ILLINOIS POLLUTION CONTROL BOARD
February 4, 1993

IN THE MATTER OF:)
)
SAFE DRINKING WATER ACT) R92-3
UPDATE, PHASE IIB AND LEAD AND) (Identical in Substance Rules)
COPPER RULES)
(6/1/91 - 12/31/91))

Proposal for Public Comment.

Proposed Order of the Board (by J. Anderson):

Pursuant to Sections 17.5 of the Environmental Protection Act (Act), the Board is proposing to amend the Safe Drinking Water Act (SDWA) regulations.

Section 17.5 provides for quick adoption of regulations which are "identical in substance" to federal regulations and that Title VII of the Act and Section 5 of the Administrative Procedure Act (APA) shall not apply. Because this rulemaking is not subject to Section 5 of the APA, it is not subject to first notice or to second notice review by the Joint Committee on Administrative Rules (JCAR). The federal SDWA regulations are found at 40 CFR 141 and 142. This rulemaking updates SDWA rules to correspond with major federal amendments more fully outlined in the accompanying Opinion.

This proposed order is supported by a proposed opinion adopted on the same day. The Board will receive public comment on the proposal for a period of 45 days following its publication in the Illinois Register. The complete text of the proposed rules follows.

IT IS SO ORDERED.

B. Forcade concurred.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, do hereby certify that the above proposed order was adopted on the 4th day of February, 1993, by a vote of 6-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board

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

PART 605
SAMPLING AND MONITORING

Section

AUTHORITY: Implementing Section 17 and authorized by Section 27 of the Environmental Protection Act (Ill. Rev. Stat. 1987, ch. 111½, pars. 1017 and 1027 [415 ILCS 5/17 and 27]).

SOURCE: Filed with Secretary of State January 1, 1978; amended at 2 Ill. Reg. 36, p. 72, effective August 29, 1978; amended and codified at 6 Ill. Reg. 11497, effective September 14, 1982; amended at 6 Ill. Reg. 14344, effective November 3, 1982; amended in R84-12 at 14 Ill. Reg. 695, effective January 2, 1990; amended at 14 Ill. Reg. 16642, effective September 20, 1990; amended in R92-3 at 17 Ill. Reg. ______________, effective ______________________ _______, 1993.

Section 605.101 Frequency of Bacteriological Sampling (Repealed)

~~This Section applies until the effective date for the filtration and disinfection requirements of 35 Ill. Adm. Code 611.Subpart B as applicable to each supply.~~

~~a) Representative samples of the finished water from the distribution system are to be submitted monthly by each supply owner, official custodian, or his authorized personnel to a certified laboratory for bacteriological analysis.~~

~~1) The minimum number of samples to be submitted monthly is dependent upon the population served as shown in Section 605.102.~~

~~2) A greater number of samples may be required by the Environmental Protection Agency (Agency) to be analyzed each month.~~

~~b) The owner, official custodian, or authorized personnel of any community water supply which is exempt from chlorination pursuant to 35 Ill. Adm. Code 604.403 shall submit samples to a certified laboratory for bacteriological analysis at least twice a month. Each submission shall consist of the minimum number of samples shown in Section 605.102 plus raw water samples of a sufficient number to assure that each active well is sampled at least monthly.~~

~~c) It shall be the responsibility of the supply to have the analyses performed either at its own certified laboratory or at any other certified laboratory. The Agency may require that some or all of the monthly samples be submitted to its laboratories.~~

(Source: Repealed at 17 Ill. Reg. ______________, effective ______ ____________________, 1993)

Section 605.102 Minimum Allowable Monthly Samples for Bacteriological Analysis (Repealed)

~~This Section applies until the effective date for the filtration and disinfection requirements of 35 Ill. Adm. Code 611.Subpart B as applicable to each supply.~~

~~Population Served~~	~~Minimum number of Samples Pper Month~~
~~25 to 100~~	~~1~~
~~101 to 2,500~~	~~2~~
~~2,501 to 3,300~~	~~3~~
~~3,301 to 4,100~~	~~4~~
~~4,101 to 4,900~~	~~5~~
~~4,901 to 5,800~~	~~6~~
~~5,801 to 6,700~~	~~7~~
~~6,701 to 7,600~~	~~8~~
~~7,601 to 8,500~~	~~9~~
~~8,501 to 9,400~~	~~10~~
~~9,401 to 10,300~~	~~11~~
~~10,301 to 11,100~~	~~12~~
~~11,101 to 12,000~~	~~13~~
~~12,001 to 12,900~~	~~14~~
~~12,901 to 13,700~~	~~15~~

~~13,701 to 14,600~~	~~16~~
~~14,601 to 15,500~~	~~17~~
~~15,501 to 16,300~~	~~18~~
~~16,301 to 17,200~~	~~19~~
~~17,201 to 18,100~~	~~20~~
~~18,101 to 18,900~~	~~21~~
~~18,901 to 19,800~~	~~22~~
~~19,801 to 20,700~~	~~23~~
~~20,701 to 21,500~~	~~24~~
~~21,501 to 22,300~~	~~25~~
~~22,301 to 23,200~~	~~26~~
~~23,201 to 24,000~~	~~27~~
~~24,001 to 24,900~~	~~28~~
~~24,901 to 25,000~~	~~29~~
~~25,001 to 28,000~~	~~30~~
~~28,001 to 33,000~~	~~35~~
~~33,001 to 37,000~~	~~40~~
~~37,001 to 41,000~~	~~45~~
~~41,001 to 46,000~~	~~50~~
~~46,001 to 50,000~~	~~55~~
~~50,001 to 54,000~~	~~60~~
~~54,001 to 59,000~~	~~65~~
~~59,001 to 64,000~~	~~70~~
~~64,001 to 70,000~~	~~75~~
~~70,001 to 76,000~~	~~80~~
~~76,001 to 83,000~~	~~85~~
~~83,001 to 90,000~~	~~90~~
~~90,001 to 96,000~~	~~95~~
~~96,001 to 111,000~~	~~100~~
~~111,001 to 130,000~~	~~110~~
~~130,001 to 160,000~~	~~120~~
~~160,001 to 190,000~~	~~130~~
~~190,001 to 220,000~~	~~140~~
~~220,001 to 250,000~~	~~150~~
~~250,001 to 290,000~~	~~160~~
~~290,001 to 320,000~~	~~170~~
~~320,001 to 360,000~~	~~180~~
~~360,001 to 410,000~~	~~190~~
~~410,001 to 450,000~~	~~200~~
~~450,001 to 500,000~~	~~210~~
~~500,001 to 550,000~~	~~220~~
~~550,001 to 600,000~~	~~230~~
~~600,001 to 660,000~~	~~240~~
~~660,001 to 720,000~~	~~250~~
~~720,001 to 780,000~~	~~260~~
~~780,001 to 840,000~~	~~270~~
~~840,001 to 910,000~~	~~280~~
~~910,001 to 970,000~~	~~290~~
~~970,001 to 1,050,000~~	~~300~~
~~1,050,001 to 1,140,000~~	~~310~~
~~1,140,001 to 1,230,000~~	~~320~~
~~1,230,001 to 1,320,000~~	~~330~~

~~1,320,001 to 1,420,000~~	~~340~~
~~1,420,001 to 1,520,000~~	~~350~~
~~1,520,001 to 1,630,000~~	~~360~~
~~1,630,001 to 1,730,000~~	~~370~~
~~1,730,001 to 1,850,000~~	~~380~~
~~1,850,001 to 1,970,000~~	~~390~~
~~1,970,001 to 2,060,000~~	~~400~~
~~2,060,001 to 2,270,000~~	~~410~~
~~2,270,001 to 2,510,000~~	~~420~~
~~2,510,001 to 2,750,000~~	~~430~~
~~2,750,001 to 3,020,000~~	~~440~~
~~3,020,001 to 3,320,000~~	~~450~~
~~3,320,001 to 3,620,000~~	~~460~~
~~3,620,001 to 3,960,000~~	~~470~~
~~2,960,001 to 4,310,000~~	~~480~~
~~4,310,001 to 4,690,000~~	~~490~~
~~4,690,001 or more~~	~~500~~

(Source: Repealed at 17 Ill. Reg. ______________, effective _______ ______________________, 1993)

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

PART 611
PRIMARY DRINKING WATER STANDARDS

SUBPART A: GENERAL

Section

SUBPART B: FILTRATION AND DISINFECTION

Section

SUBPART C: USE OF NON-CENTRALIZED TREATMENT DEVICES

SUBPART D: TREATMENT TECHNIQUES

SUBPART F: MAXIMUM CONTAMINANT LEVELS (MCL's)

SUBPART G: LEAD AND COPPER

SUBPART K: GENERAL MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART L: MICROBIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART M: TURBIDITY MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART O: ORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART P: THM MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART Q: RADIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART T: REPORTING, PUBLIC NOTIFICATION AND RECORDKEEPING

611.Table D ~~Federal Effective Dates~~Number of Lead and Copper Monitoring Sites
611.Table E Lead and Copper Monitoring Start Dates
611.Table F Number of Water Quality Parameter Sampling Sites
611.Table G Summary of Monitoring Requirements for Water Quality Parameters
611.Table ~~D~~Z Federal Effective Dates

AUTHORITY: Implementing Sections 17 and 17.5 and authorized by Section 27 of the Environmental Protection Act (Ill. Rev. Stat. 1991, ch. 111½, pars. 1017, 1017.5 and 1027 [415 ILCS 5/17, 5/17.5 and 5/27]).

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. ________, effective ____.

SUBPART A: GENERAL

Section 611.101 Definitions

As used in this Part, the term:

"Act" means the Environmental Protection Act (Ill. Rev. Stat. 1991, ch. 111½, par. 1001 et seq. [415 ILCS 5/1 et seq.])

"Agency" means the Illinois Environmental Protection Agency.
BOARD NOTE: The Department of Public Health ("Public Health") regulates non-community water supplies ("non-CWSs", including non-transient, non-community water supplies ("NTNCWSs") and transient non-community water supplies ("transient non-CWSs")). For the purposes of regulation of supplies by Public Health by reference to this Part, "Agency" shall mean Public Health.

"Ai" means "inactivation ratio".

"Best available technology" or "BAT" means the best technology, treatment techniques or other means that USEPA has found are available for the contaminant in question. BAT is specified in Subpart F.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Board" means the Illinois Pollution Control Board.

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

"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 shall 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 shall determine the RDC of each disinfection sequence and corresponding contact time before any subsequent disinfection application point(s). (See "$CT_{99.9}$")
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"$CT_{99.9}$" is the CT value required for 99.9 percent (3-log) inactivation of Giardia lamblia cysts. $CT_{99.9}$ for a variety of disinfectants and conditions appear in Tables 1.1-1.6, 2.1 and 3.1 of Section 611.Appendix B. (See "Inactivation Ratio".)
BOARD NOTE: Derived from the definition of "CT" in 40 CFR 141.2 (199~~1~~2).

"Coagulation" means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Community Water System" or "CWS" means a public water system (PWS) that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2). This definition differs slightly from that of Section 3.05 of the Act.

"Compliance cycle" means the nine-year calendar year cycle during which public water systems (PWSs) must monitor. Each compliance cycle consists of three three-year compliance periods. The first calendar cycle begins January 1, 1993, and ends December 31, 2001; the second begins January 1, 2002 and ends December 31, 2010; the third begins January 1, 2011, and ends December 31, 2019.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Compliance period" means a three-year calendar year period within a compliance cycle. Each compliance cycle has three three-year compliance periods. Within the first compliance cycle, the first compliance period runs from January 1, 1993, to December 31, 1995; the

second from January 1, 1996, to December 31, 1998; the third from January 1, 1999, to December 31, 2001.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Confluent growth" means a continuous bacterial growth covering the entire filtration area of a membrane filter or a portion thereof, in which bacterial colonies are not discrete.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Contaminant" means any physical, chemical, biological or radiological substance or matter in water.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Conventional filtration treatment" means a series of processes including coagulation, flocculation, sedimentation and filtration resulting in substantial particulate removal.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

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

> A precoat cake of diatomaceous earth filter media is deposited on a support membrane (septum); and
>
> While the water is filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake.

BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Direct filtration" means a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic microorganisms.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Disinfectant contact time" or "T" means the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of RDC measurement to a point before or at the point where RDC is measured.

Where only one RDC is measured, T is the time in minutes that it takes for water to move from the point of disinfectant application to a point before or at where RDC is measured.

Where more than one RDC is measured, T is:

For the first measurement of RDC, the time in minutes that it takes for water to move from the first or only point of disinfectant application to a point before or at the point where the first RDC is measured and

For subsequent measurements of RDC, the time in minutes that it takes for water to move from the previous RDC measurement point to the RDC measurement point for which the particular T is being calculated.

T in pipelines must be calculated based on "plug flow" by dividing the internal volume of the pipe by the maximum hourly flow rate through that pipe.

T within mixing basins and storage reservoirs must be determined by tracer studies or an equivalent demonstration.

BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Disinfection" means a process that inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"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 with more than one service connection that is limited to the specific service connection from which the coliform-positive sample was taken.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Dose equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Entry point" means a point just downstream of the final treatment operation, but upstream of the first user and upstream of any mixing with other water. If raw water is used 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 on the receiving PWS, and upstream of any mixing with other water.

"Filtration" means a process for removing particulate matter from water by passage through porous media.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Flocculation" means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"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.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Groundwater under the direct influence of surface water" is as determined in Section 611.212.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"GWS" means "groundwater system", a public water supply (PWS) that uses only groundwater sources.
BOARD NOTE: Drawn from 40 CFR 141.23(b)(2) & 141.24(f)(2) note (199~~1~~2).

"Halogen" means one of the chemical elements chlorine, bromine or iodine.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"HPC" means "heterotrophic plate count", measured as specified in Section 611.531(c).

"Inactivation Ratio" (Ai) means:

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

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 is assumed to provide a 3-log inactivation of Giardia lamblia cysts.

BOARD NOTE: Derived from the definition of "CT" in 40 CFR 141.2 (199~~1~~2).

"Initial compliance period" means the three-year compliance period begins January 1, 1993.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"L" means "liter".

"Legionella" means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Man-made beta particle and photon emitters" means all radionuclides emitting beta particles and/or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure, NCRP Report Number 22, incorporated by reference in Section 611.102, except the daughter products of thorium-232, uranium-235 and uranium-238.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Maximum contaminant level" ("MCL") means the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. See Section 611.121
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Maximum Total Trihalomethane Potential" or "MTP" means the maximum concentration of total trihalomethanes (TTHMs) produced in a given water containing a disinfectant residual after 7 days at a temperature of 25° C or above.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"MFL" means millions of fibers per liter larger than 10 micrometers.
BOARD NOTE: Derived from 40 CFR 141.23(a)(4)(i) (199~~1~~2).

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

"mg/L" means milligrams per liter.

"Mixed system" means a PWS that uses both groundwater and surface water sources.
BOARD NOTE: Drawn from 40 CFR 141.23(b)(2) and 141.24(f)(2) note (199~~1~~2).

"MUG" means 4-methyl-umbelliferyl-beta-d-glucuronide.

"Near the first service connection" means at one of the 20 percent of all service connections in the entire system that are nearest the public water system (PWS) treatment facility, as measured by water transport time within the distribution system.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

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

"Non-community water system" or "NCWS" or "non-CWS" means a public water system (PWS) that is not a community water system (CWS).
BOARD NOTE: Derived from the definition of "public water system" in 40 CFR 141.2 (199~~1~~2).

"Non-transient non-community water system" or "NTNCWS" means a public water system (PWS) that is not a community water system (CWS) and that regularly serves at least 25 of the same persons over 6 months per year.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

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

"NTU" means "nephelometric turbidity units".

"Old MCL" means one of the inorganic maximum contaminant levels (MCLs), codified at Section 611.300, or organic MCLs, codified at Section 611.310, including any marked as "additional state requirements."
BOARD NOTE: Old MCLs are those derived prior to the implementation of the USEPA "Phase II" regulations. The Section 611.640 definition of this term, which applies only to Subpart O, differs from this definition in that that definition does not include the Section 611.300 inorganic MCLs.

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

"Performance evaluation sample" means a reference sample provided to a laboratory for the purpose of demonstrating that the laboratory can successfully analyze the sample within limits of performance specified by the Agency; or, for bacteriological laboratories, Public Health; or, for radiological laboratories, the Illinois Department of Nuclear Safety. The true value of the concentration of the reference material is unknown to the laboratory at the time of the analysis.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Person" means an individual, corporation, company, association, partnership, State, unit of local government or federal agency.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"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.

"Picocurie" or "pCi" means the quantity of radioactive material producing 2.22 nuclear transformations per minute.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Point of disinfectant application" is the point at which the disinfectant is applied and downstream of which water is not subject to recontamination by surface water runoff.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Point-of-entry treatment device" is a treatment device applied to the drinking water entering a house or building for the purpose of reducing contaminants in the drinking water distributed throughout the house or building.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Point-of-use treatment device" is a treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Public Health" means the Illinois Department of Public Health.
BOARD NOTE: The Department of Public Health ("Public Health") regulates non-community water supplies ("non-CWSs", including non-transient, non-community water supplies ("NTNCWSs") and transient non-community water supplies ("transient non-CWSs")). For the purposes of regulation of supplies by Public Health by reference to this Part, "Agency" shall mean Public Health.

"Public water system" or "PWS" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen 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 community water system (CWS) or a non-community water system (non-CWS). Such term includes:

> Any collection, treatment, storage and distribution facilities under control of the operator of such system and used primarily in connection with such system, and;
>
> Any collection or pretreatment storage facilities not under such control that are used primarily in connection with such system.
> BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Reliably and consistently" below a specified level 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 shall 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 contaminant detected that may influence the quality of water.
BOARD NOTE: Derived from 40 CFR 141.23(b)(9), 141.24(f)(11)(ii), and 141.24(f)(11)(iii) (199~~1~~2).

"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.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Repeat compliance period" means a compliance period that begins after the initial compliance period.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Representative" means that a sample must reflect the quality of water that is delivered to consumers under conditions when all sources required to supply water under normal conditions are in use and all treatment is properly operating.

"Residual disinfectant concentration" ("RDC" or "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.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"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.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Sanitary survey" means an onsite review of the water source, facilities, equipment, operation and maintenance of a public water system (PWS) for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Sedimentation" means a process for removal of solids before filtration by gravity or separation.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"SEP" means special exception permit (Section 611.110).

"Slow sand filtration" means a process involving passage of raw water through a bed of sand at low velocity (generally less than 0.4 meters per hour (m/h)) resulting in substantial particulate removal by physical and biological mechanisms.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"SOC" or "Synthetic organic chemical contaminant" refers to that group of contaminants designated as "SOCs", or "synthetic organic chemicals" or "synthetic organic contaminants", in USEPA regulatory discussions and guidance documents. "SOCs" include alachlor, atrazine, carbofuran, chlordane, dibromoethylene (ethylene dibromide or EDB), dibromochloropropane

(DBCP), heptachlor, heptachlor epoxide, lindane, methoxychlor, toxaphene, polychlorinated biphenyls (PCBs), 2,4-D, and 2,4,5-TP.

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

"Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Supplier of water" or "supplier" means any person who owns or operates a public water system (PWS). This term includes the "official custodian".
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Surface water" means all water that is open to the atmosphere and subject to surface runoff.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"SWS" means "surface water system", a public water supply (PWS) that uses only surface water sources, including "groundwater under the direct influence of surface water".
BOARD NOTE: Drawn from 40 CFR 141.23(b)(2) and 141.24(f)(2) note (199~~1~~2).

"System with a single service connection" means a system that supplies drinking water to consumers via a single service line.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"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.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"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: Derived from the definition of "total trihalomethanes" in 40 CFR 141.2 (199~~1~~2).See the definition of THMs for a listing of the four compounds that USEPA considers TTHMs to comprise.

"Transient, non-community water system" or "transient non-CWS" or "TNCWS" means a public water system (PWS) that is neither a community water system ("CWS") nor a non-transient, noncommunity water system ("NTNCWS").
BOARD NOTE: The federal regulations apply to all "public water systems", which are 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", which it defines as having at least 15 service connections or regularly serving 25 persons daily at least 60 days per year. See Ill. Rev. Stat. 1991 ch. 111½, par. 1003.28 [415 ILCS 5/3.28]. The Department of Public Health regulates transient non-community water systems.

"Treatment" means any process that changes the physical, chemical, microbiological, or radiological properties of water, is under the control of the supplier, and is not a "point of use" or "point of entry treatment device" as defined in this Section. "Treatment" includes, but is not limited to aeration, coagulation, sedimentation, filtration, activated carbon treatment, disinfection, and fluoridation.

"Trihalomethane" or "THM" means one of the family of organic compounds, named as derivatives of methane, in which three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure. The THMs are:

Trichloromethane (chloroform),

Dibromochloromethane,

Bromodichloromethane and

Tribromomethane (bromoform)

BOARD NOTE: Derived from the definitions of "total trihalomethanes" and "trihalomethanes" in 40 CFR 141.2 (199~~1~~2).

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

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

"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", or "volatile organic chemicals" or "volatile organic contaminants", in USEPA regulatory discussions and guidance documents. "VOCs" include benzene, tetrachloromethane (carbon tetrachloride), trichloroethylene, vinyl chloride, 1,1,1-trichloroethane (methyl chloroform), 1,1-di-

chloroethylene, 1,2-dichloroethane, cis-1,2-dichloroethylene, ethylbenzene, monochlorobenzene, o-dichlorobenzene, styrene, tetrachloroethylene, toluene, trans-1,2-dichloroethylene, xylene, and 1,2-dichloropropane.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Waterborne disease outbreak" means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system (PWS) that is deficient in treatment, as determined by the appropriate local or State agency.
BOARD NOTE: Derived from 40 CFR 141.2 (199~~1~~2).

"Wellhead Protection Program" means the wellhead protection program for the State of Illinois, approved by USEPA under Section 1428 of the SDWA.
BOARD NOTE: Derived from 40 CFR 141.71(b) (199~~1~~2). The wellhead protection program will include the "groundwater protection needs assessment" under Section 17.1 of the Act, and regulations to be adopted in 35 Ill. Adm. Code 615 et seq.

(Source: Amended at 16 Ill. Reg. ___________, effective ____________________)

Section 611.102 Incorporations by Reference

a) Abbreviations. The following abbreviated names are used in this Part to refer to materials incorporated by reference:

"Atomic Absorption-Platform Furnace Method" or "AA-Platform Furnace Method" means "Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry -- Method 200.9"

"AEPA-1 Polymer" is available from Advanced Polymer Systems.

"Asbestos Methods" means "Analytical Method for Determination of Asbestos Fibers in Water", available from NTIS.

"ASTM" means American Society for Testing and Materials

"USEPA Inorganic Methods" means "Methods for Chemical Analysis of Water and Wastes", available from NTIS and ORD Publications.

"USEPA Organic Methods" means "Methods for the Determination of Organic Compounds in Drinking Water", available from NTIS.

"Indigo method" is as described in "Standard Methods", 17th Edition, Method 4500-O_3 B.

"Inductively Coupled Plasma-Mass Spectrometry Method" or "ICP-MS Method" means "Determination of Trace Elements in Water and Wastes by Inductively-Coupled Plasma-Mass Spectrometry -- Method 200.8"

"Inductively Coupled Plasma Method 200.7" or "ICP Method 200.7" means "Inductively Coupled Plasma-Atomic Emission Spectrometric Method for Trace Element Analysis in Water and Wastes -- Method 200.7, with appendix" See 40 CFR 136, Appendix C.

"Inductively Coupled Plasma Method 200.7, Rev. 3.2" or "ICP Method 200.7, Rev. 3.2" means "Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry -- Method 200.7, Revision 3.2" See 40 CFR 136, Appendix C.

~~"Inorganic Methods" means "Methods for Chemical Analysis of Water and Wastes", available from NTIS and ORD Publications.~~

"Ion Chromatography Method 300.0" means "Determination of Inorganic Ions in Water by Ion Chromatography -- Method 300.0"

"Microbiological Methods" means "Microbiological Methods for Monitoring the Environment, Water and Wastes", available from NTIS.

"MMO-MUG Test" means "minimal medium ortho-nitrophenyl-beta-d-galactopyranoside-4-methyl-umbelliferyl-beta-d-glucuronide test", available from Environetics, Inc.

"NCRP" means "National Council on Radiation Protection".

"NTIS" means "National Technical Information Service".

~~"Organic Methods" means "Methods for the Determination of Organic Compounds in Drinking Water", available from NTIS.~~

"Radiochemical Methods" means "Interim Radiochemical Methodology for Drinking Water", available from NTIS.

"Standard Methods", means "Standard Methods for the Examination of Water and Wastewater", available from the American Waterworks Association.

"Technicon Methods" means "Fluoride in Water and Wastewater", available from Technicon.

"USGS Method" means "United States Geological Survey Method"

b) The Board incorporates the following publications by reference:

Access Analytical Systems, Inc., See Environetics, Inc.

ASTM. American Society for Testing and Materials, 1976 Race Street, Philadelphia, PA 19103 215/299-5585:

ASTM Method D511-88A and B, "Standard Test Methods for Calcium and Magnesium in Water", approved 1988.

ASTM Method D515-88A, "Standard Test Methods for Phosphorus in Water", approved 1988.

ASTM Method D858-88, "Standard Test Methods for Manganese in Water", approved August 19, 1988.

ASTM Method D859-88, Standard Test Method for Silica in Water", approved 1988.

ASTM Method 1067-88B, "Standard Test Methods for Acidity or Alkalinity in Water", approved 1988).

ASTM Method D1125-82B, "Standard Test Methods for Electrical Conductivity and Resistivity of Water", approved October 29, 1982.

ASTM Method D1179-72A or B "Standard Test Methods for Fluoride in Water", approved July 28, 1972, reapproved 1978.

ASTM Method D1293-84B "Standard Test Methods for pH of Water", approved October 26, 1984.

ASTM Method D1428-64, "Standard Test Methods for Sodium and Potassium in Water and Water-Formed Deposits by Flame Photometry", approved August 31, 1964, reapproved 1977.

ASTM Method D1688~~-84D~~90A or ~~E~~C, "Standard Test Methods for Copper in Water", approved ~~November 30,~~ 19~~84~~90.

ASTM Method D1889-88a, "Standard Test Method for Turbidity of Water", approved June 24, 1988.

ASTM Method D2459-72, "Standard Test Method for Gamma Spectrometry in Water," 1975, reapproved 1981, discontinued 1988.

ASTM Method D2907-83, "Standard Test Methods for Microquantities of Uranium in Water by Fluorometry", approved May 27, 1983.

ASTM Method D2972-88A or B, "Standard Test Methods for Arsenic in Water".

ASTM Method D3223-86, "Standard Test Method for Total Mercury in Water", approved February 28, 1986.

ASTM Method D3559~~-78A or B~~85D, "Standard Test Methods for Lead in Water", approved ~~July 28,~~ 19~~7~~85.

ASTM Method D3859-88, "Standard Test Methods for Selenium in Water", approved June 24, 1988.

ASTM Method D3867-90, "Standard Test Methods for Nitrite-Nitrate in Water", approved January 10, 1990.

ASTM Method 4327-88, "Standard Test Method for Anions in Water by Ion Chromatography", approved 1988.

American Waterworks Association et al., 6666 West Quincy Ave., Denver, CO 80235 (303) 794-7711:

Standard Methods for the Examination of Water and Wastewater, 13th Edition, 1971.

Method 302, Gross Alpha and Gross Beta Radioactivity in Water (Total, Suspended and Dissolved).

Method 303, Total Radioactive Strontium and Strontium 90 in Water.

Method 304, Radium in Water by Precipitation.

Method 305, Radium 226 by Radon in Water (Soluble, Suspended and Total).

Method 306, Tritium in Water.

Standard Methods for the Examination of Water and Wastewater, 14th Edition, 1976.

Method 214A, Turbidity, Nephelometric Method -- Nephelometric Turbidity Units.

~~Method 301A II, Determination of Cadmium, etc. by Direct Aspiration into an Air-Acetylene Flame.~~

~~Method 301A III, Determination of Low Concentrations of Cadmium, etc. by Chelation with Ammonium Pyrrolidine Dithiocarbamate, and Extraction into Methyl Isobutyl Ketone.~~

Methods 320 and 320A, Sodium, Flame Photometric Method.

Method 412D, Cyanide, Colorimetric Method.

Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985.

Method 212, Temperature.

Method 303A, Determination of Antimony, etc. by Direct Aspiration into an Air-Acetylene Flame.

~~Method 303B, Determination of Low Concentrations of Cadmium, etc. by Chelation with Ammonium Pyrrolidine Dithiocarbamate (APDC) and Extraction into Methyl Isobutyl Ketone (MIBK).~~

Method 303C, Determination of Aluminum, etc., by Direct Aspiration into a Nitrous Oxide-Acetylene Flame.

Method 303E, Determination of Arsenic and Selenium by Conversion to Their Hydrides by Sodium Borohydride Reagent and Aspiration into an Atomic Absorption Atomizer.

Method 303F, Determination of Mercury by the Cold Vapor Technique.

Method 304, Determination of Micro Quantities of Aluminum, etc. by Electrothermal Atomic Absorption Spectrometry.

Method 307A, Arsenic, Atomic Absorption Spectrophotometric Method.

Method 307B, Arsenic, Silver Diethyldithiocarbamate Method.

Method 408C, Chlorine (Residual), Amperometric Titration Method.

Method 408D, Chlorine (Residual), DPD Ferrous Titrimetric Method.

Method 408E, Chlorine (Residual), DPD Colorimetric Method.

Method 408F, Chlorine (Residual), Leuco Crystal Violet Method.

Method 410B, Chlorine Dioxide, Amperometric Method.

Method 410C, Chlorine Dioxide, DPD Method (Tentative).

Method 412D, Cyanide, Colorimetric Method.

Method 413A, Fluoride, Preliminary Distillation Step.

Method 413B, Fluoride, Electrode Method.

Method 413C, Fluoride, SPADNS Method.

Method 413E, Fluoride, Complexone Method.

Method 418C, Nitrogen (Nitrate), Cadmium Reduction Method.

Method 418F, Nitrogen (Nitrate), Automated Cadmium Reduction Method.

Method 423, pH Value.

Method 907A, Pour Plate Method.

Method 908, Multiple Tube Fermentation Technique for Members of the Coliform Group.

Method 908A, Standard Coliform Multiple-Tube (MPN) Tests.

Method 908B, Application of Tests to Routine Examinations.

Method 908C, Fecal Coliform MPN Procedure.

Method 908D, Estimation of Bacterial Density.

Method 908E, Presence-Absence (P-A) Coliform Test (Tentative).

Method 909, Membrane Filter Technique for Members of the Coliform Group.

Method 909A, Standard Total Coliform Membrane Filter Procedure.

Method 909B, Delayed Incubation Total Coliform Procedure.

Method 909C, Fecal Coliform Membrane Filter Procedure.

Standard Methods for the Examination of Water and Wastewater, 17th Edition, 1989.

<u>Method 2320, Alkalinity.</u>

<u>Method 2510, Conductivity.</u>

<u>Method 2550, Temperature.</u>

Method 3111 B, Metals by Atomic Absorption Spectrometry, Direct Air-Acetylene Flame Method.

Method 3113, Metals by Electrothermal Atomic Absorption Spectrometry.

Method 3120, Metals by Plasma Emission Spectroscopy.

Method 3500-Ca D, Calcium, EDTA Titrimetric Method.

Method 4110, Determination of Anions by Ion Chromatography.

Method 4500-H^+, pH Value.

Method 4500-O_3, Ozone (Residual), Indigo Colorimetric Method (Proposed).

Method 4500-P F, Phosphorus, Automated Ascorbic Acid Reduction Method.

Method 4500-Si D, Silica, Molybdosilicate Method.

Method 4500-Si E, Silica, Heteropoly Blue Method.

Method 4500-Si F, Silica, Automated method for Molybdate-Reactive Silica.

Advanced Polymer Systems, 3696 Haven Avenue,
Redwood City, CA 94063 415/ 366-2626:

AEPA-1 Polymer. See 40 CFR 141.22(a). Also, as referenced in ASTM D1889.

Environetics, Inc., 21 Business Park Drive,
Branford, CT 06405 800/321-0207:

MMO-MUG tests: Colilert P/A or Colilert MPN.

ERDA Health and Safety Laboratory, New York, NY:

HASL Procedure Manual, HASL 300, 1973. See 40 CFR 141.25(b)(2).

Millipore Corporation, Waters Chromatography
Division, 34 Maple St., Milford, MA 01757

800/252-4752:

Waters Test Method for the Determination of Nitrite/Nitrate in Water Using Single Column Ion Chromatography, Method B-1011.

NCRP. National Council on Radiation Protection, 7910 Woodmont Ave., Bethesda, MD (301) 657-2652:

"Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure", NCRP Report Number 22, June 5, 1959.

NTIS. National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161 (703) 487-4600 or (800) 336-4700:

Analytical Method for Determination of Asbestos Fibers in Water, EPA-600/4-83-043, September, 1983, Doc. No. PB83-260471.

"Methods of for Chemical Analysis of Water and Wastes", J. Kopp and D. McGee, Third Edition, March, 1979. EPA-600/4-79-020, Doc. No. PB84-297686.

"Methods for Chemical Analysis of Water and Wastes", March, 1983, Doc. No. PB84-128677, for all methods referenced except methods 180.1 (turbidity, Section 611.560) and 273.1 and 273.2 (sodium, Section 611.630).

"Methods for Chemical Analysis of Water and Wastes", March, 1979, Doc. No. PB84-128677, only for methods 180.1 (turbidity, Section 611.560) and 273.1 and 273.2 (sodium, Section 611.630).

"Methods for the Determination of Organic Compounds in Drinking Water", EPA/600/4-88/039, September, 1986, Doc. No. PB89-220461. (For the purposes of Section 611.647 only.)

"Methods for the Determination of Organic Compounds in Drinking Water", EPA/600/4-88/039, December, 1988, Doc. No. PB89-220461. (For the purposes of Sections 611.646 and 611.648 only; including Method 515.1, revision 5.0 and Method 525.1, revision 3.0

(May, 1991).)

"Microbiological Methods for Monitoring the Environment: Water and Wastes", R. Bodner and J. Winter, 1978. EPA-600/8-78-017, Doc. No. PB290-329/LP.

"Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions", H.L. Krieger and S. Gold, EPA-R4-73-014, May, 1973, Doc. No. PB222-154/7BA.

ORD Publications, CERI, EPA, Cincinnati, OH 45268:

"Methods for Chemical Analysis of Water and Wastes", March, 1983, (EPA-600/4-79-020), for all methods referenced except methods 180.1 (turbidity, Section 611.560) and 273.1 and 273.2 (sodium, Section 611.630).

"Methods for Chemical Analysis of Water and Wastes", March, 1979, (EPA-600/4-79-020), only for methods 180.1 (turbidity, Section 611.560) and 273.1 and 273.2 (sodium, Section 611.630).

Orion Research, Inc., 529 Main St., Boston, MA 02129 800/225-1480:

Orion Guide to Water and Wastewater Analysis, Form WeWWG/5880, p. 5.

Technicon Industrial Systems, Tarrytown, NY 10591:

"Fluoride in Water and Wastewater", Industrial Method #129-71W, December, 1972 See 40 CFR 141.23(f)(10), footnotes 6 and 7.

"Fluoride in Water and Wastewater", #380-75WE, February, 1976. See 40 CFR 141.23(f)(10), footnotes 6 and 7.

United States Environmental Protection Agency, EMSL, EPA, Cincinnati, OH 45268:

"The Analysis of Trihalomethanes in Drinking Waters by the Purge and Trap Method", Method 501.1. See 40 CFR 141, Subpart C, Appendix C.

"The Analysis of Trihalomethanes in Drinking

Water by Liquid/Liquid Extraction," Method 501.2. See 40 CFR 141, Subpart C, Appendix C.

"Inductively Coupled Plasma-Atomic Emission Spectrometric Method for Trace Element Analysis in Water and Wastes -- Method 200.7, with Appendix to Method 200.7" entitled, "Inductively Coupled Plasma-Atomic Emission Analysis of Drinking Water" (Appendix 200.7A), March 1987 (EPA/600/4-91/010). See 40 CFR 136, Appendix C.

"Interim Radiochemical Methodology for Drinking Water", EPA-600/4-75-008 (Revised) March, 1976.

"Methods for the Determination of Organic Compounds in Drinking Water". See NTIS.

"Methods of for Chemical Analysis of Water and Wastes". See NTIS and ORD Publications.

Microbiological Methods for Monitoring the Environment, Water and Wastes". See NTIS

"Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions". See NTIS.

United States Environmental Protection Agency, Science and Technology Branch, Criteria and Standards Division, Office of Drinking Water, Washington D.C. 20460:

"Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources", October, 1989.

USGS. United States Geological Survey, 1961 Stout St., Denver, CO 80294 303/844-4169:

Techniques of Water-Resources Investigation of the United States Geological Survey:

Book 5, Chapter A-1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments", 3d ed., Open-File Report 85-495, 1989.

c) The Board incorporates the following federal regulations by reference:

40 CFR 136, Appendix B and C (199~~1~~2).

40 CFR 141.22(a) (199~~1~~2).

40 CFR 141.23(f)(10), footnotes 6 and 7 (199~~1~~2).

40 CFR 141.24(e), footnote 6 (199~~1~~2).

40 CFR 141.25(b)(2) (199~~1~~2).

40 CFR 141, Subpart C, Appendix C (199~~1~~2).

40 CFR 142, Subpart G (199~~1~~2).

d) This Part incorporates no future amendments or editions.

(Source: Amended at 16 Ill. Reg. __________, effective __________ ____________)

Section 611.110 Special Exception Permits

a) Unless otherwise specified, each Agency determination in this Part is to be made by way of a written permit pursuant to Section 39(a) of the Act. Such permit is titled a "special exception" permit ("SEP").

b) No person shall cause or allow the violation of any condition of a —SEP.

c) The supplier may appeal the denial of or the conditions of a —SEP to the Board pursuant to Section 40 of the Act.

d) A SEP may be initiated either:

1) By an application filed by the supplier; or

2) By the Agency, when authorized by Board regulations.

BOARD NOTE: The Board does not intend to mandate by any provision of this Part that the Agency exercise its discretion and initiate a SEP pursuant to subsection (d)(2). Rather, the Board intends to clarify by this subsection that the Agency may opt to initiate a SEP without receiving a request from the supplier.

e) The Agency shall evaluate a request for a SEP from the etc.); and

F) For Phase I VOCs and Phase II VOCs (pursuant to Section 611.646): the number of persons served by the PWS and the proximity of a smaller system to a larger one.

f) If a supplier refuses to provide any necessary additional information requested by the Agency, or if a supplier delivers any necessary information late in the Agency's deliberations on a request, the Agency may deny the requested SEP or grant the SEP with conditions within the time allowed by law.

BOARD NOTE: Subsection (e) derived from 40 CFR 141.24(f)(8) and (h)(6) (1992). Subsection (f) derived from 40 CFR 141.82(d)(2), and 141.83(b)(2) (199~~1~~2). USEPA has reserved the discretion, at 40 CFR 142.18 (1992), to review and nullify Agency determinations of the types made pursuant to Sections 611.510, 611.602, 611.603, 611.646, and 611.648 and the discretion, at 40 CFR 141.82(i), 141.(b)(7), and 142.19 (1992), to establish federal standards for any supplier, superseding any Agency determination made pursuant to Sections 611.352(d), 611.352(f), 611.353(b)(2), and 611.353(b)(4).

(Source: Amended at 16 Ill. Reg. __________, effective __________ ______________)

Section 611.111 Section 1415 Variances

This Section is intended as a State equivalent of Section 1415(a)(1)(A) of the SDWA.

a) The Board may grant a supplier a variance from a NPDWR in this Part.

1) The supplier shall file a variance petition pursuant to 35 Ill. Adm. Code 104, except as modified or supplemented by this Section.

2) The Board may grant a variance from the additional State requirements in this Part without following this Section.

b) As part of the showing of arbitrary or unreasonable hardship, the supplier shall demonstrate that:

1) Because of characteristics of the raw water sources that are reasonably available to the system, the supplier cannot meet the MCL or other

monitoring requirements of Section 611.646(e) and (f) (Phase I VOCs and Phase II VOCs), Section 611.648(a) (for Phase II SOCs) and Section 611.510(a) (for unregulated organic contaminants) on the basis of knowledge of previous use (including transport, storage, or disposal) of the contaminant in the watershed or zone of influence of the system, as determined pursuant to 35 Ill. Adm. Code 671:

1) If the Agency determines that there was no prior use of the contaminant, it shall grant the SEP, or

2) If the contaminant was previously used or the previous use was unknown, the Agency shall consider the following factors:

    A) Previous analytical results;

    B) The proximity of the system to any possible point source of contamination (including spills or leaks at or near a water treatment facility; at manufacturing, distribution, or storage facilities; from hazardous and municipal waste land fills; or from waste handling or treatment facilities) or non-point source of contamination (including the use of pesticides and other land application uses of the contaminant);

    C) The environmental persistence and transport of the contaminant;

    D) How well the water source is protected against contamination, including whether it is a SWS or a GWS:

        i) A GWS must consider well depth, soil type, and well casing integrity, and

        ii) A SWS must consider watershed protection; and

    E) For Phase II SOCs and unregulated organic contaminants (pursuant to Section 611.631 or 611.648):

        i) Elevated nitrate levels at the water source; and

        ii) The use of PCBs in equipment used in the production, storage, or distribution of water (including pumps, transformers, requirement; and

2) The system has applied BAT as identified in Subpart G. BAT may vary depending on:

A) The number of persons served by the system;

B) Physical conditions related to engineering feasibility; and

C) Costs of compliance; and

3) The variance will not result in an unreasonable risk to health, as defined in subsection (g).

c) The Board will prescribe a schedule for:

1) Compliance, including increments of progress, by the supplier, with each MCL or other requirement with respect to which the variance was granted, and

2) Implementation by the supplier of each additional control measure for each MCL or other requirement, during the period ending on the date compliance with such requirement is required.

d) A schedule of compliance will require compliance with each MCL or other requirement with respect to which the variance was granted as expeditiously as practicable.

e) The Board will provide notice and opportunity for a public hearing as provided in 35 Ill. Adm. Code 104.

f) The Board will not grant a variance:

1) From the MCL for total coliforms; provided, however, that the Board may grant a variance from the total coliform MCL of Section 611.325 for PWSs that demonstrate that the violation of the total coliform MCL is due to persistent growth of total coliforms in the distribution system, rather than from fecal or pathogenic contamination, from a treatment lapse or deficiency, or from a problem in the operation or maintenance of the distribution system.

2) Or, from any of the treatment technique requirements of Subpart B.

g) As used in this Section and Section 611.112, "unreasonable risk to health level" ("URTH level") means the concentration of a contaminant that will cause a serious health effect within the period of time specified in the variance or exemption requested by a supplier seeking to come into compliance by installing the treatment required to reduce the contaminant to the MCL. URTH level determinations are made on the basis of the individual contaminant, taking into account: the degree by which the level exceeds the MCL; duration of exposure; historical data; and population exposed. A risk to health is assumed to be unreasonable unless the supplier demonstrates that there are costs involved that clearly exceed the health benefits to be derived.

h) The provisions of Section 611.130 apply to determinations made pursuant to this subsection.

BOARD NOTE: Derived from 40 CFR 141.4 (199~~1~~2), from Section 1415(a)(1)(A) of the SDWA and from the "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources", incorporated by reference in Section 611.102. USEPA has reserved the discretion to review and modify or nullify Board determinations made pursuant to this Section at 40 CFR 142.23 (1992).

(Source: Amended at 16 Ill. Reg. 19010, effective December 1, 1992)

Section 611.112 Section 1416 Variances

This Section is intended as a State equivalent of Section 1416 of the SDWA.

a) The Board may grant a supplier a variance from any requirement respecting an MCL or treatment technique requirement of an NPDWR in this Part.

  1) The supplier shall file a variance petition pursuant to 35 Ill. Adm. Code 104, except as modified or supplemented by this Section.

  2) The Board may grant a variance from the additional State requirements in this Part without following this Section.

b) As part of the showing of arbitrary or unreasonable hardship, the supplier shall demonstrate that:

  1) Due to compelling factors (which may include economic factors), the supplier is unable to comply with the MCL or treatment technique requirement;

2) The supplier was:

A) In operation on the effective date of the MCL or treatment technique requirement; or

B) Not in operation on the effective date of the MCL or treatment technique requirement and no reasonable alternative source of drinking water is available to the supplier; and

3) The variance will not result in an unreasonable risk to health.

c) The Board will prescribe a schedule for:

1) Compliance, including increments of progress, by the supplier, with each MCL and treatment technique requirement with respect to which the variance was granted; and

2) Implementation by the supplier, during the period ending on the date when compliance is required, of each additional control measure for each contaminant subject to the MCL or treatment technique requirement.

d) A schedule of compliance will require compliance with each MCL or other requirement with respect to which the variance was granted as expeditiously as practicable; but no schedule shall extend more than 12 months after the date of the variance, except as follows:

1) The Board may extend the date for a period not to exceed three years beyond the date of the variance if the supplier establishes: that it is taking all practicable steps to meet the standard; and:

A) The supplier cannot meet the standard without capital improvements that cannot be completed within 12 months;

B) In the case of a supplier that needs financial assistance for the necessary improvements, the supplier has entered into an agreement to obtain such financial assistance; or

C) The supplier has entered into an enforceable agreement to become a part of a regional PWS; and

2) In the case of a PWS with 500 or fewer service

connections that needs financial assistance for the necessary improvements, a variance under subsections (d)(1)(A) or (d)(1)(B) may be renewed for one or more additional two year periods if the supplier establishes that it is taking all practicable steps to meet the final date for compliance.

e) The Board will provide notice and opportunity for a public hearing as provided in 35 Ill. Adm. Code 104.

f) The Agency shall promptly send USEPA the Opinion and Order of the Board granting a variance pursuant to this Section. The Board may reconsider and modify a grant of variance, or variance conditions, if USEPA notifies the Board of a finding pursuant to Section 1416 of the SDWA.

BOARD NOTE: Derived from Section 1416 of the SDWA.

g) The Board will not grant a variance:

1) From the MCL for total coliforms; provided, however, that the Board may grant a variance from the total coliform MCL of Section 611.325 for PWSs that demonstrate that the violation of the total coliform MCL is due to persistent growth of total coliforms in the distribution system, rather than from fecal or pathogenic contamination, from a treatment lapse or deficiency, or from a problem in the operation or maintenance of the distribution system.

2) From any of the treatment technique requirements of Subpart B.

3) From the residual disinfectant concentration (RDC) requirements of Sections 611.241(c) and 611.242(b).

h) The provisions of Section 611.130 apply to determinations made pursuant to this subsection.

BOARD NOTE: Derived from 40 CFR 141.4 (199~~1~~2). USEPA has reserved the discretion to review and modify or nullify Board determinations made pursuant to this Section at 40 CFR 142.23 (1992).

(Source: Amended at 16 Ill. Reg. __________, effective __________ ______________)

Section 611.113 Alternative Treatment Techniques

This Section is intended to be equivalent to Section 1415(a)(3) of the SDWA.

a) Pursuant to this Section, the Board may grant an adjusted standard from a treatment technique requirement.

b) The supplier seeking an adjusted standard shall file a petition pursuant to 35 Ill. Adm. Code 106.Subpart G.

c) As justification the supplier shall demonstrate that an alternative treatment technique is at least as effective in lowering the level of the contaminant with respect to which the treatment technique requirement was prescribed.

d) As a condition of any adjusted standard, the Board will require the use of the alternative treatment technique.

e) The Board will grant adjusted standards for alternative treatment techniques subject to the following conditions:

   1) All adjusted standards shall be subject to the limitations of 40 CFR 142, Subpart G, incorporated by reference in Section 611.102, and

   2) All adjusted standards shall be subject to review and approval by USEPA pursuant to 40 CFR 142.46 before they become effective.

   BOARD NOTE: Derived from Section 1415(a)(3) of the SDWA.

f) The provisions of Section 611.130 apply to determinations made pursuant to this subsection.

(Source: Amended at 16 Ill. Reg. __________, effective __________ ______________)

Section 611.130 Special Requirements for Certain Variances and Adjusted Standards

a) Relief from the TTHM MCL.

   1) In granting any variance or adjusted standard to a supplier that is a CWS that adds a disinfectant at any part of treatment and which provides water to 10,000 or more persons on a regular basis from the maximum contaminant level for TTHM listed in Section 611.310(c), the Board will require application of the best available technology (BAT)

identified at subsection (a)(4) for that constituent as a condition to the relief, unless the supplier has demonstrated through comprehensive engineering assessments that application of BAT is not technically appropriate and technically feasible for that system, or it would only result in a marginal reduction in TTHM for that supplier.

2) The Board will require the following as a condition for relief from the TTHM MCL where it does not require the application of BAT:

- A) That the supplier continue to investigate the following methods as an alternative means of significantly reducing the level of TTHM, according to a definite schedule:
  - i) introduction of off-line water storage for THM precursor reduction;
  - ii) aeration for TTHM reduction, where geography and climate allow;
  - iii) introduction of clarification, where not presently practiced;
  - iv) use of alternative sources of raw water; and
  - v) use of ozone as an alternative or supplemental disinfectant or oxidant, and
- B) That the supplier report results of that investigation to the Agency.

3) The Agency shall petition the Board to reconsider or modify a variance or adjusted standard, pursuant to 35 Ill. Adm. Code 101.Subpart K, if it determines that an alternative method identified by the supplier pursuant to subsection (a)(2) is technically feasible and would result in a significant reduction in TTHM.

4) Best available technology for TTHM reduction:

- A) use of chloramines as an alternative or supplemental disinfectant,
- B) use of chlorine dioxide as and alternative or supplemental disinfectant, and

C) improved existing clarification for THM precursor reduction.

BOARD NOTE: Derived from 40 CFR 142.60 (1992). The restrictions of this subsection do not apply to suppliers regulated for TTHM as an additional state requirement. See the Board Note to Section 611.301(c).

b) Relief from the fluoride MCL.

1) In granting any variance or adjusted standard to a supplier that is a CWS from the maximum contaminant level for fluoride listed in Section 611.301(b), the Board will require application of the best available technology (BAT) identified at subsection (b)(4) for that constituent as a condition to the relief, unless the supplier has demonstrated through comprehensive engineering assessments that application of BAT is not technically appropriate and technically feasible for that supplier.

2) The Board will require the following as a condition for relief from the fluoride MCL where it does not require the application of BAT:

A) That the supplier continue to investigate the following methods as an alternative means of significantly reducing the level of TTHM, according to a definite schedule:

i) modification of lime softening;

ii) alum coagulation;

iii) electrodialysis;

iv) anion exchange resins;

v) well field management;

vi) use of alternative sources of raw water; and

vii) regionalization, and

B) That the supplier report results of that investigation to the Agency.

3) The Agency shall petition the Board to reconsider or modify a variance or adjusted standard,

pursuant to 35 Ill. Adm. Code 101.Subpart K, if it determines that an alternative method identified by the supplier pursuant to subsection (b)(2) is technically feasible and would result in a significant reduction in fluoride.

4) Best available technology for fluoride reduction:

A) activated alumina absorption centrally applied, and

B) reverse osmosis centrally applied.

BOARD NOTE: Derived from 40 CFR 142.61 (1992).

c) Relief from an inorganic chemical contaminant, VOC, or SOC MCL.

1) A CWS or any NTNCWS a variance or adjusted standard from the maximum contaminant levels for any VOC or SOC, listed in Section 611.311(a) or (c), or for any inorganic chemical contaminant, listed in Section 611.301, the supplier must have first applied the best available technology (BAT) identified at Section 611.311(b) (VOCs and SOCs) or Section 611.301(c) (inorganic chemical contaminants) for that constituent, unless the supplier has demonstrated through comprehensive engineering assessments that application of BAT would achieve only a minimal and insignificant reduction in the level of contaminant.

2) The Board may require any of the following as a condition for relief from a MCL listed in Section 611.301 or 611.311:

A) That the supplier continue to investigate alternative means of compliance according to a definite schedule, and

B) That the supplier report results of that investigation to the Agency.

3) The Agency shall petition the Board to reconsider or modify a variance or adjusted standard, pursuant to 35 Ill. Adm. Code 101.Subpart K, if it determines that an alternative method identified by the supplier pursuant to subsection (c)(2) is technically feasible.

BOARD NOTE: Derived from 40 CFR 142.62(a) through

(e) (1992).

d) Conditions requiring use of bottled water or point-of-use or point-of-entry devices. In granting any variance or adjusted standard from the maximum contaminant levels 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, point-of-entry devices, or point-of-use devices to avoid an unreasonable risk to health, limited as provided in subsections (e) and (f).

1) Relief from an MCL. The Board may, when granting any variance or adjusted standard from the MCL requirements of Sections 611.301 and 611.311, impose a condition that requires a supplier to use bottled water, point-of-use devices, point-of-entry devices or other means to avoid an unreasonable risk to health.

2) Relief from corrosion control treatment. The Board may, when granting an adjusted standard from the corrosion control treatment requirements for lead and copper of Sections 611.351 and 611.352, impose a condition that requires a supplier to use bottled water and point-of-use devices or other means, but not point-of-entry devices, to avoid an unreasonable risk to health.

3) Relief from source water treatment or service line replacement. The Board may, when granting an exemption from the source water treatment and lead service line replacement requirements for lead and copper under Sections 611.353 or 611.354, impose a condition that requires a supplier to use point-of-entry devices to avoid an unreasonable risk to health.

BOARD NOTE: Derived from 40 CFR 142.62(f) (1992).

e) Use of bottled water. Suppliers that propose to use or use bottled water as a condition for receiving a variance or an adjusted standard from the requirements of Section 611.301 or Section 611.311, or an adjusted standard from the requirements of Sections 611.351 through 611.354 must the requirements of either subsections (e)(1), (e)(2), (e)(3), and (e)(6) or (e)(4), (e)(5) and (e)(6):

1) The supplier must develop a monitoring program for Board approval that provides reasonable assurances

that the bottled water meets all MCLs of Sections 611.301 and 611.311 and submit a description of this program as part of its petition. The proposed program must describe how the supplier will comply with each requirement of this subsection.

2) The supplier must monitor representative samples of the bottled water for all contaminants regulated under Sections 611.301 and 611.311 during the first three-month period that it supplies the bottled water to the public, and annually thereafter.

3) The supplier shall annually provide the results of the monitoring program to the Agency.

4) The supplier must receive a certification from the bottled water company as to each of the following:

   A) that the bottled water supplied has been taken from an "approved source" as defined in 21 CFR 129.3(a);

   B) that the bottled water company has conducted monitoring in accordance with 21 CFR 129.80(g)(1) through (3);

   C) and that the bottled water does not exceed any MCLs or quality limits as set out in 21 CFR 103.35, 110, and 129.

5) The supplier shall provide the certification required by subsection (e)(4) to the Agency during the first quarter after it begins supplying bottled water and annually thereafter.

6) The supplier shall assure the provision of sufficient quantities of bottled water to every person supplied by the supplier via door-to-door bottled water delivery.

Derived from 40 CFR 142.62(g) (1992).

f) Use of point-of-entry devices. Before the Board grants any PWS a variance or adjusted standard from any NPDWR that includes a condition requiring the use of a point-of-entry device, the supplier must demonstrate to the Board each of the following:

1) that the supplier will operate and maintain the device;

2) that the device provides health protection equivalent to that provided by central treatment;

3) that the supplier will maintain the microbiological safety of the water at all times;

4) that the supplier has established standards for performance, conducted a rigorous engineering design review, and field tested the device;

5) that the operation and maintenance of the device will account for any potential for increased concentrations of heterotrophic bacteria resulting through the use of 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 assure that all consumers are protected; and

7) that the use of the device will not cause increased corrosion of lead and copper bearing materials located between the device and the tap that could increase contaminant levels at the tap.

BOARD NOTE: Derived from 40 CFR 142.62(h) (1992).

(Source: Added at 16 Ill. Reg. __________, effective ________________________)

SUBPART C: USE OF NON-CENTRALIZED TREATMENT DEVICES

Section 611.280 Point-of-Entry Devices

a) Suppliers may use point-of-entry devices to comply with MCLs only if they meet the requirements of this Section.

b) It is the responsibility of the supplier to operate and maintain the point-of entry treatment system.

c) The supplier shall develop a monitoring plan before point-of-entry devices are installed for compliance.

1) Point-of-entry devices must provide health protection equivalent to central water treatment. "Equivalent" means that the water would meet all NPDWR and would be of acceptable quality similar to water distributed by a well-operated central

treatment plant.

2) In addition to the VOCs, monitoring must include physical measurements and observations such as total flow treated and mechanical condition of the treatment equipment.

3) Use of point-of-entry devices must be approved by ~~special exception permit~~a SEP granted by the Agency pursuant to Section 611.110.

d) Effective technology must be properly applied under a plan approved by the Agency and the microbiological safety of the water must be maintained.

1) The Agency shall require adequate certification of performance, field testing, and, if not included in the certification process, a rigorous engineering design review of the point-of-entry devices.

2) The design and application of the point-of-entry devices must consider the tendency for increase in heterotrophic bacteria concentrations in water treated with activated carbon. The Agency may require, by special exception permit, frequent backwashing, post-contactor disinfection and HPC monitoring to ensure that the microbiological safety of the water is not compromised.

e) All consumers must be protected. Every building connected to the system must have a point-of-entry device installed, maintained and adequately monitored. The Agency must be assured that every building is subject to treatment and monitoring, and that the rights and responsibilities of the PWS customer convey with title upon sale of property.

f) Use of any point-of-entry device must not cause increased corrosion of lead and copper bearing materials located between the device and the tap that could increase contaminant levels at the tap.

BOARD NOTE: Derived from 40 CFR 141.100 and 142.62(h)(7) (19~~8~~92).

(Source: Amended at 16 Ill. Reg. __________, effective __________ ______________)

Section 611.290 Use of ~~other Non-centralized Treatment~~Point-of-Use Devices or Bottled Water

a) Suppliers shall not use bottled water or point-of-use devices to achieve compliance with an MCL.

b) Bottled water or point-of-use devices may be used on a temporary basis to avoid an unreasonable risk to health pursuant to a SEP granted by the Agency under Section 611.110.

c) Any use of bottled water must comply with the substantive requirements of Section 611.130(e), except that the supplier shall submit its quality control plan for Agency review as part of its SEP request, rather than for Board review.

BOARD NOTE: Derived from 40 CFR 141.101 (19~~8~~92).

(Source: Amended at 16 Ill. Reg. __________, effective __________ ______________)

SUBPART D: TREATMENT TECHNIQUES

Section 611.297 Corrosion Control

A supplier may be required to install and maintain optimal corrosion control pursuant to Section 611.352.

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

SUBPART F: MAXIMUM CONTAMINANT LEVELS (MCL'S)

Section 611.300 Old MCLs for Inorganic Chemicals

a) The old MCL for nitrate is applicable to both CWS suppliers and non-CWS suppliers except as provided by in subsection (d). The level for the other inorganic chemicals apply only to CWS suppliers. The levels for additional State requirements apply only to CWSs. Compliance with old MCLs for inorganic chemicals is calculated pursuant to Section 611.612. ~~The MCLs for barium and lead shall remain effective until repealed or amended in a later rulemaking.~~

BOARD NOTE: Derived from 40 CFR 141.11(a) (199~~1~~2). ~~USEPA has given an expiration date of December 7, 1992 for the MCL for lead and January 1, 1993 for barium because these are the effective dates for the federal lead and copper (56 Fed. Reg. 2460 (June 7, 1991)) and Phase IIB (56 Fed. Reg. 30266 (July 1, 1991)) rules, respectively. The Board will repeal the lead and~~

~~barium MCLs, as appropriate, when the Illinois lead and copper and Phase IIB rule package becomes effective.~~

b) The following are the old MCL's for inorganic chemicals:

Contaminant	Level, mg/L	Additional State Requirement (*)
Arsenic	0.05	
Barium	1.	
Copper	5.	*
Cyanide	0.2	*
Fluoride	4.0	
Iron	1.0	*
~~Lead~~	~~0.05~~	
Manganese	0.15	*
Zinc	5.	*

BOARD NOTE: Derived from 40 CFR 141.11(b) (199~~1~~2). This provision, which corresponds with 40 CFR 141.11, was formerly the only listing of MCLs for inorganic parameters. However, USEPA added another listing of inorganic MCLs at 40 CFR 141.62 at 56 Fed. Reg. 3594 (Jan. 30, 1991). Following the changing USEPA codification scheme creates two listings of MCLs: one at this Section and one at Section 611.301. This also causes fluoride to appear in both listings with the same MCL. The impact of the two listings are distinct. Further, under the federal scheme, there is no MCL for copper. Rather, there is an "action level", which if exceeded causes the supplier to undertake certain actions. See Section 611.350. The Board retained the MCL because its impact is distinct from that of the action level for copper.

c) The secondary old MCL for fluoride is 2.0 mg/L.

BOARD NOTE: Derived from 40 CFR 141.11(c) (199~~1~~2).

d) Nitrate.

1) The Board incorporates by reference 40 CFR 141.11(d) (199~~1~~2). This incorporation includes no later editions or amendments.

2) Non-CWSs may exceed the MCL for nitrate to the extent authorized by 40 CFR 141.11(d).

BOARD NOTE: Derived from 40 CFR 141.11(d) (199~~1~~2). Public Health regulations may impose a nitrate limitation requirement. Those regulations are at 77 Ill. Adm. Code 900.50.

e) The following supplementary condition applies to the concentrations listed in subsection (b): Iron and manganese:

1) CWS suppliers that serve a population of 1000 or less, or 300 service connections or less, are exempt from the standards for iron and manganese.

2) The Agency may, by special exception permit, allow iron and manganese in excess of the MCL if sequestration tried on an experimental basis proves to be effective. If sequestration is not effective, positive iron or manganese reduction treatment as applicable must be provided. Experimental use of a sequestering agent may be tried only if approved by special exception permit.

BOARD NOTE: This is an additional State requirement.

(Source: Amended at 16 Ill. Reg. __________, effective __________ ______________)

Section 611.301 Revised MCLs for Inorganic Chemicals

a) This subsection corresponds with 40 CFR 141.62(a), reserved by USEPA. This statement maintains structural consistency with USEPA rules.

b) The MCLs in the following table apply to CWSs. Except for fluoride, the MCLs also apply to NTNCWSs. The MCLs for nitrate, nitrite and total nitrate and nitrite also apply to transient non-CWSs.

Contaminant	MCL	Units
Fluoride	4.0	mg/L
Asbestos	7~~.~~	~~Million fibers/ L (longer than 10 micro- meters)~~MFL
Barium	2	mg/L
Cadmium	0.005	mg/L
Chromium	0.1	mg/L
Mercury	0.002	mg/L
Nitrate (as N)	10.	mg/L
Nitrite (as N)	1.	mg/L
Total Nitrate and Nitrite	10.	mg/L

(as N)		
Selenium	0.05	mg/L

c) USEPA has identified the following as BAT for achieving compliance with the MCL for the inorganic contaminants identified in subsection (b), except for fluoride:

Contaminant	BAT(s)
Asbestos	C/F DDF CC
Barium	IX LIME RO ED
Cadmium	C/F IX LIME RO
Chromium	C/F IX LIME, BAT for Cr(III) only RO
Mercury	C/F, BAT only if influent Hg concentrations less than or equal to (≤) 10 µg/L GAC LIME, BAT only if influent Hg concentrations ≤ 10 µ/L RO, BAT only if influent Hg concentrations ≤ 10 µ/L
Nitrate	IX RO ED
Nitrite	IX RO
Selenium	AAL C/F, BAT for Se(IV) only LIME RO ED

Abbreviations

AAL	Activated alumina
C/F	Coagulation/filtration
DDF	Direct and diatomite filtration
GAC	Granular activated carbon
IX	Ion exchange
LIME	Lime softening
RO	Reverse osmosis
CC	Corrosion control
ED	Electrodialysis

BOARD NOTE: Derived from 40 CFR 141.62 (199~~1~~2).

(Source: Added at 16 Ill. Reg. __________, effective ______________________)

Section 611.311 Revised MCLs for Organic Contaminants

a) Volatile organic chemical contaminants. The following MCLs for volatile organic chemical contaminants (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
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
71-55-6	1,1,1-Trichloroethane	0.2
79-01-6	Trichloroethylene	0.005
75-01-4	Vinyl chloride	0.002
1330-20-7	Xylenes (total)	10

b) USEPA has identified, as indicated below, granular activated carbon (GAC) or packed tower aeration (PTA) as BAT for achieving compliance with the MCLs for volatile organic chemical contaminants and synthetic organic chemical contaminants in subsections (a) and (c).

15972-60-8	Alachlor	GAC

116-06-3	Aldicarb	GAC
1646-88-4	Aldicarb sulfone	GAC
1646-87-3	Aldicarb sulfoxide	GAC
1912-24-9	Atrazine	GAC
71-43-2	Benzene	GAC, PTA
1563-66-2	Carbofuran	GAC
56-23-5	Carbon tetrachloride	GAC, PTA
57-74-9	Chlordane	GAC
94-75-7	2,4-D	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
78-87-5	1,2-Dichloropropane	GAC, PTA
106-93-4	Ethylene dibromide (EDB)	GAC, PTA
100-41-4	Ethylbenzene	GAC, PTA
76-44-8	Heptachlor	GAC
1024-57-3	Heptachlor epoxide	GAC
58-89-9	Lindane	GAC
72-43-5	Methoxychlor	GAC
108-90-7	Monochlorobenzene	GAC, PTA
87-86-5	Pentachlorophenol	GAC
1336-36-3	Polychlorinated biphenyls (PCB)	GAC
~~87-86-5~~	~~Pentachlorophenol~~	~~GAC~~
100-42-5	Styrene	GAC, PTA
127-18-4	Tetrachloroethylene	GAC, PTA
71-55-6	1,1,1-Trichloroethane	GAC, PTA
79-01-6	Trichloroethylene	GAC, PTA
108-88-3	Toluene	GAC
8001-35-2	Toxaphene	GAC, PTA
93-72-1	2,4,5-TP	GAC
75-01-4	Vinyl chloride	PTA
1330-20-7	Xylene	GAC, PTA

c) Synthetic organic chemical contaminants. The following MCLs for synthetic organic chemical contaminants (SOCs) apply to CWS and NTNCWS suppliers.

CAS Number	Contaminant	MCL (mg/L)
15972-60-8	Alachlor	0.002
116-06-3	Aldicarb	0.003
1646-88-4	Aldicarb sulfone	0.004
1646-87-3	Aldicarb sulfoxide	0.003
1912-24-9	Atrazine	0.003
1563-66-2	Carbofuran	0.04
57-74-9	Chlordane	0.002
94-75-7	2,4-D	0.07
96-12-8	Dibromochloropropane	0.0002

106-93-4	Ethylene dibromide	0.00005
76-44-8	Heptachlor	0.0004
1024-57-3	Heptachlor epoxide	0.0002
58-89-9	Lindane	0.0002
72-43-5	Methoxychlor	0.04
87-86-5	Pentachlorophenol	0.001
1336-36-3	Polychlorinated biphenyls (PCBs)	0.0005
8001-35-2	Toxaphene	0.003
93-72-1	2,4,5-TP	0.05

BOARD NOTE: Derived from 40 CFR 141.61 (199~~1~~2). More stringent state MCLs for 2,4-D, heptachlor, and heptachlor epoxide appear at Section 611.310. See the Board Note at that provision. The effectiveness of the MCLs for aldicarb, aldicarb sulfone, and aldicarb sulfoxide are administratively stayed until the Board takes further administrative action to end this stay. However, suppliers must monitor for these three SOCs pursuant to Section 611.648. See 40 CFR 141.6(g) (1992) and 57 Fed. Reg. 22178 (May 27, 1992).

(Source: Amended at 16 Ill. Reg. __________, effective __________ ______________)

SUBPART G: LEAD AND COPPER

Section 611.350 General Requirements

a) Applicability and Scope

1) Applicability. The requirements of this Subpart constitute national primary drinking water regulations for lead and copper. This Subpart applies to all community water systems (CWSs) and non-transient, non-community water systems (NTNCWSs).

2) Scope. This Subpart establishes a treatment technique that includes requirements for corrosion control treatment, source water treatment, lead service line replacement, and public education. These requirements are triggered, in some cases, by lead and copper action levels measured in samples collected at consumers' taps.

b) Definitions. For the purposes of only this Subpart, the following terms shall have the following meanings:

"Action level" means that concentration of lead or copper in water computed pursuant to subsection (c) that determines, in some cases, the treatment requirements of this Subpart which a supplier must complete. 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 capable of reducing the 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 inhibitor in the drinking water sufficient to form a passivating film on the interior walls of a pipe.

"Exceed", as this term is applied 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 greater than the action level for that contaminant.

"First draw sample" means a one-liter sample of tap water, collected in accordance with Section 611.356(b)(2), that has been standing in plumbing pipes for at least 6 hours and which is collected without flushing the tap.

"Large system" means a water system that regularly serves water to more than 50,000 persons.

"Lead service line", means a service line made of lead that connects the water main to the building inlet, including any lead pigtail, gooseneck, or other fitting that is connected to such lead line.

"Medium-sized system" means a water system that regularly serves water to more than 3,300 up to 50,000 or fewer persons.

"Meet", as this term is applied 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 action level for that contaminant.

"Method detection limit" or "MDL" is as defined at Section 611.646(a). The MDL for lead is 0.001 mg/L. The MDL for copper is 0.001 mg/L, or 0.020 mg/L by atomic absorption direct aspiration method.

BOARD NOTE: Derived from 40 CFR 141.89(a)(1)(iii) (1992).

"Monitoring period" means any of the six-month periods of time during which a supplier must complete a cycle of monitoring under this Subpart.

BOARD NOTE: USEPA refers to these as "monitoring periods". The Board uses "six-month monitoring period" to avoid confusion with "compliance period", as used elsewhere in this Part and defined at Section 611.101.

"Multiple-family residence" means a building that currently used as a multiple-family residence, but not one that is also a "single-family structure".

"90th percentile level" means that concentration of lead or copper contaminant exceeded by 10 percent or fewer of all samples collected during a six-month monitoring period pursuant to Section 611.356 (i.e., that concentration of contaminant greater than or equal to the results obtained from 90 percent of the samples). The 90th percentile levels for copper and lead shall be determined pursuant to subsection (c)(3)

BOARD NOTE: Derived from 40 CFR 141.80(c) (1992).

"Optimal corrosion control treatment" means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while ensuring that the treatment does not cause the water system to 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 achieve 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: Derived from 40 CFR 141.89(a)(1)(iv) (1992) and 56 Fed. Reg. 26511-12 (June 7, 1991) (preamble). USEPA has generally defined the PQL as 5 to 10 times the method detection limit.

"Service line sample" means a one-liter sample of water, collected in accordance with Section 611.356(b)(3), that has been standing for at least 6 hours in a service line.

"Single-family structure" means a building that was constructed as a single-family residence and which is currently used as either a residence or a place of business.

"Small system" means a water system that regularly serves water to 3,300 or fewer persons.

BOARD NOTE: Derived from 40 CFR 141.2 (1992).

c) Lead and Copper Action Levels:

1) The lead action level is exceeded if the 90th percentile lead level is greater than 0.015 mg/L.

2) The copper action level is exceeded if the 90th percentile copper level is greater than 1.3 mg/L.

3) Suppliers shall compute the 90th percentile lead and copper levels as follows:

A) List the results of all lead or copper samples taken during a six-month monitoring period in ascending order, ranging from the sample with the lowest concentration first to the sample with the highest concentration last. Assign each sampling result a number, ascending by single integers beginning with the number 1 for the sample with the lowest contaminant level. The number assigned to the sample with the highest contaminant level shall be equal to the total number of samples taken.

B) Determine the number for the 90th percentile sample by multiplying the total number of samples taken during the six-month monitoring period by 0.9.

C) The contaminant concentration in the sample with the number yielded by the calculation in subsection (c)(3)(B) is the 90th percentile contaminant level.

D) For suppliers that collect 5 samples per six-month monitoring period, the 90th percentile is computed by taking the average of the highest and second highest concentrations.

d) Corrosion Control Treatment Requirements:

1) All suppliers shall install and operate optimal corrosion control treatment.

2) Any supplier that complies with the applicable corrosion control treatment requirements specified by the Agency pursuant to Sections 611.351 and 611.352 is deemed in compliance with the treatment requirement of subsection (d)(1).

e) Source water treatment requirements. Any supplier whose system exceeds the lead or copper action level shall implement all applicable source water treatment requirements specified by the Agency pursuant to Section 611.353.

f) Lead service line replacement requirements. Any supplier whose system exceeds the lead action level after implementation of applicable corrosion control and source water treatment requirements shall complete the lead service line replacement requirements contained in Section 611.354.

g) Public education requirements. Any supplier whose system exceeds the lead action level shall implement the public education requirements contained in Section 611.355.

h) Monitoring and analytical requirements. Suppliers shall complete all tap water monitoring for lead and copper, monitoring for water quality parameters, source water monitoring for lead and copper, and analyses of the monitoring results under this subpart in compliance with Sections 611.356, 611.357, 611.358, and 611.359.

i) Reporting requirements. Suppliers shall report to the Agency any information required by the treatment provisions of this Subpart and Section 611.360.

j) Recordkeeping requirements. Suppliers shall maintain records in accordance with Section 611.361.

k) Violation of national primary drinking water regulations. Failure to comply with the applicable requirements of this Subpart, including conditions imposed by the Agency by special exception permit (SEP) pursuant to these provisions, shall constitute a violation of the national primary drinking water regulations for lead or copper.

BOARD NOTE: Derived from 40 CFR 141.80 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.351 Applicability of Corrosion Control

a) Corrosion control required. Suppliers shall complete the applicable corrosion control treatment requirements described in Section 611.352 on or before the deadlines set forth in this Section.

1) Large systems. Each large system supplier (one regularly serving more than 50,000 persons) shall complete the corrosion control treatment steps specified in subsection (d), unless it is deemed to have optimized corrosion control under subsection (b)(2) or (b)(3).

2) Medium-sized and small systems. Each small system supplier (one regularly serving 3300 or fewer persons) and each medium-sized system (one regularly serving more than 3,300 up to 50,000 or fewer persons) shall complete the corrosion control treatment steps specified in subsection (e), unless it is deemed to have optimized corrosion control under one of subsections (b)(1), (b)(2), or (b)(3).

b) Suppliers deemed to have optimized corrosion control. A supplier is deemed to have optimized corrosion control, and is not required to complete the applicable corrosion control treatment steps identified in this Section, if the supplier satisfies one of the following criteria:

1) Small or medium-sized system meeting action levels. A small system or medium-sized system supplier is deemed to have optimized corrosion control if the system meets the lead and copper action levels during each of two consecutive six-month monitoring periods conducted in accordance with Section 611.356.

2) SEP for equivalent activities to corrosion control. The Agency shall, by a SEP granted pursuant to Section 611.110, deem any supplier to have optimized corrosion control treatment if it determines that the supplier has conducted activities equivalent to the corrosion control steps applicable under this Section. In making this determination, the Agency shall specify the water quality control parameters representing optimal corrosion control in accordance with Section 611.352(f). A supplier shall provide the Agency with the following information in order to support an Agency SEP determination under this subsection:

A) the results of all test samples collected for each of the water quality parameters in Section 611.352(c)(3);

B) a report explaining the test methods the supplier used to evaluate the corrosion control treatments listed in Section 611.352(c)(1), the results of all tests conducted, and the basis for the supplier's selection of optimal corrosion control treatment;

C) a report explaining how the supplier has installed corrosion control and how the supplier maintains it to insure minimal lead and copper concentrations at consumers' taps; and

D) the results of tap water samples collected in accordance with Section 611.356 at least once every six months for one year after corrosion control has been installed.

3) Results less than practical quantitation level for lead. Any supplier is deemed to have optimized corrosion control if it submits results of tap water monitoring conducted in accordance with Section 611.356 and source water monitoring conducted in accordance with Section 611.358 that demonstrate that for two consecutive six-month monitoring periods the difference between the 90th percentile tap water lead level, computed pursuant to Section 611.350(c)(3), and the highest source water lead concentration is less than the practical quantitation level for lead specified in Section 611.359(a)(1)(ii).

c) Suppliers not required to complete corrosion control steps for having met both action levels.

1) Any small system or medium-sized system supplier, otherwise required to complete the corrosion control steps due to its exceedance of the lead or copper action level, may cease completing the treatment steps after the supplier has fulfilled both of the following conditions:

A) It has met both the copper action level and the lead action level during each of two consecutive six-month monitoring periods conducted pursuant to Section 611.356, and

B) the supplier has submitted the results for those two consecutive six-month monitoring periods to the Agency.

2) A supplier that has ceased completing the corrosion control steps pursuant to subsection (c)(1) (or the Agency, if appropriate) shall 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 six-month monitoring period.

3) The Agency may, by SEP, require a supplier to repeat treatment steps previously completed by the supplier where it determines that this is necessary to properly implement the treatment requirements of this Section. Any such SEP shall explain the basis for its decision.

d) Treatment steps and deadlines for large systems. Except as provided in subsections (b)(2) and (b)(3), large system suppliers shall complete the following corrosion control treatment steps (described in the referenced portions of Sections 611.352, 611.356, and 611.357) on or before the indicated dates.

1) Step 1: The supplier shall conduct initial monitoring (Sections 611.356(d)(1) and 611.357(b)) during two consecutive six-month monitoring periods on or before January 1, 1993.

BOARD NOTE: USEPA specified January 1, 1993 at 40 CFR 141.81(d)(1). In order to remain identical-in-substance and to retain state primacy, the Board retained this date despite the fact that this Section became effective after that date.

2) Step 2: The supplier shall complete corrosion control studies (Section 611.352(c)) on or before July 1, 1994.

3) Step 3: The Agency shall approve optimal corrosion control treatment (Section 611.352(d)) by a SEP issued pursuant to Section 611.110 on or before January 1, 1995.

4) Step 4: The supplier shall install optimal corrosion control treatment (Section 611.352(e)) by January 1, 1997.

5) Step 5: The supplier shall complete follow-up sampling (Sections 611.356(d)(2) and 611.357(c)) by January 1, 1998.

6) Step 6: The Agency shall review installation of treatment and approve optimal water quality control parameters (Section 611.352(f)) by July 1, 1998.

7) Step 7: The supplier shall operate in compliance with the Agency-specified optimal water quality control parameters (Section 611.352(g)) and continue to conduct tap sampling (Sections 611.356(d)(3) and 611.357(d)).

e) Treatment steps and deadlines for small and medium-sized system suppliers. Except as provided in subsection (b), small and medium-sized system suppliers shall complete the following corrosion control treatment steps (described in the referenced portions of Sections 611.352, 611.356 and 611.357) by the indicated time periods.

1) Step 1: The supplier shall conduct initial tap sampling (Sections 611.356(d)(1) and 611.357(b)) until the supplier either exceeds the lead action level or the copper action level or it becomes eligible for reduced monitoring under Section 611.356(d)(4). A supplier exceeding the lead action level or the copper action level shall recommend optimal corrosion control treatment (Section 611.352(a)) within six months after it exceeds one of the action levels.

2) Step 2: Within 12 months after a supplier exceeds the lead action level or the copper action level, the Agency may require the supplier to perform corrosion control studies (Section 611.352(b)). If the Agency does not require the supplier to perform such studies, the Agency shall, by a SEP issued pursuant to Section 611.110, specify optimal corrosion control treatment (Section 611.352(d)) within the following timeframes:

A) for medium-sized systems, within 18 months after such supplier exceeds the lead action level or the copper action level,

B) for small systems, within 24 months after such supplier exceeds the lead action level or the 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 shall complete the studies (Section 611.352(c)) within 18 months after the Agency requires that such studies be conducted.

4) Step 4: If the supplier has performed corrosion control studies under step 2 (subsection (e)(2)), the Agency shall, by a SEP issued pursuant to Section 611.110, approve optimal corrosion control treatment (Section 611.352(d)) within 6 months after completion of step 3 (subsection (e)(3)).

5) Step 5: The supplier shall install optimal corrosion control treatment (Section 611.352(e)) within 24 months after the Agency approves such treatment.

6) Step 6: The supplier shall complete follow-up sampling (Sections 611.356(d)(2) and 611.357(c)) within 36 months after the Agency approves optimal corrosion control treatment.

7) Step 7: The Agency shall review the supplier's installation of treatment and, by a SEP issued pursuant to Section 611.110, approve optimal water quality control parameters (Section 611.352(f)) within 6 months after completion of step 6 (subsection (e)(6)).

8) Step 8: The supplier shall operate in compliance with the Agency-approved optimal water quality control parameters (Section 611.352(g)) and continue to conduct tap sampling (Sections 611.356(d)(3) and 611.357(d)).

BOARD NOTE: Derived from 40 CFR 141.81 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.352 Corrosion Control Treatment

Each supplier shall complete the corrosion control treatment requirements described below that are applicable to such supplier under Section 611.351.

a) System recommendation regarding corrosion control treatment.

1) Based on the results of lead and copper tap

monitoring and water quality parameter monitoring, small and medium-sized system suppliers exceeding the lead action level or the copper action level shall recommend to the Agency installation of one or more of the corrosion control treatments listed in subsection (c)(1) that the supplier believes constitutes optimal corrosion control for its system.

2) The Agency may, by a SEP issued pursuant to Section 611.110, require the supplier to conduct additional water quality parameter monitoring in accordance with Section 611.357(b) to assist it in reviewing the supplier's recommendation.

b) Agency-required studies of corrosion control treatment. The Agency may, by a SEP issued pursuant to Section 611.110, require any small or medium-sized system supplier that exceeds the lead action level or the copper action level to perform corrosion control studies under subsection (c) to identify optimal corrosion control treatment for its system.

c) Performance of studies:

1) Any supplier performing corrosion control studies shall evaluate the effectiveness of each of the following treatments, and, if appropriate, combinations of the following treatments, to identify the optimal corrosion control treatment for its system:

A) alkalinity and pH adjustment;

B) calcium hardness adjustment; and

C) the addition of a phosphate- or silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective residual concentration in all test tap samples.

2) The supplier shall evaluate each of the corrosion control treatments using either 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.

3) The supplier shall measure the following water quality parameters in any tests conducted under this subsection before and after evaluating the corrosion control treatments listed above:

A) lead;

B) copper;

C) pH;

D) alkalinity;

E) calcium;

F) conductivity;

G) orthophosphate (when an inhibitor containing a phosphate compound is used);

H) silicate (when an inhibitor containing a silicate compound is used); and

I) water temperature.

4) The supplier shall identify all chemical or physical constraints that limit or prohibit the use of a particular corrosion control treatment, and document such constraints with at least one of the following:

A) data and documentation showing that a particular corrosion control treatment has adversely affected other water treatment processes when used by another supplier with comparable water quality characteristics; or

B) data and documentation demonstrating that the supplier has previously attempted to evaluate a particular corrosion control treatment, finding either that the treatment is ineffective or it adversely affects other water quality treatment processes.

5) The supplier shall evaluate the effect of the chemicals used for corrosion control treatment on other water quality treatment processes.

6) On the basis of an analysis of the data generated during each evaluation, the supplier shall recommend to the Agency, in writing, that treatment option the corrosion control studies indicate constitutes optimal corrosion control treatment for its system. The supplier shall provide a rationale for its recommendation, along with all supporting documentation specified in subsections (c)(1) through (c)(5).

d) Agency approval of treatment:

1) Based on consideration of available information including, where applicable, studies performed under subsection (c) and a supplier's recommended treatment alternative, the Agency shall, by a SEP issued pursuant to Section 611.110, either approve the corrosion control treatment option recommended by the supplier, or deny and require investigation and recommendation of alternative corrosion control treatment(s) from among those listed in subsection (c)(1). When approving optimal treatment, the Agency shall consider the effects that additional corrosion control treatment will have on water quality parameters and on other water quality treatment processes.

2) The Agency shall, in any SEP issued under subsection (d)(1), notify the supplier of the basis for this determination.

e) Installation of optimal corrosion control. Each supplier shall properly install and operate, throughout its distribution system, that optimal corrosion control treatment approved by the Agency pursuant to subsection (d).

f) Agency review of treatment and specification of optimal water quality control parameters. The Agency shall evaluate the results of all lead and copper tap samples and water quality parameter samples submitted by the supplier and determine whether it has properly installed and operated the optimal corrosion control treatment approved pursuant to subsection (d).

1) Upon reviewing the results of tap water and water quality parameter monitoring by the supplier, both before and after the installation of optimal corrosion control treatment, the Agency shall, by a SEP issued pursuant to Section 611.110, specify:

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

B) a minimum pH value, measured in all tap samples. Such value shall 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 the supplier to optimize corrosion control;

C) if a corrosion inhibitor is used, a minimum concentration or a range of concentrations for the inhibitor, measured at each entry point to the distribution system and 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;

D) if alkalinity is adjusted as part of optimal corrosion control treatment, a minimum concentration or a range of concentrations for alkalinity, measured at each entry point to the distribution system and in all tap samples;

E) if calcium carbonate stabilization is used as part of corrosion control, a minimum concentration or a range of concentrations for calcium, measured in all tap samples.

2) The values for the applicable water quality control parameters listed in subsection (f)(1) shall be those that the Agency determines reflect optimal corrosion control treatment for the supplier.

3) The Agency may, by a SEP issued pursuant to Section 611.110, approve values for additional water quality control parameters determined by the Agency to reflect optimal corrosion control for the supplier's system.

4) The Agency shall, in issuing a SEP, explain these determinations to the supplier, along with the basis for its decisions.

g) Continued Operation and Monitoring.

1) All suppliers shall maintain water quality parameter values at or above minimum values or within ranges approved by the Agency under subsection (f) in each sample collected under Section 611.357(d).

2) If the water quality parameter value of any sample is below the minimum value or outside the range approved by the Agency, then the supplier is out of compliance with this subsection.

3) As specified in Section 611.357(d), the supplier may take a confirmation sample for any water

quality parameter value no later than 3 days after the first sample. If a confirmation sample is taken, the result must be averaged with the first sampling result, and the average must be used for any compliance determinations under this subsection. The Agency may delete results of obvious sampling errors from this calculation.

h) Modification of Agency treatment decisions.

1) On its own initiative, or in response to a request by a supplier, the Agency may, by a SEP issued pursuant to this subsection and Section 611.110, modify its determination of the optimal corrosion control treatment under subsection (d) or of the optimal water quality control parameters under subsection (f).

2) A request for modification must be in writing, explain why the modification is appropriate, and provide supporting documentation.

3) The Agency may modify its determination where it determines that such change is necessary to ensure that the supplier continues to optimize corrosion control treatment. A revised determination must set forth the new treatment requirements, explain the basis for the Agency's decision, and provide an implementation schedule for completing the treatment modifications.

4) Any interested person may submit information to the Agency bearing on whether the Agency should, within its discretion, issue a SEP to modify its determination pursuant to subsection (h)(1). An Agency determination not to act on a submission of such information by an interested person is not an Agency determination for the purposes of Sections 39 and 40 of the Act.

i) Treatment decisions by USEPA. Pursuant to the procedures in 40 CFR 142.19, the USEPA Regional Administrator has reserved the prerogative to review treatment determinations made by the Agency under subsections (d), (f), or (h) and issue federal treatment determinations consistent with the requirements of 40 CFR 141.82(d), (e), or (h), where the Regional Administrator finds that:

1) the Agency has failed to issue a treatment determination by the applicable deadlines contained in Section 611.351 (40 CFR 141.81),

2) the Agency has abused its discretion in a substantial number of cases or in cases affecting a substantial population, or

3) the technical aspects of the Agency's determination would be indefensible in an expected federal enforcement action taken against a supplier.

BOARD NOTE: Derived from 40 CFR 141.82 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.353 Source Water Treatment

Suppliers shall complete the applicable source water monitoring and treatment requirements (described in the referenced portions of subsection (b), and in Sections 611.356 and 611.358) by the following deadlines.

a) Deadlines for Completing Source Water Treatment Steps

1) Step 1: A supplier exceeding the lead action level or the copper action level shall complete lead and copper source water monitoring (Section 611.358(b)) and make a treatment recommendation to the Agency (subsection (b)(1)) within 6 months after exceeding the pertinent action level.

2) Step 2: The Agency shall, by a SEP issued pursuant to Section 611.110, make a determination regarding source water treatment (subsection (b)(2)) within 6 months after submission of monitoring results under step 1.

3) Step 3: If the Agency requires installation of source water treatment, the supplier shall install that treatment (subsection (b)(3)) within 24 months after completion of step 2.

4) Step 4: The supplier shall complete follow-up tap water monitoring (Section 611.356(d)(2)) and source water monitoring (Section 611.358(c)) within 36 months after completion of step 2.

5) Step 5: The Agency shall, by a SEP issued pursuant to Section 611.110, review the supplier's installation and operation of source water treatment and specify maximum permissible source water levels (subsection (b)(4)) within 6 months after completion of step 4.

6) Step 6: The supplier shall operate in compliance with the Agency-specified maximum permissible lead and copper source water levels (subsection (b)(4)) and continue source water monitoring (Section 611.358(d)).

b) Description of Source Water Treatment Requirements

1) System treatment recommendation. Any supplier that exceeds the lead action level or the copper action level shall recommend in writing to the Agency the installation and operation of one of the source water treatments listed in subsection (b)(2). A supplier may recommend that no treatment be installed 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 shall complete an evaluation of the results of all source water samples submitted by the supplier to determine whether source water treatment is necessary to minimize lead or copper levels in water delivered to users' taps.

B) If the Agency determines that treatment is needed, the Agency shall, by a SEP issued pursuant to Section 611.110, either require installation and operation of the source water treatment recommended by the supplier (if any) or require the installation and operation of another source water treatment from among the following:

i) ion exchange,

ii) reverse osmosis,

iii) lime softening, or

iv) coagulation/filtration.

C) The Agency may request and the supplier must submit such additional information, on or before a certain date, as the Agency determines is necessary to aid in its review.

D) The Agency shall notify the supplier in writing of its determination and set forth the basis for its decision.

3) Installation of source water treatment. Each supplier shall properly install and operate the source water treatment approved by the Agency under subsection (b)(2).

4) Agency review of source water treatment and specification of maximum permissible source water levels.

   A) The Agency shall review the source water samples taken by the supplier both before and after the supplier installs source water treatment, and determine whether the supplier has properly installed and operated the approved source water treatment.

   B) Based on its review, the Agency shall, by a SEP issued pursuant to Section 611.110, approve the maximum permissible lead and copper concentrations for finished water entering the supplier's distribution system. Such levels shall reflect the contaminant removal capability of the treatment properly operated and maintained.

   C) The Agency shall explain the basis for its decision under subsection (b)(4)(B).

5) Continued operation and maintenance. Each supplier shall maintain lead and copper levels below the maximum permissible concentrations approved by the Agency at each sampling point monitored in accordance with Section 611.358. The supplier is out of compliance with this subsection if the level of lead or copper at any sampling point is greater than the maximum permissible concentration approved by the Agency pursuant to subsection (b)(4)(B).

6) Modification of Agency treatment decisions.

   A) On its own initiative, or in response to a request by a supplier or other interested party, the Agency may, by a SEP issued pursuant to Section 611.110, modify its determination of the source water treatment under subsection (b)(2), or maximum permissible lead and copper concentrations for finished water entering the distribution system under subsection (b)(4).

B) A request for modification by a supplier or other interested party shall be in writing, explain why the modification is appropriate, and provide supporting documentation.

C) The Agency may, by a SEP issued pursuant to Section 611.110, modify its determination where it concludes that such change is necessary to ensure that the supplier continues to minimize lead and copper concentrations in source water.

D) A revised determination made pursuant to subsection (b)(6)(C) shall set forth the new treatment requirements, explain the basis for the Agency's decision, and provide an implementation schedule for completing the treatment modifications.

7) Treatment decisions by USEPA. Pursuant to the procedures in 40 CFR 142.19, the USEPA Regional Administrator reserves the prerogative to review treatment determinations made by the Agency under subsections (b)(2), (b)(4), or (b)(6) and issue federal treatment determinations consistent with the requirements of 40 CFR 141.83(b)(2), (b)(4), and (b)(6), where the Administrator finds that:

A) the Agency has failed to issue a treatment determination by the applicable deadlines contained in Section 611.353(a),

B) the Agency has abused its discretion in a substantial number of cases or in cases affecting a substantial population, or

C) the technical aspects of the Agency's determination would be indefensible in an expected federal enforcement action taken against a supplier.

BOARD NOTE: Derived from 40 CFR 141.83 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.354 Lead Service Line Replacement

a) Suppliers required to replace lead service lines.

1) Suppliers that fail to meet the lead action level

in tap samples taken pursuant to Section 611.356(d)(2), after installing corrosion control or source water treatment (whichever sampling occurs later), shall replace lead service lines in accordance with the requirements of this Section.

2) If a supplier is in violation of Section 611.351 or Section 611.353 for failure to install source water or corrosion control treatment, the Agency may, by a SEP issued pursuant to Section 611.110, require the supplier to commence lead service line replacement under this Section after the date by which the supplier was required to conduct monitoring under Section 611.356(d)(2) has passed.

b) Annual replacement of lead service lines.

1) A supplier required to commence lead service line replacement pursuant to subsection (a) shall annually replace at least 7 percent of the initial number of lead service lines in its distribution system.

2) The initial number of lead service lines is the number of lead lines in place at the time the replacement program begins.

3) The supplier shall identify the initial number of lead service lines in its distribution system based on a materials evaluation, including the evaluation required under Section 611.356(a).

4) The first year of lead service line replacement shall begin on the date the supplier exceeded the action level in tap sampling referenced in subsection (a).

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 service line samples taken from that line pursuant to Section 611.356(b)(3) are less than or equal to 0.015 mg/L.

d) Replacement of service line.

1) A supplier required to replace a lead service line pursuant to subsection (a) shall replace the entire service line (up to the building inlet) unless the Agency determines pursuant to subsection (e) that the supplier controls less than the entire service line.

2) Replacement of less than the entire service line.

A) Where the Agency has determined that the supplier controls less than the entire service line, the supplier shall replace that portion of the line that the Agency determines is under the supplier's control.

B) The supplier that will replace less than the entire service line shall notify the user served by the line that the supplier will replace that portion of the service line under its control, and the supplier shall offer to replace the remaining portion of the service line that is under the building owner's control.

C) The supplier required to replace less than the entire service line is not required to bear the cost of replacing any portion of the service line that is under the building owner's control.

D) Offer to collect samples.

i) For buildings where only a portion of the lead service line is replaced, the supplier shall inform the resident(s) that the supplier will collect a first flush tap water sample after partial replacement of the service line is completed if the resident(s) so desire.

ii) In cases where the resident(s) accept the offer, the supplier shall collect the sample and report the results to the resident(s) within 14 days following partial lead service line replacement.

e) Control of entire service line.

1) A supplier is presumed to control the entire lead service line (up to the building inlet) unless the supplier demonstrates to the satisfaction of the Agency, in a letter submitted under Section 611.360(e)(4), that it does not have any of the following forms of control over the entire line (as defined by state statutes, municipal ordinances, public service contracts or other applicable legal authority):

A) authority to set standards for construction, repair, or maintenance of the line;

B) authority to replace, repair, or maintain the service line; or

C) ownership of the service line.

2) Agency determinations.

A) The Agency shall review the information provided by the supplier and determine the following:

i) whether the supplier controls less than the entire service line, and

ii) where the supplier controls less than the entire service line, the Agency shall determine the extent of the supplier's control.

B) The Agency shall make its determination of the extent of a supplier's control of a service line as a SEP pursuant to Section 611.110, and the Agency shall explain the basis for its determination.

f) Agency determination of shorter replacement schedule.

1) The Agency shall, by a SEP issued pursuant to Section 611.110, require a supplier to replace lead service lines on a shorter schedule than that otherwise required by this Section if it determines, taking into account the number of lead service lines in the system, that such a shorter replacement schedule is feasible.

2) The Agency shall notify the supplier of its finding pursuant to subsection (f)(1) within 6 months after the supplier is triggered into lead service line replacement based on monitoring, as referenced in subsection (a).

g) Cessation of service line replacement.

1) Any supplier may cease replacing lead service lines whenever it fulfills both of the following conditions:

A) first draw tap samples collected pursuant to Section 611.356(b)(2) meet the lead action level during each of two consecutive six-month monitoring periods and

B) the supplier has submitted those results to the Agency.

2) If any of the supplier's first draw tap samples thereafter exceed the lead action level, the supplier shall recommence replacing lead service lines pursuant to subsection (b).

h) To demonstrate compliance with subsections (a) through (d), a supplier shall report to the Agency the information specified in Section 611.360(e).

BOARD NOTE: Derived from 40 CFR 141.84 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.355 Public Education and Supplemental Monitoring

A supplier that exceeds the lead action level based on tap water samples collected in accordance with Section 611.356 shall deliver the public education materials required by subsections (a) and (b) in accordance with the requirements of subsection (c).

a) Content of written materials. A supplier shall include the text set forth in Section 611.Appendix E in all of the printed materials it distributes through its lead public education program. Any additional information presented by a supplier shall be consistent with the information in Section 611.Appendix E and be in plain English that can be understood by laypersons.

b) Content of broadcast materials. A supplier shall include the following information in all public service announcements submitted under its lead public education program to television and radio stations for broadcast:

1) Why should everyone want to know the facts about lead and drinking water? Because unhealthy amounts of lead can enter drinking water through the plumbing in your home. That's why I urge you to do what I did. I had my water tested for [insert free or $ per sample]. You can contact the [insert the name of the city or supplier] for information on testing and on simple ways to reduce your exposure to lead in drinking water.

2) To have your water tested for lead, or to get more information about this public health concern,

please call [insert the phone number of the city or supplier].

c) Delivery of a public education program.

1) In communities where a significant proportion of the population speaks a language other than English, public education materials shall be communicated in the appropriate language(s).

2) A CWS supplier that exceeds the lead action level on the basis of tap water samples collected in accordance with Section 611.356 shall, within 60 days do each of the following:

A) insert notices in each customer's water utility bill containing the information required by subsection (a), along with the following alert in large print on the water bill itself: "SOME HOMES IN THIS COMMUNITY HAVE ELEVATED LEAD LEVELS IN THEIR DRINKING WATER. LEAD CAN POSE A SIGNIFICANT RISK TO YOUR HEALTH. PLEASE READ THE ENCLOSED NOTICE FOR FURTHER INFORMATION.";

B) submit the information required by subsection (a) to the editorial departments of the major daily and weekly newspapers circulated throughout the community;

C) deliver pamphlets or brochures that contain the public education materials in subsections (a)(2) and (a)(4) to facilities and organizations, including the following:

i) public schools or local school boards;

ii) the city or county health department;

iii) Women, Infants, and Children (WIC) or Head Start program(s), whenever available;

iv) public and private hospitals or clinics;

v) pediatricians;

vi) family planning clinics; and

vii) local welfare agencies; and

D) submit the public service announcement in subsection (b) to at least five of the radio and television stations with the largest audiences within the community served by the supplier.

3) A CWS supplier shall repeat the tasks contained in subsections (c)(2)(A) through (c)(2)(D) for as long as the supplier exceeds the lead action level, at the following minimum frequency:

A) those of subsections (c)(2)(A) through (c)(2)(C); every 12 months, and

B) those of subsection (c)(2)(D) every 6 months.

4) Within 60 days after it exceeds the lead action level, a NTNCWS supplier shall deliver the public education materials contained in Section 611.Appendix E(1), (2), and (4) as follows:

A) post informational posters on lead in drinking water in a public place or common area in each of the buildings served by the supplier; and

B) distribute informational pamphlets or brochures on lead in drinking water to each person served by the NTNCWS supplier.

5) A NTNCWS supplier shall repeat the tasks contained in subsection (c)(4) at least once during each calendar year in which the supplier exceeds the lead action level.

6) A supplier may discontinue delivery of public education materials after it has met the lead action level during the most recent six-month monitoring period conducted pursuant to Section 611.356. Such a supplier shall begin public education anew in accordance with this Section if it subsequently exceeds the lead action level during any six-month monitoring period.

d) Supplemental monitoring and notification of results. A supplier that fails to meet the lead action level on the basis of tap samples collected in accordance with Section 611.356 shall offer to sample the tap water of any customer who requests it. The supplier is not required to pay for collecting or analyzing the sample, nor is the supplier required to collect and analyze the sample itself.

BOARD NOTE: Derived from 40 CFR 141.85 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.356 Tap Water Monitoring for Lead and Copper

a) Sample site location.

1) Selecting a pool of targeted sampling sites.

A) By the applicable date for commencement of monitoring under subsection (d)(1), each supplier shall complete a materials evaluation of its distribution system in order to identify a pool of targeted sampling sites that meets the requirements of this Section.

B) The pool of targeted sampling sites must be sufficiently large to ensure that the supplier can collect the number of lead and copper tap samples required by subsection (c).

C) The supplier shall select the sites for collection of first draw samples from this pool of targeted sampling sites.

D) The supplier shall not select as sampling sites any faucets that have point-of-use or point-of-entry treatment devices designed to remove or capable of removing inorganic contaminants.

2) Materials evaluation.

A) A supplier shall use the information on lead, copper, and galvanized steel collected pursuant to 40 CFR 141.42(d) (special monitoring for corrosivity characteristics) when conducting a materials evaluation.

B) When an evaluation of the information collected pursuant to 40 CFR 141.42(d) is insufficient to locate the requisite number of lead and copper sampling sites that meet the targeting criteria in subsection (a), the supplier shall review the following sources of information in order to identify a sufficient number of sampling sites:

i) all plumbing codes, permits, and records in the files of the building department(s) that indicate the plumbing materials that are installed within publicly- and privately-owned structures connected to the distribution system;

ii) all inspections and records of the distribution system that indicate the material composition of the service connections which connect a structure to the distribution system;

iii) all existing water quality information, which includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead or copper concentrations; and

iv) the supplier shall seek to collect such information where 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. Suppliers shall categorize the sampling sites within their pool according to the following tiers:

A) CWS Tier 1 sampling sites. "CWS Tier 1 sampling sites" shall include the following single-family structures:

i) those that contain copper pipes with lead solder installed after 1982 or which contain lead pipes; or

ii) those that are served by a lead service line.

B) CWS Tier 2 sampling sites. "CWS Tier 2 sampling sites" shall include the following buildings, including multiple-family structures:

i) those that contain copper pipes with lead solder installed after 1982 or contain lead pipes; or

ii) those that are served by a lead service line.

C) CWS Tier 3 sampling sites. "CWS Tier 3 sampling sites" shall include the following single-family structures: those that contain copper pipes with lead solder installed before 1983.

D) NTNCWS Tier 1 sampling sites. "NTNCWS Tier 1 sampling sites" shall include the following buildings:

i) those that contain copper pipes with lead solder installed after 1982 or which contain lead pipes; or

ii) those that are served by a lead service line.

E) Alternative NTNCWS sampling sites. "Alternative NTNCWS sampling sites" shall include the following buildings: those that contain copper pipes with lead solder installed before 1983.

4) Selection of sampling sites. Suppliers shall select sampling sites for their sampling pool as follows:

A) CWS Suppliers. CWS suppliers shall 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 as follows:

i) If multiple-family residences comprise at least 20 percent of the structures served by a supplier, the supplier may use CWS tier 2 sampling sites in its sampling pool; or

ii) If the CWS supplier has an insufficient 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

iii) If fewer than 20 percent of the structures served by the supplier are multiple-family residences, and the CWS supplier has an insufficient 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.

B) NTNCWS suppliers. An NTNCWS supplier shall select NTNCWS tier 1 sampling sites for its sampling pool, except 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.

C) Agency submission by suppliers with an insufficient number of CWS or NTNCWS tier 1 sampling sites.

i) Any CWS or NTNCWS supplier whose sampling pool does not include a sufficient number of sites to consist exclusively of CWS tier 1 sampling sites or NTNCWS tier 1 sampling sites, as appropriate, shall submit a letter to the Agency under Section 611.360(a)(2) that demonstrates why a review of the information listed in subsection (a)(2) was inadequate to locate a sufficient number of CWS tier 1 sampling sites or NTNCWS tier 1 sampling sites.

ii) Any CWS supplier that wants to include CWS tier 3 sampling sites in its sampling pool shall demonstrate in a letter to the Agency why it was unable to locate a sufficient number of CWS tier 1 sampling sites and CWS tier 2 sampling sites.

D) Suppliers with lead service lines. Any supplier whose distribution system contains lead service lines shall draw samples during each six-month monitoring period from sampling sites as follows:

i) 50 percent of the samples from sampling sites that contain lead pipes or from sampling sites that have copper pipes with lead solder, and

ii) 50 percent of those samples from sites served by a lead service line.

iii) A supplier that cannot identify a sufficient number of sampling sites served by a lead service line shall demonstrate in a letter to the Agency under Section 611.360(a)(4) that it was unable to locate a sufficient number of such sites.

iv) Any supplier that cannot identify a sufficient number of sampling sites served by a lead service line shall collect first draw samples from all of the sites on its distribution system identified as being served by such lines.

b) Sample collection methods.

1) All tap samples for lead and copper collected in accordance with this subpart, with the exception of lead service line samples collected under Section 611.354(c), shall be first draw samples.

2) First-draw tap samples.

A) Each first-draw tap sample for lead and copper shall be one liter in volume and have stood motionless in the plumbing system of each sampling site for at least six hours.

B) First draw samples from residential housing shall be collected from the cold water kitchen tap or bathroom sink tap.

C) First-draw samples from a non-residential building shall be collected at an interior tap from which water is typically drawn for consumption.

D) First draw samples may be collected by the supplier or the supplier may allow residents to collect first draw samples after instructing the residents of the sampling procedures specified in this subsection.

i) To avoid problems of residents handling nitric acid, acidification of first draw samples may be done up to 14 days after the sample is collected.

ii) If the first draw sample is not acidified immediately after collection, then the sample must stand in the original container for at least 28 hours after acidification.

E) 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 shall be one liter in volume and have stood motionless in the lead service line for at least six hours.

B) Lead service line samples shall be collected in one of the following three ways:

i) at the tap after flushing that volume of water calculated as being 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 that would be indicative of water that has been standing in the lead service line.

4) Follow-up first draw tap samples.

A) A supplier shall collect each follow-up first draw tap sample from the same sampling site from which it collected the previous sample(s).

B) If, for any reason, the supplier cannot gain entry to a sampling site in order 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.

c) Number of samples

1) Suppliers shall collect at least one sample from the number of sites listed in the first column of Section 611.Table D (labelled "standard monitoring") during each six-month monitoring period specified in subsection (d).

2) A supplier conducting reduced monitoring pursuant to subsection (d)(4) may collect one sample from the number of sites specified in the second column of Section 611.Table D (labelled "reduced monitoring") during each reduced monitoring period specified in subsection (d)(4).

d) Timing of monitoring

1) Initial tap sampling.

The first six-month monitoring period for small, medium-sized and large system suppliers shall begin on the dates specified in Section 611.Table F.

A) All large system suppliers shall monitor during each of two consecutive six-month periods.

B) All small and medium-sized system suppliers shall monitor during each consecutive six-month monitoring period until:

i) the supplier exceeds the lead action level or the copper action level and is therefore required to implement the corrosion control treatment requirements under Section 611.351, in which case the supplier shall continue monitoring in accordance with subsection (d)(2), or

ii) the supplier meets the lead action level and the copper action level during each of two consecutive six-month monitoring periods, in which case the supplier may reduce monitoring in accordance with subsection (d)(4).

2) Monitoring after installation of corrosion control and source water treatment.

A) Any large system supplier that installs optimal corrosion control treatment pursuant to Section 611.351(d)(4) shall monitor during each of two consecutive six-month monitoring periods before the date specified in Section 611.351(d)(5).

B) Any small or medium-sized system supplier that installs optimal corrosion control treatment pursuant to Section 611.351(e)(5) shall monitor during each of two consecutive six-month monitoring periods before the date specified in Section 611.351(e)(6).

C) Any supplier that installs source water treatment pursuant to Section 611.353(a)(3) shall monitor during each of two consecutive six-month monitoring periods before the date specified in Section 611.353(a)(4).

3) Monitoring after the Agency specification of water quality parameter values for optimal corrosion control.

After the Agency specifies the values for water quality control parameters pursuant to Section 611.352(f), the supplier shall monitor during each subsequent six-month monitoring period, with the first six-month monitoring period to begin on the date the Agency specifies the optimal values.

4) Reduced monitoring.

A) Reduction to annual for small and medium-sized system suppliers meeting the lead and copper action levels. A small or medium-sized system supplier that meets the lead and copper action levels during each of two consecutive six-month monitoring periods may reduce the number of samples in accordance with subsection (c), and reduce the frequency of sampling to once per year.

B) SEP allowing reduction to annual for suppliers maintaining water quality control parameters.

i) The Agency shall, by a SEP granted pursuant to Section 611.110, allow any supplier to reduce the frequency of monitoring to annual and the number of lead and copper samples to that specified by subsection (c) if it determines that a supplier has, during each of two consecutive six-month monitoring periods, maintained the range of values for the water quality control parameters specified pursuant to Section 611.352(f) as reflecting optimal corrosion control treatment.

ii) Any supplier may request a SEP if it concurrently provides the Agency with the information necessary to support a determination under subsection (d)(4)(B)(i).

iii) The Agency shall set forth the basis for its determination under subsection (d)(4)(B)(i).

iv) The Agency shall, by a SEP issued pursuant to Section 611.110, review, and where appropriate, revise its subsection (d)(4)(B)(i) determination 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.

C) Reduction to triennial for small and medium-sized system suppliers.

i) Small and medium-sized system suppliers meeting lead and copper action levels. A small or medium-sized system supplier that meets 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 shall, by a SEP granted pursuant to Section 611.110, allow a supplier to reduce its monitoring frequency from annual to triennial if it determines that the supplier, during each of three consecutive years of monitoring, has maintained the range of values for the water quality control parameters specified as representing optimal corrosion control treatment pursuant to Section 611.352(f). Any supplier may request a SEP if it concurrently provides the Agency with the information necessary to support a determination under this subsection. The Agency shall set forth the basis for its determination. The Agency shall, by a SEP issued pursuant to Section 611.110, review, and where appropriate, revise its determination 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.

D) Sampling at a reduced frequency. A supplier that reduces the number and frequency of sampling shall collect these samples from sites included in the pool of targeted sampling sites identified in subsection (a). Suppliers sampling annually or less frequently shall conduct the lead and copper tap sampling during the months of June, July, August, or September.

E) Resumption of standard monitoring.

i) Small or medium-sized suppliers exceeding lead or copper action level. A small or medium-sized system supplier subject to reduced monitoring that exceeds the lead action level or the copper action level shall resume sampling in accordance subsection (d)(3) and collect the number of samples specified for standard monitoring under subsection (c). Such a supplier shall also conduct water quality parameter monitoring in accordance with Section 611.357 (b), (c), or (d) (as appropriate) during the six-month monitoring period in which it exceeded the action level.

ii) Suppliers failing to operate within water quality control parameters. Any supplier subject to reduced monitoring frequency that fails to operate within the range of values for the water quality control parameters specified pursuant to Section 611.352(f) shall resume tap water sampling in accordance with subsection (d)(3) and collect the number of samples specified for standard monitoring under subsection (c).

e) Additional monitoring. The results of any monitoring conducted in addition to the minimum requirements of this section shall be considered by the supplier and the Agency in making any determinations (i.e., calculating the 90th percentile lead action level or the copper level) under this subpart.

BOARD NOTE: Derived from 40 CFR 141.86 (1992).

(Source: Added at 16 Ill. Reg. __________, effective __________ __________)

Section 611.357 Monitoring for Water Quality Parameters

All large system suppliers, and all small and medium-sized system suppliers that exceed the lead action level or the copper action level, shall monitor water quality parameters in addition to lead and copper in accordance with this Section. The requirements of this Section are summarized in Section 611.Table G.

a) General Requirements

1) Sample collection methods

A) Use of tap samples. The totality of all tap samples collected by a supplier shall be representative of water quality throughout the distribution system taking into account the number of persons served, the different sources of water, the different treatment methods employed by the supplier, and seasonal variability. Although a supplier may conveniently conduct tap sampling for water quality parameters at sites used for coliform sampling performed pursuant to 611.Subpart L, it is not required to do so, and a supplier is not required to perform tap sampling pursuant to this Section at taps targeted for lead and copper sampling under Section 611.356(a).

B) Use of entry point samples. Each supplier shall collect samples at entry point(s) to the distribution system from locations representative of each source after treatment. 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 to the distribution system during periods of normal operating conditions (i.e., when water is representative of all sources being used).

2) Number of samples

A) Tap samples. Each supplier shall collect two tap samples for applicable water quality parameters during each six-month monitoring period specified under subsections (b) through (e) from the number of sites indicated in the first column of Section 611.Table E.

B) Entry point samples.

i) Initial monitoring. Each supplier shall collect two samples for each applicable water quality parameter at each entry point to the distribution system during each six-month monitoring period specified in subsection (b).

ii) Subsequent monitoring. Each supplier shall collect one sample for each applicable water quality parameter at each entry point to the distribution system during each six-month monitoring period specified in subsections (c) through (e).

b) Initial Sampling.

1) Large systems. Each large system supplier shall measure the applicable water quality parameters specified in subsection (b)(3) at taps and at each entry point to the distribution system during each six-month monitoring period specified in Section 611.356(d)(1).

2) Small and medium-sized systems. Each small and medium-sized system supplier shall measure the applicable water quality parameters specified in subsection (b)(3) at the locations specified in this subsection during each six-month monitoring period specified in Section 611.356(d)(1) during which the supplier exceeds the lead action level or the copper action level.

3) Water quality parameters:

A) pH;

B) alkalinity;

C) orthophosphate, when an inhibitor containing a phosphate compound is used;

D) silica, when an inhibitor containing a silicate compound is used;

E) calcium;

F) conductivity; and

G) water temperature.

c) Monitoring after installation of corrosion control.

1) Large systems. Each large system supplier that installs optimal corrosion control treatment pursuant to Section 611.351(d)(4) shall measure the water quality parameters at the locations and frequencies specified in subsection (c)(3) and (c)(4) during each six-month monitoring period specified in Section 611.356(d)(2)(i).

2) Small and medium-sized systems. Each small or medium-sized system that installs optimal corrosion control treatment pursuant to Section 611.351(e)(5) shall measure the water quality parameters at the locations and frequencies specified in subsections (c)(3) and (c)(4) during each six-month monitoring period specified in Section 611.356(d)(2)(ii) in which the supplier exceeds the lead action level or the copper action level.

3) Tap water samples, two samples at each tap for each of the following water quality parameters:

A) pH;

B) alkalinity;

C) orthophosphate, when an inhibitor containing a phosphate compound is used;

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

E) calcium, when calcium carbonate stabilization is used as part of corrosion control.

4) Entry point samples, one sample at each entry

point to the distribution system every two weeks (bi-weekly) for each of the following water quality parameters:

A) pH;

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

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

d) Monitoring after the Agency specifies water quality parameter values for optimal corrosion control.

1) Large systems. After the Agency has specified the values for applicable water quality control parameters reflecting optimal corrosion control treatment pursuant to Section 611.352(f), each large system supplier shall measure the applicable water quality parameters in accordance with subsection (c) during each six-month monitoring period specified in Section 611.356(d)(3).

2) Small and medium-sized systems. Each small or medium-sized system supplier shall conduct such monitoring during each six-month monitoring period specified in Section 611.356(d)(3) in which the supplier exceeds the lead action level or the copper action level.

3) Confirmation sampling.

A) A supplier may take a confirmation sample for any water quality parameter value no later than 3 days after it took the original sample it seeks to confirm.

B) If a supplier takes a confirmation sample, it must average the result obtained from the confirmation sample with the result obtained from the original sample it seeks to confirm, and the supplier shall use the average of these two results for any compliance determinations under Section 611.352(g).

C) The Agency shall delete the results that it determines are due to obvious sampling errors from this calculation.

e) Reduced monitoring.

1) Reduction in tap monitoring. A supplier that has maintained 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) shall continue monitoring at the entry point(s) to the distribution system as specified in subsection (c)(4). Such a supplier may collect two samples from each tap for applicable water quality parameters from the reduced number of sites indicated in the second column of Section 611.Table E during each subsequent six-month monitoring period.

2) Reduction in monitoring frequency.

A) Stages of reductions.

i) Annual monitoring. A supplier that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified pursuant to Section 611.352(f) during three consecutive years of monitoring may reduce the frequency with which it collects the number of tap samples for applicable water quality parameters specified in subsection (e)(1) from every six months to annually.

ii) Triennial monitoring. A supplier that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified pursuant to Section 611.352(f) during three consecutive years of annual monitoring under subsection (e)(2)(A)(i) may reduce the frequency with which it collects the number of tap samples for applicable water quality parameters specified in subsection (e)(1) from annually to once every three years.

B) A supplier that conducts sampling annually or every three years shall collect these samples evenly throughout the calendar year so as to reflect seasonal variability.

C) Any supplier subject to a reduced monitoring frequency pursuant to this subsection that fails to operate within the range of values for the water quality parameters specified pursuant to Section 611.352(f) shall resume tap water sampling in accordance with the number and frequency requirements of subsection (d).

f) Additional monitoring by systems. The results of any monitoring conducted in addition to the minimum requirements of this section shall be considered by the supplier and the Agency in making any determinations (i.e., determining concentrations of water quality parameters) under this Section or Section 611.352.

BOARD NOTE: Derived from 40 CFR 141.87 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.358 Monitoring for Lead and Copper in Source Water

a) Sample location, collection methods, and number of samples

1) A supplier that fails to meet the lead action level or the copper action level on the basis of tap samples collected in accordance with Section 611.356 shall collect lead and copper source water samples in accordance with the sample location, number of samples, and collection method requirements of Section 141.23(a)(1) through (a)(4) (as specified for inorganic chemical contaminants). The timing of sampling for lead and copper shall be in accordance with subsections (b) and (c), and not with the dates specified in Section 141.23(a)(1) and (a)(2).

2) SEP requiring an additional sample.

A) When the Agency determines that the results of sampling indicate an exceedance of maximum permissible source water levels established under Section 611.353(b)(4), it shall, by a SEP issued pursuant to Section 611.110, require the supplier to collect one additional sample be collected as soon as possible after the initial sample at the same sampling point, but no later than 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 shall average the results obtained from the initial sample with the results obtained from the confirmation sample in determining compliance with the Agency-specified maximum permissible levels.

i) Any analytical result below the detection limit shall be considered as zero for the purposes of averaging.

ii) Any value above the MDL but below the PQL shall either be considered as the measured value or be considered one-half the PQL.

b) Monitoring frequency after system exceeds tap water action level. A supplier that exceeds the lead action level or the copper action level in tap sampling shall collect one source water sample from each entry point to the distribution system within six months after the exceedance.

c) Monitoring frequency after installation of source water treatment. A supplier that installs source water treatment pursuant to Section 611.353(a)(3) shall collect an additional source water sample from each entry point to the distribution system during each of two consecutive six-month monitoring periods on or before the deadline specified in Section 611.353(a)(4).

d) Monitoring frequency after the Agency has specified the maximum permissible source water levels or has determined that source water treatment is not needed.

1) A supplier shall monitor at the frequency specified by subsection (d)(1)(A) or (d)(1)(B) where the Agency has specified the maximum permissible source water levels pursuant to Section 611.353(b)(4) or has determined that the supplier is not required to install source water treatment pursuant to Section 611.353(b)(2).

A) GWS suppliers.

i) A GWS supplier required to sample by subsection (d)(1) shall collect samples once during the three-year compliance period (as that term is defined in Section 611.101) during which the Agency makes its determination pursuant to Section 611.353(b)(4) or 611.353(b)(2).

ii) A GWS supplier required to sample by subsection (d)(1) shall collect samples once during each subsequent compliance period.

B) A SWS or mixed system supplier shall collect samples annually, the first annual monitoring period to begin on the date on which the Agency makes its determination pursuant to Section 611.353(b)(4) or 611.353(b)(2).

2) A supplier is not required to conduct source water sampling for lead or copper if the supplier meets the action level for the specific contaminant in all tap water samples collected during the entire source water sampling period applicable under subsection (d)(1)(A) or (d)(1)(B).

e) Reduced monitoring frequency.

1) A GWS supplier that demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead or copper concentrations specified by the Agency pursuant to Section 611.353(b)(4) during at least three consecutive compliance periods under subsection (d)(1) may reduce the monitoring frequency for lead or copper, as appropriate, to once during each nine-year compliance cycle (as that term is defined in Section 611.101).

2) A SWS or mixed system supplier that demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the Agency pursuant to Section 611.353(b)(4) for at least three consecutive years under subsection (d)(1) may reduce the monitoring frequency to once during each nine-year compliance cycle (as that term is defined in Section 611.101).

3) A supplier that uses a new source of water is not eligible for reduced monitoring for lead or copper until it demonstrates by samples collected from the new source during three consecutive monitoring

periods, of the appropriate duration provided by subsection (d)(1), that lead or copper concentrations are below the maximum permissible as specified by the Agency pursuant to Section 611.353(a)(5).

BOARD NOTE: Derived from 40 CFR 141.88 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.359 Analytical Methods

a) Analyses for lead, copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature shall be conducted using the methods set forth in subsection (b).

1) Analyses performed for the purposes of compliance with this Subpart shall only be conducted by laboratories that have been certified by USEPA or the Agency. To obtain certification to conduct analyses for lead and copper, laboratories must:

A) Analyze performance evaluation samples that include lead and copper provided by USEPA Environmental Monitoring and Support Laboratory or equivalent samples provided by the Agency; and

B) Achieve quantitative acceptance limits as follows:

i) 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, and

ii) 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;

iii) Achieve method detection limits defined in Section 611.350(a) according to the procedures in Appendix B of Part 136; and

iv) Be currently certified by USEPA or the Agency to perform analyses to the specifications described in subsection (a)(2).

2) The Agency shall, by a SEP issued pursuant to Section 611.110, allow a supplier to use previously collected monitoring data for the purposes of monitoring under this Subpart if the data were collected an analyzed in accordance with the requirements of this Subpart.

3) Reporting lead levels.

A) All lead levels greater than or equal to the lead PQL (Pb ≥ 0.005 mg/L) must be reported as measured.

B) All lead levels measured less than the PQL and greater than the MDL (0.005 mg/L > Pb > MDL) must be either reported as measured or as one-half the PQL (0.0025 mg/L).

C) All lead levels below the lead MDL (MDL > Pb) must be reported as zero.

4) Reporting copper levels.

A) All copper levels greater than or equal to the copper PQL (Cu ≥ 0.05 mg/L) must be reported as measured.

B) All copper levels measured less than the PQL and greater than the MDL (0.05 mg/L > Cu > MDL) must be either reported as measured or as one-half the PQL (0.025 mg/L).

C) All copper levels below the copper MDL (MDL > Cu) must be reported as zero.

b) Analytical methods.

1) Lead

A) Atomic absorption, furnace technique:

i) USEPA Inorganic Methods: Method 239.2,

ii) ASTM Methods: Method D3559-85D, or

iii) Standard Methods: Method 3113;

B) Inductively-coupled plasma, mass spectrometry: ICP-MS Method 200.8; or

C) Atomic absorption, platform furnace technique: AA-Platform Furnace Method 200.9.

2) Copper

A) Atomic absorption, furnace technique:

i) USEPA Inorganic Methods: Method 220.2,

ii) ASTM Methods: Method D1688-90C, or

iii) Standard Methods: Method 3113;

B) Atomic absorption, direct aspiration:

i) USEPA Inorganic Methods: Method 220.1,

ii) ASTM Methods: Method D1688-90A, or

iii) Standard Methods: Method 3111-B;

C) Inductively-coupled plasma:

i) ICP Method 200.7, Rev. 3.2, or

ii) Standard Methods: Method 3120;

D) Inductively-coupled plasma; mass spectrometry: ICP-MS Method 200.8; or

E) Atomic absorption; platform furnace technique: AA-Platform Furnace Method 200.9.

3) pH: Electrometric:

A) USEPA Inorganic Methods: Method 150.1 or 150.2,

B) ASTM Methods: Method D1293-84B, or

C) Standard Methods: Method 4500-H^+.

4) Conductivity: Conductance:

A) USEPA Inorganic Methods: Method 120.1,

B) ASTM Methods: Method D1125-82B, or

C) Standard Methods: Method 2510.

5) Calcium:

A) EDTA titrimetric:

i) USEPA Inorganic Methods: Method 215.2,

ii) ASTM Methods: Method D511-88A, or

iii) Standard Methods: Method 3500-Ca D;

B) Atomic absorption; direct aspiration:

i) USEPA Inorganic Methods: Method 215.1,

ii) ASTM Methods: Method D511-88B, or

iii) Standard Methods: Method 3111-B; or

C) Inductively-coupled plasma:

i) ICP Method 200.7, Rev 3.2, or

ii) Standard Methods: Method 3120.

6) Alkalinity:

A) Titrimetric:

i) USEPA Inorganic Methods: Method 310.1,

ii) ASTM Methods: Method D1067-88B, or

iii) Standard Methods: Method 2320; or

B) Electrometric titration: USGS Methods: Method I-1030-85.

7) Orthophosphate:

A) Unfiltered, no digestion or hydrolysis: USEPA Inorganic Methods: Method 365.1;

B) Colorimetric, automated, ascorbic acid: Standard Methods: Method 4500-P F;

C) Colorimetric, ascorbic acid, two reagent;

i) USEPA Inorganic Methods: Method 365.3, or

ii) Standard Methods: Method 4500-P E;

D) Colorimetric, ascorbic acid, single reagent:

i) USEPA Inorganic Methods: Method 365.2, or

    ii) ASTM Methods: Method D515-88A;

  E) Colorimetric, phosphomolybdate, automated-segmented flow or automated discrete: USGS Methods: Methods I-1601-85, I-2601-85, or I-2598-85.

  F) Ion Chromatography:

    i) Ion Chromatography Method 300.0,

    ii) ASTM Methods: Method D4327-88, or

    iii) Standard Methods: Method 4110.

8) Silica:

  A) Colorimetric, molybdate blue, automated-segmented flow; USGS Methods: Methods I-1700-85 or I-2700-85;

  B) Colorimetric:

    i) USEPA Inorganic Methods: Method 370.1, or

    ii) ASTM Methods: Method D859-88;

  C) Molybdosilicate: Standard Methods: Method 4500-Si-D;

  D) Heteropoly blue: Standard Methods: Method 4500-Si-E;

  E) Automated method for molybdate-reactive silica: Standard Methods: Method 4500-Si-F; or

  F) Inductively-coupled plasma:

    i) ICP Method 200.7, Rev. 3.2, or

    ii) Standard Methods: Method 3120.

9) Temperature: Thermometric: Standard Methods: Method 2550.

BOARD NOTE: Derived from 40 CFR 141.89 (1992).

(Source: Added at 16 Ill. Reg. ____________, effective ______________ ______________)

Section 611.360 Reporting

A supplier shall report all of the following information to the Agency in accordance with this Section.

a) Reporting for tap, lead and copper, and water quality parameter monitoring.

1) A supplier shall report the following information for all samples within 10 days of the end of each applicable sampling period specified in Sections 611.356 through 611.358 (i.e., every six-months, annually, or every 3 years).

A) 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 (7) under which the site was selected for the supplier's sampling pool;

B) a certification that each first draw sample collected by the supplier was one-liter in volume and, to the best of the supplier's knowledge, had stood motionless in the service line, or in the interior plumbing of a sampling site, for at least six hours;

C) where residents collected samples, a certification that each tap sample collected by the residents was taken after the supplier informed them of the proper sampling procedures specified in Section 611.356(b)(2);

D) the 90th percentile lead and copper concentrations measured from among all lead and copper tap samples collected during each sampling period (calculated in accordance with Section 611.350(c)(3));

E) with the exception of initial tap sampling conducted pursuant to Section 611.356(d)(1), the supplier shall designate any site that was not sampled during previous sampling periods, and include an explanation of why sampling sites have changed;

F) the results of all tap samples for pH, and where applicable, alkalinity, calcium, conductivity, temperature, and orthophosphate or silica collected pursuant to Section 611.357(b) through (e);

G) the results of all samples collected at entry point(s) for applicable water quality parameters pursuant to Section 611.357(b) through (e).

2) By the applicable date in Section 611.356(d)(1) for commencement of monitoring, each CWS supplier that does not complete its targeted sampling pool with CWS tier 1 sampling sites meeting the requirements of Section 611.356(a)(4)(A) shall send a letter to the Agency justifying its selection of CWS tier 2 sampling sites or CWS tier 3 sampling sites pursuant to Section 611.356 (a)(4)(i) or (a)(4)(iii).

3) By the applicable date in Section 611.356(d)(1) for commencement of monitoring, each NTNCWS supplier that does not complete its sampling pool with NTNCWS tier 1 sampling sites meeting the requirements of Section 611.356(a)(4)(B) shall send a letter to the Agency justifying its selection of alternative NTNCWS sampling sites pursuant to that Section.

4) By the applicable date in Section 611.356(d)(1) for commencement of monitoring, each supplier with lead service lines that is not able to locate the number of sites served by such lines required by Section 611.356(a)(4)(D) shall send a letter to the Agency demonstrating why it was unable to locate a sufficient number of such sites based upon the information listed in Section 611.356(a)(2).

5) Each supplier that requests that the Agency grant a SEP that reduces the number and frequency of sampling shall provide the information required by Section 611.356(d)(4).

b) Reporting for source water monitoring.

1) A supplier shall report the sampling results for all source water samples collected in accordance with Section 141.88 within 10 days of the end of each source water sampling period (i.e., annually, per compliance period, per compliance cycle) specified in Section 611.358.

2) With the exception of the first round of source water sampling conducted pursuant to Section 611.358(b), a supplier shall specify any site that was not sampled during previous sampling periods,

and include an explanation of why the sampling point has changed.

c) Reporting for corrosion control treatment.

By the applicable dates under Section 611.351, a supplier shall report the following information:

1) for a supplier demonstrating that it has already optimized corrosion control, the information required by Section 611.352(b)(2) or (b)(3).

2) for a supplier required to optimize corrosion control, its recommendation regarding optimal corrosion control treatment pursuant to Section 611.352(a).

3) for a supplier required to evaluate the effectiveness of corrosion control treatments pursuant to Section 611.352(c), the information required by Section 611.352(c).

4) for a supplier required to install optimal corrosion control approved by the Agency pursuant to Section 611.352(d), a letter certifying that the supplier has completed installing that treatment.

d) Reporting for source water treatment. On or before the applicable dates in Section 611.353, a supplier shall provide the following information to the Agency:

1) if required by Section 611.353(b)(1), its recommendation regarding source water treatment;

2) for suppliers required to install source water treatment pursuant to Section 611.353(b)(2), a letter certifying that the supplier has completed installing the treatment approved by the Agency within 24 months after the Agency approved the treatment.

e) Reporting for lead service line replacement. A supplier shall report the following information to the Agency to demonstrate compliance with the requirements of Section 611.354:

1) Within 12 months after a supplier exceeds the lead action level in sampling referred to in Section 611.354(a), the supplier shall report each of the following to the Agency in writing:

A) a demonstration that it has conducted a materials evaluation, including the evaluation required by Section 611.356(a),

B) identify the initial number of lead service lines in its distribution system, and

C) provide the Agency with the supplier's schedule for annually replacing at least 7 percent of the initial number of lead service lines in its distribution system.

2) Within 12 months after a supplier exceeds the lead action level in sampling referred to in Section 611.354(a), and every 12 months thereafter, the supplier shall demonstrate to the Agency in writing that the supplier has either:

A) replaced in the previous 12 months at least 7 percent of the initial number of lead service lines in its distribution system (or any greater number of lines specified by the Agency pursuant to Section 611.354(f)), or

B) conducted sampling that demonstrates that the lead concentration in all service line samples from an individual line(s), taken pursuant to Section 611.356(b)(3), is less than or equal to 0.015 mg/L.

C) Where the supplier makes a demonstration under subsection (e)(2)(B), the total number of lines that the supplier has replaced, combined with the total number that meet the criteria of Section 611.354(b), shall equal at least 7 percent of the initial number of lead lines identified pursuant to subsection (a) (or the percentage specified by the Agency pursuant to Section 611.354(f)).

3) The annual letter submitted to the Agency pursuant to subsection (e)(2) shall contain the following information:

A) the number of lead service lines originally scheduled to be replaced during the previous year of the supplier's replacement schedule;

B) the number and location of each lead service line actually replaced during the previous year of the supplier's replacement schedule; and

C) if measured, the water lead concentration and location of each lead service line sampled, the sampling method used, and the date of sampling.

4) As soon as practicable, but no later than three months after a supplier exceeds the lead action level in the sampling referred to in Section 611.354(a), any supplier seeking to rebut the presumption that it has control over the entire lead service line pursuant to Section 611.354(d) shall submit a letter to the Agency describing the following:

A) the legal authority (e.g., state statutes, municipal ordinances, public service contracts or other applicable legal authority) that limits the supplier's control over the service lines; and

B) the extent of the supplier's control over the service lines.

f) Reporting for public education program.

1) By December 31st of each calendar year, any supplier that is subject to the public education requirements of Section 611.355 shall submit a letter to the Agency demonstrating that the supplier has delivered the public education materials which meet the following requirements:

A) the content requirements of Section 611.355(a) and (b), and

B) the delivery requirements of Section 611.355(c).

2) The information submitted pursuant to this subsection shall include a list of all the newspapers, radio stations, television stations, facilities and organizations to which the supplier delivered public education materials during the previous year.

3) The supplier shall submit the letter required by this subsection annually for as long as it continues to exceed the lead action level.

g) Reporting additional monitoring data. Any supplier that collects sampling data in addition to that required by this subpart shall report the results of that sampling to the Agency on or before the end of the applicable sampling period(s) specified by Sections 611.356 through 611.358 during which the samples are collected.

BOARD NOTE: Derived from 40 CFR 141.90 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.361 Recordkeeping

Any supplier subject to the requirements of this Subpart shall retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, Agency determinations, and any other information required by Sections 611.351 through Section 141.88. Each supplier shall retain the records required by this section for at least 12 years.

BOARD NOTE: Derived from 40 CFR 141.91 (1992).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

SUBPART L: MICROBIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.521 Routine Coliform Monitoring

a) Suppliers shall collect total coliform samples at sites which are representative of water throughout the distribution system according to a written sample siting plan, which must be approved by ~~by~~ special exception permit.

b) The monitoring frequency for total coliforms for CWSs is based on the population served by the CWS, as set forth in Table A. ~~If a CWS serving 25 to 1,000 persons has no history of total coliform contamination in its current configuration and a sanitary survey conducted in the past five years shows that the CWS is supplied solely by a protected groundwater source and is free of sanitary defects, the Agency shall reduce the monitoring frequency specified in Table A, except that in no case shall the Agency reduce the monitoring frequency to less than one sample per quarter. The Agency shall approve the reduced monitoring frequency by special exception permit.~~

c) The monitoring frequency for total coliforms for non-

CWSs is as follows:

1) A non-CWS using only groundwater (except groundwater under the direct influence of surface water, as determined in Section 611.212) and serving 1,000 persons or fewer shall monitor each calendar quarter that the system provides water to the public~~, except that Public Health shall reduce this monitoring frequency if a sanitary survey shows that the system is free of sanitary defects. Beginning June 29, 1994, Public Health cannot reduce the monitoring frequency for a non-CWS using only groundwater (except groundwater under the direct influence of surface water) and serving 1,000 persons or fewer to less than once per year~~.

2) A non-CWS using only groundwater (except groundwater under the direct influence of surface water) and serving more than 1,000 persons during any month shall monitor at the same frequency as a like-sized CWS, as specified in subsection (b)~~, except Public Health shall reduce this monitoring frequency for any month the system serves 1,000 persons or fewer. Public Health cannot reduce the monitoring to less than once per year. For systems using groundwater under the direct influence of surface water, subsection (c)(4) applies~~.

3) A non-CWS using surface water, in total or in part, shall monitor at the same frequency as a like-sized CWS, as specified in subsection (b), regardless of the number of persons it serves.

4) A non-CWS using groundwater under the direct influence of surface water, shall monitor at the same frequency as a like-sized CWS, as specified in subsection (b). The supplier shall begin monitoring at this frequency beginning six months after Public Health determines that the groundwater is under the direct influence of surface water.

d) The supplier shall collect samples at regular time intervals throughout the month, except that a supplier which uses only groundwater (except groundwater under the direct influence of surface water) and serves 4,900 persons or fewer, may collect all required samples on a single day if they are taken from different sites.

e) A PWS that uses surface water or groundwater under the direct influence of surface water, and does not practice filtration in compliance with Subpart B, shall collect at least one sample near the first service connection each day the turbidity level of the source water, measured as specified in Section 611.532(b), exceeds 1 NTU. This sample must be analyzed for the presence of total coliforms. When one or more turbidity measurements in any day exceed 1 NTU, the supplier shall collect this coliform sample within 24 hours of the first exceedance, unless the Agency has determined, by special exception permit, that the supplier, for logistical reasons outside the supplier's control, cannot have the sample analyzed within 30 hours of collection. Sample results from this coliform monitoring must be included in determining compliance with the MCL for total coliforms in Section 611.325.

f) 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 compliance with the MCL for total coliforms in Section 611.325.

BOARD NOTE: Derived from 40 CFR 141.21(a) (1989), as amended at 54 Fed. Reg. 27562, June 29, 1989.

(Source: Amended at 15 Ill. Reg. 1562, effective January 22, 1991)

SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.560 Turbidity

The requirements in this Section apply to unfiltered PWSs until December 30, 1991, unless the Agency has determined prior to that date that filtration is required. The requirements in this Section apply to filtered PWSs until June 29, 1993. The requirements in this Section apply to unfiltered PWSs that the Agency has determined must install filtration, until June 29, 1993, or until filtration is installed, whichever is later.

a) Suppliers shall take samples at representative entry point(s) to the distribution system at least once per day, for the purposes of making turbidity measurements to determine compliance with Section 611.320.

1) If Public Health determines that a reduced sampling frequency in a non-CWS will not pose a risk to public health, it may reduce the required sampling frequency. The option of reducing the turbidity frequency will be permitted only in those suppliers that practice disinfection and

which maintain an active RDC in the distribution system, and in those cases where Public Health has indicated in writing that no unreasonable risk to health existed under the circumstances of this option.

2) The turbidity measurements must be made in accordance with the following methods, incorporated by reference in Section 611.102:

A) By the Nephelometric Method:

i) Standard Methods: Method 214A; or

ii) USEPA Inorganic Methods: Method 180.1.

B) Calibration of the turbidimeter must be made either by the use of a formazin standard as specified in the cited references, or a styrene divinylbenzene polymer standard (Amco-AEPA-1 Polymer).

b) If the result of a turbidity analysis indicates that the maximum allowable limit has been exceeded, the sampling and measurement must be confirmed by resampling as soon as practicable and preferably within one hour. If the repeat sample confirms that the maximum allowable limit has been exceeded, the supplier of water shall report to the Agency within 48 hours. The repeat sample must be the sample used for the purpose of calculating the monthly average. If the monthly average of the daily samples exceeds the maximum allowable limit, or if the average of two samples taken on consecutive days exceeds 5 NTU, the supplier of water shall report to the Agency and notify the public as directed in Subpart T.

c) Sampling for non-CWSs must begin by June 29, 1991.

d) This Section applies only to suppliers that use water obtained in whole or in part from surface sources.

BOARD NOTE: Derived from 40 CFR 141.22 (199~~1~~2).

(Source: Amended at 16 Ill. Reg. __________, effective __________
__________)

Section 611.611 Inorganic Analysis

Analytical methods are from documents incorporated by reference in Section 611.102. These are mostly referenced by a short name defined by Section 611.102(a). Other abbreviations are defined in Section 611.101.

a) Analysis for asbestos, barium, cadmium, chromium, mercury, nitrate, nitrite, and selenium pursuant to Sections 611.600 through 611.604 must be conducted using the following methods. For approved analytical techniques for metals and selenium, the technique applicable to total metals must be used.

  1) Asbestos: Transmission electron microscopy, Asbestos Methods.

  2) Barium:

    A) Atomic absorption, furnace technique:

      i) USEPA Inorganic Methods: Method 208.2, or

      ii) Standard Methods: Method 304;

    B) Atomic absorption, direct aspiration:

      i) USEPA Inorganic Methods: Method 208.1, or

      ii) Standard Methods: Method 303C; or

    C) Inductively-coupled plasma arc furnace, Inductively Coupled Plasma Method: Method 200.7, as supplemented by Method 200.7A.

  3) Cadmium:

    A) Atomic absorption, furnace technique:

      i) USEPA Inorganic Methods: Method 213.2, or

      ii) Standard Methods: Method 304; or

    B) Inductively-coupled plasma arc furnace, Inductively Coupled Plasma Method, Method 200.7, as supplemented by Method 200.7A.

  4) Chromium:

    A) Atomic absorption, furnace technique:

      i) USEPA Inorganic Methods: Method 218.2, or

ii) Standard Methods: Method 304 (The addition of 1 mL of 30% hydrogen peroxide to each 100 mL of standards and samples is required before analysis.); or

B) Inductively-coupled plasma arc furnace, Inductively Coupled Plasma Method, Method 200.7, as supplemented by Method 200.7A.

5) Mercury:

A) Manual cold vapor technique:

i) <u>USEPA</u> Inorganic Methods: Method 245.1,

ii) ASTM D3223-86, or

iii) Standard Methods: Method 303F; or

B) Automated cold vapor technique, <u>USEPA</u> Inorganic Methods: Method 245.2.

6) Nitrate:

A) Manual cadmium reduction:

i) <u>USEPA</u> Inorganic Methods: Method 353.3,

ii) ASTM D3867-90, or

iii) Standard Methods: Method 418C;

B) Automated hydrazine reduction: <u>USEPA</u> Inorganic Methods: Method 353.1;

C) Automated cadmium reduction:

i) <u>USEPA</u> Inorganic Methods: Method 353.2,

ii) ASTM D3867-90, or

iii) Standard Methods: Method 418F;

D) Ion selective electrode: WeWWG/5880, available from Orion Research; or

E) Ion chromatography:

i) <u>USEPA</u> Inorganic Methods: Method 300.0, or

        - ii) B-1011, available from Millipore Corporation.

- 7) Nitrite:
    - A) Spectrophotometric: <u>USEPA</u> Inorganic Methods: Method 354.1;
    - B) Automated cadmium reduction:
        - i) <u>USEPA</u> Inorganic Methods: Method 353.2,
        - ii) ASTM D3867-90, or
        - iii) Standard Methods: Method 418F;
    - C) Manual cadmium reduction:
        - i) <u>USEPA</u> Inorganic Methods: Method 353.3,
        - ii) ASTM D3867-90, or
        - iii) Standard Methods: Method 418C.
    - D) Ion chromatography:
        - i) <u>USEPA</u> Inorganic Methods: Method 300.0, or
        - ii) Method B-1011, available from Millipore Corporation.
- 8) Selenium:
    - A) Atomic absorption, gaseous hydride: ASTM D3859-88A; or
    - B) Atomic absorption, furnace technique:
        - i) <u>USEPA</u> Inorganic Methods: Method 270.2,
        - ii) ASTM D3859-88B, or
        - iii) Standard Methods: Method 304 (Prior to dilution of the selenium calibration standard, add 2 mL of 30% hydrogen peroxide for each 100 mL of standard.).

b) Arsenic. Analyses for arsenic must be conducted using one of the following methods:

- 1) Atomic absorption, furnace technique: <u>USEPA</u>

Inorganic Methods: Method 206.2;

2) Atomic absorption, gaseous hydride:

   A) USEPA Inorganic Methods: Method 206.3,

   B) ASTM D2972-88B,

   C) Standard Methods:

      i) Method 307A (referencing Methods 303E and 304), or

      ii) Method 307B

   D) USGS Methods: I-1062-85;

3) Spectrophotometric, silver diethyldithiocarbamate:

   A) USEPA Inorganic Methods: Method 206.4,

   B) ASTM D 2972-88A, or

   C) Standard Methods: Method 307B; or

4) Inductively-coupled plasma arc furnace, Inductively Coupled Plasma Method, Method 200.7, as supplemented by Method 200.7A.

c) Fluoride. Analyses for fluoride must be conducted using one of the following methods:

1) Colorimetric SPADNS, with distillation:

   A) USEPA Inorganic Methods: Method 340.1,

   B) ASTM D1179-72A, or

   C) Standard Methods: Methods 413A and 413C;

   BOARD NOTE: 40 CFR 141.23(k)(3) cites methods "43 A and C", an obvious error that the Board has corrected to "413A and 413C".

2) Potentiometric, ion selective electrode:

   A) USEPA Inorganic Methods: Method 340.2,

   B) ASTM D1179-72B, or

   C) Standard Methods: Method 413B;

3) Automated Alizarin fluoride blue, with distillation (complexone):

   A) USEPA Inorganic Methods: Method 340.3,

   B) Standard Methods: Method 413E, or

   C) Technicon Methods: Method 129-71W; or

4) Automated ion selective electrode: Technicon Methods, Method 380-75WE.

d) Sample collection for asbestos, barium, cadmium, chromium, fluoride, mercury, nitrate, nitrite and selenium pursuant to Sections 611.600 through 611.604 must be conducted using the following sample preservation, container and maximum holding time procedures:

1) Asbestos:

   A) Preservative: Cool to 4° C.

   B) Plastic or glass (hard or soft).

2) Barium:

   A) Preservative: Concentrated nitric acid to pH less than 2. If nitric acid cannot be used because of shipping restrictions, the sample may initially be preserved by icing and immediately shipping it to the laboratory. Upon receipt in the laboratory, the sample must be acidified with concentrated nitric acid to pH less than 2. At the time of sample analysis, the sample container must be thoroughly rinsed with 1:1 nitric acid; washings must be added to the sample.

   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 6 months.

3) Cadmium:

   A) Preservative: Concentrated nitric acid to pH less than 2. If nitric acid cannot be used because of shipping restrictions, the sample may initially be preserved by icing and immediately shipping it to the laboratory.

Upon receipt in the laboratory, the sample must be acidified with concentrated nitric acid to pH less than 2. At the time of sample analysis, the sample container must be thoroughly rinsed with 1:1 nitric acid; washings must be added to the sample.

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 6 months.

4) Chromium:

A) Preservative: Concentrated nitric acid to pH less than 2. If nitric acid cannot be used because of shipping restrictions, the sample may initially be preserved by icing and immediately shipping it to the laboratory. Upon receipt in the laboratory, the sample must be acidified with concentrated nitric acid to pH less than 2. At the time of sample analysis, the sample container must be thoroughly rinsed with 1:1 nitric acid; washings must be added to the sample.

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 6 months.

5) 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 1 month.

6) Mercury:

A) Preservative: Concentrated nitric acid to pH less than 2. If nitric acid cannot be used because of shipping restrictions, the sample may initially be preserved by icing and immediately shipping it to the laboratory. Upon receipt in the laboratory, the sample must be acidified with concentrated nitric acid to pH less than 2. At the time of sample analysis, the sample container must be thoroughly rinsed with 1:1 nitric acid; washings must be added to the sample.

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.

7) 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 28 days.

8) 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.

9) 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.

10) Selenium:

A) Preservative: Concentrated nitric acid to pH less than 2. If nitric acid cannot be used because of shipping restrictions, the sample may initially be preserved by icing and immediately shipping it to the laboratory. Upon receipt in the laboratory, the sample must be acidified with concentrated nitric acid to pH less than 2. At the time of sample analysis, the sample container must be thoroughly rinsed with 1:1 nitric acid; washings must be added to the sample.

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 6 months.

e) Analyses under this Subpart must be conducted by laboratories that received approval from USEPA or the Agency. The Agency shall approve laboratories to conduct analyses for asbestos, barium, cadmium, chromium, fluoride, mercury, nitrate, nitrite and selenium if the laboratory:

1) Analyzes performance evaluation samples, provided by the Agency pursuant to 35 Ill. Adm. Code 183.125(c), that include those substances at levels not in excess of levels expected in drinking water; and

2) Achieves quantitative results on the analyses within the following acceptance limits:

A) Asbestos, 2 standard deviations based on study statistics.

B) Barium, ± 15% at greater than or equal to 0.15 mg/L.

C) Cadmium, ± 20% at greater than or equal to 0.002 mg/L.

D) Chromium, ± 15% at greater than or equal to 0.01 mg/L.

E) Fluoride, ± 10% at 1 to 10 mg/L.

F) Mercury, ± 30% at greater than or equal to 0.0005 mg/L.

G) Nitrate, ± 10% at greater than or equal to 0.4 mg/L.

H) Nitrite, ± 15% at greater than or equal to 0.4 mg/L.

I) Selenium, ± 20% at greater than or equal to 0.01 mg/L.

BOARD NOTE: Derived from 40 CFR 141.23(k).

(Source: Amended at 16 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 corresponds with 40 CFR 141.23(l)(3) (199~~1~~2), 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 corresponds with 40 CFR 141.23(l)(4) (199~~1~~2), which authorizes the state to determine compliance and initiate enforcement action. This authority exists through the authorization of the Act, not th~~e~~rough federal rules. 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 shall report to the Agency within 7 days and initiate three additional analyses at the same sampling point within one month.

c) When the average of four analyses made pursuant to 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 shall notify the Agency and give notice to the public pursuant to Subpart T. Monitoring after public notification must be at a frequency designated by the Agency by a SEP granted pursuant to Section 611.110 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 granted pursuant to Section 611.110.

d) This subsection corresponds with 40 CFR 141.23(o) (199~~1~~2), which pertains to monitoring for the repealed old MCL for nitrate. The Board has followed the USEPA action and repealed that old MCL. This statement maintains structural consistency with USEPA rules.

e) This subsection corresponds with 40 CFR 141.23(p) (199~~1~~2), which pertains to the use of existing data up until a date long since expired. The Board did not adopt the original provision in R88-26. 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 accordance with the following methods, incorporated by reference in Section 611.102.

1) Arsenic:

A) ASTM:

i) Method D2972-88A, or

ii Method D2972-88B;

B) Standard Methods:

i) Method 307A, or

ii) Method 307B;

C) USGS Methods, Method I-1062-85;

D) USEPA Inorganic Methods:

i) Method 206.2, or

ii) Method 206.3; or

E) ~~Inductively Coupled Plasma~~ICP Method 200.7, as supplemented by appendix 200.7A.

2) Barium:

A) Standard Methods: Method 308;

B) USEPA Inorganic Methods:

i) Method 208.1, or

ii) Method 208.2; or

C) ~~Inductively Coupled Plasma~~ICP Method 200.7, as supplemented by appendix 200.7A.

~~3) Lead:~~

~~A) ASTM:~~

~~i) Method D3559-78A, or~~

~~ii) Method D3559-78B;~~

~~B) Standard Methods:~~

~~i) Method 301A (II), or~~

~~ii) Method 301A (III);~~

~~C) Inorganic Methods:~~

~~i) Method 239.1, or~~

~~ii) Method 239.2; or~~

~~D) Inductively Coupled Plasma Method 200.7, as supplemented by appendix 200.7A.~~

~~4~~3) Fluoride: The methods specified in Section 611.611(c) shall apply for the purposes of this Section.

~~5) Copper:~~

~~A) ASTM:~~

~~i) Method D1688-84D, or~~

~~ii) Method D1688-84E;~~

~~B) Standard Methods:~~

~~i) Method 303A,~~

~~ii) Method 303B, or~~

~~iii) Method 304;~~

~~C) Inorganic Methods:~~

~~i) Method 220.1, or~~

~~ii) Method 220.2; or~~

~~D) Inductively Coupled Plasma Method 200.7, as supplemented by appendix 200.7A.~~

~~6~~4) Cyanide:

A) Standard Methods: Method 412D, or

B) USEPA Inorganic Methods: Method 335.2.

~~7~~5) Iron:

A) Standard Methods: Method 303A;

B) USEPA Inorganic Methods:

i) Method 236.1, or

ii) Method 236.2; or

C) ~~Inductively Coupled Plasma~~ICP Method 200.7, as supplemented by appendix 200.7A.

~~8~~6) Manganese:

A) ASTM: Method D858-84;

B) Standard Methods: Method 303A;

C) USEPA Inorganic Methods:

i) Method 243.1, or

ii) Method 243.2; or

D) ~~Inductively Coupled Plasma~~ICP Method 200.7, as supplemented by appendix 200.7A.

~~9~~7) Zinc:

A) Standard Methods: Method 303A; or

B) USEPA Inorganic Methods:

i) Method 289.1, or

ii) Method 289.2.

BOARD NOTE: The provisions of

subsections (a) through (f) apply to additional state requirements. Subsections (a) through (f)(3) derived from 40 CFR 141.23(l) through (q) (199~~1~~2). The Board has deleted several analytical methods codified by USEPA at 40 CFR 141.23(q) (formerly 40 CFR 141.23(f)) because the MCLs of 40 CFR 141.11 expired for those contaminants on July 30 and November 30, 1992. Subsection (f)(~~4~~3) relates to a contaminant for which USEPA specifies an MCL, but for which it repealed the analytical method. Subsections (f)(~~5~~4) through (f)(~~9~~8) relate exclusively to additional state requirements. The predecessor to subsections (a) through (e) was formerly codified as Section 611.601. The predecessor to subsection (f) was formerly codified as Section 611.606.

(Source: Amended at 16 Ill. Reg. __________, effective __________ ______________)

Section 611.630 Special Monitoring for Sodium

a) CWS suppliers shall collect and analyze one sample per plant at the entry point of the distribution system for the determination of sodium concentration levels; samples must be collected and analyzed annually for CWSs utilizing surface water sources in whole or in part, and at least every three years for CWSs utilizing solely groundwater sources. The minimum number of samples required to be taken by the supplier is based on the number of treatment plants used by the supplier, except that multiple wells drawing raw water from a single aquifer may, with the Agency approval, be considered one treatment plant for determining the minimum number of samples. The Agency shall require the supplier to collect and analyze water samples for sodium more frequently in locations where the sodium content is variable.

b) The CWS supplier shall report to the Agency the results of the analyses for sodium within the first 10 days of the month following the month in which the sample results were received or within the first 10 days following the end of the required monitoring period as specified by SEP, whichever of these is first. If more than annual sampling is required the supplier shall report the average sodium concentration within 10 days of the month following the month in which the analytical results of the last sample used for the annual average was received.

c) The CWS supplier shall notify the Agency and appropriate local public health officials of the sodium levels by written notice by direct mail within three months. A copy of each notice required to be provided by this subsection must be sent to the Agency within 10 days of its issuance.

d) Analyses for sodium must be performed by the following methods, incorporated by reference in Section 611.102:

1) Standard Methods, Methods 320 and 320A, flame photometric method;

2) USEPA Inorganic Methods:

A) Method 273.1, Atomic Absorption - Direct Aspiration; or

B) Method 273.2, Atomic Absorption - Graphite Furnace; or

3) ASTM Method D1428-64.

BOARD NOTE: Derived from 40 CFR 141.41 (199~~1~~2).

(Source: Amended at 16 Ill. Reg. __________, effective __________ __________)

SUBPART O: ORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.640 Definitions

The following terms are defined for use in this Subpart only. Additional definitions are located in Section 611.102.

"Old MCL" means an MCL in Section 611.310. These include the MCLs identified as "additional state requirements" and those derived from 40 CFR 141.12, but excluding TTHM. "Old MCLs" includes the Section 611.310 MCLs for the following contaminants:

Aldrin
2,4-D
DDT
Dieldrin
Endrin
Heptachlor

Heptachlor epoxide
BOARD NOTE: 2,4-D, heptachlor, and heptachlor epoxide are also "Phase II SOCs". The additional state requirements of Section 611.310 impose a more stringent "old MCL" for each of these compounds than that imposed on them as Phase II SOCs by Section 611.311. However, the requirements for sampling and monitoring for these compounds as Phase II SOCs and the consequences of their detection and violation of their revised MCLs is more stringent as Phase II SOCs.

"Phase II SOCs" means:

Alachlor
Atrazine
Carbofuran
Chlordane
Dibromochloropropane
Ethylene dibromide
Heptachlor
Heptachlor epoxide
Lindane
Methoxychlor
Polychlorinated biphenyls
Toxaphene
2,4-D
2,4,5-TP
BOARD NOTE: These are organic contaminants regulated at 40 CFR 141.61(c)(1) through (c)(18) (199~~1~~2). The MCLs for these contaminants are located at Section 611.311. More stringent MCLs for heptachlor, heptachlor epoxide, and 2,4-D are found as "additional state requirements" in Section 611.310.

"Phase IIB SOCs" means:

Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Pentachlorophenol
BOARD NOTE: These are organic contaminants regulated at 40 CFR 141.61(c)(1) through (c)(18) (1992). The MCLs for these contaminants are located at Section 611.311. The effectiveness of the Section 611.311 MCLs for aldicarb, aldicarb sulfone, and aldicarb sulfoxide are administratively stayed until the Board takes further administrative action to end this stay. However, suppliers must monitor for these three SOCs pursuant to Section 611.648. See 40 CFR

141.6(g) (1992) and 57 Fed. Reg. 22178 (May 27, 1992).

"Phase I VOCs" means:

Benzene
Carbon tetrachloride
p-Dichlorobenzene.
1,2-Dichloroethane
1,1-Dichloroethylene
1,1,1-Trichloroethane
Trichloroethylene
Vinyl chloride
BOARD NOTE: These are the organic contaminants regulated at 40 CFR 141.61(a)(1) through (a)(8) (199~~1~~2). The MCLs for these contaminants are located at Section 611.311(a).

"Phase II VOCs" means:

o-Dichlorobenzene
cis-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
1,2-Dichloropropane
Ethylbenzene
Monochlorobenzene
Styrene
Tetrachloroethylene
Toluene
Xylenes (total)
BOARD NOTE: These are organic contaminants regulated at 40 CFR 141.61(a)(9) through (a)(18) (199~~1~~2). The MCLs for these contaminants are in Section 611.311(a).

"Revised MCL" means an MCL in Section 611.311. This term includes MCLs for "Phase I VOCs", "Phase II VOCs" and "Phase II SOCs".

Source: Added at 16 Ill. Reg. __________, effective ______________ ___________)

Section 611.646 Phase I and Phase II Volatile Organic Contaminants

Monitoring of the Phase I VOCs and Phase II VOCs for the purpose of determining compliance with the MCL must be conducted as follows:

a) Definitions. As used in this Section:

"Detect" and "detection" means 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) (199~~1~~2). This is a "trigger level" for Phase I VOCs and Phase II 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 40 CFR 136, Appendix B (199~~1~~2). The method detection limit is determined by the procedure set forth in 40 CFR 136, Appendix B. See subsection (t).

b) Required sampling. Each supplier shall take a minimum of one sample at each sampling point at the times required in subsection (u).

c) Sampling points.

1) Sampling points for GWSs. Unless otherwise provided by SEP, a GWS supplier shall 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 SWSs and mixed systems. Unless otherwise provided by SEP, a SWS or mixed system supplier shall 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 shall 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 shall 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) (199~~1~~2).

d) Each CWS and NTNCWS supplier shall 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 January 1, 1993.

e) Reduction to annual monitoring frequency. If the initial monitoring for the Phase I VOCs and Phase II VOCs as allowed in subsection (r)(1) has been completed by December 31, 1992, and the supplier did not detect any of the Phase I VOCs, including vinyl chloride, or Phase II VOCs, then the supplier shall take one sample annually beginning January 1, 1993.

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, or Phase II VOCs shall 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 which did not detect any of the Phase I VOCs, including vinyl chloride, and Phase II VOCs may apply to the Agency for a SEP pursuant to Section 611.110 that releases it from the requirements of subsection (e) or (f).

BOARD NOTE: Derived from 40 CFR 141.24(f)(7) and (f)(10) (199~~1~~2). Provisions concerning the term of the waiver appear below 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 shall consider the factors of Section 611.110(e) in granting a SEP from the requirements of subsections (e) or (f) sought pursuant to subsection (g).

i) A SEP issued to a GWS pursuant to subsection (g) is for a maximum of six years. As a condition of a SEP, the supplier 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 pursuant to subsection (g), by taking one sample at each sampling point and reapplying for a SEP pursuant to subsection (g). Based on this application, the Agency shall either:

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: This provision does not apply to SWSs and mixed systems.

j) Special considerations for SEPs for SWS and mixed systems.

1) The Agency must determine that a SWS is not vulnerable before issuing a SEP pursuant to a SWS supplier. A SEP issued to a SWS or mixed system supplier pursuant to subsection (g) is for a maximum of one compliance period; and

2) The Agency may require, as a condition to a SEP issued to a SWS or mixed supplier, that the supplier take such samples for Phase I VOCs and Phase II 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 SWSs and mixed systems, and subsection (i) relates to GWSs. Although 40 CFR 141.24(f)(7) and (f)(10) are silent as to mixed systems, the Board has included mixed systems with SWSs because this best follows the federal scheme for all other contaminants.

k) If one of the Phase I VOCs, excluding vinyl chloride, or Phase II VOCs is detected in any sample, then:

1) The supplier shall monitor quarterly for that contaminant at each sampling point that resulted in a detection.

2) Annual monitoring.

A) The Agency shall grant a SEP pursuant to Section 611.110 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 a SWS or mixed system, four quarterly samples.

C) In issuing a SEP, the Agency shall 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 shall include a condition requiring the supplier to resume quarterly monitoring pursuant to subsection (k)(1) if it violates the MCL specified by Section 611.311.

3) Suppliers that monitor annually shall monitor during the quarter(s) 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 pursuant to Section 611.110 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) shall 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):

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 shall 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 shall grant a SEP pursuant to Section 611.110 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 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, or Phase II VOCs, as determined by subsection (o), shall 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 shall grant a SEP pursuant to Section 611.110 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 shall 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 shall include a condition requiring the supplier to resume quarterly monitoring pursuant to subsection (l)(1) if it violates the MCL specified by Section 611.311.

D) The supplier shall monitor during the quarter(s) that previously yielded the highest analytical result.

m) Confirmation samples. The Agency may issue a SEP pursuant to Section 610.110 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 VOCs or Phase II VOCs in a sample, the supplier shall 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 shall 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 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 VOCs and Phase II VOCs must be determined based on the analytical results obtained at each sampling point.

1) For suppliers that conduct monitoring at a frequency greater than annual, compliance is determined by a running annual average of all samples taken at each sampling point.

A) If the annual average of any sampling point is greater than the MCL, then the supplier is out of compliance.

B) If the initial sample or a subsequent sample would cause the annual average to exceed the MCL, then the supplier is out of compliance immediately.

C) Any samples below the detection limit shall be deemed as zero for purposes of determining the annual average.

2) If monitoring is conducted annually, or less frequently, the supplier is out of compliance if the level of a contaminant at any sampling point is greater than the MCL. If a confirmation sample is taken, the determination of compliance is based on the average of two samples.

3) Public notice for a supplier out of compliance is governed by Subpart T.

p) Analyses for the Phase I VOCs and Phase II VOCs must be conducted using the following methods. These methods are contained in USEPA Organic Methods, incorporated by reference in Section 611.102:

1) Method 502.1, "Volatile Halogenated Organic Chemicals in Water by Purge and Trap Gas Chromatography."

2) Method 502.2, "Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series."

3) Method 503.1, "Volatile Aromatic and Unsaturated Organic Compounds in Water by Purge and Trap Gas Chromatography."

4) Method 524.1, "Measurement of Purgeable Organic Compounds in Water by Purged Column Gas Chromatography/Mass Spectrometry."

5) Method 524.2, "Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry."

q) Analysis under this Section must only be conducted by laboratories that have received approval by USEPA or the Agency according to the following conditions:

1) To receive conditional approval to conduct analyses for the Phase I VOCs, excluding vinyl chloride, and Phase II VOCs the laboratory must:

A) Analyze performance evaluation samples that include these substances provided by the Agency pursuant to 35 Ill. Adm. Code 183.125(c);

B) Achieve the quantitative acceptance limits under subsections (q)(1)(C) and (D) for at least 80 percent of the Phase I VOCs, excluding vinyl chloride, or Phase II VOCs, except vinyl chloride;

C) 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 performance evaluation sample when the actual amount is greater than or equal to 0.010 mg/L;

D) 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 performance evaluation sample when the actual amount is less than 0.010 mg/L; and

E) Achieve a method detection limit of 0.0005 mg/L, according to the procedures in 40 CFR 136, appendix B, incorporated by reference in Section 611.102.

2) To receive conditional approval to conduct analyses for vinyl chloride the laboratory must:

A) Analyze performance evaluation samples provided by the Agency pursuant to 35 Ill. Adm. Code 183.125(c);

B) 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 performance evaluation sample;

C) Achieve a method detection limit of 0.0005 mg/L, according to the procedures in 40 CFR 136, appendix B, incorporated by reference in Section 611.102; and

D) Obtain certification pursuant to subsection (q)(1) for Phase I VOCs, excluding vinyl chloride, and Phase II VOCs.

r) Use of existing data.

  1) The Agency shall allow the use of data collected after January 1, 1988 but prior to the effective date of this Section, pursuant to Agency sample request letters, if it determines that the data are generally consistent with the requirements of this Section.

  2) The Agency shall grant a SEP pursuant to Section 611.110 that allows a supplier to monitor annually beginning January 1, 1993 if it determines that the supplier did not detect any Phase I VOC or Phase II VOC using existing data allowed pursuant to subsection (r)(1).

s) The Agency shall, by 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 approved for the analysis of Phase I VOCs or Phase II VOCs pursuant to subsection (q)(1) or (q)(2) shall:

  1) Determine the method detection limit (MDL), as defined in 40 CFR 136, Appendix B, incorporated by reference in Section 611.102, at which it is capable of detecting the Phase I VOCs and Phase II VOCs; and,

  2) Achieve an MDL for each Phase I VOC and Phase II VOC that is less than or equal to 0.0005 mg/L.

u) Each supplier shall monitor, within each compliance period, at the time designated by the Agency by SEP pursuant to Section 611.110.

BOARD NOTE: Derived from 40 CFR 141.24(f) (199~~1~~2).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.647 Sampling for Phase I Volatile Organic Contaminants

For systems in operation before January 1, 1993, for purposes of initial monitoring, analysis of Phase I VOCs for purposes of determining compliance with the MCLs must be conducted as follows:

a) GWS suppliers shall sample at entry points representative of each well after treatment. Sampling must be conducted at the same location(s) or more representative location(s) every three months for one year except as provided in subsection (h)(1).

b) SWS and mixed system suppliers using surface sources shall sample at points in the distribution system representative of each source or at entry points to the distribution system after any application of treatment. SWSs and mixed system suppliers shall sample each source every three months except as provided in subsection (h)(2). Sampling must be conducted at the same location or a more representative location each quarter.

c) If the system draws water from more than one source and sources are combined before distribution, the supplier shall sample at an entry point to the distribution system during periods of normal operating conditions.

d) Time for sampling.

   1) All CWS and NTNCWS suppliers serving more than 3,300 people shall analyze all distribution or entry-point samples, as appropriate, representing all source waters.

   2) All other CWS and NTNCWS suppliers shall analyze distribution or entry-point samples, as required in this paragraph, representing all source waters beginning no later than January 1, 1991.

e) If the results exceed the MCL, the CWS or NTNCWS supplier shall initiate three additional analyses at the same sampling point within one month. The sample results must be averaged with the first sampling result and used for compliance determination in accordance with subsection (i). The Agency shall delete results of obvious sampling errors from this calculation.

f) Analysis for vinyl chloride is required only for GWSs that have detected one or more of the following two-carbon organic compounds: Trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene or 1,1-dichloroethylene. The analysis for vinyl chloride is required at each distribution or entry point at which one or more of the two-carbon organic compounds were found. If the first analysis does not detect vinyl chloride, the Agency shall reduce the frequency of vinyl chloride monitoring to once every three years for that sample location or other sample locations that are more representative of the same source.

g) The Agency or suppliers may composite up to five samples from one or more suppliers. Compositing of samples is to be done in the laboratory by the procedures listed below. Samples must be analyzed within fourteen days of collection. If any of the Phase I VOCs is detected in the original composite sample, a sample from each source that made up the composite sample must be reanalyzed individually within fourteen days from sampling. The sample for reanalysis cannot be the original sample but can be a duplicate sample. If duplicates of the original samples are not available, new samples must be taken from each source used in the original composite and analyzed for the Phase I VOCs. Reanalysis must be accomplished within fourteen days of the second sample. To composite samples, the following procedure must be followed:

1) Compositing samples prior to GC analysis.

A) Add 5 ml or equal larger amounts of each sample (up to 5 samples are allowed) to a 25 ml glass syringe. Special precautions must be made to maintain zero headspace in the syringe.

B) The samples must be cooled at 4° C during this step to minimize volatilization losses.

C) Mix well and draw out a 5-ml aliquot for analysis.

D) Follow sample introduction, purging and desorption steps described in the method.

E) If less than five samples are used for compositing, a proportionately smaller syringe may be used.

2) Compositing samples prior to GC/MS analysis.

A) Inject 5-ml or equal larger amounts of each aqueous sample (up to 5 samples are allowed) into a 25-ml purging device using the sample introduction technique described in the method.

B) The total volume of the sample in the purging device must be 25 ml.

C) Purge and desorb as described in the method.

h) ~~Until January 1, 1993, the Agency shall, by SEP, reduce the monitoring frequency specified in subsections (a) and (b) if it makes the following determinations:~~

~~1) The monitoring frequency for CWSs is as follows:~~

~~A) If none of the Phase I VOCs are detected in the first sample (or any subsequent samples that may be taken and the CWS is not vulnerable as defined in subsection (h)(4), monitoring must be reduced to one sample and must be repeated every 5 years.~~

~~B) If none of the Phase I VOCs are detected in the first sample (or any subsequent sample that may be taken) and the CWS is vulnerable as defined in subsection (h)(4):~~

~~i) Monitoring one sample must be repeated every 3 years for CWSs with more than 500 connections.~~

~~ii) Monitoring one sample must be repeated every 5 years for CWSs with 500 or fewer connections.~~

~~C) If one of the Phase I VOCs is detected in the first sample (or any subsequent sample that may be taken) regardless of vulnerability, monitoring must be repeated every 3 months, as required under subsection (a).~~

~~2) The repeat monitoring frequency for SWSs and mixed systems is as follows:~~

~~A) If none of the Phase I VOCs is detected in the first year of quarterly sampling (or any other subsequent sample that may be taken) and the CWS is not vulnerable as defined in subsection (h)(4), additional monitoring is not required.~~

~~B) If none of the Phase I VOCs is detected in the first year of quarterly sampling (or any other subsequent sample that may be taken) and the CWS is vulnerable as defined in subsection (h)(4):~~

~~i) Monitoring must be repeated every three years (for CWS with more than 500~~

~~connections).~~

ii) ~~Monitoring must be repeated every five years (for CWS with 500 or fewer connections).~~

~~C) If one of the Phase I VOCs is detected in the first year of quarterly sampling (or any other subsequent sample that may be taken), regardless of vulnerability, monitoring must be repeated every 3 months, as required under subsection (b).~~

~~3) The Agency shall, by SEP, reduce the frequency of monitoring to once per year for a GWS or SWS which detects one of the Phase I VOCs at levels consistently less than the MCL for three consecutive years, unless the levels are increasing.~~

~~4) The Agency shall, by SEP, determine the vulnerability of each CWS based upon an assessment of the following factors:~~

~~A) Previous monitoring results.~~

~~B) Number of persons served by CWS.~~

~~C) Proximity of a smaller CWS to a larger CWS.~~

~~D) Proximity to commercial or industrial use, disposal or storage of the the Phase I VOCs.~~

~~E) Protection of the water source.~~

~~5) A CWS is deemed to be vulnerable for a period of three years after any positive measurement of one or more contaminants listed in Sections 611.650(e), 611.657(d) or 611.311(a), except for THMs or other demonstrated disinfection by-products.~~

This subsection corresponds with 40 CFR 141.24(g)(8), the effectiveness of which expired on January 1, 1993. Although USEPA has not repealed this provision, the Board has done so to avoid confusion. This statement maintains structural integrity with USEPA rules.

i) Compliance with Section 611.311(a) is determined based on the results of running annual average of quarterly sampling for each sampling location. If one location's average is greater than the MCL, then the CWS or NTNCWS is deemed to be out of compliance. If a CWS or NTNCWS has a distribution system separable from other parts of the distribution system with no interconnections, only that part of the system that exceeds any MCL as specified in Section 611.311(a) is deemed out of compliance. The Agency shall, by SEP, reduce the public notice requirement to that portion of the CWS that is out of compliance. If any one sample result would cause the annual average to be exceeded, then the CWS is deemed to be out of compliance immediately. For CWS suppliers that only take one sample per location because none of the Phase I VOCs were detected, compliance is based on that one sample.

j) Analysis under this Section must be conducted using the following methods or alternatives approved pursuant to Section 611.480. These methods are contained in USEPA Organic Methods, incorporated by reference in Section 611.102:

1) Method 502.1.

2) Method 503.1.

3) Method 524.1.

4) Method 524.2.

5) Method 502.2.

k) Analysis under this Section must only be conducted by laboratories that have received conditional approval by the Agency, pursuant to Section 611.490, according to the following conditions:

1) To receive conditional approval to conduct analyses for the Phase I VOCs, except vinyl chloride, the laboratory shall:

A) Analyze performance evaluation samples that include these substances provided by the Agency pursuant to 35 Ill. Adm. Code 183.125(c)(3).

B) Achieve the quantitative acceptance limits under subsection (k)(1)(C) or (D) for at least six of the Phase I VOCs, except vinyl chloride.

C) Achieve quantitative results on the analyses performed under subsection (k)(1)(A) that are within ± 20 percent of the actual amount of the substances in the performance evaluation sample when the actual amount is greater than or equal to 0.010 mg/L.

D) Achieve quantitative results on the analyses performed under subsection (k)(1)(A) that are within ± 40 percent of the actual amount of the substances in the performance evaluation sample when the actual amount is less than 0.010 mg/L.

E) Achieve a method detection limit of 0.0005 mg/L, according to the procedures in 40 CFR 136, App. B, incorporated by reference in Section 611.102

F) Be currently approved by the Agency for the analyses of THMs under Subpart P.

2) To receive conditional approval for vinyl chloride, the laboratory shall:

A) Analyze performance evaluation samples provided by the Agency. (See 35 Ill. Adm. Code 183.125(c)(3).)

B) Achieve quantitative results on the analyses performed under subsection (k)(2)(A) that are within ± 40 percent of the actual amount of vinyl chloride in the performance evaluation sample.

C) Achieve a method detection limit of 0.0005 mg/L, according to the procedures in 40 CFR 136, App. B, incorporated by reference in Section 611.102.

D) Receive approval or be currently approved by the Agency under subsection (k)(1).

l) The Agency shall, by SEP, increase required monitoring where it determines that it is necessary to do so to detect variations within the CWS.

m) This subsection corresponds with 40 CFR 141.24(g)(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) Each approved laboratory shall determine the method detection limit (MDL), as defined in 40 CFR 136, App.

B, incorporated by reference in Section 611.102, at which it is capable of detecting each of the Phase I VOCs. The acceptable MDL is 0.0005 mg/L. This concentration is the detection level for purposes of subsections (e), (f), (g) and (h).

BOARD NOTE: Derived from 40 CFR 141.24(g) (199~~1~~2).

(Source: Added at 16 Ill. Reg. __________, effective ____________ ____________)

Section 611.648 Phase II Synthetic Organic Contaminants

Analysis of the Phase II SOCs for the purposes of determining compliance with the MCL must be conducted as follows:

a) Definitions. As used in this Section:

"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 SOCs 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 shall take a minimum of one sample at each sampling point at the times required in subsection (q).

BOARD NOTE: USEPA stayed the effective date of the MCLs for aldicarb, aldicarb sulfone, and aldicarb sulfoxide at 57 Fed. Reg. 22178 (May 27, 1991). Section 611.311(c) includes this stay. However, despite the stay of the effectiveness of the MCLs for these three SOCs, suppliers must monitor for them.

c) Sampling points.

1) Sampling points for GWSs. Unless otherwise provided by SEP, a GWS supplier shall 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 SWSs and mixed systems. Unless otherwise provided by SEP, a SWS or mixed system supplier shall 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 shall 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 shall 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(h)(1) through (h)(3) (199~~1~~2).

d) Monitoring frequency:

1) Each CWS and NTNCWS supplier shall take four consecutive quarterly samples for each of the Phase II SOCs during each compliance period, beginning in the three-year compliance period starting January 1, 1993.

2) Suppliers serving more than 3,300 persons that do not detect a contaminant in the initial compliance period, shall take a minimum of two quarterly samples in one year of each subsequent three-year compliance period.

3) Suppliers serving less than or equal to 3,300 persons that do not detect a contaminant in the initial compliance period, shall 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 that releases it from the requirements of subsection (d). A SEP from the requirement of subsection (d) shall last for only a single three-year compliance period.

f) Vulnerability Assessment. The Agency shall grant a SEP from the requirements of subsection (d) based on consideration of the factors set forth at Section 611.110(e).

g) If one of the Phase II SOCs is detected in any sample, then:

1) The supplier shall 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 grant a SEP pursuant to Section 610.110 that reduces 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 a SWS or mixed system, four quarterly samples.

C) The Agency shall grant a SEP that allows annual monitoring at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.

D) In issuing the SEP, the Agency shall 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 shall include a condition requiring the supplier to resume quarterly monitoring pursuant to subsection (g)(1) if it detects any Phase II SOC.

3) Suppliers that monitor annually shall monitor during the quarter(s) 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 shall analyze for all the related compounds in the respective group.

B) Related contaminants:

i) first group:

aldicarb
aldicarb sulfone
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 SOCs, as determined by subsection (k), shall 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 grant a SEP pursuant to Section 611.110 that reduces 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 shall grant a SEP that allows annual monitoring at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.

D) In issuing the SEP, the Agency shall 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 shall include a condition requiring the supplier to resume quarterly monitoring pursuant to subsection (h)(1) if it detects any Phase II SOC.

E) The supplier shall monitor during the quarter(s) that previously yielded the highest analytical result.

i) Confirmation samples.

1) If any of the Phase II SOCs are detected in a sample, the supplier shall 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 shall 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 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 SOCs shall be determined based on the analytical results obtained at each sampling point.

1) For suppliers that are conducting monitoring at a frequency greater than annual, compliance is determined by a running annual average of all samples taken at each sampling point.

A) If the annual average of any sampling point is greater than the MCL, then the supplier is out of compliance.

B) If the initial sample or a subsequent sample would cause the annual average to be exceeded, then the supplier is out of compliance immediately.

C) Any samples below the detection limit must be calculated as zero for purposes of determining the annual average.

2) If monitoring is conducted annually or less frequently, the supplier is out of compliance if the level of a contaminant at any sampling point is greater than the MCL. If a confirmation sample

is taken, the determination of compliance is based on the average of two samples.

3) Public notice for a supplier out of compliance is governed by Subpart T.

BOARD NOTE: Derived from 40 CFR 141.24(h)(11) (199~~1~~2).

l) Analysis for Phase II SOCs must be conducted using the following methods. These methods are contained in USEPA Organic Methods~~ for the Determination of Organic Compounds in Drinking Water~~, incorporated by reference in Section 611.102.

1) Method 504, "1,2-Dibromoethane (EDB) and 1,2-Dibromo-3-chloropropane (DBCP) in Water by Microextraction and Gas Chromatography." Method 504 can be used to measure 1,2-Dibromo-3-chloropropane (dibromochloropropane or DBCP) and 1,2-Dibromoethane (ethylene dibromide or EDB).

2) Method 505, "Analysis of Organohalide Pesticides and Commercial Polychlorinated Biphenyl Products (Aroclors) in Water by Microextraction and Gas Chromatography." Method 505 can be used to measure alachlor, atrazine, chlordane, DDT, dieldrin, endrin, heptachlor, heptachlor epoxide, lindane, methoxychlor, and toxaphene. Method 505 can be used as a screen for PCBs.

3) Method 507, "Determination of Nitrogen- and Phosphorus-Containing Pesticides in Ground Water by Gas Chromatography with a Nitrogen-Phosphorus Detector." Method 507 can be used to measure alachlor and atrazine.

4) Method 508, "Determination of Chlorinated Pesticides in Water by Gas Chromatography with an Electron Capture Detector." Method 508 can be used to measure chlordane, DDT, dieldrin, endrin, heptachlor, heptachlor epoxide, lindane, methoxychlor, and toxaphene. Method 508 can be used as a screen for PCBs.

5) Method 508A, "Screening for Polychlorinated Biphenyls by Perchlorination and Gas Chromatography." Method 508A is used to quantitate PCBs as decachlorobiphenyl if detected in Methods 505 or 508.

6) Method 515.1, revision 5.0 (May, 1991), "Determin-

ation of Chlorinated Acids in Water by Gas Chromatography with an Electron Capture Detector." Method 515.1 can be used to measure 2,4-D, 2,4,5-TP (Silvex) and pentachlorophenol.

7) Method 525.1, revision 3.0 (May, 1991), "Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry." Method 525 can be used to measure alachlor, atrazine, chlordane, heptachlor, heptachlor epoxide, lindane, methoxychlor, and pentachlorophenol.

8) Method 531.1, "Measurement of N-Methyl Carbamoyloximes and N-Methyl Carbamates in Water by Direct Aqueous Injection HPLC with Post-Column Derivatization." Method 531.1 can be used to measure aldicarb, aldicarb sulfoxide, aldicarb sulfone, and carbofuran.

m) Analysis for PCBs must be conducted as follows:

1) Each supplier that monitors for PCBs shall analyze each sample using either <u>USEPA Organic Methods,</u> Method 505 or Method 508.

2) If PCBs are detected in any sample analyzed using <u>USEPA Organic Methods,</u> Methods 505 or 508, the supplier shall reanalyze the sample using Method 508A to quantitate the individual Aroclors (as decachlorobiphenyl).

3) Compliance with the PCB MCL must be determined based upon the quantitative results of analyses using <u>USEPA Organic Methods,</u> Method 508A.

n) Use of existing data.

1) The Agency shall allow the use of data collected after January 1, 1990 but prior to the effective date of this Section, pursuant to Agency sample request letters, if it determines that the data are generally consistent with the requirements of this Section.

2) The Agency shall grant a SEP pursuant to Section 611.110 that allows a supplier to monitor annually beginning January 1, 1993 if it determines that the supplier did not detect any Phase I VOC or Phase II VOC using existing data allowed pursuant to subsection (n)(1).

o) The Agency shall issue a SEP that increases 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), USEPA uses the stated factors as non-limiting examples of circumstances that make additional monitoring necessary.

p) This subsection corresponds with 40 CFR 141.24(h)(16), a USEPA provision that the Board has not adopted because it reserves enforcement authority to the state and would serve no useful function as part of the state's rules. This statement maintains structural consistency with USEPA rules.

q) Each supplier shall monitor, within each compliance period, at the time designated by the Agency by SEP pursuant to Section 611.110.

r) "Detection" means greater than or equal to the following concentrations for each contaminant:

1) for PCBs (Aroclors):

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 SOCs:

Contaminant	Detection Limit (mg/L)
Alachlor	0.0002
Aldicarb	0.0005
Aldicarb sulfoxide	0.0005
Aldicarb sulfone	0.0008
Atrazine	0.0001
Carbofuran	0.0009
Chlordane	0.0002
Dibromochloropropane (DBCP)	0.00002
2,4-D	0.0001
Ethylene dibromide (EDB)	0.00001

Heptachlor	0.00004
Heptachlor epoxide	0.00002
Lindane	0.00002
Methoxychlor	0.0001
Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl)	0.0001
Pentachlorophenol	0.00004
Toxaphene	0.001
2,4,5-TP (Silvex)	0.0002

BOARD NOTE: Derived from 40 CFR 141.24(h) (199~~1~~2).

s) Laboratory Certification.

1) Analyses under this Section must only be conducted by laboratories that have received approval by USEPA or the Agency according to the following conditions.

2) To receive certification to conduct analyses for the Phase II SOCs the laboratory must:

A) Analyze performance evaluation samples provided by the Agency pursuant to 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 ~~that~~ are within the acceptance limits set forth in subsection (s)(2)(C).

C) Acceptance limits:

SOC	Acceptance Limits
Alachlor	± 45%
Aldicarb	2 standard deviations
Aldicarb sulfone	2 standard deviations
Aldicarb sulfoxide	2 standard deviations
Atrazine	± 45%
Carbofuran	± 45%
Chlordane	± 45%
Dibromochloropropane (DBCP)	± 40%
Ethylene dibromide (EDB)	± 40%
Heptachlor	± 45%
Heptachlor epoxide	± 45%
Lindane	± 45%
Methoxychlor	± 45%
PCBs (as Decachlorobiphenyl)	0-200%
Pentachlorophenol	± 50%

Toxaphene	± 45%
2,4,5-TP (Silvex)	± 50%
2,4-D	± 50%

(Source: Section 611.648 renumbered to Section 611.647, new Section 611.648 added at 16 Ill. Reg. __________, effective ______ __________________)

Section 611.Appendix A Mandatory Health Effects Information

1) Trichloroethylene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that trichloroethylene is a health concern at certain levels of exposure. This chemical is a common metal cleaning and dry cleaning fluid. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. USEPA has set forth the enforceable drinking water standard for trichloroethylene at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

2) Carbon tetrachloride. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that carbon tetrachloride is a health concern at certain levels of exposure. This chemical was once a popular household cleaning fluid. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. USEPA has set the enforceable drinking water standard for carbon tetrachloride at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

3) 1,2-Dichloroethane. The United States Environmental

Protection Agency (USEPA) sets drinking water standards and has determined that 1,2-dichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaning fluid for fats, oils, waxes and resins. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. USEPA has set the enforceable drinking water standard for 1,2-dichloroethane at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

4) Vinyl chloride. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that vinyl chloride is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally get into drinking water by improper waste disposal. This chemical has been associated with significantly increased risks of cancer among certain industrial workers who were exposed to relatively large amounts of this chemical during their working careers. This chemical has also been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes. Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. USEPA has set the enforceable drinking water standard for vinyl chloride at 0.002 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

5) Benzene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that benzene is a health concern at certain levels of exposure. This chemical is used as a solvent and degreaser of metals. It is also a major component of gasoline. Drinking water contamination generally results from leaking underground gasoline and petroleum

tanks or improper waste disposal. This chemical has been associated with significantly increased risks of leukemia among certain industrial workers who were exposed to relatively large amounts of this chemical during their working careers. This chemical has also been shown to This chemical has been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes. Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. USEPA has set the enforceable drinking water standard for benzene at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

6) 1,1-Dichloroethylene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that 1,1-dichloroethylene is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause adverse effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. USEPA has set the enforceable drinking water standard for 1,1-dichloroethylene at 0.007 parts per million (ppm) to reduce the risk of these adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

7) Para-dichlorobenzene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that para-dichlorobenzene is a health concern at certain levels of exposure. This chemical is a component of deodorizers, moth balls and pesticides. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed at

high levels over their lifetimes. Chemicals which cause adverse effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. USEPA has set the enforceable drinking water standard for para-dichlorobenzene at 0.075 parts per million (ppm) to reduce the risk of these adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

8) 1,1,1-Trichloroethane. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that 1,1,1-trichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaner and degreaser of metals. It generally gets into drinking water by improper waste disposal. This chemical has been shown to damage the liver, nervous system and circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the liver, nervous system and circulatory system. Chemicals which cause adverse effects among exposed industrial workers and in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. USEPA has set the enforceable drinking water standard for 1,1,1-trichloroethane at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.

9) Fluoride. The U.S. Environmental Protection Agency requires that we send you this notice on the level of fluoride in your drinking water. The drinking water in your community has a fluoride concentration of milligrams per liter (mg/L).

Federal regulations require that fluoride, which occurs naturally in your water supply, not exceed a concentration of 4.0 mg/L in drinking water. This is an enforceable standard called a Maximum Contaminant Level (MCL), and it has been established to protect the public health. Exposure to drinking water levels above 4.0 mg/L for many years may result in some cases of crippling skeletal fluorosis, which is a serious bone disorder.

Federal law also requires that we notify you when monitoring indicates that the fluoride in your drinking water exceeds 2.0 mg/L. This is intended to alert families about dental problems that might affect children under nine years of age. The fluoride concentration of your water exceeds this federal guideline.

Fluoride in children's drinking water at levels of approximately 1 mg/L reduces the number of dental cavities. However, some children exposed to levels of fluoride greater than about 2.0 mg/L may develop dental fluorosis. Dental fluorosis, in its moderate and severe forms, is a brown staining and/or pitting of the permanent teeth.

Because dental fluorosis occurs only when developing teeth (before they erupt from the gums) are exposed to elevated fluoride levels, households without children are not expected to be affected by this level of fluoride. Families with children under the age of nine are encouraged to seek other sources of drinking water for their children to avoid the possibility of staining and pitting.

Your water supplier can lower the concentration of fluoride in your water so that you will still receive the benefits of cavity prevention while the possibility of stained and pitted teeth is minimized. Removal of fluoride may increase your water costs. Treatment systems are also commercially available for home use. Information on such systems is available at the address given below. Low fluoride bottled drinking water that would meet all standards is also commercially available.

For further information, contact   at your water system.

BOARD NOTE: Derived from 40 CFR 141.32(e)(9) and 143.5 (199~~1~~2).

10) Microbiological contaminants (for use when there is a violation of the treatment technique requirements for filtration and disinfection in Subpart B). The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that the presence of microbiological contaminants are a health concern at certain levels of exposure. If water is inadequately treated, microbiological contaminants in that water may cause disease. Disease symptoms may include diarrhea, cramps, nausea and possibly jaundice

and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. USEPA has set enforceable requirements for treating drinking water to reduce the risk of these adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. Drinking water which is treated to meet USEPA requirements is associated with little to none of this risk and should be considered safe.

11) Total coliforms. (To be used when there is a violation of Section 611.325(a) and not a violation of Section 611.325(b)). The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that the presence of total coliforms is a possible health concern. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria in drinking water, however, generally is a result of a problem with water treatment or the pipes which distribute the water and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. USEPA has set an enforceable drinking water standard for total coliforms to reduce the risk of these adverse health effects. Under this standard, no more than 5.0 percent of the samples collected during a month can contain these bacteria, except that systems collecting fewer than 40 samples/month that have one total coliform-positive sample per month are not violating the standard. Drinking water which meets this standard is usually not associated with a health risk from disease-causing bacteria and should be considered safe.

12) Fecal Coliforms/E. coli. (To be used when there is a violation of Section 611.325(b) or both Section 611.325(a) and (b)). The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that the presence of fecal coliforms or E. coli is a serious health concern. Fecal coliforms and E. coli are generally not harmful themselves, but their presence in drinking water is serious because they usually are associated with sewage or animal wastes. The presence of these bacteria in

drinking water is generally a result of a problem with water treatment or the pipes which distribute the water and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea and possibly jaundice, and associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. USEPA has set an enforceable drinking water standard for fecal coliforms and E. coli to reduce the risk of these adverse health effects. Under this standard all drinking water samples must be free of these bacteria. Drinking water which meets this standard is associated with little or none of this risk and should be considered safe. State and local health authorities recommend that consumers take the following precautions: [To be inserted by the public water system, according to instruction from State or local authorities].

13) ~~This subsection corresponds with 40 CFR 141.32(e)(13), reserved by USEPA. This statement maintains structural consistency with USEPA rules.~~Lead. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that lead is a health concern at certain exposure levels. Materials that contain lead have frequently been used in the construction of water supply distribution systems, and plumbing systems in private homes and other buildings. The most commonly found materials include service lines, pipes, brass and bronze fixtures, and solders and fluxes. Lead in these materials can contaminate drinking water as a result of the corrosion that takes place when water comes into contact with those materials. Lead can cause a variety of adverse health effects in humans. At relatively low levels of exposure, these effects may include interference with red blood cell chemistry, delays in normal physical and mental development in babies and young children, slight deficits in the attention span, hearing, and learning abilities of children, and slight increases in the blood pressure of some adults. USEPA's national primary drinking water regulation requires all public water systems to optimize corrosion control to minimize lead contamination resulting from the corrosion of plumbing materials. Public water systems serving 50,000 people or fewer that have lead concentrations below 15 parts per billion (ppb) in more than 90% of tap water samples (the USEPA "action level") have optimized their corrosion control treatment. Any water system that exceeds the action level must also monitor

their source water to determine whether treatment to remove lead in source water is needed. Any water system that continues to exceed the action level after installation of corrosion control and/or source water treatment must eventually replace all lead service lines contributing in excess of 15 ppb of lead to drinking water. Any water system that exceeds the action level must also undertake a public education program to inform consumers of ways they can reduce their exposure to potentially high levels of lead in drinking water.

14) ~~This subsection corresponds with 40 CFR 141.32(e)(14), reserved by USEPA. This statement maintains structural consistency with USEPA rules.~~Copper. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that copper is a health concern at certain exposure levels. Copper, a reddish-brown metal, is often used to plumb residential and commercial structures that are connected to water distribution systems. Copper contaminating drinking water as a corrosion by-product occurs as the result of the corrosion of copper pipes that remain in contact with water for a prolonged period of time. Copper is an essential nutrient, but at high doses it has been shown to cause stomach and intestinal distress, liver and kidney damage, and anemia. Persons with Wilson's disease may be at a higher risk of health effects due to copper than the general public. USEPA's national primary drinking water regulation requires all public water systems to install optimal corrosion control to minimize copper contamination resulting from the corrosion of plumbing materials. Public water systems serving 50,000 people or fewer that have copper concentrations below 1.3 parts per million (ppm) in more than 90% of tap water samples (the USEPA "action level") are not required to install or improve their treatment. Any water system that exceeds the action level must also monitor their source water to determine whether treatment to remove copper in source water is needed.

15) Asbestos. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that asbestos fibers greater than 10 micrometers in length are a health concern at certain levels of exposure. Asbestos is a naturally occurring mineral. Most asbestos fibers in drinking water are less than 10 micrometers in length and occur in drinking water from natural sources and from corroded asbestos-cement pipes in the distribution system. The major uses of asbestos were in the

production of cements, floor tiles, paper products, paint, and caulking; in transportation-related applications; and in the production of textiles and plastics. Asbestos was once a popular insulating and fire retardant material. Inhalation studies have shown that various forms of asbestos have produced lung tumors in laboratory animals. The available information on the risk of developing gastrointestinal tract cancer associated with the ingestion of asbestos from drinking water is limited. Ingestion of intermediate-range chrysolite asbestos fibers greater than 10 micrometers in length is associated with causing benign tumors in male rats. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for asbestos at 7 million long fibers per liter to reduce the potential risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets the USEPA standard is associated with little to none of this risk and should be considered safe with respect to asbestos.

16) ~~This subsection corresponds with 40 CFR 141.32(e)(16), reserved by USEPA. This statement maintains structural consistency with USEPA rules.~~Barium. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that barium is a health concern at certain levels of exposure. This inorganic chemical occurs naturally in some aquifers that serve as sources of ground-water. It is also used in oil and gas drilling muds, automotive paints, bricks, tiles, and jet fuels. It generally gets into drinking water after dissolving from naturally occurring minerals in the ground. This chemical may damage the heart and vascular system, and is associated with high blood pressure in laboratory animals such as rats exposed to high levels during their lifetimes. In humans, USEPA believes that effects from barium on blood pressure should not occur below 2 parts per million (ppm) in drinking water. USEPA has set the drinking water standard for barium at 2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to barium.

17) Cadmium. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that cadmium is a health concern at certain

levels of exposure. Food and the smoking of tobacco are common sources of general exposure. This inorganic metal is a contaminant in the metals used to galvanize pipe. It generally gets into water by corrosion of galvanized pipes or by improper waste disposal. This chemical has been shown to damage the kidney in animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the kidney. USEPA has set the drinking water standard for cadmium at 0.005 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to cadmium.

18) Chromium. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that chromium is a health concern at certain levels of exposure. This inorganic metal occurs naturally in the ground and is often used in the electroplating of metals. It generally gets into water from runoff from old mining operations and improper waste disposal from plating operations. This chemical has been shown to damage the kidney, nervous system, and the circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels. Some humans who were exposed to high levels of this chemical suffered liver and kidney damage, dermatitis and respiratory problems. USEPA has set the drinking water standard for chromium at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to chromium.

19) Mercury. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that mercury is a health concern at certain levels of exposure. This inorganic metal is used in electrical equipment and some water pumps. It usually gets into water as a result of improper waste disposal. This chemical has been shown to damage the kidney of laboratory animals such as rats when the animals are exposed at high levels over their lifetimes. USEPA has set the drinking water standard for mercury at 0.002 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect

to mercury.

20) Nitrate. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that nitrate poses an acute health concern at certain levels of exposure. Nitrate is used in fertilizer and is found in sewage and wastes from human and/or farm animals and generally gets into drinking water from those activities. Excessive levels of nitrate in drinking water have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrate is converted to nitrite in the body. Nitrite interferes with the oxygen carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly in infants. In most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and State health authorities are the best source for information concerning alternate sources of drinking water for infants. USEPA has set the drinking water standard at 10 parts per million (ppm) for nitrate to protect against the risk of these adverse effects. USEPA has also set a drinking water standard for nitrite at 1 ppm. To allow for the fact that the toxicity of nitrate and nitrite are additive. USEPA has also established a standard for the sum of nitrate and nitrite at 10 ppm. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to nitrate.

21) Nitrite. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that nitrite poses an acute health concern at certain levels of exposure. This inorganic chemical is used in fertilizers and is found in sewage and wastes from humans and/or farm animals and generally gets into drinking water as a result of those activities. While excessive levels of nitrite in drinking water have not been observed, other sources of nitrite have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrite interferes with the oxygen carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly. However, in most cases, health deteriorates over a period of days. Symptoms include shortness of

breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and State health authorities are the best source for information concerning alternate sources of drinking water for infants. USEPA has set the drinking water standard at 1 part per million (ppm) for nitrite to protect against the risk of these adverse effects. USEPA has also set a drinking water standard for nitrate (converted to nitrite in humans) at 10 ppm and for the sum of nitrate and nitrite at 10 ppm. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to nitrite.

22) Selenium. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that selenium is a health concern at certain high levels of exposure. Selenium is also an essential nutrient at low levels of exposure. This inorganic chemical is found naturally in food and soils and is used in electronics, photocopy operations, the manufacture of glass, chemicals, drugs, and as a fungicide and a feed additive. In humans, exposure to high levels of selenium over a long period of time has resulted in a number of adverse health effects, including a loss of feeling and control in the arms and legs. USEPA has set the drinking water standard for selenium at 0.05 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to selenium.

23) Acrylamide. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that acrylamide is a health concern at certain levels of exposure. Polymers made from acrylamide are sometimes used to treat water supplies to remove particulate contaminants. Acrylamide has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. Sufficiently large doses of acrylamide are known to cause neurological injury. USEPA has set the drinking water standard for acrylamide using a treatment technique to reduce the risk of cancer or other adverse health effects which have been observed

in laboratory animals. This treatment technique limits the amount of acrylamide in the polymer and the amount of the polymer which may be added to drinking water to remove particulates. Drinking water systems which comply with this treatment technique have little to no risk and are considered safe with respect to acrylamide.

24) Alachlor. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that alachlor is a health concern at certain levels of exposure. This organic chemical is a widely used pesticide. When soil and climatic conditions are favorable, alachlor may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for alachlor at 0.002 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to alachlor.

25) ~~This subsection corresponds with 40 CFR 141.32(e)(25), reserved by USEPA. This statement maintains structural consistency with USEPA rules.~~Aldicarb. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that aldicarb is a health concern at certain levels of exposure. Aldicarb is a widely used pesticide. Under certain soil and climatic conditions (e.g., sandy soil and high rainfall), aldicarb may leach into groundwater after normal agricultural applications to crops such as potatoes or peanuts or may enter drinking water supplies as a result of surface runoff. This chemical has been shown to damage the nervous system in laboratory animals such as rats and dogs exposed to high levels. USEPA has set the drinking water standard for aldicarb at 0.003 parts per million (ppm) to reduce the risk of adverse health effects. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to aldicarb.

26) ~~This subsection corresponds with 40 CFR 141.32(e)(26), reserved by USEPA. This statement maintains structural consistency with USEPA rules.~~Aldicarb sulfoxide. The

United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that aldicarb sulfoxide is a health concern at certain levels of exposure. Aldicarb is a widely used pesticide. Aldicarb sulfoxide in groundwater is primarily a breakdown product of aldicarb. Under certain soil and climatic conditions (e.g., sandy soil and high rainfall), aldicarb sulfoxide may leach into groundwater after normal agricultural applications to crops such as potatoes or peanuts or may enter drinking water supplies as a result of surface runoff. This chemical has been shown to damage the nervous system in laboratory animals such as rats and dogs exposed to high levels. USEPA has set the drinking water standard for aldicarb sulfoxide at 0.004 parts per million (ppm) to reduce the risk of adverse health effects. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to aldicarb sulfoxide.

27) ~~This subsection corresponds with 40 CFR 141.32(e)(27), reserved by USEPA. This statement maintains structural consistency with USEPA rules.~~Aldicarb sulfone. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that aldicarb sulfone is a health concern at certain levels of exposure. Aldicarb is a widely used pesticide. Aldicarb sulfone in groundwater is primarily a breakdown product of aldicarb. Under certain soil and climatic conditions (e.g., sandy soil and high rainfall), aldicarb sulfone may leach into groundwater after normal agricultural applications to crops such as potatoes or peanuts or may enter drinking water supplies as a result of surface runoff. This chemical has been shown to damage the nervous system in laboratory animals such as rats and dogs exposed to high levels. USEPA has set the drinking water standard for aldicarb sulfone at 0.004 parts per million (ppm) to reduce the risk of adverse health effects. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to aldicarb sulfone.

28) Atrazine. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that atrazine is a health concern at certain levels of exposure. This organic chemical is a herbicide. When soil and climatic conditions are favorable, atrazine may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to affect offspring of rats and the heart of dogs. USEPA has set

the drinking water standard for atrazine at 0.003 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to atrazine.

29) Carbofuran. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that carbofuran is a health concern at certain levels of exposure. This organic chemical is a pesticide. When soil and climatic conditions are favorable, carbofuran may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the nervous and reproductive systems of laboratory animals such as rats and mice exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the nervous system. Effects on the nervous system are generally rapidly reversible. USEPA has set the drinking water standard for carbofuran at 0.04 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to carbofuran.

30) Chlordane. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that chlordane is a health concern at certain levels of exposure. This organic chemical is a pesticide used to control termites. Chlordane is not very mobile in soils. It usually gets into drinking water after application near water supply intakes or wells. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for chlordane at 0.002 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to chlordane.

31) Dibromochloropropane (DBCP). The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that DBCP is a

health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, DBCP may get into drinking water by runoff into surface water or by leaching into ground-water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for DBCP at 0.0002 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to DBCP.

32) o-Dichlorobenzene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that o-dichlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a solvent in the production of pesticides and dyes. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and the blood cells of laboratory animals such as rats and mice exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the liver, nervous system, and circulatory system. USEPA has set the drinking water standard for o-dichlorobenzene at 0.6 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to o-dichlorobenzene.

33) cis-1,2-Dichloroethylene. The United States Environmental Protection Agency (USEPA) establishes drinking water standards and has determined that cis-1,2-dichloroethylene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and intermediate in chemical production. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. USEPA has set the drinking water standard for cis-1,2-dichloro-

ethylene at 0.07 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to cis-1,2-dichloroethylene.

34) trans-1,2-Dichloroethylene. The United States Environmental Protection Agency (USEPA) establishes drinking water standards and has determined that trans-1,2-dichloroethylene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and intermediate in chemical production. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and the circulatory system of laboratory animals such as rats and mice when exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. USEPA has set the drinking water standard for trans-1,2-dichloroethylene at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to trans-1,2-dichloroethylene.

35) 1,2-Dichloropropane. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that 1,2-dichloropropane is a health concern at certain levels of exposure. This organic chemical is used as a solvent and pesticide. When soil and climatic conditions are favorable, 1,2-dichloropropane may get into drinking water by runoff into surface water or by leaching into ground—water. It may also get into drinking water through improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for 1,2-dichloropropane at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to 1,2-dichloropropane.

36) 2,4-D. This contaminant is subject to a "additional

State requirement". The supplier shall give the following notice if the level exceeds the Section 611.311 MCL. If the level exceeds the Section 611.310 MCL, but not that of Section 611.311, the supplier shall give a general notice under Section 611.854.

The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that 2,4-D is a health concern at certain levels of exposure. This organic chemical is used as a herbicide and to control algae in reservoirs. When soil and climatic conditions are favorable, 2,4-D may get into drinking water by runoff into surface water or by leaching into ground-water. This chemical has been shown to damage the liver and kidney of laboratory animals such as rats exposed at high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. USEPA has set the drinking water standard for 2,4-D at 0.07 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to 2,4-D.

37) Epichlorohydrin. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that epichlorohydrin is a health concern at certain levels of exposure. Polymers made from epichlorohydrin are sometimes used in the treatment of water supplies as a flocculent to remove particulates. Epichlorohydrin generally gets into drinking water by improper use of these polymers. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for epichlorohydrin using a treatment technique to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. This treatment technique limits the amount of epichlorohydrin in the polymer and the amount of the polymer which may be added to drinking water as a flocculent to remove particulates. Drinking water systems which comply with this treatment technique have little to no risk and are considered safe with respect to epichlorohydrin.

38) Ethylbenzene. The United States Environmental Protection Agency (USEPA) sets drinking water standards

and has determined ethylbenzene is a health concern at certain levels of exposure. This organic chemical is a major component of gasoline. It generally gets into water by improper waste disposal or leaking gasoline tanks. This chemical has been shown to damage the kidney, liver, and nervous system of laboratory animals such as rats exposed to high levels during their lifetimes. USEPA has set the drinking water standard for ethylbenzene at 0.7 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to ethylbenzene.

39) Ethylene dibromide (EDB). The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that EDB is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, EDB may get into drinking water by runoff into surface water or by leaching into ground-water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for EDB at 0.00005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to EDB.

40) Heptachlor. This contaminant is subject to a "additional State requirement". The supplier shall give the following notice if the level exceeds the Section 611.311 MCL. If the level exceeds the Section 611.310 MCL, but not that of Section 611.311, the supplier shall give a general notice under Section 611.854.

The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that heptachlor is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, heptachlor may get into drinking water by runoff into surface water or by leaching into ground-water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standards for heptachlor at 0.0004 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to heptachlor.

41) Heptachlor epoxide. This contaminant is subject to a "additional State requirement". The supplier shall give the following notice if the level exceeds the Section 611.311 MCL. If the level exceeds the Section 611.310 MCL, but not that of Section 611.311, the supplier shall give a general notice under Section 611.854.

The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that heptachlor epoxide is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, heptachlor epoxide may get into drinking water by runoff into surface water or by leaching into ground-water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standards for heptachlor epoxide at 0.0002 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to heptachlor epoxide.

42) Lindane. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that lindane is a health concern at certain levels of exposure. This organic chemical is used as a pesticide. When soil and climatic conditions are favorable, lindane may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the liver, kidney, nervous system, and immune system of laboratory animals such as rats, mice and dogs exposed at high levels during their lifetimes. Some humans who

were exposed to relatively large amounts of this chemical also suffered damage to the nervous system and circulatory system. USEPA has established the drinking water standard for lindane at 0.0002 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to lindane.

43) Methoxychlor. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that methoxychlor is a health concern at certain levels of exposure. This organic chemical is used as a pesticide. When soil and climatic conditions are favorable, methoxychlor may get into drinking water by runoff into surface water or by leaching into ground-water. This chemical has been shown to damage the liver, kidney, nervous system, and reproductive system of laboratory animals such as rats exposed at high levels during their lifetimes. It has also been shown to produce growth retardation in rats. USEPA has set the drinking water standard for methoxychlor at 0.04 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to methoxychlor.

44) Monochlorobenzene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that monochlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a solvent. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and nervous system of laboratory animals such as rats and mice exposed to high levels during their lifetimes. USEPA has set the drinking water standard for monochlorobenzene at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to monochlorobenzene.

45) Polychlorinated biphenyls (PCBs). The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that polychlorinated biphenyls (PCBs) are a health concern at certain levels of exposure. These organic chemicals were once widely used in electrical transformers and other industrial equipment. They generally get into drinking water by improper waste disposal or leaking electrical

industrial equipment. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. _Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for PCBs at 0.0005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to PCBs.

46) ~~This subsection corresponds with 40 CFR 141.32(e)(46), reserved by USEPA. This statement maintains structural consistency with USEPA rules.~~Pentachlorophenol. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that pentachlorophenol is a health concern at certain levels of exposure. This organic chemical is widely used as a wood preservative, herbicide, disinfectant, and defoliant. It generally gets into drinking water by runoff into surface water or leaching into groundwater. This chemical has been shown to produce adverse reproductive effects and to damage the liver and kidneys of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the liver and kidneys. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for pentachlorophenol at 0.001 parts per million (ppm) to reduce the risk of adverse health effects. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to pentachlorophenol.

47) Styrene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that styrene is a health concern at certain levels of exposure. This organic chemical is commonly used to make plastics and is sometimes a component of resins used for drinking water treatment. Styrene may get into drinking water from improper waste disposal. This chemical has been shown to damage the liver and nervous system in laboratory animals when exposed at

high levels during their lifetimes. USEPA has set the drinking water standard for styrene at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to styrene.

48) Tetrachloroethylene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that tetrachloroethylene is a health concern at certain levels of exposure. This organic chemical has been a popular solvent, particularly for dry cleaning. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for tetrachloroethylene at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to tetrachloroethylene.

49) Toluene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that toluene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and in the manufacture of gasoline for airplanes. It generally gets into water by improper waste disposal or leaking underground storage tanks. This chemical has been shown to damage the kidney, nervous system, and circulatory system of laboratory animals such as rats and mice exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the liver, kidney and nervous system. USEPA has set the drinking water standard for toluene at 1 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to toluene.

50) Toxaphene. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that toxaphene is a health concern at

certain levels of exposure. This organic chemical was once a pesticide widely used on cotton, corn, soybeans, pineapples and other crops. When soil and climatic conditions are favorable, toxaphene may get into drinking water by runoff into surface water or by leaching into ground-water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. USEPA has set the drinking water standard for toxaphene at 0.003 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to toxaphene.

51) 2,4,5-TP. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that 2,4,5-TP is a health concern at certain levels of exposure. This organic chemical is used as a herbicide. When soil and climatic conditions are favorable, 2,4,5-TP may get into drinking water by runoff into surface water or by leaching into groundwater. This chemical has been shown to damage the liver and kidney of laboratory animals such as rats and dogs exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the nervous system. USEPA has set the drinking water standard for 2,4,5-TP at 0.05 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to 2,4,5-TP.

52) Xylenes. The United States Environmental Protection Agency (USEPA) sets drinking water standards and has determined that xylene is a health concern at certain levels of exposure. This organic chemical is used in the manufacture of gasoline for airplanes and as a solvent for pesticides, and as a cleaner and degreaser of metals. It usually gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and nervous system of laboratory animals such as rats and dogs exposed to high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. USEPA has set the

drinking water standard for xylene at 10 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the USEPA standard is associated with little to none of this risk and is considered safe with respect to xylene.

BOARD NOTE: Derived from 40 CFR 141.32(e) (199~~1~~2).

(Source: Amended at 16 Ill. Reg. __________, effective __________ ______________)

Section 611.Appendix E Mandatory Lead Public Education Information

1) INTRODUCTION

The United States Environmental Protection Agency (EPA) 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 EPA 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 each lead service line that we control 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. 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 your State [insert name of department responsible for enforcing the Safe Drinking Water Act in your State] 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 which 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 homes'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 line. If the line is only partially controlled by the [insert name of the city, county, or water system that controls the line], we are required to provide you with information on how to replace your portion of the service line, and offer to replace that portion of the line at your expense and take a follow-up tap water sample within 14 days of the replacement. 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:

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) [insert the name of the State Department of Public Health] at [insert phone number] 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) (1992).

(Source: Renumbered to Section 611. Table Z and added at 17 Ill. Reg. ___________, effective ___________________________)

Section 611.Table D ~~Federal Effective Dates~~Number of Lead and Copper Monitoring Sites

System Size (Persons Served)	Number of Sites (Standard Monitoring)	Number of Sites (Reduced Monitoring)
More than 100,000	100	50
10,001-100,000	60	30
3,301 to 10,000	40	20
501 to 3,300	20	10
101 to 500	10	5
100 or fewer	5	5

BOARD NOTE: Derived from 40 CFR 141.86(c) (1992).

(Source: Added at 17 Ill. Reg. __________, effective ____________ ____________)

Section 611.Table E Lead and Copper Monitoring Start Dates

System Size (Persons served)	First Six-month Monitoring Period Begins
more than 50,000	Upon effective date[1]
3,301 to 50,000	Upon effective date[2]
3,300 or fewer	July 1, 1993

[1] USEPA sets forth a date of January 1, 1992.

[2] USEPA sets forth a date of July 1, 1992.

BOARD NOTE: Derived from 40 CFR 141.86(d)(1) (1992).

(Source: Added at 17 Ill. Reg. __________, effective ____________ ____________)

Section 611.Table F Number of Water Quality Parameter Sampling Sites

System Size (Persons Served)	Number of Sites (Standard Monitoring)	(Reduced Monitoring)
more than 100,000	25	10
10,001 to 100,000	10	7
3,301 to 10,000	3	3
501 to 3,300	2	2
101 to 500	1	1
100 or fewer	1	1

BOARD NOTE: Derived from 40 CFR 141.87(a)(2) and (e) (1992).

(Source: Added at 17 Ill. Reg. __________, effective ____________ ____________)

Section 611.Table G Summary of Monitoring Section 611.357 Requirements for Water Quality Parameters[1]

Monitoring Period	Parameters[2]	Location	Frequency
Initial Monitoring	pH, alkalinity, orthophosphate, or silica[3], calcium, conductivity, temperature.	Taps and at entry point(s) to distribution system	Every 6 months
After Installation of Corrosion Control	pH, alkalinity, orthophosphate or silica[3], calcium[4]	Taps	Every 6 months
After Installation of Corrosion Control	pH, alkalinity dosage rate and concentration (if alkalinity adjusted as part of corrosion control), inhibitor dosage rate and inhibitor residual[5]	Entry point(s) to distribution system	Biweekly
After State Specifies Parameter Values for Optimal Corrosion Control	pH, alkalinity, orthophosphate or silica[3], calcium[4]	Taps	Every 6 months
After State Specifies Parameter Values for Optimal Corrosion Control	pH, alkalinity dosage rate and concentration (if alkalinity adjusted as part of corrosion control), inhibitor dosage rate and inhibitor residual[5]	Entry point(s) to distribution system	Biweekly

Reduced Monitoring	pH, alkalinity, orthophosphate or silica[3], calcium[4]	Taps	Every 6 months at a reduced number of sites
Reduced Monitoring	pH, alkalinity dosage rate and concentration (if alkalinity adjusted as part of corrosion control), inhibitor dosage rate and inhibitor residual[5]	Entry point(s) to distribution system	Biweekly

[1] Table G is for illustrative purposes; consult the text of Section 611.357 for precise regulatory requirements.

[2] Small and medium-size systems have to monitor for water quality parameters only during monitoring periods in which the system exceeds the lead or copper action level.

[3] Orthophosphate must be measured only when an inhibitor containing a phosphate compound is used. Silica must be measured only when an inhibitor containing silicate compound is used.

[4] Calcium must be measured only when calcium carbonate stabilization is used as part of corrosion control.

[5] Inhibitor dosage rates and inhibitor residual concentrations (orthophosphate or silica) must be measured only when an inhibitor is used.

BOARD NOTE: Derived from 40 CFR 141.87 (1992).

(Source: Added at 17 Ill. Reg. __________, effective ____________ ____________)

Section 611.Table ~~D~~Z Federal Effective Dates

The following are the effective dates of the federal MCLs:

Fluoride (40 CFR 141.60(b)(1)) (corresponding with Section 611.301(b))	October 2, 1987
Phase I VOCs (40 CFR 141.60(a)(1)) (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)	July 9, 1989

Lead and Copper (40 CFR, subpart I) July 7, 1991
(corresponding with Subpart G)
(lead and copper monitoring, reporting, and recordskeeping requirements of 40 CFR 141.86 through 141.91)

Phase II IOCs (40 CFR 141.60(b)(2)) July 30, 1992
(corresponding with Section 611.301(b))
(asbestos, ~~barium,~~ cadmium, chromium, mercury, nitrate, nitrite, and selenium)

Phase II VOCs (40 CFR 141.60(a)(2)) 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 141.60(a)(2)) 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))

Lead and Copper (40 CFR, subpart I) December 7, 1992
(corresponding with Subpart G)
(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 141.60(b)(2)) January 1, 1993
(corresponding with Section 611.301(b))
(barium)

Phase IIB SOCs (40 CFR 141.60(a)(2)) January 1, 1993
(corresponding with Section 611.311(c))
(aldicarb, aldicarb sulfone, aldicarb sulfoxide, and pentachlorophenol; USEPA stayed the effective date as to the MCLs for aldicarb, aldicarb sulfone, and aldicarb sulfoxide, but the monitoring requirements became effective January 1, 1993)

(Source: Renumbered from Section 611.Table D and amended at 17 Ill. Reg. __________, effective __________________________)