

ILLINOIS POLLUTION CONTROL BOARD

September 5, 2002

IN THE MATTER OF: )  
)  
SDWA UPDATE, USEPA AMENDMENTS ) R03-4  
(January 1, 2002 through June 30, 2002; ) (Identical-in-Substance  
LT1ESWTR) ) Rulemaking - Public Water Supply)

Proposed Rule. Proposal for Public Comment.

OPINION AND ORDER OF THE BOARD (by R.C. Flemal):

The Board today proposes amendments to the Illinois regulations that are “identical in substance” to drinking water regulations adopted by the United States Environmental Protection Agency (USEPA). The USEPA rules implement Sections 1412(b), 1414(c), 1417(a), and 1445(a) of the federal Safe Drinking Water Act (SDWA) (42 U.S.C. §§ 300g-1(a), 300g-3(c), 300g-6(a), and 300j-4(a) (1994)). This docket includes federal SDWA amendments that USEPA adopted in the period January 1, 2002 through June 30, 2002.

Sections 7.2 and 17.5 of the Environmental Protection Act (Act) (415 ILCS 5/7.2 and 17.5 (2000)) provide for quick adoption by the Board of regulations that are identical in substance to federal regulations that USEPA adopts to implement Sections 1412(b), 1414(c), 1417(a), and 1445(a) of the federal SDWA. Section 17.5 also provides that Title VII of the Act and Section 5 of the Administrative Procedure Act (APA) (5 ILCS 100/5-35 and 5-40 (2000)) do not apply to the Board’s adoption of identical-in-substance regulations. The federal SDWA regulations are found at 40 C.F.R. 141 through 143.

The order segment of this opinion and order sets forth the text of the proposed amendments. That text begins below on page 28. The Board will cause the proposed amendments to be published in the *Illinois Register* and will hold the docket open to receive public comments for 45 days after the date of publication. The Board will then adopt and file the final rules, taking into account the public comments received. The rules will be adopted and filed no later than January 14, 2003.

**FEDERAL ACTIONS CONSIDERED IN THIS RULEMAKING**

The following briefly summarizes the federal actions considered in this rulemaking.

**Docket R03-4: January 1, 2002 through June 30, 2002 SDWA Amendments**

USEPA amended the federal SDWA regulations on only two occasions during the period January 1, 2002 through June 30, 2002. These are summarized below:

January 14, 2002 (67 Fed. Reg. 1812)

USEPA adopted the Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR). The goals of the LT1ESWTR are to improve control of risks to human health posed by microbial pathogens and to balance the risks posed by disinfection byproducts. The LT1ESWTR applies to systems using surface water or groundwater under the direct influence of surface water that serve fewer than 10,000 persons. The LT1ESWTR complements the earlier Interim Enhanced Surface Water Treatment Rule (IESWTR) that applied to larger systems. (USEPA adopted the IESWR on December 16, 1998 (at 63 Fed. Reg. 69478), and the Board made corresponding amendments to the Illinois drinking water regulations in SDWA Update, USEPA Regulations (July 1, 1998 through December 31, 1998), R99-12 (July 22, 1999).)

March 12, 2002 (67 Fed. Reg. 11046)

USEPA adopted a direct final rule that delayed the deadline for reporting unregulated contaminants monitoring results obtained before May 13, 2002.

**No Board Action on One Federal Action**

One of the federal actions that occurred during the period of January 1, 2002 through June 30, 2002 will require no action on the part of the Board to amend the Illinois drinking water regulations. No action will be necessary on the federal March 12, 2002 (67 Fed. Reg. 11046) unregulated contaminants monitoring rule. As stated in SDWA Update, USEPA Regulations (July 1, 1999 through December 31, 1999) (Aug. 24, 2000), R00-10, USEPA and the Agency have both commented that the unregulated contaminant monitoring provisions are not segments of the federal SDWA rules that the Board is required to adopt and maintain.

**No Later SDWA (Drinking Water) Amendments of Interest**

The Board engages in ongoing monitoring of federal actions. As of the date of this opinion and accompanying order, the Board has not identified any USEPA actions since June 30, 2002 that further amend the SDWA rules. When the Board observes an action outside the nominal timeframe of a docket that would require expedited consideration in the pending docket, the Board will expedite consideration of those amendments. Federal actions that could warrant expedited consideration include those that directly affect the amendments involved in this docket, those for which compelling reasons would warrant consideration as soon as possible and those for which the Board has received a request for expedited consideration. If the Board identifies any federal actions that fulfill these criteria prior to final action on the present amendments, it may include those amendments in the present update docket R03-4.

**Summary Tabulation of the Federal Action Included in This Docket**

January 14, 2002 67 Fed. Reg. 1812	The Long Term 1 Enhanced Surface Water Rule (LT1ESWTR).
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## **PUBLIC COMMENTS**

The Board will receive public comments on this proposal for 45 days following its publication in the *Illinois Register*. After that time, the Board will immediately consider adoption of the amendments, making any necessary changes made evident through the public comments. The Board will file any adopted rules with the Secretary of State immediately after adoption.

## **DISCUSSION**

The following discussion begins with a description of the types of deviations the Board makes from the literal text of federal regulations in adopting identical-in-substance rules. It is followed by a discussion of the amendments and actions undertaken in direct response to the federal actions involved in this proceeding. This first series of discussions is organized by federal subject matter, generally appearing in chronological order of the relevant *Federal Register* notices involved. Finally, this discussion closes with a description of the amendments and actions that are not directly derived from the federal actions.

### **Discussion of the Federal Action**

#### **The Long-Term 1 Enhanced Surface Water Rule—Sections 611.101, 611.160, 611.220, 611.250, 611.740, 611.883, 611.902, 611.903, and Subpart X and Appendices G and H to Part 611**

On January 14, 2002 (67 Fed. Reg. 1812), USEPA adopted the LT1ESWTR. The recent LT1SWTR is a companion to the December 16, 1998 (63 Fed. Reg. 69478) interim enhanced surface water rule (IESWTR). The 1998 IESWTR imposed requirements on larger water systems (those providing water to 10,000 persons or more) that use surface water or groundwater under the direct influence of surface water. USEPA established the filtration and disinfection requirements of the 1998 IESWTR in a new subpart P to 40 C.F.R. 141 (40 C.F.R. 141.170 through 141.75, corresponding with Subpart R to 35 Ill. Adm. Code 611; Sections 611.740 through 611.745). The 2002 LT1ESWTR extends enhanced filtration and disinfection requirements to smaller public water supplies (those serving fewer than 10,000 persons). USEPA adopted the 2002 LT1ESWTR as a new subpart T to 40 C.F.R. 141 (40 C.F.R. 141.500 through 141.571, corresponding with new Subpart X to 35 Ill. Adm. Code 611; Sections 611.950 through 611.957).

The Board incorporated the January 14, 2002 federal amendments into the Illinois drinking water regulations with only minimal changes to their text. The principal changes made related to the style and structure of the LT1ESWTR. USEPA chose a more informal approach to drafting and codification of this rule. USEPA divided its new subpart T into eight segments bearing sub-headings. In each segment are two to seven short sections that are set

forth in a question-and-answer format. USEPA freely used the second person and a question-and-answer format in setting forth the rules.

The Board has altered these aspects of the federal text. First, a corresponding use of Subpart sub-headings is not allowed in the *Illinois Administrative Code*. Some of the new federal provisions are very short, with many no more than one or two sentences long. For this reason, the Board has used the federal sub-headings as the basis for consolidating this new Subpart into eight new Sections, rather than the 32 sections added by USEPA to federal part 141. Second, the Board strongly prefers not to use the second person and the question-and-answer format that USEPA seems to favor in drafting rules. The Board has changed the rules so that the second person does not appear, and so that the rules affirmatively impose requirements on a “supplier.” The Board believes that this reduces any possibility of any mistake that the rules are advisory, rather than compulsory.

The Board has made another series of changes in the structure of the rules. USEPA included seven short tables in its rules that set forth what is required. The Board changed this structure by incorporating the tabulated requirements into the standard paragraph format that the Board prefers for rules. The Board was able to make this structural change with only minimal alterations to the text of the rules, such as introducing the material from the column headings into the text of the requirements and separating material from the various columns with a comma.

The table that appears below on page 7 itemize the several changes made by the Board to the text of the federal rules. The Board requests public comment on our incorporation of the January 14, 2002 federal LT1SWTR. The Board specifically requests comment on the several structural changes made to the text.

### **General Revisions and Deviations from the Federal Text**

In incorporating the federal rules into the Illinois system, some deviation from the federal text is unavoidable. This deviation arises primarily through differences between the federal and state regulatory structure and systems. Some deviation also arises through errors in and problems with the federal text itself. The Board conforms the federal text to the Illinois rules and regulatory scheme and corrects errors that we see in the text as we engage in these routine update rulemakings.

In addition to the amendments derived from federal amendments, the Board often finds it necessary to alter the text of various passages of the existing rules as provisions are opened for update in response to USEPA actions. This involves correcting deficiencies, clarifying provisions, and making other changes that are necessary to establish a clear set of rules that closely parallel the corresponding federal requirements within the codification scheme of the Illinois Administrative Code.

The Board updates the citations to the *Code of Federal Regulations* to the most recent version available. As of the date of this opinion, the most recent version of the *Code of Federal Regulations* available to the Board is the July 1, 2001 version. Thus, we have updated all citations to the 2001 version, adding references to later amendments using their appropriate *Federal Register* citation, where necessary.

The Board substituted “or” for “/” in most instances where this appeared in the federal base text, using “and” where more appropriate. The Board further used this opportunity to make a number of corrections to punctuation, grammar, spelling, and cross-reference format throughout the opened text. We changed “who” to “that” and “he” or “she” to “it,” where the person to which the regulation referred was not necessarily a natural person, or to “he or she,” where a natural person was evident; changed “which” to “that” for restrictive relative clauses; substituted “must” for “shall”; capitalized the section headings and corrected their format where necessary; and corrected punctuation within sentences.

In addition, the federal rules have been edited to establish a uniform usage throughout the Board’s regulations. For example, with respect to “shall,” “will,” and “may,” “must” is used when an action is required by the rule, without regard to whether the action is required of the subject of the sentence or not. “Shall” is no longer used, since it is not used in everyday language. Thus, where a federal rule uses “shall,” the Board usually substitutes “must.” An exception to this would be that the Board renders such phrases as “no person shall” as “no person may.” This is a break from our former practice where “shall” was used when the subject of a sentence has a duty to do something. “Will” is used when the Board obliges itself to do something. “May” is used when choice of a provision is optional, with the exception of proscriptive use of may as indicated in the above example. “Or” is used rather than “and/or,” and denotes “one or both.” “Either . . . or” denotes “one but not both.” “And” denotes “both.”

The Joint Committee on Administrative Rules (JCAR) has requested that the Board refer to the United States Environmental Protection Agency in the same manner throughout all of our bodies of regulations—*i.e.*, air, water, drinking water, Resource Conservation and Recovery Act (RCRA) Subtitle D (municipal solid waste landfill), RCRA Subtitle C (hazardous waste), underground injection control (UIC), etc. The Board has decided to refer to the United States Environmental Protection Agency as “USEPA.” We will continue this conversion in future rulemakings, as additional sections become open to amendment. We will further convert “EPA” used in federal text to “USEPA,” where USEPA is clearly intended.

The Board has assembled tables to aid in the location of these alterations and to briefly outline their intended purpose. The tables set forth the miscellaneous deviations from the federal text and corrections to the pre-amended base text of the rules in detail. The tables are set forth and explained beginning at page 13 of this opinion. There is no further discussion of most of the deviations and revisions elsewhere in this opinion.

### Agency or Board Action

Section 7.2(a)(5) of the Act requires the Board to specify portions of the program USEPA over which will retain decision making authority. Based on the general division of functions within the Act and other Illinois statutes, the Board is also to specify which State agency is to make decisions.

In situations in which the Board has determined that USEPA will retain decision-making authority, the Board has replaced “Regional Administrator” with USEPA, so as to avoid specifying which office within USEPA is to make a decision.

In some identical-in-substance rules, certain decisions pertaining to a permit application are not appropriate for the Agency to consider. In determining the general division of authority between the Agency and the Board, the following factors should be considered:

1. Whether the person making the decision is applying a Board regulation, or taking action contrary to a Board regulation--*i.e.*, the decision is effectively granting relief from a Board regulation. It generally takes some form of Board action to grant relief from a Board regulation.
2. Whether there is a clear standard for action such that the Board can give meaningful review to an Agency decision.
3. Whether the action would result in exemption from the permit requirement itself. If so, Board action is generally required.
4. Whether the decision amounts to “determining, defining or implementing environmental control standards” within the meaning of Section 5(b) of the Act. If so, it must be made by the Board.

There are four common classes of Board decisions: variance, adjusted standard, site-specific rulemaking, and enforcement. The first three are methods by which a regulation can be temporarily postponed (variance) or adjusted to meet specific situations (adjusted standard or site-specific rulemaking). There often are differences in the nomenclature for these decisions between the USEPA and Board regulations.

### Discussion of Miscellaneous Housekeeping Amendments

The tables below list numerous corrections and amendments that are not based on current federal amendments. The first table (beginning immediately below) includes deviations made in this Proposal for Public Comment from the verbatim text of the federal amendments. The second table (beginning below at page 26) contains corrections and clarifications that the Board made in the base text involved in this proposal. The amendments listed in this second table are not directly derived from the current federal amendments. Some of the entries in

these tables are discussed further in appropriate segments of the general discussion beginning at page 4 of this opinion.

**Table 1:**  
**Deviations from the Text of the Federal Amendments**

Illinois Section	40 C.F.R. Section	Revision(s)
611 table of contents, listings for Subpart X	141 table of contents, listings for Subpart T	Replaced the 32 section headings with the eight sub-headings “General Requirements”, “Finished Water Reservoirs”, “Additional Watershed Control Requirements for Unfiltered Systems”, “Disinfection Profile”, “Disinfection Benchmark”, “Combined Filter Effluent Requirements”, “Individual Filter Turbidity Requirements”, “Reporting and Recordkeeping Requirements” from the Subpart
611.160(a)(2)	141.2 “comprehensive performance evaluation”	Changed the Subpart reference from “subparts P and T of this part” to “Subparts R and Y of this Part”
611.220(e)	141.70(e)	Changed “this subpart” to “this Subpart B”; changed the reference from “subpart T of this part” to “Subparts Y of this Part”
611.250(a)(4)	141.73(a)(4)	Changed “systems serving” to “a supplier that serves”; changed the reference from “§§ 141.550 through 141.553” to “Sections 611.1550 through 611.1553”
611.250(d)	141.73(d)	Changed “systems serving” to “a supplier that serves”; changed the reference from “§§ 141.550 through 141.553” to “Sections 611.1550 through 611.1553”
611.883(d)(4)(e)(3)	141.153(d)(4)(v)(C)	Added a comma and after “611.250” to separate the elements of a series; removed the unnecessary conjunction “or” after “611.250” (twice); changed the reference from “§ 141.551” to “Section 611.955(b)” (twice); added a comma after “611.743” to separate the elements of a series (twice)

Subpart R heading	Subpart P heading	Changed “serving” to “that serve”
611.740(d)	141.170(d)	Changed “Subpart H systems” to singular “a Subpart B system supplier”; changed the reference from “§ 141.72” to “Section 611.742”; changed “they served . . . but serve” to singular “it served . . . but which serves”; changed the reference from “§§ 141.170, 141.171, 141.173, 141.174, and 141.175” to “Sections 611.740, 611.741, 611.743, 611.744, and 611.745”; changed “these systems” to “such a supplier”; changed “consult with the State” to “obtain the prior approval of the Agency” (twice); changed “system” to “supplier”; changed the reference from “§ 141.172(c)(1)(i) through (iv)” to “Section 611.742(c)(1)(A) through (c)(1)(D)”; added the indefinite article “a” before “change”
611.902(a)(6)	141.202(a) table entry 6	Added a comma after “(IESWTR)” to separate the elements of a series
611.Subpart X	141, Subpart T	Changed the Subpart designation; reorganized the Subpart by combining the 32 Sections into eight Sections using as Section headings the sub-headings from the federal text
611.950	141.500-141.503	Combined four federal sections into a single Section under the federal subpart sub-heading, “General Requirements”; added an ending Board note to designate the source of this provision
611.950(a)	141.500	Designated the federal section 141.500 as subsection (a); changed “this subpart T” to “this Subpart X” (twice); changed “subpart H of this part” to “Subpart B of this Part”; added a comma after “Cryptosporidium” to offset the final element of a series; changed “which” to “that” for a restrictive relative clause; added “the following”
611.950(a)(1)	141.500(a)	Designated the federal subsection (a) as subsection (a)(1)



611.950(a)(2)	141.500(b)	Designated the federal subsection (a) as subsection (a)(1); changed “§§ 141.530 through 141.544” to “Sections 611.953 and 911.954”
611.950(b)	141.501	Designated the federal section as subsection (b); added “applicability of the Subpart X requirements”; changed “you are” to “a supplier is”; added “the following is true of”; changed “your” to “its”
611.950(b)(1)	141.501(a)	Designated the federal subsection (a) as subsection (b)(1)
611.950(b)(2)	141.501(b)	Designated the federal subsection (a) as subsection (b)(1); changed “GWUDI” to “groundwater under the direct influence of surface water”
611.950(b)(3)	141.501(c)	Designated the federal subsection (a) as subsection (b)(1)
611.950(c)	141.502	Designated the federal section as subsection (c); added “compliance deadline”; changed “you” to “a supplier”; changed “this subpart” to “this Subpart X”; added a comma before “except” to offset the parenthetical
611.950(d)	141.503	Designated the federal section as subsection (d); changed “this subpart” to “this Subpart X”; changed “you” to “a supplier”; changed “your” to “its”; added “the following”
611.950(d)(1)	141.503(a)	Designated the federal subsection (a) as subsection (d)(1); changed “you” to “the supplier” (twice); added a comma before “as described” to offset a parenthetical; changed “§§ 141.510 and 141.511” to “Section 611.951”
611.950(d)(2)	141.503(b)	Designated the federal subsection (b) as subsection (d)(1); changed “your” to “the supplier’s”; changed “you” to “the supplier”; changed “§§ 141.520-141.522” to “Section 611.952”

611.950(d)(3)	141.503(c)	Designated the federal subsection (c) as subsection (d)(3); changed “your” to “the supplier’s”; changed “you” to “the supplier”; added a comma before “as described” to offset a parenthetical; changed “§§ 141.530-141.536” to “Section 611.953”
611.950(d)(4)	141.503(d)	Designated the federal subsection (d) as subsection (d)(4); changed “your” to “the supplier’s”; changed “you” to “the supplier”; changed “State” to “Agency”; added a comma before “as described” to offset a parenthetical; changed “§§ 141.540-141.544” to “Section 611.954”
611.950(d)(5)	141.503(e)	Designated the federal subsection (e) as subsection (d)(1); changed “your” to “the supplier’s”; changed “you” to “the supplier”; added a comma before “as described” to offset a parenthetical; added a comma before “as described” to offset a parenthetical; changed “§§ 141.550-141.553” to “Section 611.955”
611.950(d)(6)	141.503(f)	Designated the federal subsection (f) as subsection (d)(1); changed “your” to “the supplier’s”; changed “you” to “the supplier”; added a comma before “as described” to offset a parenthetical; changed “§§ 141.560-141.564” to “Section 611.956”
611.950(d)(7)	141.503(g)	Designated the federal subsection (g) as subsection (d)(1); changed “you” to “the supplier”; added a comma before “as described” to offset a parenthetical; changed “§§ 141.570 and 141.571” to “Section 611.957”
611.951	141.510 and 141.511	Combined two federal sections into a single Section under the federal subpart sub-heading, “Finished Water Reservoirs”; added an ending Board note to designate the source of this provision

611.951(a)	141.510	Designated the federal Section as subsection (a); added “applicability”; changed “All subpart H systems serving . . . are” to singular “a Subpart B system supplier that serves . . . is”
611.951(b)	141.511	Designated the federal Section as subsection (b); added “requirements”; changed “your system” to “a supplier” (twice); added a comma before “the reservoir” to offset the introductory clause that precedes it; changed to singular “a finished water reservoir . . . is”
611.952	141.520-141.522	Combined three federal sections into a single Section under the federal subpart sub-heading, “Additional Watershed Control Requirements for Unfiltered Systems”; added an ending Board note to designate the source of this provision
611.952(a)	141.520	Designated the federal Section as subsection (a); added “applicability”; changed “if you are a subpart H system serving . . . , you must” to “a Subpart B system supplier that serves . . . must”; changed “§ 141.72” to “Sections 611.211 and 611.230 through 611.233”; changed “§ 141.521” to “subsection (b) of this Section”
611.952(b)	141.521	Designated the federal Section as subsection (b); added “requirements to avoid filtration”; changed “your system” to “a supplier”; changed “Your system’s” to the indefinite article “a”; changed “must, for Cryptosporidium” to “must fulfill the following for Cryptosporidium”
611.952(b)(1)	141.521(a)	Designated the federal subsection (a) as subsection (b)(1); added “the program must”; changed “which” to “that”
611.952(b)(2)	141.521(b)	Designated the federal subsection (b) as subsection (b)(2); added “the program must”; changed “which” to “that”

611.952(c)	141.522	Designated the federal Section as subsection (c); added “determination of adequacy of control requirements”; changed “§ 141.71(b)(3)” to “Section 611.232(c)”; changed “State” to “Agency”; changed “your” to the indefinite article “a”; changed “your” to the definite article “the”; changed “your system” to “the supplier”; changed “and/or” to “or”
611.953	141.530-141.536	Combined seven federal sections into a single Section under the federal subpart sub-heading, “Disinfection Profile”; added an ending Board note to designate the source of this provision
611.953(a)	141.530	Designated the federal Section as subsection (a); changed “your” to the indefinite article “a”; added “applicability”; changed “if you are a subpart H . . . systems serving . . . , your system must” to “a Subpart B . . . system supplier that serves . . . must”; changed “your State” to “the Agency” (twice); added as a parenthetical offset by commas “by a SEP issued pursuant to Section 611.110”; changed “your system’s” to the indefinite article “a”; changed “§§ 141.532-141.536” to “subsections (c) through (g) of this Section”
611.953(b)	141.531	Designated the federal Section as subsection (b); added “determination that a disinfection profile is not necessary”; changed “States” to “the Agency”; added “applicability”; changed “a system’s profile” to “a disinfection profile”; changed “unnecessary” to “not necessary”; changed “a system’s” to “the system’s”; changed “must be” to “must have been”; changed “your” to the definite article “the”

611.953(c)	141.532	Designated the federal Section as subsection (c); added “development of a disinfection profile”; added “the following”
611.953(c)(1)	141.532(a)	Designated the federal subsection (a) as subsection (c)(1); changed “your system” to “the supplier” (twice); added commas before “as discussed” and “over the course” to offset a parenthetical; changed “§ 141.533” to “subsection (d) of this Section”; changed “your system” to “the supplier”; changed “you” to “it” (twice); added a comma after “500 persons” to offset the introductory clause
611.953(c)(2)	141.532(b)	Designated the federal subsection (b) as subsection (c)(2); changed “your system” to “the supplier”; changed “§§ 141.534 and 141.535” to “subsections (e) and (f) of this Section”
611.953(c)(3)	141.532(c)	Designated the federal subsection (b) as subsection (c)(2); changed “your system” to “the supplier”; changed “§ 141.536” to “subsection (g) of this Section”
611.953(d)	141.533	Designated the federal Section as subsection (d); added “data required for a disinfection profile”; changed “your system: to “a supplier”; changed “§ 141.74(a)” to “Section 611.231”
611.953(d)(1)	141.533(a)	Designated the federal subsection (a) as subsection (d)(1)
611.953(d)(2)	141.533(b)	Designated the federal subsection (b) as subsection (d)(2); changed “your system” to “a supplier”
611.953(d)(3)	141.533(c)	Designated the federal subsection (c) as subsection (d)(3); changed “time(s)” to “times”
611.953(d)(4)	141.533(d)	Designated the federal subsection (d) as subsection (d)(4); changed “concentration(s)” to “concentrations”

611.953(e)	141.534	Designated the federal Section as subsection (e); added “calculations based on the data collected”; added “the supplier must”; reformatted the information in the table into standard paragraph rules format
611.953(e)(1)	141.534(a)	Designated the federal subsection (a) as subsection (e)(1); changed “your system” to “the supplier”; changed “your system” to “it”; added a comma after “application” to offset the introductory clause; added “either of the following”
611.953(e)(1)(A)	141.534(a)(1)	Designated the federal paragraph (a)(1) as subsection (e)(1)(A); changed “CTcalc” to “CT <sub>calc</sub> ”; changed “CT99.9” to “CT <sub>99.9</sub> ”
611.953(e)(1)(B)	141.534(a)(2)	Designated the federal paragraph (a)(2) as subsection (e)(1)(B); changed “CTcalc” to “CT <sub>calc</sub> ” (four times); changed “CT99.9” to “CT <sub>99.9</sub> ” (four times)
611.953(e)(2)	141.534(b)	Designated the federal subsection (b) as subsection (e)(2); changed “your system” to “the supplier”; changed “your system” to “it”; changed “CTcalc” to “CT <sub>calc</sub> ”; changed “CT99.9” to “CT <sub>99.9</sub> ”; changed “paragraph (a)(2) of this section” to “subsection (d)(1)(B) of this Section”
611.953(f)	141.535	Designated the federal Section as subsection (f); added “use of chloramines, ozone, or chlorine dioxide as a primary disinfectant”; changed “your system” to “a supplier”; changed “State” to “Agency”
611.953(g)	141.536	Designated the federal Section as subsection (g); added “development and maintenance of the disinfection profile in graphic form”; changed “your system” to “a supplier”; changed “your system” to “the supplier”; changed “State” to “Agency” (twice); used lower-case “disinfection profile” (twice)

611.954	141.540-141.544	Combined five federal sections into a single Section under the federal subpart sub-heading, “Disinfection Benchmark”; added an ending Board note to designate the source of this provision
611.954(a)	141.540	Designated the federal Section as subsection (a); added “applicability”; changed “if you are a subpart H system required . . . , your system must” to “a Subpart B system supplier that is required . . . must”; changed “§§ 141.530 through 141.536” to “Section 611.953”; changed to lower-case “disinfection benchmark”; changed “you decide” to “it decides”; changed “your” to “its”; changed “your system” to “the supplier”; changed “State” to “Agency”; changed “you” to “it”
611.954(b)	141.541	Designated the federal Section as subsection (b); added “significant changes to disinfection practice”
611.954(b)(1)	141.541(a)	Designated the federal subsection (a) as subsection (b)(1)
611.954(b)(2)	141.541(b)	Designated the federal subsection (b) as subsection (b)(2); changed “disinfectant(s)” to “disinfectants”
611.954(b)(3)	141.541(c)	Designated the federal subsection (c) as subsection (b)(3)
611.954(b)(4)	141.541(d)	Designated the federal subsection (d) as subsection (b)(4); changed “State” to “Agency”
611.954(c)	141.542	Designated the federal Section as subsection (c); added “considering a significant change”; changed “if your system is considering . . . , your system must” to “a supplier that is considering . . . must”; changed “benchmark(s)” to “benchmarks” (twice); changed “§§ 141.543 and 141.544” to “subsections (d) and (e) of this Section”; changed “your State” to “the Agency”; changed “State” to “Agency” (twice)
611.954(c)(1)	141.542(a)	Designated the federal subsection (a) as subsection (c)(1)

611.954(c)(2)	141.542(b)	Designated the federal subsection (b) as subsection (c)(2)
611.954(c)(3)	141.542(c)	Designated the federal subsection (c) as subsection (c)(3)
611.954(c)(4)	141.542(d)	Designated the federal subsection (d) as subsection (c)(4); changed “State” to “Agency”
611.954(d)	141.543	Designated the federal Section as subsection (d); added “calculation of a disinfection benchmark”; changed “if your system is making . . . , it must” to “a supplier that is making . . . must”; changed “the procedure specified in the following table” to “the following procedure”; changed the ending period into a colon; reformatted the table information into standard rules paragraph format
611.954(d)(1)	141.543(a)	Designated the federal table entry “Step 1” as subsection (c)(1); added “that” for a restrictive relative clause; changed “your system” to “the supplier”; changed to lower-case “disinfection profile”; changed the ending punctuation to a semicolon; added the ending conjunction “and”
611.954(d)(2)	141.543(a)	Designated the federal table entry “Step 2” as subsection (c)(2)
611.954(e)	141.544	Designated the federal Section as subsection (e); changed “§ 141.543” to “subsection (d) of this Section” (twice)
611.955	141.550-141.553	Combined four federal sections into a single Section under the federal subpart sub-heading, “Combined Filter Effluent Requirements”; added an ending Board note to designate the source of this provision



611.955(a)	141.550	Designated the federal Section as subsection (a); added “applicability”; changed “All subpart H suppliers which serve . . .are” to singular “a Subpart B system supplier that serves . . . is”; changed “§§ 141.551-141.553” to “subsections (b) through (d) of this Section”; changed “subpart T” to “this Subpart X”; changed “§ 141.73” to “Section 611.250”
611.955(b)	141.551	Designated the federal Section as subsection (b); added “combined filter effluent limits”
611.955(b)(1)	141.551(a)	Designated the federal subsection (a) as subsection (c)(1); changed § 141.74(a) and (c)” to “Sections 611.231 and 611.233”; changed “§ 141.570” to “Section 611.957(a)”; changed “the following table describes” to “the following are”; changed the ending punctuation to a colon
611.955(b)(1)(A)	141.551(a) table	Designated the federal table entry “(1)” as subsection (b)(1)(A); changed “if your system consists of” to “for a system with”; changed to lower-case “filtration or direct filtration”; changed “your” to “the”
611.955(b)(1)(B)	141.551(a) table	Designated the federal table entry “(2)” as subsection (b)(1)(B); changed “if your system consists of” to “for a system with”; changed “all” to “any” removed the quotation marks from and changed to lower-case “alternative”; added “technology” after “filter”; changed “your” to “the” moved the parenthetical “not to exceed 1 NTU” from after “State” to follow “value”; changed “State” to “Agency”; added “by a SEP pursuant to Section 611.110” as a parenthetical offset by commas; changed “§ 141.552” to “subsection (c) of this Section”

611.955(b)(2)	141.551(b)	Designated the federal subsection (a) as subsection (c)(1); changed § 141.74(a) and (c) to “Sections 611.231 and 611.233”; changed “§ 141.570” to “Section 611.957(a)”; changed “the following table describes” to “the following are”; changed the ending punctuation to a colon
611.955(b)(2)(A)	141.551(b) table	Designated the federal table entry “(1)” as subsection (b)(1)(A); changed “if your system consists of” to “for a system with”; changed to lower-case “filtration or direct filtration”; changed “your” to “the”
611.955(b)(2)(B)	141.551(b) table	Designated the federal table entry “(2)” as subsection (b)(1)(B); changed “if your system consists of” to “for a system with”; changed “all” to “any” removed the quotation marks from and changed to lower-case “alternative”; added “filter technology” after “alternative”; changed “your” to “the” moved the parenthetical “not to exceed 5 NTU” from after “State” to follow “value”; changed “State” to “Agency”; added “by a SEP pursuant to Section 611.110” as a parenthetical offset by commas; changed “§ 141.552” to “subsection (c) of this Section”
611.955(c)	141.552	Designated the federal Section as subsection (c); added “requirements for alternative filtration systems”
611.955(c)(1)	141.552(a)	Designated the federal subsection (a) as subsection (c)(1); changed “§ 141.551” to “subsection (b) of this Section”; changed “State” to “Agency”
611.955(c)(1)(A)	141.552(a)(1)	Designated the federal paragraph (a)(1) as subsection (c)(1)(A)
611.955(c)(1)(B)	141.552(a)(2)	Designated the federal paragraph (a)(2) as subsection (c)(1)(B)
611.955(c)(1)(C)	141.552(a)(3)	Designated the federal paragraph (a)(3) as subsection (c)(1)(C)

611.955(c)(2)	141.552(b)	Designated the federal subsection (b) as subsection (c)(2); replaced “[reserved]” with explanatory language to retain structural parity
611.955(d)	141.553	Designated the federal Section as subsection (d); added “requirements for lime-softening systems”; changed “State” to “Agency”
611.956	141.560-141.504	Combined five federal sections into a single Section under the federal subpart sub-heading, “Individual Filter Turbidity Requirements”
611.956(a)	141.560	Designated the federal Section as subsection (a); added “applicability”; changed “if your system is a subpart H system serving . . . , you must” to “A Subpart B system supplier that serves . . . must”
611.956(a)(1)	141.560(a)	Designated the federal subsection (a) as subsection (a)(1); changed “§ 141.74(a)” to “Section 611.231”
611.956(a)(2)	141.560(b)	Designated the federal subsection (b) as subsection (a)(2)
611.956(a)(3)	141.560(c)	Designated the federal subsection (c) as subsection (a)(3)
611.956(a)(4)	141.560(d)	Designated the federal subsection (d) as subsection (a)(4); changed “§ 141.570” to “Section 611.957(a)”
611.956(a)(5)	141.560(e)	Designated the federal subsection (e) as subsection (a)(5); changed “§ 141.571” to “Section 611.957(b)”
611.956(b)	141.561	Designated the federal Section as subsection (b); added “failure of turbidity monitoring equipment”
611.956(c)	141.562	Designated the federal Section as subsection (c); added “special requirements for systems with two or fewer filters”; changed “§ 141.560(a) through (d) and § 141.561” to “subsections (a)(1) through (a)(4) and (b) of this Section”

611.956(d)	141.563	Designated the federal Section as subsection (d); added “follow-up action”; changed “tables” to “requirements”; codified the tabulated material in standard rules paragraph format
611.956(d)(1)	141.563 table	Designated the federal table entry (a) as subsection (d)(1); changed “systems” to singular “a system”; used a comma to separate the material of column one from that of column two; changed “your system” to “the supplier”; changed “State” to “Agency”; changed “number(s)” to “numbers”; changed “date(s)” to “dates”; changed “value(s)” to “values”; changed “exceedance(s)” to “exceedances”
611.956(d)(2)	141.563 table	Designated the federal table entry (b) as subsection (d)(2); changed “system” to “supplier”; changed “State” to “Agency”; used a comma to separate the material of column one from that of column two; changed “your system” to “the supplier”; changed “filter(s)” to “filters”; added “on which” after “day”; changed “paragraph (c) of this section” to “subsection (d)(3) of this Section”; changed “systems” to singular “a supplier that has a system”; changed “that” to “which” for a subsequent restrictive relative clause; changed the semicolon to a comma to separate the elements of a series without sub-series (four times)
611.956(d)(3)	141.563 table	Designated the federal table entry (c) as subsection (d)(3); changed “system” to “supplier”; changed “State” to “Agency” (six times); used a comma to separate the material of column one from that of column two; changed “your system” to “the supplier”; changed to lower-case “comprehensive technical assistance”

611.956(e)	141.564	Designated the federal Section as subsection (e); added “special individual filter monitoring for a lime-softening system”; changed “State” to “Agency” (twice); changed “§ 141.563” to “subsection (d) of this Section”
611.957	141.570 and 141.571	Combined two federal sections into a single Section under the federal subpart sub-heading, “Reporting and Recordkeeping Requirements”
611.957(a)	141.570	Designated the federal Section as subsection (a); added “reporting”; changed “this subpart T” to “this Subpart X”; changed “your system” to “a supplier”; changed “State” to “Agency”; changed “the following table describes” to “subsections (a)(1) through (a)(4) of this Section describe”; changed “which” to “that” for a restrictive relative clause; added parentheses to the final sentence, which is explanatory; changed “your system” to “the supplier”; changed “the following table” to “subsections (a)(1) through (a)(4) of this Section”; changed “shown in the first column” to “indicated”; changed the table information to standard rule paragraph format
611.957(a)(1)	141.570 table	Rendered table entry “(a)” as subsection (a)(1); added “If a supplier is subject to the”; changed lower-case “filter effluent requirements”; changed “§§ 141.550-141.553” to “Section 611.955”; separated information from the first and second columns with a comma; changed “description of information to report” to “it must report as follows:”
611.957(a)(1)(A)	141.570 table	Rendered table entry “(a)(1)” as subsection (a)(1)(A); separated the material from the second and third columns with a comma

611.957(a)(1)(B)	141.570 table	Rendered table entry “(a)(2)” as subsection (a)(1)(B); changed “which” to “that” for a restrictive relative clause; changed “your system’s” to “the supplier’s”; separated the material from the second and third columns with a comma
611.957(a)(1)(C)	141.570 table	Rendered table entry “(a)(3)” as subsection (a)(1)(C); changed “which” to “that” for a restrictive relative clause; separated the material from the second and third columns with a comma
611.957(a)(2)	141.570 table	Rendered table entry “(b)” as subsection (a)(2); added “If a supplier is subject to the”; changed lower-case “turbidity requirements”; changed “§§ 141.560-141.564” to “Section 611.956”; separated information from the first column from that from the second column with a comma; changed “description of information to report” to “it must report as follows:”
611.957(a)(2)(A)	141.570 table	Rendered table entry “(b)(1)” as subsection (a)(2)(A); changed “that” to “the fact that”; changed “your system” to “the supplier’s system”; separated the material from the second and third columns with a comma
611.957(a)(2)(B)	141.570 table	Rendered table entry “(b)(2)” as subsection (a)(2)(B); changed “number(s)” to “numbers”; changed “date(s)” to “dates”; changed “value(s)” to “values”; changed “which” to “that” for a restrictive relative clause; separated the material from the second and third columns with a comma; moved the parenthetical clause “but only if . . . 1.0 NTU” to follow the information from the third column, offset by a comma
611.957(a)(2)(C)	141.570 table	Rendered table entry “(b)(3)” as subsection (a)(2)(C); separated the material from the second and third columns with a comma

611.957(a)(2)(D)	141.570 table	Rendered table entry “(b)(4)” as subsection (a)(2)(D); changed “that” to “the fact that”; separated the material from the second and third columns with a comma
611.957(a)(2)(E)	141.570 table	Rendered table entry “(b)(5)” as subsection (a)(2)(E); separated the material from the second and third columns with a comma
611.957(a)(3)	141.570 table	Rendered table entry “(c)” as subsection (a)(3); added “If a supplier is subject to the”; changed lower-case “disinfection profiling”; changed “§§ 141.530-141.536” to “Section 611.953”; changed “description of information to report” to “it must report”; separated information from the first and second columns with a comma; changed “which” to “that” for a restrictive relative clause; changed “mg/l” to standardized “mg/L” (twice); changed to lower-case “only”; changed “your system” to “the supplier” (twice); added “as follows:”
611.957(a)(3)(A)	141.570 table	Rendered table entry “(c)(1)(i)” as subsection (a)(3)(A); changed “systems” to singular “a supplier”; changed “serving” to “that serves”; added “persons”; added the ending conjunction “or”
611.957(a)(3)(B)	141.570 table	Rendered table entry “(c)(1)(ii)” as subsection (a)(3)(B); changed “systems” to singular “a supplier”; changed “serving” to “that serves”; added “persons”

611.957(a)(4)	141.570 table	Rendered table entry “(d)” as subsection (a)(4); added “If a supplier is subject to the”; changed lower-case “disinfection benchmarking”; changed “§§ 141.540-141.544” to “Section 611.954”; separated information from the first and second columns with a comma; changed “description of information to report” to “it must report”; changed “your” to “its”; separated information from the second and third columns with a comma; changed “your system” to “the supplier”
611.957(b)	141.571	Designated the federal Section as subsection (b); added “recordkeeping”; Changed “your system” to “a supplier”; changed “subpart T” to “this Subpart X”; changed “§ 141.75” to “Sections 611.261 and 611.262”; changed “the following table describes” to “subsections (b)(1) through (b)(3) of this Section describe”; added parentheses to the final sentence, which is explanatory; changed “your system” to “the supplier”; changed “the following table” to “subsections (b)(1) through (b)(3) of this Section”; changed “shown in the first column” to “indicated”
611.957(b)(1)	141.570 table	Rendered table entry “(a)” as subsection (b)(1); added “If a supplier is subject to the”; changed lower-case “individual filter turbidity requirements”; changed “§§ 141.560-141.564” to “Section 611.956”; separated information from the first and second columns with a comma; changed “description of necessary records” to “it must retain as necessary records the”; added “for” to separate the information from the second and third columns



611.957(b)(2)	141.570 table	Rendered table entry “(b)” as subsection (b)(2); added “If a supplier is subject to”; changed lower-case “disinfection benchmarking”; changed “§§ 141.530-141.536” to “Section 611.953”; separated information from the first and second columns with a comma; changed “description of necessary records” to “it must retain as necessary records”; changed “Profile” to lower-case “its disinfection profile”
611.957(b)(3)	141.570 table	Rendered table entry “(c)” as subsection (b)(3); added “If a supplier is subject to”; changed lower-case “disinfection benchmarking”; changed “§§ 141.540-141.544” to “Section 611.954”; separated information from the first and second columns with a comma; changed “description of necessary records” to “it must retain as necessary records”; changed “Benchmark” to lower-case “its disinfection benchmark”
611.Appendix G ¶ I.A.5.	Appendix A to Subpart Q ¶ I.A.5.	Changed the reference from “141.551(b)” to “611.955(b)(2)”; changed the reference to “141.560(a)-(c)” to “611 9560(a)(1)-(a)(3)”; changed the reference from “141.561” to “611.956(b)”
611.Appendix G ¶ I.A.7.	Appendix A to Subpart Q ¶ I.A.7.	Changed the reference from “141.500-141.553” to “611.950-611.955”; changed the reference to “141.530-141.544, 141.560-141.564” to “611 953, 611.954, 611.956”
611.Appendix G ¶ I.A.9.	Appendix A to Subpart Q ¶ I.A.9.	Removed the periods from the end of the entries in columns one and five; changed the reference from “141.500-141.553” to “611.950-611.955”; changed the reference to “141.530-141.544, 141.560-141.564” to “611 953, 611.954, 611.956”
611.Appendix G ¶ I.G.10.	Appendix A to Subpart Q ¶ I.G.10.	Changed the reference from “141.1530-141.544” to “611 953, 611.954”

611.Appendix H ¶ B heading	Appendix B to Subpart Q ¶ B heading	Added a comma after “(LT1ESWTR)” to separate the elements of a series; omitted the unnecessary definite article “the” before “Filter Backwash Recycling Rule”
611.Appendix H ¶ B.4.	Appendix B to Subpart Q ¶ B.4.	Added the standard health effects language from ¶ B.3. to correct a flaw in the table structure
611.Appendix H ¶ B.5.	Appendix B to Subpart Q ¶ B.5.	Added the standard health effects language from ¶ B.3. to correct a flaw in the table structure
611.Appendix H ¶ B.6.	Appendix B to Subpart Q ¶ B.6.	Added the standard health effects language from ¶ B.3. to correct a flaw in the table structure
611.Appendix H ¶ B.7.	Appendix B to Subpart Q ¶ B.7.	Added the standard health effects language from ¶ B.3. to correct a flaw in the table structure
611.Appendix H note 4	Appendix B to Subpart Q note 4	Added a comma before “and the 2002 Long Term 1 Enhanced Surface Water Treatment Rule”; changed “2001” to “2002”
611.Appendix H note 6	Appendix B to Subpart Q note 6	Added a comma before “and the 2002 Long Term 1 Enhanced Surface Water Treatment Rule”; changed “2001” to “2002”
611.Appendix H note 8	Appendix B to Subpart Q note 8	Added a comma before “and the 2002 Long Term 1 Enhanced Surface Water Treatment Rule”; changed “2001” to “2002”; changed “systems” to singular “a supplier” (three times); changed “serving” to “that serves”; changed “use” to singular “uses”; changed “a system’s” to singular “a supplier’s”; changed “primacy agency” to “Agency”

**Table 2:**  
**Board Housekeeping Amendments**

Section	Source	Revision(s)
611.101 “approved source of bottled water” Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>

611.101 “comprehensive performance evaluation”	Board	Added a Board note explaining the codification of the third sentence of the corresponding federal definition of 40 C.F.R. 141.2 at 611.160(a)(2)
611.101 “GWS” Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>
611.101 “inactivation ratio” Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>
611.101 “inorganic contaminants” Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>
611.101 “mixed system” Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>
611.101 “radioactive contaminants” Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>
611.101 “reliably and consistently” Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>
611.101 “special irrigation district” Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>
611.101 “SWS” Board note	Board	Changed “drawn from” to “derived from”; updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>
611.101 Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i> , including a citation to later amendments that appeared in the <i>Federal Register</i>
611.160(a)(2) Board note	Board	Added an explanation of the source of this subsection
611.160 Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i> , including a citation to later amendments that appeared in the <i>Federal Register</i>
611.220 Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i> , including a citation to later amendments that appeared in the <i>Federal Register</i>
611.250(a)(3)	Board	Added language formerly codified at Section 611.250(e)
611.250(e)	Board	Delete the first sentence; moved the language of the second sentence to Section 611.250(a)(3)
611.250 Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i> , including a citation to later amendments that appeared in the <i>Federal Register</i>

611.740 Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i> , including a citation to later amendments that appeared in the <i>Federal Register</i>
611.883(d)(4)(D) Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i>
611.883 Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i> , including a citation to later amendments that appeared in the <i>Federal Register</i>
611.902(a)(6)	Board	Changed “the primacy agency” to “the Agency”
611.902 Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i> , including a citation to later amendments that appeared in the <i>Federal Register</i>
611.Appendix G Board note	Board	Updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i> , including a citation to later amendments that appeared in the <i>Federal Register</i>
611.Appendix H Board note	Board	Deleted the redundant duplicate Board note; updated the citation to the 2001 edition of the <i>Code of Federal Regulations</i> , including a citation to later amendments that appeared in the <i>Federal Register</i>

### ORDER

The complete text of the proposed amendments follows:

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

PART 611  
PRIMARY DRINKING WATER STANDARDS

SUBPART A: GENERAL

Section	
611.100	Purpose, Scope and Applicability
611.101	Definitions
611.102	Incorporations by Reference
611.103	Severability
611.107	Agency Inspection of PWS Facilities
611.108	Delegation to Local Government
611.109	Enforcement
611.110	Special Exception Permits
611.111	Relief Equivalent to SDWA Section 1415(a) Variances
611.112	Relief Equivalent to SDWA Section 1416 Exemptions
611.113	Alternative Treatment Techniques

611.114	Siting requirements
611.115	Source Water Quantity
611.120	Effective dates
611.121	Maximum Contaminant Levels and Finished Water Quality
611.125	Fluoridation Requirement
611.126	Prohibition on Use of Lead
611.130	Special Requirements for Certain Variances and Adjusted Standards
611.131	Relief Equivalent to SDWA Section 1415(e) Small System Variance
611.160	Composite Correction Program

#### SUBPART B: FILTRATION AND DISINFECTION

Section	
611.201	Requiring a Demonstration
611.202	Procedures for Agency Determinations
611.211	Filtration Required
611.212	Groundwater under Direct Influence of Surface Water
611.213	No Method of HPC Analysis
611.220	General Requirements
611.230	Filtration Effective Dates
611.231	Source Water Quality Conditions
611.232	Site-specific Conditions
611.233	Treatment Technique Violations
611.240	Disinfection
611.241	Unfiltered PWSs
611.242	Filtered PWSs
611.250	Filtration
611.261	Unfiltered PWSs: Reporting and Recordkeeping
611.262	Filtered PWSs: Reporting and Recordkeeping
611.271	Protection during Repair Work
611.272	Disinfection following Repair
611.276	Recycle Provisions

#### SUBPART C: USE OF NON-CENTRALIZED TREATMENT DEVICES

Section	
611.280	Point-of-Entry Devices
611.290	Use of Point-of-Use Devices or Bottled Water

#### SUBPART D: TREATMENT TECHNIQUES

Section	
611.295	General Requirements
611.296	Acrylamide and Epichlorohydrin
611.297	Corrosion Control

**SUBPART F: MAXIMUM CONTAMINANT LEVELS (MCLs) AND  
MAXIMUM RESIDUAL DISINFECTANT LEVELS (MRDLs)**

Section	
611.300	Old MCLs for Inorganic Chemicals
611.301	Revised MCLs for Inorganic Chemicals
611.310	Old Maximum Contaminant Levels (MCLs) for Organic Chemicals
611.311	Revised MCLs for Organic Contaminants
611.312	Maximum Contaminant Levels (MCLs) for Disinfection Byproducts (DBPs)
611.313	Maximum Residual Disinfectant Levels (MRDLs)
611.320	Turbidity
611.325	Microbiological Contaminants
611.330	Maximum Contaminant Levels for Radionuclides
611.331	Beta Particle and Photon Radioactivity

**SUBPART G: LEAD AND COPPER**

Section	
611.350	General Requirements
611.351	Applicability of Corrosion Control
611.352	Corrosion Control Treatment
611.353	Source Water Treatment
611.354	Lead Service Line Replacement
611.355	Public Education and Supplemental Monitoring
611.356	Tap Water Monitoring for Lead and Copper
611.357	Monitoring for Water Quality Parameters
611.358	Monitoring for Lead and Copper in Source Water
611.359	Analytical Methods
611.360	Reporting
611.361	Recordkeeping

**SUBPART I: DISINFECTANT RESIDUALS, DISINFECTION  
BYPRODUCTS, AND DISINFECTION BYPRODUCT PRECURSORS**

Section	
611.380	General Requirements
611.381	Analytical Requirements
611.382	Monitoring Requirements
611.383	Compliance Requirements
611.384	Reporting and Recordkeeping Requirements
611.385	Treatment Technique for Control of Disinfection Byproduct (DBP) Precursors

**SUBPART K: GENERAL MONITORING AND ANALYTICAL  
REQUIREMENTS**

Section	
611.480	Alternative Analytical Techniques
611.490	Certified Laboratories
611.491	Laboratory Testing Equipment

- 611.500 Consecutive PWSs
- 611.510 Special Monitoring for Unregulated Contaminants

#### SUBPART L: MICROBIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

- Section
- 611.521 Routine Coliform Monitoring
- 611.522 Repeat Coliform Monitoring
- 611.523 Invalidation of Total Coliform Samples
- 611.524 Sanitary Surveys
- 611.525 Fecal Coliform and E. Coli Testing
- 611.526 Analytical Methodology
- 611.527 Response to Violation
- 611.531 Analytical Requirements
- 611.532 Unfiltered PWSs
- 611.533 Filtered PWSs

#### SUBPART M: TURBIDITY MONITORING AND ANALYTICAL REQUIREMENTS

- Section
- 611.560 Turbidity

#### SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

- Section
- 611.591 Violation of State MCL
- 611.592 Frequency of State Monitoring
- 611.600 Applicability
- 611.601 Monitoring Frequency
- 611.602 Asbestos Monitoring Frequency
- 611.603 Inorganic Monitoring Frequency
- 611.604 Nitrate Monitoring
- 611.605 Nitrite Monitoring
- 611.606 Confirmation Samples
- 611.607 More Frequent Monitoring and Confirmation Sampling
- 611.608 Additional Optional Monitoring
- 611.609 Determining Compliance
- 611.610 Inorganic Monitoring Times
- 611.611 Inorganic Analysis
- 611.612 Monitoring Requirements for Old Inorganic MCLs
- 611.630 Special Monitoring for Sodium
- 611.631 Special Monitoring for Inorganic Chemicals

### SUBPART O: ORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

Section	
611.640	Definitions
611.641	Old MCLs
611.645	Analytical Methods for Organic Chemical Contaminants
611.646	Phase I, Phase II, and Phase V Volatile Organic Contaminants
611.647	Sampling for Phase I Volatile Organic Contaminants (Repealed)
611.648	Phase II, Phase IIB, and Phase V Synthetic Organic Contaminants
611.650	Monitoring for 36 Contaminants (Repealed)
611.657	Analytical Methods for 36 Contaminants (Repealed)
611.658	Special Monitoring for Organic Chemicals

### SUBPART P: THM MONITORING AND ANALYTICAL REQUIREMENTS

Section	
611.680	Sampling, Analytical and other Requirements
611.683	Reduced Monitoring Frequency
611.684	Averaging
611.685	Analytical Methods
611.686	Modification to System
611.687	Sampling for THM Potential
611.688	Applicability Dates

### SUBPART Q: RADIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

Section	
611.720	Analytical Methods
611.731	Gross Alpha
611.732	Beta Particle and Photon Radioactivity
611.733	General Monitoring and Compliance Requirements

### SUBPART R: ENHANCED FILTRATION AND DISINFECTION-- SYSTEMS THAT SERVE 10,000 OR MORE PEOPLE

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

**SOURCE:** Adopted in R88-26 at 14 Ill. Reg. 16517, effective September 20, 1990; amended in R90-21 at 14 Ill. Reg. 20448, effective December 11, 1990; amended in R90-13 at 15 Ill. Reg. 1562, effective January 22, 1991; amended in R91-3 at 16 Ill. Reg. 19010, effective December 1, 1992; amended in R92-3 at 17 Ill. Reg. 7796, effective May 18, 1993; amended in R93-1 at 17 Ill. Reg. 12650, effective July 23, 1993; amended in R94-4 at 18 Ill. Reg. 12291, effective July 28, 1994; amended in R94-23 at 19 Ill. Reg. 8613, effective June 20, 1995; amended in R95-17 at 20 Ill. Reg. 14493, effective October 22, 1996; amended in R98-2 at 22 Ill. Reg. 5020, effective March 5, 1998; amended in R99-6 at 23 Ill. Reg. 2756, effective February 17, 1999; amended in R99-12 at 23 Ill. Reg. 10348, effective August 11, 1999; amended in R00-8 at 23 Ill. Reg. 14715, effective December 8, 1999; amended in R00-10 at 24 Ill. Reg. 14226 effective September 11, 2000; amended in R01-7 at 25 Ill. Reg. 1329, effective January 11, 2001; amended in R01-20 at 25 Ill. Reg. 13611, effective October 9, 2001; amended in R02-5 at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_.

## SUBPART A: GENERAL

## Section 611.101 Definitions

As used in this Part, the term:

“Act” means the Environmental Protection Act [415 ILCS 5].

“Agency” means the Illinois Environmental Protection Agency.

BOARD NOTE: The Department of 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” will mean the Department of Public Health.

“Ai” means “inactivation ratio.”

“Approved source of bottled water,” for the purposes of Section 611.130(e)(4), means a source of water and the water therefrom, whether it be from a spring, artesian well, drilled well, municipal water supply, or any other source, that has been inspected and the water sampled, analyzed, and found to be a safe and sanitary quality according to applicable laws and regulations of State and local government agencies having jurisdiction, as evidenced by the presence in the plant of current certificates or notations of approval from each government agency or agencies having jurisdiction over the source, the water it bottles, and the distribution of the water in commerce.

BOARD NOTE: Derived from 40 CFR 142.62(g)(2) and 21 CFR 129.3(a)-(2000) (2001). The Board cannot compile an exhaustive listing of all federal, state, and local laws to which bottled water and bottling water may be subjected. However, the statutes and regulations of which the Board is aware are the following: the Illinois Food, Drug and Cosmetic Act [410 ILCS 620], the Bottled Water Act [815 ILCS 310], the DPH Water Well Construction Code (77 Ill. Adm. Code 920), the DPH Water Well Pump Installation Code (77 Ill. Adm. Code 925), the federal bottled water quality standards (21 CFR 103.35), the federal drinking water processing and bottling standards (21 CFR 129), the federal Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food (21 CFR 110), the federal Fair Packaging and Labeling Act (15 USC 1451 et seq.), and the federal Fair Packaging and Labeling regulations (21 CFR 201).

“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 of this Part.

“Board” means the Illinois Pollution Control Board.

“CAS No.” means “Chemical Abstracts Services Number.”

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

“CT<sub>99.9</sub>” is the CT value required for 99.9 percent (3-log) inactivation of *Giardia lamblia* cysts. CT<sub>99.9</sub> 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 (2000).

“Coagulation” means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.

“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: 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.

“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.

“Comprehensive performance evaluation” or “CPE” is a thorough review and analysis of a treatment plant’s performance-based capabilities and associated administrative, operation, and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant’s capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements.

BOARD NOTE: The final sentence of the definition of “comprehensive performance evaluation” in 40 CFR 141.2 is codified as Section 611.160(a)(2), since it contains substantive elements that are more appropriate in a substantive provision.

“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.

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

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

“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.

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

“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.

“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 the point 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.

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

“Disinfection byproduct” or “DBP” means a chemical byproduct that forms when disinfectants used for microbial control react with naturally occurring compounds already present in source water. DBPs include, but are not limited to, bromodichloromethane, bromoform, chloroform, dichloroacetic acid, bromate, chlorite, dibromochloromethane, and certain haloacetic acids.

“Disinfection profile” is a summary of daily *Giardia lamblia* inactivation through the treatment plant. The procedure for developing a disinfection profile is contained in Section 611.742.

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

“Domestic or other non-distribution system plumbing problem” means a coliform contamination problem in a PWS with more than one service connection that is limited to the specific service connection from which the coliform-positive sample was taken.

“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).

“Enhanced coagulation” means the addition of sufficient coagulant for improved removal of disinfection byproduct (DBP) precursors by conventional filtration treatment.

“Enhanced softening” means the improved removal of disinfection byproduct (DBP) precursors by precipitative softening.

“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.

“Filter profile” is a graphical representation of individual filter performance, based on continuous turbidity measurements or total particle counts versus time for an entire filter run, from startup to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed.

“Filtration” means a process for removing particulate matter from water by passage through porous media.

“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.

“GAC10” means granular activated carbon (GAC) filter beds with an empty-bed contact time of 10 minutes based on average daily flow and a carbon reactivation frequency of every 180 days.

“GC” means “gas chromatography” or “gas-liquid phase chromatography.”

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

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

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

“Groundwater under the direct influence of surface water” means any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens, such as *Giardia lamblia* or ~~(for Subpart B systems serving at least 10,000 persons only)~~ *Cryptosporidium*, or significant and relatively rapid shifts in water characteristics, such as turbidity, temperature, conductivity, or pH, that closely correlate to climatological or surface water conditions. “Groundwater under the direct influence of surface water” is as determined in Section 611.212.

“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-~~(2000)~~ (2001).

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

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

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

“Inactivation ratio” ( $A_i$ ) means:

$$A_i = CT_{\text{calc}}/CT_{99.9}$$

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

$$B = \sum(A_i)$$

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-~~(2000)~~ (2001).

“Initial compliance period” means the three-year compliance period that begins January 1, 1993, except for the MCLs for dichloromethane, 1,2,4-trichlorobenzene, 1,1,2-trichloroethane, benzo(a)pyrene, dalapon, di(2-ethylhexyl)adipate, di(2-ethylhexyl)phthalate, dinoseb, diquat, endothall, endrin, glyphosate, hexachlorobenzene, hexachlorocyclopentadiene, oxamyl, picloram, simazine, 2,3,7,8-TCDD, antimony, beryllium, cyanide, nickel, and thallium as they apply to suppliers whose supplies have fewer than 150 service connections, for which it means the three-year compliance period that begins on January 1, 1996.

“Inorganic contaminants” or “IOCs” refers to that group of contaminants designated as such in United States Environmental Protection Agency (USEPA) regulatory discussions and guidance documents. IOCs include antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, mercury, nickel,



nitrate, nitrite, selenium, and thallium.

BOARD NOTE: The IOCs are derived from 40 CFR 141.23(a)(4)-~~(2000)~~  
(2001).

“L” means “liter.”

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

“Man-made beta particle and photon emitters” means all radionuclides emitting beta particles 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.

“Maximum contaminant level” or “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.)

“Maximum contaminant level goal” or “MCLG” means the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MCLGs are nonenforceable health goals.

BOARD NOTE: The Board has not routinely adopted the regulations relating to the federal MCLGs because they are outside the scope of the Board’s identical-in-substance mandate under Section 17.5 of the Act.

“Maximum residual disinfectant level” or “MRDL” means the maximum permissible level of a disinfectant added for water treatment that may not be exceeded at the consumer’s tap without an unacceptable possibility of adverse health effects. MRDLs are enforceable in the same manner as are MCLs. (See Section 611.313 and Section 611.383.)

“Maximum residual disinfectant level goal” or “MRDLG” means the maximum level of a disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MRDLGs are nonenforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contaminants.

“Maximum total trihalomethane potential” or “MTP” means the maximum concentration of total trihalomethanes (TTHMs) produced in a given water containing a disinfectant residual after 7 days at a temperature of 25° C or above.

“MFL” means millions of fibers per liter larger than 10 micrometers.

BOARD NOTE: Derived from 40 CFR 141.23(a)(4)(i) (2000).

“mg” means milligrams (1/1000 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-(2000) (2001).

“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.

“nm” means nanometer (1/1,000,000,000 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). A non-community water system is either a “transient non-community water system (TWS)” or a “non-transient non-community water system (NTNCWS).”

“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.

“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 of this Part, differs from this definition in that the definition does not include the Section 611.300 inorganic MCLs.

“P-A Coliform Test” means “Presence-Absence Coliform Test.”

“Paired sample” means two samples of water for Total Organic Carbon (TOC). One sample is of raw water taken prior to any treatment. The other sample is taken after the point of combined filter effluent and is representative of the treated water. These samples are taken at the same time. (See Section 611.382.)

“Performance evaluation sample” or “PE 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.

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

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

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

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

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

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

“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.

“Point-of-entry treatment device” or “POE” 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.

“Point-of-use treatment device” or “POU” is a treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap.

“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” must mean Public Health.

“Public water system” or “PWS” means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A PWS is either a 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: Where used in Subpart F, “public water supply” means the same as “public water system.”

“Radioactive contaminants” refers to that group of contaminants designated “radioactive contaminants” in USEPA regulatory discussions and guidance documents. “Radioactive contaminants” include tritium, strontium-89, strontium-90, iodine-131, cesium-134, gross beta emitters, and other nuclides.

BOARD NOTE: Derived from 40 CFR 141.25(c) Table B-~~(2000)~~ (2001). These radioactive contaminants must be reported in Consumer Confidence Reports under Subpart U when they are detected above the levels indicated in Section 611.720(c)(3).

“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 must base this determination on the consistency of analytical results, the degree below the MCL, the susceptibility of source water to variation, and other vulnerability factors pertinent to the 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)-~~(2000)~~ (2001).

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

“Repeat compliance period” means a compliance period that begins after the initial compliance period.

“Representative” means that a sample 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.

“Safe Drinking Water Act” or “SDWA” means the Public Health Service Act, as amended by the Safe Drinking Water Act, Pub. L. 93-523, 42 USC 300f et seq.

“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.

“Sedimentation” means a process for removal of solids before filtration by gravity or separation.

“SEP” means special exception permit (Section 611.110).

“Service connection,” as used in the definition of public water system, does not include a connection to a system that delivers water by a constructed conveyance other than a pipe if any of the following is true:

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

The Agency determines by issuing an SEP that alternative water for residential use or similar uses for drinking and cooking is provided to achieve the equivalent level of public health protection provided by the applicable national primary drinking water regulations; or

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

BOARD NOTE: See sections 1401(4)(B)(i)(II) and (4)(B)(i)(III) of SDWA (42 USC 300f(4)(B)(i)(II) & (4)(B)(i)(III) (1996)).

“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.

“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, aldicarb, aldicarb sulfone, aldicarb sulfoxide, atrazine, benzo[a]pyrene, carbofuran, chlordane, dalapon, dibromoethylene (ethylene dibromide or EDB), dibromochloropropane (DBCP), di(2-ethylhexyl)adipate, di(2-ethylhexyl)phthalate, dinoseb, diquat, endothall, endrin, glyphosate, heptachlor, heptachlor epoxide, hexachlorobenzene, hexachlorocyclopentadiene, lindane, methoxychlor, oxamyl, pentachlorophenol, picloram, simazine, toxaphene, polychlorinated biphenyls (PCBs), 2,4-D, 2,3,7,8-TCDD, and 2,4,5-TP.

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

“Special irrigation district” means an irrigation district in existence prior to May 18, 1994 that provides primarily agricultural service through a piped water system with only incidental residential use or similar use, where the system or the residential users or similar users of the system comply with either of the following exclusion conditions:

The Agency determines by issuing an SEP that alternative water is provided for residential use or similar uses for drinking or cooking to achieve the equivalent level of public health protection provided by the applicable national primary drinking water regulations; or

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

BOARD NOTE: Derived from 40 CFR 141.2-(2000) (2001) and sections 1401(4)(B)(i)(II) and (4)(B)(i)(III) of SDWA (42 USC 300f(4)(B)(i)(II) & (4)(B)(i)(III) (1996)).

“Standard sample” means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.

“Subpart B system” means a public water system that uses surface water or groundwater under the direct influence of surface water as a source and which is subject to the requirements of Subpart B and the analytical and monitoring requirements of Sections 611.531, 611.532, 611.533, 611.Appendix B, and 611.Appendix C of this Part.

“Supplier of water” or “supplier” means any person who owns or operates a public water system (PWS). This term includes the “official custodian.”

“Surface water” means all water that is open to the atmosphere and subject to surface runoff.

“SUVA” means specific ultraviolet absorption at 254 nanometers (nm), which is an indicator of the humic content of water. It is a calculated parameter obtained by dividing a sample’s ultraviolet absorption at a wavelength of 254 nm ( $UV_{254}$ ) (in  $m^{-1}$ ) by its concentration of dissolved organic carbon (in mg/L).

“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~~Derived from 40 CFR 141.23(b)(2) and 141.24(f)(2) note ~~(2000)~~ (2001).

“System with a single service connection” means a system that supplies drinking water to consumers via a single service line.

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

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

“Total trihalomethanes” or “TTHM” means the sum of the concentration of trihalomethanes (THMs), in milligrams per liter (mg/L), rounded to two significant figures.

BOARD NOTE: See the definition of “trihalomethanes” for a listing of the four compounds that USEPA considers TTHMs to comprise.

“Transient, non-community water system” or “transient non-CWS” means a non-CWS that does not regularly serve at least 25 of the same persons over six months of the year.

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 USC 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 Section 3.28 of the Act [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 treatment device or a 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 the following compounds:

Trichloromethane (chloroform),

Dibromochloromethane,

Bromodichloromethane, and

Tribromomethane (bromoform)

“ $\mu\text{g}$ ” means micrograms (1/1,000,000 of a gram).

“USEPA” or “U.S. EPA” means the U.S. Environmental Protection Agency.

“Uncovered finished water storage facility” is a tank, reservoir, or other facility that is open to the atmosphere and which is used to store water that will undergo no further treatment except residual disinfection.

“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,” “volatile organic chemicals,” or “volatile organic contaminants,” in USEPA regulatory discussions and guidance documents. “VOCs” include benzene, dichloromethane, tetrachloromethane (carbon tetrachloride), trichloroethylene, vinyl chloride, 1,1,1-trichloroethane (methyl chloroform), 1,1-dichloroethylene, 1,2-dichloroethane, cis-1,2-dichloroethylene, ethylbenzene, monochlorobenzene, o-dichlorobenzene, styrene, 1,2,4-trichlorobenzene, 1,1,2-trichloroethane, tetrachloroethylene, toluene, trans-1,2-dichloroethylene, xylene, and 1,2-dichloropropane.

“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.



“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) ~~(2000)~~ (2001). The wellhead protection program includes the “groundwater protection needs assessment” under Section 17.1 of the Act, and 35 Ill. Adm. Code 615 et seq.

BOARD NOTE: Derived from 40 CFR 141.2 ~~(2000)~~, as amended at 66 Fed. Reg. 6976 (January 22, 2001) (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### Section 611.160 Composite Correction Program

- a) The Agency may require in writing that a PWS conduct a Composite Correction Program (CCP). The CCP shall consist of two elements: a Comprehensive Performance Evaluation (CPE) and a Comprehensive Technical Assistance (CTA).
  - 1) A CPE is a thorough review and analysis of a plant’s performance-based capabilities and associated administrative, operation, and maintenance practices. It must identify factors that may be adversely impacting a plant’s capability to achieve compliance and emphasize approaches that can be implemented without significant capital improvements.
  - 2) For purposes of compliance with ~~Subpart~~ Subparts R and X of this Part, the comprehensive performance evaluation must consist of at least the following components: Assessment of plant performance; evaluation of major unit processes; identification and prioritization of performance limiting factors; assessment of the applicability of comprehensive technical assistance; and preparation of the CPE report.
 

BOARD NOTE: Subsection (a)(2) of this Section is derived from the third sentence of the definition of “comprehensive performance evaluation” in 40 CFR 141.2 (2001), as amended in 67 Fed. Reg. 1812 (Jan. 14, 2002).
  - 3) A CTA is the performance improvement phase that is implemented if the CPE results indicate improved performance potential. During the CTA phase, the PWS shall identify and systematically address plant-specific factors. The CTA is a combination of utilizing CPE results as a basis for followup, implementing process control priority-setting techniques and maintaining long-term involvement to systematically train staff and administrators.
- b) A PWS shall implement any followup recommendations made in writing by the

Agency that result as part of the CCP.

- c) A PWS may appeal to the Board, pursuant to Section 40 of the Act, any Agency requirement that it conduct a CCP or any followup recommendations made in writing by the Agency that result as part of the CCP, except when a CPE is required under Section 611.745(b)(4).

BOARD NOTE: Derived from 40 CFR 142.16 ~~(1998)~~ (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

## SUBPART B: FILTRATION AND DISINFECTION

### Section 611.220 General Requirements

- a) The requirements of this Subpart constitute NPDWRs. This Subpart establishes criteria under which filtration is required as a treatment technique for PWSs supplied by a surface water source and PWSs supplied by a groundwater source under the direct influence of surface water. In addition, these regulations establish treatment technique requirements in lieu of MCLs for the following contaminants: *Giardia lamblia*, viruses, HPC bacteria, *Legionella*, and turbidity. Each supplier with a surface water source or a groundwater source under the direct influence of surface water shall provide treatment of that source water that complies with these treatment technique requirements. The treatment technique requirements consist of installing and properly operating water treatment processes which reliably achieve:
- 1) At least 99.9 percent (3-log) removal or inactivation of *Giardia lamblia* cysts between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer; and
  - 2) At least 99.99 percent (4-log) removal or inactivation of viruses between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer.
- b) A supplier using a surface water source or a groundwater source under the direct influence of surface water is considered to be in compliance with the requirements of subsection (a) if:
- 1) It meets the requirements for avoiding filtration in Sections 611.230 through 611.232 and the disinfection requirements in Section 611.241; or

- 2) It meets the filtration requirements in Section 611.250 and the disinfection requirements in Section 611.242.
- c) Each supplier using a surface water source or a groundwater source under the direct influence of surface water shall have a certified operator pursuant to 35 Ill. Adm. Code 603.103 and the Public Water Supply Operations Act [415 ILCS 45].
- d) Additional requirements for PWSs serving 10,000 or more persons. In addition to complying with requirements in this Subpart, PWSs serving 10,000 or more persons must also comply with the requirements in Subpart R of this Part.
- e) Additional requirements for systems serving fewer than 10,000 people. In addition to complying with requirements in this Subpart B, systems serving fewer than 10,000 people must also comply with the requirements in Subpart X of this Part.

BOARD NOTE: Derived from 40 CFR 141.70 ~~(1998)~~ (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002). The Public Water Supply Operations Act applies only to CWSs, which are regulated by the Agency. It does not apply to non-CWSs, which are regulated by Public Health. Public Health has its own requirements for personnel operating water supplies that it regulates, e.g., 77 Ill. Adm. Code 900.40(e).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 611.250 Filtration

A supplier that uses a surface water source or a groundwater source under the direct influence of surface water, and does not meet all of the criteria in Sections 611.231 and 611.232 for avoiding filtration, must provide treatment consisting of both disinfection, as specified in Section 611.242, and filtration treatment that complies with the requirements of subsection (a), (b), (c), (d), or (e) by June 29, 1993, or within 18 months after the failure to meet any one of the criteria for avoiding filtration in Sections 611.231 and 611.232, whichever is later. Failure to meet any requirement after the date specified in this introductory paragraph is a treatment technique violation.

- a) Conventional filtration treatment or direct filtration.
  - 1) For a system using conventional filtration or direct filtration, the turbidity level of representative samples of the system's filtered water must be less than or equal to 0.5 NTU in at least 95 percent of the measurements taken each month, except that if the Agency determines, by special exception permit, that the system is capable of achieving at least 99.9 percent removal or inactivation of *Giardia lamblia* cysts at some turbidity level higher than 0.5 NTU in at least 95 percent of the

measurements taken each month, the Agency must substitute this higher turbidity limit for that system. However, in no case may the Agency approve a turbidity limit that allows more than 1 NTU in more than 5 percent of the samples taken each month.

- 2) The turbidity level of representative samples of a system's filtered water must at no time exceed 5 NTU.
  - 3) Beginning January 1, 2001, a supplier serving at least 10,000 or more persons must meet the turbidity requirements of Section 611.743(a).
  - 4) Beginning January 14, 2005, a supplier that serves fewer than 10,000 people must meet the turbidity requirements in Sections 141.1550 through 141.1553.
- b) Slow sand filtration.
- 1) For a system using slow sand filtration, the turbidity level of representative samples of the system's filtered water must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month, except that if the Agency determines, by special exception permit, that there is no significant interference with disinfection at a higher level, the Agency must substitute the higher turbidity limit for that system.
  - 2) The turbidity level of representative samples of a system's filtered water must at no time exceed 5 NTU.
- c) Diatomaceous earth filtration.
- 1) For a system using diatomaceous earth filtration, the turbidity level of representative samples of the system's filtered water must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month.
  - 2) The turbidity level of representative samples of a system's filtered water must at no time exceed 5 NTU.
- d) Other filtration technologies. A supplier may use a filtration technology not listed in subsections (a) through (c) if it demonstrates, by special exception permit application, to the Agency, using pilot plant studies or other means, that the alternative filtration technology, in combination with disinfection treatment that meets the requirements of Section 611.242, consistently achieves 99.9 percent removal or inactivation of *Giardia lamblia* cysts and 99.99 percent removal or inactivation of viruses. For a supplier that makes this

demonstration, the requirements of subsection (b) apply. Beginning January 1, 2002, a supplier serving 10,000 or more persons must meet the requirements for other filtration technologies in Section 611.743(b). Beginning January 14, 2005, a supplier that serves fewer than 10,000 people must meet the requirements for other filtration technologies in Sections 141.1550 through 141.1553.

- ~~e) Turbidity is measured as specified in Sections 611.531(d) and 611.533(a). Beginning January 1, 2002, a supplier serving 10,000 or more persons must meet the turbidity requirements in Section 611.743(a).~~

BOARD NOTE: Derived from 40 CFR 141.73 (2000), as amended at 66 Fed. Reg. 3770 (January 16, 2001) (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**SUBPART R: ENHANCED FILTRATION AND DISINFECTION-- SYSTEMS THAT SERVE 10,000 OR MORE PEOPLE**

Section 611.740      General Requirements

- a) The requirements of this Subpart R are National Primary Drinking Water Regulations. These regulations establish requirements for filtration and disinfection that are in addition to standards under which filtration and disinfection are required under Subpart B of this Part. The requirements of this Subpart are applicable to a Subpart B system supplier serving 10,000 or more persons, beginning January 1, 2002, unless otherwise specified in this Subpart. The regulations in this Subpart establish or extend treatment technique requirements in lieu of maximum contaminant levels (MCLs) for the following contaminants: *Giardia lamblia*, viruses, heterotrophic plate count bacteria, *Legionella*, *Cryptosporidium*, and turbidity. Each Subpart B system supplier serving 10,000 or more persons must provide treatment of its source water that complies with these treatment technique requirements and are in addition to those identified in Section 611.220. The treatment technique requirements consist of installing and properly operating water treatment processes that reliably achieve:
- 1) At least 99 percent (2-log) removal of *Cryptosporidium* between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer for filtered systems, or *Cryptosporidium* control under the watershed control plan for unfiltered systems; and
  - 2) Compliance with the profiling and benchmark requirements under the provisions of Section 611.742.

- b) A PWS supplier subject to the requirements of this Subpart is considered to be in compliance with the requirements of subsection (a) of this Section if:
- 1) It meets the requirements for avoiding filtration in Sections 611.232 and 611.741, and the disinfection requirements in Sections 611.240 and 611.742; or
  - 2) It meets the applicable filtration requirements in either Section 611.250 or Section 611.743, and the disinfection requirements in Sections 611.240 and 611.742.
- c) A supplier must not begin construction of uncovered finished water storage facilities after February 16, 1999.
- d) A Subpart B system supplier that did not conduct optional monitoring under Section 611.742 because it served fewer than 10,000 persons when such monitoring was required, but which serves more than 10,000 persons prior to January 14, 2005 must comply with Sections 611.740, 611.741, 611.743, 611.744, and 611.745. Such a supplier must also obtain the approval of the Agency to establish a disinfection benchmark. A supplier that decides to make a significant change to its disinfection practice, as described in Section 611.742(c)(1)(A) through (c)(1)(D) must obtain the approval of the Agency prior to making such a change.

BOARD NOTE: Derived from 40 CFR 141.170-(2000), as amended at 66 Fed. Reg. 3770 (January 16, 2001) (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### SUBPART U: CONSUMER CONFIDENCE REPORTS

##### Section 611.883 Content of the Reports

- a) Each CWS must provide to its customers an annual report that contains the information specified in this Section and Section 611.884.
- b) Information on the source of the water delivered.
  - 1) Each report must identify the sources of the water delivered by the CWS by providing information on the following:
    - A) The type of the water (e.g., surface water, groundwater); and
    - B) The commonly used name (if any) and location of the body (or

bodies) of water.

- 2) If a source water assessment has been completed, the report must notify consumers of the availability of this information and the means to obtain it. In addition, systems are encouraged to highlight in the report significant sources of contamination in the source water area if they have readily available information. Where a system has received a source water assessment from the Agency, the report must include a brief summary of the system's susceptibility to potential sources of contamination, using language provided by the Agency or written by the PWS.
- c) Definitions.
- 1) Each report must include the following definitions:
    - A) **Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
 

BOARD NOTE: Although an MCLG is not an NPDWR that the Board must include in the Illinois SDWA regulations, the use of this definition is mandatory where the term "MCLG" is defined.
    - B) **Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
  - 2) A report for a CWS operating under relief from an NPDWR issued under Sections 611.111, 611.112, 611.130, or 611.131 must include the following definition: "Variances, Adjusted Standards, and Site-specific Rules: State permission not to meet an MCL or a treatment technique under certain conditions."
  - 3) A report that contains data on contaminants that USEPA regulates using any of the following terms must include the applicable definitions:
    - A) **Treatment technique:** A required process intended to reduce the level of a contaminant in drinking water.
    - B) **Action level:** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.
    - C) **Maximum residual disinfectant level goal or MRDLG:** The level

of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

BOARD NOTE: Although an MRDLG is not an NPDWR that the Board must include in the Illinois SDWA regulations, the use of this definition is mandatory where the term “MRDLG” is defined.

- D) Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

d) Information on detected contaminants.

- 1) This subsection (d) specifies the requirements for information to be included in each report for contaminants subject to mandatory monitoring (except *Cryptosporidium*). It applies to the following:
  - A) Contaminants subject to an MCL, action level, MRDL, or treatment technique (regulated contaminants);
  - B) Contaminants for which monitoring is required by Section 611.510 (unregulated contaminants); and
  - C) Disinfection byproducts or microbial contaminants for which monitoring is required by Section 611.382 and Subpart L, except as provided under subsection (e)(1) of this Section, and which are detected in the finished water.
- 2) The data relating to these contaminants must be displayed in one table or in several adjacent tables. Any additional monitoring results that a CWS chooses to include in its report must be displayed separately.
- 3) The data must be derived from data collected to comply with monitoring and analytical requirements during calendar year 1998 for the first report and subsequent calendar years thereafter, except that the following requirements also apply:
  - A) Where a system is allowed to monitor for regulated contaminants less often than once a year, the tables must include the date and results of the most recent sampling, and the report must include a brief statement indicating that the data presented in the report is from the most recent testing done in accordance with the



regulations. No data older than five years need be included.

- B) Results of monitoring in compliance with Section 611.382 and Subpart L need only be included for five years from the date of last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first.
- 4) For detected regulated contaminants (listed in Appendix A of this Part), the tables must contain the following:
- A) The MCL for that contaminant expressed as a number equal to or greater than 1.0 (as provided in Appendix A of this Part);
  - B) The Maximum Contaminant Level Goal (MCLG) for that contaminant expressed in the same units as the MCL
  - C) If there is no MCL for a detected contaminant, the table must indicate that there is a treatment technique, or specify the action level, applicable to that contaminant, and the report must include the definitions for treatment technique or action level, as appropriate, specified in subsection (c)(3) of this Section;
  - D) For contaminants subject to an MCL, except turbidity and total coliforms, the highest contaminant level used to determine compliance with an NPDWR, and the range of detected levels, as follows:
    - i) When compliance with the MCL is determined annually or less frequently: the highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.
    - ii) When compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point: the highest average of any of the sampling points and the range of all sampling points expressed in the same units as the MCL.
    - iii) When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all sampling points: the average and range of detection expressed in the same units as the MCL;

BOARD NOTE to subsection (d)(4)(D): When rounding of results

to determine compliance with the MCL is allowed by the regulations, rounding should be done prior to multiplying the results by the factor listed in Appendix A; derived from 40 CFR 153-(1999) (2001).

- E) For turbidity the following:
- i) When it is reported pursuant to Section 611.560: the highest average monthly value.
  - ii) When it is reported pursuant to the requirements of Section 611.211(b): the highest monthly value. The report must include an explanation of the reasons for measuring turbidity.
  - iii) When it is reported pursuant to Section 611.250, ~~or~~ 611.743, or 611.955(b): the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in Section 611.250, ~~or~~ 611.743, or 611.955(b) for the filtration technology being used. The report must include an explanation of the reasons for measuring turbidity;
- F) For lead and copper the following: the 90th percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level;
- G) For total coliform the following:
- i) The highest monthly number of positive samples for systems collecting fewer than 40 samples per month; or
  - ii) The highest monthly percentage of positive samples for systems collecting at least 40 samples per month;
- H) For fecal coliform the following: the total number of positive samples; and
- I) The likely sources of detected contaminants to the best of the supplier's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments, and must be used when available to the supplier. If the supplier lacks specific information on the likely source, the report must include one or more of the typical sources for that contaminant listed in Appendix G of this Part which are most applicable to the

## CWS.

- 5) If a CWS distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, the table must contain a separate column for each service area and the report must identify each separate distribution system. Alternatively, a CWS may produce separate reports tailored to include data for each service area.
  - 6) The tables must clearly identify any data indicating violations of MCLs, MRDLs, or treatment techniques, and the report must contain a clear and readily understandable explanation of the violation including the following: the length of the violation, the potential adverse health effects, and actions taken by the CWS to address the violation. To describe the potential health effects, the CWS must use the relevant language of Appendix A of this Part.
  - 7) For detected unregulated contaminants for which monitoring is required (except *Cryptosporidium*), the tables must contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.
- e) Information on *Cryptosporidium*, radon, and other contaminants:
- 1) If the CWS has performed any monitoring for *Cryptosporidium*, including monitoring performed to satisfy the requirements of Subpart L of this Part, that indicates that *Cryptosporidium* may be present in the source water or the finished water, the report must include the following:
    - A) A summary of the results of the monitoring; and
    - B) An explanation of the significance of the results.
  - 2) If the CWS has performed any monitoring for radon which indicates that radon may be present in the finished water, the report must include the following:
    - A) The results of the monitoring; and
    - B) An explanation of the significance of the results.
  - 3) If the CWS has performed additional monitoring that indicates the presence of other contaminants in the finished water, the report must include the following:

- A) The results of the monitoring; and
  - B) An explanation of the significance of the results noting the existence of any health advisory or proposed regulation.
- f) Compliance with an NPDWR. In addition to the requirements of subsection (d)(6) of this Section, the report must note any violation that occurred during the year covered by the report of a requirement listed below, and include a clear and readily understandable explanation of the violation, any potential adverse health effects, and the steps the CWS has taken to correct the violation.
- 1) Monitoring and reporting of compliance data;
  - 2) Filtration and disinfection prescribed by Subpart B of this Part. For CWSs that have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes which constitutes a violation, the report must include the following language as part of the explanation of potential adverse health effects: Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
  - 3) Lead and copper control requirements prescribed by Subpart G of this Part. For systems that fail to take one or more actions prescribed by Sections 611.350(d), 611.351, 611.352, 611.353, or 611.354, the report must include the applicable language of Appendix A of this Part for lead, copper, or both.
  - 4) Treatment techniques for acrylamide and epichlorohydrin prescribed by Section 611.296. For systems that violate the requirements of Section 611.296, the report must include the relevant language from Appendix A of this Part.
  - 5) Recordkeeping of compliance data.
  - 6) Special monitoring requirements prescribed by Sections 611.510 and 611.630; and
  - 7) Violation of the terms of a variance, adjusted standard, site-specific rule, or administrative or judicial order.
- g) Variances, adjusted standards, and site-specific rules. If a system is operating under the terms of a variance, adjusted standard, or site-specific rule issued under Sections 611.111, 611.112, or 611.131, the report must contain the following:

- 1) An explanation of the reasons for the variance, adjusted standard, or site-specific rule;
  - 2) The date on which the variance, adjusted standard, or site-specific rule was issued;
  - 3) A brief status report on the steps the CWS is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance, adjusted standard, or site-specific rule; and
  - 4) A notice of any opportunity for public input in the review, or renewal, of the variance, adjusted standard, or site-specific rule.
- h) Additional information.
- 1) The report must contain a brief explanation regarding contaminants that may reasonably be expected to be found in drinking water, including bottled water. This explanation may include the language of subsections (h)(1)(A) through (h)(1)(C) of this Section or CWSs may use their own comparable language. The report also must include the language of subsection (h)(1)(D) of this Section.
    - A) The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.
    - B) Contaminants that may be present in source water include the following:
      - i) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
      - ii) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;
      - iii) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

- iv) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and
  - v) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.
- C) In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. United States Food and Drug Administration (USFDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.
- D) Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA Safe Drinking Water Hotline (800-426-4791).
- 2) The report must include the telephone number of the owner, operator, or designee of the CWS as a source of additional information concerning the report.
  - 3) In communities with a large proportion of non-English speaking residents, as determined by the Agency, the report must contain information in the appropriate languages regarding the importance of the report or contain a telephone number or address where such residents may contact the system to obtain a translated copy of the report or assistance in the appropriate language.
  - 4) The report must include information about opportunities for public participation in decisions that may affect the quality of the water.
  - 5) The CWS may include such additional information as it deems necessary for public education consistent with, and not detracting from, the purpose of the report.

BOARD NOTE: Derived from 40 CFR 141.153 ~~(1999)~~, as amended at 65 Fed. Reg. 26022 ~~(May 4, 2000)~~ (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

SUBPART V: PUBLIC NOTIFICATION OF DRINKING WATER  
VIOLATIONS

Section 611.902 Tier 1 Public Notice--Form, Manner, and Frequency of Notice

- a) Violations or situations that require a Tier 1 public notice. This subsection (a) lists the violation categories and other situations requiring a Tier 1 public notice. Appendix G of this Part identifies the tier assignment for each specific violation or situation.
- 1) Violation of the MCL for total coliforms when fecal coliform or E. coli are present in the water distribution system (as specified in Section 611.325(b)), or when the water supplier fails to test for fecal coliforms or E. coli when any repeat sample tests positive for coliform (as specified in Section 611.525);
  - 2) Violation of the MCL for nitrate, nitrite, or total nitrate and nitrite, as defined in Section 611.301, or when the water supplier fails to take a confirmation sample within 24 hours after the supplier's receipt of the results from the first sample showing an exceedence of the nitrate or nitrite MCL, as specified in Section 611.606(b);
  - 3) Exceedence of the nitrate MCL by a non-CWS supplier, where permitted to exceed the MCL by the Agency under Section 611.300(d), as required under Section 611.909;
  - 4) Violation of the MRDL for chlorine dioxide, as defined in Section 611.313(a), when one or more samples taken in the distribution system the day following an exceedence of the MRDL at the entrance of the distribution system exceed the MRDL, or when the water supplier does not take the required samples in the distribution system, as specified in Section 611.383(c)(2)(A);
  - 5) Violation of the turbidity MCL under Section 141.13(b), where the Agency determines after consultation that a Tier 1 notice is required or where consultation does not take place within 24 hours after the supplier learns of the violation;
  - 6) Violation of the Surface Water Treatment Rule (SWTR), ~~or~~ Interim Enhanced Surface Water Treatment Rule (IESWTR), or Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) treatment technique requirement resulting from a single exceedence of the maximum allowable turbidity limit (as identified in Appendix G), where

the ~~primary agency~~ Agency determines after consultation that a Tier 1 notice is required or where consultation does not take place within 24 hours after the supplier learns of the violation;

- 7) Occurrence of a waterborne disease outbreak, as defined in Section 611.101, or other waterborne emergency (such as a failure or significant interruption in key water treatment processes, a natural disaster that disrupts the water supply or distribution system, or a chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water contamination);
  - 8) Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the Agency by a SEP issued pursuant to Section 611.110.
- b) When the Tier 1 public notice is to be provided. Additional steps required. A PWS supplier must:
- 1) Provide a public notice as soon as practical but no later than 24 hours after the supplier learns of the violation;
  - 2) Initiate consultation with the Agency as soon as practical, but no later than 24 hours after the PWS supplier learns of the violation or situation, to determine additional public notice requirements; and
  - 3) Comply with any additional public notification requirements (including any repeat notices or direction on the duration of the posted notices) that are established as a result of the consultation with the Agency. Such requirements may include the timing, form, manner, frequency, and content of repeat notices (if any) and other actions designed to reach all persons served.
- c) The form and manner of the public notice. A PWS supplier must provide the notice within 24 hours in a form and manner reasonably calculated to reach all persons served. The form and manner used by the PWS supplier are to fit the specific situation, but must be designed to reach residential, transient, and non-transient users of the water system. In order to reach all persons served, a water supplier is to use, at a minimum, one or more of the following forms of delivery:
- 1) Appropriate broadcast media (such as radio and television);
  - 2) Posting of the notice in conspicuous locations throughout the area served by the water supplier;



- 3) Hand delivery of the notice to persons served by the water supplier; or
- 4) Another delivery method approved in writing by the Agency by a SEP issued pursuant to Section 611.110.

BOARD NOTE: Derived from 40 CFR 141.202-~~(2000)~~ (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 611.903 Tier 2 Public Notice--Form, Manner, and Frequency of Notice

- a) Violations or situations that require a Tier 2 public notice. This subsection lists the violation categories and other situations requiring a Tier 2 public notice. Appendix G to this Part identifies the tier assignment for each specific violation or situation.
  - 1) All violations of the MCL, MRDL, and treatment technique requirements, except where a Tier 1 notice is required under Section 611.902(a) or where the Agency determines by a SEP issued pursuant to Section 611.110 that a Tier 1 notice is required;
  - 2) Violations of the monitoring and testing procedure requirements, where the Agency determines by a SEP issued pursuant to Section 611.110 that a Tier 2 rather than a Tier 3 public notice is required, taking into account potential health impacts and persistence of the violation; and
  - 3) Failure to comply with the terms and conditions of any relief equivalent to a SDWA Section 1415 variance or a SDWA Section 1416 exemption in place.
- b) When Tier 2 public notice is to be provided.
  - 1) A PWS supplier must provide the public notice as soon as practical, but no later than 30 days after the supplier learns of the violation. If the public notice is posted, the notice must remain in place for as long as the violation or situation persists, but in no case for less than seven days, even if the violation or situation is resolved. The Agency may, in appropriate circumstances, by a SEP issued pursuant to Section 611.110, allow additional time for the initial notice of up to three months from the date the supplier learns of the violation. It is not appropriate for the Agency to grant an extension to the 30-day deadline for any unresolved violation or to allow across-the-board extensions by rule or policy for other violations or situations requiring a Tier 2 public notice. Extensions granted by the Agency must be in writing.

- 2) The PWS supplier must repeat the notice every three months as long as the violation or situation persists, unless the Agency determines that appropriate circumstances warrant a different repeat notice frequency. In no circumstance may the repeat notice be given less frequently than once per year. It is not appropriate for the Agency to allow less frequent repeat notice for an MCL violation under the Total Coliform Rule or a treatment technique violation under the Surface Water Treatment Rule or Interim Enhanced Surface Water Treatment Rule. It is also not appropriate for the Agency to allow across-the-board reductions in the repeat notice frequency for other ongoing violations requiring a Tier 2 repeat notice. An Agency determination allowing repeat notices to be given less frequently than once every three months must be in writing.
- 3) For the turbidity violations specified in this subsection (b)(3), a PWS supplier must consult with the Agency as soon as practical but no later than 24 hours after the supplier learns of the violation, to determine whether a Tier 1 public notice under Section 611.902(a) is required to protect public health. When consultation does not take place within the 24-hour period, the water system must distribute a Tier 1 notice of the violation within the next 24 hours (i.e., no later than 48 hours after the supplier learns of the violation), following the requirements under Section 611.902(b) and (c). Consultation with the Agency is required for the following:
  - A) Violation of the turbidity MCL under Section 141.320(b); or
  - B) Violation of the SWTR, ~~or IESWTR,~~ or treatment technique requirement resulting from a single exceedence of the maximum allowable turbidity limit.
- c) The form and manner of Tier 2 public notice. A PWS supplier must provide the initial public notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it must at a minimum meet the following requirements:
  - 1) Unless directed otherwise by the Agency in writing, by a SEP issued pursuant to Section 611.110, a CWS supplier must provide notice by:
    - A) Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the PWS supplier; and

- B) Any other method reasonably calculated to reach other persons regularly served by the supplier, if they would not normally be reached by the notice required in subsection (c)(1)(A) of this Section. Such persons may include those who do not pay water bills or do not have service connection addresses (e.g., house renters, apartment dwellers, university students, nursing home patients, prison inmates, etc.). Other methods may include: Publication in a local newspaper; delivery of multiple copies for distribution by customers that provide their drinking water to others (e.g., apartment building owners or large private employers); posting in public places served by the supplier or on the Internet; or delivery to community organizations.
- 2) Unless directed otherwise by the Agency in writing, by a SEP issued pursuant to Section 611.110, a non-CWS supplier must provide notice by the following:
- A) Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the supplier, or by mail or direct delivery to each customer and service connection (where known); and
- B) Any other method reasonably calculated to reach other persons served by the system if they would not normally be reached by the notice required in subsection (c)(2)(A) of this Section. Such persons may include those served who may not see a posted notice because the posted notice is not in a location they routinely pass by. Other methods may include the following: Publication in a local newspaper or newsletter distributed to customers; use of E-mail to notify employees or students; or delivery of multiple copies in central locations (e.g., community centers).

BOARD NOTE: Derived from 40 CFR 141.203-~~(2000)~~ (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

SUBPART X--ENHANCED FILTRATION AND DISINFECTION--SYSTEMS  
SERVING FEWER THAN 10,000 PEOPLE

Section 611.950      General Requirements

- a) The requirements of this Subpart X constitute national primary drinking water regulations. These regulations establish requirements for filtration and disinfection that are in addition to criteria under which filtration and disinfection

are required under Subpart B of this Part. The regulations in this Subpart X establish or extend treatment technique requirements in lieu of maximum contaminant levels for the following contaminants: Giardia lamblia, viruses, heterotrophic plate count bacteria, Legionella, Cryptosporidium, and turbidity. The treatment technique requirements consist of installing and properly operating water treatment processes that reliably achieve the following:

- 1) At least 99 percent (2 log) removal of Cryptosporidium between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer for filtered systems, or Cryptosporidium control under the watershed control plan for unfiltered systems; and
  - 2) Compliance with the profiling and benchmark requirements in Sections 611.953 and 611.954.
- b) Applicability of the Subpart X requirements. A supplier is subject to these requirements if the following is true of its system:
- 1) Is a public water system;
  - 2) Uses surface water or groundwater under the direct influence of surface water as a source; and
  - 3) Serves fewer than 10,000 persons.
- c) Compliance deadline. A supplier must comply with these requirements in this Subpart X beginning January 14, 2005, except where otherwise noted.
- d) Subpart X requirements. There are seven requirements of this Subpart X, and a supplier must comply with all requirements that are applicable to its system. These requirements are the following:
- 1) The supplier must cover any finished water reservoir that the supplier began to construct on or after March 15, 2002, as described in Section 611.951;
  - 2) If the supplier's system is an unfiltered system, the supplier must comply with the updated watershed control requirements described in Section 611.952;
  - 3) If the supplier's system is a community or non-transient non-community water systems the supplier must develop a disinfection profile, as described in Section 611.953;

- 4) If the supplier's system is considering making a significant change to its disinfection practices, the supplier must develop a disinfection benchmark and consult with the Agency for approval of the change, as described in Section 611.954;
- 5) If the supplier's system is a filtered system, the supplier must comply with the combined filter effluent requirements, as described in Section 611.955;
- 6) If the supplier's system is a filtered system that uses conventional or direct filtration, the supplier must comply with the individual filter turbidity requirements, as described in Section 611.956; and
- 7) The supplier must comply with the applicable reporting and recordkeeping requirements, as described in Section 611.957.

BOARD NOTE: This Section is derived from 40 CFR 141.500 through 141.503, as added at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Added at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 611.951 Finished Water Reservoirs

- a) Applicability. A Subpart B system supplier that serves fewer than 10,000 is subject to this requirement.
- b) Requirements. If a supplier begins construction of a finished water reservoir on or after March 15, 2002, the reservoir must be covered. A finished water reservoir for which a supplier began construction prior to March 15, 2002 is not subject to this requirement.

BOARD NOTE: This Section is derived from 40 CFR 141.510 and 141.511, as added at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Added at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 611.952 Additional Watershed Control Requirements for Unfiltered Systems

- a) Applicability. A Subpart B system supplier that serves fewer than 10,000 persons which does not provide filtration must continue to comply with all of the filtration avoidance criteria in Sections 611.211 and 611.230 through 611.233, as well as the additional watershed control requirements in subsection (b) of this Section.
- b) Requirements to avoid filtration. A supplier must take any additional steps

necessary to minimize the potential for contamination by Cryptosporidium oocysts in the source water. A watershed control program must fulfill the following for Cryptosporidium:

- 1) The program must identify watershed characteristics and activities that may have an adverse effect on source water quality; and
  - 2) The Program must monitor the occurrence of activities that may have an adverse effect on source water quality.
- c) Determination of adequacy of control requirements. During an onsite inspection conducted under the provisions of Section 611.232(c), the Agency must determine whether a watershed control program is adequate to limit potential contamination by Cryptosporidium oocysts. The adequacy of the program must be based on the comprehensiveness of the watershed review; the effectiveness of the program to monitor and control detrimental activities occurring in the watershed; and the extent to which the supplier has maximized land ownership or controlled land use within the watershed.

BOARD NOTE: This Section is derived from 40 CFR 141.520 through 141.522, as added at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Added at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 611.953 Disinfection Profile

- a) Applicability. A disinfection profile is a graphical representation of a system's level of Giardia lamblia or virus inactivation measured during the course of a year. A Subpart B community or non-transient non-community water system that serves fewer than 10,000 persons must develop a disinfection profile unless the Agency, by a SEP issued pursuant to Section 611.110, determines that a profile is unnecessary. The Agency may approve the use of a more representative data set for disinfection profiling than the data set required under subsections (c) through (g) of this Section.
- b) Determination that a disinfection profile is not necessary. The Agency may only determine that a disinfection profile is not necessary if the system's TTHM and HAA5 levels are below 0.064 mg/L and 0.048 mg/L, respectively. To determine these levels, TTHM and HAA5 samples must have been collected after January 1, 1998, during the month with the warmest water temperature, and at the point of maximum residence time in the distribution system.
- c) Development of a disinfection profile. A disinfection profile consists of the following three steps:

- 1) First, the supplier must collect data for several parameters from the plant, as discussed in subsection (d) of this Section, over the course of 12 months. If the supplier serves between 500 and 9,999 persons it must begin to collect data no later than July 1, 2003. If the supplier serves fewer than 500 persons, it must begin to collect data no later than January 1, 2004.
  - 2) Second, the supplier must use this data to calculate weekly log inactivation as discussed in subsections (e) and (f) of this Section; and
  - 3) Third, the supplier must use these weekly log inactivations to develop a disinfection profile as specified in subsection (g) of this Section.
- d) Data required for a disinfection profile. A supplier must monitor the following parameters to determine the total log inactivation using the analytical methods in Section 611.231, once per week on the same calendar day, over 12 consecutive months:
- 1) The temperature of the disinfected water at each residual disinfectant concentration sampling point during peak hourly flow;
  - 2) If a supplier uses chlorine, the pH of the disinfected water at each residual disinfectant concentration sampling point during peak hourly flow;
  - 3) The disinfectant contact times (“T”) during peak hourly flow; and
  - 4) The residual disinfectant concentrations (“C”) of the water before or at the first customer and prior to each additional point of disinfection during peak hourly flow.
- e) Calculations based on the data collected. The supplier must calculate the total inactivation ratio as follows, and multiply the value by 3.0 to determine log inactivation of Giardia lamblia:
- 1) If the supplier uses only one point of disinfectant application, it must determine either of the following:
    - A) One inactivation ratio ( $CT_{calc}/CT_{99.9}$ ) before or at the first customer during peak hourly flow, or
    - B) Successive  $CT_{calc}/CT_{99.9}$  values, representing sequential inactivation ratios, between the point of disinfectant application and a point before or at the first customer during peak hourly flow. Under this alternative, your system must calculate the total

inactivation ratio by determining  $(CT_{\text{calc}}/CT_{99.9})$  for each sequence and then adding the  $(CT_{\text{calc}}/CT_{99.9})$  values together to determine  $(3CT_{\text{calc}}/CT_{99.9})$ .

- 2) If the supplier uses more than one point of disinfectant application before the first customer, it must determine the  $(CT_{\text{calc}}/CT_{99.9})$  value of each disinfection segment immediately prior to the next point of disinfectant application, or for the final segment, before or at the first customer, during peak hourly flow using the procedure specified in subsection (d)(1)(B) of this Section.
- f) Use of chloramines, ozone, or chlorine dioxide as a primary disinfectant. If a supplier uses chloramines, ozone, or chlorine dioxide for primary disinfection, you must also calculate the logs of inactivation for viruses and develop an additional disinfection profile for viruses using methods approved by the Agency.
- g) Development and maintenance of the disinfection profile in graphic form. Each log inactivation serves as a data point in your disinfection profile. A supplier will have obtained 52 measurements (one for every week of the year). This will allow the supplier and the Agency the opportunity to evaluate how microbial inactivation varied over the course of the year by looking at all 52 measurements (your disinfection profile). Your system must retain the disinfection profile data in graphic form, such as a spreadsheet, which must be available for review by the Agency as part of a sanitary survey. Your system must use this data to calculate a benchmark if you are considering changes to disinfection practices.

BOARD NOTE: This Section is derived from 40 CFR 141.530 through 141.536, as added at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Added at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 611.954 Disinfection Benchmark

- a) Applicability. A Subpart B system supplier that is required to develop a disinfection profile under Section 611.953 must develop a disinfection benchmark if it decides to make a significant change to its disinfection practice. The supplier must consult with the Agency for approval before it can implement a significant disinfection practice change.
- b) Significant changes to disinfection practice. Significant changes to disinfection practice include:
- 1) Changes to the point of disinfection;



- 2) Changes to the disinfectants used in the treatment plant;
  - 3) Changes to the disinfection process; or
  - 4) Any other modification identified by the Agency.
- c) Considering a significant change. A supplier that is considering a significant change to its disinfection practice must calculate a disinfection benchmarks as described in subsections (d) and (e) of this Section and provide the benchmarks to the Agency. Your system may only make a significant disinfection practice change after consulting with the Agency for approval. Your system must submit the following information to the Agency as part of the consultation and approval process:
- 1) A description of the proposed change;
  - 2) The disinfection profile for Giardia lamblia (and, if necessary, viruses) and disinfection benchmark;
  - 3) An analysis of how the proposed change will affect the current levels of disinfection; and
  - 4) Any additional information requested by the Agency.
- d) Calculation of a disinfection benchmark. A supplier that is making a significant change to its disinfection practice must calculate a disinfection benchmark using the following procedure:
- 1) Step 1: Using the data that the supplier collected to develop the disinfection profile, determine the average Giardia lamblia inactivation for each calendar month by dividing the sum of all Giardia lamblia inactivations for that month by the number of values calculated for that month; and
  - 2) Step 2: Determine the lowest monthly average value out of the twelve values. This value becomes the disinfection benchmark.
- e) If your system uses chloramines, ozone or chlorine dioxide for primary disinfection your system must calculate the disinfection benchmark from the data your system collected for viruses to develop the disinfection profile in subsection (d) of this Section. This viral benchmark must be calculated in the same manner used to calculate the Giardia lamblia disinfection benchmark in subsection (d) of this Section.

BOARD NOTE: This Section is derived from 40 CFR 141.540 through 141.544, as added at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Added at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 611.955 Combined Filter Effluent Turbidity Limits

- a) Applicability. A Subpart B system supplier that serves populations fewer than 10,000, is required to filter, and utilize filtration other than slow sand filtration or diatomaceous earth filtration must meet the combined filter effluent turbidity requirements of subsections (b) through (d) of this Section . If your system uses slow sand or diatomaceous earth filtration you are not required to meet the combined filter effluent turbidity limits of this Subpart X, but you must continue to meet the combined filter effluent turbidity limits in Section 611.250.
- b) Combined filter effluent turbidity limits. Your system must meet two strengthened combined filter effluent turbidity limits.
- 1) The first combined filter effluent turbidity limit is a “95th percentile” turbidity limit that your system must meet in at least 95 percent of the turbidity measurements taken each month. Measurements must continue to be taken as described in Sections 611.231 and 233. Monthly reporting must be completed according to Section 611.957(a). The following are the required limits for specific filtration technologies:
- A) For a system with conventional filtration or direct filtration, the 95th percentile turbidity value is 0.3 NTU.
- B) For a system with any other alternative filter technology, the 95th percentile turbidity value is a value (not to exceed 1 NTU) to be determined by the Agency, by a SEP issued pursuant to Section 611.110, based on the demonstration described in subsection (c) of this Section.
- 2) The second combined filter effluent turbidity limit is a “maximum” turbidity limit which your system may at no time exceed during the month. Measurements must continue to be taken as described in Sections 611.231 and 233. Monthly reporting must be completed according to Section 611.957(a). The following are the required limits for specific filtration technologies:
- A) For a system with conventional filtration or direct filtration, the maximum turbidity value is 1 NTU.
- B) For a system with any other alternative filter technology, the

maximum turbidity value is a value (not to exceed 5 NTU) to be determined by the Agency, by a SEP issued pursuant to Section 611.110, based on the demonstration described in subsection (c) of this Section.

c) Requirements for alternative filtration systems.

1) If your system consists of alternative filtration (filtration other than slow sand filtration, diatomaceous earth filtration, conventional filtration, or direct filtration) you are required to conduct a demonstration (see tables in subsection (b) of this Section). Your system must demonstrate to the Agency, using pilot plant studies or other means, that your system's filtration, in combination with disinfection treatment, consistently achieves:

A) 99 percent removal of Cryptosporidium oocysts;

B) 99.9 percent removal and/or inactivation of Giardia lamblia cysts; and

C) 99.99 percent removal and/or inactivation of viruses.

2) This subsection (c)(2) corresponds with 40 CFR 141.552(b), which USEPA has designated as "reserved." This statement maintains structural correspondence with the corresponding federal regulation.

d) Requirements for lime-softening systems. If your system practices lime softening, you may acidify representative combined filter effluent turbidity samples prior to analysis using a protocol approved by the Agency.

BOARD NOTE: This Section is derived from 40 CFR 141.550 through 141.553, as added at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Added at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 611.956 Individual Filter Turbidity Requirements

a) Applicability. A Subpart B system supplier that serves fewer than 10,000 people and utilizing conventional filtration or direct filtration must conduct continuous monitoring of turbidity for each individual filter at your system. The following requirements apply to continuous turbidity monitoring:

1) Monitoring must be conducted using an approved method in Section 611.231;

- 2) Calibration of turbidimeters must be conducted using procedures specified by the manufacturer;
  - 3) Results of turbidity monitoring must be recorded at least every 15 minutes;
  - 4) Monthly reporting must be completed according to Section 611.957(a); and
  - 5) Records must be maintained according to Section 611.957(b).
- b) Failure of turbidity monitoring equipment. If there is a failure in the continuous turbidity monitoring equipment, your system must conduct grab sampling every four hours in lieu of continuous monitoring until the turbidimeter is back on-line. Your system has 14 days to resume continuous monitoring before a violation is incurred.
- c) Special requirements for systems with two or fewer filters. Yes, if your system only consists of two or fewer filters, you may conduct continuous monitoring of combined filter effluent turbidity in lieu of individual filter effluent turbidity monitoring. Continuous monitoring must meet the same requirements set forth in subsections (a)(1) through (a)(4) and (b) of this Section.
- d) Follow-up action. Follow-up action is required according to the following requirements:
- 1) If the turbidity of an individual filter (or the turbidity of combined filter effluent (CFE) for a system with 2 filters that monitor CFE in lieu of individual filters) exceeds 1.0 NTU in two consecutive recordings 15 minutes apart, the supplier must report to the Agency by the 10th of the following month and include the filter numbers, corresponding dates, turbidity values which exceeded 1.0 NTU, and the cause (if known) for the exceedances.
  - 2) If a supplier was required to report to the Agency for three months in a row and turbidity exceeded 1.0 NTU in two consecutive recordings 15 minutes apart at the same filter (or CFE for systems with 2 filters that monitor CFE in lieu of individual filters), the supplier must conduct a self-assessment of the filters within 14 days of the day on which the filter exceeded 1.0 NTU in two consecutive measurements for the third straight month unless a CPE as specified in subsection (c) of this Section was required. A supplier that has a system with 2 filters which monitor CFE in lieu of individual filters must conduct a self assessment on both filters. The self-assessment must consist of at least the following components: assessment of filter performance, development of a filter

profile, identification and prioritization of factors limiting filter performance, assessment of the applicability of corrections, and preparation of a filter self-assessment report. If a self-assessment is required, the date that it was triggered and the date that it was completed.

3) If a supplier was required to report to the Agency for two months in a row and turbidity exceeded 2.0 BTU in 2 consecutive recordings 15 minutes apart at the same filter (or CFE for systems with 2 filters that monitor CFE in lieu of individual filters), the supplier must arrange to have a comprehensive performance evaluation (CPE) conducted by the Agency or a third party approved by the Agency not later than 60 days following the day the filter exceeded 2.0 NTU in two consecutive measurements for the second straight month. If a CPE has been completed by the Agency or a third party approved by the Agency within the 12 prior months or the system and Agency are jointly participating in an ongoing comprehensive technical assistance (CTA) project at the system, a new CPE is not required. If conducted, a CPE must be completed and submitted to the Agency no later than 120 days following the day the filter exceeded 2.0 NTU in two consecutive measurements for the second straight month.

e) Special individual filter monitoring for a lime-softening system. If your system utilizes lime softening, you may apply to the Agency for alternative turbidity exceedance levels for the levels specified in the table in subsection (d) of this Section. You must be able to demonstrate to the Agency that higher turbidity levels are due to lime carryover only, and not due to degraded filter performance.

BOARD NOTE: This Section is derived from 40 CFR 141.560 through 141.564, as added at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Added at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 611.957 Reporting and Recordkeeping Requirements

a) Reporting. This Subpart X requires a supplier to report several items to the Agency. Subsections (a)(1) through (a)(4) of this Section describe the items that must be reported and the frequency of reporting. (The supplier is required to report the information described in subsections (a)(1) through (a)(4) of this Section, if it is subject to the specific requirement indicated.)

1) If a supplier is subject to the combined filter effluent requirements (Section 611.955), it must report as follows:

- A) The total number of filtered water turbidity measurements taken during the month, by the 10th of the following month.
  - B) The number and percentage of filtered water turbidity measurements taken during the month that are less than or equal to the supplier's required 95th percentile limit, by the 10th of the following month.
  - C) The date and value of any turbidity measurements taken during the month that exceed the maximum turbidity value for your filtration system, by the 10th of the following month.
- 2) If the supplier is subject to the individual turbidity requirements (Section 611.956), it must report as follows:
- A) The fact that the supplier's system conducted individual filter turbidity monitoring during the month, by the 10th of the following month.
  - B) The filter numbers, corresponding dates, and the turbidity values that exceeded 1.0 NTU during the month, by the 10th of the following month, but only if 2 consecutive measurements exceeded 1.0 NTU.
  - C) If a self-assessment is required, the date that it was triggered and the date that it was completed, by the 10th of the following month (or 14 days after the self-assessment was triggered only if the self-assessment was triggered during the last four days of the month).
  - D) If a CPE is required, the fact that the CPE is required and the date that it was triggered, by the 10th of the following month.
  - E) A copy of completed CPE report, within 120 days after the CPE was triggered.
- 3) If the supplier is subject to the disinfection profiling (Section 611.953), it must report results of optional monitoring that show TTHM levels 0.064 mg/L and HAA5 levels 0.048 mg/L (only if the supplier wishes to forgo profiling) or that the supplier has begun disinfection profiling, as follows:
- A) For a supplier that serves 500-9,999 persons, by July 1, 2003; or
  - B) For a supplier that serves fewer than 500 persons, by January 1,

2004.

- 4) If the supplier is subject to the disinfection benchmarking (Section 611.954), it must report a description of the proposed change in disinfection, its system’s disinfection profile for Giardia lamblia (and, if necessary, viruses) and disinfection benchmark, and an analysis of how the proposed change will affect the current levels of disinfection, anytime the supplier is considering a significant change to its disinfection practice.
  
- b) Recordkeeping. A supplier must keep several types of records based on the requirements of this Subpart X, in addition to recordkeeping requirements under Sections 611.261 and 611.262. Subsections (b)(1) through (b)(3) describe the necessary records, the length of time these records must be kept, and for which requirement the records pertain. (The supplier is required to maintain records described in subsections (b)(1) through (b)(3) of this Section, if it is subject to the specific requirement indicated.)
  - 1) If the supplier is subject to the individual filter turbidity requirements (Section 611.956), it must retain as necessary records the results of individual filter monitoring for at least 3 years.
  - 2) If the supplier is subject to disinfection profiling (Section 611.953), it must retain as necessary records the results of its disinfection profile (including raw data and analysis) indefinitely.
  - 3) If the supplier is subject to disinfection benchmarking (Section 611.954), it must retain as necessary records its disinfection benchmark (including raw data and analysis) indefinitely.

BOARD NOTE: This Section is derived from 40 CFR 141.570 and 141.571, as added at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Added at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 611.Appendix G NPDWR Violations and Situations Requiring Public Notice

See note 1 at the end of this Appendix for an explanation of the Agency’s authority to alter the magnitude of a violation from that set forth in the following table.

	MCL/MRDL/TT violations <sup>2</sup>		Monitoring & testing procedure violations	
Contaminant	Tier of public	Citation	Tier of public	Citation

	notice required		notice required	
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I. Violations of National Primary Drinking Water Regulations (NPDWR):<sup>3</sup>

A. Microbiological Contaminants

1. Total coliform	2	611.325(a)	3	611.521- 611.525
2. Fecal coliform/E. coli	1	611.325(b)	<sup>4</sup> 1, 3	611.525
3. Turbidity MCL	2	611.320(a)	3	611.560
4. Turbidity MCL (average of two days' samples > 5 NTU)	<sup>5</sup> 2, 1	611.320(b)	3	611.560
5. Turbidity (for TT violations resulting from a single exceedence of maximum allowable turbidity level)	<sup>6</sup> 2, 1	611.231(b), 611.233(b)(1), 611.250(a)(2), 611.250(b)(2), 611.250(c)(2), 611.250(d), 611.743(a)(2), 611.743(b) <sub>2</sub> , 611.955(b)(2)	3	611.531(a), 611.532(b), 611.533(a), 611.744, <sub>2</sub> <u>611.956(a)(1)- (a)(3),</u> <u>611.956(b)</u>
6. Surface Water Treatment Rule violations, other than violations resulting from single exceedence of max. allowable turbidity level (TT)	2	611.211, 611.213, 611.220, 611.230- 611.233, 611.240- 611.242, 611.250	3	611.531- 611.533
7. Interim Enhanced Surface Water Treatment Rule violations, other than violations resulting from single exceedence of max. turbidity level (TT)	2	<sup>7</sup> 611.740- 611.743, <sub>2</sub> <u>611.950-</u> <u>611.955</u>	3	611.742, 611.744, <sub>2</sub> <u>611.953,</u> <u>611.954,</u> <u>611.956</u>
8. Filter Backwash Recycling Rule violations	2	611.276	3	611.276
9. Long Term 1 Enhanced Surface Water Treatment Rule violations	<u>2</u>	<u>611.950-</u> <u>611.955</u>	<u>3</u>	<u>611.953,</u> <u>611.954,</u> <u>611.956</u>



## B. Inorganic Chemicals (IOCs)

1. Antimony	2	611.301(b)	3	611.600, 611.601, 611.603
2. Arsenic	2	<sup>10</sup> 611.301(b)	3	<sup>9</sup> 611.601, 611.612(a), 611.612(b)
3. Asbestos (fibers > 10 m)	2	611.301(b)	3	611.600, 611.601, 611.602
4. Barium	2	611.301(b)	3	611.600, 611.601, 611.603
5. Beryllium	2	611.301(b)	3	611.600, 611.601, 611.603
6. Cadmium	2	611.301(b)	3	611.600, 611.601, 611.603
7. Chromium (total)	2	611.301(b)	3	611.600, 611.601, 611.603
8. Cyanide	2	611.301(b)	3	611.600, 611.601, 611.603
9. Fluoride	2	611.301(b)	3	611.600, 611.601, 611.603
10. Mercury (inorganic)	2	611.301(b)	3	611.600, 611.601, 611.603
11. Nitrate	1	611.301(b)	<sup>10</sup> 1, 3	611.600, 611.601, 611.604, 611.606
12. Nitrite	1	611.301(b)	<sup>10</sup> 1, 3	611.600, 611.601, 611.605, 611.606
13. Total Nitrate and Nitrite	1	611.301(b)	3	611.600, 611.601
14. Selenium	2	611.301(b)	3	611.600, 611.601, 611.603

15. Thallium	2	611.301(b)	3	611.600, 611.601, 611.603
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C. Lead and Copper Rule (Action Level for lead is 0.015 mg/L, for copper is 1.3 mg/L)

1. Lead and Copper Rule (TT)	2	611.350- 611.355	3	611.356- 611.359
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D. Synthetic Organic Chemicals (SOCs)

1. 2,4-D	2	611.310(c)	3	611.648
2. 2,4,5-TP (silvex)	2	611.310(c)	3	611.648
3. Alachlor	2	611.310(c)	3	611.648
4. Atrazine	2	611.310(c)	3	611.648
5. Benzo(a)pyrene (PAHs)	2	611.310(c)	3	611.648
6. Carbofuran	2	611.310(c)	3	611.648
7. Chlordane	2	611.310(c)	3	611.648
8. Dalapon	2	611.310(c)	3	611.648
9. Di(2-ethylhexyl)adipate	2	611.310(c)	3	611.648
10. Di(2-ethylhexyl)phthalate	2	611.310(c)	3	611.648
11. Dibromochloropropane (DBCP)	2	611.310(c)	3	611.648
12. Dinoseb	2	611.310(c)	3	611.648
13. Dioxin (2,3,7,8-TCDD)	2	611.310(c)	3	611.648
14. Diquat	2	611.310(c)	3	611.648
15. Endothall	2	611.310(c)	3	611.648
16. Endrin	2	611.310(c)	3	611.648
17. Ethylene dibromide	2	611.310(c)	3	611.648
18. Glyphosate	2	611.310(c)	3	611.648
19. Heptachlor	2	611.310(c)	3	611.648
20. Heptachlor epoxide	2	611.310(c)	3	611.648
21. Hexachlorobenzene	2	611.310(c)	3	611.648
22. Hexachlorocyclopentadiene	2	611.310(c)	3	611.648
23. Lindane	2	611.310(c)	3	611.648
24. Methoxychlor	2	611.310(c)	3	611.648
25. Oxamyl (Vydate)	2	611.310(c)	3	611.648
26. Pentachlorophenol	2	611.310(c)	3	611.648
27. Picloram	2	611.310(c)	3	611.648
28. Polychlorinated biphenyls (PCBs)	2	611.310(c)	3	611.648
29. Simazine	2	611.310(c)	3	611.648
30. Toxaphene	2	611.310(c)	3	611.648

## E. Volatile Organic Chemicals (VOCs)

1. Benzene	2	611.310(a)	3	611.646
2. Carbon tetrachloride	2	611.310(a)	3	611.646
3. Chlorobenzene (monochlorobenzene)	2	611.310(a)	3	611.646
4. o-Dichlorobenzene	2	611.310(a)	3	611.646
5. p-Dichlorobenzene	2	611.310(a)	3	611.646
6. 1,2-Dichloroethane	2	611.310(a)	3	611.646
7. 1,1-Dichloroethylene	2	611.310(a)	3	611.646
8. cis-1,2-Dichloroethylene	2	611.310(a)	3	611.646
9. trans-1,2-Dichloroethylene	2	611.310(a)	3	611.646
10. Dichloromethane	2	611.310(a)	3	611.646
11. 1,2-Dichloropropane	2	611.310(a)	3	611.646
12. Ethylbenzene	2	611.310(a)	3	611.646
13. Styrene	2	611.310(a)	3	611.646
14. Tetrachloroethylene	2	611.310(a)	3	611.646
15. Toluene	2	611.310(a)	3	611.646
16. 1,2,4-Trichlorobenzene	2	611.310(a)	3	611.646
17. 1,1,1-Trichloroethane	2	611.310(a)	3	611.646
18. 1,1,2-Trichloroethane	2	611.310(a)	3	611.646
19. Trichloroethylene	2	611.310(a)	3	611.646
20. Vinyl chloride	2	611.310(a)	3	611.646
21. Xylenes (total)	2	611.310(a)	3	611.646

## F. Radioactive Contaminants

1. Beta/photon emitters	2	611.330(d)	3	611.720(a), 611.732
2. Alpha emitters	2	611.330(c)	3	611.720(a), 611.731
3. Combined radium (226 & 228)	2	611.330(b)	3	611.720(a), 611.731
4. Uranium	<sup>11</sup> 2	611.330(e)	<sup>12</sup> 3	611.720(a), 611.731

G. Disinfection Byproducts (DBPs), Byproduct Precursors, Disinfectant Residuals. Where disinfection is used in the treatment of drinking water, disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBPs). USEPA sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes (THMs) and haloacetic acids (HAAs).<sup>13</sup>

1. Total trihalomethanes (TTHMs)	2	<sup>14</sup> 611.310, 611.312(a)	3	611.680- 611.688, 611.382(a)-(b)
2. Haloacetic Acids (HAA5)	2	611.312(a)	3	611.382(a)-(b)

3. Bromate	2	611.312(a)	3	611.382(a)-(b)
4. Chlorite	2	611.312(a)	3	611.382(a)-(b)
5. Chlorine (MRDL)	2	611.313(a)	3	611.382(a), (c)
6. Chloramine (MRDL)	2	611.313(a)	3	611.382(a), (c)
7. Chlorine dioxide (MRDL), where any two consecutive daily samples at entrance to distribution system only are above MRDL	2	611.313(a), 611.383(c)(3)	2 <sup>15</sup> , 3	611.382(a), (c), 611.383(c)(2)
8. Chlorine dioxide (MRDL), where samples in distribution system the next day are also above MRDL	<sup>16</sup> 1	611.313(a), 611.383(c)(3)	1	611.382(a), (c), 611.383(c)(2)
9. Control of DBP precursors--TOC (TT)	2	611.385(a)-(b)	3	611.382(a), (d)
10. Benchmarking and disinfection profiling	N/A	N/A	3	611.742, <u>611.953</u> , <u>611.954</u>
11. Development of monitoring plan	N/A	N/A	3	611.382(f)

#### H. Other Treatment Techniques

1. Acrylamide (TT)	2	611.296	N/A	N/A
2. Epichlorohydrin (TT)	2	611.296	N/A	N/A

#### II. Unregulated Contaminant Monitoring: <sup>17</sup>

A. Unregulated contaminants	N/A	N/A	3	611.510
B. Nickel	N/A	N/A	3	611.603, 611.611

#### III. Public Notification for Relief Equivalent to a SDWA Section 1415 Variance or a Section 1416 Exemption:

A. Operation under relief equivalent to a SDWA section 1415 variance or a section 1416 exemption	3	<sup>18</sup> 1415, 1416	N/A	N/A
B. Violation of conditions of relief equivalent to a SDWA section 1415 variance or a section 1416 exemption	2	1415, 1416, <sup>19</sup> 611.111, 611.112	N/A	N/A

## IV. Other Situations Requiring Public Notification:

A. Fluoride secondary maximum contaminant level (SMCL) exceedence	3	611.858	N/A	N/A
B. Exceedence of nitrate MCL for a non-CWS supplier, as allowed by the Agency	1	611.300(d)	N/A	N/A
C. Availability of unregulated contaminant monitoring data	3	611.510	N/A	N/A
D. Waterborne disease outbreak	1	611.101, 611.233(b)(2)	N/A	N/A
E. Other waterborne emergency <sup>20</sup>	1	N/A	N/A	N/A
F. Other situations as determined by the Agency by an SEP issued pursuant to Section 611.110	1, 2, 3	N/A	N/A	N/A

## Appendix G--Endnotes

- Violations and other situations not listed in this table (e.g., reporting violations and failure to prepare Consumer Confidence Reports) do not require notice, unless otherwise determined by the Agency by an SEP issued pursuant to Section 611.110. The Agency may, by an SEP issued pursuant to Section 611.110, further require a more stringent public notice tier (e.g., Tier 1 instead of Tier 2 or Tier 2 instead of Tier 3) for specific violations and situations listed in this Appendix, as authorized under Sections 611.902(a) and 611.903(a).
- Definition of the abbreviations used: “MCL” means maximum contaminant level, “MRDL” means maximum residual disinfectant level, and “TT” means treatment technique.
- The term “violations of National Primary Drinking Water Regulations (NPDWR)” is used here to include violations of MCL, MRDL, treatment technique, monitoring, and testing procedure requirements.
- Failure to test for fecal coliform or E. coli is a Tier 1 violation if testing is not done after any repeat sample tests positive for coliform. All other total coliform monitoring and testing procedure violations are Tier 3 violations.
- A supplier that violates the turbidity MCL of 5 NTU based on an average of measurements over two consecutive days must consult with the Agency within 24 hours after learning of the violation. Based on this consultation, the Agency may subsequently decide to issue an SEP pursuant to Section 611.110 that elevates the violation to a Tier 1 violation. If a supplier is unable to make contact with the Agency in the 24-hour period, the violation is automatically elevated to a Tier 1 violation.

6. A supplier with a treatment technique violation involving a single exceedence of a maximum turbidity limit under the Surface Water Treatment Rule (SWTR), ~~or the Interim Enhanced Surface Water Treatment Rule (IESWTR)~~, or the Long Term 1 Enhanced Surface Water Treatment Rule are required to consult with the Agency within 24 hours after learning of the violation. Based on this consultation, the Agency may subsequently decide to issue an SEP pursuant to Section 611.110 that elevates the violation to a Tier 1 violation. If a supplier is unable to make contact with the Agency in the 24-hour period, the violation is automatically elevated to a Tier 1 violation.

7. Most of the requirements of the Interim Enhanced Surface Water Treatment Rule (63 Fed. Reg. 69477 (December 16, 1998)) (Sections 611.740-611.741, 611.743-611.744) become effective January 1, 2002 for a Subpart B supplier (surface water systems and groundwater systems under the direct influence of surface water) that serves at least 10,000 persons. However, Section 611.742 is currently effective. The Surface Water Treatment Rule (SWTR) remains in effect for a supplier serving at least 10,000 persons even after 2002; the Interim Enhanced Surface Water Treatment Rule adds additional requirements and does not in many cases supercede the SWTR.

8. The arsenic MCL citations are effective January 23, 2006. Until then, the citations are Sections 611.330(b) and 611.612(c).

9. The arsenic Tier 3 violation MCL citations are effective January 23, 2006. Until then, the citations are Sections 611.100, 611.101, and 611.612.

10. Failure to take a confirmation sample within 24 hours for nitrate or nitrite after an initial sample exceeds the MCL is a Tier 1 violation. Other monitoring violations for nitrate are Tier 3.

11. The uranium MCL Tier 2 violation citations are effective December 8, 2003 for a CWS supplier.

12. The uranium Tier 3 violation citations are effective December 8, 2000 for a CWS supplier.

13. A Subpart B community or non-transient non-community system supplier that serves 10,000 persons or more must comply with new DBP MCLs, disinfectant MRDLs, and related monitoring requirements beginning January 1, 2002. All other community and non-transient non-community systems must meet the MCLs and MRDLs beginning January 1, 2004. A Subpart B transient non-community system supplier serving 10,000 or more persons that uses chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2002. A Subpart B transient non-community system supplier that serves fewer than 10,000 persons, which uses only groundwater not under the direct influence of surface water, and which uses chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2004.

14. Section 611.310 will no longer apply after January 1, 2004.

15. Failure to monitor for chlorine dioxide at the entrance to the distribution system the day after exceeding the MRDL at the entrance to the distribution system is a Tier 2 violation.

16. If any daily sample taken at the entrance to the distribution system exceeds the MRDL for chlorine dioxide and one or more samples taken in the distribution system the next day exceed the MRDL, Tier 1 notification is required. A failure to take the required samples in the distribution system after the MRDL is exceeded at the entry point also triggers Tier 1 notification.

17. Some water suppliers must monitor for certain unregulated contaminants listed in Section 611.510.

18. This citation refers to sections 1415 and 1416 of the federal Safe Drinking Water Act. sections 1415 and 1416 require that “a schedule prescribed . . . for a public water system granted relief equivalent to a SDWA section 1415 variance or a section 1416 exemption must require compliance by the system . . . .”

19. In addition to sections 1415 and 1416 of the federal Safe Drinking Water Act, 40 CFR 142.307 specifies the items and schedule milestones that must be included in relief equivalent to a SDWA section 1415 small system variance. In granting any form of relief from an NPDWR, the Board will consider all applicable federal requirements for and limitations on the State’s ability to grant relief consistent with federal law.

20. Other waterborne emergencies require a Tier 1 public notice under Section 611.902(a) for situations that do not meet the definition of a waterborne disease outbreak given in Section 611.101, but which still have the potential to have serious adverse effects on health as a result of short-term exposure. These could include outbreaks not related to treatment deficiencies, as well as situations that have the potential to cause outbreaks, such as failures or significant interruption in water treatment processes, natural disasters that disrupt the water supply or distribution system, chemical spills, or unexpected loading of possible pathogens into the source water.

BOARD NOTE: Derived from Appendix A to Subpart Q to 40 CFR 141-~~(2000)~~ (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

## Section 611.Appendix H Standard Health Effects Language for Public Notification

Contaminant	MCLG <sup>1</sup> mg/L	MCL <sup>2</sup> mg/L	Standard health effects language for public notification
National Primary Drinking Water Regulations (NPDWR):			
A. Microbiological Contaminants			
1a. Total coliform	Zero	See footnote 3	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
1b. Fecal coliform/E. coli	Zero	Zero	Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
2a. Turbidity (MCL) <sup>4</sup>	None	1 NTU <sup>5</sup> /5 NTU	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.



2b. Turbidity (SWTR TT)	None	TT <sup>7</sup>	Turbidity has no health effects. However, <sup>6</sup> turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.
2c. Turbidity (IESWTR TT and LT1ESWTR TT)	None	TT	Turbidity has no health effects. However, <sup>8</sup> turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.
<b>B. Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR) violations, Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR), and Filter Backwash Recycling Rule (FBRR) violations:</b>			
3. Giardia lamblia (SWTR/IESWTR/LT1ESWTR)	Zero	TT <sup>10</sup>	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
4. Viruses (SWTR/IESWTR/LT1ESWTR)			<u>Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.</u>

5. Heterotrophic plate count (HPC) bacteria <sup>9</sup> (SWTR/IESWTR/ LT1ESWTR)			<u>Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.</u>
6. Legionella (SWTR/IESWTR/ LT1ESWTR)			<u>Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.</u>
7. Cryptosporidium (IESWTR/FBRR/ LT1ESWTR)			<u>Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.</u>
<b>C. Inorganic Chemicals (IOCs)</b>			
8. Antimony	0.006	0.006	Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.
9. Arsenic <sup>11</sup>	0	0.01	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
10. Asbestos (10 μm)	7 MFL <sup>12</sup>	7 MFL	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.

11. Barium	2	2	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
12. Beryllium	0.004	0.004	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
13. Cadmium	0.005	0.005	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
14. Chromium (total)	0.1	0.1	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
15. Cyanide	0.2	0.2	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
16. Fluoride	4.0	4.0	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
17. Mercury (inorganic)	0.002	0.002	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

18. Nitrate	10	10	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
19. Nitrite	1	1	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
20. Total Nitrate and Nitrite	10	10	Infants below the age of six months who drink water containing nitrate and nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
21. Selenium	0.05	0.05	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
22. Thallium	0.0005	0.002	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

D. Lead and Copper Rule			
23. Lead	Zero	TT <sup>13</sup>	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
24. Copper	1.3	TT <sup>14</sup>	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
E. Synthetic Organic Chemicals (SOCs)			
25. 2,4-D	0.07	0.07	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
26. 2,4,5-TP (silvex)	0.05	0.05	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
27. Alachlor	Zero	0.002	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.

28. Atrazine	0.003	0.003	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
29. Benzo(a)pyrene (PAHs).	Zero	0.0002	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
30. Carbofuran	0.04	0.04	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.
31. Chlordane	Zero	0.002	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
32. Dalapon	0.2	0.2	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
33. Di(2-ethylhexyl)adipate	0.4	0.4	Some people who drink water containing di(2-ethylhexyl)adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.
34. Di(2-ethylhexyl)-phthalate	Zero	0.006	Some people who drink water containing di(2-ethylhexyl)-phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.

35. Dibromochloropropane (DBCP)	Zero	0.0002	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
36. Dinoseb	0.007	0.007	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
37. Dioxin (2,3,7,8-TCDD)	Zero	$3 \times 10^{-8}$	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
38. Diquat	0.02	0.02	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
39. Endothall	0.1	0.1	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
40. Endrin	0.002	0.002	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
41. Ethylene dibromide	Zero	0.00005	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
42. Glyphosate	0.7	0.7	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.

43. Heptachlor	Zero	0.0004	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
44. Heptachlor epoxide	Zero	0.0002	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
45. Hexachlorobenzene	Zero	0.001	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.
46. Hexachlorocyclopentadiene	0.05	0.05	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
47. Lindane	0.0002	0.0002	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
48. Methoxychlor	0.04	0.04	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
49. Oxamyl (Vydate)	0.2	0.2	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.



50. Pentachlorophenol	Zero	0.001	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
51. Picloram	0.5	0.5	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
52. Polychlorinated biphenyls (PCBs)	Zero	0.0005	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
53. Simazine	0.004	0.004	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
54. Toxaphene	Zero	0.003	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.
F. Volatile Organic Chemicals (VOCs)			
55. Benzene	Zero	0.005	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.

56. Carbon tetrachloride	Zero	0.005	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
57. Chlorobenzene (monochlorobenzene)	0.1	0.1	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
58. o-Dichlorobenzene	0.6	0.6	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
59. p-Dichlorobenzene	0.075	0.075	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
60. 1,2-Dichloroethane	Zero	0.005	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
61. 1,1-Dichloroethylene	0.007	0.007	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
62. cis-1,2-Dichloroethylene	0.07	0.07	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
63. trans-1,2-Dichloroethylene	0.1	0.1	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.

64. Dichloromethane	Zero	0.005	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
65. 1,2-Dichloropropane	Zero	0.005	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
66. Ethylbenzene	0.7	0.7	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
67. Styrene	0.1	0.1	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
68. Tetrachloroethylene	Zero	0.005	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
69. Toluene	1	1	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
70. 1,2,4-Trichlorobenzene	0.07	0.07	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
71. 1,1,1-Trichloroethane	0.2	0.2	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.

72. 1,1,2-Trichloroethane	0.003	0.005	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
73. Trichloroethylene	Zero	0.005	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
74. Vinyl chloride	Zero	0.002	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
75. Xylenes (total)	10	10	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
<b>G. Radioactive Contaminants</b>			
76. Beta/photon emitters	Zero	4 mrem/yr <sup>15</sup>	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
77. Alpha emitters	Zero	15 pCi/L <sup>16</sup>	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
78. Combined radium (226 & 228)	Zero	5 pCi/L	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

79. Uranium <sup>17</sup>	Zero	30 µg/L	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
H. Disinfection Byproducts (DBPs), Byproduct Precursors, and Disinfectant Residuals: Where disinfection is used in the treatment of drinking water, disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBPs). USEPA sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes (THMs) and haloacetic acids (HAA5) <sup>18</sup>			
80. Total trihalomethanes (TTHMs)	N/A	0.10/0.080 <sup>19</sup> <sub>20</sub>	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.
81. Haloacetic Acids (HAA5)	N/A	0.060 <sup>21</sup>	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
82. Bromate	Zero	0.010	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
83. Chlorite	0.08	1.0	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
84. Chlorine	4 (MRDLG) <sub>22</sub>	4.0 (MRDL) <sub>23</sub>	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

85. Chloramines	4 (MRDLG)	4.0 (MRDL)	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
85a. Chlorine dioxide, where any two consecutive daily samples taken at the entrance to the distribution system are above the MRDL	0.8 (MRDLG)	0.8 (MRDL)	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia. Add for public notification only: The chlorine dioxide violations reported today are the result of exceedences at the treatment facility only, not within the distribution system that delivers water to consumers. Continued compliance with chlorine dioxide levels within the distribution system minimizes the potential risk of these violations to consumers.
86a. Chlorine dioxide, where one or more distribution system samples are above the MRDL	0.8 (MRDLG)	0.8 (MRDL)	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.

			<p>Add for public notification only:  The chlorine dioxide violations reported today include exceedences of the USEPA standard within the distribution system that delivers water to consumers. Violations of the chlorine dioxide standard within the distribution system may harm human health based on short-term exposures. Certain groups, including fetuses, infants, and young children, may be especially susceptible to nervous system effects from excessive chlorine dioxide exposure.</p>
87. Control of DBP precursors (TOC)	None	TT	<p>Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.</p>
<b>I. Other Treatment Techniques:</b>			
88. Acrylamide	Zero	TT	<p>Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.</p>
89. Epichlorohydrin	Zero	TT	<p>Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.</p>

## Appendix H--Endnotes

1. "MCLG" means maximum contaminant level goal.
2. "MCL" means maximum contaminant level.
3. For a water supplier analyzing at least 40 samples per month, no more than 5.0 percent of the monthly samples may be positive for total coliforms. For a supplier analyzing fewer than 40 samples per month, no more than one sample per month may be positive for total coliforms.
4. There are various regulations that set turbidity standards for different types of systems, including Section 611.320, the 1989 Surface Water Treatment Rule, ~~and~~ the 1998 Interim Enhanced Surface Water Treatment Rule, and the 2002 Long Term 1 Enhanced Surface Water Treatment Rule. The MCL for the monthly turbidity average is 1 NTU; the MCL for the 2-day average is 5 NTU for a supplier that is required to filter but has not yet installed filtration (Section 611.320).
5. "NTU" means nephelometric turbidity unit.
6. There are various regulations that set turbidity standards for different types of systems, including Section 611.320, the 1989 Surface Water Treatment Rule (SWTR), ~~and~~ the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR), and the 2002 Long Term 1 Enhanced Surface Water Treatment Rule. A supplier subject to the Surface Water Treatment Rule (both filtered and unfiltered) may not exceed 5 NTU. In addition, in filtered systems, 95 percent of samples each month must not exceed 0.5 NTU in systems using conventional or direct filtration and must not exceed 1 NTU in systems using slow sand or diatomaceous earth filtration or other filtration technologies approved by the Agency.
7. "TT" means treatment technique.
8. There are various regulations that set turbidity standards for different types of systems, including Section 611.320, the 1989 Surface Water Treatment Rule (SWTR), ~~and~~ the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR), and the 2002 Long Term 1 Enhanced Surface Water Treatment Rule. For a supplier subject to the IESWTR (systems serving at least 10,000 people, using surface water or groundwater under the direct influence of surface water), that use conventional filtration or direct filtration, after January 1, 2002, the turbidity level of a system's combined filter effluent may not exceed 0.3 NTU in at least 95 percent of monthly measurements, and the turbidity level of a system's combined filter effluent must not exceed 1 NTU at any time. A supplier subject to the IESWTR using technologies other than conventional, direct, slow sand, or diatomaceous earth filtration must meet turbidity limits set by the Agency. For a supplier subject to the LT1ESWTR (a supplier that serves fewer than 10,000 people, using surface water or ground water under the direct influence of surface water) that uses conventional filtration or direct filtration, after January 14, 2005, the turbidity level of the supplier's combined filter effluent may not exceed 0.3 NTU in at least 95 percent of monthly measurements, and the turbidity level of the supplier's combined filter



effluent must not exceed 1 NTU at any time. A supplier subject to the LT1ESWTR using technologies other than conventional, direct, slow sand, or diatomaceous earth filtration must meet turbidity limits set by the Agency.

9. The bacteria detected by heterotrophic plate count (HPC) are not necessarily harmful. HPC is simply an alternative method of determining disinfectant residual levels. The number of such bacteria is an indicator of whether there is enough disinfectant in the distribution system.

10. SWTR, and IESWTR, and LT1ESWTR treatment technique violations that involve turbidity exceedences may use the health effects language for turbidity instead.

11. These arsenic values are effective January 23, 2006. Until then, the MCL is 0.05 mg/L and there is no MCLG.

12. Millions of fibers per liter.

13. Action Level = 0.015 mg/L.

14. Action Level = 1.3 mg/L.

15. Millirems per year.

16. Picocuries per liter.

17. The uranium MCL is effective December 8, 2003 for all community water systems.

18. A surface water system supplier or a groundwater system supplier under the direct influence of surface water is regulated under Subpart B of this Part. A Subpart B community water system supplier or a non-transient non-community system supplier that serves 10,000 or more persons must comply with DBP MCLs and disinfectant maximum residual disinfectant levels (MRDLs) beginning January 1, 2002. All other community and non-transient non-community system suppliers must meet the MCLs and MRDLs beginning January 1, 2004. Subpart B transient non-community system suppliers serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2002. Subpart B transient non-community system suppliers serving fewer than 10,000 persons and systems using only groundwater not under the direct influence of surface water and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2004.

19. The MCL of 0.10 mg/L for TTHMs is in effect until January 1, 2002 for a Subpart B community water system supplier serving 10,000 or more persons. This MCL is in effect until January 1, 2004 for community water systems with a population of 10,000 or more using only groundwater not under the direct influence of surface water. After these deadlines, the MCL will be 0.080 mg/L. On January 1, 2004, a supplier serving fewer than 10,000 will have to comply with the new MCL as well.

20. The MCL for total trihalomethanes is the sum of the concentrations of the individual trihalomethanes.

21. The MCL for haloacetic acids is the sum of the concentrations of the individual haloacetic acids.

22. "MRDLG" means maximum residual disinfectant level goal.

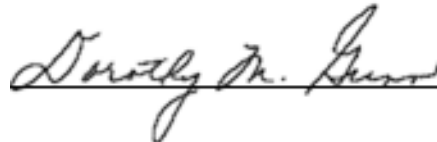
23. "MRDL" means maximum residual disinfectant level.

~~BOARD NOTE: Derived from Appendix B to Subpart Q to 40 CFR 141 (2000), as amended at 65 Fed. Reg. 76751 (December 7, 2000), effective December 8, 2003, and at 66 Fed. Reg. 6976 (January 22, 2001).~~

BOARD NOTE: Derived from Appendix B to Subpart Q to 40 CFR 141-(2000), as amended at 66 Fed. Reg. 6976 (January 22, 2001) (2001), as amended at 67 Fed. Reg. 1812 (January 14, 2002).

(Source: Amended at 26 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, certify that the above opinion and order was adopted on September 5, 2002, by a vote of 7-0.



Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board