point.

c) Reporting for Corrosion Control Treatment. Before the applicable dates under Section 611.1351, a supplier must report certain information:

1) A supplier demonstrating that it already optimized corrosion control must provide the information Section 611.1352(b)(2) or (b)(3) requires.

2) A supplier that must optimize corrosion control must provide its recommendation regarding optimal corrosion control treatment under Section 611.1352(a).

3) A supplier that must evaluate the effectiveness of corrosion control treatments under Section 611.1352(c) must provide the information Section 611.1352(c) requires.

4) A supplier that must install optimal corrosion control the Agency approves under Section 611.1352(d) must provide a copy of the Agency permit letter, which acts as certification that the supplier completed installing the permitted treatment.

d) Reporting for Source Water Treatment. Before the applicable dates in Section 611.1353, a supplier must provide certain information to the Agency:

1) If Section 611.1353(b)(1) requires, the supplier must provide its recommendation on source water treatment; or

2) A supplier that must install source water treatment under Section 611.1353(b)(2) must provide a copy of the Agency permit letter, which acts as certification that the supplier completed installing the Agency-approved treatment within 24 months after Agency approval.

e) Reporting for Lead Service Line Replacement. A supplier must report certain information to the Agency demonstrating it complies with Section 611.1354:

1) No later than 12 months after the end of a monitoring period during which a supplier exceeds the lead action level in sampling under Section 611.1354(a), the supplier must submit documents to the Agency:

A) The material evaluation the supplier conducted as Section 611.1356(a) requires;

B) Identify the initial number of lead service lines in its distribution system at the time the supplier exceeds the lead action level; and

C) The supplier's schedule for annually replacing at least seven percent of the initial number of lead service lines in its distribution system.

2) No later than 12 months after the end of a monitoring period during which a supplier exceeds the lead action level in monitoring under Section 611.1354(a) and every 12 months after that, the supplier must demonstrate either of two things to the Agency in writing:

A) That the supplier replaced at least seven percent of the initial number of lead service lines in its distribution system during the

previous 12 months (or any greater number of lines the Agency specifies under Section 611.1354(e)); or

B) That the supplier conducted sampling demonstrating that the lead concentration in all service line samples from individual lines under Section 611.1356(b)(3) is less than or equal to 0.015 mg/L. This requires that the total number of lines that the supplier replaced, combined with the total number meeting the criteria of Section 611.1354(c), must equal at least seven percent of the initial number of lead lines the supplier identified under subsection (e)(1) (or the percentage the Agency specifies under Section 611.1354(e)).

3) The annual letter the supplier submits to the Agency under subsection (e)(2) must contain certain information:

A) The number of lead service lines the supplier originally scheduled to replace be replaced during the previous year of its replacement schedule;

B) The number and location of each lead service line the supplier actually replaced during the previous year of its replacement schedule; and

C) If measured, the tap water lead concentration from each lead service line the supplier sampled under Section 611.1356(b)(3), the location of each lead service line sampled, the sampling method used, and the sampling date.

4) Any supplier collecting lead service line samples following partial service line replacement ~~partial lead service line replacement~~ Section 611.1354 requires must report the results to the Agency before the tenth day of the next month after the supplier receives the laboratory results or as the Agency specifies in a SEP. The Agency may issue a SEP waiving the supplier reporting these monitoring results. A supplier must also report any additional information the Agency specifies in a time and manner the Agency prescribes to verify that the supplier completed all partial service line replacement ~~partial lead service line replacement~~ activities.

f) Reporting for Public Education Program

1) A supplier subject to Section 611.1355 must send documents to the Agency containing certain items within ten days after the end of each

period in which the supplier must perform public education under Section 611.1355(b):

A) Documents showing that the supplier delivered the public education materials complying with the content requirements in Sections 611.1355(a) and the delivery requirements in Section 611.1355(b); and

B) A list of all newspapers, radio stations, television stations, and facilities and organizations to which the supplier delivered public education materials when this Subpart AG required the supplier to perform public education tasks.

2) Unless the Agency issues a SEP requiring a supplier to do so, a supplier that previously submitted the information subsection (f)(1)(B) requires need not resubmit the information subsection (f)(1)(B) requires, as long as no changes in the distribution list occurred, and the supplier certifies that it distributed the public education materials to the same list the supplier previously submitted.

3) No later than three months after the end of the monitoring period, each supplier must mail a sample copy of the consumer notification of tap water monitoring results to the Agency, certifying that the supplier distributed the notification in a manner complying with Section 611.1355(d).

g) Reporting Additional Monitoring Data. Any supplier collecting sampling data in addition to what this Subpart AG requires must report those sampling data to the Agency within the first ten days following the end of the applicable sampling periods Sections 611.1356 through 611.1358 specify during which the supplier collected the samples.

h) Reporting 90th Percentile Lead and Copper Concentrations If the Agency Calculates a System's 90th Percentile Concentrations. A water supplier needs not report its 90th percentile lead and copper concentrations during each monitoring period, as subsection (a)(1)(D) requires, under certain circumstances:

1) The Agency previously notified the supplier that the Agency will calculate the water system's 90th percentile lead and copper concentrations based on the lead and copper tap results the supplier submitted under subsection (h)(2)(A), and the Agency specifies a date before the end of the applicable monitoring period when the supplier must provide the results from lead and copper tap water samples;

2) The supplier provides the specific information to the Agency before the date subsection (h)(1) specifies:

A) The results from of all tap water samples for lead and copper, including the location of each site and the Section 611.1356(a)(3), (a)(4), (a)(5), (a)(6), or (a)(7) criteria under which the supplier selected the site for its sampling pool under subsection (a)(1)(A); and

B) The supplier must identify sampling sites it used during the current monitoring period that it did not sample during previous monitoring periods, explaining why the supplier changed sampling sites; and

3) The Agency provides the written results of the 90th percentile lead and copper calculations to the supplier before the end of the monitoring period.

BOARD NOTE: This Section corresponds with Section 611.360 and derives from 40 CFR 141.90 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.1361 Recordkeeping

Any supplier subject to this Subpart AG must keep~~retain~~ original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, Agency determinations, and any other information Sections 611.1351 through Section 611.1360 require. Each supplier must keep~~retain~~ the records this Section requires on its premises for at least 12 years.

BOARD NOTE: This Section corresponds with Section 611.361 and derives from 40 CFR 141.91 (2020).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

SUBPART AH: INTERIM LEAD AND COPPER RULE REVISIONS 2024

Section 611.2350 General Requirements

a) Applicability and Scope

1) Applicability of and Compliance with this Subpart AH. This Subpart G, Subpart AG, and Subpart AH constitute NPDWRs for lead and copper. This Subpart G, Subpart AG, and Subpart AH apply to all community

water systems (CWSs) and non-transient, non-community water systems (NTNCWSs).

A) A supplier must comply with this Subpart AH by October 16, 2024, except as otherwise required by Section 611.2351, 611.2354, 611.2355, 611.2356, or 611.2360.

B) If the Agency issued a SEP before October 30, 2024, that expires on or after November 1, 2027, and the SEP exempts a supplier under any rule in former Subpart G (now redesignated Subpart AH), the supplier must comply with this Subpart AH after the SEP expires, regardless of subsection (a)(1)(A). If the SEP expires before November 1, 2027, the supplier must comply with this Subpart AH as required by subsection (a)(1)(A).

C) The Agency may issue a SEP requiring a supplier to comply with specified rules in this Subpart G before subsection (a)(1)(A) or (a)(1)(B) otherwise requires or as necessary to address issues in a notice the Agency received from USEPA under 40 CFR 142.23 or 142.30. The SEP must specify the rules in this Subpart G with which the supplier must comply and their counterparts in Subpart AH with which the supplier no longer needs to comply. The supplier must comply with the SEP-specified Subpart G rules in lieu of their counterparts in Subpart AH.

BOARD NOTE: This subsection (a)(1) derives from 40 CFR 141.80(a). USEPA's Lead and Copper Rules Revisions (LCRR) apply to all suppliers on December 16, 2021. However, USEPA delays complying with LCRR until October 16, 2024, when any previously granted exemption expires, or as provided otherwise by any of several specified rules for corrosion control treatment; lead service line replacement; public education, supplemental monitoring, and mitigation; monitoring; and reporting (corresponding with 35 Ill. Adm. Code 611.2351, 622.2354, 611.2355, 611.2356, or 611.2360). Until a supplier must comply with the LCRR, USEPA requires the supplier to comply with subpart I of 40 CFR 141 (2024). This requires the Board to codify three versions of the Lead and Copper Rule: one in Subpart G, representing the Lead and Copper Rules incorporating the LCRI (40 CFR 141(2024) one in Subpart AH, representing the Lead and Copper Rules prior to the LCRI (40 CFR 141 (2024)), and one in Subpart AG, representing LCRR prior to (40 CFR 141 (2020)).

2) Scope. This Subpart AH establishes a treatment technique including requirements for corrosion control treatment, source water treatment, lead

service line inventory, replacing lead service lines, public notice, monitoring for lead in schools and childcare facilities, and public education. Lead and copper action levels and the lead trigger level in samples collected at consumers' taps prompt these requirements. The rules in this Subpart AH requiring lead sampling in schools and childcare facilities and public education apply to all CWS.

b) Definitions. For this Subpart G only, this subsection (b) defines certain terms :

"Action level" means the computed concentration of lead or copper in water under subsection (c) determining applicability of some treatment requirements under this Subpart AH. The action level for lead is 0.015 mg/ L, and the action level for copper is 1.3 mg/ L.

"Aerator" means the device embedded in a water faucet to enhance air flow in the water stream and prevent splashing.

"Childcare facility" means a facility providing childcare, day care, or early learning services to children under a license issued by a State or local agency.

BOARD NOTE: See, e.g., the Childcare Act of 1969 [225 ILCS 10].

"Corrosion inhibitor" means a substance that can reduce corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

"Effective corrosion inhibitor residual" means a concentration of corrosion inhibitor in the drinking water sufficient to form a passivating film on the interior walls of pipe.

"Elementary school" means a school classified by State and local practice as elementary and comprising any span of grades (including pre-school) through grade 8.

"Exceed" or "exceedance", relative to either the lead or the copper action level, means that the 90th percentile concentration of the samples the supplier collected during a six-month tap monitoring period is greater than the lead or copper action level.

"Fifth-liter tap sample" means a one-liter tap water sample a supplier collects under Section 611.2356(b).

"Find-and-fix" means the requirements under this Subpart AH that water systems must perform at every tap sampling site yielding a lead result above 15 µg/ L.

"First-draw tap sample" means the first one-liter sample of tap water a supplier collects under Section 611.2356(b)(2)

"Full lead service line replacement" means replacing a lead service line (as well as galvanized service lines requiring replacement) resulting in the entire length of the service line, regardless of service line ownership, complying with Section 611.126 at the time of replacement. A full lead service line replacement includes replacing a service line having only one portion that is lead, such as a service line previously subject to a partial lead service line replacement, as long as the entire service line complies with Section 611.126 after the replacement. A full lead service line replacement requires replacing galvanized service lines downstream of a lead service line. A full lead service line replacement could leave a lead service line in place in the ground but out of service if using a new non-lead service line replaces the out-of-service lead service line.

"Galvanized requiring replacement" refers to a galvanized service line Section 611.2354(a)(4)(B) describes.

BOARD NOTE: This definition derives from 40 CFR 141.84(a)(4)(ii) for a term used in various rules.

"Galvanized service line" means iron or steel piping zinc-dipped to prevent corrosion and rusting.

"Gooseneck, pigtail, or connector" is a short section of flexible piping, typically not exceeding two feet, connecting segments of rigid service piping. Lead goosenecks, pigtails, and connectors are not part of the lead service line, but Section 611.2354(c) may require replacing them.

"Large supplier" means a supplier regularly serving water to more than 50,000 persons.

"Lead service line" means a portion of pipe made of lead connecting the water main to the building inlet. A lead service line may be owned by the water system, the property owner, or both. A galvanized service line is a lead service line if it was or is downstream of any lead service line or service line of unknown material. If the only lead piping serving a home 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. Under Section 611.2356(a) only, a galvanized service line is not considered a lead service line.

"Lead status unknown service line" means a service line that has not been shown to comply with Section 611.126. Physically verifying the material composition of a service line (e.g., copper or plastic) is not necessary for its lead status to be identified (e.g., if records demonstrate that the service line was installed after a municipal, State, or federal lead ban).

BOARD NOTE: See the description of "lead status unknown" in Section 611.2354(a)(4)(D).

"Lead trigger level" means a particular concentration of lead in water that prompts certain activities under this Subpart AH. The trigger level for lead is a concentration of 10 µg/ L.

"Maximum permissible concentration" or "MPC" means the concentration of lead or copper in finished water entering the supplier's distribution system, which the Agency designates in a SEP based on the contaminant removal ability of the treatment properly operated and maintained.

BOARD NOTE: This definition derives from 40 CFR 141.83(b)(4). (See Section 611.2353(b)(4)(B).)

"Meet" or "comply with", relating to either the lead or the copper action level, means that the 90th percentile concentration of the supplier's samples collected during a six-month tap monitoring period is less than or equal to the lead or copper action level.

"Mid-sized supplier" means a supplier regularly serving water to more than 10,000 persons up to 50,000 persons.

"Multiple-family residence" means a building in which multiple families currently reside, but not one that is also a "single-family structure".

"90th percentile concentration" means the concentration of lead or copper the supplier computes under subsection (c)(4) using the results of tap water sampling under Section 611.2356.

BOARD NOTE: This definition derives from 40 CFR 141.80(c)(4).

"Optimal corrosion control treatment" or "OCCT" means the corrosion control treatment minimizing the lead and copper concentrations at users'

taps while ensuring that the treatment will not violate any national primary drinking water regulations.

"Partial lead service line replacement" means replacing any portion of a lead service line or galvanized requiring replacement service line leaving any length of the lead service line or galvanized requiring replacement service line in service and requiring replacement upon completion of the work. 611.354(d) allows partial lead service line replacements under limited circumstances, but these do not count towards the mandatory or goal-based lead service line replacement rate under Section 611.2354.

"Pitcher filter" means a non-plumbed water filtration device consisting of a gravity-fed water filtration cartridge and a filtered drinking water reservoir that is certified by its manufacturer, importer, or an accredited third-party certifying body as complying with the version of NSF/ANSI 53 in effect on the date of manufacture or import.

BOARD NOTE: NSF/ANSI 53 is the health-based standard for lead and several other contaminants for water filter devices, including pitcher filter-type devices. Identifying a device as certified under NSF/ANSI 53 at the time of purchase is possible. NSF maintains an on-line list of certified devices at info.nsf.org/Certified/dwtu/listings_leadreduction.asp. See the definition of "accredited third-party certifying body" in 35 Ill. Adm. Code 611.126(b) relating to NSF/ANSI 372.

"Practical quantitation limit" or "PQL" means the lowest concentration of an analyte (substance) that a well-operated laboratory can measure with a high degree of confidence that the analyte is present at or above that concentration.

BOARD NOTE: This definition derives from 40 CFR 141.89(a)(1)(ii) and (a)(1)(iv).

"Pre-stagnation flushing" means opening taps to flush standing water from plumbing before a minimum six-hour stagnation period before lead and copper tap sampling under Subpart AH.

"School" means any building or building complex associated with public, private, or charter institutions that primarily provides teaching and learning for elementary or secondary students.

"Secondary school" means a school comprising any span of grades beginning with the next grade following an elementary or middle school

(usually 7, 8, or 9) and ending with or below grade 12. This definition includes both junior high schools and senior high schools.

"Single-family structure" means a building constructed as a residence for a single-family that the occupant currently uses as a residence or place of business.

"Small system supplier" or "small CWS supplier" means a CWS serving 10,000 or fewer persons.

BOARD NOTE: A small CWS is a small supplier that is a CWS. This definition derives from the preamble of 40 CFR 141.93. Corresponding Section 611.2363 distinguishes a small CWS supplier from an NTNCWS supplier.

"Small supplier" means a supplier regularly serving water to 10,000 or fewer persons.

BOARD NOTE: USEPA did not revise its corresponding definition of "small water system" in 40 CFR 141.2 from 3,300 or fewer to 10,000 or fewer persons. This creates an inconsistency the Board corrected.

"Source water monitoring period" means any of the six-month periods during which a supplier must complete source water monitoring under Section 611.2358.

BOARD NOTE: The Board added this definition to avoid confusion with "tap sampling period," "tap monitoring period", and "water quality monitoring period", as used under this Subpart AH, and "compliance period" and "compliance cycle", as used elsewhere in this Part and Section 611.101 defines.

"Supplier without corrosion control treatment" means a PWS not fulfilling either of two conditions or purchasing all of its water from a supplier not fulfilling either of two conditions:

Neither the PWS nor the supplier providing its water has Agency-approved optimal corrosion control treatment; or

No other water quality adjustment in either the PWS's or the supplier's treatment train infrastructure includes adjusting pH or alkalinity or adding corrosion inhibitor.

"Tap monitoring period" means the period of time during which a supplier must sample taps for lead and copper analyses. The lead and copper concentrations in tap samples determine the tap monitoring period, and the frequency can range from every six months (i.e., semi-annually) to once every nine years. A supplier semi-annually sampling taps must collect samples no less frequently than every six months, while a supplier annually sampling taps must sample no less frequently than every year. A supplier triennially sampling taps must collect samples no less frequently than every three years, and a supplier sampling taps under an Agency-issued waiver must sample no less frequently than every nine years. The start of each new tap monitoring period, with the exception of semi-annual monitoring, must begin on January 1.

BOARD NOTE: This term is equivalent to "tap sampling monitoring period" in 40 CFR 141. "Tap monitoring period" describes sampling frequency.

"Tap sampling period" means the period within a tap monitoring period when the supplier must collect samples for lead and copper analysis. For a supplier sampling at a reduced frequency, the supplier must sample taps between June and September, unless the Agency issues a SEP approving a different four-month period.

BOARD NOTE: "Tap sampling period" describes when the supplier collects samples.

"Tap sampling protocol" means the instructions a supplier gives to residents or those sampling on the supplier's behalf to sample taps under this Subpart AH.

"Water quality monitoring period" means any of the six-month periods during which a supplier must complete a cycle of tap and entry point water quality monitoring under Section 611.2357.

BOARD NOTE: The Board added this definition. USEPA refers to these as "monitoring periods". The Board uses "water quality monitoring period" to avoid confusion with "tap sampling period," "tap monitoring period", and "source water monitoring period", as used under this Subpart AH, and "compliance period" and "compliance cycle", as used elsewhere in this Part and Section 611.101 defines.

"Wide-mouthed bottles" means bottles one liter in volume having a mouth that is at least 55 mm wide.

BOARD NOTE: This subsection (b) derives from 40 CFR 141.2.

c) Lead Trigger Level and Lead and Copper Action Levels. The supplier determines the lead trigger levels and lead and copper action levels based on tap water samples it collects under Section 611.2356 to calculate the 90th percentile concentration and tests using the analytical methods in 611.2359.

1) The supplier exceeds the lead trigger level if the 90th percentile lead concentration as subsection (c)(4) specifies is determined to be greater than 10 µg/ L.

2) The supplier exceeds the lead action level if the 90th percentile lead concentration is greater than 15 µg/ L.

3) The supplier exceeds the copper action level if the 90th percentile copper concentration is greater than 1.3 mg/ L.

4) The supplier must compute the 90th percentile lead and copper concentrations using the specified procedure:

A) Suppliers Not Having Sites with a Lead Service Line and Only Having Tier 3, 4, or 5 Sites Under Section 611.2356(a).

i) The supplier must list the results of all lead or copper samples it took during a tap sampling period in ascending order, ranging from the sample with the lowest concentration to the sample with the highest concentration. The supplier must assign each sampling result an ordinal number, ascending by single integers, assigning the number 1 for the sample with the lowest contaminant level. The number the supplier assigns to the sample with the highest contaminant level must equal the total number of samples the supplier took.

ii) To determine the 90th percentile sample, the supplier must multiply the total number of samples taken during the tap sampling period times 0.9.

iii) The contaminant concentration in the sample corresponding with the ordinal number subsection (c)(4)(A)(ii) yields is the 90th percentile concentration.

iv) For a supplier collecting five samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentrations.

v) For a supplier the Agency allows to collect fewer than five samples under Section 611.2356(c) or failing to collect five samples, the result for the sample with the highest concentration is the 90th percentile concentration.

B) Suppliers Having Enough Sites with a Lead Service Line Identified as Tier 1 or 2 Under Section 611.2356(a) to Meet the Minimum Number of Sites Section 611.2356(c) Requires

i) The supplier must arrange the results of all lead or copper samples it took at Tier 1 or Tier 2 sites during a tap sampling period in ascending order from the sample with the lowest concentration to the sample with the highest concentration. The supplier must not include sample results from Tier 3, 4, or 5 sites in this calculation. The supplier must assign each sampling result a number, beginning with the number 1 for the sample with the lowest contaminant concentration and ascending by single integers through increasing concentrations. The number assigned to the sample with the highest contaminant concentration must equal the total number of samples the supplier took.

ii) The supplier must multiply the number of Tier 1 or Tier 2 sites during the tap sampling period times 0.9.

iii) The 90th percentile concentration is the contaminant concentration in the numbered sample corresponding with the number the calculation under subsection (c)(4)(B)(ii) yields.

iv) For a supplier serving fewer than 100 people that collects five samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration.

v) For a supplier the Agency allows to collect fewer than five samples under Section 611.2356(c) or failing to collect five samples, the highest sample concentration is the 90th percentile concentration.

C) Suppliers Having Sites with a Lead Service Line Identified as Tier 1 or 2 Under Section 611.2356(a) but Fewer Than the Minimum Number of Sites Section 611.2356(c) Requires

i) The supplier must combine the results of all lead or copper samples it took at Tier 1 or Tier 2 sites with a sufficient number of the highest results from Tier 3, 4, or 5 sites to complete the minimum number of sites. The supplier must arrange the combined results in ascending order from the sample with the lowest concentration to the sample with the highest concentration. The supplier must not include sample results from any remaining Tier 3, 4, and 5 sites in this calculation. The supplier must assign each sampling result a number, beginning with the number 1 for the sample with the lowest contaminant concentration and ascending by single integers through increasing concentrations. The number the supplier assigns to the sample with the highest contaminant concentration must equal the total minimum number of sites listed in Section 611.2356(c).

ii) The supplier must multiply the number of Tier 1 or Tier 2 sites during the tap sampling period times 0.9.

iii) The 90th percentile concentration is the contaminant concentration in the numbered sample corresponding with the number the calculation under subsection (c)(4)(C)(ii) yields.

iv) For a supplier serving fewer than 100 people that collects five samples per tap sampling period, the 90th percentile concentration is the average of the highest and second highest concentration.

v) For a supplier the Agency allows to collect fewer than five samples under Section 611.2356(c) or failing to collect five samples, the highest sample concentration is the 90th percentile concentration.

d) Corrosion Control Requirements

1) Every supplier must install and operate corrosion control treatment under Sections 611.2351 and 611.2352 meeting the definition of optimal corrosion control treatment.

2) Any supplier complying with the applicable corrosion control treatment requirements the Agency specifies under Sections 611.2351 and 611.2352 is deemed as complying with subsection (d)(1).

3) A small CWS or NTNCWS supplier complying with the applicable small supplier compliance flexibility requirements the Agency specifies under Sections 611.2351(a)(3) and 611.2363 complies with the treatment requirement in subsection (d)(1).

4) A supplier must notify the Agency in writing under Section 611.2360(a)(3) of any upcoming long-term change in water treatment or plan to add a new source as Section 611.2360(a)(3) describes. The supplier must not implement a long-term change in water treatment or add a new source until after the Agency reviews and approves the action in a SEP. The SEP may require the supplier to conduct additional monitoring or take other action the Agency deems appropriate to ensure that the supplier maintains minimal levels of corrosion control in its distribution system.

e) Source Water Requirements

1) Any supplier exceeding the lead or copper action level must implement all applicable source water treatment requirements the Agency specifies under Section 611.2353.

2) A supplier planning changes in its source water or making long-term treatment changes must describe the change to the Agency in writing under Sections 611.2351(a)(3), 611.2356(d)(2)(D), and 611.2360(a)(3). The supplier must not implement the change until the Agency reviews and approves the change in a SEP.

f) Lead Service Line Replacement and Inventory. A supplier must conduct lead service line replacements as this subsection (f) requires.

1) Any supplier whose system exceeds the lead action level subsection (c) specifies must complete mandatory lead service line replacement. The supplier must conduct lead service line replacement under Section 611.2354(g) and must include public education under Section 611.2355(a) and (b).

2) A supplier exceeding the lead trigger level subsection (c) specifies must complete goal-based lead service line replacement under Section 611.2354(f) and public education under Section 611.2355(g) and (h).

3) All suppliers must prepare an inventory of service lines connected to their distribution systems, whether or not the supplier owns or controls the service lines, to identify lead service lines and lead status unknown service lines. The supplier must prepare the inventory under Section 611.2354(a).

g) Public Education and Notification Requirements. Under Section 611.2355(d), the supplier must provide notification of the lead tap water monitoring results to the persons served at each tested site (tap). A CWS supplier must conduct annual outreach to the Illinois Department of Public Health and local health agencies under Section 611.2355(i). The supplier must complete additional actions:

1) Any supplier exceeding the lead action level must implement the public education requirements under Section 611.2355.

2) Any supplier exceeding the lead trigger level subsection (c) specifies must notify all customers with a lead service line under Section 611.2355(g).

3) Any supplier exceeding the lead action level subsection (c) specifies must notify the public under Subpart V.

4) Any supplier with lead service lines, galvanized service lines needing replacement, or lead status unknown service lines in its inventory, as Section 611.2354(a) specifies, must notify all consumers with a lead service line, galvanized service line needing replacement, or a lead status unknown service line under Section 611.2355(e).

5) Any supplier failing to reach its lead service line replacement rate goal, as required under Section 611.2354(f) must conduct outreach activities in accordance with Section 611.2355(h).

h) Monitoring and Analytical Requirements. A supplier must complete all tap water monitoring for lead and copper, monitoring for water quality parameters, and source water monitoring for lead and copper and analyze the monitoring results under this Subpart AH as Sections 611.2356, 611.2357, 611.2358, and 611.2359 require.

i) Reporting Requirements. A supplier must report any information the treatment provisions of this Subpart AH and Section 611.2360 require to the Agency.

j) Recordkeeping Requirements. A supplier must maintain records as Section 611.2361 requires.

k) Violating National Primary Drinking Water Regulations. Failing to comply with this Subpart AH, including conditions the Agency imposes in a SEP, violates the lead and copper NPDWR.

l) Testing in Schools and Childcare Facilities. A supplier must collect samples from all schools and childcare facilities within its distribution system under Section 611.2362.

BOARD NOTE: This Section derives from 40 CFR 141.80.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2351 Applicability of Corrosion Control

a) Corrosion Control Treatment. This Section provides when a supplier must complete the corrosion control treatment steps in subsection (d) or (e) to optimize or re-optimize corrosion control treatment based on size, whether the supplier has corrosion control treatment, and whether the supplier exceeded the lead trigger level, lead action level, or copper action level.

1) Large Suppliers

A) A large supplier applying corrosion control treatment that exceeds either the lead trigger level or copper action level must complete the corrosion control treatment steps subsection (d) specifies.

B) A large supplier without corrosion control treatment with 90th percentile concentration results under Section 611.2350(c)(4) that exceeds either the lead practical quantitation limit of 0.005 mg/ L or the copper action level must complete the corrosion control treatment steps subsection (e) specifies.

C) The Agency may issue a SEP requiring a large supplier applying corrosion control treatment with 90th percentile concentration results under Section 611.2350(c)(4) exceeding the lead practical quantitation limit but not exceeding the lead trigger level or the copper action level to complete the corrosion control treatment steps in subsection (d).

2) Mid-Sized Suppliers (serving >10,000 and ≤50,000 people)

A) A mid-sized supplier applying corrosion control treatment that exceeds either the lead trigger level or the copper action level must

complete the corrosion control treatment steps subsection (d) specifies.

B) A mid-sized supplier without corrosion control treatment that exceeds either the lead or copper action level must complete the corrosion control treatment steps subsection (e) specifies.

C) A mid-sized supplier without corrosion control treatment that exceeds the lead trigger level but does not exceed the lead or copper action level must complete the treatment recommendation step subsection (e)(1) specifies (Step 1). The water system must complete the remaining steps subsection (e) specifies if the supplier subsequently exceeds either the lead or copper action level.

3) Small CWS and Non-Transient, Non-Community Water System Suppliers

A) A small CWS or NTNCWS supplier applying corrosion control treatment that exceeds the lead trigger level or the lead action level but does not exceed the copper action level must complete the corrosion control treatment steps subsection (d) specifies if the Agency issues a SEP approving corrosion control treatment as a compliance option under Section 611.2363(a).

B) A small CWS or NTNCWS supplier applying corrosion control treatment that exceeds the copper action level must complete the corrosion control treatment steps subsection (d) specifies.

C) A small CWS or NTNCWS supplier without corrosion control treatment that exceeds the lead action level must complete the corrosion control treatment steps subsection (e) specifies if the Agency issues a SEP approving corrosion control treatment as a compliance option under Section 611.2363.

D) A small CWS or NTNCWS supplier without corrosion control treatment that exceeds the copper action level must complete the corrosion control treatment steps subsection (e) specifies.

b) Suppliers Deemed to Have Optimized Corrosion Control. Subsection (b)(1), (b)(2), or (b)(3) deems a supplier to have OCCT or re-optimized OCCT if the supplier satisfies one of the criteria specified in the subsection. Any system subsection (b)(1), (b)(2), or (b)(3) deems to have OCCT having corrosion control treatment in place must continue operating and maintaining that treatment and

meeting any additional requirements the Agency determines are appropriate to ensure that the supplier maintains OCCT.

1) Small and Mid-Sized Suppliers Not Applying Corrosion Control Treatment. A small or mid-sized supplier without corrosion control treatment is deemed to have OCCT if it does not exceed the lead or copper action level during two consecutive six-month tap monitoring periods and remains at or below the lead trigger level and copper action level in all subsequent tap monitoring periods under Section 611.2356.

2) Small and Mid-Sized Suppliers Applying Corrosion Control Treatment and Not Exceeding Levels. A small or mid-sized supplier applying corrosion control treatment is deemed to have OCCT if it does not exceed the lead or copper action level during two consecutive six-month tap monitoring periods under Section 611.2356 and remains at or below the lead trigger level and copper action level in all subsequent tap monitoring periods under Section 611.2356. If a small or mid-sized supplier applying corrosion control treatment exceeds the lead trigger level but does not exceed the lead or copper action level during two consecutive six-month tap monitoring periods and remains at or below the lead and copper action levels in all subsequent tap monitoring periods the supplier conducts under Section 611.2356, that supplier is deemed to have re-optimized OCCT by complying with this Section. If the Agency issued a SEP setting optimal water quality parameters (OWQPs) under subsection (d) or (e), a supplier is not eligible to be deemed as having optimized or re-optimized OCCT under subsection (b).

3) Results Less Than or Equal to the Practical Quantitation Level (PQL) for Lead. Monitoring results deem a supplier to have optimized or re-optimized OCCT if the supplier submits results of tap water monitoring under Section 611.356 demonstrating that the 90th percentile lead concentration is less than or equal to the lead PQL of 0.005 mg/ L and does not exceed the copper action level for two consecutive six-month tap monitoring periods, and the Agency did not issue a SEP setting OWQPs under subsection (d) or (e). Any water system this subsection (b)(3) deems to have optimized corrosion control must continue tap water monitoring for lead and copper no less frequently than once every three calendar years using the reduced number of sites Section 611.2356(c) specifies and collecting the samples at times and locations Section 611.2356(d)(4)(E) specifies. If 90^{th} percentile tap sample results exceeds the lead practical quantitation level (0.005 mg/L) or copper action level during any tap sampling period, the supplier is no longer eligible to be deemed to have optimized OCCT under this subsection without first completing the treatment steps specified in subsection (d) and (e).

c) Completing Corrosion Control Steps for Small and Mid-Sized Suppliers Not Applying Corrosion Control Treatment

1) Any small or mid-sized supplier without corrosion control treatment, otherwise required to complete the corrosion control steps in subsection (e) because it exceeded the lead or copper action level, may cease completing the steps after not exceeding either the lead or copper action levels during each of two consecutive six-month tap monitoring periods under Section 611.2363 before beginning Step 3 under subsection (e)(3) or Step 5 under subsection (e)(5). The supplier needs not begin the applicable of Step 3 or Step 5, except that a mid-sized supplier with lead service lines or a small supplier with lead service lines choosing the corrosion control option under Section 611.2363 must complete a corrosion control treatment study under subsection (e)(3)(A). A supplier initiating Step 5 may not cease the steps and must complete all remaining steps in subsections (e)(6) through (e)(8).

2) A supplier ceasing the steps prior to either Step 3 or Step 5 and later exceeding the lead or copper action level may not cease the steps a second time and must complete the applicable treatment steps beginning with the first treatment step that the supplier previously did not complete in its entirety.

3) The Agency may issue a SEP requiring a supplier to repeat treatment steps the supplier previously completed if the Agency determines that this is necessary to properly implement the treatment requirements of this Section. The Agency must explain the basis for its decision in any SEP.

4) A small or mid-sized supplier exceeding the lead or copper action level must implement corrosion control treatment steps under subsection (e) (including a supplier deemed to have optimized corrosion control under subsection (b)(1))

d) Treatment Steps and Deadlines for Suppliers Re-Optimizing OCCT. Except as subsection (b)(2) or Section 611.2363 provides otherwise, a supplier with corrosion control treatment must complete certain corrosion control treatment steps (the referenced portions of Sections 611.2352, 611.2356, and 611.2357 the steps describe) before the indicated times:

1) Step 1

A) A supplier other than one to which subsection (d)(1)(B) applies must recommend re-optimized OCCT (Section 611.2352(c))

within six months after the end of the tap sampling period during which the supplier exceeds either the lead trigger level or copper action level. The Agency may issue a SEP allowing a supplier to modify its existing corrosion control treatment without a study for a supplier exceeding the lead trigger level but not the lead or copper action level. The Agency must specify re-optimized OCCT within six months after receiving the supplier's treatment recommendation. The supplier must modify its corrosion control treatment to install re-optimized OCCT within six months after the Agency specifies re-optimized OCCT.

B) A supplier having lead service lines that exceeds the lead action level must harvest lead pipes from its distribution system, construct flow-through pipe loops, and operate the loops with finished water within one year after the end of the tap sampling period during which the supplier exceeds the lead action level. The supplier must proceed to Step 3 under subsection (d)(3) and conduct the corrosion control studies for re-optimizing OCCT under subsection (d)(3)(A) using the pipe loops.

2) Step 2

A) A large supplier must conduct the corrosion control studies for re-optimizing OCCT under subsection (d)(3) (Step 3) unless the system is at or below the lead action level and the Agency issues a SEP modifying the existing corrosion control treatment the Agency specified under subsection (d)(1)(A) (Step 1).

B) Within 12 months after the end of the tap sampling period during which a small or mid-sized supplier applying corrosion control treatment exceeds the lead trigger level or copper action level, the Agency may issue a SEP requiring the supplier to perform corrosion control studies for re-optimizing OCCT (Section 611.2352(c)(1) or (c)(2)). If the Agency does not require the supplier to perform corrosion control studies, the Agency must issue a SEP specifying re-optimized OCCT (Section 611.2352(d)(2)) within the timeframes in subsections (d)(2)(B)(i) and (d)(2)(B)(ii).

i) A mid-sized supplier must perform corrosion control studies for re-optimizing OCCT within 12 months after the end of the tap sampling period during which the supplier exceeded the lead trigger level or copper action level.

ii) A small supplier must perform corrosion control studies for re-optimizing OCCT within 18 months after the end of the tap sampling period during which the supplier exceeded the lead trigger level or copper action level.

3) Step 3

A) A supplier having lead service lines that exceeds the lead action level must complete the corrosion control treatment studies for re-optimizing OCCT within 30 months after the end of the tap sampling period during which the supplier exceeded the lead action level.

B) If subsection (d)(2) (Step 2) requires the supplier to perform corrosion control studies, the supplier must complete the studies (Section 611.2352(c)(2)) within 18 months after the Agency issues a SEP requiring the supplier to conduct the studies.

4) Step 4

A) The Agency must issue a SEP designating re-optimized OCCT (subsection (d)(3)(A)) within six months after the supplier completes subsection (d)(3)(A) (Step 3).

B) If the supplier performed corrosion control studies under subsection (d)(2) (Step 2), the Agency must issue a SEP designating re-optimized OCCT (Section 611.2352(d)(2) or (d)(4)) within six months after the supplier completes subsection (d)(3)(B) (Step 3).

5) Step 5

A) A large supplier must complete modifying its corrosion control treatment to have installed re-optimized OCCT within 12 months after the supplier completes subsection (d)(4)(A) (Step 4).

B) A small or mid-sized supplier must install re-optimized OCCT (Section 611.2352(e)(1)) within 12 months after the supplier completes subsection (d)(4)(B) (Step 4).

6) Step 6 A supplier must complete follow-up sampling (Sections 611.2356(d)(2) and 611.2357(c)) within 12 months after the supplier completes subsection (d)(5)(A) or (d)(5)(B) (Step 5).

7) Step 7 The Agency must review the supplier's installed treatment and designate optimal water quality control parameters (Section 611.2352(f)(1)) within six months after completing subsection (d)(6) (Step 6).

8) Step 8 The supplier must operate complying with the Agency-designated optimal water quality control parameters (Section 611.2352(g)) and continue conducting tap sampling (Section 611.2356(d)(3) and monitoring water quality parameters under Section 611.2357(d)).

e) Treatment Steps and Deadlines for Suppliers Not Applying Corrosion Control Treatment. Except as subsection (b) or Section 611.2363 provides otherwise, a supplier without corrosion control treatment must complete certain corrosion control treatment steps (described in the referenced portions of Sections 611.2352, 611.2356, and 611.2357) before the indicated times.

1) Step 1

A) A supplier other than one to which subsection (e)(1)(B) or (e)(1)(C) applies must recommend OCCT (Section 611.2352(a)(1), (a)(2), (a)(3), or (a)(4)) within six months after the end of the tap sampling period during which the supplier exceeds either the lead trigger level or copper action level.

B) A supplier having lead service lines and exceeding the lead action level must harvest lead pipes from its distribution system, construct flowthrough pipe loops, and operate the loops with finished water within one year after the end of the tap sampling period during which the supplier exceeds the lead action level. The supplier must proceed to Step 3 in subsection (e)(3) and conduct the corrosion control studies under subsection (e)(3) using the pipe loops, for optimizing OCCT under subsection (e)(3)(A).

C) A large supplier subsection (a)(1)(B) directs to perform corrosion control treatment under this subsection (e) must conduct the corrosion control studies for optimizing OCCT under subsection (e)(3) (Step 3).

2) Step 2. Within 12 months after the end of the tap sampling period during which a supplier exceeds the lead or copper action level, if not otherwise required by this rule, the Agency may issue a SEP requiring the supplier to perform corrosion control studies (Section 611.2352(b)(1)). If the Agency does not require the supplier to perform corrosion control studies, the Agency must issue a SEP specifying OCCT (under Section

611.2352(d)(1)) within the applicable timeframe in subsections (e)(2)(A) and (e)(2)(B).

A) For a mid-sized supplier, within 18 months after the end of the tap monitoring period during which the supplier exceeded the lead trigger level or copper action level; or

B) For a small supplier, within 24 months after the end of the tap monitoring period during which the supplier exceeded the lead trigger level or copper action level.

3) Step 3

A) A large supplier having or not having lead service lines that exceeds the lead action level or a small or mid-sized supplier having lead service lines that exceeds the lead action level must complete the corrosion control treatment studies for optimizing OCCT within 30 months after the end of the tap sampling period during which the supplier exceeds the lead action level.

B) If the Agency requires a supplier to perform corrosion control studies under subsection (e)(2) (Step 2), the supplier must complete the studies (Section 611.2352(c)(1)) within 18 months after the Agency issues a SEP requiring the supplier to conduct the studies.

4) Step 4

A) The Agency must issue a SEP designating re-optimized OCCT (Section 611.22352(d)(3)) within six months after the supplier completes subsection (d)(3)(A) (Step 3).

B) If the supplier has performed corrosion control studies under subsection (e)(2) (Step 2), the Agency must issue a SEP designating OCCT (Section 611.2352(d)(1)) within six months after subsection (e)(3) (Step 3) is complete.

5) Step 5 The supplier must install OCCT (Section 611.2352(e)) within 24 months after the Agency designates OCCT under subsection (e)(2) or (e)(4) (Step 2 or Step 4).

6) Step 6 The supplier must complete follow-up sampling under Sections 611.2356(d)(2)(A) and 611.2357(c) within 12 months after completing subsection (e)(5) (Step 5).

7) Step 7 The Agency must review the supplier's installation of treatment and issue a SEP approving optimal water quality control parameters (Section 611.2352(f)(1)) within six months after the supplier completes subsection (e)(5) (Step 5).

8) Step 8 The supplier must comply with the Agency-approved optimal water quality control parameters (Section 611.2352(g)(1)) and continue tap sampling (Section 611.2356(d)(3)) and monitoring water quality parameters (Section 611.2357(d)).

f) Treatment Steps and Deadlines for Small CWS and NTNCWS Suppliers Electing Corrosion Control Treatment (CCT) As a Compliance Option under Section 611.2363 or As the Agency Requires. A small CWS or NTNCWS supplier selecting the corrosion control treatment option as small supplier compliance flexibility under Section 611.2363(a)(2) must complete two steps by the indicated times:

1) Step 1. A supplier must recommend the corrosion control treatment option as small supplier compliance flexibility under Section 611.2363(a)(2) within six months after the end of the tap sampling period during which the supplier exceeds either the lead trigger level or the lead action level. When recommending to the Agency, the supplier must comply with Section 611.2352(a)(1).

2) Step 2. The Agency must issue a SEP approving the recommendation of corrosion control treatment option as small supplier compliance flexibility or designating an alternative option under Section 611.2363(a) within six months after the supplier recommends the option under subsection (f)(1) (Step 1). A supplier the Agency requires to optimize or re-optimize OCCT must follow the schedules in subsection (d) or (e), beginning with Step 3 in subsection (d)(3) or (e)(3), unless the Agency specifies OCCT under the applicable of subsection (d)(2)(B) or (e)(2)(B).

BOARD NOTE: This Section derives from 40 CFR 141.81.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2352 Corrosion Control Treatment

Designating Optimal Corrosion Control Treatment for Systems Optimizing or Re-Optimizing Corrosion Control Treatment. A supplier must complete the corrosion control treatment requirements in this Section as they apply to the supplier under Section 611.2351.

a) System Recommendation Regarding Corrosion Control Treatment for Suppliers Not Having Lead Service Lines and Suppliers Having Lead Service Lines but Not Exceeding the Lead Action Level

1) A supplier without corrosion control that must recommend under Section 611.2351(e) one or more of the corrosion control treatments in subsection (c)(1)(A) for the Agency to designate must base its recommendation on the results of lead and copper tap monitoring and water quality parameter monitoring.

A) A small CWS supplier or NTNCWS supplier exceeding the copper action level and recommending corrosion control treatment to the Agency under Section 611.2363(a) must comply with this subsection (a)(1).

B) The Agency may issue a SEP requiring the supplier to conduct additional water quality parameter monitoring to assist the Agency in reviewing the supplier's recommendation.

2) A small CWS supplier or NTNCWS supplier subject to this subsection (a) not applying corrosion control treatment that chooses to pursue a small water system compliance flexibility option and is required to recommend an option in compliance with Section 611.2351(f) must, based on the results of lead tap sampling and water quality parameter monitoring, recommend designation of one of the options listed in Section 611.2363. A supplier not having lead service lines, exceeding the lead action level, and selecting corrosion control under Section 611.2363(a)(2) must recommend that the Agency designate one or more of the corrosion control treatments in subsection (c)(1) as OCCT for that system.

3) A supplier exceeding the lead action level and selecting corrosion control treatment under Section 611.2363(a)(2) must recommend that the Agency designate one or more of the corrosion control treatments in subsection (c)(1)(A) as the OCCT for its system. A small or mid-sized supplier exceeding the lead trigger level but not exceeding the lead or copper action level does not need to perform a corrosion control study under subsection (c) unless the Agency issues a SEP requiring the supplier to do so.

4) A small CWS or NTNCWS supplier applying corrosion control treatment exceeding the lead action level and selecting corrosion control under Section 611.2363(a)(2) must recommend designation of one or more of the corrosion control treatments in subsection (c)(2) as OCCT for its system.

5) The Agency may issue a SEP waiving subsection (a)(4)'s OCCT-recommendation requirement for a supplier if the SEP requires the supplier to complete a corrosion control study within three months after the end of the tap sampling period during which the supplier exceeded the lead action level. In that case, the supplier must proceed directly to subsection (c) and complete a corrosion control study.

b) Agency-Required Studies to Identify Initial Optimal Corrosion Control Treatment and Re-Optimized OCCT Except for Large Suppliers and Small and Mid-Sized Suppliers Having Lead Service Lines and Exceeding the Lead Action Level. Certain suppliers must conduct corrosion control treatment studies: large suppliers exceeding the lead action level, large suppliers not applying corrosion control treatment whose 90th percentile concentration results exceed either the lead practical quantitation limit of 0.005 mg/ L or the copper action level, mid-sized water system suppliers having lead service lines and exceeding the lead action level, and small suppliers having lead service lines and exceeding the lead action level and selecting the corrosion control treatment option under Section 611.2363(a).

1) The Agency may issue a SEP requiring a small or mid-sized supplier without corrosion control treatment exceeding the lead or copper action level to perform corrosion control treatment studies under subsection (c)(1) to identify OCCT for the supplier's system.

2) The Agency may issue a SEP requiring a small or mid-sized supplier without corrosion control treatment and exceeding the lead trigger level but not the lead or copper action level to perform corrosion control treatment studies under subsection (c)(1) to identify OCCT for its system. The supplier must install this corrosion control treatment if the supplier subsequently exceeds the lead or copper action level.

3) The Agency may issue a SEP requiring a small or mid-sized supplier applying corrosion control treatment exceeding either the lead trigger level or copper action level to perform corrosion control treatment studies under subsection (c)(2) to identify re-optimized OCCT for its system (i.e., after evaluating re-optimized OCCT).

c) Performing Corrosion Control Studies

1) A supplier without corrosion control treatment that is required to conduct corrosion control studies must complete certain actions:

A) A supplier without corrosion control treatment must evaluate the effectiveness of each of certain treatments and combinations of those treatments if appropriate to identify the OCCT for its system:

i) Adjusting alkalinity and pH;

ii) Adding an orthophosphate- or silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective corrosion inhibitor residual concentration in all test samples.

iii) Adding an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 1 mg/ L (as PO_4) in all test samples; and

iv) Adding an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 3 mg/ L (as PO_4) in all test samples.

B) The supplier must evaluate each of the corrosion control treatments using pipe rig/loop tests; metal coupon tests; partial-system tests; or analyses based on documented analogous treatments in other systems of similar size, water chemistry, and distribution system configuration. A large or mid-sized supplier or a small CWS or NTNCWS supplier selecting the corrosion control treatment option under Section 611.2363 having lead service lines and exceeding the lead action level must conduct pipe rig/loop studies using harvested lead service lines from its distribution system to assess the effectiveness of corrosion control treatment options on the existing pipe scale. The supplier may use metal coupon tests as a screen to reduce the number of options the supplier evaluates using pipe rig/loop tests to the current conditions and two options.

C) The supplier must measure specific water quality parameters in any tests the supplier conducts under this subsection (c)(1)(C) before and after evaluating the corrosion control treatments in subsections (c)(1)(A) and (c)(1)(B):

i) Lead;

ii) Copper;

iii) pH;

iv) Alkalinity;

v) Orthophosphate as PO_4 (when the supplier uses an orthophosphate-based inhibitor); and

vi) Silicate (when the supplier uses an inhibitor containing a silicate compound).

D) The supplier must identify all chemical or physical constraints that limit or prohibit using any particular corrosion control treatment and document those constraints:

i) With data and documents showing that a particular corrosion control treatment adversely affected other drinking water treatment processes when that treatment was used by another supplier with water having comparable water quality characteristics. Systems using coupon studies to screen 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) With data and documents demonstrating that the supplier previously evaluated a particular corrosion control treatment, finding either that the treatment is ineffective or adversely affects other drinking water quality treatment processes. Systems using coupon studies to screen 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.

E) The supplier must evaluate the effect of the evaluated corrosion control treatment chemicals on other water quality treatment processes. A supplier using coupon studies to screen or pipe loop/rig studies to evaluate treatment options must not exclude treatment strategies from the studies based on the effects the supplier identifies under this Section.

F) Based on an analysis of the data the supplier generated during each evaluation, the supplier must recommend in writing to the Agency the treatment option the corrosion control studies indicate

constitutes OCCT for the supplier's system. The supplier must give a rationale for its recommendation together with all supporting documentation subsections (c)(2)(A) through (c)(2)(E) specify.

2) A supplier applying corrosion control treatment that must conduct corrosion control studies to determine re-optimized OCCT must complete specific tasks:

A) The supplier must evaluate the efficacy of certain treatments and appropriate combinations of those treatments to identify the re-optimized OCCT for its system:

i) Alkalinity or pH adjustment or re-adjustment;

ii) Adding an orthophosphate- or silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective corrosion inhibitor residual concentration in all test samples if the supplier does not already use the inhibitor;

iii) Adding an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 1 mg/ L (PO_4) in all test samples unless the current inhibitor process already meets this residual; and

iv) Adding an orthophosphate-based corrosion inhibitor at a concentration sufficient to maintain an orthophosphate residual concentration of 3 mg/ L (PO_4) in all test samples unless the current inhibitor process already meets this residual.

B) The supplier must evaluate each of the corrosion control treatments using pipe rig/loop tests, metal coupon tests, partial-system tests, or analyses based on documented analogous treatments with other systems of similar size, water chemistry, and distribution system configurations. If the supplier's system has lead service lines and exceeds the lead action level, the supplier must conduct pipe rig/loop studies using harvested lead service lines from its distribution system to assess the efficacy of corrosion control treatment options on the existing pipe scale. The supplier can use metal coupon tests as a screen to reduce the number of options it

evaluates using pipe rig/loops to the current conditions and two options.

C) The supplier must measure specific water quality parameters in any tests conducted under this subsection (c)(2)(C) before and after evaluating the corrosion control treatments in subsections (c)(2)(A) and (c)(2)(B):

i) Lead;

ii) Copper;

iii) pH;

iv) Alkalinity;

v) Orthophosphate as PO_4 (if the supplier uses an orthophosphate-based inhibitor); and

vi) Silicate (if the supplier uses a silicate-based inhibitor).

D) The supplier must identify all chemical or physical constraints limiting or prohibiting using a particular corrosion control treatment and document those constraints with certain information:

i) Data and documents showing that a particular corrosion control treatment adversely affected other drinking water treatment processes when another supplier with comparable water quality characteristics used the treatment. A supplier using coupon studies to screen or pipe loop/rig studies to evaluate treatment options must not exclude treatment strategies from the studies based on the constraints the supplier identifies under this Section; or

ii) Data and documents demonstrating that the supplier previously evaluated a particular corrosion control treatment and found that the treatment is ineffective or adversely affects other drinking water quality treatment processes. A supplier using coupon studies to screen or pipe loop/rig studies to evaluate treatment options must not exclude treatment strategies from the studies based on the constraints the supplier identifies under this Section, unless the supplier found the treatment ineffective in a previous pipe loop/rig study.

E) The supplier must evaluate the effect of the chemicals it uses for corrosion control treatment on other drinking water quality treatment processes. A supplier using coupon studies to screen or pipe loop/rig studies to evaluate treatment options must not exclude treatment strategies from the studies based on the effects the supplier identifies under this Section.

F) Based on its analysis of the data the supplier generated during each evaluation, the supplier must recommend to the Agency in writing the treatment option that the corrosion control studies indicate constitutes OCCT for its system. The supplier must provide a rationale for its recommendation together with all supporting documentation subsections (c)(1)(A) through (c)(1)(E) specify.

d) Agency Approval of Optimized and Re-Optimized Corrosion Control Treatment. When designating OCCT, the Agency must consider the effects of additional corrosion control treatment on water quality parameters and other water quality treatment processes. The Agency must notify the supplier of the basis for designating OCCT in any SEP it issues under this subsection (d).

1) Designating OCCT for a Supplier Without Corrosion Control Treatment. Considering available information, including applicable studies conducted under subsection (c)(1) or the supplier's recommended corrosion control treatment option, the Agency must issue a SEP designating from among the supplier-recommended corrosion control treatment option, alternative corrosion control treatments from among those in subsection (c)(1)(A), or an applicable alternative small supplier compliance flexibility option under Section 611.2363(a).

2) Designation of Re-Optimized OCCT for Suppliers Applying Corrosion Control Treatment. Considering available information, including applicable studies under subsection (c)(2) or the supplier's recommended corrosion control treatment option, the Agency must issue a SEP designating from among the supplier-recommended corrosion control treatment option, alternative corrosion control treatments from among those in subsection (c)(2)(A), or an applicable alternative small supplier compliance flexibility option under Section 611.2363(a).

e) Installing OCCT and Re-Optimizing OCCT. A supplier must properly install and operate the OCCT throughout its distribution system that the Agency approved under subsection (d).

f) Agency Review of Treatment and Specification of Optimal Water Quality Control Parameters for OCCT and Re-Optimized OCCT. The Agency must evaluate the results of all lead and copper tap sampling and water quality parameter sampling the supplier submits and determine whether the supplier properly installs and operates the OCCT the Agency approves under subsection (d)(1) or (d)(2).

1) Upon reviewing the results of the supplier's tap water and water quality parameter monitoring, both before and after installing OCCT , the Agency must issue a SEP specifying operating parameters:

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

B) A minimum pH value for all tap samples. This value must be equal to or greater than 7.0, unless the Agency determines that a pH 7.0 is not technologically feasible or is not necessary for the supplier to optimize corrosion control.

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

D) If the supplier uses a corrosion inhibitor, the supplier must maintain a minimum orthophosphate or silicate concentration measured in all tap samples that is necessary to form a passivating film on the interior walls of the pipes of the distribution system, as determined by the Agency in a SEP. If the supplier uses orthophosphate, the supplier must maintain an orthophosphate concentration equal to or greater than 0.5 mg/ L (as PO_4) for OCCT the Agency designates under subsection (d)(1) or 1.0 mg/ L for OCCT the Agency designates under subsection (d)(2), unless the Agency determines that meeting the applicable minimum orthophosphate residual is not technologically feasible or is not necessary for OCCT.

E) If the supplier adjusts alkalinity as part of OCCT, a minimum concentration or a range of concentrations for alkalinity for each entry point to the distribution system and in all tap samples.

2) The values for the applicable water quality control parameters in subsection (f)(1) must be those the Agency determines reflect OCCT for the supplier.

3) The Agency must explain these determinations and give the basis for its decisions when issuing a SEP.

g) Continued Operation and Monitoring for OCCT and Re-Optimized OCCT. All suppliers optimizing or re-optimizing corrosion control must continue to operate and maintain OCCT, including maintaining water quality parameter values at or above minimum values or within ranges the Agency approved under subsection (f), under this subsection (g) for all samples the supplier collects under Section 611.2357(d) through (f). This subsection (g) applies to all suppliers that Section 611.2357 does not require to monitor water quality parameters, including consecutive system suppliers distributing water that another supplier has treated applying corrosion control treatment and any suppliers applying corrosion control treatment, OCCT, or re-optimized OCCT. The supplier must determine whether it complies with this subsection (g) every six months, as Section 611.2357(d) specifies. A supplier does not comply with this subsection (g) in any six-month period during which the supplier has excursions from any Agency-specified water quality parameter on more than nine cumulative days during the six-month period. An excursion occurs whenever the daily value for one or more of the water quality parameters measured at a sampling location is below the Agency-designated minimum value or outside the Agency-designated range. The supplier calculates daily values as subsections (g)(1) through (g)(3) provide. The Agency may exclude results from this calculation that it determines are obvious sampling errors. The supplier must record sampling errors even when not included in calculations.

1) On days when the supplier collects more than one measurement for a water quality parameter at a sampling location, the daily value is the average of all results the supplier collected during the day, regardless of whether the supplier collected the samples through continuous monitoring, grab sampling, or a combination of both.

BOARD NOTE: Corresponding 40 CFR 141.82(g)(1) further provides as follows: If USEPA approves an alternative formula under 40 CFR 142.16(d)(1)(ii) in the State's application for a program revision submitted under 40 CFR 142.12, the approved formula is used to aggregate multiple measurements at a sampling point for the water quality parameters in lieu of the formula in this subsection (g)(1).

2) On days when the supplier collects only one measurement for a water quality parameter at a sampling location, the daily value is that measurement.

3) On days when the supplier collects no measurement 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 supplier measured the water quality parameter at the sampling location.

h) Modifying Agency Treatment Decisions for OCCT and re-optimized OCCT

1) On its own initiative or in response to a request by the supplier, the Agency may issue a SEP modifying its determination of the OCCT under subsection (d) or of the optimal water quality control parameters under subsection (f).

2) A supplier must request modification in writing, explaining the propriety of the modification and providing supporting documentation.

3) The Agency may modify its determination if it determines that a change will ensure that the supplier continues optimizing corrosion control treatment. A revised determination must give the new treatment requirements or water quality parameters, explain the basis for the Agency's decision, and provide an implementation schedule for completing the treatment modifications for re-optimized OCCT.

4) Any interested person may submit information to the Agency bearing on whether the Agency should exercise its discretion and issue a SEP modifying its determination under subsection (h)(1). An Agency determination not to act on information an interested person submits is not an Agency determination for the purposes of Sections 39 and 40 of the Act.

i) USEPA Treatment Decisions on OCCT and re-optimized OCCT. Under 40 CFR 142.19, USEPA reserves the prerogative to review Agency OCCT treatment determinations under subsections (d)(1) or (d)(2), (f), or (h) and issue federal treatment determinations consistent with Section 611.2352(d)(1) or (d)(2), (f), or (h) if USEPA finds that certain conditions exist:

1) The Agency fails to issue a treatment determination by the applicable deadlines in Section 611.2351 (corresponding with Section 611.2351);

2) The Agency abuses its discretion in a substantial number of instances or in instances affecting a substantial population; or

3) The technical aspects of the Agency's determination would be indefensible in a federal enforcement action taken against the supplier.

j) Find-and-fix Assessment for Tap Sample Sites Exceeding the Lead Action Level. The supplier must conduct specific steps when a tap sampling site exceeds the lead action level in monitoring under Section 611.2356.

1) Step 1: Corrosion Control Treatment Assessment. The supplier must sample at a new water quality parameter sampling site that is on the same-sized water main, in the same pressure zone, and located within a half mile of the sampling site that exceeded the action lead level within five days after receiving the sample results. A small supplier without corrosion control treatment may take up to 14 days to collect the samples. The supplier must measure certain parameters:

A) pH;

B) Alkalinity;

C) Orthophosphate (as PO_4), if the supplier uses an inhibitor containing an orthophosphate compound;

D) Silica, if the supplier uses an inhibitor containing a silicate compound; and

E) A supplier having an existing water quality parameter sampling site complying with this Section may sample from that site.

F) A supplier that must meet optimal water quality control parameters but not having an existing water quality parameter sampling site complying with this Section must add new sampling sites to the minimum number of sites Section 611.2357(g) requires. The supplier must add sites until it has twice the minimum number of sites Section 611.2357(a)(2)(A) requires. If a supplier exceeds this upper threshold for the number of sites, the Agency may issue a SEP determining that a newer site can better assess the efficacy of the corrosion control treatment and remove existing sites during sanitary survey evaluating OCCT.

2) Step 2: Site Assessment. A supplier must collect a follow-up sample at any tap sampling site exceeding the lead action level within 30 days after receiving the sample results. The supplier may use different sample volumes or different sample collection procedures collecting these follow-up samples to assess the source of elevated lead levels. The supplier must submit samples it collects under this Section to the Agency but must not include them in calculating the 90th percentile concentration under Section 611.2356. If the supplier cannot collect a follow-up sample at a

site, the supplier must document to the Agency why it was unable to collect a follow-up sample.

3) Step 3: Evaluating Results and Recommending OCCT or Other Actions. Within six months after the end of the tap sampling period during which a supplier exceeds the lead action level, the supplier must evaluate the results of the monitoring conducted under subsections (j)(1) and (j)(2) to determine if the supplier must either locally or centrally adjust the OCCT or other distribution system actions are necessary and submit the recommendation to the Agency. Modifying corrosion control treatment might not be necessary to address every exceedance. Other distribution system actions may include flushing to reduce water residence time in the system. If known from the site assessment, the supplier must note the cause of the elevated lead level in its recommendation to the Agency because site-specific issues can be an important factor in why the supplier does not recommend any adjustment of corrosion control treatment or other distribution system actions. A supplier in the process of optimizing or re-optimizing OCCT under subsections (a) through (f) needs not recommend a find-and-fix treatment to the Agency.

4) Step 4: Agency Action. The Agency must issue a SEP approving the supplier's treatment recommendation or specify a different approach within six months after the supplier completes Step 3, as subsection (j)(3) describes.

5) Step 5: Implementing the Agency's SEP. If the Agency-issued SEP requires the water system to adjust the OCCT, the supplier must modify its corrosion control treatment within 12 months after completing Step 4, as subsection (j)(4) describes. A supplier without corrosion control treatment and needing to install OCCT must follow the schedule in Section 611.2351(e).

6) Step 6: Follow-up Sampling. A supplier adjusting its OCCT must complete follow-up sampling (Sections 611.2356(d)(2) and 611.2357(c)) within 12 months after completing Step 5, as subsection (j)(5) describes.

7) Step 7: Agency Review. For a supplier adjusting its OCCT, the Agency must review the supplier's modified corrosion control treatment, and the Agency must designate optimal water quality control parameters (Section 611.2352(f)(1)) within six months after the supplier completes Step 6, as subsection (j)(6) describes.

8) Step 8: Operating and Complying. A supplier adjusting its OCCT must comply with the Agency-designated optimal water quality control

parameters (Section 611.2352(g)) and continue tap sampling (Sections 611.2356(d)(3) and 611.2357(d)).

BOARD NOTE: This Section derives from 40 CFR 141.82.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2353 Source Water Treatment

A supplier must complete source water monitoring and treatment requirements (under subsection (b) and Sections 611.2356 and 611.2358) before specific deadlines.

a) Deadlines for Completing Source Water Treatment Steps

1) Step 1: A supplier exceeding the lead or copper action level must complete lead and copper source water monitoring (under Section 611.2358(b)) and recommend treatment to the Agency (under subsection (b)(1)) within 180 days after the end of the tap monitoring period during which the supplier exceeded the action level.

2) Step 2: The Agency must issue a SEP determining source water treatment (under subsection (b)(2)) within six months after the supplier submits monitoring results under step 1.

3) Step 3: If the Agency requires installing source water treatment, the supplier must install that treatment (under subsection (b)(3)) within 24 months after the Agency completes step 2.

4) Step 4: The supplier must complete follow-up tap water monitoring (under Section 611.2356(d)(2)) and source water monitoring (under Section 611.2358(c)) within 36 months after completion of step 2.

5) Step 5: The Agency must issue a SEP reviewing the supplier's installation and operation of source water treatment and specify MPCs for lead and copper (under subsection (b)(4)) within six months after the supplier completes step 4.

6) Step 6: The supplier must comply with the Agency-specified lead and copper MPCs (under subsection (b)(4)) and continue source water monitoring (under Section 611.2358(d)).

b) Source Water Treatment Requirements

1) System Treatment Recommendation. Any supplier exceeding the lead or copper action level must recommend to the Agency in writing one of the source water treatments in subsection (b)(2). A supplier may recommend installing no treatment based on a demonstration that source water treatment is not necessary to minimize lead and copper levels at users' taps.

2) Agency Determination Regarding Source Water Treatment

A) The Agency must evaluate the results of all source water samples the supplier submitted to determine whether source water treatment is necessary to minimize lead or copper levels in water the supplier delivers to users' taps.

B) If the Agency determines treatment is necessary, the Agency must issue a SEP requiring the supplier to install and operate either the source water treatment the supplier recommended (if any) or another from among specific source water treatment techniques:

i) ion exchange;

ii) reverse osmosis;

iii) lime softening; or

iv) coagulation/filtration.

C) The Agency may require the supplier to submit, on or before a certain date, any additional information as the Agency determines is necessary to aid its review.

D) The Agency must notify the supplier in writing of its determination, stating the basis for its decision.

3) Installing Source Water Treatment. A supplier must properly install and operate the source water treatment the Agency approves under subsection (b)(2).

4) Agency Reviewing Source Water Treatment and Specifying Maximum Permissible Source Water Levels (MPCs)

A) The Agency must review the source water samples the supplier took both before and after the supplier installs source water

treatment and determine whether the supplier properly installs and operates the approved source water treatment.

B) Based on its review, the Agency must issue a SEP approving the lead and copper MPCs for finished water entering the supplier's distribution system. The MPC levels must reflect the contaminant removal capability of the treatment when properly operated and maintained.

C) The SEP issued under subsection (b)(4)(B) must include the Agency's explanation of the basis for its decision under subsection (b)(4)(B).

5) Continued Operation and Maintenance. A supplier must maintain lead and copper levels below the MPCs the Agency approved at every sampling point the supplier monitors under Section 611.2358. The supplier does not comply with this subsection (b) if the level of lead or copper at any sampling point is greater than the MPC the Agency approved under subsection (b)(4)(B).

6) Modifying Agency Treatment Decisions

A) On its own initiative, or in response to a request by the supplier, the Agency may issue a SEP modifying its determination of the source water treatment under subsection (b)(2) or the lead and copper MPCs under subsection (b)(4).

B) A supplier must make a request to modify in writing, explaining the propriety of the modification, and providing supporting documentation.

C) The Agency may issue a SEP modifying its determination if it concludes that the change is necessary to ensure that the supplier continues minimizing lead and copper concentrations in source water.

D) A revised determination under subsection (b)(6)(C) must state the new treatment requirements, explain the basis for the Agency's decision, and provide a schedule for completing the treatment modifications.

E) Any interested person may submit information to the Agency in writing bearing on whether the Agency should exercise its discretion and issue a SEP modifying its determination under

subsection (b)(2). An Agency determination not to act on information an interested person submits is not an Agency determination for the purposes of Sections 39 and 40 of the Act.

7) USEPA Treatment Decisions. Under 40 CFR 142.19, USEPA reserves the prerogative to review Agency treatment determinations under subsections (b)(2), (b)(4), or (b)(6) and issue federal treatment determinations consistent with 40 CFR 141.83(b)(2), (b)(4), and (b)(6) if USEPA finds that certain conditions exist:

A) the Agency fails to issue a treatment determination by the applicable deadline in subsection (a);

B) the Agency abuses its discretion in a substantial number of instances or in instances affecting a substantial population; or

C) the technical aspects of the Agency's determination would be indefensible in a federal enforcement action taken against the supplier.

BOARD NOTE: This Section derives from 40 CFR 141.83.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2354 Lead Service Line Inventory and Replacing Lead Service Lines

a) Lead Service Line Inventory. A supplier must develop an inventory identifying the materials composition for all service lines connected to its distribution system. The inventory must meet specific requirements:

1) The supplier must develop an initial inventory before October 16, 2024 and submit the inventory to the Agency as Section 611.2360(e) requires.

2) The inventory must include all service lines connected to the supplier's distribution system regardless of ownership status (e.g., where the supplier shares service line ownership, the inventory would include both the supplier-owned and customer-owned portions of the service line).

3) When conducting the inventory of service lines in its distribution system for the initial inventory under subsection (a)(1), the supplier must use any information on lead and galvanized iron or steel system components the supplier identified complying with 40 CFR 141.42(d). The supplier must also review the sources of information in subsections (a)(3)(A) through (a)(3)(D) to identify service line materials for the initial inventory. The

supplier may use other sources of information the Agency approves in a SEP.

A) All construction and plumbing codes, permits, and existing records or other documents indicating the service line materials connecting structures to its distribution system.

B) All supplier 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.

C) All inspections and distribution system records indicating the materials composing the service connections connecting structures to its distribution system.

D) Any resource, information, or method for identifying and assessing service line materials the Agency provides or requires in a SEP.

4) The supplier must categorize every service line and supplier-owned portion of a service line under split ownership:

A) "Lead" for a lead service line.

B) "Galvanized Requiring Replacement" for a galvanized service line at any time downstream of a lead service line or currently downstream of a lead status unknown service line. If the supplier cannot demonstrate that a galvanized service line was never downstream of a lead service line, the supplier must presume a lead service line was upstream.

C) "Non-Lead" for a service line the supplier determines through an evidence-based record, method, or technique is not lead or galvanized requiring replacement under subsection (a)(4)(A) or (a)(4)(B). The supplier may classify the service line using its actual material of construction (e.g., "plastic" or "copper") as an alternative to non-lead.

D) "Lead Status Unknown" for a service line of material the supplier does not know is lead, galvanized requiring replacement, or non-lead service line under subsection (a)(4)(A), (a)(4)(B), or (a)(4)(C), e.g., if the supplier has no documented evidence supporting material classification. The supplier may classify the line as "unknown", as an alternative to classifying it as lead status

unknown, however, all requirements applying to lead status unknown service lines will apply to those the supplier classifies as Unknown. A supplier may provide more information regarding its lead status unknown lines, as long as the inventory clearly distinguishes unknown service lines from those for which the supplier verified the material of construction through records or inspection.

BOARD NOTE: See the definition of "lead status unknown service line" in Section 611.2350(b).

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

6) The supplier must update its inventory based on all applicable sources in subsections (a)(3) and (a)(5) and any lead service line replacements or service line material inspections the supplier conducted. The supplier may use other sources of information the Agency approves in a SEP and must use other sources of information the Agency requires in a SEP. The supplier must submit the updated inventory to the Agency as Section 611.2360(e) requires. The publicly accessible inventory must reflect inventory updates no less frequently than when the supplier must submit them to the Agency.

A) A supplier whose inventory contains only non-lead service lines needs not provide inventory updates to the Agency or public. If the supplier subsequently finds a lead service line within its system, the supplier must prepare an updated inventory under subsection (a) on a schedule the Agency establishes in a SEP.

B) This subsection (a)(6)(B) corresponds with 40 CFR 141.84(a)(6)(ii), which USEPA marked "Reserved". This statement maintains structural consistency with USEPA's rule.

7) To calculate the number of service line replacements under subsections (f) or (g), the supplier must apply the replacement rate to the sum of known lead and galvanized requiring replacement service lines when the supplier first exceeds the lead trigger level or lead action level plus the number of lead status unknown service lines in the beginning of each year of the supplier's annual goal-based or mandatory full lead service line replacement program.

A) A supplier must count each service line only once when calculating the required number of service lines it must replace, even if the supplier shares service line ownership, and the supplier must replace both the customer-owned and system-owned portions.

B) The supplier must annually update the number of service lines it needs to replace by subtracting the number of lead status unknown service lines the supplier discovered are non-lead and adding the number of non-lead service lines the supplier discovered are lead or galvanized requiring replacement service lines.

C) Verifying a lead status unknown service line as non-lead in its inventory does not count as replacing a service line.

BOARD NOTE: Using the number of lead and galvanized requiring replacement service lines at the time of first exceeding the lead trigger level applies for subsection (f). The number at the time of first exceeding the lead action level applies for subsection (g). The number of lead status unknown service lines remaining at the beginning of each year applies to both.

8) The supplier must keep its service line materials inventory publicly accessible.

A) The inventory must include a locational identifier, such as a street address, block, intersection, or landmark, for each lead or galvanized requiring replacement service line. A supplier may include a locational identifier for lead status unknown service lines or list the exact address of each service line.

B) A supplier serving more than 50,000 persons must make the publicly accessible inventory available online.

9) If a supplier has no lead, galvanized requiring replacement, or lead status unknown service lines (regardless of ownership) in its inventory, the supplier may comply with subsection (a)(8) using a written statement, in lieu of the inventory, declaring that its distribution system has no lead or galvanized requiring replacement service lines. The statement must include a general description of all applicable sources the supplier used under subsections (a)(3), (a)(5), and (a)(6) to determine these service lines are absent.

10) The supplier must include instructions for accessing the service line inventory (including inventories consisting only of a statement under

subsection (a)(9)) in its Consumer Confidence Report under Section 611.883(d)(4)(K).

b) Lead Service Line Replacement Plan. A supplier with one or more lead, galvanized requiring replacement, or lead status unknown service lines in its distribution system must submit a lead service line replacement plan to the Agency under Section 611.2360(e) before October 16, 2024. The lead service line replacement plan must have sufficient detail to ensure the supplier can comply with lead service line replacement requirements under this Section. The plan must include specific descriptions:

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

2) A procedure for conducting full lead service line replacement;

3) A strategy for informing customers before a full or partial lead service line replacement;

4) For a supplier serving more than 10,000 persons, a lead service line replacement goal rate the supplier recommends if the supplier exceeds the lead trigger level;

5) A procedure for customers to flush particulate lead from service lines and premises plumbing;

6) A prioritization strategy for lead service line replacement based on factors, including targeting known lead service lines, replacing lead service lines for disadvantaged consumers and populations most sensitive to the effects of lead; and

7) A strategy for funding lead service line replacements considering ways to replace the customer-owned portion for those unable to pay.

c) Operating Procedures for Replacing Lead Goosenecks, Pigtails, or Connectors

1) The supplier must replace any lead gooseneck, pigtail, or connector it owns when the supplier encounters it during planned or unplanned water system infrastructure work.

2) The supplier must offer to replace a customer-owned lead gooseneck, pigtail, or connector; however, the supplier needs not bear the cost of replacing the customer-owned parts.

3) The supplier needs not replace a customer-owned lead gooseneck, pigtail, or connector if the customer objects to replacing it.

4) Replacing a lead gooseneck, pigtail, or connector does not count towards goal-based or mandatory lead service line replacements under subsections (f) or (g).

5) When replacing any gooseneck, pigtail, or connector attached to a lead service line, the supplier must follow the risk mitigation procedures Section 611.2355(f)(2) specifies.

d) Conducting Lead Service Line Replacement That May Result in Partial Replacements.

1) A supplier planning to partially replace a lead service line (e.g., replace only the supplier-owned portion) in the course of planned infrastructure work must notify the service line's owner, or the owner's authorized agent, and any non-owner residents the service line serves at least 45 days before the replacement. The notice must explain that the supplier will replace the supplier-owned portion of the service line and offer to replace the customer-owned portion (not supplier-owned). The supplier needs not bear the cost of replacing the customer-owned portion of the lead service line.

A) Before returning a service line to service, the supplier must provide notice complying with Section 611.2355(a) and explaining that consumers may experience a temporary increase of lead levels in their drinking water due to the replacement, providing information about the health effects of lead, and describing actions consumers can take to minimize their exposure to lead in drinking water. If the lead service line undergoing partial replacement serves multi-family dwellings, the supplier may post the information at a conspicuous location instead of providing individual notice to each resident.

B) The supplier must inform consumers about service line flushing using the procedure in subsection (b)(5) requires before returning the affected service line to service.

C) The supplier must provide the consumer with a pitcher filter or point-of-use treatment device to reduce lead, six months of replacement cartridges, and use instructions before returning the affected service line to service. 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 unit in the building.

D) The supplier must offer to collect a follow up tap sample between three and six months after partially replacing a lead service line. The supplier must provide the results from the follow up sample under Section 611.2355(d).

2) Any supplier replacing the supplier-owned portion of a lead service line in the course of an emergency repair must notify and provide risk mitigation measures to the persons the affected service line serves as subsections (d)(1)(A) through (d)(1)(C) require before returning the line to service.

3) If a customer notifies a supplier that the customer plans to replace the customer's portion of the lead service line, the supplier must make a good faith effort to coordinate simultaneously replacing the supplier's portion. If simultaneously replacing the supplier- and customer-owned portions cannot be conducted, the supplier must replace the supplier-owned portion as soon as practicable but no later than 45 days after the customer replaces the customer-owned portion of the lead service line. The supplier must notify and provide risk mitigation measures as subsections (d)(1)(A) through (d)(1)(C) require. If the supplier fails to replace its portion of the lead service line within 45 days after the customer replaces the customer's portion of the lead service line, the supplier must notify the Agency under Section 611.2360(e) within 30 days after failing to meet the deadline. The supplier must complete replacing the supplier-owned portion of the service line no later than 180 days after the customer replaces the customer-owned portion.

4) If a supplier receives notice or otherwise learns that a customer replaced the customer-owned portion of a lead service line within the previous six months leaving the system-owned portion in place, the supplier must replace its portion within 45 days after the supplier becomes aware the customer replaced the customer-owned portion. The supplier must notify and provide risk mitigation measures as subsections (d)(1)(A) through (d)(1)(C) require within 24 hours after the supplier becomes aware of the customer replacing the customer-owned portion. If the supplier fails to replace the supplier-owned portion of the service line within 45 days after becoming aware of the customer replacing the customer-owned portion, the supplier must notify the Agency under Section 611.2360(e) within 30 days after failing to meet the deadline. The supplier must complete replacing the supplier-owned portion of the service line no later than 180 days after the customer replaces the customer-owned portion.

5) If a supplier receives notice or otherwise learns that a customer replaced the customer-owned portion of a lead service line more than six months in the past, the supplier needs not replace the supplier-owned portion of the lead service line under this subsection (d)(5). However, the supplier must still include the system-owned portion when calculating a lead service line replacement rate under subsection (a)(7).

e) Conducting Full Lead Service Line Replacements. A supplier conducting a full lead service line replacement must notify the service line's owner, or the owner's authorized agent, and any non-owner residents the service line serves within 24 hours after completing the replacement. The supplier needs not bear the cost of replacing the customer-owned portion of the lead service line.

1) The notice must comply with Section 611.2355(a), explain that consumers may experience a temporary increase of lead levels in their drinking water due to the replacement, inform about the health effects of lead, and explain actions a consumer can take to minimize exposure to lead in drinking water. If the lead service line the supplier will replace serves a multi-family dwelling, the supplier may post the information at a conspicuous location instead of providing individual notice to all residents.

2) The supplier must inform about flushing the service line using the procedure the supplier developed under subsection (b)(5) before returning the replaced service line to service.

3) The supplier must provide the consumer with a pitcher filter or point-of-use treatment device to reduce lead, six months of replacement cartridges, and use instructions before returning the replaced service line to service. If the lead service line serves more than one residence or non-residential unit (e.g., a multi-unit building), the supplier must provide a filter and six months of replacement cartridges and use instructions to every unit in the building.

4) The supplier must offer to the consumer to collect a follow up tap sample between three and six months after replacing a lead service line. The supplier must provide the results from the follow up sample to the consumer under Section 611.2355(d).

f) Goal-Based Full Lead Service Line Replacement for Suppliers Having a 90th Percentile Lead Concentration Exceeding the Lead Trigger Level But Not the Lead Action Level. A supplier serving more than 10,000 persons having a 90th percentile lead concentration under Section 611.2356 that exceeds the lead trigger

level but not the lead action level must conduct goal-based full lead service line replacement at a rate approved in an Agency-issued SEP.

1) The supplier must annually calculate the number of full lead service line replacements it must conduct under subsection (a)(7).

2) The supplier must replace lead service lines complying with subsection (d) or (e).

3) Only a full lead service line replacement counts towards a supplier's annual replacement goal. A partial lead service line replacement does not count towards the goal.

4) The supplier must inform customers having a lead, galvanized requiring replacement, or lead status unknown service line as Section 611.2355(g) requires.

5) A supplier failing to meet its lead service line replacement goal must take certain actions:

A) Conduct public outreach activities under Section 611.2355(h) until either the supplier meets its replacement goal, or tap sampling shows the 90th percentile concentration does not exceed the lead trigger level for two continuous years of monitoring.

B) Resume its goal-based lead service line replacement program under this subsection (f) if its 90th percentile lead concentration anytime later exceeds the lead trigger level but not the lead action level.

6) The first year of a supplier's lead service line replacement program begins on the first day after the end of the tap sampling period during which the supplier exceeded the lead trigger level. If the supplier samples annually or less frequently, the end of the tap monitoring period is September 30 of the calendar year during which the sampling occurs. If the Agency issues a SEP establishing an alternative tap monitoring period, the end of the supplier's tap monitoring period is the last day of that cycle.

g) Mandatory Full Lead Service Line Replacement for Suppliers Whose 90th Percentile Lead Concentration Exceeds the Lead Action Level. A supplier serving more than 10,000 persons that exceeds the lead action level in tap sampling monitoring under Section 611.2356 must replace full lead service lines on its distribution system at an annual rate of at least three percent on a two-year rolling average basis.

1) The supplier must calculate its average annual number of full lead service line replacements under subsection (a)(7).

2) The supplier must replace lead service lines under subsections (d) and (e).

3) Only a full lead service line replacement counts towards a supplier's mandatory annual replacement rate of at least three percent. A partial lead service line replacement does not count towards the supplier's mandatory replacement rate.

4) A supplier must inform its customers having a lead, galvanized requiring replacement, or lead status unknown service line as Section 611.2355(g) requires.

5) A CWS supplier serving 10,000 or fewer persons or a NTNCWS supplier for which the Agency issues a SEP approving or designating replacing lead service lines as a compliance option must replace lead service lines as Section 611.2363(a)(1) describes. The supplier must replace lead service lines complying with subsections (d) and (e).

6) A supplier may stop replacing lead service lines after cumulatively replacing the required number. Unless the Agency issues a SEP under subsection (g)(9) requiring another percentage, the required number is at least three percent of the service lines subsection (a)(7) determines times the number of years between when the supplier most recently began mandatorily replacing lead service lines and when the supplier calculates its lead 90th percentile concentration under Section 611.2360(c)(4) to be at or below the lead action level during each of four consecutive six-month tap monitoring periods. If the supplier later exceeds the lead action level, it must restart mandatorily replacing lead service lines at the same rate on a two-year rolling average basis, unless the Agency issues a SEP under subsection (g)(9) requiring an alternative replacement rate.

7) A supplier may also cease mandatorily replacing lead service lines if the supplier has no remaining lead status unknown service lines in its inventory, and the supplier obtains refusals or non-responses to its offer to replace the customer-owned portion of the lead service line from every customer on its distribution system still served by a lead service line or a galvanized requiring replacement service line. For this subsection (g)(7) and under Section 611.2360(e), a supplier must document customer refusals to the Agency, including any written refusals signed by the customers, any documents memorializing customers verbally refusing, and any documents memorializing no response from customers after the

supplier made at least two good faith attempts to reach the customer, each attempt offering to replace the full lead service line. If the supplier's lead 90th percentile concentration later exceeds the lead action level, the supplier must offer to replace the customer-owned portion for every customer served through a full or partial lead service line or galvanized requiring replacement service line. The supplier need not bear the cost of replacing the customer-owned portion of any lead service line.

8) The first year of lead service line replacement begins the first day after the end of the tap sampling period during which the supplier exceeded the lead action level.

9) If the Agency determines a shorter schedule is feasible, the Agency must issue a SEP requiring a supplier to replace lead service lines on a shorter schedule than this Section otherwise requires, taking into account the number of lead service lines in the supplier's system. The Agency must issue this SEP within six months after the supplier must begin replacing lead service lines under subsection (g).

h) Reporting to Demonstrate Compliance to the Agency. To demonstrate that it complies with subsections (a) through (g), a supplier must report the information Section 611.2360(e) specifies to the Agency.

BOARD NOTE: This Section derives from 40 CFR 141.84.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2355 Public Education and Supplemental Monitoring and Mitigation

A supplier exceeding the lead action level based on tap water samples under Section 611.2356 must deliver the public education materials subsection (a) requires under subsection (b). A supplier exceeding the lead action level must sample the tap water of any customer requesting sampling under subsection (c). A small CWS or NTNCWS supplier electing to implement POU devices as a small supplier compliance flexibility option under Section 611.363 must provide public education materials as subsection (j) requires to inform users how to properly use POU devices. A supplier must deliver a consumer notice of lead tap water monitoring results to persons the supplier serves at each site that the supplier samples, as subsection (d) specifies. A supplier with lead, galvanized requiring replacement, or lead status unknown service lines, as defined in Section 611.2354(a)(4), must deliver public education materials to persons served through these service lines as subsections (e) through (g) specify. A CWS supplier must conduct annual outreach to the Illinois Department of Public Health and local health agencies as subsection (i) provides. A CWS supplier serving more than 10,000 persons failing to meet its annual lead service line replacement goal under Section 611.2354(f) must conduct outreach activities as subsection (h) specifies.

a) Content of Written Public Education Materials

1) Community Water Systems and Non-Transient Non-Community Water Systems. A CWS or NTNCWS supplier must include the following elements in printed materials (e.g., brochures and pamphlets) in the same order as listed in subsections (a)(1)(A) through (a)(1)(G). In addition, the supplier must use the verbatim language in subsections (a)(1)(A), (a)(1)(B), and (a)(1)(F), except for replacing the text in brackets with the system-specific information. Any additional information a supplier presents must be consistent with the information in subsections (a)(1)(A), through (a)(1)(G), and the supplier must present the additional information in plain language that the general public can understand. The supplier must submit all written public education materials to the Agency prior to delivery. A supplier may change the mandatory language in subsections (a)(1)(A) and (a)(1)(B) only as the Agency approves in a SEP.

A) IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER. [INSERT NAME OF SUPPLIER] 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) 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 and 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).

BOARD NOTE: The supplier must use text providing the information this subsection (a)(1)(C) describes.

D) Discuss the steps the consumer can take to reduce 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 water treatment.

v) Suggest that parents have their child's blood tested for lead.

BOARD NOTE: The supplier must use text providing the information this (a)(1)(D) describes.

E) Explain why there are elevated levels of lead in the supplier's drinking water (if known) and what the supplier is doing to reduce the lead levels in homes and buildings in this area.
BOARD NOTE: The supplier must use text providing the information this (a)(1)(E) describes.

F) For more information, call us at [INSERT THE SUPPLIER'S NUMBER] [(IF APPLICABLE), or visit our Web site at [INSERT THE SUPPLIER'S WEB SITE HERE]]. For more information on reducing lead exposure around your home/building and the health effects of lead, visit USEPA's Web site at www.epa.gov/lead or contact your health care provider.

G) Information on Lead Service Lines. A supplier having lead service lines must discuss opportunities to replace lead service lines and explain how a consumer may access the supplier's lead service line inventory to determine whether the consumer has a lead service line. The supplier must include information on programs

providing financing solutions to assist property owners in replacing their portion of a lead service line, with a statement that the water system must replace the supplier-owned portion of a lead service line when the property owner notifies the supplier that the consumer will replace the property owners portion of the lead service line.

2) Community Water Systems. In addition to including the elements subsection (a)(1) specifies, a CWS supplier must include two information items:

A) The supplier must tell consumers how to get their water tested; and

B) The supplier must discuss lead in plumbing components and the difference between low-lead and lead-free components.

BOARD NOTE: At corresponding 40 CFR 141.85(a)(1), USEPA allowed the State to require prior approval of written public information materials. Rather than require prior Agency approval, the Board chooses to allow the Agency to raise any deficiencies that it may perceive using its existing procedure for review of public education materials. The Agency outlines its standard practice for review of public information materials: The Agency provides a comprehensive public education packet to the supplier together with the notice that the supplier exceeds the lead action level. That packet includes guidance and templates for the supplier to use in preparing and distributing its public education materials. The supplier must send a copy of the public education materials that it distributes to the Agency, and the Agency reviews the copy of the materials after their distribution to the public. The Agency directly communicates to the supplier any perceived defects in the materials. When the Agency perceives minor defects, it will request correction in future distributions of the public education materials. When the Agency perceives major defects in the materials, it will request a redistribution of corrected public education materials the supplier already distributed.

b) Delivering Public Education Materials

1) The public education materials of a supplier serving a large proportion of non-English-speaking consumers must contain information in the appropriate languages regarding the importance of the notice, or the materials must contain a telephone number or address where a water consumer may contact the supplier to obtain a translated copy of the public education materials or to request assistance in the appropriate language.

2) A CWS supplier exceeding the lead action level on the basis of tap water samples under Section 611.2356 not already conducting public education tasks under this Section must complete public education tasks within 60 days after the end of the tap sampling period in which the exceedance occurred:

A) The CWS supplier must deliver printed materials complying with subsection (a) to all of its bill-paying customers.

B) Methods of Delivery for a CWS Supplier

i) The CWS supplier must contact customers who are most at risk by delivering education materials complying with subsection (a) to local public health agencies, even if those agencies are not located within the supplier's service area, along with an informational notice encouraging distribution to all of the agencies' potentially affected customers or the supplier's consumers. The supplier must 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 the target populations, which may include organizations outside the service area of the supplier. If local health agencies provide lists, the supplier must deliver education materials that comply with subsection (a) to each of the organizations on the provided lists.

ii) The CWS supplier must contact customers who are most at risk by delivering materials complying with subsection (a) to the organizations in subsections (b)(2)(H)(i) through (b)(2)(H)(vi) that are located within the supplier's service area, along with an informational notice encouraging distribution to all the organization's potentially affected customers or supplier's users.

BOARD NOTE: The Board moved the text of 40 CFR 141.85(b)(2)(ii)(B)(*1*) through (b)(2)(ii)(B)(*6*) to appear as subsections (b)(2)(H)(i) through (b)(2)(H)(vi) to comport with allowed indent levels.

C) No less often than quarterly, the CWS supplier must provide information on or in each water bill as long as the system exceeds the action level for lead. The message on the water bill must

include the verbatim text of the paragraph below, except replacing the text in brackets with system-specific information:

> [INSERT NAME OF SUPPLIER] 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 SUPPLIER] [or visit (INSERT SUPPLIER'S WEB SITE HERE)].

The message or delivery mechanism can be modified in consultation with the Illinois Environmental Protection Agency, Division of Public Water Supply; specifically, the Agency may allow a separate mailing of public education materials to customers if the water system cannot place the information on water bills.

D) The CWS supplier must post material complying with subsection (a) on the supplier's Web site if the CWS supplier serves a population greater than 100,000.

E) The CWS supplier must submit a press release to newspaper, television, and radio stations.

F) In addition to subsections (b)(2)(A) through (b)(2)(E), the CWS supplier must implement at least three activities from one or more of the categories listed below. The supplier must consult with the Agency to determine the educational content and selection of these activities.

i) Public service announcements.

ii) Paid advertisements.

iii) Public area information 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 Agency-approved methods.

G) For a CWS supplier that must monitor annually or less frequently, the end of the tap sampling period is September 30 of the calendar year in which the sampling occurs, or on the last day of an alternative tap sampling period the Agency sets in a SEP.

H) Organizations That the CWS Supplier Must Contact When Required to Do So under Subsection (b)(2)(B)(ii)

i) Schools, childcare facilities, and school boards.

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

iii) Public and private hospitals and medical clinics.

vi) Pediatricians.

v) Family planning clinics.

vi) Local welfare agencies.

vii) Obstetricians-gynecologists and midwives.

BOARD NOTE: This subsection (b)(2)(H) derives from 40 CFR 141.85(b)(2)(ii)(B)(1) through (b)(2)(ii)(B)(7), moved here to comport with allowed indent levels.

3) As long as a CWS supplier exceeds the action level, it must repeat the activities in subsection (b)(2), as subsections (b)(3)(A) through (b)(3)(D) require.

A) The CWS supplier must repeat the tasks in subsections (b)(2)(A), (b)(2)(B), and (b)(2)(F) every 12 months.

B) The CWS supplier must repeat tasks in subsection (b)(2)(C) with each billing cycle.

C) The CWS supplier serving a population greater than 100,000 must post and retain material on a publicly accessible website under subsection (b)(2)(D).

D) The CWS supplier must repeat the task in subsection (b)(2)(E) twice every 12 months on a schedule agreed by the Agency in a SEP. The Agency must, on a case-by-case basis, issue a SEP extending the time for the supplier to complete the public education tasks in subsection (b)(2) beyond the 60-day limit if the Agency determines that the supplier needs the extended time to implement the tasks; however, the Agency must issue the SEP granting any extension before the 60-day deadline expires.

4) Within 60 days after the end of the tap sampling period in which a NTNCWS supplier exceeds the lead action level (unless it already is repeating public education tasks under subsection (b)(5)), the supplier must deliver the public education materials subsection (a) specifies.

A) The supplier must deliver the public education materials by certain means:

i) The NTNCWS supplier must post informational posters on lead in drinking water in a public place or common area in each of the buildings the supplier serves; and

ii) The NTNCWS supplier must distribute informational pamphlets or brochures on lead in drinking water to each person the NTNCWS supplier serves. The Agency may issue a SEP allowing the system to use electronic transmission in lieu of or combined with printed materials as long as the electronic transmission achieves the same or better coverage.

B) For a NTNCWS supplier that must monitor annually or less frequently, the end of the tap sampling period is September 30 of the calendar year in which the sampling occurs, or on the last day of an alternative tap sampling period the Agency sets in a SEP.

5) A NTNCWS supplier must repeat the tasks in subsection (b)(4) at least once during each calendar year in which the supplier exceeds the lead action level. The Agency must, on a case-by-case basis, issue a SEP extending the time for the supplier to complete the public education tasks in subsection (b)(2) beyond the 60-day limit if the Agency determines that the extended time is needed for implementation purposes; however, the Agency must issue any SEP granting any extension before the 60-day deadline expires.

6) A supplier may stop delivering public education materials after the supplier does not exceed the lead action level during the most recent six-month tap monitoring period under Section 611.2356. The supplier must begin public education anew under this Section if the supplier subsequently exceeds the lead action level during any tap sampling period.

7) A CWS supplier may apply to the Agency, in writing, to use only the text in subsection (a)(1) in lieu of the text in subsections (a)(1) and (a)(2) and to perform the tasks in subsections (b)(4) and (b)(5) in lieu of the tasks in subsections (b)(2) and (b)(3) under specific circumstances:

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

B) The supplier provides water as part of the cost of services provided, not separately charging for water consumption.

8) A CWS supplier serving 3,300 or fewer people may limit certain aspects of its public education programs:

A) For notice under subsection (b)(2)(F), a supplier serving 3,300 or fewer people must implement at least one of the activities in that subsection.

B) For notice under subsection (b)(2)(B), a supplier serving 3,300 or fewer people may limit the distribution of the public education materials to facilities and organizations that pregnant women and children are most likely to visit.

C) For notice under subsection (b)(2)(E), the Agency may issue a SEP waiving this requirement for a supplier serving 3,300 or fewer persons, as long as the supplier distributes notices to every household the supplier serves.

c) Supplemental Monitoring and Notification of Results. A supplier failing to meet the lead action level in tap samples under Section 611.2356 must offer to sample the tap water of any customer requesting it. The supplier needs not pay for collecting or analyzing the sample, nor must the supplier itself collect and analyze the sample.

d) Requirement for Consumer Notice of Tap Water Monitoring Results

1) Consumer Notice Requirement. A supplier must provide a notice of the individual tap results from lead tap water monitoring under Section 611.2356 to the persons the water system serves at the specific sampling site from which the supplier took the sample (e.g., the occupants of the building where the supplier sampled the tap).

2) Timing of Consumer Notice. The supplier must provide the consumer notice as soon as practicable but no later than the specified timeframe:

A) For individual samples not exceeding 15 µg/ L of lead, no later than 30 days after the supplier learns of the tap monitoring results.

B) For individual samples exceeding 15 µg/ L of lead, as soon as practicable but no later than three calendar days after the supplier learns of the tap monitoring results. A supplier choosing to mail the notification must post those letters so they receive postmarks within the three days.

3) Content of Consumer Notice. The consumer notice must include the results of lead tap water monitoring for the tap the supplier tested, an explanation of the health effects of lead, a list of steps consumers can take to reduce exposure to lead in drinking water and contact information for the water utility. The notice must also provide the maximum contaminant level goal and the action level for lead and the definitions for these two terms from Section 611.2883(c).

4) Delivery of Consumer Notice

A) For tap sampling lead results not exceeding 15 µg/ L, the supplier must provide the consumer notice to persons it serves at the tap the supplier sampled, by mail or by another method the Agency approves in a SEP. For example, upon Agency approval, a NTNCWS supplier could post the results on a bulletin board in the facility enabling users to review the information.

B) For tap sampling lead results exceeding 15 µg/ L, the supplier must provide consumer notice to persons it serves at the tap the supplier sampled; the supplier must provide this notice electronically or by phone, hand delivery, mail, or another method the Agency approves in a SEP.

e) Notice of Known or Potential Service Line Containing Lead

1) Notice requirements. A supplier having lead, galvanized requiring replacement, or lead status unknown service lines in their inventory under Section 2611.354(a) must inform all persons the supplier serves through a lead, galvanized requiring replacement, or lead status unknown service line.

2) Timing of notice. A supplier must provide the initial notice within 30 days after completing the lead service line inventory Section 611.2354 requires and annually repeat the notice to each person the supplier serves until the supplier's entire service connection is no longer a lead, galvanized requiring replacement, or lead status unknown service line. For each new customer, the supplier must also provide the notice when the supplier initiates service.

3) Notice Content

A) Persons the Supplier Serves Through a Confirmed Lead Service Line. The notice must state that the supplier serves the person through a lead service line; explain the health effects of lead in a way complying with subsection (a)(1)(B); give steps persons at the service connection can take to reduce exposure to lead in drinking water; inform about opportunities to replace lead service lines, including programs providing financing solutions to assist property owners to replace the customer-owned portion of a lead service line; and explain that the supplier must replace the supplier-owned portion of a lead service line when the property owner notifies the supplier that the owner will replace the customer-owned portion of the lead service line.

B) Persons the Supplier Serves Through a Galvanized Requiring Replacement Service Line. The notice must state that the supplier serves the person through a galvanized requiring replacement service line, explain the health effects of lead in a way complying with subsection (a)(1)(B), give steps persons at the service connection can take to reduce exposure to lead in drinking water, and inform about opportunities to replace the service line.

C) Persons the Supplier Serves Through a Lead Status Unknown Service Line. The notice must state that the supplier serves the person through a lead status unknown service line (a service line whose material is unknown but may be lead), explain the health effects of lead in a way complying with subsection (a)(1)(B), give steps persons at the service connection can take to reduce exposure

to lead in drinking water, and inform about opportunities to verify the material of the service line.

4) Delivery. The supplier must provide notice to persons the supplier serves at the service connection with a lead, galvanized requiring replacement, or lead status unknown service line, by mail or using another method the Agency approves in a SEP.

f) Notice Due to Disturbing a Service Line Known to or Potentially Containing Lead

1) A supplier disturbing a lead, galvanized requiring replacement, or lead status unknown service line by a water shutoff or bypass to the service line, such as operating a valve on the service line or meter setter, without partially or fully replacing the lead service line must inform the persons the supplier serves through the service connection about the potential for an elevated lead concentration in their drinking water due to the supplier disturbing the service line, including instructions for flushing to remove particulate lead. The supplier must comply with this subsection (f)(1) before returning the affected service line to service.

2) If a supplier disturbs a lead, galvanized requiring replacement, or lead status unknown service line while replacing an inline water meter, a water meter setter, or gooseneck, pigtail, or connector, the supplier must inform the persons the supplier serves through the service connection about the potential for an elevated lead concentration in their drinking water due to the supplier disturbing the service line, provide public education materials complying with subsection (a), a pitcher filter or point-of-use treatment device to reduce lead, use instructions, and six months of replacement filter cartridges. The supplier must comply with this subsection (f)(2) before returning the affected service line to service.

3) A supplier partially or fully replacing a lead service line must follow applicable procedures in Section 611.2354(d)(1)(A) through (d)(1)(D) or (e)(1)(A) through (e)(1)(D).

g) Information for Persons the Supplier Serves Through a Service Line Known to or Potentially Containing Lead When the Supplier Exceeds the Lead Trigger Level

1) Content. A supplier having lead service lines and exceeding the lead trigger level of 10 µg/ L must inform persons the supplier serves through a lead, galvanized requiring replacement, or lead status unknown service line about the supplier's lead service line replacement program and opportunities for replacing the customer's lead service line.

2) Timing. The supplier must inform persons it serves within 30 days after the end of the tap sampling period during which the supplier exceeded the lead trigger level. The supplier must continue to annually inform the persons it serves until the results of sampling under Section 611.2356 do not exceed the lead trigger level.

3) Delivery. The supplier must inform the persons it serves through a lead, galvanized requiring replacement, or lead status unknown service line by mail or another method the Agency approves in a SEP.

h) Outreach Activities for Failing to Fulfill the Lead Service Line Replacement Goal

1) In the first year after a CWS supplier serving more than 10,000 persons does not fulfill its required annual lead service line replacement goal under Section 611.2354(f), the supplier must conduct one outreach activity from among those in subsections (h)(1)(A) through (h)(1)(B). The supplier must annually conduct an outreach activity under this subsection (h)(1) until the supplier fulfills its replacement goal or until tap sampling shows that its 90th percentile lead concentration does not exceed the trigger level of 10 µg/ L for two consecutive tap monitoring periods:

A) Send certified mail to customers the supplier serves through a lead or galvanized requiring replacement service line to inform them about the supplier's goal-based program for replacing lead service lines and opportunities for replacing the customer's service line.

B) Conduct a townhall meeting.

C) Participate in a community event providing information about the supplier's program for replacing lead service lines and distribute public education materials whose content complies with subsection (a).

D) Contact customers by phone, text message, email, or door hanger.

E) Use another method the Agency approves in a SEP to discuss the supplier's program for replacing lead service lines and opportunities for replacing the customer's lead service line.

2) Following the first year after the supplier exceeds the lead trigger level, a supplier still failing to fulfill its goal for replacing lead service lines must conduct one activity from subsection (h)(1) and two additional outreach activities each year from among those in subsections (h)(2)(A) through (h)(2)(D):

A) Conduct social media campaign.

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

C) Contact organizations representing plumbers and contractors by mail providing 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 supplier's program for replacing lead service lines and opportunities for replacing the customers' lead service lines.

3) The supplier may stop outreach activities when tap sampling shows that its 90th percentile lead concentration no longer exceeds the trigger level of 10 µg/ L for two consecutive tap monitoring periods or when all customers the supplier serves through lead or galvanized requiring replacement service lines refuse to participate in replacing the customer-owned portion under the supplier's program for replacing lead service lines. Under this subsection (h)(3), a refusal includes a customer-signed statement refusing to participate in replacing the customer-owned portion of the lead service line or supplier-generated documents memorializing the customer's verbal refusal or non-response after two good faith attempts by the supplier to reach the customer.

i) Public Education to Local and State Health Agencies

1) Find-and-Fix Results. A CWS supplier must inform the Department of Public Health and local health agencies about its find-and-fix activities under Section 611.2352(j), including the location of the tap sample sites exceeding 15 µg/ L, the results from initial tap samples, the results from follow-up tap samples, the results from water quality parameter monitoring, and any distribution system management actions or corrosion control treatment adjustments the supplier made.

2) Timing and Content. A CWS supplier must annually send copies of the public education materials the supplier provided under subsections (a) and (h)(1) during a calendar year no later than July 1 of the following year.

3) Delivery. The CWS supplier must send the public education materials and find-and-fix information to the Department of Public Health and local health agencies by mail or by another method the Agency approves in a SEP.

j) Public Education for Small Supplier Compliance Flexibility POU Devices

1) Content. A small CWS or NTNCWS supplier implementing the POU device option under Section 611.2363 must provide public education materials to inform users how to properly use POU devices to maximize the units' effectiveness in reducing the lead concentration in drinking water.

2) Timing. The supplier must provide its public education materials when the supplier delivers the POU device.

3) Delivery. The supplier must provide its public education materials in person, by mail, or another method the Agency approves in a SEP, to persons at the locations where the supplier delivers the POU devices.

BOARD NOTE: This Section derives from 40 CFR 141.85.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2356 Tap Water Monitoring for Lead and Copper

a) Sampling Site Location

1) Selecting a Pool of Targeted Sampling Sites

A) Before the applicable date for beginning monitoring under subsection (d)(1), a supplier must identify a pool of targeted sampling sites complying with this Section based on the service line inventory the supplier developed under Section 611.2354(a).

B) The pool of targeted sampling sites must be large enough to ensure that the supplier can collect the number of lead and copper tap samples subsection (c) requires.

C) The supplier may not include among its sampling sites any with installed POE treatment devices, and the tap the supplier uses at a sampling site may not have a POU device designed to remove inorganic contaminants. The exceptions are that a supplier monitoring under Section 611.2363(a)(3)(D) and a supplier using a POE or POU device for the primary drinking water tap to meet other primary and secondary drinking water standards may sample the connected tap if all service connections on the supplier's

system have a POE or POU device to provide localized treatment to comply with those other drinking water standards.

D) A supplier monitoring under Section 611.2363(a)(3)(D) may not use lead and copper sampling results to fulfill the criteria for reduced monitoring under subsection (d)(4).

2) Materials Evaluation. A supplier must use the information on lead, copper, and galvanized iron or steel it identified under 40 CFR 141.42(d) when conducting a materials evaluation and the information on lead service lines that Section 611.2354(a) requires the supplier to collect to identify potential lead service line sampling sites.

BOARD NOTE: Suppliers completed identifying and reporting construction materials in their distribution systems under 40 CFR 141.42(d), so the Board omitted this requirement from the Illinois rules.

3) Sampling Site Tiers. A supplier must categorize the sampling sites within its pool according to tiers:

A) CWS Tier 1 Sampling Sites. "CWS Tier 1 sampling sites" include single-family structures the supplier serves through a lead service line. The supplier must not use sites with lead status unknown service lines as Tier 4 sampling sites.

BOARD NOTE: This subsection (a)(3)(A) derives from segments of 40 CFR 141.86(a)(3).

B) CWS Tier 2 Sampling Sites. "CWS Tier 2 sampling sites" include buildings, including multiple-family structures, the supplier serves through a lead service line. The supplier must not use sites with lead status unknown service lines as Tier 2 sampling sites.

BOARD NOTE: This subsection (a)(3)(B) derives from segments of 40 CFR 141.86(a)(4).

C) CWS Tier 3 Sampling Sites. "CWS Tier 3 sampling sites" include single-family structures containing galvanized service lines the supplier identified as currently or formerly downstream of a lead service line or known to be downstream of a lead gooseneck, pigtail, or connector. The supplier must not use sites with lead status unknown service lines as Tier 3 sampling sites.

BOARD NOTE: This subsection (a)(3)(C) derives from segments of 40 CFR 141.86(a)(5).

D) CWS Tier 4 Sampling Sites. "CWS Tier 4 sampling sites" include single-family structures or buildings containing copper pipes with lead solder installed before June 19, 1986. The supplier must not use sites with lead status unknown service lines as Tier 4 sampling sites.

BOARD NOTE: This subsection (a)(3)(D) derives from segments of 40 CFR 141.86(a)(6).

E) CWS Tier 5 Sampling Sites. "CWS Tier 5 sampling sites" include single-family structures, including multiple-family residences, representing sites throughout the supplier's distribution system. The supplier must not use sites with lead status unknown service lines as Tier 5 sampling sites.

BOARD NOTE: This subsection (a)(3)(E) derives from segments of 40 CFR 141.86(a)(7).

F) NTNCWS Tier 1 Sampling Sites. "NTNCWS Tier 1 sampling sites" include sites that the supplier serves through a lead service line. The supplier must not use sites with lead status unknown service lines as Tier 1 sampling sites.

BOARD NOTE: This subsection (a)(3)(F) derives from segments of 40 CFR 141.86(a)(8).

G) NTNCWS Tier 3 Sampling Sites. "NTNCWS Tier 3 sampling sites" include sites having galvanized lines the supplier identified as currently or formerly downstream of a lead service line or known to be downstream of a lead gooseneck, pigtail, or connector. The supplier must not use sites with lead status unknown service lines as Tier 3 sampling sites.

BOARD NOTE: This subsection (a)(3)(G) derives from segments of 40 CFR 141.86(a)(9).

H) NTNCWS Tier 5 Sampling Sites. "NTNCWS Tier 5 sampling sites" include sites representing sites throughout the supplier's distribution system. Under this subsection (a)(3)(H), a site representing sites throughout the distribution system has plumbing materials commonly found at the other sites the supplier serves.

BOARD NOTE: This subsection (a)(3)(H) derives from segments of 40 CFR 141.86(a)(10).

4) Selecting Sampling Sites. A supplier must select sampling sites for its sampling pool using specific criteria:

A) CWS Suppliers. A CWS supplier must use CWS Tier 1 sampling sites, except that the supplier may include CWS Tier 2 or CWS Tier 3 sampling sites in its sampling pool under certain circumstances:

i) If multiple-family residences comprise at least 20 percent of the structures the supplier serves, the supplier may use CWS Tier 2 sampling sites in its Tier 1 sampling pool, if the supplier serves the sampling site through a lead service line.

BOARD NOTE: This subsection (a)(4)(A)(i) derives from a segment of 40 CFR 141.86(a)(3).

ii) If the CWS supplier does not have a sufficient number of CWS Tier 1 sampling sites on its distribution system, the supplier may use CWS Tier 2 sampling sites the supplier serves through a lead service line in its sampling pool; or

BOARD NOTE: This subsection (a)(4)(A)(ii) derives from a segment of 40 CFR 141.86(a)(4).

iii) If the CWS supplier does not have a sufficient number of CWS Tier 1 and CWS Tier 2 sampling sites on its distribution system, the supplier may complete its sampling pool with CWS Tier 3 sampling sites.

BOARD NOTE: This subsection (a)(4)(A)(iii) derives from a segment of 40 CFR 141.86(a)(5).

iv) If the CWS supplier does not have a sufficient number of CWS Tier 1 sampling sites, CWS Tier 2 sampling sites, and CWS Tier 3 sampling sites, the supplier must complete its sampling pool with CWS Tier 4 sampling sites.

BOARD NOTE: This subsection (a)(4)(A)(iv) derives from segments of 40 CFR 141.86(a)(6).

v) If a CWS supplier does not have a sufficient number of CWS Tier 1, CWS Tier 2, CWS Tier 3, and CWS Tier 4 sampling sites, the CWS supplier must complete its sampling pool with CWS Tier 5 sampling sites.

BOARD NOTE: This subsection (a)(4)(A)(v) derives from a segment of 40 CFR 141.86(a)(7).

vi) A supplier may use non-residential buildings representing sites throughout its distribution system only if there are an insufficient number of single-family or multiple-family residential Tier 5 sampling sites available.

BOARD NOTE: This subsection (a)(4)(A)(vi) derives from a segment of 40 CFR 141.86(a)(7).

B) NTNCWS Suppliers

i) An NTNCWS supplier must select NTNCWS Tier 1 sampling sites for its sampling pool.

BOARD NOTE: This subsection (a)(4)(B)(i) derives from segments of 40 CFR 141.86(a)(8).

ii) If the NTNCWS supplier has an insufficient number of NTNCWS Tier 1 sampling sites, the supplier must complete its sampling pool with NTNCWS Tier 3 sampling sites.

BOARD NOTE: This subsection (a)(4)(B)(ii) derives from segments of 40 CFR 141.86(a)(9).

iii) If the NTNCWS supplier has an insufficient number of NTNCWS Tier 1 and Tier 3 sampling sites, the supplier must complete its sampling pool with Tier 5 NTNCWS sampling sites. For the purpose of this subsection (a)(4)(B)(iii), a representative site is a site where the plumbing materials are commonly found at other sites the water system serves.

BOARD NOTE: This subsection (a)(4)(B)(iii) derives from segments of 40 CFR 141.86(a)(10).

C) Suppliers with Lead Service Lines. Any supplier whose distribution system contains lead service lines must collect all samples for monitoring under this Section from sites the supplier serves through a lead service line. A supplier that cannot identify a sufficient number of sampling sites that it serves through lead service lines must still collect samples from every site the supplier serves though a lead service line and collect the remaining samples under subsections (a)(4)(A)(iii) through (a)(4)(A)(vi) or subsections (a)(4)(B)(ii) and (a)(4)(B)(iii).

BOARD NOTE: This subsection (a)(4)(C) derives from segments of 40 CFR 141.86(a)(11).

b) Sample-Collecting Methods

1) All tap samples a supplier collects for lead and copper under this Subpart G, with the exception of fifth-liter tap samples the supplier collects under subsection (b)(3) and samples the supplier collects under subsections (b)(5) and (h) must be first-draw tap samples. The supplier must analyze the first-draw tap sample for lead and copper during tap sampling periods when the supplier must monitor both contaminants. In tap sampling periods during which the supplier must monitor only lead, the supplier may analyze the first-draw tap sample for lead only.

2) First-Draw Tap Samples

A) A first-draw tap sample for lead and copper must be one liter in volume and have stood motionless at least six hours in the plumbing system of the sampling site .

B) The supplier must use wide-mouthed bottles to collect first-draw tap samples.

C) For residential housing, the supplier must collect first-draw tap samples from the cold-water kitchen or bathroom sink tap.

D) For non-residential buildings, the supplier must collect first-draw tap samples one-liter in volume from a tap occupants typically use for consuming water.

E) The Agency-approved substitute non-first-draw tap samples the supplier collects in lieu of first-draw tap samples under subsection (b)(5) must be one liter in volume from an interior tap occupants typically use for consuming water.

F) The supplier may collect first-draw tap samples or allow residents to collect first-draw tap samples after instructing the residents in the sampling procedures this subsection (b)(2) specifies.

i) Sampling instructions the supplier provides to residents must not include instructions for removing the aerator and cleaning or flushing taps before the minimum six-hour stagnation period begins.

ii) To avoid problems of residents handling nitric acid, the supplier may acidify first-draw tap samples up to 14 days after the supplier or a resident collects the sample.

iii) After adding acid to resolubilize the metals, a sample must stand in its original container for the time the USEPA-approved method specifies before the laboratory analyzes the sample.

G) If a supplier allows residents to perform sampling under subsection (b)(2)(F), the supplier may not challenge the accuracy of sampling results based on alleged errors in sample collection.

3) Service Line Samples

A) A supplier must collect all tap samples for copper at sites it serves through a lead service line as a first-draw tap sample using the procedure in this subsection (b)(3). The supplier must collect and analyze tap samples for copper only during tap monitoring periods when the supplier must monitor copper.

B) First-Draw and Fifth-Liter Tap Water Samples

i) A supplier must collect tap water samples in five consecutively numbered wide-mouthed bottles after the water has stood motionless in the sampling site's plumbing for at least six hours without flushing the tap prior to collecting the sample.

ii) The supplier must analyze first-draw tap samples for copper, when applicable, and fifth-liter tap samples for lead.

iii) The supplier must use wide-mouthed bottles to collect these samples. The supplier must collect the first-draw tap sample in the first numbered bottle, then sequentially fill each numbered bottle until the final bottle is full with the fifth-liter tap sample, constantly running the water while collecting the samples. The fifth-liter tap sample is the final sample collected in this sequence.

iv) The supplier must collect first-draw and fifth-liter tap samples from residential housing from the cold-water kitchen or bathroom sink tap. The supplier must collect first-draw and fifth-liter tap samples from a nonresidential building at an interior cold water tap typically used for consuming water.

v) The supplier may itself collect first-draw and fifth-liter tap samples or allow residents to collect the samples after instructing the residents on the sampling procedures in this subsection (b)(3)(B). The sampling instructions the supplier provides to customers must not direct the customer to remove the aerator or clean or flush the taps before the minimum six-hour stagnation period begins. To avoid problems from residents handling nitric acid, the supplier may acidify first-draw tap samples up to 14 days after the resident collects the sample. After the supplier acidifies the sample to resolubilize the metals, the sample must stand in its original container for the time a USEPA-approved method provides before analysis. If the supplier allows residents to sample, the supplier may not challenge the accuracy of sampling results based on alleged errors collecting samples.

4) Follow-Up First-Draw Tap Samples

A) A supplier must collect each follow-up first-draw tap sample from the same sampling site where the previous sample originated. A supplier must collect each follow-up fifth-liter tap sample from the same sampling site where the previous sample originated.

B) If the supplier cannot access a sampling site to collect a follow-up tap sample for reasons beyond the control of the supplier, the supplier may collect the follow-up tap sample from another sampling site in its sampling pool, as long as the new site meets the

same targeting criteria and is within reasonable proximity of the original site.

5) Substitute Non-First-Draw Tap Samples

A) A NTNCWS supplier or a CWS supplier meeting the criteria in Sections 611.2355(b)(7)(A) and (b)(7)(B) not having enough taps for first-draw tap samples or fifth-liter tap samples meeting the six-hour minimum stagnation time may apply to the Agency in writing for a SEP allowing the supplier to substitute non-first-draw, first-draw, or fifth-liter tap samples that do not meet the six-hour minimum stagnation time.

B) A supplier approved to substitute non-first-draw tap samples must collect as many first-draw or fifth-liter tap samples from interior taps typically used for consuming water, as possible and must identify sampling times and locations that likely give the longest standing time for the remaining sites.

C) The Agency may grant a SEP waiving the requirement for prior Agency approval of sites not meeting the six-hour stagnation time.

c) Number of Samples

1) A supplier must collect at least one sample each from the number of sites in the first column of Table D (labelled "standard monitoring") during each six-month tap monitoring period subsection (d) specifies.

2) A supplier conducting reduced monitoring under subsection (d)(4) must collect at least one sample each from the number of sites in the second column of Table D (labelled "reduced monitoring") during each reduced tap monitoring period subsection (d)(4) specifies. The reduced monitoring sites must represent the sites standard monitoring requires. A supplier whose system has fewer than five drinking water taps capable of use for human consumption that meet the sampling site criteria of subsection (a) must collect multiple samples from individual taps to reach the required number of sampling sites Table D requires. To accomplish this, the supplier must collect at least one sample from each tap, then additional samples from those taps on different days during the tap sampling period, to collect a total number of samples meeting the required number of sampling sites. Alternatively, the Agency may issue a SEP allowing the supplier whose system has fewer than five drinking water taps to collect a number of samples that is fewer than the number of sites this subsection (c) specifies if the Agency determines that the supplier samples 100

percent of all taps capable of use for human consumption and that the reduced number of samples will produce the same results as collecting multiple samples from some taps. The Agency must base any SEP approving a reduced minimum number of samples on a request from the supplier or Agency on on-site verification. The Agency may specify sampling locations in a SEP when a system conducts reduced monitoring.

d) Timing of Monitoring

1) Standard Monitoring. Standard monitoring is a six-month tap monitoring period beginning on January 1 or July 1 of a year during which the supplier monitors at the standard number of sites under subsection (c).

A) A supplier having lead service lines, including a supplier Section 611.2351(b)(3) deems to have optimized or re-optimized OCCT or a supplier that did not monitor complying with this Section (i.e., selecting sites under subsection (a), collecting samples under subsection (b), etc.) before January 16, 2024, must begin its first standard tap monitoring period on January 1, 2025. After completing the first standard monitoring cycle, the supplier must monitor under subsection (d)(1)(B).

B) A supplier that completed monitoring complying with this Section (i.e., selecting sites under subsection (a), collecting samples under subsection (b), etc.) before January 16, 2024 or a supplier that completed monitoring under subsection (d)(1)(A), must continue monitoring:

i) A supplier not meeting the criteria in subsection (d)(4) must conduct standard monitoring.

ii) A supplier meeting the criteria in subsection (d)(4) must continue to monitor under subsection (d)(4).

iii) A supplier monitoring at a reduced frequency under subsection (d)(4) and exceeding the lead or copper action level must resume standard monitoring on January 1 immediately after the tap monitoring period during which the supplier exceeded the action level. The supplier must also monitor water quality parameters as Section 611.2357(b), (c), or (d) require.

iv) A supplier monitoring at a reduced frequency and exceeding the lead trigger level but not the copper action

level must monitor no less frequently than annually and must collect samples from the standard number of sites that subsection (c) establishes. The supplier must begin this monitoring in the calendar year after the tap monitoring period during which the supplier exceeded the lead trigger level. The supplier must also monitor water quality parameters as Section 611.2357(b), (c), or (d) require.

v) A supplier 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 611.2352(f) for more than nine days in any water quality monitoring period Section 611.2357 specifies must conduct standard tap water monitoring and resume sampling for water quality parameters under Section 611.2357(d). The supplier must begin this standard monitoring no later than the six-month tap monitoring period beginning January 1 of the calendar year after the supplier fails to comply with the Agency-specified water quality parameters.

vi) A supplier becoming a large supplier without corrosion control treatment or any large supplier without corrosion control treatment having a 90th percentile lead concentration exceeding the lead practical quantitation limit must conduct standard monitoring for at least two consecutive six-month tap monitoring periods, then continue monitoring under this subsection (d)(1)(B)(vi).

2) Monitoring after Installing Initial or Re-Optimized Corrosion Control Treatment, Installing Source Water Treatment, Adding a New Source, or a Change in Treatment

A) A supplier installing or re-optimizing corrosion control treatment after exceeding the lead or copper action level must monitor for lead and copper every six months and comply with applicable Agency-designated water quality parameter values until the Agency issues a SEP specifying new water quality parameter values for optimal corrosion control.

B) A supplier reoptimizing corrosion control treatment as a result of exceeding the lead trigger level but not exceeding the lead or copper action level must annually monitor for lead at the standard number of sites subsection (c) requires. The supplier must triennially analyze samples for copper. A small or mid-sized

supplier not exceeding the lead trigger level in three annual tap monitoring periods may reduce lead monitoring under subsection (d)(4).

C) A supplier installing source water treatment under Section 611.2353(a)(3) must monitor every six months until the supplier is at or below lead and copper action levels for two consecutive six-month tap sampling periods. A supplier not exceeding the lead or copper action level for two consecutive six-month tap monitoring periods may reduce monitoring under subsection (d)(4).

D) If a supplier gives prior notice to the Agency under Section 611.2360(a)(3) of adding a new source or making a long-term change in treatment, the supplier must monitor every six months at the standard number of sites subsection (c) requires until the supplier is at or below the lead and copper action levels for two consecutive six-month monitoring cycles, unless the Agency issues a SEP determining that adding the new source or making the long-term change in treatment is not significant and does not warrant more frequent monitoring. A supplier not exceeding the lead action level, copper action level, or lead trigger level for two consecutive six-month tap sampling periods may reduce monitoring under subsection (d)(4).

3) Monitoring after the Agency Specifies Water Quality Parameter Values for OCCT

A) After the Agency specifies the values for water quality control parameters under Section 611.2352(f), the supplier must conduct standard monitoring for two consecutive six-month tap monitoring periods.

B) A supplier that must complete the re-optimization steps in Section 611.2351(d) after exceeding the lead trigger level but not exceeding the lead or copper action level must monitor for two consecutive six-month tap monitoring periods. The supplier may then reduce monitoring under subsection (d)(4) after the Agency issues a SEP approving reduced monitoring.

4) Reduced Monitoring Based on 90th Percentile Concentrations. Reduced monitoring refers to an annual or triennial tap monitoring period. A supplier's 90th percentile concentration determines the reduced monitoring frequency.

A) Reducing to Annual Monitoring for Suppliers Meeting the Criteria for Reduced Monitoring. A supplier meeting the criteria for reduced monitoring under subsection (d)(4) must collect these samples from sampling sites the supplier identified under subsection (a). A supplier monitoring annually or less frequently must conduct lead and copper tap sampling during June, July, August, or September, unless the Agency approves a different tap sampling period under subsection (d)(4)(A)(i)

i) The Agency may grant a SEP approving a different tap sampling period for conducting lead and copper tap sampling to a supplier collecting samples at a reduced frequency. The duration of the period must not exceed four consecutive months within one calendar year and must represent a time of normal operation when the highest lead levels are most likely to occur. For a NTNCWS supplier not operating during any of the months June through September and whose normal operating period when the highest levels of lead are most likely to occur is not known, the Agency must designate a period that represents a time of normal operation for the system. This reduced monitoring can only begin during the Agency-designated period in the calendar year immediately following the end of the second six-month tap monitoring period, for a supplier initiating annual monitoring, or in the three-year period following the end of the third consecutive year of annual monitoring, for a supplier initiating triennial monitoring.

ii) A supplier monitoring annually and collecting samples during the months of June through September that receives Agency approval to alter its tap sampling period under subsection (d)(4)(A)(i) must collect its next round of samples during a time period ending no later than 21 months after its previous round of sampling. A supplier monitoring once every three years and collecting samples during the months of June through September that receives Agency approval to alter its tap sampling period under subsection (d)(4)(A)(i) must collect its next round of samples during a time period ending no later than 45 months after the previous tap sampling period. The supplier must conduct subsequent monitoring annually or once every three years, as this Section requires.

iii) A small supplier collecting samples during the months of June through September, receiving a waiver under subsection (g) and receiving Agency approval to alter its tap sampling period under subsection (d)(4)(A)(i) must collect its next round of samples before the end of the nine-year tap monitoring period (as Section 611.101 defines the term).

B) A supplier meeting the lead trigger level and copper action level during two consecutive six-month tap monitoring periods may reduce its monitoring frequency to annual monitoring and must sample at the standard number of sampling sites for lead and reduced number of sites for copper that subsection (c) specifies. A supplier operating OCCT must also maintain the range of OWQPs the Agency set under Section 611.2352(f) during the same period and receive a SEP from the Agency approving annual monitoring based on the Agency's review of the supplier's monitoring, treatment, and other relevant information the supplier reports under Section 611.2360. The supplier must begin this sampling no later than the calendar year immediately following the last calendar year during which the supplier sampled.

C) A supplier exceeding the lead trigger level but neither the lead nor copper action level during two consecutive six-month tap monitoring periods must monitor no less frequently than annually at the standard number of sampling sites for lead and copper subsection (c) specifies. A supplier operating OCCT must also maintain the range of OWQPs the Agency set under Section 611.2352(f) during the same period and receive a SEP from the Agency approving annual monitoring based on the Agency's review of monitoring, treatment, and other relevant information the supplier reports under Section 611.2360. The supplier must begin this sampling no later than the calendar year immediately following the last calendar year during which the supplier sampled.

D) A supplier exceeding the lead trigger level but neither the lead nor copper action level during three consecutive years of monitoring may increase the tap monitoring period (reduce its monitoring frequency) for copper to once every three years; however, the supplier may not increase the tap monitoring period (reduce its monitoring frequency) for lead. A supplier operating OCCT must also maintain the range of OWQPs the Agency set under Section 611.2352(f) during the same period and receive a SEP from the Agency approving triennial monitoring based on the Agency's

review of monitoring, treatment, and other relevant information the supplier reports under Section 611.2360. The supplier must begin this sampling no later than the third calendar year immediately following the last calendar year during which the supplier sampled.

E) A small or mid-sized supplier not exceeding the lead trigger level or copper action level during three consecutive years of monitoring (completing standard monitoring during both six-month tap monitoring periods of a calendar year constitutes one year of monitoring) may sample at the reduced number of sites for lead and copper that subsection (c) provides and reduce its monitoring frequency to triennially monitoring. A supplier operating OCCT must also maintain the range of OWQPs the Agency set under Section 611.2352(f) during the same three-year period and receive a SEP from the Agency approving triennial monitoring based on the Agency's review of monitoring, treatment, and other relevant information the supplier reports under Section 611.2360. The supplier must begin this sampling no later than three calendar years after the last calendar year during which the supplier sampled.

F) A supplier demonstrating for two consecutive six-month tap monitoring periods that its 90th percentile lead concentration, calculated under Section 611.2350(c)(4), is less than or equal to 0.005 mg/ L and that its 90th percentile copper concentration, calculated under Section 611.2350(c)(4), is less than or equal to 0.65 mg/ L may sample at the reduced number of sites for lead and copper under subsection (c) and reduce its monitoring to triennially. A supplier applying corrosion control treatment must maintain the range of water quality parameter values reflecting OCCT the Agency specifies under Section 611.2352(f) to qualify for reduced monitoring under this subsection (d)(4)(F).

e) Additional Monitoring. The supplier and the Agency must consider the results of any monitoring the supplier conducts in addition to the minimum requirements in this Section (such as customer-requested sampling) in making any determinations (i.e., calculating the 90th percentile lead concentration or copper action level) under this Subpart AH. A supplier serving through lead service lines that cannot collect the minimum number of samples from Tier 1 or Tier 2 sites must calculate the 90th percentile concentration using data from all sites it serves through lead service lines (Tier 1 and Tier 2 sites) together with the highest lead and copper results from lower-tier sites to complete the minimum number of sampling sites subsection (c) requires. The supplier must submit data from additional Tier 3, Tier 4 or Tier 5 sites to the Agency but may not use these results in calculating the 90th percentile concentration. The supplier must include customer-requested

samples from sites the supplier knows it serves through lead service lines in calculating its 90th percentile concentration if the samples comply with this Section.

f) Invalidation of Lead and Copper Tap Samples Used in Calculating the 90th Percentile Concentration. A sample the Agency invalidates under this subsection (f) does not count toward determining lead or copper 90th percentile concentrations under Section 611.2350(c)(4) or toward meeting the minimum monitoring requirements of subsection (c).

1) The Agency must invalidate a lead or copper tap water sample if it determines that any of certain conditions exists:

A) The laboratory establishes that improper sample analysis caused erroneous results;

B) The supplier took the sample from a site that did not meet the site selection criteria in this Section;

C) The sample container sustained damage in transit; or

D) There is substantial reason to believe that someone tampered with the sample.

2) The supplier must report the results from all samples to the Agency and submit all supporting documentation for samples the supplier believes the Agency should invalidate.

3) To invalidate a sample under subsection (f)(1), the Agency must document its decision and rationale for the decision in writing. The Agency may not invalidate a sample solely because a follow-up sample result is higher or lower than that of the original sample.

4) The supplier must collect replacement samples for any samples the Agency invalidates under this Section if the supplier has too few samples to meet the minimum requirements of subsection (c) after the Agency invalidates samples. The supplier must take any replacement samples as soon as possible but no later than the latter of 20 days after the Agency invalidates the original sample or before the end of the applicable tap sampling period. The supplier must not use replacement samples it takes after the end of the applicable tap sampling period to meet the monitoring requirements of a subsequent tap sampling period. The supplier must take replacement samples at the same locations where it took the invalidated

samples or, if that is not possible, at other locations the supplier did not use for sampling during the tap sampling period.

g) Monitoring Waivers for Suppliers Serving 3,300 or Fewer Persons. Any supplier serving 3,300 or fewer persons complying with the criteria in this subsection (g) may apply to the Agency for a SEP reducing its lead and copper monitoring frequency under this Section to once every nine years (i.e., a "full waiver") if the supplier complies with all of the materials criteria subsection (g)(1) specifies and all of the monitoring criteria subsection (g)(2) specifies. Any supplier serving 3,300 or fewer persons complying with the criteria subsections (g)(1) and (g)(2) only for lead or copper may apply to the Agency for a SEP reducing its tap water monitoring frequency to once every nine years for that contaminant only (i.e., a "partial waiver").

1) Materials Criteria. The supplier must demonstrate that its distribution system, service lines, and all drinking water supply plumbing, including plumbing conveying drinking water within all residences and buildings connected to the system, are free of lead-containing materials or copper-containing materials, as this subsection (g)(1) defines these terms:

A) Lead. To qualify for a SEP granting a full waiver or a partial waiver of the tap water monitoring requirements for lead (i.e., a "lead waiver"), the supplier must provide certification and supporting documentation to the Agency demonstrating that its system is free of all lead-containing materials:

i) The system has no plastic pipes or service lines containing lead plasticizers; and

ii) The system is free of lead service lines, lead pipes, lead soldered pipe joints, and leaded brass- or bronze-alloy fittings and fixtures, unless those fittings and fixtures comply with Section 611.126(b).

BOARD NOTE: Corresponding 40 CFR 141.86(g)(1)(i)(B) specifies "any standard established pursuant to 42 U.S.C. 300g-6(e) (SDWA section 1417(e))". Congress changed the lead standards for fittings and fixtures in the Reduction of Lead in Drinking Water Act, P.L. 111-380, section 2(a)(2) and (b), 124 Stat. 4131 (Jan. 4, 2011). The Board incorporated the statutory changes into this Section by referencing Section 611.126(b).

B) Copper. To qualify for a SEP granting a full waiver or a partial waiver of the tap water monitoring requirements for copper (i.e., a "copper waiver"), the supplier must provide certification and supporting documentation to the Agency demonstrating that its system contains no copper pipes or copper service lines.

2) Monitoring Criteria for Waiver Issuance. The supplier must have completed at least one six-month round of standard tap water monitoring for lead and copper at Agency-approved sites and from the number of sites subsection (c) requires and demonstrate to the Agency that the 90th percentile concentrations for any and all rounds of monitoring conducted since the system became free of all lead-containing or copper-containing materials, as appropriate, meet certain criteria:

A) Lead Levels. To qualify for a full waiver or a lead partial waiver, the supplier must demonstrate that its 90th percentile lead concentration does not exceed 0.005 mg/ L.

B) Copper Levels. To qualify for a full waiver or a copper partial waiver, the supplier must demonstrate that its 90th percentile copper concentration does not exceed 0.65 mg/ L.

3) Agency Approval of Waiver Application. The Agency must notify the supplier of its waiver determination in a SEP stating the basis of its decision and any condition on the waiver. As a condition on the waiver, the Agency may require the supplier to perform specific activities (e.g., limited monitoring, periodic outreach to customers to remind them to avoid installation of materials that might void the waiver) to avoid the risk of lead or copper concentration of concern in tap water. The supplier must continue monitoring for lead and copper at the tap as subsections (d)(1) through (d)(4) require, as appropriate, until the supplier receives written notification from the Agency approving the waiver.

4) Monitoring Frequency for Suppliers with Waivers

A) A supplier with a full waiver must conduct tap water monitoring for lead and copper under subsection (d)(4)(D) at the reduced number of sampling sites subsection (c) identifies at least once every nine years and provide to the Agency the materials certification subsection (g)(1) specifies for both lead and copper together with the monitoring results. The supplier must collect samples every nine years no later than the ninth calendar year.

B) A supplier with a partial waiver must conduct tap water monitoring for the waived contaminant under subsection (d)(4)(D) at the reduced number of sampling sites subsection (c) specifies at least once every nine years and provide to the Agency the materials certification subsection (g)(1) specifies pertaining to the waived contaminant together with the monitoring results. Such a supplier also must continue to monitor for the non-waived contaminant in under the applicable of subsections (d)(1) through (d)(4).

C) A supplier with a full or partial waiver must notify the Agency in writing under Section 611.2360(a)(3) of any upcoming long-term change in treatment or adding a new source, as that rule describes. The Agency must review and approve adding a new source or long-term change in water treatment before the supplier implements it. The Agency may add or modify waiver conditions (e.g., require recertification that the supplier's system is free of lead-containing or copper-containing materials, require additional rounds of monitoring, etc.) if the Agency determines that the modifications are necessary to address system treatment or source water changes.

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

5) Continued Eligibility. If the supplier continues to comply with subsection (g)(4), the waiver will renew automatically, unless any of the conditions in subsections (g)(5)(A) through (g)(5)(C) occur. A supplier whose waiver the Agency revokes may re-apply for a waiver when the supplier again meets the appropriate materials and monitoring criteria of subsections (g)(1) and (g)(2).

A) A full waiver or a lead partial waiver does not renew if the supplier no longer satisfies the materials criteria of subsection (g)(1)(A) or has a 90th percentile lead concentration greater than 0.005 mg/ L.

B) A full waiver or a copper partial waiver does not renew if the supplier no longer satisfies the materials criteria of subsection (g)(1)(B) or has a 90th percentile copper concentration greater than 0.65 mg/ L.

C) A waiver terminates when the Agency notifies the supplier that the Agency revokes the waiver, in writing and describing the basis of its decision.

6) Requirements Following Waiver Revocation. A supplier whose full or partial waiver the Agency revokes must comply with specific corrosion control treatment and lead and copper tap water monitoring requirements:

A) If the supplier exceeds the lead or copper action level, the supplier must implement corrosion control treatment within the deadlines Section 611.2351(e) specifies and any other applicable requirements under this Subpart AH.

B) If the supplier meets both the lead and the copper action levels, the supplier must monitor for lead and copper at the tap no less frequently than once every three years using the reduced number of sampling sites subsection (c) specifies.

7) Pre-Existing Waivers. A waiver the Agency granted a supplier in writing prior to April 11, 2000 remains in effect under certain conditions:

A) If the supplier demonstrates that its system is free of both lead-containing and copper-containing materials, as subsection (g)(1) requires, and that its 90th percentile lead and copper concentrations comply with subsection (g)(2), the waiver remains in effect so long as the supplier continues to be eligible for a waiver under subsection (g)(5). The supplier must complete its first round of tap water monitoring under subsection (g)(4) no later than nine years after the supplier last monitored for lead and copper at the tap.

B) If the supplier complies with the materials criteria of subsection (g)(1) but has not complied with the monitoring criteria of subsection (g)(2), the supplier must conduct a round of monitoring for lead and copper at the tap demonstrating that it complied with subsection (g)(2). Thereafter, the waiver remains in effect as long as the supplier complies with the continued eligibility criteria in subsection (g)(5). The supplier must complete its first round of tap water monitoring under subsection (g)(4) no later than nine years after the supplier conducts the monitoring under subsection (g)(2).

h) Follow-Up Samples for "Find-and-Fix" Under Section 611.2352(j). A supplier must collect a follow-up sample at any site exceeding the lead action level within 30 days after receiving the sample results. For these follow-up samples, the supplier may use different sample volumes or different sample collection

procedures to assess the source of elevated lead. A supplier must submit the results from samples it collects under this Section to the Agency but must not include those results in calculating its 90th percentile concentration.

i) Public Availability of Tap Monitoring Results the Supplier Used in Calculating its 90th Percentile Concentration. A supplier must make the results of its compliance tap water monitoring data, including data the supplier used in calculating its 90th percentile concentration under Section 611.2350(c)(4), available to the public within 60 days after the end of the applicable tap sampling period. This Section does not require a supplier to make publicly available the addresses of the sites where the supplier collected tap samples. A large supplier must make available the monitoring results in a digital format. A small or mid-sized supplier must make available the monitoring results in either a written or digital format. A supplier must retain tap sampling monitoring data per the recordkeeping requirements under Section 611.2361.

BOARD NOTE: This Section derives from 40 CFR 141.86.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2357 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 611.2356(a). The supplier must include sites it selects for tap samples under this Section in the site sample plan under Section 611.2356(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 611.2352(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 without 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 without corrosion control treatment must begin monitoring for water quality parameters subsection (b)(3) specifies during the first two six-month tap monitoring periods 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 611.2351(d)(5) or (e)(5) that Section 611.2351(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 611.2352(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 611.2352(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 611.2352(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 period 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 periods under Section 611.2356(d)(3). For a small or mid-sized supplier subject to a reduced water quality monitoring cycle frequency under Section 611.2356(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 period under Section 611.2356(d)(4).

C) A supplier must determine whether it complies with Agency-designated OWQPs as Section 611.2352(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 periods.

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 611.2352(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 611.2352(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 611.2350(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 611.2352(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 611.2352(f) for more than nine days in any six-month period for determining compliance under Section 611.2352(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 611.2352.

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 611.2352(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: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2358 Monitoring for Lead and Copper in Source Water

a) Sampling Location, Collection Methods, and Number of Samples

1) A supplier failing to meet the lead or copper action level on the basis of tap samples under Section 611.2356 must collect lead and copper source water samples under specific requirements for sample location, number of samples, and collection methods:

A) A groundwater supplier must take a minimum of one sample at every entry point to the distribution system after the supplier applies any treatment or in the distribution system at a point representing each source after treatment (a "sampling point"). The supplier must take one sample at the same sampling point unless conditions make another sampling point more closely represent a source or treatment plant.

B) A surface water supplier must take a minimum of one sample at every entry point to the distribution system after treatment or in the distribution system at a sampling point. The supplier must take each sample at the same sampling point unless conditions make another sampling point more closely represent a source or treatment plant.

BOARD NOTE: For this subsection (a)(1)(B), a system using a combination of surface water and groundwater sources is a surface water system.

C) 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 periods of normal operating conditions (i.e., when water represents all sources being used).

D) The Agency may issue a SEP reducing the total number of samples a supplier must analyze by allowing the use of compositing. Certified laboratory personnel must composite the samples. A composite sample may include a maximum of five samples. However, if the lead concentration in the composite sample is greater than or equal to 0.001 mg/ L or the copper concentration is greater than or equal to 0.160 mg/ L, the supplier must do either of two things:

i) The supplier must take and analyze a follow-up sample within 14 days at each sampling point included in the composite sample; or

ii) If duplicate samples or sufficient volumes of the original samples are available from each sampling point the certified laboratory used in the composite sample, the supplier may use those instead of resampling.

2) SEP Requiring an Additional Sample

A) Upon determining that sampling indicates exceedance of the lead or copper MPC under Section 611.2353(b)(4), the Agency must issue a SEP requiring the supplier to collect one additional sample as soon as possible after the initial sample at the same sampling point but before two weeks after the supplier took the initial sample.

B) If a supplier takes an Agency-required confirmation sample for lead or copper, the supplier must average the results obtained from the initial sample with those from the confirmation sample to determine whether it complies with the Agency-specified lead and copper MPCs.

i) For averaging, consider any analytical result below the MDL as zero.

ii) Consider any value above the MDL but below the PQL either as the measured value or one-half the PQL.

b) Monitoring Frequency after System Exceeds Tap Water Action Level. A supplier exceeding the lead or copper action level in tap for the first time or for the first time after adding a new source or installing source water treatment under Section 611.2353(b)(2) must collect one source water sample from each entry point to its distribution system no later than six months after the end of the tap sampling period during which the supplier exceeds the lead or copper action level. For annual or less frequent tap monitoring periods, the end of the tap sampling period is September 30 of the calendar year during which the sampling occurs or the last day of any alternative tap sampling period the Agency establishes in a SEP. If the Agency determines under Section 611.2353(b)(2) that source water treatment is not necessary, the Agency may issue a SEP waiving source water monitoring for the supplier subsequently exceeding the lead or copper action level at the tap under subsections (b)(1)(A) through (b)(1)(C).

1) The Agency may issue a SEP waiving source water monitoring for the supplier exceeding the lead or copper action level at the tap under specific conditions:

A) The supplier already conducted source water monitoring after previously exceeding the lead or copper action level;

B) The Agency issued a SEP determining that source water treatment is not necessary; and

C) The supplier has not added any new water sources.

2) This subsection (b)(2) corresponds with 40 CFR 141.88(b)(2), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.

c) Monitoring Frequency after Installing Source Water Treatment or Adding a New Source

1) A supplier installing source water treatment under Section 611.2353(a)(3) must collect one source water sample from each entry point to its distribution system during each of two consecutive six-month source water monitoring periods on or before 36 months after completing step 2, as Section 611.2353(a)(4) specifies.

2) A supplier adding a new source must collect one source water sample from each entry point to its distribution system during each six-month source water monitoring period until the supplier demonstrates that the supplier has maintained finished drinking water entering the distribution system below the MPCs for lead and copper the Agency specifies under Section 611.2353(b)(4), or the Agency issues a SEP determining that the supplier does not need source water treatment.

d) Monitoring Frequency after the Agency Specifies the Lead and Copper MPCs

1) A supplier must monitor at the frequency subsections (d)(1) and (d)(2) specify if the Agency specifies the MPCs under Section 611.2353(b)(4).

A) GWS Suppliers

i) A GWS supplier sampling under subsection (d)(1) must collect samples once during the three-year compliance period (as Section 611.101 defines the term) during which the Agency makes its determination under Section 611.2353(b)(4).

ii) A GWS supplier sampling under subsection (d)(1) must sample once during each subsequent compliance period.

iii) A supplier must triennially collect samples every third calendar year.

B) A SWS or mixed system supplier must collect samples once during each calendar year, the first annual source water monitoring period to begin during the year in which the Agency makes its determination under Section 611.2353(b)(4).

2) A supplier needs not sample source water for lead or copper if the supplier meets the action level for the specific contaminant in all tap water samples during the entire source water monitoring period under subsection (d)(1)(A) or (d)(1)(B).

e) Reduced Monitoring Frequency

1) A GWS supplier may reduce its source water monitoring frequency for lead and copper to once during each nine-year compliance cycle (as Section 611.101 defines the term), provided the supplier collects the samples no later than every ninth calendar year, and only if the supplier meets certain criteria:

A) The supplier demonstrates that finished drinking water entering the distribution system remains below the MPCs for lead and copper the Agency specifies under Section 611.2353(b)(4) during at least three consecutive monitoring periods under subsection (d)(1).

B) This subsection (e)(1)(B) corresponds with 40 CFR 141.88(e)(1)(ii), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.

2) A SWS or mixed system supplier may reduce its monitoring frequency subsection (d)(1) requires to once during each nine-year compliance cycle (as Section 611.101 defines the term) if the supplier collects the samples no later than every ninth calendar year, and only if the supplier meets certain criteria:

A) The supplier demonstrates that finished drinking water entering its distribution system remains below the MPCs for lead and copper the Agency specifies under Section 611.2353(b)(4) for at least three consecutive years.

B) This subsection (e)(2)(B) corresponds with 40 CFR 141.88(e)(1)(ii), which USEPA marked "[reserved]". This statement maintains structural consistency with USEPA's rule.

3) A supplier using a new source of water must not reduce its monitoring for lead or copper until after the supplier demonstrates, by samples it collected from the new source during three consecutive source water monitoring periods under subsection (d)(1), that lead or copper levels are below the MPC the Agency specifies under Section 611.2353(a)(5).

BOARD NOTE: This Section derives from 40 CFR 141.88.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2359 Analytical Methods

The supplier must conduct analyses for lead, copper, pH, alkalinity, orthophosphate, and silica, using the methods in Section 611.611(a).

a) Only a certified laboratory in one of the categories in Section 611.490(a) may conduct analyses for lead and copper to demonstrate that a supplier complies with this Subpart G. To obtain certification for conducting analyses for lead and copper, a laboratory must fulfill specific conditions:

1) The laboratory must analyze lead- and copper-containing performance evaluation samples provided by USEPA or the Agency at least once a year by each method for which the laboratory seeks certification;

2) The laboratory must achieve certain quantitative acceptance limits:

A) For lead: ±30 percent of the actual amount in the performance evaluation sample when the actual amount is greater than or equal to 0.005 mg/ L (the PQL for lead is 0.005 mg/ L);

B) For copper: ±10 percent of the actual amount in the performance evaluation sample when the actual amount is greater than or equal to 0.050 mg/ L (the PQL for copper is 0.050 mg/ L);

3) The laboratory must achieve method detection limit (MDL) for lead of 0.001 mg/ L using the procedures in 35 Ill. Adm. Code 186 and appendix B to 40 CFR 136: "Definition and Procedure for the Determination of the Method Detection Limit—Revision 1.11", incorporated by reference in Section 611.102(c); and

4) The laboratory must have current certification to perform analyses under the specifications this subsection (a) describes.

BOARD NOTE: This subsection (a) derives from 40 CFR 141.89(a) and (a)(1).

b) The Agency must issue a SEP allowing a supplier to use previously collected monitoring data under this Subpart AH if the supplier collected and analyzed the data complying with this Subpart AH.

BOARD NOTE: This subsection (b) derives from 40 CFR 141.89(a)(2).

c) Reporting Lead and Copper Levels

1) The supplier must report all lead and copper levels greater than or equal to the lead and copper PQL (Pb ≥ 0.005 mg/ L and Cu ≥ 0.050 mg/ L) as measured.

2) The supplier must report all lead and copper levels less than the PQL but greater than the MDL (0.005 mg/ L > Pb > MDL and 0.050 mg/ L > Cu > MDL) either as measured or as one-half the PQL in subsection (a) (i.e., 0.0025 mg/ L for lead or 0.025 mg/ L for copper).

3) The supplier must report all lead and copper levels below the lead and copper MDL (MDL > Pb) as zero.

BOARD NOTE: This subsection (c) derives from 40 CFR 141.89(a)(3) and (a)(4).

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2360 Reporting

A supplier must report specific information to the Agency as this Section provides.

a) Reporting for Tap, Lead, and Copper, and Water Quality Parameter Monitoring

1) Notwithstanding Section 611.840(a) and except as subsection (a)(1)(H) provides otherwise, a supplier must report the information subsections (a)(1)(A) through (a)(1)(I) specify for all samples and for all water quality parameter samples Section 611.2357 specifies within ten days after the end of each applicable tap sampling period Sections 611.2356 and 611.2357 specify (i.e., every six months, annually, triennially, or every nine years). For a tap monitoring period shorter than six months, the end of the tap monitoring period is the last date on which the supplier may

collect samples during that tap sampling period, as Sections 611.2356 and 611.2357 specify.

A) The results of all tap samples for lead and copper, including the location of each site and the criteria under Section 611.2356(a)(3) through (a)(10) the supplier used as the basis for selecting the site for its sampling pool, accounting for Section 611.2356(a)(11);

B) Supporting documents for each tap water lead or copper sample the supplier requests the Agency invalidate under Section 611.2356(f)(2);

C) A supplier having lead, galvanized requiring replacement, or lead status unknown service lines in its lead service line inventory under Section 611.2354(a) must re-evaluate the tap sampling locations the supplier uses in its sampling pool prior to the compliance date Section 611.2350(a) specifies, then the more frequent of annually or prior to the each subsequent round of tap sampling the supplier conducts, whichever is more frequent;

i) Before the first applicable tap monitoring period under Section 611.2356(d), the supplier must submit a site sample plan to the Agency under Section 611.2356, including a list of tap sample site locations identified in the inventory under Section 611.2354(a), and a list a tap sampling WQP sites the supplier selected under Section 611.2357(a)(1). The supplier must update and submit the site sample plan to the Agency before changing any sample site locations. The Agency may issue a SEP requiring the supplier to modify its site sample plan as necessary.

ii) For a supplier having lead service line sites but an insufficient number to meet the minimum number Section 611.2356 requires, the supplier must document support for its conclusion that it has an insufficient number of lead service line sites complying with the applicable of 40 CFR Section 141.86(a)(3) or (a)(4) (for a CWS supplier) or 40 CFR Section 141.86(a)(8) (for an NTNCWS supplier);

D) The 90th percentile lead and copper concentrations the supplier measures from among all lead and copper tap samples the supplier collects during each tap sampling period (calculated under Section 611.2350(c)(4)), unless the Agency calculates the supplier's 90th percentile lead and copper concentrations under subsection (h);

E) With the exception of initial tap sampling under Section 611.2356(d)(1), the supplier must identify any site it did not sample during previous tap sampling periods and explain why sampling sites have changed;

F) The results of all water quality parameter tap samples the supplier must collect under Section 611.2357(b) through (g);

G) The results of all samples the supplier collects at entry points for applicable water quality parameters under Section 611.2357(b) through (e);

H) A supplier must report the results of all water quality parameter samples the supplier collects under Section 611.2357(c) through (f) during each six-month water quality monitoring period Section 611.2357(d) specifies within the first ten days following the end of the water quality monitoring period, unless the Agency specifies a more frequent reporting requirement in a SEP; and

I) Before the first applicable tap sampling period under Section 611.2356(d), the supplier must submit to the Agency, a copy of the tap sampling protocol the supplier provides to persons sampling. The Agency must verify that the supplier uses wide-mouth collection bottles and the supplier does not recommend pre-stagnation flushing or aerator cleaning or removal before collecting samples under Section 611.2356(b). The tap sampling protocol must contain instructions for correctly collecting a first draw sample at a site without a lead service line and a first draw and a fifth liter sample at a site with a lead service line, as applicable. If the supplier seeks to modify the tap sampling protocol it submitted this subsection (a)(1)(I), the supplier must submit the updated version of the protocol to the Agency for review and approval at least 60 days before using it.

2) For an NTNCWS supplier, or a CWS supplier complying with Section 611.2356(b)(5), not having enough taps for first-draw or fifth liter tap samples, the supplier must do one of two things:

A) The supplier must identify to the Agency in writing standing times and locations for enough non-first-draw and fifth liter tap samples to make up its sampling pool under Section 611.2356(b)(5) by the start of the first applicable monitoring period under Section 611.2356(d), unless the Agency waives prior Agency approval of

non-first-draw and fifth liter tap sampling sites the supplier selects under Section 611.2356(b)(5); or

B) If the Agency waives prior approval of non-first-draw sampling sites the supplier selects, the supplier must identify each site that did not meet the six-hour minimum standing time and the length of standing time for that particular substitute sample collected under Section 611.2356(b)(5) in writing and include this information with the lead and copper tap sample results the supplier must submit under subsection (a)(1)(A).

3) At a time the Agency specifies in a SEP, a supplier must document adding a new source or any change in water treatment to the Agency describing the addition or change. If the Agency does not specify a time in a SEP, the supplier must document the changes to the Agency as early as possible but no later than six months before adding a new source or any change in water treatment. The Agency may issue a SEP requiring a supplier to take actions before or after adding a new source or making a long-term change in treatment to ensure the supplier will operate and maintain OCCT, such as additional water quality parameter monitoring, additional lead or copper tap sampling, and re-evaluating corrosion control treatment.

BOARD NOTE: USEPA gives examples of long-term changes in treatment as including adding a new treatment process or modifying an existing treatment process. USEPA gives examples of modifying treatment as including switching secondary disinfectants, coagulants (*e.g.*, alum to ferric chloride), or corrosion inhibitor (*e.g.*, orthophosphate to blended phosphate). USEPA said that long-term changes can also include dose changes to existing chemicals if the supplier plans long-term changes to its finished water pH or residual inhibitor concentration. USEPA said that long-term treatment changes would not include chemical dose fluctuations associated with daily raw water quality changes where the supplier does not add a new source.

4) A small supplier applying for a monitoring waiver under Section 611.2356(g) or subject to a waiver granted under Section 611.2356(g)(3) must provide certain information to the Agency in writing before the applicable deadline:

A) Before the start of the first applicable tap monitoring period in Section 611.2356(d), a small supplier applying for a monitoring waiver must provide the documents demonstrating that the supplier qualifies for a waiver under Section 611.2356(g)(1) and (g)(2).

B) No later than nine years after the monitoring the supplier previously conducted under Section 611.2356(g)(2) or Section 611.2356(g)(4)(A), a small supplier wanting to maintain its monitoring waiver must provide the information Section 611.2356(g)(4)(A) and (g)(4)(B) requires.

C) No later than 60 days after the small supplier becomes aware that it is no longer free of lead-containing or copper-containing material, a small supplier having a monitoring waiver must notify the Agency in writing, stating the circumstances introducing lead- or copper-containing materials into the system and describing any corrective action the supplier plans to remove these materials.

5) A GWS supplier limiting its water quality parameter monitoring to a subset of entry points under Section 611.2357(c)(3) must identify its selected entry points to the Agency in writing, including information sufficiently demonstrating that the sites represent water quality and treatment conditions throughout the supplier's system.

b) Reporting for Source Water Monitoring

1) A supplier must report its sampling results for all source water samples it collects under Section 611.2358 within ten days after the end of each source water monitoring period Section 611.2358 specifies.

2) With the exception of the first round of source water sampling a supplier conducts under Section 611.2358(b), a supplier must specify any site it did not sample during source water monitoring periods, explaining why the supplier changed the sampling point.

c) Reporting for Corrosion Control Treatment. Before the applicable dates under Section 611.2351, a supplier must report certain information:

1) A supplier demonstrating that it already optimized corrosion control must provide the information Section 611.2351(b)(1) through (b)(3) requires.

2) A supplier that must optimize corrosion control must provide its recommendation regarding OCCT under Section 611.2352(a).

3) A supplier that must evaluate the effectiveness of corrosion control treatments under Section 611.2352(c) must provide the information Section 611.2352(c) requires.

4) A supplier that must install optimal corrosion control the Agency approves under Section 611.2352(d) must provide a copy of the Agency permit letter, which acts as certification that the supplier completed installing the permitted treatment.

d) Reporting for Source Water Treatment. Before the applicable dates in Section 611.2353, a supplier must provide certain information to the Agency:

1) If Section 611.2353(b)(1) requires, the supplier must provide its recommendation on source water treatment; or

2) A supplier that must install source water treatment under Section 611.2353(b)(2) must provide a copy of the Agency permit letter, which acts as certification that the supplier completed installing the Agency-approved treatment within 24 months after Agency approval.

e) Reporting for Lead Service Line Inventory and Replacement. A supplier must report certain information to the Agency demonstrating it complies with Sections 611.2354 and 611.2355:

1) No later than October 16, 2024, the supplier must submit an inventory of service lines to the Agency, as Section 611.2354(a) requires.

2) No later than October 16, 2024, a supplier that inventoried a lead, galvanized requiring replacement, or lead status unknown service line in its distribution system must submit a lead service line replacement plan to the Agency, as Section 611.2354(b) requires.

3) The supplier must provide the Agency with an updated version of its inventory under Section 611.2354(a) consistent with its tap monitoring period schedule under Section 611.2356(d), but no more frequently than annually. The supplier must submit its updated inventory within 30 days after the end of each tap monitoring period.

A) If the supplier demonstrates that it has no lead, galvanized requiring replacement, or lead status unknown service lines in its inventory, the supplier needs no longer submit inventory updates to the Agency, except as subsection (e)(3)(B) requires.

B) If a supplier complying with subsection (e)(3)(A) subsequently discovers that it must replace any service lines in its distribution system, the supplier must notify the Agency within 30 days after identifying the service lines and prepare an updated inventory

under Section 611.2354(a) on a schedule the Agency establishes in a SEP.

4) Within 30 days after the end of each tap monitoring period, the supplier must certify replacing any encountered lead goosenecks, pigtails, and connectors under Section 611.2354(c).

5) Within 30 days after the end of each tap monitoring period, the supplier must certify to the Agency that the supplier made any partial and full lead service line replacements under Section 611.2354(d) and (e).

6) If it fails to meet the 45-day deadline for completing a customer-initiated lead service line replacement under Section 611.2354(d)(4), a supplier must notify the Agency within 30 days after the deadline to request that the Agency extend the deadline up to 180 days for completing the customer-initiated lead service line replacement. The supplier must annually certify that it has completed all customer-initiated lead service line replacements under Section 611.2354(d)(4).

7) No later than 30 days after the end of the supplier's annual period for replacing lead service lines under Section 611.2354(f) or (g), the supplier must submit certain information to the Agency and continue submitting the information each year the supplier conducts lead service line replacements under Section 611.2354(f) or (g):

A) The number of lead service lines, as Section 611.2354(a)(4) defines the term, in its inventory at the beginning of the annual period;

B) The number of galvanized requiring replacement service lines in its inventory at the beginning of the annual period;

C) The number of lead status unknown service lines, as Section 611.2354(a)(4) defines the term, in its inventory at the beginning of the annual period;

D) The number of full lead service line replacements the supplier has made and the street address for each service line the supplier replaced;

E) The number of galvanized requiring replacement service lines the supplier replaced and the street address for each service line the supplier replaced;

F) The number of lead status unknown service lines, as Section 611.2354(a)(4) defines the term, remaining in its inventory;

G) The total number of lead status unknown service lines the supplier determines are non-lead, as Section 611.2354(a)(4) defines the terms; and

H) The total number of service lines the supplier initially inventoried as non-lead later and later discovered are lead or galvanized requiring replacement service lines.

8) No later than 30 days after the end of each tap sampling period, a supplier that received a customer refusal for a lead service line replacement or no customer response after the supplier makes a minimum of two good-faith efforts to contact customers regarding a full lead service line replacement under Section 611.2354(g)(7) must certify to the Agency the number of customer refusals or non-responses it received from customers the supplier serves through a lead or galvanized requiring replacement service line. The supplier must maintain these documents.

9) No later than 12 months after the end of a tap sampling period during which a supplier exceeds the lead action level in sampling under Section 611.2356, the supplier must provide to the Agency its schedule for annually replacing an average annual rate of at least three percent on a two-year rolling average basis, or as specified in Section 611.2354(g), of the number of known lead service lines and galvanized lines requiring replacement 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.:

10) No later than 12 months after the end of a sampling period during which a supplier exceeds the lead trigger level in monitoring under Section 611.2356 and every 12 months after that, the supplier must certify to the Agency in writing:

A) That the supplier conducted consumer notification, as Sections 611.2354(f)(4) and 611.2355(g) require; and

B) That the supplier delivered public education materials to the affected consumers, as specified in Section 611.2355(a).

C) If a supplier does not fulfill its annual service line replacement goal under Section 611.2354(f), it must certify to the Agency in writing that the supplier conducted public outreach, as Section

611.2355(h) requires. The supplier must also submit the outreach materials it used to the Agency.

11) The annual certification the supplier submits to the Agency under subsection (e)(10) must certify that the supplier provided the results from samples it collected between three months and six months after fully or partially replacing a lead service line to the resident within the timeframe Section 611.2355(d)(2) requires. A mailed notice postmarked within three business days after receiving the results is timely.

12) Any supplier collecting samples following partial lead service line replacement Section 611.2354 requirements must report the results to the Agency before the tenth day of the next month after the supplier receives the laboratory results or as the Agency specifies in a SEP. The Agency may issue a SEP waiving the supplier reporting these monitoring results, but the supplier must retain these records. A supplier must also report any additional information the Agency specifies in a time and manner the Agency prescribes to verify that the supplier completed all partial lead service line replacement activities.

13) A supplier having lead service lines in its inventory must certify on an annual basis that the supplier complied with consumer notification of service line containing lead under Section 611.2355(e).

f) Reporting for Public Education Program

1) A supplier subject to Section 611.2355 must send documents to the Agency containing certain items within ten days after the end of each period in which the supplier must perform public education under Section 611.2355(b):

A) The public education materials the supplier delivered, and documents showing that the supplier delivered the public education materials complying with the content requirements in Sections 611.2355(a) and the delivery requirements in Section 611.2355(b); and

B) A list of all newspapers, radio stations, television stations, and facilities and organizations to which the supplier delivered public education materials when this Subpart AH required the supplier to perform public education tasks.

2) Unless the Agency issues a SEP requiring a supplier to do so, a supplier that previously submitted the information subsection (f)(1)(B) requires

need not resubmit the information subsection (f)(1)(B) requires, as long as no changes in the distribution list occurred, and the supplier certifies that it distributed the public education materials to the same list the supplier previously submitted.

3) No later than three months after the end of the tap sampling period, each supplier must mail a sample copy of the consumer notification of tap water monitoring results to the Agency, certifying that the supplier distributed the notification in a manner complying with Section 611.2355(d).

4) The supplier must demonstrate to the Agency before July 1 of each year that the supplier delivered annual consumer notice and lead service line information materials under Section 611.2355(e) to affected consumers the supplier serves through a lead, galvanized requiring replacement, or lead status unknown service line during the previous calendar year. The supplier must also provide a copy of the consumer notice and information materials to the Agency.

5) The supplier must demonstrate to the Agency before July 1 of each year that the supplier conducted an outreach activity under Section 611.2355(h) if the supplier failed to meet the lead service line replacement goal under Section 611.2354(f) during the previous calendar year. The supplier must also submit a copy to the Agency of the outreach it provided to customers.

6) The supplier must certify to the Agency before July 1 of each year that the supplier delivered notice to affected customers under Section 611.2355(f) after any lead service line disturbance during the previous calendar year. The supplier must also submit a copy of the notice to the Agency.

7) The supplier must certify to the Agency before July 1 of each year that the supplier delivered the required find-and-fix information to the Agency and local health departments under Section 611.2356(i) during the previous calendar year.

g) Reporting Additional Monitoring Data. Any supplier collecting more samples than the required minimum must report those sampling data results to the Agency within the first ten days following the end of the applicable sampling periods Sections 611.2356 through 611.2358 specify during which the supplier collected the samples. This includes the monitoring data for "find-and-fix" under Sections 611.2356(h) and 611.2357(g). The supplier must certify to the Agency the number of customer refusals or nonresponses for follow-up sampling it received under Section 611.2352(j) with information supporting the accuracy of the refusals or non-responses. The supplier must certify within the first ten days after

the end of the applicable tap sampling period during which any individual sample exceeded the lead action level.

h) Reporting 90th Percentile Lead and Copper Concentrations If the Agency Calculates a Supplier's 90th Percentile Concentrations. A water supplier needs not report its 90th percentile lead and copper concentrations during each tap monitoring period, as subsection (a)(1)(D) requires, under certain circumstances:

1) The Agency previously notified the supplier that the Agency will calculate the supplier's 90th percentile lead and copper concentrations based on the lead and copper tap results the supplier submitted under subsection (h)(2)(A), and the supplier provides the results from lead and copper tap water samples no later than ten days after the end of the applicable tap monitoring period;

2) The supplier provides the specific information to the Agency before the date subsection (h)(1) specifies:

A) The results from all tap water samples for lead and copper, including the location of each site and the Section 611.2356(a)(3) through (a)(10) criteria under which the supplier selected the site for its sampling pool; and

B) The supplier must identify sampling sites it used during the current tap monitoring period that it did not sample during previous tap monitoring periods, explaining why the supplier changed sampling sites; and

3) The Agency provides the written results of calculating the 90th percentile lead and copper concentrations to the supplier within 15 days after the end of the tap sampling period.

i) Reporting Requirements for CWS Public Education and Sampling in Schools and Childcare Facilities

1) A CWS supplier must report to the Agency before July 1 of each year the previous calendar year's activity. The report must include certain information:

A) The supplier must certify that it made a good faith effort to identify schools and childcare facilities under Section 611.2362(e). The good faith effort may include reviewing customer records and requesting lists of schools and childcare facilities from the Agency, the Department of Children and Family Services, the State Board

of Education, or other pertinent local agency. A supplier certifying that it serves no schools or childcare facilities needs not include the information subsections (i)(1)(B) through (i)(1)(D) require in the report. If changes occur to schools and childcare facilities a supplier serves, the supplier must submit an updated list at least once every five years under Section 611.2362(e).
BOARD NOTE: The Department of Children and Family Services regulates daycare facilities in Illinois, and the State Board of Education regulates primary and secondary schools. Local agencies may play a role, and many facilities and schools are not regulated under Illinois law. E.g., 225 ILCS 10 and 105 ILCS 5.

B) The supplier must certify that it delivered information about health risks from lead in drinking water to the school and childcare facilities it serves under Section 611.2362(a)(2) and (g)(1).

C) The supplier must certify that it completed notifying and sampling under Section 611.2362 and subsections (i)(1)(C)(i) through (i)(1)(C)(v) at a minimum of 20 percent of elementary schools and 20 percent of childcare facilities the supplier serves. The supplier must certify that it completed notifying and sampling under Section 611.2362(g) and subsections (i)(1)(C)(i), (i)(1)(C)(ii), and (i)(1)(C)(v) for secondary schools the supplier sampled. After a supplier completes one cycle of required sampling in all elementary schools and childcare facilities it identified under Section 611.2362(a)(1), the supplier must subsequently certify that it completed notifying and sampling under Section 611.2362(g) and subsections (i)(1)(C)(i), (i)(1)(C)(ii), and (i)(1)(C)(v) for all sampling the supplier later completes in any school or childcare facility.

i) The number of schools and childcare facilities the supplier serves;

ii) The number of schools and childcare facilities the supplier sampled in the calendar year;

iii) The number of schools and childcare facilities that refused sampling;

iv) Information about outreach attempts for sampling that a school or childcare facility declined; and

v) The analytical results for all schools and childcare facilities the supplier sampled in the calendar year.

D) The supplier must certify that it provided its sampling results to schools, childcare facilities, and the Illinois Department of Public Health and local health agencies.

2) This subsection (i)(2) corresponds with 40 CFR 141.90(i)(2), which USEPA marked "reserved". This statement maintains structural consistency with the corresponding USEPA rules.

3) The Agency has provided the results of the 90th percentile lead and copper calculations, in writing, to the supplier before the end of the monitoring period.

j) Reporting Requirements for Small Supplier Compliance Flexibility Options. Before the times subsections (j)(1) and (j)(2) provide, a supplier implementing a small supplier compliance option under Section 611.2363 must provide certain information to the Agency:

1) Point-of-Use Device Option. A small CWS or NTNCWS supplier implementing the point-of-use device option under Section 611.2363(a)(3), must report the results from tap sampling under Section 611.2363 no later than ten days after the end of the tap monitoring period. If results exceed the lead trigger level, the supplier must reach out to the homeowner or building management or, if applicable, both within 24 hours after receiving the tap sample results. The supplier must complete corrective action within 30 days. If the supplier does not complete corrective action within 30 days, the supplier must document to the Agency within 30 days of the failure explaining why the supplier was unable to correct the issue. A supplier selecting the point-of-use device option under Section 611.2363(a)(3) must document to the Agency certifying that the supplier maintains the point-of-use devices, unless the Agency issues a SEP waiving this requirement.

2) Replacing Lead-Bearing Plumbing Option. A small CWS or NTNCWS supplier implementing the option of replacing all lead-bearing plumbing under Section 611.2363(a)(4) must certify to the Agency that the supplier replaced all lead-bearing material on the schedule the Agency establishes in a SEP within one year after designating the option under Section 611.2363(a)(4).

BOARD NOTE: This Section derives from 40 CFR 141.90.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2361 Recordkeeping

Any supplier subject to this Subpart G must retain original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, Agency determinations, and any other information Sections 611.2351 through 611.2360, 611.2362, and 611.2363 require. Each supplier must retain the records this Section requires on its premises for at least 12 years.

BOARD NOTE: This Section derives from 40 CFR 141.91.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2362 Monitoring for Lead in Schools and Childcare Facilities

A CWS supplier must conduct directed public education and lead monitoring at those schools and childcare facilities it serves that were constructed prior to January 1, 2014. A supplier must sample for lead at elementary schools and childcare facilities it serves once and afterwards on request of the school or facility. The supplier must also sample for lead at secondary schools it serves on request. This Section does not apply to a school or childcare facility that is a regulated PWS. This subsection (a) applies until the supplier samples all the elementary schools and childcare facilities it serves once under subsection (c). After sampling all elementary schools and childcare facilities, the supplier must comply with subsection (g).

a) Public Education to Schools and Childcare Facilities

1) Before the compliance date Section 611.2350(a)(3) specifies, a supplier must compile a list of schools and childcare facilities the supplier serves.

2) A supplier must contact elementary schools and childcare facilities the supplier listed under subsection (a)(1):

A) The supplier must annually or more frequently provide information about health risks from lead in drinking water that complies with Section 611.2355(a);

B) Notice that the supplier must sample for lead at elementary schools and childcare facilities, including certain information:

i) A proposed schedule for sampling at the facility;

ii) Information about sampling for lead in schools and childcare facilities; and

BOARD NOTE: USEPA has guidance available from USEPA, National Center for Environmental Publications: "3Ts for Reducing Lead in Drinking Water in Schools and Childcare Facilities: A Training, Testing, and Taking Action Approach, Revised Manual" (October 2018), USEPA, Office of Water, doc. no. EPA 815-B-18-007 (search: "815B18007") and "U.S. EPA 3Ts Program Training, Testing & Taking Action: Lead Sample Collection Field Guide for Schools and Childcare Facilities" (July 2022), USEPA, Office of Water, doc. no. EPA 815-F-22-009 (search: "815F22009") or subsequent EPA guidance.

iii) Instructions for identifying sampling outlets and preparing for a sampling event 30 days prior to the event.

3) The supplier must document under Section 611.2360(i) if an elementary school or childcare facility fails to respond or otherwise declines to participate in monitoring or education under this Section. Under this Section, a school or childcare facility fails to respond after the supplier makes at least two separate good faith attempts to contact the facility to schedule sampling and receives no response.

4) The supplier must annually or more frequently contact all secondary schools it listed under subsection (a)(1) to provide information on health risks from lead in drinking water and how to request lead sampling under subsection (g)(1).

b) Lead Sampling in Schools and Childcare Facilities

1) The supplier must collect five samples per school and two samples per childcare facility at outlets typically used for consumption. Except as subsections (b)(1)(A) through (b)(1)(D) provide otherwise, the outlets must not have a POU device. The supplier must sample at specific locations:

A) For schools: two drinking water fountains, one kitchen faucet persons use for preparing food or drink, one classroom faucet or other outlet persons use for drinking, and one nurse's office faucet, as available.

B) For childcare facilities: one drinking water fountain and one of either a kitchen faucet persons use for preparing food or drink or one classroom faucet or other outlet persons use for drinking.

C) If any school or facility has fewer than the required number of outlets, the supplier must sample all outlets persons use for consumption.

D) The supplier may sample at outlets having POU devices if the school or facility has POU devices installed on all outlets persons typically use for consumption.

E) If any school or facility does not contain the type of faucet listed above, the supplier must collect a sample from another outlet the school or facility identifies as one persons typically use for consumption.

F) The supplier must collect all samples from cold water taps fulfilling specific additional requirements:

i) All samples for lead must be first-draw samples;

ii) All samples must be 250 ml in volume;

iii) The water must remain stationary in the sampling site's (building's) plumbing system for at least eight but no more than 18 hours before sampling; and

iv) The supplier must acidify samples and analyze them using the analytical methods in Section 611.2359.

2) Appropriately trained personnel of the water system, school, or childcare facility or another appropriately trained person may collect samples under subsection (b)(1).

c) Sampling Frequency at Elementary Schools and Childcare Facilities

1) Annually, or on an alternative Agency-approved schedule, the supplier must collect samples from no fewer than 20 percent of elementary schools and 20 percent of childcare facilities the supplier serves, until the supplier samples all schools and childcare facilities it listed under subsection (a)(1) that did not decline to participate. Under this Section, a supplier may count an elementary school or childcare facility failing to respond or otherwise declining to participate as part of its annual 20 percent minimum.

2) A supplier must sample all elementary schools and childcare facilities it serves at least once in the five years following the compliance date under Section 611.2350(a)(1)(A).

3) After a supplier completes one required cycle of sampling in all elementary schools and childcare facilities it serves, the supplier must sample at the request of any elementary school or childcare facility under subsection (g).

4) A supplier must sample at the request of a secondary school under subsection (g). If a supplier receives requests from more than 20 percent of secondary schools it listed under subsection (a)(1) in any of the five years following the compliance date under Section 611.2350(a)(1)(A), the supplier may schedule the requests exceeding 20 percent for the following year, and the supplier needs not sample an individual secondary school more than once during the five-years.

d) Alternative School and Childcare Lead Sampling Programs

1) If a CWS supplier conducts mandatory sampling for lead in drinking water for schools and childcare facilities the supplier serves under another State or local law or program, the Agency may issue a SEP exempting the supplier from duplicative requirements under this Section:

A) If the sampling under that State or local law or program is consistent with subsections (b) and (c);

B) If the sampling under that State or local law or program is consistent with subsections (b)(1)(A) through (b)(1)(F) and (c) and the sampling is coupled with certain remediation actions:

i) Disconnecting affected fixtures;

ii) Replacing affected fixtures with fixtures certified lead-free as Section 611.126(j) requires; or

iii) Installing POU devices;

C) If the sampling under that State or local law or program occurs in schools and childcare facilities the supplier serves less frequently than once every five years, and the sampling is coupled with any of the remediation actions in subsection (d)(1)(B); or

D) If the sampling is conducted under a voluntary school and childcare program lead testing grant awarded under section 1464(d) of SDWA (42 U.S.C. 300j-24(d)), consistent with the requirements of the grant.

2) The term of the waiver may not exceed the duration of the mandatory or voluntary sampling, and the waiver must automatically expire at the end of any 12-month period during which sampling does not occur at the required number of schools or childcare facilities.

3) The Agency may issue a SEP granting the supplier a partial waiver if the sampling covers only a subset of the schools or childcare facilities the supplier serves as it listed under subsection (a)(1).

4) The Agency may issue a SEP granting a waiver applicable to more than one supplier (e.g., one waiver for all suppliers subject to a statewide sampling program complying with subsection (d)).

e) Confirming or Revising Schools and Childcare Facilities in Inventory. At least once every five years, a supplier must either confirm that the list it assembled under subsection (a)(1) of schools and childcare facilities it serves has not changed or submit a revised list.

f) Notice of results.

1) A supplier must provide analytical results to the school or childcare facility as soon as practicable but no later than 30 days after receiving them with information about remediation options.

2) A supplier must annually provide analytical results:

A) To the local and State health departments; and

B) To the Agency under Section 611.2360(i).

g) Lead Sampling in Schools and Childcare Facilities on Request

1) A supplier must contact schools and childcare facilities the supplier identified under subsection (a)(1) at least annually to provide:

A) Information about health risks from lead in drinking water;

B) Information about how to request sampling for lead at the facility; and

C) Information about sampling for lead in schools and childcare facilities.

BOARD NOTE: USEPA has guidance available from USEPA, National Center for Environmental Publications: "3Ts for Reducing Lead in Drinking Water in Schools and Childcare Facilities: A Training, Testing, and Taking Action Approach, Revised Manual" (October 2018), USEPA, Office of Water, doc. no. EPA 815-B-18-007 (search: "815B18007") and "U.S. EPA 3Ts Program Training, Testing & Taking Action: Lead Sample Collection Field Guide for Schools and Childcare Facilities" (July 2022), USEPA, Office of Water, doc. no. EPA 815-F-22-009 (search: "815F22009") or subsequent EPA guidance.

2) A supplier must conduct sampling under subsection (b) when the school or facility requests, and the supplier must provide information to the facility:

A) Instructions for identifying outlets for sampling and preparing for sampling at least 30 days before it occurs; and

B) Results as subsection (f) requires.

3) If a supplier receives requests from more than 20 percent of the schools and childcare facilities the supplier listed under subsection (a)(1) in a given year, the supplier may schedule sampling for those exceeding 20 percent for the following year. A supplier needs not sample an individual school or childcare facility more than once every five years.

4) The Agency may issue a SEP exempting a CWS supplier from this Section by issuing a written waiver under subsection (d) if the supplier conducts voluntary sampling for lead in drinking water complying with this Section at schools and childcare facilities the supplier serves.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.2363 Small Supplier Compliance Flexibility

This section gives compliance flexibility options applying to a small CWS supplier serving 10,000 or fewer persons or an NTNCWS supplier. A CWS or NTNCWS supplier having corrosion control treatment in place must continue operating and maintaining OCCT until the Agency issues a SEP determining this no longer necessary, and the supplier must comply with any conditions the Agency are appropriate before implementing an Agency-approved compliance flexibility option under this Section.

a) A small CWS or NTNCWS supplier exceeding the lead trigger level but neither the lead nor copper action level must collect samples for water quality parameters under Section 611.2357(b), evaluate compliance flexibility options under subsections (a)(1) through (a)(4), and recommend a compliance flexibility option to the Agency within six months of the end of the tap sampling period in which the exceedance occurred. When recommending to the Agency, the supplier must comply with Section 611.2382(a)(1). The Agency must either approve the supplier's recommended compliance flexibility option or designate an alternative under subsections (a)(1) through (a)(4) within six months after the supplier recommends an option. If the supplier subsequently exceeds the lead action level, the supplier must implement the Agency-approved compliance flexibility option under subsection (b). A supplier must select one from among specific compliance flexibility options:

1) Replacing Lead Service Lines. A supplier must implement a program for full lead service line replacement on an Agency-approved schedule not exceeding 15 years. The supplier must begin replacing lead service lines within one year after the Agency approves or designates this compliance flexibility option.

A) The supplier must replace lead service lines complying with Section 611.2354(e) and (g)(4), (g)(8), and (g)(9).

B) The supplier must continue replacing lead service lines even if the supplier's 90th percentile lead concentration is at or below the lead action level in future tap monitoring periods.

C) The supplier must have no lead, galvanized requiring replacement, or lead status unknown service lines in its inventory before ending its lead service line replacement program.

2) Corrosion Control Treatment. A supplier must install and maintain OCCT under Sections 611.2351 and 611.2352, even if its 90th percentile concentration is at or below the lead action level in future tap monitoring periods. A supplier having installed corrosion control treatment must re-optimize its corrosion control treatment under Section 611.2351(d). A supplier the Agency requires to optimize or re-optimize corrosion control treatment must follow the appropriate schedule in Section 611.2351(d) or (e), beginning with Step 3 in Section 611.2351(d)(3) or (e)(3), unless the Agency specifies OCCT under the applicable of Section 611.2351(d)(2)(B) or (e)(2).

3) Point-of-Use Devices. A supplier must continue installing, maintaining, and monitoring POU devices in each household or building it serves even if its 90th percentile lead concentration is at or below the action level in future tap monitoring periods.

A) Schedule for Installing POU Devices

i) A CWS supplier must install a minimum of one POU device (at one tap) in every household and at every tap persons use for cooking or drinking in every non-residential building the supplier serves on a schedule not exceeding one year the Agency specifies in a SEP.

ii) An NTNCWS supplier must provide a POU device to every tap persons use for cooking or drinking on a schedule not exceeding three months the Agency specifies in a SEP.

B) A third party must independently certify the POU device to meet the American National Standards Institute standard applying to the specific type of POU unit for reducing lead in drinking water.

C) The supplier must maintain each POU device according to its manufacturer's recommendations to ensure the POU device continues effectively filtering, including changing filter cartridges and resolving any operational issues. The POU devices must have mechanical warnings ensuring automatic notice to customers of operational problems. The supplier must certify to the Agency under Section 611.2360(j)(1) that it maintains the POU devices, unless the Agency issues a SEP waiving this requirement.

D) The supplier must monitor one-third of the POU devices each year and all POU devices within a three-year cycle. The supplier must collect first draw tap samples under this Section after water passes through the POU device to assess its performance. Samples must be one-liter in volume and have had a minimum six-hour stagnation time. Results from all samples must not exceed the lead trigger level. The supplier must report its tap sampling results no later than 10 days after the end of the tap monitoring period under Section 611.2360(j)(1). The supplier must document the problem and take corrective action at any site exceeding the lead trigger level. If a site exceeds the lead trigger level, the supplier must reach out to the homeowner or building manager or, if applicable, both no later than 24 hours after receiving the tap sample results. The supplier must complete the corrective action within 30 days.

If the supplier does not complete the corrective action within 30 days, the supplier must document to the Agency within 30 days explaining why the supplier was unable to correct the issue.

E) The supplier must provide public education to consumers under Section 611.2355(j) informing them how to properly use POU devices to maximize their effectiveness in reducing lead concentrations.

F) The supplier must operate and maintain the POU devices until the Agency approves another compliance flexibility option, and supplier implements it.

4) Replacing Lead-Bearing Plumbing. A supplier controlling all plumbing in buildings the supplier serves and having no lead status unknown, galvanized requiring replacement, or lead service lines must replace all plumbing that is not lead free as Section 611.126(c) defines the term when the supplier replaces it. Replacing all lead-bearing plumbing must occur on a schedule not exceeding one year as established by the Agency in a SEP. The supplier must certify to the Agency that it has replaced all lead-bearing material under Section 611.2360(j)(2).

b) Implementing a Compliance Option after Exceeding an Action Level

1) A supplier exceeding the lead action level after exceeding the lead trigger level but not exceeding the copper action level must implement the compliance option the Agency approved under subsection (a).

2) A supplier exceeding the lead action level but not the copper action level and not previously exceeding the lead trigger level must comply with subsection (a) and implement the compliance option the Agency approved under subsection (a).

3) A supplier exceeding the lead trigger level after implementing a compliance option the Agency approved under subsection (a) must complete the steps in subsection (a). If the supplier later exceeds the lead action level, the supplier must implement the compliance option the Agency approved under subsection (a).

(Source: Added at 50 Ill. Reg. _____, effective _____)

SUBPART AZ: PER-AND POLYFLUOROALKYL SUBSTANCES (PFAS)

Section 611.7900 General Requirements

a) The requirements of this subpart constitute the national primary drinking water regulations (NPDWRs) for PFAS. Each CWS and NTNCWS supplier must meet the requirements of this subpart including the maximum contaminant levels for the PFAS identified in Section 611.311(c).

b) The deadlines for complying with the provisions of this subpart are as follows:

1) Each supplier must meet the analytical requirements in Section 611.7901 within 30 days of the effective date of this Subpart.

2) Each supplier must report the results of initial monitoring, as described in Section 611.7902 (b)(1), to the Agency by April 26, 2027.

3) Each supplier must meet the compliance monitoring requirements in Section 611.7902(b)(2) by April 26, 2027.

4) Each supplier must meet the MCL compliance requirements in Section 611.7903 by April 26, 2029.

5) Each supplier must meet the reporting and recordkeeping requirements in Section 611.7904 by April 26, 2027.

6) Violations described in Section 611.7905 include monitoring and reporting violations and violations of MCLs. Monitoring and reporting violations may be assessed beginning on April 26, 2027. MCL violations may be assessed beginning on April 26, 2029.

BOARD NOTE: This Section derives from 40 CFR 141.900.

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.7901 Analytical Requirements

a) General.

1) Suppliers must use only the analytical methods this Section specifies, each incorporated by reference in Section 611.102, to demonstrate compliance with the requirements of this Subpart AZ.

2) The following documents are incorporated by reference with the approval of USEPA in compliance with 5 U.S.C. 552(a) and 1 CFR part 51. This material is available for inspection at the EPA and at the National Archives and Records Administration (NARA). Contact the USEPA's

Drinking Water Docket at: 1301 Constitution Avenue NW., EPA West, Room 3334, Washington, DC 20460; phone: 202-566-2426. For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations. The material may be obtained from the USEPA at 1301 Constitution Avenue NW, the EPA West, Room 3334, Washington, DC 20460; phone: 202-566-2426; website: https://www.epa.gov/pfas/epa-pfas-drinking-water-laboratory-methods.

A) EPA Method 533: Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry, 815-B-19-020, November 2019.

B) Method 537.1, Version 2.0: Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), EPA/600/R-20/006, March 2020.

b) PFAS

1) Analytical methods. Suppliers must measure regulated PFAS by the methods listed in the following Table 1:

Section 611.7901(b)(1) Table 1: Analytical Methods for PFAS Contaminants

Contaminant	Methodology	Incorporated by Reference (see subsection (a))
Perfluorobutane Sulfonate (PFBS)	SPE LC-MS/MS	533, 537.1, version 2.0.
Perfluorohexane Sulfonate (PFHxS)	SPE LC-MS/MS	533, 537.1, version 2.0.
Perfluorononanoate (PFNA)	SPE LC-MS/MS	533, 537.1, version 2.0.
Perfluorooctanesulfonic Acid (PFOS)	SPE LC-MS/MS	533, 537.1, version 2.0.
Perfluorooctanoic Acid (PFOA)	SPE LC-MS/MS	533, 537.1, version 2.0.
2,3,3,3-Tetrafluoro-2-(heptafluoropropoxy)propanoate (HFPO-DA or GenX Chemicals)	SPE LC-MS/MS	533, 537.1, version 2.0.

2) Laboratory certification. Analyses under this Section for regulated PFAS must only be conducted by laboratories that have been certified by USEPA or the Agency. To receive certification to conduct analyses for the regulated PFAS, the laboratory must:

A) Analyze Performance Evaluation (PE) samples that are acceptable to the Agency at least once during each consecutive 12-month period by each method for which the laboratory desires certification.

B) Within 30 days of the effective date of this Subpart AZ, achieve quantitative results on the PE sample analyses that are within the following acceptance limits:

Section 611.7901(b)(2)(B) Table 1: Acceptance Limits for PFAS Performance Evaluation Samples

Contaminant	Acceptance limit (percent of true value)
Perfluorobutane Sulfonate (PFBS)	70-130
Perfluorohexane Sulfonate (PFHxS)	70-130
Perfluorononanoate (PFNA)	70-130
Perfluorooctanesulfonic Acid (PFOS)	70-130
Perfluorooctanoic Acid (PFOA)	70-130
2,3,3,3-Tetrafluoro-2-(heptafluoropropoxy) propanoate (HFPO-DA or GenX Chemicals)	70-130

C) For all samples analyzed for regulated PFAS in compliance with Section 611.7902, report data for concentrations as low as the trigger levels as defined in Section 611.7902(a)(5).

BOARD NOTE: This Section derives from 40 CFR 141.901

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.7902 Monitoring Requirements

a) General requirements

1) Suppliers must take all samples during normal operating conditions at all entry points to the distribution system.

2) If the supplier draws water from more than one source and the sources are combined before distribution, the supplier must sample at an entry point to the distribution system during periods of representative operating conditions.

3) Suppliers must use only data collected under the provisions of this Subpart AZ to qualify for reduced monitoring.

4) All new suppliers that begin operation after, or suppliers that use a new source of water after April 26, 2027, must demonstrate compliance with the MCLs within a period of time specified by the Agency. A supplier must also comply with initial sampling frequencies required by the Agency to ensure the supplier can demonstrate compliance with the MCLs. Compliance monitoring frequencies must be conducted in compliance with this Section.

5) For purposes of this Section, the trigger levels are defined as shown in the following Table 1.

Section 611.7902 (a)(5) TABLE 1: Trigger Levels for PFAS Contaminants

Contaminant	Trigger Level
Hazard Index PFAS (HFPO-DA, PFBS, PFHxS, PFNA)	0.5 (unitless)
HFPO-DA	5 nanograms per liter (ng/l).
PFHxS	5 ng/l.
PFNA	5 ng/l.
PFOA	2.0 ng/l.
PFOS	2.0 ng/l.

6) Based on initial monitoring results, for each sampling point at which a regulated PFAS listed in Section 611.311(c) is detected at a level greater than or equal to the trigger level, the supplier must monitor quarterly for all regulated PFAS beginning April 26, 2027, in compliance with subsection (b)(2).

7) For the purposes of this section, each water supplier must ensure that all results provided by a laboratory are reported to the Agency and used for determining the required sampling frequencies. This includes values below the practical quantitation levels defined in Section 611.7903 (f)(1)(D); zero must not be used in place of reported values.

b) Monitoring requirements for PFAS

1) Initial monitoring.

A) Groundwater CWS and NTNCWS suppliers serving greater than 10,000 persons and all surface water CWS and NTNCWS suppliers must take four consecutive samples 2 to 4 months apart within a 12-month period (quarterly samples) for each regulated PFAS listed in Section 611.311(c).

B) All groundwater CWS and NTNCWS suppliers serving 10,000 or fewer persons must take two samples for each regulated PFAS listed in Section 611.311(c) five to seven months apart within a 12-month period.

C) All groundwater under the direct influence of surface water (GWUDI) CWS and NTNCWS suppliers must follow the surface water CWS and NTNCWS supplier monitoring schedule in subsection (b)(1)(A).

D) All suppliers that use both surface water and groundwater must apply the requirements in subsections (b)(1)(A) through (C) depending on the source(s) of water provided at a given entry point to the distribution system (EPTDS). If the EPTDS provides surface water, the requirements for a surface water CWS/NTNCWS supplier apply. If the EPTDS provides groundwater, the requirements for a groundwater CWS/NTNCWS supplier apply, based on supplier size. If an EPTDS provides a blend of surface water and groundwater, the requirements for a surface water system apply. For suppliers that change the source water type at an EPTDS during the initial monitoring period (i.e., one part of the year it is surface water and the remaining part of the year it is groundwater), the sampling requirements for a surface water supplier apply.

E) Suppliers must monitor at a frequency indicated in the following table, though the Agency may require more frequent monitoring on a supplier specific basis:

Section 611.7902(b)(1)(E) TABLE 1 Initial Monitoring Requirements

Type of System	Minimum Monitoring Frequency	Sample Location
Groundwater CWS and NTNCWS suppliers serving greater than 10,000 persons, all surface water CWS and NTNCWS suppliers, and all GWUDI suppliers	Four consecutive quarters of samples per entry point to the distribution system (EPTDS) within a 12-month period, unless the exception in subsection (b)(1)(H) applies. Samples must be taken two to four months apart.	Sampling point for EPTDS
Groundwater CWS and NTNCWS suppliers serving 10,000 or fewer persons	Two consecutive samples per EPTDS within a 12-month period, unless the exception in subsection (b)(1)(H) applies. Samples must be taken five to seven months apart.	Sampling point for EPTDS .

F) The Agency may accept data previously acquired by a supplier to count toward the initial monitoring requirements if the data meets the requirements of Section 611.7901(b)(1), samples were collected starting on or after January 1, 2019, and otherwise meet the timing requirements specified in table 1 to subsection (b)(1)(E). For the purposes of satisfying initial monitoring requirements, acceptable data may be reported to a concentration no greater than the MCLs. However, a supplier is only eligible for triennial monitoring at the start of the compliance monitoring period if the supplier demonstrates that concentrations in all samples it uses to satisfy the initial monitoring requirements are below the trigger levels defined in subsection (a)(5).

G) If suppliers have multiple years of data, the most recent data must be used.

H) For suppliers using previously acquired data that have fewer than the number of samples required in a continuous 12-month period for initial monitoring as listed in table 1 to subsection (b)(1)(E): All surface water suppliers, GWUDI suppliers, and groundwater suppliers serving greater than 10,000 persons must collect in a calendar year one sample in each quarter that was not represented, two to four months apart from the months with available data; All groundwater suppliers serving 10,000 or fewer persons must collect one sample in the month that is five to seven months apart from the month in which the previous sample was taken.

I) In determining the most recent data to report, a supplier must include all results provided by a laboratory whether above or below the practical quantitation levels. These results must be used for the purposes of determining the frequency with which a supplier must monitor at that sampling point at the start of the compliance monitoring period.

J) The Agency may delete results of obvious sampling errors. If the Agency deletes a result because of an obvious sampling error and the supplier fails to collect another sample this is a monitoring violation described in Section 611.7905(c).

K) Initial monitoring requirements, including reporting results to the Agency, must be completed by April 26, 2027.

2) Compliance Monitoring

A) Based on initial monitoring results, at the start of the monitoring period that begins on April 26, 2027, suppliers may reduce monitoring at each sampling point at which all reported sample concentrations were below all trigger levels defined in subsection (a)(5), unless otherwise provided for by the Agency. At eligible sampling points, each supplier must analyze one sample for all regulated PFAS during each three-year monitoring period, at a time specified by the Agency, in the quarter in which the highest analytical result was detected during the most recent round of quarterly or semi-annual monitoring. If a sampling point is not eligible for triennial monitoring, then the supplier must monitor quarterly at the start of the compliance monitoring period.

B) If, during the compliance monitoring period, a supplier is monitoring triennially and a PFAS listed in Section 611.311(c) is detected at a level equal to or exceeding the trigger levels defined in subsection (a)(5) in any sample, then the supplier must monitor quarterly for all regulated PFAS beginning in the next quarter at the sampling point. The triggering sample must be used as the first quarter of monitoring for the running annual average calculation.

C) For all source water types, the Agency may determine that all regulated PFAS at a sampling point are reliably and consistently below the MCL after considering, at a minimum, four consecutive quarterly samples collected during the compliance monitoring period. A sampling point that the Agency has determined to be reliably and consistently below the MCL is required to collect annual samples for at least the first three years after that determination is made. Annual samples must be collected in the quarter in which detected concentrations were highest during the most recent year of quarterly monitoring. If, after three consecutive years, annual samples all contain results that are below the trigger levels defined in subsection (a)(5), the Agency may allow a supplier to begin triennial monitoring at the sampling point. The supplier must collect triennial samples in the quarter with the highest concentrations during the most recent round of quarterly sampling. If an annual sample meets or exceeds an MCL or the Agency determines that the result is not reliably and consistently below the MCL for all regulated PFAS, then the supplier must monitor quarterly for all regulated PFAS beginning in the next quarter at the sampling point.

D) The three different compliance monitoring sampling schedules that may be assigned and the criteria for each are summarized in the following table:

Section 611.7902 (b)(2)(D) TABLE 1: Compliance Monitoring Schedules and Requirements

Sampling Frequency	Eligibility Requirements[1]	Sample Timing Requirements
Triennial	At an individual sampling point, either:	Sample must be collected at a time within the three-year period designated by

	(1) All initial monitoring results demonstrate concentrations of all regulated PFAS below trigger levels; (2) The most recent three consecutive annual monitoring results all demonstrated concentrations of all regulated PFAS below trigger levels; or (3) The previous triennial sample demonstrated all regulated PFAS concentrations below trigger levels.. Note: After beginning compliance monitoring, a supplier may not transition directly from quarterly monitoring to triennial monitoring…	the Agency, in the quarter that yielded the highest analytical result during the most recent round of quarterly sampling (or the most recent semi-annual sampling, if no quarterly sampling has occurred).
Annual	The Agency makes a determination that all regulated PFAS concentrations at the sampling point are reliably and consistently below PFAS MCLs, after considering, at a minimum, 4 consecutive quarterly samples collected during the compliance monitoring period.	Sample must be collected at a time designated by the Agency, within the quarter that yielded the highest analytical result during the most recent round of quarterly sampling.
Quarterly	At an individual sampling point, either: (1) Any regulated PFAS concentration meets or exceeds a trigger level during initial monitoring; (2) Sampling is occurring quarterly during compliance monitoring and the Agency has not made a determination that all levels of regulated PFAS at the sampling point are reliably and consistently below the regulated PFAS MCLs; or (3) A sample collected by a supplier required to conduct triennial monitoring contains regulated PFAS concentrations that meet or exceed trigger levels. The first of	Samples must be collected in four consecutive quarters, on dates designated by the Agency.

	these samples meeting or exceeding the trigger level is considered the first quarterly sample. (4) A sample collected by a supplier required to conduct annual monitoring contains regulated PFAS concentrations that meet or exceed an MCL. The first of these samples meeting or exceeding the MCL is considered the first quarterly sample.	
[1] The monitoring frequency at a sampling point must be the same for all regulated PFAS and is determined based on the most frequent sampling required for any regulated PFAS detected at a level at or exceeding the trigger level.		

E) The Agency may require a confirmation sample for any sampling result. If a confirmation sample is required by the Agency, the supplier must average the result with the first sampling result and the average must be used for the determination of compliance with MCLs as specified by Section 611.7903. The Agency may delete results of obvious sampling errors from the MCL compliance calculations described in Section 611.7903. If the Agency deletes a result because of an obvious sampling error and the supplier fails to collect another sample this is a monitoring violation as described in Section 611.7905(c).

F) The Agency may increase the required monitoring frequency, where necessary, to detect variations within the supplier's system (e.g., fluctuations in concentration due to seasonal use, changes in water source).

G) Each supplier must monitor at the time designated by the Agency within each monitoring period.

H) When a supplier reduces its sampling frequency to annual or triennial sampling, the next compliance sample must be collected in the monitoring period that begins the calendar year following Agency approval of a reduction in monitoring frequency.

BOARD NOTE: This Section derives from 40 CFR 141.902

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.7903 Compliance Requirements

a) Compliance with MCLs for regulated PFAS in Section 611.311(c) must be determined based on the analytical results obtained at each sampling point.

b) For suppliers monitoring quarterly, compliance with the MCL is determined by the running annual average at each sampling point.

c) If a supplier fails to collect the required number of samples specified in Section 611.7902, this is a monitoring violation as described in Section 611.7905(c), and compliance calculations must be based on the total number of samples collected.

d) Suppliers monitoring triennially whose sample result equals or exceeds the trigger level of 2.0 ng/l for either PFOS or PFOA, 5 ng/l for HFPO-DA, PFHxS, or PFNA, or a Hazard Index of 0.5 for the Hazard Index PFAS, must begin quarterly sampling for all regulated PFAS in the next quarter at the sampling point. Suppliers monitoring annually whose sample result equals or exceeds the MCL of 4.0 ng/l for either PFOS or PFOA, 10 ng/l for HFPO-DA, PFHxS, or PFNA, or a Hazard Index of 1 for the Hazard Index PFAS, must begin quarterly sampling for all regulated PFAS in the next quarter at the sampling point.

e) Except as provided in this subsection (e), if a sample result exceeds an MCL, the supplier will not be considered in violation of the MCL until it has completed one year of quarterly sampling at the sampling point with the triggering sample used as the first quarter of monitoring for the running annual average calculation. However, whenever a sample result in any quarter (or quarterly average, if more than one compliance sample is available in a quarter because a confirmation sample was required by the Agency) causes the running annual average to exceed the MCL at a sampling point regardless of the subsequent quarterly monitoring results required to complete a full year of monitoring (e.g., the results from a single sample are more than 4 times the MCL), the supplier is out of compliance with the MCL immediately.

f) Suppliers must calculate compliance using the following method to determine MCL compliance at each sampling point:

1) For each PFAS regulated by an individual MCL:

A) For suppliers monitoring quarterly, divide the sum of the measured quarterly concentrations for each analyte by the number of quarters samples were collected for that analyte during the consecutive quarters included in the calculation. If more than one compliance sample for that analyte is available in a quarter because a confirmation sample was required by the Agency, suppliers must

average all the results in a quarter then average the quarterly averages. Rounding does not occur until the end of the calculation. If the running annual average exceeds the MCL, the supplier is not in compliance with the MCL requirements.

B) For suppliers monitoring annually, if the concentration measured is equal to or exceeds an MCL for regulated PFAS, the supplier is required to initiate quarterly monitoring for all regulated PFAS beginning in the next quarter at the sampling point, with the triggering sample result used as the first quarter of monitoring for the running annual average calculation.

C) For suppliers monitoring triennially, if the concentration measured is equal to or exceeds the trigger level, the supplier is required to initiate quarterly monitoring for all regulated PFAS beginning in the next quarter at the sampling point, with the triggering sample result used as the first quarter of monitoring for the running annual average calculation.

D) For the purpose of calculating MCL compliance, if a sample result is less than the practical quantitation level (PQL) for a regulated PFAS, in compliance with the following table, zero is used for that analyte solely to calculate the running annual average.

Section 611.7903 (f)(1)(D) Practical Quantitation Levels (PQLS) For PFAS Contaminant

Contaminant	PQL (in parts per trillion)
HFPO-DA	5.0
PFBS	3.0
PFHxS	3.0
PFNA	4.0
PFOA	4.0
PFOS	4.0

2) For each PFAS regulated under the Hazard Index MCL:

A) For suppliers monitoring quarterly, divide the observed sample analytical result for each analyte included in the Hazard Index by the corresponding HBWC listed in Section 611.311(c) to obtain a hazard quotient for each analyte for each sampling event at each sampling point. Sum the resulting hazard quotients together to determine the Hazard Index for the quarter. If the Agency requires a confirmation sample for an analyte in the quarter, suppliers must average these results for each analyte in that quarter and then determine the hazard quotient(s) from those average values, then sum the hazard quotients. Once the Hazard Indices for the individual quarters are calculated, they are averaged to determine a running annual average. If the running annual average Hazard Index exceeds the MCL and two or more Hazard Index analytes had an observed sample analytical result at or above the PQL in any of the quarterly samples collected to determine the running annual average, the supplier is in violation of the Hazard Index MCL. No rounding occurs until after the running annual average Hazard Index is calculated.

B) If the Hazard Index calculated using the results of an annual sample equals or exceeds the Hazard Index MCL, the supplier must initiate quarterly sampling for all regulated PFAS beginning in the next quarter at the sampling point, with the triggering sample result used as the first quarter of monitoring.

C) If the Hazard Index calculated using the results of a triennial sample equals or exceeds the Hazard Index trigger level, the supplier must initiate quarterly sampling for all regulated PFAS beginning in the next quarter at the sampling point, with the triggering sample result used as the first quarter of monitoring.

D) If a sample result is less than the practical quantitation level for a regulated PFAS, in compliance with the table 1 to subsection (f)(1)(D), zero is used for that analyte solely to calculate the running annual average.

BOARD NOTE: This Section derives from 40 CFR 141.903

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.7904 Reporting and Recordkeeping Requirements

Suppliers required to sample must report to the Agency according to the timeframes and provisions of Section 611.840 and retain records according to the provisions in Section 611.860.

a) Suppliers must report the information from initial monitoring specified in the following table:

Section 611.7904(a) Table 1: Data to Report from Initial Monitoring

If you are a . . .	You must report . . .
Supplier monitoring for regulated PFAS under the requirements of Section 611.7902(b)(1) on a quarterly basis.	1. All sample results, including the locations, number of samples taken at each location, dates, and concentrations reported. 2. Whether a trigger level, defined in Section 611.7902(a)(5), was met or exceeded in any samples.
Supplier monitoring for regulated PFAS under the requirements of Section 611.7902(b)(1) less frequently than quarterly.	1. All sample results, including the locations, number of samples taken at each location, dates, and concentrations reported. 2. Whether a trigger level, defined in Section 611.7902(a)(5), was met or exceeded in any samples.

b) Suppliers must report the information collected during the compliance monitoring period specified in the following table:

Section 611.7904(b) Table 1: Data to Report from Compliance Monitoring

If you are a . . .	You must report . . .
Supplier monitoring for regulated PFAS under the requirements of Section 611.7902(b)(2) on a quarterly basis.	1. All sample results, including the locations, number of samples taken at each location, dates, and concentrations during the previous quarter.

	2. The running annual average at each sampling point of all compliance samples. 3. Whether a trigger level, defined in Section 611.7902(a)(5), was met or exceeded in any samples. 4. Whether an MCL for a regulated PFAS in Section 611.311(c) was met or exceeded in any samples. 5. Whether, based on Section 611.7903, an MCL was violated.
Supplier monitoring for regulated PFAS under the requirements of Section 611.7902(b)(2) less frequently than quarterly.	1. All sample results, including the locations, number of samples taken at each location, dates, and concentrations during the previous monitoring period. 2. Whether a trigger level, defined in Section 611.7902(a)(5), was met or exceeded in any samples. 3. Whether an MCL for a regulated PFAS in Section 611.311(c) was met or exceeded in any samples. 4. Whether, based on Section 611.7903, an MCL was violated (e.g., the results from a single sample are more than 4 times the MCL).

BOARD NOTE: This Section derives from 40 CFR 141.904

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.7905 Violations

a) PFAS MCL violations, both for the individual PFOA, PFOS, HFPO-DA, PFHxS, and PFNA MCLs, as well as the Hazard Index MCL, as listed in Section 611.311(c), are based on a running annual average, as outlined under Section 611.7903.

b) Compliance with Section 611.311(c) must be determined based on the analytical results obtained at each sampling point. If one sampling point is in violation of an MCL, the supplier is in violation of the MCL.

c) Each failure to monitor in compliance with the requirements under Section 611.7902 is a monitoring violation.

d) Failure to notify the Agency following a MCL violation and failure to submit monitoring data in compliance with the requirements of Sections 611.7904 and 611.840 are reporting violations.

e) Results for PFAS with individual MCLs as listed in Section 611.311(c) are compared to their respective MCLs, and results for mixtures of two or more of the Hazard Index PFAS (HFPO-DA, PFBS, PFHxS, and PFNA) are compared to the Hazard Index MCL as listed in Section 611.311(c). For determining compliance with the Hazard Index MCL, if only PFBS is reported at any concentration and no other regulated PFAS are in the mixture, it is not a violation of the Hazard Index MCL. If only one of the other PFAS within the Hazard Index (HFPO-DA, PFHxS, or PFNA) is detected and the level of this PFAS exceeds its MCL as determined by Section 611.7903(f)(1)(A), only an individual MCL violation is assessed for the individual PFAS detected, and it is not a violation of the Hazard Index MCL. Exceedances of the Hazard Index caused by two or more of the Hazard Index PFAS (HFPO-DA, PFBS, PFHxS, or PFNA) and exceedances of one or more individual MCLs can result in multiple MCL exceedances. However, in this instance, for purposes of public notification under Section 611.APPENDIX G of this part, a PWS supplier must only report the Hazard Index MCL exceedance.

BOARD NOTE: This Section derives from 40 CFR 141.905

(Source: Added at 50 Ill. Reg. _____, effective _____)

Section 611.APPENDIX A Regulated Contaminants

Microbiological Contaminants

Contaminant (units): Total Coliform Bacteria
Traditional MCL in mg/ℓ: TT
To convert for CCR, multiply by: —
MCL in CCR units: TT
MCLG: N/A
Major sources in drinking water: Naturally present in the environment.
Health effects language: Use language found in Section 611.883(h)(7)(A)(i)

Contaminant (units): E. coli

Traditional MCL in mg/ℓ: Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli.
To convert for CCR, multiply by: —
MCL in CCR units: Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli.
MCLG: 0
Major sources in drinking water: Human and animal fecal waste.
Health effects language: 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 special health risk for infants, young children, the elderly, and people with severely-compromised immune systems.

Contaminant (units): Fecal Indicators (enterococci or coliphage).
Traditional MCL in mg/ℓ: TT.
To convert for CCR, multiply by: —
MCL in CCR units: TT.
MCLG: N/A
Major sources in drinking water: Human and animal fecal waste.
Health effects language: 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.

Contaminant (units): Total organic carbon (ppm)
Traditional MCL in mg/ℓ: TT
To convert for CCR, multiply by: —
MCL in CCR units: TT
MCLG: N/A
Major sources in drinking water: Naturally present in the environment.
Health effects language: 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 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.

Contaminant (units): Turbidity (NTU)
Traditional MCL in mg/ℓ: TT
To convert for CCR, multiply by: —
MCL in CCR units: TT
MCLG: N/A

Major sources in drinking water: Soil runoff.
Health effects language: 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.

Radioactive Contaminants

Contaminant (units): Beta/photon emitters (mrem/yr)
Traditional MCL in mg/ℓ: 4 mrem/yr
To convert for CCR, multiply by: —
MCL in CCR units: 4
MCLG: 0
Major sources in drinking water: Decay of natural and man-made deposits.
Health effects language: 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.

Contaminant (units): Alpha emitters (pCi/ℓ)
Traditional MCL in mg/ℓ: 15 pCi/ℓ
To convert for CCR, multiply by: —
MCL in CCR units: 15
MCLG: 0
Major sources in drinking water: Erosion of natural deposits.
Health effects language: 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.

Contaminant (units): Combined radium (pCi/ℓ)
Traditional MCL in mg/ℓ: 5 pCi/ℓ
To convert for CCR, multiply by: —
MCL in CCR units: 5
MCLG: 0
Major sources in drinking water: Erosion of natural deposits.
Health effects language: 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.

Contaminant (units): Uranium (µg/ℓ)
Traditional MCL in mg/ℓ: 30 µg/ℓ
To convert for CCR, multiply by: —
MCL in CCR units: 30
MCLG: 0

Major sources in drinking water: Erosion of natural deposits.
Health effects language: 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 Contaminants

Contaminant (units): Antimony (ppb)
Traditional MCL in mg/ℓ: 0.006
To convert for CCR, multiply by: 1000
MCL in CCR units: 6
MCLG: 6
Major sources in drinking water: Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
Health effects language: 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.

Contaminant (units): Arsenic (ppb)
Traditional MCL in mg/ℓ: 0.010
To convert for CCR, multiply by: 1000
MCL in CCR units: 50
MCLG: 0
Major sources in drinking water: Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Health effects language: 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.

Contaminant (units): Asbestos (MFL)
Traditional MCL in mg/ℓ: 7 MFL
To convert for CCR, multiply by: —
MCL in CCR units: 7
MCLG: 7
Major sources in drinking water: Decay of asbestos cement water mains; erosion of natural deposits.
Health effects language: 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.

Contaminant (units): Barium (ppm)
Traditional MCL in mg/ℓ: 2
To convert for CCR, multiply by: —
MCL in CCR units: 2
MCLG: 2

Major sources in drinking water: Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Health effects language: Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

Contaminant (units): Beryllium (ppb)
Traditional MCL in mg/ℓ: 0.004
To convert for CCR, multiply by: 1000
MCL in CCR units: 4
MCLG: 4
Major sources in drinking water: Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries.
Health effects language: Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.

Contaminant (units): Bromate (ppb)
Traditional MCL in mg/ℓ: 0.010
To convert for CCR, multiply by: 1000
MCL in CCR units: 10
MCLG: 0
Major sources in drinking water: By-product of drinking water disinfection.
Health effects language: Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant (units): Cadmium (ppb)
Traditional MCL in mg/ℓ: 0.005
To convert for CCR, multiply by: 1000
MCL in CCR units: 5
MCLG: 5
Major sources in drinking water: Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints.
Health effects language: Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.

Contaminant (units): Chloramines (ppm)
Traditional MCL in mg/ℓ: MRDL=4
To convert for CCR, multiply by: —
MCL in CCR units: MRDL=4
MCLG: MRDLG=4
Major sources in drinking water: Water additive used to control microbes.
Health effects language: Some people who drink 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.

Contaminant (units): Chlorine (ppm)
Traditional MCL in mg/ℓ: MRDL=4
To convert for CCR, multiply by: —
MCL in CCR units: MRDL=4
MCLG: MRDLG=4
Major sources in drinking water: Water additive used to control microbes.
Health effects language: Some people who drink 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.

Contaminant (units): Chlorine dioxide (ppb)
Traditional MCL in mg/ℓ: MRDL=800
To convert for CCR, multiply by: 1000
MCL in CCR units: MRDL=800
MCLG: MRDLG=800
Major sources in drinking water: Water additive used to control microbes.
Health effects language: Some infants and young children who drink water containing chlorine dioxide well 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.

Contaminant (units): Chlorite (ppm)
Traditional MCL in mg/ℓ: MRDL=1
To convert for CCR, multiply by: —
MCL in CCR units: MRDL=1
MCLG: MRDLG=0.8
Major sources in drinking water: By-product of drinking water disinfection.
Health effects language: Some infants and young children who drink water containing chlorite well 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.

Contaminant (units): Chromium (ppb)
Traditional MCL in mg/ℓ: 0.1
To convert for CCR, multiply by: 1000
MCL in CCR units: 100
MCLG: 100
Major sources in drinking water: Discharge from steel and pulp mills; erosion of natural deposits.
Health effects language: Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

Contaminant (units): Copper (ppm)

Traditional MCL in mg/ℓ: AL=1.3
To convert for CCR, multiply by: —
MCL in CCR units: AL=1.3
MCLG: 1.3
Major sources in drinking water: Corrosion of household plumbing systems; erosion of natural deposits.
Health effects language: 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.

Contaminant (units): Cyanide (ppb)
Traditional MCL in mg/ℓ: 0.2
To convert for CCR, multiply by: 1000
MCL in CCR units: 200
MCLG: 200
Major sources in drinking water: Discharge from steel/metal factories; discharge from plastic and fertilizer factories.
Health effects language: 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.

Contaminant (units): Fluoride (ppm)
Traditional MCL in mg/ℓ: 4
To convert for CCR, multiply by: —
MCL in CCR units: 4
MCLG: 4
Major sources in drinking water: Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Health effects language: 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 or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

Contaminant (units): Lead (ppb)
Traditional MCL in mg/ℓ: AL=0.010~~AL=0.015~~
To convert for CCR, multiply by: 1000
MCL in CCR units: AL=10~~AL=15~~
MCLG: 0
Major sources in drinking water: Corrosion of household plumbing systems and service lines connecting buildings to water mains,~~;~~ erosion of natural deposits.

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

Contaminant (units): Mercury (inorganic) (ppb)
Traditional MCL in mg/ℓ: 0.002
To convert for CCR, multiply by: 1000
MCL in CCR units: 2
MCLG: 2
Major sources in drinking water: Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland.
Health effects language: Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

Contaminant (units): Nitrate (ppm)
Traditional MCL in mg/ℓ: 10
To convert for CCR, multiply by: —
MCL in CCR units: 10
MCLG: 10
Major sources in drinking water: Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Health effects language: 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.

Contaminant (units): Nitrite (ppm)
Traditional MCL in mg/ℓ: 1
To convert for CCR, multiply by: —
MCL in CCR units: 1
MCLG: 1
Major sources in drinking water: Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Health effects language: 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.

Contaminant (units): Selenium (ppb)
Traditional MCL in mg/ℓ: 0.05
To convert for CCR, multiply by: 1000
MCL in CCR units: 50
MCLG: 50
Major sources in drinking water: Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Health effects language: 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.

Contaminant (units): Thallium (ppb)
Traditional MCL in mg/ℓ: 0.002
To convert for CCR, multiply by: 1000
MCL in CCR units: 2
MCLG: 0.5
Major sources in drinking water: Leaching from ore-processing sites; discharge from electronics, glass, and drug factories.
Health effects language: 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 Contaminants, Including Pesticides and Herbicides

Contaminant (units): 2,4-D (ppb)
Traditional MCL in mg/ℓ: 0.07
To convert for CCR, multiply by: 1000
MCL in CCR units: 70
MCLG: 70
Major sources in drinking water: Runoff from herbicide used on row crops.
Health effects language: 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.

Contaminant (units): 2,4,5-TP (silvex) (ppb)
Traditional MCL in mg/ℓ: 0.05
To convert for CCR, multiply by: 1000
MCL in CCR units: 50
MCLG: 50
Major sources in drinking water: Residue of banned herbicide.

Health effects language: Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.

Contaminant (units): Acrylamide
Traditional MCL in mg/ℓ: TT
To convert for CCR, multiply by: —
MCL in CCR units: TT
MCLG: 0
Major sources in drinking water: Added to water during sewage/wastewater treatment.
Health effects language: 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.

Contaminant (units): Alachlor (ppb)
Traditional MCL in mg/ℓ: 0.002
To convert for CCR, multiply by: 1000
MCL in CCR units: 2
MCLG: 0
Major sources in drinking water: Runoff from herbicide used on row crops.
Health effects language: 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.

Contaminant (units): Atrazine (ppb)
Traditional MCL in mg/ℓ: 0.003
To convert for CCR, multiply by: 1000
MCL in CCR units: 3
MCLG: 3
Major sources in drinking water: Runoff from herbicide used on row crops.
Health effects language: 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.

Contaminant (units): Benzo(a)pyrene (PAH) (nanograms/ℓ)
Traditional MCL in mg/ℓ: 0.0002
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 200
MCLG: 0
Major sources in drinking water: Leaching from linings of water storage tanks and distribution lines.
Health effects language: 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.

Contaminant (units): Carbofuran (ppb)

Traditional MCL in mg/ℓ: 0.04
To convert for CCR, multiply by: 1000
MCL in CCR units: 40
MCLG: 40
Major sources in drinking water: Leaching of soil fumigant used on rice and alfalfa.
Health effects language: 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.

Contaminant (units): Chlordane (ppb)
Traditional MCL in mg/ℓ: 0.002
To convert for CCR, multiply by: 1000
MCL in CCR units: 2
MCLG: 0
Major sources in drinking water: Residue of banned termiticide.
Health effects language: 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.

Contaminant (units): Dalapon (ppb)
Traditional MCL in mg/ℓ: 0.2
To convert for CCR, multiply by: 1000
MCL in CCR units: 200
MCLG: 200
Major sources in drinking water: Runoff from herbicide used on rights of way.
Health effects language: Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.

Contaminant (units): Di(2-ethylhexyl)adipate (ppb)
Traditional MCL in mg/ℓ: 0.4
To convert for CCR, multiply by: 1000
MCL in CCR units: 400
MCLG: 400
Major sources in drinking water: Discharge from chemical factories.
Health effects language: 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.

Contaminant (units): Di(2-ethylhexyl)phthalate (ppb)
Traditional MCL in mg/ℓ: 0.006
To convert for CCR, multiply by: 1000
MCL in CCR units: 6
MCLG: 0
Major sources in drinking water: Discharge from rubber and chemical factories.

Health effects language: 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 they may have an increased risk of getting cancer.

Contaminant (units): Dibromochloropropane (DBCP) (ppt)
Traditional MCL in mg/ℓ: 0.0002
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 200
MCLG: 0
Major sources in drinking water: Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.
Health effects language: 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.

Contaminant (units): Dinoseb (ppb)
Traditional MCL in mg/ℓ: 0.007
To convert for CCR, multiply by: 1000
MCL in CCR units: 7
MCLG: 7
Major sources in drinking water: Runoff from herbicide used on soybeans and vegetables.
Health effects language: Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.

Contaminant (units): Diquat (ppb)
Traditional MCL in mg/ℓ: 0.02
To convert for CCR, multiply by: 1000
MCL in CCR units: 20
MCLG: 20
Major sources in drinking water: Runoff from herbicide use.
Health effects language: Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.

Contaminant (units): Dioxin (2,3,7,8-TCDD) (ppq)
Traditional MCL in mg/ℓ: 0.00000003
To convert for CCR, multiply by: 1,000,000,000
MCL in CCR units: 30
MCLG: 0
Major sources in drinking water: Emissions from waste incineration and other combustion; discharge from chemical factories.
Health effects language: 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.

Contaminant (units): Endothall (ppb)
Traditional MCL in mg/ℓ: 0.1
To convert for CCR, multiply by: 1000
MCL in CCR units: 100
MCLG: 100
Major sources in drinking water: Runoff from herbicide use.
Health effects language: Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.

Contaminant (units): Endrin (ppb)
Traditional MCL in mg/ℓ: 0.002
To convert for CCR, multiply by: 1000
MCL in CCR units: 2
MCLG: 2
Major sources in drinking water: Residue of banned insecticide.
Health effects language: Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.

Contaminant (units): Epichlorohydrin
Traditional MCL in mg/ℓ: TT
To convert for CCR, multiply by: —
MCL in CCR units: TT
MCLG: 0
Major sources in drinking water: Discharge from industrial chemical factories; an impurity of some water treatment chemicals.
Health effects language: 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.

Contaminant (units): Ethylene dibromide (ppt)
Traditional MCL in mg/ℓ: 0.00005
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 50
MCLG: 0
Major sources in drinking water: Discharge from petroleum refineries.
Health effects language: 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.

Contaminant (units): Glyphosate (ppb)
Traditional MCL in mg/ℓ: 0.7
To convert for CCR, multiply by: 1000
MCL in CCR units: 700

MCLG: 700
Major sources in drinking water: Runoff from herbicide use.
Health effects language: Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.

Contaminant (units): Hazard Index PFAS (HFPO-DA, PFBS, PFHxS, and PFNA) (unitless)
Traditional MCL in mg/ℓ: 1(unitless)
To convert for CCR, multiply by:
MCL in CCR units: 1
MCLG: 1
Major sources in drinking water: Discharge from manufacturing and industrial chemical facilities, use of certain consumer products, occupational exposures, and certain firefighting activities.
Health effects language: Per- and polyfluoroalkyl substances (PFAS) can persist in the human body and exposure may lead to increased risk of adverse health effects. Low levels of multiple PFAS that individually would not likely result in increased risk of adverse health effects may result in adverse health effects when combined in a mixture. Some people who consume drinking water containing mixtures of PFAS in excess of the Hazard Index (HI) MCL may have increased health risks such as liver, immune, and thyroid effects following exposure over many years and developmental and thyroid effects following repeated exposure during pregnancy and/or childhood.

Contaminant (units): HFPO-DA (mg/l)
Traditional MCL in mg/ℓ: .00001
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 10
MCLG: 10
Major sources in drinking water: Discharge from manufacturing and industrial chemical facilities, use of certain consumer products, occupational exposures, and certain firefighting activities.
Health effects language: Some people who drink water containing HFPO-DA in excess of the MCL over many years may have increased health risks such as immune, liver, and kidney effects. There is also a potential concern for cancer associated with HFPO-DA exposure. In addition, there may be increased risks of developmental effects for people who drink water containing HFPO-DA in excess of the MCL following repeated exposure during pregnancy and/or childhood.

Contaminant (units): Heptachlor (ppt)
Traditional MCL in mg/ℓ: 0.0004
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 400

MCLG: 0
Major sources in drinking water: Residue of banned pesticide.
Health effects language: 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.

Contaminant (units): Heptachlor epoxide (ppt)
Traditional MCL in mg/ℓ: 0.0002
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 200
MCLG: 0
Major sources in drinking water: Breakdown of heptachlor.
Health effects language: 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.

Contaminant (units): Hexachlorobenzene (ppb)
Traditional MCL in mg/ℓ: 0.001
To convert for CCR, multiply by: 1000
MCL in CCR units: 1
MCLG: 0
Major sources in drinking water: Discharge from metal refineries and agricultural chemical factories.
Health effects language: 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.

Contaminant (units): Hexachlorocyclopentadiene (ppb)
Traditional MCL in mg/ℓ: 0.05
To convert for CCR, multiply by: 1000
MCL in CCR units: 50
MCLG: 50
Major sources in drinking water: Discharge from chemical factories.
Health effects language: Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.

Contaminant (units): Lindane (ppt)
Traditional MCL in mg/ℓ: 0.0002
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 200
MCLG: 200
Major sources in drinking water: Runoff/leaching from insecticide used on cattle, lumber, gardens.

Health effects language: Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.

Contaminant (units): Methoxychlor (ppb)
Traditional MCL in mg/ℓ: 0.04
To convert for CCR, multiply by: 1000
MCL in CCR units: 40
MCLG: 40
Major sources in drinking water: Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock.
Health effects language: Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.

Contaminant (units): Oxamyl (vydate) (ppb)
Traditional MCL in mg/ℓ: 0.2
To convert for CCR, multiply by: 1000
MCL in CCR units: 200
MCLG: 200
Major sources in drinking water: Runoff/leaching from insecticide used on apples, potatoes and tomatoes.
Health effects language: Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.

Contaminant (units): PCBs (polychlorinated biphenyls) (ppt)
Traditional MCL in mg/ℓ: 0.0005
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 500
MCLG: 0
Major sources in drinking water: Runoff from landfills; discharge of waste chemicals.
Health effects language: 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.

Contaminant (units): Pentachlorophenol (ppb)
Traditional MCL in mg/ℓ: 0.001
To convert for CCR, multiply by: 1000
MCL in CCR units: 1
MCLG: 0
Major sources in drinking water: Discharge from wood preserving factories.
Health effects language: 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.

Contaminant (units): PFHxS (mg/l)

Traditional MCL in mg/ℓ: .00001
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 10
MCLG: 10
Major sources in drinking water: Discharge from manufacturing and industrial chemical facilities, use of certain consumer products, occupational exposures, and certain firefighting activities.
Health effects language: Some people who drink water containing PFHxS in excess of the MCL over many years may have increased health risks such as immune, thyroid, and liver effects. In addition, there may be increased risks of developmental effects for people who drink water containing PFHxS in excess of the MCL following repeated exposure during pregnancy and/or childhood.

Contaminant (units): PFNA (mg/l)
Traditional MCL in mg/ℓ: .00001
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 10
MCLG: 10
Major sources in drinking water: Discharge from manufacturing and industrial chemical facilities, use of certain consumer products, occupational exposures, and certain firefighting activities.
Health effects language: Some people who drink water containing PFNA in excess of the MCL over many years may have increased health risks such as elevated cholesterol levels, immune effects, and liver effects. In addition, there may be increased risks of developmental effects for people who drink water containing PFNA in excess of the MCL following repeated exposure during pregnancy and/or childhood.

Contaminant (units): PFOA Perfluorooctanoate (mg/l)
Traditional MCL in mg/ℓ: .0000040
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 4.0
MCLG: 0
Major sources in drinking water: Discharge from manufacturing and industrial chemical facilities, use of certain consumer products, occupational exposures, and certain firefighting activities.
Health effects language: Some people who drink water containing PFOA in excess of the MCL over many years may have increased health risks such as cardiovascular, immune, and liver effects, as well as increased incidence of certain types of cancers including kidney and testicular cancer. In addition, there may be increased risks of developmental and immune effects for people who drink water containing PFOA in excess of the MCL following repeated exposure during pregnancy and/or childhood.

Contaminant (units): PFOS (mg/l)
Traditional MCL in mg/ℓ: .0000040
To convert for CCR, multiply by: 1,000,000
MCL in CCR units: 4
MCLG: 0
Major sources in drinking water: Discharge from manufacturing and industrial chemical facilities, use of certain consumer products, occupational exposures, and certain firefighting activities.
Health effects language: Some people who drink water containing PFOS in excess of the MCL over many years may have increased health risks such as cardiovascular, immune, and liver effects, as well as increased incidence of certain types of cancers including liver cancer. In addition, there may be increased risks of developmental and immune effects for people who drink water containing PFOS in excess of the MCL following repeated exposure during pregnancy and/or childhood.

Contaminant (units): Picloram (ppb)
Traditional MCL in mg/ℓ: 0.5
To convert for CCR, multiply by: 1000
MCL in CCR units: 500
MCLG: 500
Major sources in drinking water: Herbicide runoff.
Health effects language: Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.

Contaminant (units): Simazine (ppb)
Traditional MCL in mg/ℓ: 0.004
To convert for CCR, multiply by: 1000
MCL in CCR units: 4
MCLG: 4
Major sources in drinking water: Herbicide runoff.
Health effects language: Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.

Contaminant (units): Toxaphene (ppb)
Traditional MCL in mg/ℓ: 0.003
To convert for CCR, multiply by: 1000
MCL in CCR units: 3
MCLG: 0
Major sources in drinking water: Runoff/leaching from insecticide used on cotton and cattle.
Health effects language: 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 Contaminants

Contaminant (units): Benzene (ppb)
Traditional MCL in mg/ℓ: 0.005
To convert for CCR, multiply by: 1000
MCL in CCR units: 5
MCLG: 0
Major sources in drinking water: Discharge from factories; leaching from gas storage tanks and landfills.
Health effects language: 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.

Contaminant (units): Carbon tetrachloride (ppb)
Traditional MCL in mg/ℓ: 0.005
To convert for CCR, multiply by: 1000
MCL in CCR units: 5
MCLG: 0
Major sources in drinking water: Discharge from chemical plants and other industrial activities.
Health effects language: 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.

Contaminant (units): Chlorobenzene (ppb)
Traditional MCL in mg/ℓ: 0.1
To convert for CCR, multiply by: 1000
MCL in CCR units: 100
MCLG: 100
Major sources in drinking water: Discharge from chemical and agricultural chemical factories.
Health effects language: Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.

Contaminant (units): o-Dichlorobenzene (ppb)
Traditional MCL in mg/ℓ: 0.6
To convert for CCR, multiply by: 1000
MCL in CCR units: 600
MCLG: 600
Major sources in drinking water: Discharge from industrial chemical factories.
Health effects language: 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.

Contaminant (units): p-Dichlorobenzene (ppb)
Traditional MCL in mg/ℓ: 0.075
To convert for CCR, multiply by: 1000
MCL in CCR units: 75
MCLG: 75
Major sources in drinking water: Discharge from industrial chemical factories.
Health effects language: 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.

Contaminant (units): 1,2-Dichloroethane (ppb)
Traditional MCL in mg/ℓ: 0.005
To convert for CCR, multiply by: 1000
MCL in CCR units: 5
MCLG: 0
Major sources in drinking water: Discharge from industrial chemical factories.
Health effects language: 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.

Contaminant (units): 1,1-Dichloroethylene (ppb)
Traditional MCL in mg/ℓ: 0.007
To convert for CCR, multiply by: 1000
MCL in CCR units: 7
MCLG: 7
Major sources in drinking water: Discharge from industrial chemical factories.
Health effects language: Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.

Contaminant (units): cis-1,2-Dichloroethylene (ppb)
Traditional MCL in mg/ℓ: 0.07
To convert for CCR, multiply by: 1000
MCL in CCR units: 70
MCLG: 70
Major sources in drinking water: Discharge from industrial chemical factories.
Health effects language: Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.

Contaminant (units): trans-1,2-Dichloroethylene (ppb)
Traditional MCL in mg/ℓ: 0.1
To convert for CCR, multiply by: 1000
MCL in CCR units: 100
MCLG: 100
Major sources in drinking water: Discharge from industrial chemical factories.

Health effects language: 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.

Contaminant (units): Dichloromethane (ppb)
Traditional MCL in mg/ℓ: 0.005
To convert for CCR, multiply by: 1000
MCL in CCR units: 5
MCLG: 0
Major sources in drinking water: Discharge from pharmaceutical and chemical factories.
Health effects language: 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.

Contaminant (units): 1,2-Dichloropropane (ppb)
Traditional MCL in mg/ℓ: 0.005
To convert for CCR, multiply by: 1000
MCL in CCR units: 5
MCLG: 0
Major sources in drinking water: Discharge from industrial chemical factories.
Health effects language: 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.

Contaminant (units): Ethylbenzene (ppb)
Traditional MCL in mg/ℓ: 0.7
To convert for CCR, multiply by: 1000
MCL in CCR units: 700
MCLG: 700
Major sources in drinking water: Discharge from petroleum refineries.
Health effects language: Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.

Contaminant (units): Haloacetic acids (HAA5) (ppb)
Traditional MCL in mg/ℓ: 0.060
To convert for CCR, multiply by: 1000
MCL in CCR units: 60
MCLG: N/A
Major sources in drinking water: Byproduct of drinking water disinfection.
Health effects language: Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant (units): Styrene (ppb)
Traditional MCL in mg/ℓ: 0.1

To convert for CCR, multiply by: 1000
MCL in CCR units: 100
MCLG: 100
Major sources in drinking water: Discharge from rubber and plastic factories; leaching from landfills.
Health effects language: 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.

Contaminant (units): Tetrachloroethylene (ppb)
Traditional MCL in mg/ℓ: 0.005
To convert for CCR, multiply by: 1000
MCL in CCR units: 5
MCLG: 0
Major sources in drinking water: Discharge from factories and dry cleaners.
Health effects language: 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.

Contaminant (units): 1,2,4-Trichlorobenzene (ppb)
Traditional MCL in mg/ℓ: 0.07
To convert for CCR, multiply by: 1000
MCL in CCR units: 70
MCLG: 70
Major sources in drinking water: Discharge from textile-finishing factories.
Health effects language: 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.

Contaminant (units): 1,1,1-Trichloroethane (ppb)
Traditional MCL in mg/ℓ: 0.2
To convert for CCR, multiply by: 1000
MCL in CCR units: 200
MCLG: 200
Major sources in drinking water: Discharge from metal degreasing sites and other factories.
Health effects language: 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.

Contaminant (units): 1,1,2-Trichloroethane (ppb)
Traditional MCL in mg/ℓ: 0.005
To convert for CCR, multiply by: 1000
MCL in CCR units: 5
MCLG: 3

Major sources in drinking water: Discharge from industrial chemical factories.
Health effects language: 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.

Contaminant (units): Trichloroethylene (ppb)
Traditional MCL in mg/ℓ: 0.005
To convert for CCR, multiply by: 1000
MCL in CCR units: 5
MCLG: 0
Major sources in drinking water: Discharge from metal degreasing sites and other factories.
Health effects language: 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.

Contaminant (units): TTHMs (total trihalomethanes) (ppb)
Traditional MCL in mg/ℓ: 0.10/0.080
To convert for CCR, multiply by: 1000
MCL in CCR units: 100/80
MCLG: N/A
Major sources in drinking water: Byproduct of drinking water disinfection.
Health effects language: 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.

Contaminant (units): Toluene (ppm)
Traditional MCL in mg/ℓ: 1
To convert for CCR, multiply by: —
MCL in CCR units: 1
MCLG: 1
Major sources in drinking water: Discharge from petroleum factories.
Health effects language: 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.

Contaminant (units): Vinyl Chloride (ppb)
Traditional MCL in mg/ℓ: 0.002
To convert for CCR, multiply by: 1000
MCL in CCR units: 2
MCLG: 0
Major sources in drinking water: Leaching from PVC piping; discharge from plastics factories.

Health effects language: Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant (units): Xylenes (ppm)
Traditional MCL in mg/ℓ: 10
To convert for CCR, multiply by: —
MCL in CCR units: 10
MCLG: 10
Major sources in drinking water: Discharge from petroleum factories; discharge from chemical factories.
Health effects language: Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

Key

Abbreviation	Meaning
AL	action level
MCL	maximum contaminant level
MCLG	maximum contaminant level goal
MFL	million fibers per liter
MRDL	maximum residual disinfectant level
MRDLG	maximum residual disinfectant level goal
mrem/year	millirems per year (a measure of radiation absorbed by the body)
N/A	not applicable
NTU	nephelometric turbidity units(a measure of water clarity)
pCi/ℓ	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/ℓ)
ppb	parts per billion, or micrograms per liter (µg/ℓ)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
TT	treatment technique

BOARD NOTE: Derived from appendix A to subpart O to 40 CFR 141.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.APPENDIX E Mandatory Lead Public Education Information for Community Water Systems

1) INTRODUCTION

The United States Environmental Protection Agency (USEPA) and (insert name of water supplier) are concerned about lead in your drinking water. Although most homes have very low

levels of lead in their drinking water, some homes in the community have lead levels above the USEPA action level of 15 parts per billion (ppb), or 0.015 milligrams of lead per liter of water (mg/ℓ). Under Federal law we are required to have a program in place to minimize lead in your drinking water by (insert date when corrosion control will be completed for your system). This program includes corrosion control treatment, source water treatment, and public education. We are also required to replace the portion of each lead service line that we own if the line contributes lead concentrations of more than 15 ppb after we have completed the comprehensive treatment program. If you have any questions about how we are carrying out the requirements of the lead regulation please give us a call at (insert water system's phone number). This brochure explains the simple steps you can take to protect you and your family by reducing your exposure to lead in drinking water.

2) HEALTH EFFECTS OF LEAD

Lead is a common metal found throughout the environment in lead-based paint; air; soil; household dust; food; certain types of pottery, porcelain, and pewter; and water. Lead can pose a significant risk to your health if too much of it enters your body. Lead builds up in the body over many years and can cause damage to the brain, red blood cells, and kidneys. The greatest risk is to young children and pregnant women. Amounts of lead that won't hurt adults can slow down normal mental and physical development of growing bodies. In addition, a child at play often comes into contact with sources of lead contamination—like dirt and dust—that rarely affect an adult. It is important to wash children's hands and toys often, and to try to make sure they only put food in their mouths.

3) LEAD IN DRINKING WATER

A) Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water. The EPA estimates that drinking water can make up 20 percent or more of a person's total exposure to lead.

B) Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and household plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome plated brass faucets, and in some cases, pipes made of lead that connect your house to the water main (service lines). In 1986, Congress banned the use of lead solder containing greater than 0.2% lead, and restricted the lead content of faucets, pipes and other plumbing materials to 8.0%.

C) When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into your drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon after returning from work or school, can contain fairly high levels of lead.

4) STEPS YOU CAN TAKE IN THE HOME TO REDUCE EXPOSURE TO LEAD IN DRINKING WATER

A) Despite our best efforts mentioned earlier to control water corrosivity and remove lead from the water supply, lead levels in some homes or buildings can be high. To find out whether you need to take action in your own home, have your drinking water tested to determine if it contains excessive concentrations of lead. Testing the water is essential because you cannot see, taste, or smell lead in drinking water. Some local laboratories that can provide this service are listed at the end of this booklet. For more information on having your water tested, please call (insert phone number of water system).

B) If a water test indicates that the drinking water drawn from a tap in your home contains lead above 15 ppb, then you should take the following precautions:

i) Let the water run from the tap before using it for drinking or cooking any time the water in a faucet has gone unused for more than six hours. The longer water resides in your home's plumbing the more lead it may contain. Flushing the tap means running the cold water faucet until the water gets noticeably colder, usually about 15-30 seconds. If your house has a lead service line to the water main, you may have to flush the water for a longer time, perhaps one minute, before drinking. Although toilet flushing or showering flushes water through a portion of your home's plumbing system, you still need to flush the water in each faucet before using it for drinking or cooking. Flushing tap water is a simple and inexpensive measure you can take to protect your family's health. It usually uses less than one or two gallons of water and costs less than (insert a cost estimate based on flushing two times a day for 30 days) per month. To conserve water, fill a couple of bottles for drinking water after flushing the tap, and whenever possible use the first flush water to wash the dishes or water the plants. If you live in a high-rise building, letting the water flow before using it may not work to lessen your risk from lead. The plumbing systems have more, and sometimes larger pipes than smaller buildings. Ask your landlord for help in locating the source of the lead and for advice on reducing the lead level.

ii) Try not to cook with or drink water from the hot water tap. Hot water can dissolve more lead more quickly than cold water. If you need hot water, draw water from the cold tap and heat it on the stove.

iii) Remove loose lead solder and debris from the plumbing materials installed in newly constructed homes, or homes in which the plumbing has recently been replaced, by removing the faucet strainers from all taps and running the water from 3 to 5 minutes. Then~~Thereafter~~, periodically remove the strainers and flush out any debris that has accumulated over time.

iv) If your copper pipes are joined with lead solder that has been installed illegally since it was banned in 1986, notify the plumber who did the work and request that he or she replace the lead solder with lead-free solder. Lead solder looks dull gray, and when scratched with a key looks shiny. In addition, notify the Illinois Environmental Protection Agency about the violation.

v) Determine whether or not the service line that connects your home or apartment to the water main is made of lead. The best way to determine if your service line is made of lead is by either hiring a licensed plumber to inspect the line or by contacting the plumbing contractor who installed the line. You can identify the plumbing contractor by checking the city's record of building permits that should be maintained in the files of the (insert name of department that issues building permits). A licensed plumber can at the same time check to see if your home's plumbing contains lead solder, lead pipes, or pipe fittings that contain lead. The public water system that delivers water to your home should also maintain records of the materials located in the distribution system. If the service line that connects your dwelling to the water main contributes more than 15 ppb to drinking water, after our comprehensive treatment program is in place, we are required to replace the portion of the line that we own. If the line is only partially owned by the (insert name of the city, county, or water system that controls the line), we are required to provide the owner of the privately-owned portion of the line with information on how to replace the privately-owned portion of the service line, and offer to replace that portion of the line at the owner's expense. If we replace only the portion of the line that we own, we also are required to notify you in advance and provide you with information on the steps that you can take to minimize exposure to any temporary increase in lead levels that may result from the partial replacement, to take a follow-up sample at our expense from the line within 72 hours after the partial replacement, and to mail or otherwise provide you with the results of that sample within three business days after receiving the results. Acceptable replacement alternatives include copper, steel, iron, and plastic pipes.

vi) Have an electrician check your wiring. If grounding wires from the electrical system are attached to your pipes, corrosion may be greater. Check with a licensed electrician or your local electrical code to determine if your wiring can be grounded elsewhere. DO NOT attempt to change the

wiring yourself because improper grounding can cause electrical shock and fire hazards.

C) The steps described above will reduce the lead concentrations in your drinking water. However, if a water test indicates that the drinking water coming from your tap contains lead concentrations in excess of 15 ppb after flushing, or after we have completed our actions to minimize lead levels, then you may want to take the following additional measures:

i) Purchase or lease a home treatment device. Home treatment devices are limited in that each unit treats only the water that flows from the faucet to which it is connected, and all of the devices require periodic maintenance and replacement. Devices such as reverse osmosis systems or distillers can effectively remove lead from your drinking water. Some activated carbon filters may reduce lead levels at the tap, however all lead reduction claims should be investigated. Be sure to check the actual performance of a specific home treatment device before and after installing the unit.

ii) Purchase bottled water for drinking and cooking.

D) You can consult a variety of sources for additional information. Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead. State and local government agencies that can be contacted include the following:

i) (Insert the name of city or county department of public utilities) at (insert phone number) can provide you with information about your community's water supply, and a list of local laboratories that have been certified by EPA for testing water quality;

ii) (Insert the name of city or county department that issues building permits) at (insert phone number) can provide you with information about building permit records that should contain the names of plumbing contractors that plumbed your home; and

iii) The Illinois Department of Public Health at 217-782-4977 or 312-814-2608 or the (insert the name of the city or county health department) at (insert phone number) can provide you with information about the health effects of lead and how you can have your child's blood tested.

E) The following is a list of some State-approved laboratories in your area that you can call to have your water tested for lead. (Insert names and phone numbers of at least two laboratories.)

BOARD NOTE: Derived from 40 CFR 141.85(a)(1).

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.APPENDIX F Mandatory Lead Public Education Information for Non-Transient Non-Community Water Systems

1) INTRODUCTION

The United States Environmental Protection Agency (USEPA) and (insert name of water supplier) are concerned about lead in your drinking water. Some drinking water samples taken from this facility have lead levels above the USEPA action level of 15 parts per billion (ppb), or 0.015 milligrams of lead per liter of water (mg/ℓ). Under Federal law we are required to have a program in place to minimize lead in your drinking water by (insert date when corrosion control will be completed for your system). This program includes corrosion control treatment, source water treatment, and public education. We are also required to replace the portion of each lead service line that we own if the line contributes lead concentrations of more than 15 ppb after we have completed the comprehensive treatment program. If you have any questions about how we are carrying out the requirements of the lead regulation please give us a call at (insert water system's phone number). This brochure explains the simple steps you can take to protect you and your family by reducing your exposure to lead in drinking water.

2) HEALTH EFFECTS OF LEAD

Lead is found throughout the environment in lead-based paint; air; soil; household dust; food; certain types of pottery, porcelain, and pewter; and water. Lead can pose a significant risk to your health if too much of it enters your body. Lead builds up in the body over many years and can cause damage to the brain, red blood cells, and kidneys. The greatest risk is to young children and pregnant women. Amounts of lead that won't hurt adults can slow down normal mental and physical development of growing bodies. In addition, a child at play often comes into contact with sources of lead contamination—like dirt and dust -- that rarely affect an adult. It is important to wash children's hands and toys often, and to try to make sure they only put food in their mouths.

3) LEAD IN DRINKING WATER

A) Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water. The EPA estimates that drinking water can make up 20 percent or more of a person's total exposure to lead.

B) Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like rivers and lakes. Lead enters drinking water

primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and household plumbing. These materials include lead-based solder used to join copper pipe, brass, and chrome plated brass faucets, and in some cases, pipes made of lead that connect houses and buildings to the water main (service lines). In 1986, Congress banned the use of lead solder containing greater than 0.2% lead, and restricted the lead content of faucets, pipes, and other plumbing materials to 8.0%.

C) When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into your drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon after returning from work or school, can contain fairly high levels of lead.

4) STEPS YOU CAN TAKE TO REDUCE EXPOSURE TO LEAD IN DRINKING WATER

A) Let the water run from the tap before using it for drinking or cooking any time the water in a faucet has gone unused for more than six hours. The longer water resides in plumbing the more lead it may contain. Flushing the tap means running the cold water faucet until the water gets noticeably colder, usually about 15-30 seconds. Although toilet flushing or showering flushes water through a portion of the plumbing system, you still need to flush the water in each faucet before using it for drinking or cooking. Flushing tap water is a simple and inexpensive measure you can take to protect your family's health. It usually uses less than one gallon.

B) Do not cook with or drink water from the hot water tap. Hot water can dissolve more lead more quickly than cold water. If you need hot water, draw water from the cold tap and heat it.

C) The steps described above will reduce the lead concentrations in your drinking water. However, if you are still concerned, you may wish to use bottled water for drinking and cooking.

D) You can consult a variety of sources for additional information. Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead. State and local government agencies that can be contacted include the following:

i) (Insert the name or title of facility official if appropriate) at (insert phone number) can provide you with information about your facility's water supply; and

ii) The Illinois Department of Public Health at 217-782-4977 ~~or 312-814-2608~~ or the (insert the name of the city or county health department) at

(insert phone number) can provide you with information about the health effects of lead.

BOARD NOTE: Derived from 40 CFR 141.85(a)(2). The Department of Public Health (Department) regulates non-community water supplies, including non-transient, non-community water supplies. The Department has incorporated this Part into its regulations at 77 Ill. Adm. Code 900.15(a)(2)(A) and 900.20(k)(2). Thus, the Board has included the notice language of 40 CFR 141.85(a)(2) in this Section for the purposes of facilitating federal review and authorization of the Illinois drinking water regulations.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.APPENDIX G NPDWR Violations and Situations Requiring Public Notice

See note 1 at the end of this Appendix G for an explanation of the Agency's authority to alter the magnitude of a violation from that ~~set forth~~ in the following table.

	MCL/MRDL/TT violations[2]		Monitoring and testing procedure violations	
Contaminant	Tier of public notice required	Citation	Tier of public notice required	Citation
I. Violations of National Primary Drinking Water Regulations (NPDWR):[3]				
A. Microbiological Contaminants				
1a. Corresponding row 1a in appendix A to subpart Q to 40 CFR 141 no longer applies by its own terms. This statement maintains structural consistency with the federal regulations.				
1b. Total coliform (TT violations resulting from failure to perform assessments or corrective actions, monitoring violations, and reporting violations)	2	611.1060(b)(1)	3	611.1060(c)(1) 611.1060(d)(1)

1c. Seasonal system failure to follow State-approved start-up plan prior to serving water to the public or failure to provide certification to the Agency	2	611.1060(b)(2)	3	611.1060(d)(3)
2a. Corresponding row 2a in appendix A to subpart Q to 40 CFR 141 no longer applies by its own terms. This statement maintains structural consistency with the federal regulations.				
2b. E. coli (MCL, monitoring, and reporting violations)	1	611.1060(a)	3	611.1060(c), 611.1060(d)(2)
2c. E.coli (TT violations resulting from failure to perform Level 2 assessments or corrective action)	2	611.1060(b)(1)		
3. This entry relates to the obsolete MCL for turbidity in 40 CFR 141.13 that does not apply to any supplier in Illinois. This statement maintains structural consistency with the corresponding USEPA rule.				
4. This entry relates to the obsolete MCL for turbidity in 40 CFR 141.13 that does not apply to any supplier in Illinois. This statement maintains structural consistency with the corresponding USEPA rule.				
5. Turbidity (for TT violations resulting from a single exceedance of maximum allowable turbidity level)	[6] 2, 1	611.231(b), 611.233(b)(1), 611.250(a)(2), 611.250(b)(2), 611.250(c)(2), 611.250(d), 611.743(a)(2), 611.743(b), 611.955(b)(2)	3	611.531(a), 611.532(b), 611.533(a), 611.744, 611.956(a)(1)-(a)(3), 611.956(b)

6. Surface Water Treatment Rule violations, other than violations resulting from single exceedance of max. allowable turbidity level (TT)	2	611.211, 611.213, 611.220, 611.230-611.233, 611.240-611.242, 611.250	3	611.531-611.533
7. Interim Enhanced Surface Water Treatment Rule violations, other than violations resulting from single exceedance of max. turbidity level (TT)	2	[7] 611.740-611.743, 611.950-611.955	3	611.742, 611.744, 611.953, 611.954, 611.956
8. Filter Backwash Recycling Rule violations	2	611.276(c)	3	611.276(b), (d)
9. Long Term 1 Enhanced Surface Water Treatment Rule violations	2	611.950-611.955	3	611.953, 611.954, 611.956
10. LT2ESWTR violations	2	611.1010-611.1020	[19] 2, 3	611.1001-611.1005 and 611.1008-611.1009
11. Groundwater Rule violations	2	611.804	3	611.802(h)

B. Inorganic Chemicals (IOCs)

1. Antimony	2	611.301(b)	3	611.600, 611.601, 611.603
2. Arsenic	2	611.301(b)	3	611.601, 611.603
3. Asbestos (fibers greater than 10 μm)	2	611.301(b)	3	611.600, 611.601, 611.602
4. Barium	2	611.301(b)	3	611.600, 611.601, 611.603

5. Beryllium	2	611.301(b)	3	611.600, 611.601, 611.603
6. Cadmium	2	611.301(b)	3	611.600, 611.601, 611.603
7. Chromium (total)	2	611.301(b)	3	611.600, 611.601, 611.603
8. Cyanide	2	611.301(b)	3	611.600, 611.601, 611.603
9. Fluoride	2	611.301(b)	3	611.600, 611.601, 611.603
10. Mercury (inorganic)	2	611.301(b)	3	611.600, 611.601, 611.603
11. Nitrate	1	611.301(b)	[8] 1, 3	611.600, 611.601, 611.604, 611.606
12. Nitrite	1	611.301(b)	[8] 1, 3	611.600, 611.601, 611.605, 611.606
13. Total Nitrate and Nitrite	1	611.301(b)	3	611.600, 611.601
14. Selenium	2	611.301(b)	3	611.600, 611.601, 611.603
15. Thallium	2	611.301(b)	3	611.600, 611.601, 611.603

C. Lead and Copper Rule (Action Level for lead is 0.010 mg/L~~0.015 mg/L~~, for copper is 1.3 mg/L)

1. Lead and Copper Rule (TT)	2	611.350 (except 611.350(c))-611.354, 611.355(a)–(c)(except subsection (c)(3)), ~~and~~ (h) and (j), and 611.363.	3	611.356-611.360, and 611.362.
2. Exceeding the lead action level	1	611.350(c).		

D. Synthetic Organic Chemicals (SOCs)

1. 2,4-D	2	611.311(c)	3	611.648
2. 2,4,5-TP (silvex)	2	611.311(c)	3	611.648
3. Alachlor	2	611.311(c)	3	611.648
4. Atrazine	2	611.311(c)	3	611.648
5. Benzo(a)pyrene (PAHs)	2	611.311(c)	3	611.648
6. Carbofuran	2	611.311(c)	3	611.648
7. Chlordane	2	611.311(c)	3	611.648
8. Dalapon	2	611.311(c)	3	611.648
9. Di(2-ethylhexyl)adipate	2	611.311(c)	3	611.648
10. Di(2-ethylhexyl)phthalate	2	611.311(c)	3	611.648
11. Dibromochloropropane (DBCP)	2	611.311(c)	3	611.648
12. Dinoseb	2	611.311(c)	3	611.648
13. Dioxin (2,3,7,8-TCDD)	2	611.311(c)	3	611.648
14. Diquat	2	611.311(c)	3	611.648

15. Endothall	2	611.311(c)	3	611.648
16. Endrin	2	611.311(c)	3	611.648
17. Ethylene dibromide	2	611.311(c)	3	611.648
18. Glyphosate	2	611.311(c)	3	611.648
19. Heptachlor	2	611.311(c)	3	611.648
20. Heptachlor epoxide	2	611.311(c)	3	611.648
21. Hexachlorobenzene	2	611.311(c)	3	611.648
22. Hexachlorocyclopentadiene	2	611.311(c)	3	611.648
23. Lindane	2	611.311(c)	3	611.648
24. Methoxychlor	2	611.311(c)	3	611.648
25. Oxamyl (Vydate)	2	611.311(c)	3	611.648
26. Pentachlorophenol	2	611.311(c)	3	611.648
27. Picloram	2	611.311(c)	3	611.648
28. Polychlorinated biphenyls (PCBs)	2	611.311(c)	3	611.648
29. Simazine	2	611.311(c)	3	611.648
30. Toxaphene	2	611.311(c)	3	611.648
31. Hazard Index PFAS	20*2	611.311(c)	3	611.7905(c)
32. HFPO-DA	*2	611.311(c)	3	611.7905(c)
33. PFHxS	*2	611.311(c)	3	611.7905(c)
34. PFNA	*2	611.311(c)	3	611.7905(c)
35. PFOA	*2	611.311(c)	3	611.7905(c)
36. PFOS	*2	611.311(c)	3	611.7905(c)

E. Volatile Organic Chemicals (VOCs)

1. Benzene	2	611.311(a)	3	611.646
2. Carbon tetrachloride	2	611.311(a)	3	611.646
3. Chlorobenzene (monochlorobenzene)	2	611.311(a)	3	611.646
4. o-Dichlorobenzene	2	611.311(a)	3	611.646
5. p-Dichlorobenzene	2	611.311(a)	3	611.646
6. 1,2-Dichloroethane	2	611.311(a)	3	611.646
7. 1,1-Dichloroethylene	2	611.311(a)	3	611.646
8. cis-1,2-Dichloroethylene	2	611.311(a)	3	611.646
9. trans-1,2-Dichloroethylene	2	611.311(a)	3	611.646
10. Dichloromethane	2	611.311(a)	3	611.646
11. 1,2-Dichloropropane	2	611.311(a)	3	611.646
12. Ethylbenzene	2	611.311(a)	3	611.646
13. Styrene	2	611.311(a)	3	611.646
14. Tetrachloroethylene	2	611.311(a)	3	611.646
15. Toluene	2	611.311(a)	3	611.646
16. 1,2,4-Trichlorobenzene	2	611.311(a)	3	611.646
17. 1,1,1-Trichloroethane	2	611.311(a)	3	611.646
18. 1,1,2-Trichloroethane	2	611.311(a)	3	611.646
19. Trichloroethylene	2	611.311(a)	3	611.646
20. Vinyl chloride	2	611.311(a)	3	611.646
21. Xylenes (total)	2	611.311(a)	3	611.646

F. Radioactive Contaminants

1. Beta/photon emitters	2	611.330(d)	3	611.720(a), 611.732
2. Alpha emitters	2	611.330(c)	3	611.720(a), 611.731
3. Combined radium (226 and 228)	2	611.330(b)	3	611.720(a), 611.731
4. Uranium	2	611.330(e)	3	611.720(a), 611.731

G. Disinfection Byproducts (DBPs), Byproduct Precursors, Disinfectant Residuals. If 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). USEPA sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes (THMs) and haloacetic acids (HAAs).[13]

1. Total trihalomethanes (TTHMs)	2	[11]611.312(b)	3	Subparts W and Y
2. Haloacetic Acids (HAA5)	2	611.312(b)	3	Subpart Y
3. Bromate	2	611.312(a)	3	611.382(a)-(b)
4. Chlorite	2	611.312(a)	3	611.382(a)-(b)
5. Chlorine (MRDL)	2	611.313(a)	3	611.382(a), (c)
6. Chloramine (MRDL)	2	611.313(a)	3	611.382(a), (c)
7. Chlorine dioxide (MRDL), if any two consecutive daily samples at entrance to distribution system only are above MRDL	2	611.313(a), 611.383(c)(3)	2[12], 3	611.382(a), (c), 611.383(c)(2)
8. Chlorine dioxide (MRDL), if samples in distribution system the next day are also above MRDL	[13]1	611.313(a), 611.383(c)(3)	1	611.382(a), (c), 611.383(c)(2)
9. Control of DBP precursors—TOC (TT)	2	611.385(a)-(b)	3	611.382(a), (d)

10. Benchmarking and disinfection profiling	N/A	N/A	3	611.742, 611.953, 611.954
11. Development of monitoring plan	N/A	N/A	3	611.382(f)

H. Other Treatment Techniques

1. Acrylamide (TT)	2	611.296	N/A	N/A
2. Epichlorohydrin (TT)	2	611.296	N/A	N/A

II. Unregulated Contaminant Monitoring: [14]

A. Unregulated contaminants	N/A	N/A	3	as required by USEPA under 40 CFR 141.40
B. Nickel	N/A	N/A	3	611.603, 611.611

III. Public Notification for Relief Equivalent to a SDWA section 1415 Variance or a section 1416 Exemption.

A. Operation under relief equivalent to a SDWA section 1415 variance or a section 1416 exemption	3	[15] 1415, 1416	N/A	N/A
B. Violation of conditions of relief equivalent to a SDWA section 1415 variance or a section 1416 exemption	2	1415, 1416, [16] 611.111, 611.112	N/A	N/A

IV. Other Situations Requiring Public Notification.

A. Fluoride secondary maximum contaminant level (SMCL) exceedance	3	611.858	N/A	N/A
B. Exceedance of nitrate MCL for a non-CWS supplier, as allowed by the Agency	1	611.300(d)	N/A	N/A

C. Availability of unregulated contaminant monitoring data	3	as required by USEPA under 40 CFR 141.40	N/A	N/A
D. Waterborne disease outbreak	1	611.101, 611.233(b)(2)	N/A	N/A
E. Other waterborne emergency[17]	1	N/A	N/A	N/A
F. Source water sample positive for Groundwater Rule fecal indicators: E. coli, enterococci, or coliphage	1	611.802(g)	N/A	N/A
G. Other situations as determined by the Agency in a SEP under Section 602.600	[18]1, 2, 3	N/A	N/A	N/A

Appendix G—Endnotes

*Beginning April 26, 2029.

1. Violations and other situations not listed in this table (e.g., failure to prepare Consumer Confidence Reports) do not require notice, unless ~~the Agency issues a SEP requiring~~ otherwise determined by the Agency. The Agency may require ~~issue a SEP further requiring~~ 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 listed in this Appendix, as authorized under Sections 611.902(a) and 611.903(a).

2. Definition of the abbreviations used: "MCL" means maximum contaminant level, "MRDL" means maximum residual disinfectant level, and "TT" means treatment technique.

3. The term "violations of National Primary Drinking Water Regulations (NPDWR)" is used here to include violations of MCL, MRDL, treatment technique, monitoring, and testing procedure requirements.

4. Failure to test for fecal coliform or E. coli is a Tier 1 violation if testing is not done after any repeat sample tests positive for coliform. All other total coliform monitoring and testing procedure violations are Tier 3 violations.

5. In the corresponding USEPA rule, this note relates to an entry for the obsolete MCL for turbidity that does not apply to any supplier in Illinois. This statement maintains structural consistency with the corresponding USEPA rule.

6. A supplier with a treatment technique violation involving a single exceedance of a maximum turbidity limit under the Surface Water Treatment Rule (SWTR), the Interim Enhanced Surface Water Treatment Rule (IESWTR), or the Long Term 1 Enhanced Surface Water Treatment Rule are required to consult with the Agency within 24 hours after learning of the violation. Based on this consultation, the Agency may subsequently decide to issue a SEP elevating the violation to a Tier 1 violation. If a supplier is unable to make contact with the Agency in the 24-hour period, the violation is automatically elevated to a Tier 1 violation.

7. The Surface Water Treatment Rule (SWTR) remains in effect for a supplier serving at least 10,000 persons; the Interim Enhanced Surface Water Treatment Rule adds additional requirements and does not in many cases supersede the SWTR.

8. Failure to take a confirmation sample within 24 hours for nitrate or nitrite after an initial sample exceeds the MCL is a Tier 1 violation. Other monitoring violations for nitrate are Tier 3.

9. Failure to take a confirmation sample within 24 hours for nitrate or nitrite after an initial sample exceeds the MCL is a Tier 1 violation. Other monitoring violations for nitrate are Tier 3.

10. A Subpart B community or non-transient non-community system supplier must comply with new DBP MCLs, disinfectant MRDLs, and related monitoring requirements. A Subpart B transient non-community system supplier serving 10,000 or more persons using chlorine dioxide as a disinfectant or oxidant or a Subpart B transient non-community system supplier serving fewer than 10,000 persons, that uses only groundwater not under the direct influence of surface water, and that uses chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL.

11. Sections 611.312(b)(1) and 611.382(a) and (b) apply until Subpart Y takes effect under the schedule ~~set forth~~ in Section 611.970(c).

12. Failure to monitor for chlorine dioxide at the entrance to the distribution system the day after exceeding the MRDL at the entrance to the distribution system is a Tier 2 violation.

13. If any daily sample taken at the entrance to the distribution system exceeds the MRDL for chlorine dioxide and one or more samples taken in the distribution system the next day exceed the MRDL, Tier 1 notification is required. A failure to take the required samples in the distribution system after the MRDL is exceeded at the entry point also triggers Tier 1 notification.

14. Some water suppliers must monitor for certain unregulated contaminants as required by USEPA under 40 CFR 141.40.

15. This citation refers to sections 1415 and 1416 of the federal Safe Drinking Water Act. sections 1415 and 1416 require that “a schedule prescribed . . . for a public water system

granted relief equivalent to a SDWA section 1415 variance or a section 1416 exemption must require compliance by the system . . .."

16. In addition to sections 1415 and 1416 of the federal Safe Drinking Water Act, 40 CFR 142.307 specifies the items and schedule milestones that must be included in relief equivalent to a SDWA section 1415 small system variance. In granting any form of relief from an NPDWR, the Board will consider all applicable federal requirements for and limitations on the State's ability to grant relief consistent with federal law.

17. Other waterborne emergencies require a Tier 1 public notice under Section 611.902(a) for situations that do not meet the definition of a waterborne disease outbreak given in Section 611.101, 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.

18. The Agency may place any other situation in any tier it deems appropriate in writing, based on the prospective threat which it determines that the situation poses to public health, and subject to Board review under Section 40 of the Act.

19. A failure to collect three or more samples for Cryptosporidium analysis is a Tier 2 violation requiring special notice, as specified in Section 611.911. All other monitoring and testing procedure violations are Tier 3.

20. Suppliers that violate the Hazard Index MCL and one or more individual MCLs based on the same contaminants may issue one notification to satisfy the public notification requirements for multiple violations pursuant to Section 611.903.

BOARD NOTE: This Appendix G derives from appendix A to subpart Q of 40 CFR 141.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.APPENDIX H Standard Health Effects Language for Public Notification

Contaminant	MCLG[1] mg/L	MCL[2] mg/L	Standard health effects language for public notification
National Primary Drinking Water Regulations (NPDWR):			
A. Microbiological Contaminants			
1a. Corresponding row 1a in appendix B to subpart Q to 40 CFR 141 no longer applies by its own terms. This statement maintains structural consistency with the federal regulations.			
1b. Corresponding row 1b in appendix B to subpart Q to 40 CFR 141 no longer applies by its own terms. This statement maintains structural consistency with the federal regulations.			
1c. Fecal indicators (GWR): i. E. coli ii. enterococci iii. coliphage	 Zero None None	 TT TT 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.
1d. Groundwater Rule 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.

1e. Subpart Y Coliform Assessment and~~and/or~~ Corrective Action Violations	N/A	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 system must use 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).

1f. Subpart Y E.coli Assessment and~~and/or~~ Corrective Action Violations	N/A	TT	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 violated the standard for E. coli, 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 system must use 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.
1g. E. coli	Zero	See footnote 22	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.

1h. Subpart Y Seasonal System TT Violations	N/A	TT	When this violation includes the failure to monitor for total coliforms or E. coli prior to serving water to the public, the mandatory language found at Section 611.905(d)(2) must be used. When this violation includes failure to complete other actions, the appropriate elements found in Section 611.905(a) to describe the violation must be used.
2a. This entry relates to the obsolete MCL for turbidity in 40 CFR 141.13 that does not apply to any supplier in Illinois. This statement maintains structural consistency with the corresponding USEPA rule.			
2b. Turbidity (SWTR TT)	None	TT[7]	Turbidity has no health effects. However,[6] 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.
2c. Turbidity (IESWTR TT and LT1ESWTR TT)	None	TT	Turbidity has no health effects. However,[8] 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.

B. Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR), Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR), and Filter Backwash Recycling Rule (FBRR) violations:			
3. Giardia lamblia (SWTR/IESWTR/ LT1ESWTR)	Zero	TT[10]	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
4. Viruses (SWTR/IESWTR/ LT1ESWTR)			Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
5. Heterotrophic plate count (HPC) bacteria[9] (SWTR/IESWTR/ LT1ESWTR)			Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
6. Legionella (SWTR/IESWTR/ LT1ESWTR)			Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
7. Cryptosporidium (IESWTR/FBRR/ LT1ESWTR)			Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
C. Inorganic Chemicals (IOCs)			
8. 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.

9. 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.
10. Asbestos (10 µm)	7 MFL[11]	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.
11. 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.
12. 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.
13. Cadmium	0.005	0.005	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
14. 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.
15. 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.

16. 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 or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
17. 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.
18. 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.
19. 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.
20. 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.

21. 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.
22. 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.
D. Lead and Copper Rule			
23. Lead	Zero	TT [13] ~~TT~~ [12]	There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups, especially pregnant people, infants (both formula-fed and breastfed), and young children. ~~.~~ Some of the health effects to infants ~~Infants~~ and children include ~~can have~~ decreases in IQ and attention span. Lead exposure can also result in ~~lead to~~ new or worsened learning and behavior problems ~~. or exacerbate existing learning and behavior problems~~. The children of persons ~~women~~ who are exposed to lead before or during pregnancy may be at ~~can have~~ increased risk of these harmful ~~adverse~~ health effects. Adults ~~can~~ have increased risks of heart disease, high blood pressure, kidney or nervous system problems. Contact your health care provider for more information about your risks.

24. Copper	1.3	TT[13]	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.
E. Synthetic Organic Chemicals (SOCs)			
25. 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.
26. 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.
27. 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.
28. 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.

29. 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.
30. 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.
31. 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.
32. 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.
33. 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 toxic effects, such as weight loss, liver enlargement, or possible reproductive difficulties.
34. 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 they may have an increased risk of getting cancer.

35. Dibromochloropropane (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.
36. 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.
37. Dioxin (2,3,7,8-TCDD)	Zero	3×10^{-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.
38. Diquat	0.02	0.02	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
39. 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.
40. Endrin	0.002	0.002	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
41. 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.

42. 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.
43. 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.
44. 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.
45. 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.
46. Hexachlorocyclopenta-diene	0.05	0.05	Some people who drink water containing hexachlorocyclopenta-diene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
47. 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.

48. Methoxychlor	0.04	0.04	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
49. 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.
50. 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.
51. 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.
52. 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.
53. 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.

54. 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.
F. Volatile Organic Chemicals (VOCs)			
55. PFAS (HFPO-DA, PFBS, PFHxS, and PFNA)	1 (unitless	1 (unitless	Per- and polyfluoroalkyl substances (PFAS) can persist in the human body and exposure may lead to increased risk of adverse health effects. Low levels of multiple PFAS that individually would not likely result in increased risk of adverse health effects may result in adverse health effects when combined in a mixture. Some people who consume drinking water containing mixtures of PFAS in excess of the Hazard Index (HI) MCL may have increased health risks such as liver, immune, and thyroid effects following exposure over many years and developmental and thyroid effects following repeated exposure during pregnancy and/or childhood

56. HFPO-DA	0.00001	0.00001	Some people who drink water containing HFPO-DA in excess of the MCL over many years may have increased health risks such as immune, liver, and kidney effects. There is also a potential concern for cancer associated with HFPO-DA exposure. In addition, there may be increased risks of developmental effects for people who drink water containing HFPO-DA in excess of the MCL following repeated exposure during pregnancy and/or childhood
57. PFHxS	0.00001	0.00001	Some people who drink water containing PFHxS in excess of the MCL over many years may have increased health risks such as immune, thyroid, and liver effects. In addition, there may be increased risks of developmental effects for people who drink water containing PFHxS in excess of the MCL following repeated exposure during pregnancy and/or childhood.

58. PFNA	0.00001	0.00001	Some people who drink water containing PFNA in excess of the MCL over many years may have increased health risks such as elevated cholesterol levels, immune effects, and liver effects. In addition, there may be increased risks of developmental effects for people who drink water containing PFNA in excess of the MCL following repeated exposure during pregnancy and/or childhood.
59. PFOA	zero	0.00004	Some people who drink water containing PFOA in excess of the MCL over many years may have increased health risks such as cardiovascular, immune, and liver effects, as well as increased incidence of certain types of cancers including kidney and testicular cancer. In addition, there may be increased risks of developmental and immune effects for people who drink water containing PFOA in excess of the MCL following repeated exposure during pregnancy and/or childhood.

60. PFOS	zero	0.00004	Some people who drink water containing PFOS in excess of the MCL over many years may have increased health risks such as cardiovascular, immune, and liver effects, as well as increased incidence of certain types of cancers including liver cancer. In addition, there may be increased risks of developmental and immune effects for people who drink water containing PFOS in excess of the MCL following repeated exposure during pregnancy and/or childhood.
6155. 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.
6256. 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.
6357. Chlorobenzene (monochlorobenzene)	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.
6458. 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.

6559. 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.
6660. 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.
6761. 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.
6862. cis-1,2-Dichloro-ethylene	0.07	0.07	Some people who drink water containing cis-1,2-dichloro-ethylene in excess of the MCL over many years could experience problems with their liver.
6963. trans-1,2-Dichloro-ethylene	0.1	0.1	Some people who drink water containing trans-1,2-dichloro-ethylene well in excess of the MCL over many years could experience problems with their liver.
7064. 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.
7165. 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.

7266. 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.
7367. 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.
7468. 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.
7569. 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.
7670. 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.
7771. 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.
7872. 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.

7973. 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.
8074. 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.
75a[22]75. 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.
G. Radioactive Contaminants			
8176. Beta/photon emitters	Zero	4 mrem/yr[14]	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.
8277. Alpha emitters	Zero	15 pCi/L [15]	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.
8378. Combined radium (226 and 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.

8479. Uranium	Zero	30 µg/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.
H. Disinfection Byproducts (DBPs), Byproduct Precursors, and Disinfectant Residuals: If 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). USEPA sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes (THMs) and haloacetic acids (HAA5)[16]			
8580. Total trihalomethanes (TTHMs)	N/A	0.080[17,18]	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.
8681. Haloacetic Acids (HAA5)	N/A	0.060[19]	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
8782. 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.
8883. 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.

8984. Chlorine	4 (MRDLG)[20]	4.0 (MRDL)[21]	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.
9085. 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.
9185a. Chlorine dioxide, if any two consecutive daily samples taken 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 that delivers water to consumers. Continued compliance with chlorine dioxide levels within the distribution system minimizes the potential risk of these violations to consumers.

9286a. Chlorine dioxide, if 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 USEPA standard within the distribution system that 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.
9387. 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 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.

I. Other Treatment Techniques:			
9488. 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.
9589. 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.

Appendix H—Endnotes

1. "MCLG" means maximum contaminant level goal.

2. "MCL" means maximum contaminant level.

3. This endnote corresponds with endnote 3 to appendix B to subpart Q to 40 CFR 14, which applied only to paragraph 1a in the table, which no longer has operative effect. This statement maintains structural consistency with the corresponding federal rules.

4. In the corresponding USEPA rule, this note relates to an entry for the obsolete MCL for turbidity that does not apply to any supplier in Illinois. This statement maintains structural consistency with the corresponding USEPA rule.

5. In the corresponding USEPA rule, this note relates to an entry for the obsolete MCL for turbidity that does not apply to any supplier in Illinois. This statement maintains structural consistency with the corresponding USEPA rule.

6. There are various regulations that set turbidity standards for different types of systems, including the 1989 SWTR, the 1998 IESWTR, and the 2002 LT1ESWTR. A supplier subject to the SWTR (both filtered and unfiltered) may not exceed 5 NTU. In addition, in filtered systems, 95 percent of samples each month must not exceed 0.5 NTU in systems using conventional or direct filtration and must not exceed 1 NTU in systems using slow sand or diatomaceous earth filtration or other filtration technologies approved by the Agency.

7. "TT" means treatment technique.

8. There are various regulations that set turbidity standards for different types of systems, including the 1989 SWTR, the 1998 IESWTR, and the 2002 LT1ESWTR. For a supplier subject to the IESWTR (a supplier serving at least 10,000 people, using surface water or groundwater under the direct influence of surface water), that use conventional filtration or direct filtration, the turbidity level of a system's combined filter effluent may not exceed 0.3 NTU in at least 95 percent of monthly measurements, and the turbidity level of a system's combined filter effluent must not exceed 1 NTU at any time. A supplier subject to the IESWTR using technologies other than conventional, direct, slow sand, or diatomaceous earth filtration must meet turbidity limits set by the Agency. For a supplier subject to the LT1ESWTR (a supplier serving fewer than 10,000 people, using surface water or groundwater under the direct influence of surface water) using conventional filtration or direct filtration, the turbidity level of the supplier's combined filter effluent may not exceed 0.3 NTU in at least 95 percent of monthly measurements, and the turbidity level of the supplier's combined filter effluent must not exceed 1 NTU at any time. A supplier subject to the LT1ESWTR using technologies other than conventional, direct, slow sand, or diatomaceous earth filtration must meet turbidity limits set by the Agency.

9. 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 disinfectant in the distribution system.

10. SWTR, IESWTR, and LT1ESWTR treatment technique violations that involve turbidity exceedances may use the health effects language for turbidity instead.

11. Millions of fibers per liter.

12. Action Level = 0.015 mg/L.

13. Action Level = 1.3 mg/L.

14. Millirems per year.

15. Picocuries per liter.

16. A surface water system supplier or a groundwater system supplier under the direct influence of surface water is regulated under Subpart B. A Supbart B community water system supplier or a non-transient non-community system supplier must comply with Subpart I DBP MCLs and disinfectant maximum residual disinfectant levels (MRDLs). A Subpart B transient non-community system supplier using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL.

17. Community and non-transient non-community systems must comply with Subpart Y TTHM and HAA5 MCLs of 0.080 mg/L and 0.060 mg/L, respectively (with compliance calculated as a locational running annual average) on the schedule in Section 611.970.

18. The MCL for total trihalomethanes is the sum of the concentrations of the individual trihalomethanes.

19. The MCL for haloacetic acids is the sum of the concentrations of the individual haloacetic acids.

20. "MRDLG" means maximum residual disinfectant level goal.

21. "MRDL" means maximum residual disinfectant level.

22. The supplier is in compliance unless one of the following conditions occurs: (1) the supplier's system has an E. coli-positive repeat sample following a total coliform- positive routine sample; (2) the supplier's system has a total coliform-positive repeat sample following an E. coli-positive routine sample; (3) the supplier fails to take all required repeat samples following an E. coli-positive routine sample; or (4) the supplier fails to test for E. coli when any repeat sample tests positive for total coliform.

23. The above appendix B has two contaminants assigned to 75, the second contaminant with the number 75, xylene, is numbered 75a to retain structural integrity with 40 CFR 141 Appendix B to subpart Q.

BOARD NOTE: This Appendix H derives from appendix B to subpart Q to 40 CFR 141.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.APPENDIX I Acronyms Used in Public Notification Regulation

CCR	Consumer Confidence Report
CWS	Community Water System
DBP	Disinfection Byproduct
GWR	Groundwater Rule
HI	Hazard Index
HPC	Heterotrophic Plate Count
IESWTR	Interim Enhanced Surface Water Treatment Rule
IOC	Inorganic Chemical
LCR	Lead and Copper Rule
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum Residual Disinfectant Level Goal
NCWS	Non-Community Water System
NPDWR	National Primary Drinking Water Regulation
NTNCWS	Non-Transient Non-Community Water System
NTU	Nephelometric Turbidity Unit
OGWDW	USEPA, Office of Ground Water and Drinking Water
OW	USEPA, Office of Water

PFAS	Per- and Polyfluoroalkyl Substances
PN	Public Notification
PWS	Public Water System
SDWA	Safe Drinking Water Act
SMCL	Secondary Maximum Contaminant Level
SOC	Synthetic Organic Chemical
SWTR	Surface Water Treatment Rule
TCR	Total Coliform Rule
TT	Treatment Technique
TWS	Transient Non-Community Water System
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Chemical

BOARD NOTE: Derived from Appendix C to Subpart Q to 40 CFR 141.

(Source: Amended at 50 Ill. Reg. _____, effective _____)

Section 611.TABLE Z Federal Effective Dates

The following are the effective dates of the various federal NPDWRs:

Fluoride (40 CFR 141.62(b)(1)) (corresponding with Section 611.301(b))	October 2, 1987
Phase I VOCs (40 CFR 141.61(a)(1) through (a)(8)) (corresponding with Section 611.311(a)) (benzene, carbon tetrachloride, p-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethylene, 1,1,1-trichloroethane, trichloroethylene, and vinyl chloride)	January 9, 1989
Total Coliforms Rule (40 CFR 141.21 and 141.63) (corresponding with Sections 611.521-611.527 and 611.325) (total coliforms, fecal coliforms, and E. coli) Replaced by the Revised Total Coliforms Rule (40 CFR 141, subpart Y)	December 31, 1990
Surface Water Treatment Rule (40 CFR 141, subpart H) (corresponding with Subpart B) (filtration, disinfection, and turbidity)	Effective: December 31, 1990 Compliance: December 30, 1991
Lead and Copper (40 CFR 141, subpart I) (corresponding with Subparts G and AG) (lead and copper monitoring, reporting, and recordkeeping requirements of 40 CFR 141.86 through 141.91)	July 7, 1991

Phase II IOCs (40 CFR 141.62(b)(2) and (b)(4) through (b)(10)) July 30, 1992
(corresponding with Section 611.301(b))
(asbestos, cadmium, chromium, mercury, nitrate, nitrite, and selenium)

Phase II VOCs (40 CFR 141.61(a)(9) through (a)(18)) July 30, 1992
(corresponding with Section 611.311(a))
(o-dichlorobenzene, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, 1,2-dichloropropane, ethylbenzene, monochlorobenzene, styrene, tetrachloroethylene, toluene, and xylenes (total))

Phase II SOCs (40 CFR 141.61(c)(1) through (c)(18)) July 30, 1992
(corresponding with Section 611.311(c))
(alachlor, atrazine, carbofuran, chlordane, dibromochloropropane, ethylene dibromide, heptachlor, heptachlor epoxide, lindane, methoxychlor, polychlorinated biphenyls, toxaphene, 2,4-D, and 2,4,5-TP (silvex))

Phase V SOC (40 CFR 141.61(c)(3)) August 17, 1992
(corresponding with Section 611.311(c))
(endrin)

Lead and Copper (40 CFR 141, subpart I) December 7, 1992
(corresponding with Subparts G and AG)
(lead and copper corrosion control, water treatment, public education, and lead service line replacement requirements of 40 CFR 141.81 through 141.85)

Phase IIB IOC (40 CFR 141.62(b)(3)) January 1, 1993
(corresponding with Section 611.301(b))
(barium)

Phase IIB SOCs (40 CFR 141.61(a)(9) through (a)(18)) January 1, 1993
(corresponding with Section 611.311(c))
(aldicarb, aldicarb sulfone, aldicarb sulfoxide, and pentachlorophenol. See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.)

Phase V IOCs (40 CFR 141.62(b)(11) through (b)(15)) January 17, 1994
(corresponding with Section 611.301(b))
(antimony, beryllium, cyanide, nickel, and thallium)

Phase V VOCs (40 CFR 141.61(b)(19) through (b)(21)) (corresponding with Section 611.311(a)) (dichloromethane, 1,2,4-trichlorobenzene, and 1,1,2-trichloroethane)	January 17, 1994
Phase V SOCs (40 CFR 141.61(c)(19) through (c)(25)) (corresponding with Section 611.311(c)) (benzo(a)pyrene, dalapon, di(2-ethylhexyl)adipate, di(2-ethylhexyl)phthalate dinoseb, diquat, endothall, glyphosate, hexachlorobenzene, hexachlorocyclopentadiene, oxamyl, picloram, simazine, and 2,3,7,8-TCDD)	January 17, 1994
Consumer Confidence Report Rule (40 CFR 141, subpart Q) (corresponding with Subpart O) (notification to public of drinking water quality)	September 18, 1998
Interim Enhanced Surface Water Treatment Rule (40 CFR 141, subpart P) (corresponding with Subpart R) (applicable to suppliers providing water to fewer than 10,000 persons) (Giardia lamblia, viruses, heterotrophic plate count bacteria, Legionella, Cryptosporidium, and turbidity)	February 16, 1999
Public Notification Rule (40 CFR 141, subpart Q) (corresponding with Subpart V) (notification to public of NPDWR violations, variances or exemptions, or other situations that could bear on public health)	June 5, 2000
Filter Backwash Rule (40 CFR 141.76) (corresponding with Section 611.276) (reuse of spent filter backwash water, thickener supernatant, or liquids from dewatering processes)	August 7, 2001
Disinfection/Disinfectant Byproducts Rule (40 CFR 141.64, 141.65 and 141, subpart L)	
Smaller Systems (serving 10,000 or fewer persons)	December 16, 2001
Larger Systems (serving more than 10,000 persons)	December 16, 2003
(corresponding with Sections 611.312 and 611.313) (total trihalomethanes, haloacetic acids (five), bromate, chlorite, chlorine, chloramines, and chlorine dioxide)	

Long Term 1 Enhanced Surface Water Treatment Rule (40 CFR 141, subpart T)	February 13, 2002
(corresponding with Subpart X)	
(applicable to suppliers providing water to 10,000 or more persons)	
(Giardia lamblia, viruses, heterotrophic plate count bacteria, Legionella, Cryptosporidium, and turbidity)	
Radionuclides (40 CFR 141.66)	December 8, 2003
(corresponding with Section 611.330)	
(combined radium (Ra-226 + Ra-228), gross alpha particle activity, beta particle and photon activity, and uranium)	
Arsenic (40 CFR 141.62(b)(16))	January 23, 2006
(corresponding with Section 611.301(b))	
(arsenic)	
Stage 2 Disinfection/Disinfectant Byproducts Rule (40 CFR 141, subparts U and V)	
Systems that serve fewer than 10,000 persons)	
Submit plan	April 1, 2008
Complete monitoring or study	March 31, 2010
Submit IDSE report	July 1, 2010
Compliance with monitoring requirements	
If no Cryptosporidium monitoring is required	October 1, 2013
If Cryptosporidium monitoring is required	October 1, 2014
Systems that serve 10,000 to 49,999 persons)	
Submit plan	October 1, 2007
Complete monitoring or study	September 30, 2009
Submit IDSE report	January 1, 2010
Compliance with monitoring requirements	October 1, 2013
Systems that serve 50,000 to 99,999 persons)	
Submit plan	April 1, 2007
Complete monitoring or study	March 31, 2009
Submit IDSE report	July 1, 2009
Compliance with monitoring requirements	October 1, 2012
Systems that serve 100,000 or more persons)	
Submit plan	October 1, 2006
Complete monitoring or study	September 30, 2008
Submit IDSE report	January 1, 2009
Compliance with monitoring requirements	April 1, 2012
(corresponding with Subparts W and Y)	
(total trihalomethanes and haloacetic acids (five))	

Long Term 2 Enhanced Surface Water Treatment Rule (40 CFR 141, subpart W)	
Systems that serve fewer than 10,000 persons)	
And that monitor for E. coli	
Begin first round of monitoring	October 1, 2008
Begin treatment for Cryptosporidium	October 1, 2014
Begin second round of monitoring	October 1, 2017
And that monitor for cryptosporidium	
Begin first round of monitoring	April 1, 2010
Begin treatment for Cryptosporidium	October 1, 2014
Begin second round of monitoring	April 1, 2019
Systems that serve 10,000 to 49,999 persons)	
Begin first round of monitoring	April 1, 2008
Begin treatment for Cryptosporidium	October 1, 2013
Begin second round of monitoring	October 1, 2016
Systems that serve 50,000 to 99,999 persons)	
Begin first round of monitoring	April 1, 2007
Begin treatment for Cryptosporidium	October 1, 2012
Begin second round of monitoring	October 1, 2015
Systems that serve 100,000 or more persons)	
Begin first round of monitoring	October 1, 2006
Begin treatment for Cryptosporidium	April 1, 2012
Begin second round of monitoring	April 1, 2015
(corresponding with Subpart Z)	
(E. coli, Cryptosporidium, Giardia lamblia, viruses, and turbidity)	
Groundwater Rule (40 CFR 141, subpart S)	December 1, 2009
(corresponding with Subpart S)	
(E. coli, enterococci, and coliphage)	
Revised Total Coliforms Rule (40 CFR 141, subpart Y)	Effective: April 15, 2013
(corresponding with Subpart AA)	Compliance: April 1, 2016
(total coliforms (indicator), E. coli)	
Lead-Free Fixtures Rule (40 CFR 143, subpart B)	Effective: October 1, 2020
(corresponding with Subpart AG~~Section 611.126~~)	Compliance: September 1, 2023
(lead in plumbing fixtures)	
Lead and Copper Rule Revisions (40 CFR 141, subpart I)	Effective: December 16, 2021
(corresponding with Subpart AH~~G~~)	Compliance: October 16, 2024
(lead and copper (indicator))	
Lead and Copper Rule Improvements (40 CFR 141, subpart I)	Effective: December 30, 2024
(corresponding with Subpart G)	Compliance: November 1, 2027
(lead and copper (indicator)	

Per- and Polyfluoroalkyl Rule (40 CFR 141, subpart Z) Effective: June 25, 2024

(corresponding with 40 CFR 141 Subparts O and Q) Compliance: April 26, 2027
(PFOA and PFOS reporting and notification requirements 40 CFR 141.900)
(corresponding with Section 611.7900)

(MCL violation notifications, 40 CFR 141.60 and 40 CFR 141.203)
(Corresponding with section 611.903) Compliance: April 26, 2029

(Source: Amended at 50 Ill. Reg. _____, effective _____)