ILLINOIS POLLUTION CONTROL BOARD
October 5, 2006

IN THE MATTER OF:	)	
	)	
SDWA UPDATE, USEPA AMENDMENTS	)	R06-15
(July 1, 2005 though December 31, 2005)	)	(Identical-in-Substance
	)	Rulemaking - Public Water Supply)

Adopted Rule. Final Order.

OPINION AND ORDER OF THE BOARD (by T.E. Johnson):

The Board today adopts 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) (2002)).

This docket includes federal SDWA amendments that USEPA adopted in the period July 1, 2005 through December 31, 2005. The amendments incorporate into the Illinois regulations the federal Cross-Media Electronic Reporting Rule (CROMERR), which establishes minimum federal standards for the filing and acceptance of electronic documents.

Sections 7.2 and 17.5 of the Environmental Protection Act (Act) (415 ILCS 5/7.2 and 17.5 (2004)) 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 (2004)) 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 Board will file the adopted amendments with the Office of the Secretary of State as soon as possible. A Notice of Adopted Amendment will then appear in the *Illinois Register*.

FEDERAL ACTIONS CONSIDERED IN THIS RULEMAKING

This docket includes federal SDWA amendments that USEPA adopted in the period July 1, 2005 through December 31, 2005. USEPA adopted a single set of amendments during that period that affected the SDWA primary drinking water regulations. The following briefly summarizes that federal action that is considered in this rulemaking.

October 13, 2005 (70 Fed. Reg. 59848)

USEPA adopted new requirements for the filing and receipt of required documents as electronic documents. The filings included are all documents whose filing is provided by the primary drinking water regulations.

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 identified no related USEPA actions since December 31, 2005, that further amend the SDWA rules in a way that affects the present amendments.[1]

When the Board observes an action outside the nominal timeframe of a docket that requires expedited consideration, the Board will expedite consideration of those amendments in the pending docket. 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.

No Other Federal Actions Having a Direct Impact on the Illinois SDWA (Drinking Water) Regulations

In addition to the amendments to the federal SDWA regulations, amendments to certain other federal regulations occasionally have an effect on the Illinois drinking water rules. Most notably, 35 Ill. Adm. Code 611.102 includes the incorporation of Appendices B and C of 40 C.F.R. 136 by reference. These are federal Clean Water Act methods for analysis of contaminants in water.

As of the date of this proposal for public comment, the Board has found no amendments to the pertinent segments of 40 C.F.R. 136 in the current update period. No Board action will be required at this time to update the version of 40 C.F.R. 136 incorporated by reference in to include the amendments.

PUBLIC COMMENTS

The Board adopted a proposal for public comment in this matter on July 20, 2006. A Notice of Proposed Amendments appeared in the August 4, 2006 issue of the *Illinois Register*. The public comment period ended after 45 days, on September 18, 2006. The Board received no comments on the proposed amendments. However, the Board did receive a copy of the amendments from the Joint Committee on Administrative Rules (JCAR) with corrections marked. The table that appears beginning on page 54 of this opinion indicate the changes made in response to the JCAR suggestions. The table on page 91 indicates revisions suggested by JCAR but not incorporated by the Board.

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[1] USEPA adopted major new rules on January 4, 2006 and January 5, 2006, and later corrected them, but those rules do not relate to the amendments of October 13, 2005, which are the sole subject of this docket.

DISCUSSION

The following discussion begins with a description of the amendments undertaken in direct response to the federal action involved in this proceeding. The discussion closes with a description of the miscellaneous amendments that are not directly derived from the federal action, but which the Board routinely includes in these update dockets as necessary.

Discussion of the Federal Action

Cross-Media Electronic Reporting Rule--Section 611.105

The USEPA action of October 13, 2005 (70 Fed. Reg. 59848) established the Cross-Media Electronic Reporting Rule. CROMERR sets standards for the submission of electronic documents in lieu of paper documents in various federal program areas.[2] CROMERR does not require the submission of documents in an electronic format. CROMERR does, however, impose requirements on documents that are submitted electronically and on the electronic document receiving systems used to receive them.

Generally, CROMERR requires that an electronic document bear a valid electronic signature that has "the same meaning and intention as would a handwritten signature" on a paper document for which the electronic document substitutes. Quoting 40 C.F.R. 3.3 (definition of "electronic signature"). CROMERR requires this for electronic submittals made directly to USEPA (*i.e.*, to USEPA's Central Data Exchange (CDX) or other USEPA-designated system). CROMERR also requires this of electronic document submissions to the states under authorized programs. *See* 40 C.F.R. 3.10, 3.2000(a)(2). CROMERR sets forth performance standards for electronic document receiving systems used by states under authorized programs. *See* 40 C.F.R. 3.2000(b). With CROMERR, USEPA chose to impose performance standards rather than require specific technologies, formats, or detailed procedural submission steps. *See* 70 Fed. Reg. 59852-53 (Oct. 13, 2005).

USEPA stated as follows in its introductory discussion of CROMERR:

> [US]EPA is establishing the framework by which it will accept electronic reports from regulated entities in satisfaction of certain document submission requirements in [US]EPA's regulations. [US]EPA will provide public notice when [it] is ready to receive direct submissions of certain documents from regulated entities in electronic form consistent with this rulemaking via an

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[2] The federally-authorized programs to which CROMERR applies are all state-implemented aspects of the Clean Air Act (all conventional and hazardous air pollutant aspects), Clean Water Act (National Pollutant Discharge Elimination System, wastewater pretreatment, and sludge management aspects), Safe Drinking Water Act (national primary drinking water standards and underground injection control aspects), Resource Conservation and Recovery Act (hazardous waste, municipal solid waste landfill, and underground storage tank aspects), and the Lead-Based Paint Exposure Abatement Act programs.

> [US]EPA electronic document receiving system. This rule does not mandate that regulated entities utilize electronic methods to submit documents in lieu of paper-based submissions. . . .
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> States . . . will be able to seek [US]EPA approval to accept electronic documents to satisfy reporting requirements under environmental programs that [US]EPA has delegated, authorized, or approved them to administer. This rule includes performance standards against which a state's . . . electronic document receiving system will be evaluated before [US]EPA will approve changes to the delegated, authorized, or approved program to provide electronic reporting, and establishes a streamlined process that states, tribes, and local governments can use to seek and obtain such approvals. 70 Fed. Reg. 59848 (Oct. 13, 2005) (summary).

Any state that receives or plans to receive electronic documents in lieu of paper documents to satisfy requirements under an authorized program must apply with USEPA to revise or modify the authorized program to allow for electronic reporting. The application must demonstrate compliance with CROMERR. *See* 40 C.F.R. 3.1000. Generally, a state's electronic document receiving system must be approved by USEPA before the state may use it. However, a state may continue to use an "existing" electronic document receiving system, pending USEPA review and approval, as long as the state submits the application to USEPA by October 13, 2007, or such later date approved by USEPA in writing.

USEPA explained its approach to "existing" electronic document receiving systems:

> For authorized programs that have "existing" electronic document receiving systems as of the date this final rule is published [October 13, 2005], [US]EPA is deferring the deadline for these programs to submit their applications for program revisions or modifications with respect to such systems. *** [USEPA] believe[s] that this two-year period [until October 13, 2007] is generally sufficient to allow these programs to make the transition to CROMERR-compliant systems without having to discontinue their electronic reporting operations.
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> [US]EPA's purpose in deferring the application deadline for program revisions or modifications with respect to existing electronic reporting is to avoid disrupting authorized programs' electronic reporting initiatives that are already underway. With this goal in mind, [US]EPA has defined "existing electronic document system" broadly, to include not only those that are actually operational at the time the final rule is published, but also those that are substantially developed. 70 Fed. Reg. at 59864-65.

USEPA accordingly defines "existing electronic document receiving system" as:

> an electronic document receiving system that is being used to receive electronic documents in lieu of paper to satisfy requirements under an authorized program on October 13, 2005 or the system, if not in use, has been substantially developed on or before that date as evidenced by the establishment of system services or

specifications by contract or other binding agreement. 40 C.F.R. 3.3.[3]

At final adoption, the Board amends its July 20, 2006 proposal for public comment, adding language to accommodate any electronic document receiving system of the Illinois Environmental Protection Agency (Agency) or the Board that may qualify as an "existing" system under CROMERR.

USEPA is clear that the submission of documents in an electronic format is voluntary, and not compulsory, and that CROMERR creates no right or privilege to submit any document in an electronic format. *See* 59 Fed. Reg. at 59853.

The Board does not review the substance and merits of the underlying federal action in an identical-in-substance proceeding, except to the extent that it may be necessary to do so in order to incorporate the federal provisions into the Illinois regulations. Persons interested in the details of the federal amendments should consult the October 13, 2005 *Federal Register* notice. The only aspects of the present amendments that warrant further discussion here relate to the general considerations of the Board in assembling a rule to insert into the Illinois SDWA primary drinking water regulations.

CROMERR appears in a new part of the USEPA regulations, 40 C.F.R. 3. The structure of new 40 C.F.R. 3 includes three subparts:[4]

Subpart A: General provisions (statements of scope and applicability, definitions of terms, and statements of the legal effect of submitting a document in an electronic format),

Subpart B: Provisions relative to submitting a document to a USEPA electronic document receiving system, and

Subpart D: Provisions relative to submitting a document to a state electronic document receiving system and for USEPA authorization of a state system.

CROMERR is drafted in the "user-friendly" question-and-answer format recently favored by USEPA.

The object of CROMERR is to provide for the submission of documents in an electronic format and to assure that documents submitted in such a format have the same probative effect as

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[3] "Electronic document receiving system" means "any set of apparatus, procedures, software, records, or documentation used to receive electronic documents." 40 C.F.R. 3.3.

[4] Subpart C is marked "reserved." It is apparent that at some future time, USEPA may amend 40 C.F.R. 3 to include provisions relating to electronic recordkeeping. *See* 59 Fed. Reg. at 59848, 59854 (summary).

a signed paper document. USEPA stated, "[I]t is essential to ensure that electronic reports can play the same role as their paper counterparts in providing evidence of what was reported and to what identified individuals certified with respect to the report." 59 Fed. Reg. at 59850. Thus, USEPA's emphasis is on assuring the authenticity, dependability, and integrity of documents submitted in an electronic format. To this end, CROMERR imposes requirements on six aspects of any electronic document receiving system used by a state: (1) system security; (2) the electronic signature method; (3) registration of persons submitting electronic documents; (4) the signature and certification scenario; (5) the generation of a transaction record; and (6) system archives. *See* 59 Fed. Reg. at 59855. USEPA listed its bases for evaluation of a state electronic document receiving system as follows (*see* 59 Fed. Reg. at 59867-73):

1. The timeliness of data generation by the system;

2. The ability of the system to retain and generate a copy of the record on demand that fulfills all of the following requirements:

    a. The copy must be true and accurate;
    b. It must include all electronic signatures;
    c. It must include the date and time of receipt; and
    d. It must be viewable in a human-readable format that indicates the meaning of each information item or data element;

3. The ability to establish that the electronic document was not altered in transmission or at any time after receipt without detection;

4. The provision of evidence that the person who submitted the document did so with a way of knowing or confirming that the submission occurred;

5. The availability of the copy of record for timely review and repudiation by the person or entity that submitted it;

6. The ability to verify the validity of each electronic signature at the time of signing, which requires the following:

    a. That the signature is created using a device "owned" by the person using it;
    b. That the device has not been compromised, or that any compromise will be detected and the submission rejected in the event of a compromise; and
    c. That the person affixing the signature to the document is one who is authorized to do so;

7. The ability to bind the signature to the electronic document so that the document cannot be altered without detection once signed;

8. Where the person signing the document must certify the truth or accuracy of the document, the ability of the system to provide evidence the following:

a. That the signatory had the opportunity to review the document before signing and submitting it;
b. That the signatory fully understood the significance of his or her signing and the criminal penalties for a false certification before signing and submitting it; and
c. That the signatory had the opportunity to detect and repudiate any spurious submissions made in his or her name through unauthorized access to the signature device or to the electronic document receiving system; and

9. The ability of the system to provide the following evidence with regard to the person signing and submitting an electronic document:

a. That the person signing and submitting an electronic document has executed an electronic signature agreement or subscriber agreement for the device used to sign the document; and
b. That the person signing and submitting an electronic document is in fact that person who has authority to use the device used to sign the document, as follows:
i. The identity of the signature device owner must be verified before the system receives any signature created by the device;
ii. The verification must be made "by the attestation of disinterested individuals"; and
iii. The verification must be "based on information or objects of independent origin, at least one item of which is not subject to change without government action or authorization."

The Board has incorporated the new federal CROMERR into a new provision at 35 Ill. Adm. Code 611.105 of the drinking water regulations. In drafting the identical-in-substance rules, the Board has taken a minimalist approach. Section 611.105(a) makes it clear that submitting electronic documents in lieu of paper documents under the authorized program is an option, and not a requirement.

The rules state that any "existing" electronic document receiving system of the Board or Agency may be used to receive electronic submittals under these rules as long as the application to USEPA, seeking to amend the authorized program to allow for electronic reporting, either (1) is not yet due; or (2) was timely filed and USEPA has not disapproved the system's use. In addition, any electronic document receiving system, whether or not considered an "existing" sytem, may be used to receive electronic submittals under these rules if USEPA has granted written approval for use of the system pursuant to 40 C.F.R. 3.1000 and the system meets 40 C.F.R. 3.2000.

The rules repeat the federal applicability language, making clear that the only submittals covered by the rules are electronic submissions, and not documents submitted by facsimile or

magnetic or optical media, such as diskette, compact disc, digital videodisc, or tape. Document transfers between USEPA and the states under administrative arrangements are also excluded.

The Board has incorporated by reference other provisions, including the definitions of 40 C.F.R. 3.3 and the 40 C.F.R. 3.10 procedures for electronic submissions made directly with USEPA into its CDX or other designated system. *See* Section 611.105(b) and (c) (incorporating 40 C.F.R. 3.3 and 3.10 by reference). The Board is unsure whether there are any Illinois entities currently submitting documents directly with USEPA, but has included those provisions to avoid any confusion.

The rules provide at Section 611.105(d)(1) that the Board or the Agency may accept electronic documents under these provisions only as provided in Section 611.105(a)(2)(B) (*i.e.*, generally, either through an "existing" system pending USEPA approval, or any USEPA-approved system compliant with 40 C.F.R. 3.2000). As to procedural rules for submitting electronic documents in lieu of paper documents to the Board or the Agency, the rules provide at Section 611.105(d)(1) that it is entirely up to the Board or the Agency whether to adopt procedural rules for electronic submissions under the Section. For some time, the Board has been receiving electronic documents in all program areas to develop sufficient information and experience to propose workable procedural rules on electronic filing. To that end, the Board has reserved a procedural rule docket. Amendments to the Board's Procedural Rules to Accommodate Electronic Filing: 35 Ill. Adm. Code 101-130, R04-8 (Aug. 21, 2003).[5] Presently, however, the Board has no projected date for issuance of a procedural rulemaking proposal on electronic filing, given the Board's heavy rulemaking docket for calendar year 2006.

The Board has added a brief statement as a preamble to Section 611.105. The statement provides that the submission of any document pursuant to any provision of the Part as an electronic document in lieu of a paper document is subject to the Section. The intent is to immediately state the subject matter of the Section and subject electronic filings to its provisions.

The Board has included a provision at Section 611.105(a)(4) that requires the Board or Agency to publish notice of USEPA approval of any electronic document receiving system in the *Illinois Register*. The Board has also included in the rule language identical in substance to federal provisions in Section 611.105(e) that makes it clear that electronic submittals will be treated in the same way as are properly signed paper submittals.

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[5] In the meantime, the Board currently accepts electronic document submissions into the Clerk's Office On-Line (COOL) system. The Board requires the use of the State of Illinois Digital Signature Project, administered by the Office of the Secretary of State, for submitting electronic documents pursuant to the Electronic Commerce Security Act [5 ILCS 175]. The user must obtain a free subscription to that system from the State Registration Authority (at https://autora01.cmcf.state.il.us/ or www.illinois.gov/pki/pki_subscriber.cfm).

The Board requested public comment on the incorporation of the October 13, 2005 CROMERR in the July 20, 2006 proposal for public comment. The Board received no comments.[6] Nevertheless, the Board did find it desirable to make a number of revisions to the text of the amendments upon final adoption. Those revisions are itemized in the table that begins on page 54 of this opinion. Some are considered in the foregoing discussion of the rules.

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 found in the text in the course of 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 discussed above, the most recent versions of the *Code of Federal Regulations* available to the Board is the July 1, 2005 edition for USEPA regulations (Title 40). Thus, the Board has updated all citations to Title 40 to the 2005 edition of the *Code of Federal Regulations,* 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;

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[6] However, in another pending identical-in-substance rulemaking addressing CROMERR, the Agency, in its September 28, 2006 public comment (PC 1), "requests that the Board clarify in its Final Opinion in this matter that it does not intend to preclude the use of any available grace periods under the CROMERR for existing electronic document receiving systems for any federally authorized programs." PC 1 at 4 in Wastewater Pretreatment Update, USEPA Amendments (July 1, 2005 through December 31, 2005), R06-13. The action taken by the Board today in R06-15 is consistent with this Agency request.

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 substitutes "must." 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. "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 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, 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." The Board will continue this conversion in future rulemakings as additional sections become open to amendment. The Board 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. Table 1 sets forth the miscellaneous deviations from the federal text, and Table 2 itemizes the corrections to the pre-amended base text of the rules in detail. Table 1 begins on page 12 of this opinion, and Table 2 begins on page 14. There is no further discussion of most of the deviations and revisions elsewhere in this opinion.

Discussion of Corrective Amendments

The Board has traditionally used the occasion of these identical-in-substance updates to correct segments of the base text of the Illinois regulations. These corrections are non-substantive in effect. The Board is including a significant number of non-substantive corrections in this docket.

When a necessary minor correction comes to the attention of the Board, Board staff makes a note of the correction, and set it aside until the next opportunity to make the correction. The next opportunity generally presents itself when the section involved is next opened for amendment as a result of amendments to the corresponding federal text. The Board has cataloged a small number of changes since the last SDWA update docket, SDWA Update, USEPA Regulations (January 1, 2004 through June 30, 2004, August 25, 2004), R05-6 (Jan. 20, 2005).

The Board will not discuss the bulk of the particular corrective amendments in this segment of this discussion. Only one warrants specific discussion. That discussion follows this paragraph. The corrections are itemized in the Table 1, which begins on page 12 of this opinion.

The single correction that warrants specific discussion relates to language added to the rules at the request of USEPA, which the Board now seeks to delete. Section 611.380(a)(1) corresponds with 40 C.F.R. 141.130(a)(1). When initially adopting Section 611.380(a)(1), the Board added language at the suggestion of USEPA. *See* SDWA Update, USEPA Regulations (July 1, 1998 through December 31, 1998), R99-12 (July 22, 1999). The Board added "or which provides water that contains a chemical disinfectant" on the recommendation of USEPA. On June 11, 1999, USEPA submitted to the Board a public comment with an attached copy of a draft direct final rule. USEPA intended to publish the direct final rule to correct inadvertent errors in its December 16, 1998 Disinfectant and Disinfection Byproducts Rule (63 Fed. Reg. 69390) and Interim Enhanced Surface Water Treatment Rule (63 Fed. Reg. 69478). *See* public comment number 3 in R99-12 (R99-12, PC 3) at p. 19.

USEPA has never published and adopted the draft direct final rule submitted to the Board in R99-12, PC 3. The existing text of 40 C.F.R. 130(a)(1) still does not include the phrase added by the Board at the suggestion of USEPA. *See* 40 C.F.R. 141.130(a)(1) (2005). USEPA has further not added the language in either of its more recent January 4, 2006 Stage 2 Disinfectants and Disinfection Byproducts Rule (71 Fed. Reg. 388) or January 5, 2006 Long Term 2 Enhanced Surface Water Treatment Rule (71 Fed. Reg. 654).[6]

The Board added the phrase "or which provides water that contains a chemical disinfectant" on the representation by USEPA that this is a correction that the Board should include because USEPA would itself shortly incorporate the correction. USEPA has not incorporated the draft correction into the federal rules in the intervening seven years. The Board will use this opportunity to remove the previously added language.

All corrective amendments are itemized in the Table 1, which begins on page 12 of this opinion. The Board requests that the Agency, JCAR, and the regulated community review the table and the text of the corrections. The Board requests comment on the corrections. The Board also asks for the assistance of the Agency, JCAR, and the regulated community in the process of spotting and correcting errors or omissions in the rules. The Board requests that interested persons submit suggestions for the correction of any errors of which they become aware. The Board will either include the corrections in this docket or catalog them for future revisions, if the suggestions relate to segments of the text that are not already involved in this proceeding and the Board cannot add them.

Tabulation 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. Table 2

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[6] These two actions will be the subject of the future SDWA update docket R07-2. The Board presently intends to prepare a proposal for public comment involving those actions by October 5, 2006.

table (beginning immediately after Table 1 below) 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 3 of this opinion. Table 3 (beginning on page 54 below) is a listing of revisions made to the text of the amendments from that proposed and set forth in the Board's opinion and order of July 20, 2006. Table 3 indicates the changes made, as well as the source that suggested each of the changes. Table 4 (on page 91 below) indicates suggested revisions that the Board has not made in adopting these amendments. Each entry gives a brief explanation why the Board did not incorporate the suggested change.

Table 1:
Deviations from the Text of the Federal Amendments

Illinois Section	40 C.F.R. Section	Revision(s)
611.105	3, 142.10(g)	Incorporated the federal requirements generally for the purposes of the SDWA program
611.105(a)	3.1(a)	Loosely and generally incorporated the federal requirements for the purposes of the SDWA program
611.105(a)(1)	3.2 and 3.1000(a)	Loosely and generally incorporated the federal requirements for the purposes of the SDWA program
611.105(a)(2)(A)	3.2(a) and 3.10	Loosely and generally incorporated the federal requirements for the purposes of the SDWA program
611.105(a)(2)(B)	3.2(b) and 3.1000	Loosely and generally incorporated the federal requirements for the purposes of the SDWA program
611.105(a)(3)	3.1(b)	Added "any of the following documents . . . in subsection (a)(1) of this Section"
611.105(a)(3)(A)	3.1(b)(1)	Changed "documents" to singular "any document"; omitted the ending conjunction "or"
611.105(a)(3)(B)	3.1(b)(2)	Changed "documents" to singular "any document"; changed the ending period to a semicolon and added the ending conjunction "or"

611.105(a)(3)(C)	3.1(c)	Changed "EPA" to "USEPA"; changed the conjunction "and" to a comma after "USEPA"; changed "states, tribes, or local governments" to singular "any state, or any local government"; changed "states, tribes, or local governments" to "the parties to the transfer"
611.105(a)(4)	3.20	Loosely and generally incorporated the federal requirements for the purposes of the SDWA program
611.105(a) Board note		Added a reference to the federal source of the material
611.105(b)	3.3	Incorporated the federal definitions by reference
611.105(c)	3.10	Loosely and generally incorporated the federal requirements for the purposes of the SDWA program
611.105(d)	3.2(b) and (c) and 3.1000(a)	Loosely and generally incorporated the federal requirements for the purposes of the SDWA program
611.105(d)(1)	3.2(b) and (c) and 3.1000(a)	Loosely and generally incorporated the federal requirements for the purposes of the SDWA program
611.105(d)(2)	3.2(b)	Loosely and generally incorporated the federal requirements for the purposes of the SDWA program
611.105(e)		Added the topical subsection statement "effects of submission of an electronic document"
611.105(e)(2)	3.4(b) and 3.2000(c)(1)	Changed "a person is subject to . . . if the person fails to comply with the applicable provisions for electronic reporting" to "if a person who submits . . . fails to comply with the requirements of this Section, that person is subject to . . ."; changed "any appropriate civil, criminal penalties or other remedies under state, tribe, or local law" to "the penalties prescribed"; changed "a requirement" to "the requirement that the electronic document was intended to satisfy"

611.105(e)(3)	3.4(c) and 3.2000(c)(2)	Changed "an electronic document submitted to satisfy a . . . requirement" to "a document submitted as an electronic document to satisfy a reporting requirement"; changed "signatory" to "signer" (twice); omitted the unnecessary comma from before "to the same extent"
611.105(e)(4)	3.1(c) second sentence	Changed "this part creates no" to "nothing in this Section or in any provisions adopted . . . will create any"; changed "data electronically and does not obligate . . . accept electronic documents" to "any document as an electronic document"
611.105(e) Board note		Added a reference to the federal source of the material
611.105(f)		Added references to State laws governing documents filed before State agencies
611.105(f) Board note		Added a reference to the federal source of the material
611.105 Board note		Added a reference to the federal source of the material

Table2:
Board Housekeeping Amendments

Section	Source	Revision(s)
611.102(b) "Advanced Polymer Systems"	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.102(a) "Amco AEPA-1 Polymer"	Board	Removed the unnecessary definition
611.102(b) "Amco Polymer Systems"	Board	Removed the unnecessary listing
611.102(b) "American Public Health Association"	Board	Added parentheses to the telephone number "800-645-5476"
611.102(b) "American Public Health Association," Standard Methods, 17th edition	Board	Added the statement "See the methods listed separately for the same references under American Waterworks Association."
611.102(b) "American Public Health Association," Standard Methods, 19th edition	Board	Added the statement "See the methods listed separately for the same references under American Waterworks Association."

Section	Source	Revision(s)
611.102(b) "American Public Health Association," Standard Methods, 20th edition	Board	Added the statement "See the methods listed separately for the same references under American Waterworks Association."
611.102(b) "American Waterworks Association"	Board	Added parentheses to the telephone number "303-794-7711"
611.102(b) "American Waterworks Association," "National Field Evaluation . . . for Drinking Water"	Board	Added "referenced in Appendix D to this Part" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 13th edition, "Method 302"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 13th edition, "Method 303"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 13th edition, "Method 304"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 13th edition, "Method 305"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 13th edition, "Method 306"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 17th edition, "Method 7110 B"	Board	Added "referenced in Section 611.720" offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 17th edition, "Method 7500-Cs B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 17th edition, "Method 7500-^{3}H B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 17th edition, "Method 7500-I B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 17th edition, "Method 7500-I C"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 17th edition, "Method 7500-I D"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 17th edition, "Method 7500-Ra B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 17th edition, "Method 7500-Ra C"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 17th edition, "Method 7500-Ra D"	Board	Added "referenced in Section 611.720" offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-Sr B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-U B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-U C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 2130 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 2320 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 2510 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 2550”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 3111 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 3111 D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 3112 B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 3113 B"	Board	Added "referenced in Sections 611.611 and 611.612" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 3114 B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 3120 B"	Board	Added "referenced in Sections 611.611 and 611.612" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 3500-Ca D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 3500-Mg E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4110 B"	Board	Added "referenced in Section 611.611" offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-CN^- C"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-CN^- D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-CN^- E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-CN^- F"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-CN^- G"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-Cl D"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-Cl E"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-Cl F"	Board	Added "referenced in Section 611.531" offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-Cl G"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-Cl H"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-Cl I"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-ClO_2 C"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-ClO_2 D"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-ClO_2 E"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-F^- B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-F^- C"	Board	Added "referenced in Section 611.611" offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-F^- D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-F^- E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-H^+ B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-NO_2^- B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-NO_3^- D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-NO_3^- E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-NO_3^- F"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-O_3 B"	Board	Added "referenced in Section 611.531" offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-P E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-P F”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Si D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Si E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Si F”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 6651”	Board	Added “referenced in Section 611.645” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7110 B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7110 C”	Board	Added “referenced in Section 611.720” offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 7500-Cs B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 7500-^{3}H B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 7500-I B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 7500-I C"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 7500-I D"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 7500-Ra B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 7500-Ra C"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 7500-Ra D"	Board	Added "referenced in Section 611.720" offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-Sr B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-U B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-U C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9215 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9221 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9221 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9221 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9221 D”	Board	Added “referenced in Section 611.526” offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 9221 E"	Board	Added "referenced in Sections 611.526 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 9222 A"	Board	Added "referenced in Sections 611.526 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 9222 B"	Board	Added "referenced in Sections 611.526 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 9222 C"	Board	Added "referenced in Sections 611.526 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 9222 D"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 9223"	Board	Added "referenced in Sections 611.526 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, supplement to 18th edition, "Method 6610"	Board	Added "referenced in Section 611.645" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 2130 B"	Board	Added "referenced in Section 611.531" offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 2320 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 2510 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 2550”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3111 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3111 D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3112 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3113 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3114 B”	Board	Added “referenced in Section 611.611” offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3120 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3500-Ca D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3500-Mg E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4110 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl D”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl E”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl F”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl G”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-Cl H"	Board	Added "referenced in Sections 611.381 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-Cl I"	Board	Added "referenced in Sections 611.381 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-ClO_2 C"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-ClO_2 D"	Board	Added "referenced in Sections 611.381 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-ClO_2 E"	Board	Added "referenced in Sections 611.381 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-CN^- C"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-CN^- E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-CN^- F"	Board	Added "referenced in Section 611.611" offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-CN^- G"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-F^- B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-F^- C"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-F^- D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-F^- E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-H^+ B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-NO_2^- B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-NO_3^- D"	Board	Added "referenced in Section 611.611" offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-NO_3^- E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-NO_3^- F"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-O_3 B"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-P E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-P F"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-Si D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-Si E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-Si F"	Board	Added "referenced in Section 611.611" offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 5910 B”	Board	Added “referenced in Section 611.381” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 6251 B”	Board	Added “referenced in Section 611.381” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 6610”	Board	Added the previously omitted reference
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 6651”	Board	Added “referenced in Section 611.645” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7110 B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7110 C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7120 B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-Cs B”	Board	Added “referenced in Section 611.720” offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 7500-^{3}H B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 7500-I B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 7500-I C"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 7500-I D"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 7500-Ra B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 7500-Ra C"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 7500-Ra D"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 7500-Sr B"	Board	Added "referenced in Section 611.720" offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-U B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-U C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9215 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 D”	Board	Added “referenced in Section 611.526” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 E”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 9222 A"	Board	Added "referenced in Sections 611.526 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 9222 B"	Board	Added "referenced in Sections 611.526 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 9222 C"	Board	Added "referenced in Sections 611.526 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 9222 D"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 9222 G"	Board	Added the previously omitted reference
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 9223"	Board	Added "referenced in Sections 611.526 and 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, supplement to the 19th edition, "Method 5310 B"	Board	Added "referenced in Sections 611.381" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, supplement to the 19th edition, "Method 5310 C"	Board	Added "referenced in Sections 611.381" offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, supplement to the 19th edition, “Method 5310 D”	Board	Added “referenced in Sections 611.381” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 2130 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 2320 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 2510 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 2550”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 3120 B”	Board	Added “referenced in Section 611.612” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 3500-Ca B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 3500-Mg B”	Board	Added “referenced in Section 611.611” offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4110 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-CN^- C”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-CN^- E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-CN^- F”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-CN^- G”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-Cl D”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-Cl E”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-Cl F”	Board	Added “referenced in Section 611.531” offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl G"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl H"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl I"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-ClO_2 C"	Board	Corrected "4500-ClO2" to "4500-ClO_2"; added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-ClO_2 D"	Board	Corrected "4500-ClO2" to "4500-ClO_2"; added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-ClO_2 E"	Board	Corrected "4500-ClO2" to "4500-ClO_2"; added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-F^- B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-F^- C"	Board	Added "referenced in Section 611.611" offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-F^- D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-F^- E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-H^+ B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-NO_2^- B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-NO_3^- D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-NO_3^- E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-NO_3^- F"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-O_3 B"	Board	Corrected "4500-O3" to "4500-O_3"; added "referenced in Section 611.531" offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-P E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-P F"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Si C"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Si D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Si E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl E"	Board	Removed the unnecessary duplicate entry
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl F"	Board	Removed the unnecessary duplicate entry
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl G"	Board	Removed the unnecessary duplicate entry

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl H"	Board	Removed the unnecessary duplicate entry
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl I"	Board	Removed the unnecessary duplicate entry
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-ClO_2 D"	Board	Removed the unnecessary duplicate entry
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-ClO_2 E"	Board	Removed the unnecessary duplicate entry
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 6610"	Board	Added the previously omitted reference
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 6651"	Board	Added "referenced in Section 611.645" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7110 B"	Board	Corrected "7110-B" to "7110 B"; added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7110 C"	Board	Added "referenced in Section 611.720" offset by a comma

Section	Source	Revision(s)
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7120 B"	Board	Corrected "7120-B" to "7120 B"; added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7500-Cs B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7500-^{3}H B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7500-I B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7500-I C"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7500-I D"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7500-Ra B"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 7500-Ra C"	Board	Added "referenced in Section 611.720" offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-Sr B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-U B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-U C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9215 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 D”	Board	Added “referenced in Section 611.526” offset by a comma

Section	Source	Revision(s)
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 E”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 D”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 G”	Board	Added the previously omitted reference
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9223”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “Analytical Technology, Inc.,” “Technical Bulletin 601”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM”	Board	Added parentheses to the phone number “610-832-9585”
611.102(b) “ASTM” “ASTM Method D511”	Board	Added “referenced in Section 611.611” offset by a comma

Section	Source	Revision(s)
611.102(b) “ASTM” “ASTM Method D515”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D859”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D1067”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D1125”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D1179”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D1253”	Board	Added “referenced in Section 611.381” offset by a comma
611.102(b) “ASTM” “ASTM Method D1293”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D1688”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D2036”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D2459”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D2460”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D2907”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D2972”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D3223”	Board	Added “referenced in Section 611.611” offset by a comma

Section	Source	Revision(s)
611.102(b) "ASTM" "ASTM Method D3454"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "ASTM" "ASTM Method D3559"	Board	Corrected "D3559-90D" to "D3559-96 D"; added "referenced in Section 611.611" offset by a comma
611.102(b) "ASTM" "ASTM Method D3645"	Board	Corrected D3645-93 B" to "D3645-97 B"; added "referenced in Section 611.611" offset by a comma
611.102(b) "ASTM" "ASTM Method D3649"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "ASTM" "ASTM Method D3697"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "ASTM" "ASTM Method D3859"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "ASTM" "ASTM Method D3867"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "ASTM" "ASTM Method D3972"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "ASTM" "ASTM Method D4107"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "ASTM" "ASTM Method D4327"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "ASTM" "ASTM Method D4785"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "ASTM" "ASTM Method D5174"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "ASTM" "ASTM Method D5673"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "Bran & Luebbe," "Method #129-71W"	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition; added "referenced in Section 611.611" offset by a comma

Section	Source	Revision(s)
611.102(b) "Bran & Luebbe," "Method #380-75WE"	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition; added "referenced in Section 611.611" offset by a comma
611.102(b) "CPI International, Inc."	JCAR, Board	Added a comma after "Blvd."; removed the period after "95403"; changed "Telephone: 800-878-7654. Fax: 707-545-7901. Internet address: www.cpiinternational.com)" to "800-878-7654/fax: 707-545-7901/Internet address: www.cpiinternational.com"
611.102(b) "CPI International, Inc.," "Colitag®"	Board	Added "referenced in Section 611.526" offset by a comma
611.102(b) "EMD Chemicals Inc."	Board	Added a comma after "Blvd."; removed the period after "95403"; changed "Telephone: 800-222–0342. E-mail: adellenbusch@emscience.com" to "(800-222–0342/e-mail: adellenbusch@emscience.com)"
611.102(b) "EMD Chemicals Inc.," "Chromocult"	Board	Added "referenced in Section 611.526" offset by a comma
611.102(b) "EMD Chemicals Inc.," "Readycult"	Board	Added "referenced in Section 611.526" offset by a comma
611.102(b) "ERDA Health and Safety Laboratory," "HASL Procedure Manual"	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition; added "referenced in Section 611.720" offset by a comma
611.102(b) "Great Lakes Instruments, Inc.," "GLI Method 2"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "The Hach Company"	Board	Changed "Telephone: 800-227–4224" to "(800-227–4224)"
611.102(b) "The Hach Company," "Lead in Drinking Water . . ."	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "The Hach Company," "Determination of Turbidity . . ."	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "IDEXX Laboratories, Inc."	Board	Changed "Telephone: 800-321–0207" to "(800-321–0207)"
611.102(b) "IDEXX Laboratories, Inc.," "IDEXX SimPlate"	Board	Added "referred to as 'SimPlate method'" in parentheses; added "referenced in Section 611.531" offset by a comma

Section	Source	Revision(s)
611.102(b) "Lachat Instruments"	Board	Changed "Telephone: 414-358-4200" to "(414-358-4200)"
611.102(b) "Lachat Instruments," "Digestion and Distillation of Total Cyanide . . ."	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "Millipore Corporation"	Board	Changed "Telephone: 800-654-5476" to "(800-654-5476)"
611.102(b) "Millipore Corporation," "Colisure Presence/ Absence Test"	Board	Added "referenced in Section 611.526" offset by a comma
611.102(b) "NCRP"	Board	Changed "Telephone: 301-657-2652" to "(301-657-2652)"
611.102(b) "NCRP," "Maximum Permissible Body Burdens . . ."	Board	Added "referenced in Section 611.101" offset by a comma
611.102(b) "NSF"	Board	Removed the comma before the phone number and placed the number in parentheses
611.102(b) "NSF," "NSF Standard 61"	Board	Added "referenced in Sections 611.126 and 611.356" offset by a comma
611.102(b) "NTIS"	Board	Removed the comma before the phone number and placed the number in parentheses
611.102(b) "NTIS," "USEPA Interim Radiochemical Methods"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "Kelada 01"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "NTIS," "Maximum Permissible Body Burdens . . ."	Board	Added "referenced in Section 611.330" offset by a comma
611.102(b) "NTIS," "100.1"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "NTIS," "100.2"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "NTIS," "USEPA Inorganic Methods"	Board	Added "referenced in Section 611.611" offset by a comma

Section	Source	Revision(s)
611.102(b) "NTIS," "USEPA Environmental Inorganic Methods"	Board	Added "referenced in Sections 611.531 and 611.611" offset by a comma
611.102(b) "NTIS," "USEPA Environmental Metals Methods"	Board	Added "referenced in Sections 611.611, 611.612, and 611.720" offset by a comma
611.102(b) "NTIS," "USEPA Organic Methods"	Board	Added "referenced in Sections 611.645 and 611.648" offset by a comma
611.102(b) "NTIS," "USEPA Organic Methods" (Supplement I)	Board	Corrected "EPA/600-4-90-020" to "EPA-600/4-90-020"; added "referenced in Section 611.645 offset by a comma
611.102(b) "NTIS," "USEPA Organic Methods" (Supplement II)	Board	Added "referenced in Section 611.645" offset by a comma
611.102(b) "NTIS," "USEPA Radioactivity Methods"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "Procedures for Radiochemical Analysis . . ."	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "USEPA Radiochemical Analyses"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "USEPA Radiochemistry Methods"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "Technical Notes on Drinking Water Methods"	Board	Added "referenced in Sections 611.531, 611.611, and 611.685" offset by a comma
611.102(b) "NTIS," "Technical Notes on Drinking Water Methods" Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition

Section	Source	Revision(s)
611.102(b) "NTIS," "Dioxin and Furan Method 1613"	Board	Changed "EPA-821-B-94-005" to "EPA-821/B-94-005"; added "referenced in Section 611.645" offset by a comma
611.102(b) "New Jersey Department of Environment," "New Jersey Radium Method"	Board	Added "referred to as 'New Jersey Radium Method'" in parentheses; added "referenced in Section 611.720" offset by a comma
611.102(b) "New York Department of Health," "New York Radium Method"	Board	Added "referred to as 'New York Radium Method'" in parentheses; added "referenced in Section 611.720" offset by a comma
611.102(b) "Palintest, Ltd."	Board	Added parentheses to the phone number "800-835-9629"
611.102(b) "Palintest, Ltd.," Palintest Method 1001"	Board	Added "referred to as 'Palintest Method 1001'" in parentheses; added "referenced in Section 611.611" offset by a comma
611.102(b) "Syngenta Crop Protection, Inc."	Board	Changed "Telephone: 336-632-6000" to "(336-632-6000)"
611.102(b) "Syngenta Crop Protection, Inc.," "Syngenta AG-625"	Board	Added "referenced in Section 611.645" offset by a comma
611.102(b) "U.S. Department of Energy," "USDOE Manual"	Board	Added "referred to as 'USDOE Manual'" in parentheses; added "referenced in Section 611.720" offset by a comma
611.102(b) "U.S. Environmental Protection Agency, Office of Ground Water and Drinking Water"	Board	Removed the preceding comma and placed "accessible on-line and available by download from http://www.epa.gov/safewater/methods/" in parentheses
611.102(b) "U.S. Environmental Protection Agency, Office of Ground Water and Drinking Water, Method 515.4"	Board	Changed "EPA 815/B–00/001" to "EPA-815/B-00-001"; added "referenced in Section 611.645" offset by a comma
611.102(b) "U.S. Environmental Protection Agency, Office of Ground Water and Drinking Water, Method 531.2"	Board	Changed "EPA 815/B/01/002" to "EPA-815/B-01-002"; added "referenced in Section 611.645" offset by a comma

Section	Source	Revision(s)
611.102(b) "U.S. Environmental Protection Agency, EMSL"	Board	Added parentheses to the phone number "513-569-7586"
611.102(b) "U.S. Environmental Protection Agency, EMSL," "USEPA Interim Radiochemical Methods"	Board	Moved "(Revised), March 1976" to follow the USEPA document number; added "USEPA Interim" before "Radiochemical Methods" in the short-form of the document title; added "referenced in Section 611.720" offset by a comma; added "See NTIS."
611.102(b) "U.S. Environmental Protection Agency, EMSL," "USEPA Interim Radiochemical Methods"	Board	Corrected "Methods for . . . Finished Drinking Water and Raw Source Water" to "Methods for . . . Drinking Water"; added "December 1988, revised July 1991, EPA-600/4-88/039"; added "referenced in Sections 611.645 and 611.648" offset by a comma
611.102(b) "U.S. Environmental Protection Agency, EMSL," "Procedures for . . . Aqueous Solutions"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USEPA, Science and Technology Branch," "Guidance Manual for . . . Surface Water Sources"	Board	Added "referenced in Sections 611.111 and 611.212" offset by a comma
611.102(b) "USGS," "I-1030-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-1062-85"	Board	Removed the method that is cited nowhere in the rules
611.102(b) "USGS," "I-1601-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-1700-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-2598-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-2601-90"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-2700-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-3300-85"	Board	Added "referenced in Section 611.111" offset by a comma

Section	Source	Revision(s)
611.102(b) “USGS,” “R-1110-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1111-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1120-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1140-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1141-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1142-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1160-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1171-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1180-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1181-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “USGS,” “R-1182-76”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “Waters Corporation”	Board	Added parentheses to the phone number “800-252-4752”
611.102(b) “Waters Corporation,” “Waters Method B-1011”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(c) “40 CFR 3.2”	Board	Added the incorporation, including the *Federal Register* citation adopting the provision
611.102(c) “40 CFR 3.3”	Board	Added the incorporation, including the *Federal Register* citation adopting the provision
611.102(c) “40 CFR 3.10”	Board	Added the incorporation, including the *Federal Register* citation adopting the provision
611.102(c) “40 CFR 3.2000”	Board	Added the incorporation, including the *Federal Register* citation adopting the provision
611.102(c) “Appendix B to 40 CFR 136”	Board	Changed “40 CFR 136, Appendices B and C” to “Appendix B to 40 CFR 136”; updated the citation to the *Code of Federal Regulations* to the most recent edition; corrected “reverenced” to “referenced”; corrected “&” to “and”
611.111 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition (twice); moved the comma inside the closing quotation marks after “Sources”

Section	Source	Revision(s)
611.112(e)(2)	Board	Moved the ending period inside the closing quotation marks after "water"; changed numeric "9" to written "nine"
611.112(g)(1)	Board	Changed numeric "7" to written "seven"
611.112(g)(2)	Board	Moved the comma inside the closing quotation marks after "Sources"
611.112(h)	Board	Moved the ending period inside the closing quotation marks after "water"
611.112 Board	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition (twice); moved the comma inside the closing quotation marks after "Sources"
611.212(b)(3)(A)	JCAR	Changed the ending comma to a semicolon
611.359(a)(1)(C)	Board	Changed "40 CFR 136, Appendix B" to "Appendix B to 40 CFR 136"; updated the citation to the *Code of Federal Regulations* to the most recent edition
611.359(a) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.359(b) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.359(c) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.380(a)(1)	Board	Removed "or which provides water that contains a chemical disinfectant" from after "treatment process"
611.380(b)(2)	Board	Changed "serving" to "that serves"; changed "using" to "which uses" (twice); changed "using" to "that uses"
611.380 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.381(b)(1) table	Board	Changed "Standard Method" to "Standard Methods, 19th ed., Method"
611.381(c)(1) table	Board	Changed "Standard Method" to "Standard Methods, 19th ed., Method"
611.381(d)(3)	Board	Changed "Standard Method 5310" to "Standard Methods, 19th ed., Method 5310" (three times)
611.381(d)(4)(A)	Board	Changed "Standard Method 5310" to "Standard Methods, 19th ed., Method 5310" (three times)
611.381 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.609(a)(3) Board note	Board	Changed "40 CFR 136, Appendix B" to "Appendix B to 40 CFR 136"
611.609 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition

Section	Source	Revision(s)
611.611(a) Board note	Board	Changed "Standard Method 3120" to "Standard Methods, 18th, 19th, or 20th ed., Method 3120"; changed "Standard Method 3113" to "Standard Methods, 18th, 19th, or 20th ed., Method 3113"; corrected "D3559-90 D" to "D3559-96 D"
611.611(a)(3) Board note	Board	Changed "Standard Method 3120" to "Standard Methods, 18th, 19th, or 20th ed., Method 3120"
611.645 "synthetic organic chemical contaminants," "atrazine"	Board	Added "Syngenta AG-625" formerly omitted
611.645 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.646(a) "detection limit" Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.646(a) "method detection limit" Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition; changed "40 CFR 136, Appendix B" to "Appendix B to 40 CFR 136"
611.646(c) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.646(g) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.646(j) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition (twice)
611.646(q)(1)(E)	Board	Changed "40 CFR 136, Appendix B" to "Appendix B to 40 CFR 136"
611.646(q)(2)(C)	Board	Changed "40 CFR 136, Appendix B" to "Appendix B to 40 CFR 136"
611.646(t)(1)	Board	Changed "40 CFR 136, Appendix B" to "Appendix B to 40 CFR 136"
611.646 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.720(a)(3)(D)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(5)(H)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(6)(C)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(7)(C)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(8)(B)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(9)(B)(ii)	Board	Corrected "7500-3H" to "7500-^{3}H"
611.720(a)(10)(C)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(c)(1) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.720(c)(2) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition

Section	Source	Revision(s)
611.720 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.Appendix D	Board	Moved the comma inside the closing quotation marks after "Techniques"; changed "at 40 CFR 141.21(f)(6)(iii) (2002)" to "in Section 611.102(b) (2004)"; updated the citation to the *Code of Federal Regulations* to the most recent edition

Table 3:
Revisions to the Text of the Proposed Amendments in Final Adoption

Section Revised	Source(s) of Revision(s)	Revision(s)
611.102(a) "Amco AEPA-1 Polymer"	Board	Removed the unnecessary definition
611.102(b) "Amco Polymer Systems"	Board	Removed the unnecessary listing
611.102(b) "American Public Health Association"	Board	Added parentheses to the telephone number "800-645-5476"
611.102(b) "American Public Health Association," Standard Methods, 17th edition	Board	Added the statement "See the methods listed separately for the same references under American Waterworks Association."
611.102(b) "American Public Health Association," Standard Methods, 19th edition	Board	Added the statement "See the methods listed separately for the same references under American Waterworks Association."
611.102(b) "American Public Health Association," Standard Methods, 20th edition	Board	Added the statement "See the methods listed separately for the same references under American Waterworks Association."
611.102(b) "American Waterworks Association"	Board	Added parentheses to the telephone number "303-794-7711"
611.102(b) "American Waterworks Association," "National Field Evaluation . . . for Drinking Water"	Board	Added "referenced in Appendix D to this Part" offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 13th edition, “Method 302”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 13th edition, “Method 303”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 13th edition, “Method 304”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 13th edition, “Method 305”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 13th edition, “Method 306”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7110 B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-Cs B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-^{3}H B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-I B”	Board	Added “referenced in Section 611.720” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-I C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-I D”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-Ra B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-Ra C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-Ra D”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-Sr B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-U B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 17th edition, “Method 7500-U C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 2130 B”	Board	Added “referenced in Section 611.531” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 2320 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 2510 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 2550”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 3111 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 3111 D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 3112 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 3113 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 3114 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 3120 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 3500-Ca D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 3500-Mg E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4110 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-CN^- C”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-CN^- D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-CN^- E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-CN^- F”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-CN^- G”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Cl D”	Board	Added “referenced in Section 611.531” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Cl E”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Cl F”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Cl G”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Cl H”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Cl I”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-ClO_2 C”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-ClO_2 D”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-ClO_2 E”	Board	Added “referenced in Section 611.531” offset by a comma

611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-F^- B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-F^- C"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-F^- D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-F^- E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-H^+ B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-NO_2^- B"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-NO_3^- D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 18th edition, "Method 4500-NO_3^- E"	Board	Added "referenced in Section 611.611" offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-NO_3^- F”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-O_3 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-P E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-P F”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Si D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Si E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 4500-Si F”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 6651”	Board	Added “referenced in Section 611.645” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7110 B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7110 C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-Cs B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-^{3}H B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-I B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-I C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-I D”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-Ra B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-Ra C”	Board	Added “referenced in Section 611.720” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-Ra D”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-Sr B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-U B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 7500-U C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9215 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9221 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9221 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9221 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9221 D”	Board	Added “referenced in Section 611.526” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9221 E”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9222 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9222 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9222 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9222 D”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 18th edition, “Method 9223”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, supplement to 18th edition, “Method 6610”	Board	Added “referenced in Section 611.645” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 2130 B”	Board	Added “referenced in Section 611.531” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 2320 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 2510 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 2550”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3111 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3111 D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3112 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3113 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3114 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3120 B”	Board	Added “referenced in Sections 611.611 and 611.612” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3500-Ca D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 3500-Mg E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4110 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl D”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl E”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl F”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl G”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl H”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-Cl I”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-ClO_2 C”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-ClO_2 D”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-ClO_2 E”	Board	Added “referenced in Sections 611.381 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-CN^- C”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-CN^- E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-CN^- F”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-CN^- G”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-F^- B”	Board	Added “referenced in Section 611.611” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-F^- C”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-F^- D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-F^- E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-H^+ B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-NO_2^- B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-NO_3^- D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-NO_3^- E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 4500-NO_3^- F”	Board	Added “referenced in Section 611.611” offset by a comma

611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-O_3 B"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-P E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-P F"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-Si D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-Si E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 4500-Si F"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 5910 B"	Board	Added "referenced in Section 611.381" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 6251 B"	Board	Added "referenced in Section 611.381" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 19th edition, "Method 6610"	Board	Added the previously omitted reference

611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 6651”	Board	Added “referenced in Section 611.645” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7110 B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7110 C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7120 B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-Cs B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-^{3}H B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-I B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-I C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-I D”	Board	Added “referenced in Section 611.720” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-Ra B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-Ra C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-Ra D”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-Sr B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-U B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 7500-U C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9215 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 D”	Board	Added “referenced in Section 611.526” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9221 E”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9222 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9222 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9222 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9222 D”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9222 G”	Board	Added the previously omitted reference
611.102(b) “American Waterworks Association,” Standard Methods, 19th edition, “Method 9223”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, supplement to the 19th edition, “Method 5310 B”	Board	Added “referenced in Sections 611.381” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, supplement to the 19th edition, “Method 5310 C”	Board	Added “referenced in Sections 611.381” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, supplement to the 19th edition, “Method 5310 D”	Board	Added “referenced in Sections 611.381” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 2130 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 2320 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 2510 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 2550”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 3120 B”	Board	Added “referenced in Section 611.612” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 3500-Ca B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 3500-Mg B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4110 B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-CN^- C”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-CN^- E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-CN^- F”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-CN^- G”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-Cl D”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-Cl E”	Board	Added “referenced in Section 611.531” offset by a comma

611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl F"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl G"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl H"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl I"	Board	Added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-ClO_2 C"	Board	Corrected "4500-ClO2" to "4500-ClO_2"; added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-ClO_2 D"	Board	Corrected "4500-ClO2" to "4500-ClO_2"; added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-ClO_2 E"	Board	Corrected "4500-ClO2" to "4500-ClO_2"; added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-F^- B"	Board	Added "referenced in Section 611.611" offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-F^- C”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-F^- D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-F^- E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-H^+ B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-NO_2^- B”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-NO_3^- D”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-NO_3^- E”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-NO_3^- F”	Board	Added “referenced in Section 611.611” offset by a comma

611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-O_3 B"	Board	Corrected "4500-O3" to "4500-O_3"; added "referenced in Section 611.531" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-P E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-P F"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Si C"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Si D"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Si E"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl E"	Board	Removed the unnecessary duplicate entry
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl F"	Board	Removed the unnecessary duplicate entry
611.102(b) "American Waterworks Association," Standard Methods, 20th edition, "Method 4500-Cl G"	Board	Removed the unnecessary duplicate entry

611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-Cl H”	Board	Removed the unnecessary duplicate entry
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-Cl I”	Board	Removed the unnecessary duplicate entry
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-ClO_2 D”	Board	Removed the unnecessary duplicate entry
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 4500-ClO_2 E”	Board	Removed the unnecessary duplicate entry
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 6610”	Board	Added the previously omitted reference
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 6651”	Board	Added “referenced in Section 611.645” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7110 B”	Board	Corrected “7110-B” to “7110 B”; added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7110 C”	Board	Added “referenced in Section 611.720” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7120 B”	Board	Corrected “7120-B” to “7120 B”; added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-Cs B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-^{3}H B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-I B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-I C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-I D”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-Ra B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-Ra C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-Sr B”	Board	Added “referenced in Section 611.720” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-U B”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 7500-U C”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9215 B”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 D”	Board	Added “referenced in Section 611.526” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9221 E”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 A”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma

611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 B”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 C”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 D”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9222 G”	Board	Added the previously omitted reference
611.102(b) “American Waterworks Association,” Standard Methods, 20th edition, “Method 9223”	Board	Added “referenced in Sections 611.526 and 611.531” offset by a comma
611.102(b) “Analytical Technology, Inc.,” “Technical Bulletin 601”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM”	Board	Added parentheses to the phone number “610-832-9585”
611.102(b) “ASTM” “ASTM Method D511”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D515”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D859”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D1067”	Board	Added “referenced in Section 611.611” offset by a comma

611.102(b) “ASTM” “ASTM Method D1125”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D1179”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D1253”	Board	Added “referenced in Section 611.381” offset by a comma
611.102(b) “ASTM” “ASTM Method D1293”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D1688”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D2036”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D2459”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D2460”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D2907”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D2972”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D3223”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D3454”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D3559”	Board	Corrected “D3559-90D” to “D3559-96 D”; added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D3645”	Board	Corrected D3645-93 B” to “D3645-97 B”; added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D3649”	Board	Added “referenced in Section 611.720” offset by a comma

611.102(b) “ASTM” “ASTM Method D3697”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D3859”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D3867”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D3972”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D4107”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D4327”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “ASTM” “ASTM Method D4785”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D5174”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “ASTM” “ASTM Method D5673”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “Bran & Luebbe” “Method #129-71W”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “Bran & Luebbe” “Method #380-75WE”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “CPI International, Inc.”	JCAR, Board	Added a comma after “Blvd.”; removed the period after “95403”; changed “Telephone: 800-878-7654. Fax: 707-545-7901. Internet address: www.cpiinternational.com)” to “800-878-7654/fax: 707-545-7901/Internet address: www.cpiinternational.com”
611.102(b) “CPI International, Inc.,” “Colitag®”	Board	Added “referenced in Section 611.526” offset by a comma

611.102(b) “EMD Chemicals Inc.”	Board	Added a comma after “Blvd.”; removed the period after “95403”; changed “Telephone: 800-222–0342. E-mail: adellenbusch@emscience.com” to “(800-222–0342/e-mail: adellenbusch@emscience.com)”
611.102(b) “EMD Chemicals Inc.,” “Chromocult”	Board	Added “referenced in Section 611.526” offset by a comma
611.102(b) “EMD Chemicals Inc.,” “Readycult”	Board	Added “referenced in Section 611.526” offset by a comma
611.102(b) “ERDA Health and Safety Laboratory,” “HASL Procedure Manual”	Board	Added “referenced in Section 611.720” offset by a comma
611.102(b) “Great Lakes Instruments, Inc.,” “GLI Method 2”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “The Hach Company”	Board	Changed “Telephone: 800-227–4224” to “(800-227–4224)”
611.102(b) “The Hach Company,” “Lead in Drinking Water . . .”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “The Hach Company,” “Determination of Turbidity . . .”	Board	Added “referenced in Section 611.531” offset by a comma
611.102(b) “IDEXX Laboratories, Inc.”	Board	Changed “Telephone: 800-321–0207” to “(800-321–0207)”
611.102(b) “IDEXX Laboratories, Inc.,” “IDEXX SimPlate”	Board	Added “referred to as ‘SimPlate method’” in parentheses; added “referenced in Section 611.531” offset by a comma
611.102(b) “Lachat Instruments”	Board	Changed “Telephone: 414-358-4200” to “(414-358-4200)”
611.102(b) “Lachat Instruments,” “Digestion and Distillation of Total Cyanide . . .”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(b) “Millipore Corporation”	Board	Changed “Telephone: 800-654-5476” to “(800-654-5476)”
611.102(b) “Millipore Corporation,” “Colisure Presence/ Absence Test”	Board	Added “referenced in Section 611.526” offset by a comma

611.102(b) "NCRP"	Board	Changed "Telephone: 301-657-2652" to "(301-657-2652)"
611.102(b) "NCRP," "Maximum Permissible Body Burdens . . ."	Board	Added "referenced in Section 611.101" offset by a comma
611.102(b) "NSF"	Board	Removed the comma before the phone number and placed the number in parentheses
611.102(b) "NSF," "NSF Standard 61"	Board	Added "referenced in Sections 611.126 and 611.356" offset by a comma
611.102(b) "NTIS"	Board	Removed the comma before the phone number and placed the number in parentheses
611.102(b) "NTIS," "USEPA Interim Radiochemical Methods"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "Kelada 01"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "NTIS," "Maximum Permissible Body Burdens . . ."	Board	Added "referenced in Section 611.330" offset by a comma
611.102(b) "NTIS," "100.1"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "NTIS," "100.2"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "NTIS," "USEPA Inorganic Methods"	Board	Added "referenced in Section 611.611" offset by a comma
611.102(b) "NTIS," "USEPA Environmental Inorganic Methods"	Board	Added "referenced in Sections 611.531 and 611.611" offset by a comma
611.102(b) "NTIS," "USEPA Environmental Metals Methods"	Board	Added "referenced in Sections 611.611, 611.612, and 611.720" offset by a comma
611.102(b) "NTIS," "USEPA Organic Methods"	Board	Added "referenced in Sections 611.645 and 611.648" offset by a comma
611.102(b) "NTIS," "USEPA Organic Methods" (Supplement I)	Board	Corrected "EPA/600-4-90-020" to "EPA-600/4-90-020"; added "referenced in Section 611.645 offset by a comma

611.102(b) "NTIS," "USEPA Organic Methods" (Supplement II)	Board	Added "referenced in Section 611.645" offset by a comma
611.102(b) "NTIS," "USEPA Radioactivity Methods"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "Procedures for Radiochemical Analysis . . ."	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "USEPA Radiochemical Analyses"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "USEPA Radiochemistry Methods"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "NTIS," "Technical Notes on Drinking Water Methods"	Board	Added "referenced in Sections 611.531, 611.611, and 611.685" offset by a comma
611.102(b) "NTIS," "Dioxin and Furan Method 1613"	Board	Changed "EPA-821-B-94-005" to "EPA-821/B-94-005"; added "referenced in Section 611.645" offset by a comma
611.102(b) "New Jersey Department of Environment," "New Jersey Radium Method"	Board	Added "referred to as 'New Jersey Radium Method'" in parentheses; added "referenced in Section 611.720" offset by a comma
611.102(b) "New York Department of Health," "New York Radium Method"	Board	Added "referred to as 'New York Radium Method'" in parentheses; added "referenced in Section 611.720" offset by a comma
611.102(b) "Palintest, Ltd."	Board	Added parentheses to the phone number "800-835-9629"
611.102(b) "Palintest, Ltd.," Palintest Method 1001"	Board	Added "referred to as 'Palintest Method 1001'" in parentheses; added "referenced in Section 611.611" offset by a comma
611.102(b) "Syngenta Crop Protection, Inc."	Board	Changed "Telephone: 336-632-6000" to "(336-632-6000)"
611.102(b) "Syngenta Crop Protection, Inc.," "Syngenta AG-625"	Board	Added "referenced in Section 611.645" offset by a comma

611.102(b) "U.S. Department of Energy," "USDOE Manual"	Board	Added "referred to as 'USDOE Manual'" in parentheses; added "referenced in Section 611.720" offset by a comma
611.102(b) "U.S. Environmental Protection Agency, Office of Ground Water and Drinking Water"	Board	Removed the preceding comma and placed "accessible on-line and available by download from http://www.epa.gov/safewater/methods/" in parentheses
611.102(b) "U.S. Environmental Protection Agency, Office of Ground Water and Drinking Water, Method 515.4"	Board	Changed "EPA 815/B–00/001" to "EPA-815/B-00-001"; added "referenced in Section 611.645" offset by a comma
611.102(b) "U.S. Environmental Protection Agency, Office of Ground Water and Drinking Water, Method 531.2"	Board	Changed "EPA 815/B/01/002" to "EPA-815/B-01-002"; added "referenced in Section 611.645" offset by a comma
611.102(b) "U.S. Environmental Protection Agency, EMSL"	Board	Added parentheses to the phone number "513-569-7586"
611.102(b) "U.S. Environmental Protection Agency, EMSL," "USEPA Interim Radiochemical Methods"	Board	Moved "(Revised), March 1976" to follow the USEPA document number; added "USEPA Interim" before "Radiochemical Methods" in the short-form of the document title; added "referenced in Section 611.720" offset by a comma; added "See NTIS."
611.102(b) "U.S. Environmental Protection Agency, EMSL," "USEPA Interim Radiochemical Methods"	Board	Corrected "Methods for . . . Finished Drinking Water and Raw Source Water" to "Methods for . . . Drinking Water"; added "December 1988, revised July 1991, EPA-600/4-88/039"; added "referenced in Sections 611.645 and 611.648" offset by a comma
611.102(b) "U.S. Environmental Protection Agency, EMSL," "Procedures for . . . Aqueous Solutions"	Board	Added "referenced in Section 611.720" offset by a comma

611.102(b) "USEPA, Science and Technology Branch," "Guidance Manual for . . . Surface Water Sources"	Board	Added "referenced in Sections 611.111 and 611.212" offset by a comma
611.102(b) "USGS," "I-1030-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-1062-85"	Board	Removed the method that is cited nowhere in the rules
611.102(b) "USGS," "I-1601-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-1700-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-2598-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-2601-90"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-2700-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "I-3300-85"	Board	Added "referenced in Section 611.111" offset by a comma
611.102(b) "USGS," "R-1110-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1111-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1120-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1140-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1141-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1142-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1160-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1171-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1180-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1181-76"	Board	Added "referenced in Section 611.720" offset by a comma
611.102(b) "USGS," "R-1182-76"	Board	Added "referenced in Section 611.720" offset by a comma

611.102(b) “Waters Corporation”	Board	Added parentheses to the phone number “800-252-4752”
611.102(b) “Waters Corporation,” “Waters Method B-1011”	Board	Added “referenced in Section 611.611” offset by a comma
611.102(c) “appendix B to 40 CFR 136”	Board, JCAR	Corrected “reverenced” to “referenced”; corrected “&” to “and”
611.105 preamble	Board	Changed “filing” to “submission”; added “in lieu of a paper document” after “electronic document”
611.105(a)(1)	Board	Changed “filing” to “submission” (twice); added “in lieu of paper documents” after “electronic documents”; removed “report or” from before “document”
611.105(a)(2)	Board	Changed “document filing” to “reporting”; changed “begin” to “occur”; removed “after USEPA has first done” form before “as follows”
611.105(a)(2)(A)	Board	Changed “as to filing with” to “for submissions to documents to”; added “submissions may occur only after” before USEPA has published”; moved “in an electronic format” from after “Regulations” to after “receive” as a parenthetical offset by commas
611.105(a)(2)(B)	Board	Changed “as to filing with” to “for submissions to documents to”; replaced the proposed text with “submissions may occur only under the following circumstances”; changed the ending period to a colon
611.105(a)(2)(B)(i)	Board	Added the provision relating to an existing system for which application to USEPA for approval has not been submitted
611.105(a)(2)(B)(ii)	Board	Added the provision relating to an existing system for which application to USEPA for approval has been submitted
611.105(a)(2)(B)(i)	Board	Added the provision relating to a system for which USEPA has granted its approval
611.105(a)(4)	Board	Added “written” before “approval”; changed “filing” to “submission”; added “in lieu of paper documents” after “electronic documents”; changed “subsection (a)(2)(B)” to “subsection (a)(2)(B)(iii)”, added “as applicable” before “the date” as a parenthetical offset by commas; added “written” before “cessation”; added “in lieu of a paper document” after “electronic document”
611.105(a) Board note	Board	Changed “40 C.F.R. 3.1” to “40 C.F.R. 3.1, 3.2, 3.10, 3.20, and 3.1000”
611.105(c)	Board	Added “in lieu of paper documents” after “electronic documents”

611.105(c)(2)	Board	Changed "subsection (a)(2)" to "subsection (a)(2)(A)"
611.105(d)	Board	Added "in lieu of paper documents" after "electronic documents"
611.105(d)(1)	Board, JCAR	Changed "procedures" to "procedural rules" (twice); removed "that meet the requirements of 40 CFR 3.2 and 3.2000, incorporated by reference in Section 611.102(c)" to "under this Section"; changed "5 ILCS 100/5" to "5 ILCS 100/Art. 5"
611.105(d)(2)	Board	Changed "may not accept" to "may accept"; changed "until after USEPA has approved the procedures in writing, and the Board or the Agency has published a notice of such approval in the Illinois Register" to "only as provided in subsection (a)(2)(B) of this Section"; removed the statement "Nothing in this subsection (d) limits the authority of the Board or the Agency under the Illinois Environmental Protection Act [415 ILCS 5] to accept documents filed electronically."
611.105(e)	Board	Added "in lieu of paper documents" after "electronic documents"
611.105(e)	JCAR	Added "of" before "this Section"
611.105(f)	Board	Changed "filing" to "submission"
611.105(g)	Board	Corrected "subsection (c)(1)" to "subsection (d)(1)"
611.212(b)(3)(A)	JCAR	Changed the ending comma to a semicolon
611.380(b)(2)	Board	Changed "serving" to "that serves"; changed "using" to "which uses" (twice); changed "using" to "that uses"
611.381(b)(1) table	Board	Changed "Standard Method" to "Standard Methods, 19th ed., Method"
611.381(c)(1) table	Board	Changed "Standard Method" to "Standard Methods, 19th ed., Method"
611.381(d)(3)	Board	Changed "Standard Method 5310" to "Standard Methods, 19th ed., Method 5310" (three times)
611.381(d)(4)(A)	Board	Changed "Standard Method 5310" to "Standard Methods, 19th ed., Method 5310" (three times)
611.381 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.611(a) Board note	Board	Changed "Standard Method 3120" to "Standard Methods, 18th, 19th, or 20th ed., Method 3120"; changed "Standard Method 3113" to "Standard Methods, 18th, 19th, or 20th ed., Method 3113"; corrected "D3559-90 D" to "D3559-96 D"
611.611(a)(3) Board note	Board	Changed "Standard Method 3120" to "Standard Methods, 18th, 19th, or 20th ed., Method 3120"

611.645 "synthetic organic chemical contaminants," "atrazine"	Board	Added "Syngenta AG-625" formerly omitted
611.645 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.720(a)(3)(D)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(5)(H)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(6)(C)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(7)(C)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(8)(B)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(a)(9)(B)(ii)	Board	Corrected "7500-3H" to "7500-^{3}H"
611.720(a)(10)(C)	Board	Corrected "USDOE Methods" to "USDOE Manual"
611.720(c)(1) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.720(c)(2) Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.720 Board note	Board	Updated the citation to the *Code of Federal Regulations* to the most recent edition
611.Appendix D Board note	Board	Moved the comma after "Techniques" outside the closing quotation mark; changed "at 40 CFR 141.21(f)(6)(iii) (2002)" to "in Section 611.102(b) (2004)"

Table 4
Requested Revisions to the Text of the Proposed Amendments Not Made in Final Adoption

Section Affected	Source(s) of Request: Requested Revision(s)	Explanation
611.111	JCAR: Keep the comma outside the closing quotation marks after "Sources."	The Board prefers to follow the American style and keep the ending commas and periods inside the quotation marks, even when they are not part of the quoted material.
611.212 preamble	JCAR: Keep the period outside the closing quotation marks after "water."	The Board prefers to follow the American style and keep the ending commas and periods inside the quotation marks, even when they are not part of the quoted material.
611.212(f)(1)	JCAR: Add a comma after the ending conjunction "or"	The comma is unnecessary, and it has not been a segment of the text since October 13, 2003.

611.212(g)(2)	JCAR: Keep the comma outside the closing quotation marks after "Sources."	The Board prefers to follow the American style and keep the ending commas and periods inside the quotation marks, even when they are not part of the quoted material.
611.212(h)	JCAR: Keep the period outside the closing quotation marks after "water."	The Board prefers to follow the American style and keep the ending commas and periods inside the quotation marks, even when they are not part of the quoted material.
611.359(c)(1)	JCAR: Change the "≥" symbol to "=" (twice).	The appropriate symbol is "≥."
611.Appendix D	JCAR: Change "100 mℓ" to hyphenated "100 mℓ."	The Board prefers the non-hyphenated "100 mℓ."

ORDER

The Board proposes the following amendments for public comment:

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
611.105 Electronic Reporting
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

SUBPART B: FILTRATION AND DISINFECTION

SUBPART C: USE OF NON-CENTRALIZED TREATMENT DEVICES

SUBPART D: TREATMENT TECHNIQUES

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

SUBPART G: LEAD AND COPPER

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

SUBPART K: GENERAL MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART L: MICROBIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART M: TURBIDITY MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART O: ORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART P: THM MONITORING AND ANALYTICAL REQUIREMENTS

SUBPART Q: RADIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

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

SUBPART T: REPORTING AND RECORDKEEPING

SUBPART U: CONSUMER CONFIDENCE REPORTS

Section

SUBPART V: PUBLIC NOTIFICATION OF DRINKING WATER VIOLATIONS

Section

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

Section

611.Appendix H	Standard Health Effects Language for Public Notification
611.Appendix I	Acronyms Used in Public Notification Regulation
611.Table A	Total Coliform Monitoring Frequency
611.Table B	Fecal or Total Coliform Density Measurements
611.Table C	Frequency of RDC Measurement
611.Table D	Number of Lead and Copper Monitoring Sites
611.Table E	Lead and Copper Monitoring Start Dates
611.Table F	Number of Water Quality Parameter Sampling Sites
611.Table G	Summary of Section 611.357 Monitoring Requirements for Water Quality Parameters
611.Table Z	Federal Effective Dates

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

SOURCE: Adopted in R88-26 at 14 Ill. Reg. 16517, effective September 20, 1990; amended in R90-21 at 14 Ill. Reg. 20448, effective December 11, 1990; amended in R90-13 at 15 Ill. Reg. 1562, effective January 22, 1991; amended in R91-3 at 16 Ill. Reg. 19010, effective December 1, 1992; amended in R92-3 at 17 Ill. Reg. 7796, effective May 18, 1993; amended in R93-1 at 17 Ill. Reg. 12650, effective July 23, 1993; amended in R94-4 at 18 Ill. Reg. 12291, effective July 28, 1994; amended in R94-23 at 19 Ill. Reg. 8613, effective June 20, 1995; amended in R95-17 at 20 Ill. Reg. 14493, effective October 22, 1996; amended in R98-2 at 22 Ill. Reg. 5020, effective March 5, 1998; amended in R99-6 at 23 Ill. Reg. 2756, effective February 17, 1999; amended in R99-12 at 23 Ill. Reg. 10348, effective August 11, 1999; amended in R00-8 at 23 Ill. Reg. 14715, effective December 8, 1999; amended in R00-10 at 24 Ill. Reg. 14226, effective September 11, 2000; amended in R01-7 at 25 Ill. Reg. 1329, effective January 11, 2001; amended in R01-20 at 25 Ill. Reg. 13611, effective October 9, 2001; amended in R02-5 at 26 Ill. Reg. 3522, effective February 22, 2002; amended in R03-4 at 27 Ill. Reg. 1183, effective January 10, 2003; amended in R03-15 at 27 Ill. Reg. 16447, effective October 10, 2003; amended in R04-3 at 28 Ill. Reg. 5269, effective March 10, 2004; amended in R04-13 at 28 Ill. Reg. 12666, effective August 26, 2004; amended in R05-6 at 29 Ill. Reg. 2287, effective January 28, 2005; amended in R06-15 at 30 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL

Section 611.102 Incorporations by Reference

a) Abbreviations and short-name listing of references. The following names and abbreviated names, presented in alphabetical order, are used in this Part to refer to materials incorporated by reference:

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

"ASTM Method" means a method published by and available from the American Society for Testing and Materials (ASTM).

“Colisure Test” means “Colisure Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia Coli in Drinking Water,” available from Millipore Corporation, Technical Services Department.

“Colitag® Test” means “Colitag® Product as a Test for Detection and Identification of Coliforms and E. coli Bacteria in Drinking Water and Source Water as Required in National Primary Drinking Water Regulations,” available from CPI International.

“Dioxin and Furan Method 1613” means “Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope-Dilution HRGC/HRMS,” available from NTIS.

“GLI Method 2” means GLI Method 2, “Turbidity,” Nov. 2, 1992, available from Great Lakes Instruments, Inc.

“Hach FilterTrak Method 10133” means “Determination of Turbidity by Laser Nephelometry,” available from Hach Co.

“HASL Procedure Manual” means HASL Procedure Manual, HASL 300, available from ERDA Health and Safety Laboratory.

“Kelada 01” means “Kelada Automated Test Methods for Total Cyanide, Acid Dissociable Cyanide, And Thiocyanate,” Revision 1.2, August 2001, EPA # 821–B–01–009, available from the National Technical Information Service (NTIS).

“Membrane Filter Technique using Chromocult Doliform Agar” means “Chromocult Coliform Agar Presence/Absence Membrane Filter Test Method for Detection and Identification of Coliform Bacteria and Escherichia coli in Finished Waters,” available from EMD Chemicals Inc.

“NCRP” means “National Council on Radiation Protection.”

“NTIS” means “National Technical Information Service.”

“New Jersey Radium Method” means “Determination of Radium 228 in Drinking Water,” available from the New Jersey Department of Environmental Protection.

“New York Radium Method” means “Determination of Ra-226 and Ra-228 (Ra-02),” available from the New York Department of Public Health.

“ONGP-MUG Test” (meaning “minimal medium ortho-nitrophenyl-beta-d-galactopyranoside-4-methyl-umbelliferyl-beta-d-glucuronide test”), also

called the “Autoanalysis Colilert System,” is Method 9223, available in “Standard Methods for the Examination of Water and Wastewater,” 18th ed., from American Public Health Association.

“Palintest Method 1001” means “Method Number 1001,” available from Palintest, Ltd. or the Hach Company.

“QuikChem Method 10–204–00–1-X” means “Digestion and distillation of total cyanide in drinking and wastewaters using MICRO DIST and determination of cyanide by flow injection analysis,” available from Lachat Instruments.

“Readycult Coliforms 100 Presence/Absence Test” means “Readycult Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Finished Waters,” available from EMD Chemicals Inc.

“SimPlate Method” means “IDEXX SimPlate TM HPC Test Method for Heterotrophs in Water,” available from IDEXX Laboratories, Inc.

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

“Standard Methods” means “Standard Methods for the Examination of Water and Wastewater,” available from the American Public Health Association or the American Waterworks Association.

“Syngenta AG-625” means “Atrazine in Drinking Water by Immunoassay,” February 2001 is available from Syngenta Crop Protection, Inc.

“Technical Bulletin 601” means “Technical Bulletin 601, Standard Method of Testing for Nitrate in Drinking Water,” July 1994, available from Analytical Technology, Inc.

“Technicon Methods” means “Fluoride in Water and Wastewater,” available from Bran & Luebbe.

“USDOE Manual” means “EML Procedures Manual,” available from the United State Department of Energy.

“USEPA Asbestos Methods-100.1” means Method 100.1, “Analytical Method for Determination of Asbestos Fibers in Water,” September 1983, available from NTIS.

“USEPA Asbestos Methods-100.2” means Method 100.2, “Determination

of Asbestos Structures over 10-mm in Length in Drinking Water," June 1994, available from NTIS.

"USEPA Environmental Inorganics Methods" means "Methods for the Determination of Inorganic Substances in Environmental Samples," August 1993, available from NTIS.

"USEPA Environmental Metals Methods" means "Methods for the Determination of Metals in Environmental Samples," available from NTIS.

"USEPA Inorganic Methods" means "Methods for Chemical Analysis of Water and Wastes," March 1983, available from NTIS.

"USEPA Interim Radiochemical Methods" means "Interim Radiochemical Methodology for Drinking Water," EPA 600/4-75-008 (revised), March 1976. Available from NTIS.

"USEPA Organic Methods" means "Methods for the Determination of Organic Compounds in Drinking Water," July 1991, for Methods 502.2, 505, 507, 508, 508A, 515.1, and 531.1; "Methods for the Determination of Organic Compounds in Drinking Water—Supplement I," July 1990, for Methods 506, 547, 550, 550.1, and 551; and "Methods for the Determination of Organic Compounds in Drinking Water—Supplement II," August 1992, for Methods 515.2, 524.2, 548.1, 549.1, 552.1, and 555, available from NTIS. Methods 504.1, 508.1, and 525.2 are available from EPA EMSL; "Methods for the Determination of Organic Compounds" in Drinking Water—Supplement II, August 1992, for Method 552.1; "Methods for the Determination of Organic Compounds in Drinking Water—Supplement III," August 1995, for Methods 502.2, 524.2, 551.1, and 552.2. Method 515.4, "Determination of Chlorinated Acids in Drinking Water by Liquid-Liquid Microextraction, Derivatization and Fast Gas Chromatography with Electron Capture Detection," Revision 1.0, April 2000, EPA 815/B–00/001, and Method 531.2, "Measurement of N-methylcarbamoyloximes and N-methylcarbamates in Water by Direct Aqueous Injection HPLC with Postcolumn Derivatization," Revision 1.0, September 2001, EPA 815/B/01/002, are both available on-line from USEPA, Office of Ground Water and Drinking Water.

"USEPA Radioactivity Methods" means "Prescribed Procedures for Measurement of Radioactivity in Drinking Water," EPA 600/4-80-032, August 1980. Available from NTIS.

"USEPA Radiochemical Analyses" means "Radiochemical Analytical Procedures for Analysis of Environmental Samples," March 1979. Available from NTIS.

"USEPA Radiochemistry Methods" means "Radiochemistry Procedures Manual," EPA 520/5-84-006, December 1987. Available from NTIS.

"USEPA Technical Notes" means "Technical Notes on Drinking Water Methods," available from NTIS.

"USGS Methods" means "Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory--Determination of Inorganic and Organic Constituents in Water and Fluvial Sediments," available from NTIS and USGS.

"Waters Method B-1011" means "Waters Test Method for the Determination of Nitrite/Nitrate in Water Using Single Column Ion Chromatography," available from Waters Corporation, Technical Services Division.

b) The Board incorporates the following publications by reference:

~~Advanced Polymer Systems, 3696 Haven Avenue, Redwood City, CA 94063 415-366-2626.~~

~~Amco-AEPA-1 Polymer. See 40 CFR 141.22(a) (2003). Also, as referenced in ASTM D1889.~~

American Public Health Association, 1015 Fifteenth Street NW, Washington, DC 20005 (800-645-5476).

"Standard Methods for the Examination of Water and Wastewater," 17th Edition, 1989 (referred to as "Standard Methods, 17th ed."). See the methods listed separately for the same references under American Waterworks Association.

"Standard Methods for the Examination of Water and Wastewater," 18th Edition, 1992, including "Supplement to the 18th Edition of Standard Methods for the Examination of Water and Wastewater," 1994 (collectively referred to as "Standard Methods, 18th ed."). See the methods listed separately for the same references under American Waterworks Association.

"Standard Methods for the Examination of Water and Wastewater," 19th Edition, 1995 (referred to as "Standard Methods, 19th ed."). See the methods listed separately for the same references under American Waterworks Association.

"Standard Methods for the Examination of Water and

Wastewater," 20th Edition, 1998 (referred to as "Standard Methods, 20th ed."). See the methods listed separately for the same references under American Waterworks Association.

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

"National Field Evaluation of a Defined Substrate Method for the Simultaneous Enumeration of Total Coliforms and Escherichia coli for Drinking Water: Comparison with the Standard Multiple Tube Fermentation Method," S.C. Edberg, M.J. Allen & D.B. Smith, Applied Environmental Microbiology, vol. 54, iss. 6, pp 1595-1601 (1988), referenced in Appendix D to this Part.

"Standard Methods for the Examination of Water and Wastewater," 13th Edition, 1971 (referred to as "Standard Methods, 13th ed.").

Method 302, Gross Alpha and Gross Beta Radioactivity in Water (Total, Suspended, and Dissolved), referenced in Section 611.720.

Method 303, Total Radioactive Strontium and Strontium 90 in Water, referenced in Section 611.720.

Method 304, Radium in Water by Precipitation, referenced in Section 611.720.

Method 305, Radium 226 by Radon in Water (Soluble, Suspended, and Total), referenced in Section 611.720.

Method 306, Tritium in Water, referenced in Section 611.720.

"Standard Methods for the Examination of Water and Wastewater," 17th Edition, 1989 (referred to as "Standard Methods, 17th ed.").

Method 7110 B, Gross Alpha and Gross Beta Radioactivity in Water (Total, Suspended, and Dissolved), referenced in Section 611.720.

Method 7500-Cs B, Radioactive Cesium, Precipitation Method, referenced in Section 611.720.

Method 7500-^{3}H B, Tritium in Water, referenced in Section

611.720.

Method 7500-I B, Radioactive Iodine, Precipitation Method, referenced in Section 611.720.

Method 7500-I C, Radioactive Iodine, Ion-Exchange Method, referenced in Section 611.720.

Method 7500-I D, Radioactive Iodine, Distillation Method, referenced in Section 611.720.

Method 7500-Ra B, Radium in Water by Precipitation, referenced in Section 611.720.

Method 7500-Ra C, Radium 226 by Radon in Water (Soluble, Suspended, and Total), referenced in Section 611.720.

Method 7500-Ra D, Radium, Sequential Precipitation Method (Proposed), referenced in Section 611.720.

Method 7500-Sr B, Total Radioactive Strontium and Strontium 90 in Water, referenced in Section 611.720.

Method 7500-U B, Uranium, Radiochemical Method (Proposed), referenced in Section 611.720.

Method 7500-U C, Uranium, Isotopic Method (Proposed), referenced in Section 611.720.

"Standard Methods for the Examination of Water and Wastewater," 18th Edition, 1992 (referred to as "Standard Methods, 18th ed.").

Method 2130 B, Turbidity, Nephelometric Method, referenced in Section 611.531.

Method 2320 B, Alkalinity, Titration Method, referenced in Section 611.611.

Method 2510 B, Conductivity, Laboratory Method, referenced in Section 611.611.

Method 2550, Temperature, Laboratory and Field Methods, referenced in Section 611.611.

Method 3111 B, Metals by Flame Atomic Absorption Spectrometry, Direct Air-Acetylene Flame Method, referenced in Sections 611.611 and 611.612.

Method 3111 D, Metals by Flame Atomic Absorption Spectrometry, Direct Nitrous Oxide-Acetylene Flame Method, referenced in Section 611.611.

Method 3112 B, Metals by Cold-Vapor Atomic Absorption Spectrometry, Cold-Vapor Atomic Absorption Spectrometric Method, referenced in Section 611.611.

Method 3113 B, Metals by Electrothermal Atomic Absorption Spectrometry, Electrothermal Atomic Absorption Spectrometric Method, referenced in Sections 611.611 and 611.612.

Method 3114 B, Metals by Hydride Generation/Atomic Absorption Spectrometry, Manual Hydride Generation/Atomic Absorption Spectrometric Method, referenced in Section 611.611.

Method 3120 B, Metals by Plasma Emission Spectroscopy, Inductively Coupled Plasma (ICP) Method, referenced in Sections 611.611 and 611.612.

Method 3500-Ca D, Calcium, EDTA Titrimetric Method, referenced in Section 611.611.

Method 3500-Mg E, Magnesium, Calculation Method, referenced in Section 611.611.

Method 4110 B, Determination of Anions by Ion Chromatography, Ion Chromatography with Chemical Suppression of Eluent Conductivity, referenced in Section 611.611.

Method 4500-CN^- C, Cyanide, Total Cyanide after Distillation, referenced in Section 611.611.

Method 4500-CN^- E, Cyanide, Colorimetric Method, referenced in Section 611.611.

Method 4500-CN^- F, Cyanide, Cyanide-Selective Electrode Method, referenced in Section 611.611.

Method 4500-CN^- G, Cyanide, Cyanides Amenable to Chlorination after Distillation, referenced in Section 611.611.

Method 4500-Cl D, Chlorine, Amperometric Titration Method, referenced in Section 611.531.

Method 4500-Cl E, Chlorine, Low-Level Amperometric Titration Method, referenced in Section 611.531.

Method 4500-Cl F, Chlorine, DPD Ferrous Titrimetric Method, referenced in Section 611.531.

Method 4500-Cl G, Chlorine, DPD Colorimetric Method, referenced in Section 611.531.

Method 4500-Cl H, Chlorine, Syringaldazine (FACTS) Method, referenced in Section 611.531.

Method 4500-Cl I, Chlorine, Iodometric Electrode Method, referenced in Section 611.531.

Method 4500-ClO_2 C, Chlorine Dioxide, Amperometric Method I, referenced in Section 611.531.

Method 4500-ClO_2 D, Chlorine Dioxide, DPD Method, referenced in Section 611.531.

Method 4500-ClO_2 E, Chlorine Dioxide, Amperometric Method II (Proposed), referenced in Section 611.531.

Method 4500-F^- B, Fluoride, Preliminary Distillation Step, referenced in Section 611.611.

Method 4500-F^- C, Fluoride, Ion-Selective Electrode Method, referenced in Section 611.611.

Method 4500-F^- D, Fluoride, SPADNS Method, referenced in Section 611.611.

Method 4500-F^- E, Fluoride, Complexone Method, referenced in Section 611.611.

Method 4500-H^+ B, pH Value, Electrometric Method, referenced in Section 611.611.

Method 4500-NO_2^- B, Nitrogen (Nitrite), Colorimetric Method, referenced in Section 611.611.

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"Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," NCRP Report Number 22, June 5, 1959, referenced in Section 611.101.

NSF. National Sanitation Foundation International, 3475 Plymouth Road, PO Box 130140, Ann Arbor, Michigan 48113-0140, (734-769-8010).

NSF Standard 61, section 9, November 1998, referenced in Sections 611.126 and 611.356.

NTIS. National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161, (703-487-4600 or 800-553-6847).

"Interim Radiochemical Methodology for Drinking Water," EPA 600/4-75-008 (revised), March 1976 (referred to as "USEPA Interim Radiochemical Methods"), referenced in Section 611.720. (Pages 1, 4, 6, 9, 13, 16, 24, 29, 34)

"Kelada Automated Test Methods for Total Cyanide, Acid Dissociable Cyanide, And Thiocyanate," Revision 1.2, August 2001, EPA # 821–B–01–009 (referred to as "Kelada 01"), referenced in Section 611.611.

"Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for

Occupational Exposure," NBS (National Bureau of Standards) Handbook 69, as amended August 1963, U.S. Department of Commerce, referenced in Section 611.330.

Method 100.1, "Analytical Method for Determination of Asbestos Fibers in Water," EPA-600/4-83-043, September 1983, Doc. No. PB83-260471 (referred to as "USEPA Asbestos Methods-100.1"), referenced in Section 611.611.

Method 100.2, "Determination of Asbestos Structures over 10-mm in Length in Drinking Water," EPA-600/4-83-043, June 1994, Doc. No. PB94-201902 (referred to as "USEPA Asbestos Methods-100.2"), referenced in Section 611.611.

"Methods for Chemical Analysis of Water and Wastes," March 1983, Doc. No. PB84-128677 (referred to as "USEPA Inorganic Methods"). (Methods 150.1, 150.2, and 245.2, which formerly appeared in this reference, are available from USEPA EMSL.), referenced in Section 611.611.

"Methods for the Determination of Inorganic Substances in Environmental Samples," August 1993, PB94-120821 (referred to as "USEPA Environmental Inorganic Methods"), referenced in Sections 611.531 and 611.611.

"Methods for the Determination of Metals in Environmental Samples," June 1991, Doc. No. PB91-231498 and "Methods for the Determination of Metals in Environmental Samples--Supplement I," May 1994, PB95-125472 (referred to as "USEPA Environmental Metals Methods"), referenced in Sections 611.611, 611.612, and 611.720.

"Methods for the Determination of Organic Compounds in Drinking Water," December 1988, revised July 1991, EPA-600/4-88/039 (referred to as "USEPA Organic Methods"), referenced in Sections 611.645 and 611.648. (For methods 502.2, 505, 507, 508, 508A, 515.1, and 531.1.)

"Methods for the Determination of Organic Compounds in Drinking Water—Supplement I," July 1990, ~~EPA/600-4-90-020~~ EPA-600/4-90-020 (referred to as "USEPA Organic Methods"), referenced in Section 611.645. (For methods 506, 547, 550, 550.1, and 551.)

"Methods for the Determination of Organic Compounds in Drinking Water—Supplement II," August 1992, EPA-600/R-92-

129 (referred to as "USEPA Organic Methods"), referenced in Section 611.645. (For methods 515.2, 524.2, 548.1, 549.1, 552.1, and 555.)

"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," EPA 600/4-80-032, August 1980 (document number PB 80-224744) (referred to as "USEPA Radioactivity Methods"), referenced in Section 611.720. (Methods 900, 901, 901.1, 902, 903, 903.1, 904, 905, 906, 908, 908.1)

"Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions," H.L. Krieger and S. Gold, EPA-R4-73-014, May 1973, Doc. No. PB222-154/7BA, referenced in Section 611.720.

"Radiochemical Analytical Procedures for Analysis of Environmental Samples," March 1979, Doc. No. EMSL LV 053917 (referred to as "USEPA Radiochemical Analyses"), referenced in Section 611.720. (Pages 1, 19, 33, 65, 87, 92)

"Radiochemistry Procedures Manual," EPA-520/5-84-006, December 1987, Doc. No. PB-84-215581 (referred to as "USEPA Radiochemistry Methods"), referenced in Section 611.720. (Methods 00-01, 00-02, 00-07, H-02, Ra-03, Ra-04, Ra-05, Sr-04)

"Technical Notes on Drinking Water Methods," EPA-600/R-94-173, October 1994, Doc. No. PB-104766 (referred to as "USEPA Technical Notes"), referenced in Sections 611.531, 611.611, and 611.685.

BOARD NOTE: USEPA made the following assertion with regard to this reference at 40 CFR 141.23(k)(1) and 141.24(e) and (n)(11) ~~(2003)~~ (2005): "This document contains other analytical test procedures and approved analytical methods that remain available for compliance monitoring until July 1, 1996."

"Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS," October 1994, ~~EPA-821-B-94-005~~ EPA-821/B-94-005 (referred to as "Dioxin and Furan Method 1613"), referenced in Section 611.645.

New Jersey Department of Environment, Division of Environmental Quality, Bureau of Radiation and Inorganic Analytical Services, 9 Ewing Street, Trenton, NJ 08625.

"Determination of Radium 228 in Drinking Water," August 1990

(referred to as "New Jersey Radium Method"), referenced in Section 611.720.

New York Department of Health, Radiological Sciences Institute, Center for Laboratories and Research, Empire State Plaza, Albany, NY 12201.

"Determination of Ra-226 and Ra-228 (Ra-02)," January 1980, Revised June 1982 (referred to as "New York Radium Method"), referenced in Section 611.720.

Palintest, Ltd., 21 Kenton Lands Road, P.O. Box 18395, Erlanger, KY (800-835-9629).

"Lead in Drinking Water by Differential Pulse Anodic Stripping Voltammetry," Method 1001, August 1999 (referred to as "Palintest Method 1001"), referenced in Section 611.611.

Syngenta Crop Protection, Inc., 410 Swing Road, Post Office Box 18300, Greensboro, NC 27419~~. Telephone:~~ (336-632–6000).

"Atrazine in Drinking Water by Immunoassay," February 2001 (referred to as "Syngenta AG-625"), referenced in Section 611.645.

United States Department of Energy, available at the Environmental Measurements Laboratory, U.S. Department of Energy, 376 Hudson Street, New York, NY 10014-3621.

"EML Procedures Manual," 27th Edition, Volume 1, 1990 (referred to as "USDOE Manual"), referenced in Section 611.720.

United States Environmental Protection Agency, Office of Ground Water and Drinking Water~~,~~ (accessible on-line and available by download from http://www.epa.gov/safewater/methods/).

Method 515.4, "Determination of Chlorinated Acids in Drinking Water by Liquid-Liquid Microextraction, Derivatization and Fast Gas Chromatography with Electron Capture Detection," Revision 1.0, April 2000, ~~EPA 815/B 00/001~~ EPA-815/B-00-001 (document file name "met515_4.pdf"), referenced in Section 611.645.

Method 531.2, "Measurement of N-methylcarbamoyloximes and N-methylcarbamates in Water by Direct Aqueous Injection HPLC with Postcolumn Derivatization," Revision 1.0, September 2001, ~~EPA 815/B/01/002~~ EPA-815/B-01-002 (document file name

"met531_2.pdf"), referenced in Section 611.645.

United States Environmental Protection Agency, EMSL, Cincinnati, OH 45268 (513-569-7586).

"Interim Radiochemical Methodology for Drinking Water," EPA-600/4-75-008 (revised), March 1976 (referred to as "USEPA Interim Radiochemical Methods"), referenced in Section 611.720. ~~(Revised) March 1976.~~See NTIS.

"Methods for the Determination of Organic Compounds in ~~Finished~~ Drinking Water ~~and Raw Source Water~~," December 1988, revised July 1991, EPA-600/4-88/039" (referred to as "USEPA Organic Methods"), referenced in Sections 611.645 and 611.648. (For methods 504.1, 508.1, and 525.2 only.) See NTIS.

"Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions," referenced in Section 611.720. See NTIS.

USEPA, Science and Technology Branch, Criteria and Standards Division, Office of Drinking Water, Washington, D.C. 20460.

"Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources," October 1989, referenced in Sections 611.111 and 611.212.

USGS. Books and Open-File Reports Section, United States Geological Survey, Federal Center, Box 25286, Denver, CO 80225-0425.

Methods available upon request by method number from "Methods for Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Inorganic and Organic Constituents in Water and Fluvial Sediments," Open File Report 93-125, 1993, or Book 5, Chapter A-1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments," 3rd ed., Open-File Report 85-495, 1989, as appropriate (referred to as "USGS Methods").

I-1030-85, referenced in Section 611.611.

~~I-1062-85~~

I-1601-85, referenced in Section 611.611.

I-1700-85, referenced in Section 611.611.

I-2598-85, referenced in Section 611.611.

I-2601-90, referenced in Section 611.611.

I-2700-85, referenced in Section 611.611.

I-3300-85, referenced in Section 611.611.

Methods available upon request by method number from "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments," Chapter A5 in Book 5 of "Techniques of Water-Resources Investigations of the United States Geological Survey," 1997.

R-1110-76, referenced in Section 611.720.

R-1111-76, referenced in Section 611.720.

R-1120-76, referenced in Section 611.720.

R-1140-76, referenced in Section 611.720.

R-1141-76, referenced in Section 611.720.

R-1142-76, referenced in Section 611.720.

R-1160-76, referenced in Section 611.720.

R-1171-76, referenced in Section 611.720.

R-1180-76, referenced in Section 611.720.

R-1181-76, referenced in Section 611.720.

R-1182-76, referenced in Section 611.720.

Waters Corporation, Technical Services Division, 34 Maple St., Milford, MA 01757 (800-252-4752).

"Waters Test Method for Determination of Nitrite/Nitrate in Water Using Single Column Ion Chromatography," Method B-1011, August 1987 (referred to as "Waters Method B-1011"), referenced in Section 611.611.

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

40 CFR 3.2, as added at 70 Fed. Reg. 59848 (Oct. 13, 2005) (How Does This Part Provide for Electronic Reporting?), referenced in Section 611.105.

40 CFR 3.3, as added at 70 Fed. Reg. 59848 (Oct. 13, 2005) (What Definitions Are Applicable to This Part?), referenced in Section 611.105.

40 CFR 3.10, as added at 70 Fed. Reg. 59848 (Oct. 13, 2005) (What Are the Requirements for Electronic Reporting to EPA?), referenced in Section 611.105.

40 CFR 3.2000, as added at 70 Fed. Reg. 59848 (Oct. 13, 2005) (What Are the Requirements Authorized State, Tribe, and Local Programs' Reporting Systems Must Meet?), referenced in Section 611.105.

Appendix B to 40 CFR 136~~, Appendices B and C (2003)~~ (2005), referenced in Sections 611.359, 611.609 and 611.646.

d) This Part incorporates no later amendments or editions.

(Source: Amended at 30 Ill. Reg. _____, effective _____)

Section 611.105 Electronic Reporting

The submission of any document pursuant to any provision of this Part as an electronic document in lieu of a paper document is subject to this Section.

a) Scope and Applicability.

1) The USEPA, the Board, or the Agency may allow for the submission of electronic documents in lieu of paper documents. This Section does not require submission of electronic documents in lieu of paper documents. This Section sets forth the requirements for the optional electronic submission of any document that must be submitted to the appropriate of the following:

A) To USEPA directly under Title 40 of the Code of Federal Regulations; or

B) To the Board or the Agency pursuant to any provision of 35 Ill. Adm. Code 702 through 705, 720 through 728, 730, 733, 738, or 739.

2) Electronic document submission under this Section can occur only as follows:

A) For submissions of documents to USEPA, submissions may occur only after USEPA has published a notice in the Federal Register announcing that USEPA is prepared to receive, in an electronic format, documents required or permitted by the identified part or subpart of Title 40 of the Code of Federal Regulations; or

B) For submissions of documents to the State, submissions may occur only under the following circumstances:

i) As to any existing electronic document receiving system (i.e., one in use or substantially developed on or before October 13, 2005) for which an electronic reporting application has not been submitted on behalf of the Board or the Agency to USEPA pursuant to 40 CFR 3.1000, the Board or the Agency may use that system until October 13, 2007, or until such later date as USEPA has approved in writing as the extended deadline for submitting the application;

ii) As to any existing electronic document receiving system (i.e., one in use or substantially developed on or before October 13, 2005) for which an electronic reporting application has been submitted on behalf of the Board or the Agency to USEPA pursuant to 40 CFR 3.1000 on or before October 13, 2007, or on or before such later date as USEPA has approved in writing as the extended deadline for submitting the application, the Board or the Agency may use that system until USEPA disapproves its use in writing; or

iii) The Board or the Agency may use any electronic document receiving system for which USEPA has granted approval pursuant to 40 C.F.R. 3.1000, so long as the system complies with 40 C.F.R. 3.2000, incorporated by reference in Section 611.102(c), and USEPA has not withdrawn its approval of the system in writing.

3) This Section does not apply to any of the following documents, whether or not the document is a document submitted to satisfy the requirements cited in subsection (a)(1) of this Section:

A) Any document submitted via fascimile;

B) Any document submitted via magnetic or optical media, such as diskette, compact disc, digital video disc, or tape; or

C) Any data transfer between USEPA, any state, or any local government and either the Board or the Agency as part of administrative arrangements between the parties to the transfer to share data.

4) Upon USEPA conferring written approval for the submission of any types of documents as electronic documents in lieu of paper documents, as described in subsection (a)(2)(B)(iii) of this Section, the Agency or the Board, as appropriate, must publish a Notice of Public Information in the Illinois Register that describes the documents approved for submission as electronic documents, the electronic document receiving system approved to receive them, the acceptable formats and procedures for their submission, and, as applicable, the date on which the Board or the Agency will begin to receive those submissions. In the event of written cessation of USEPA approval for receiving any type of document as an electronic document in lieu of a paper document, the Board or the Agency must similarly cause publication of a Notice of Public Information in the Illinois Register.

BOARD NOTE: Subsection (a) of this Section is derived from 40 CFR 3.1, 3.2, 3.10, 3.20, and 3.1000, as added at 70 Fed. Reg. 59848 (Oct. 13, 2005).

b) Definitions. For the purposes of this Section, terms will have the meaning attributed them in 40 CFR 3.3, incorporated by reference in 35 Ill. Adm. Code 611.102(c).

c) Procedures for submission of electronic documents in lieu of paper documents to USEPA. Except as provided in subsection (a)(3) of this Section, any person who is required under Title 40 of the Code of Federal Regulations to create and submit or otherwise provide a document to USEPA may satisfy this requirement with an electronic document, in lieu of a paper document, provided the following conditions are met:

1) The person satisfies the requirements of 40 CFR 3.10, incorporated by reference in Section 611.102(c); and

2) USEPA has first published a notice in the Federal Register as described in subsection (a)(2)(A) of this Section.

BOARD NOTE: Subsection (c) of this Section is derived from 40 CFR 3.2(a) and subpart B of 40 CFR 3, as added at 70 Fed. Reg. 59848 (Oct. 13, 2005).

d) Procedures for submission of electronic documents in lieu of paper documents to the Board or the Agency.

1) The Board or the Agency may, but is not required to, establish procedural rules for the electronic submission of documents. The Board or the Agency must establish any such procedural rules under the Administrative Procedure Act [5 ILCS 100/Art. 5].

2) The Board or the Agency may accept electronic documents under this Section only as provided in subsection (a)(2)(B) of this Section.

BOARD NOTE: Subsection (d) of this Section is derived from 40 CFR 3.2(b) and subpart D of 40 CFR 3, as added at 70 Fed. Reg. 59848 (Oct. 13, 2005).

e) Effects of submission of an electronic document in lieu of paper documents.

1) If a person who submits a document as an electronic document fails to comply with the requirements of this Section, that person is subject to the penalties prescribed for failure to comply with the requirement that the electronic document was intended to satisfy.

2) Where a document submitted as an electronic document to satisfy a reporting requirement bears an electronic signature, the electronic signature legally binds, obligates, and makes the signer responsible to the same extent as the signer's handwritten signature would on a paper document submitted to satisfy the same reporting requirement.

3) Proof that a particular signature device was used to create an electronic signature will suffice to establish that the individual uniquely entitled to use the device did so with the intent to sign the electronic document and give it effect.

4) Nothing in this Section limits the use of electronic documents or information derived from electronic documents as evidence in enforcement or other proceedings.

BOARD NOTE: Subsection (e) of this Section is derived from 40 CFR 3.4 and 3.2000(c), as added at 70 Fed. Reg. 59848 (Oct. 13, 2005).

f) Public document subject to State laws. Any electronic document filed with the Board is a public document. The document, its submission, its retention by the Board, and its availability for public inspection and copying are subject to various State laws, including, but not limited to, the following:

1) The Administrative Procedure Act [5 ILCS 100];

2) The Freedom of Information Act [5 ILCS 140];

3) The State Records Act [5 ILCS 160];

4) The Electronic Commerce Security Act [5 ILCS 175];

5) The Environmental Protection Act [415 ILCS 5];

6) Regulations relating to public access to Board records (2 Ill. Adm. Code 2175); and

7) Board procedural rules relating to protection of trade secrets and confidential information (35 Ill. Adm. Code 130).

g) Nothing in this Section or in any provisions adopted pursuant to subsection (d)(1) of this Section will create any right or privilege to submit any document as an electronic document.

BOARD NOTE: Subsection (g) of this Section is derived from 40 CFR 3.2(c), as added at 70 Fed. Reg. 59848 (Oct. 13, 2005).

BOARD NOTE: Derived from 40 CFR 3, as added, and 40 CFR 142.10(g) (2005), as amended at 70 Fed. Reg. 59848 (Oct. 13, 2005).

(Source: Added at 30 Ill. Reg. _____, effective _____)

Section 611.111 Relief Equivalent to SDWA Section 1415(a) Variances

This Section is intended to describe how the Board grants State relief equivalent to that available from USEPA under section 1415(a)(1)(A) and (a)(1)(B) of the SDWA (42 USC 300g-4(a)(1)(A) and (a)(1)(B)). SDWA section 1415 variances do not require ultimate compliance within five years in every situation. Variances under Sections 35-37 of the Act [415 ILCS 5/35-37] do require compliance within five years in every case. Consequently, a PWS may have the option of seeking State regulatory relief equivalent to a SDWA section 1415 variance through one of three procedural mechanisms: a variance under Sections 35-37 of the Act [415 ILCS 5/35-37] and Subpart B of 35 Ill. Adm. Code 104; a site-specific rule under Sections 27-28 of the Act [415 ILCS 5/27-28] and 35 Ill. Adm. Code 102; or an adjusted standard under Section 28.1 of the Act [415 ILCS 5/28.1] and Subpart D of 35 Ill. Adm. Code 104.

a) The Board will grant a PWS a variance, a site-specific rule, or an adjusted standard from an MCL or a treatment technique pursuant to this Section.

1) The PWS must file a petition pursuant to 35 Ill. Adm. Code 102 or 104, as applicable.

2) If a State requirement does not have a federal counterpart, the Board may grant relief from the State requirements without following this Section.

b) Relief from an MCL.

1) As part of the justification for relief from an MCL under this Section, the PWS must demonstrate the following:

   A) Because of characteristics of the raw water sources and alternative sources that are reasonably available to the system, the PWS cannot meet the MCL; and

   B) The PWS will install or has installed the best available technology (BAT) (as identified in Subpart F of this Part), treatment technique, or other means that the Agency finds available. BAT may vary depending on the following:

      i) The number of persons served by the system;

      ii) Physical conditions related to engineering feasibility; and

      iii) Costs of compliance; and

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

2) In any order granting relief under this subsection, the Board will prescribe a schedule for the following:

   A) Compliance, including increments of progress, by the PWS, with each MCL with respect to which the relief was granted; and

   B) Implementation by the PWS of each additional control measure for each MCL with respect to which the relief is granted, during the period ending on the date compliance with such requirement is required.

3) Schedule of compliance for relief from an MCL.

   A) A schedule of compliance will require compliance with each MCL with respect to which the relief was granted as expeditiously as practicable.

   B) If the Board prescribes a schedule requiring compliance with an MCL for which the relief is granted later than five years from the date of issuance of the relief, the Board will do the following:

      i) Document its rationale for the extended compliance schedule;

      ii) Discuss the rationale for the extended compliance schedule

in the required public notice and opportunity for public hearing; and

iii) Provide the shortest practicable time schedule feasible under the circumstances.

c) Relief from a treatment technique requirement.

1) As part of the justification for relief from a treatment technique requirement under this Section, the PWS must demonstrate that the treatment technique is not necessary to protect the health of persons served because of the nature of the raw water source.

2) The Board may prescribe monitoring and other requirements as a condition for relief from a treatment technique requirement.

d) The Board will hold at least one public hearing. In addition the Board will accept comments as appropriate pursuant to 35 Ill. Adm. Code 102 or 104.

e) The Board will not grant relief from any of the following:

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

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

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

f) The Agency must promptly send USEPA the opinion and order of the Board granting relief pursuant to this Section. The Board may reconsider and modify a grant of relief, or relief conditions, if USEPA notifies the Board of a finding pursuant to section 1415 of the SDWA (42 USC 300g-4).

g) In addition to the requirements of this Section, the provisions of Section 611.130 or 611.131 may apply to relief granted pursuant to this Section.

BOARD NOTE: Derived from 40 CFR 141.4 ~~(2002)~~ (2005), from section 1415(a)(1)(A) and (a)(1)(B) of the SDWA and from the "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources," ~~,~~ incorporated by reference in Section 611.102. USEPA has reserved the discretion to review and

modify or nullify Board determinations made pursuant to this Section at 40 CFR 142.23 ~~(2002)~~ (2005).

(Source: Amended at 30 Ill. Reg. _____, effective _____)

SUBPART B: FILTRATION AND DISINFECTION

Section 611.212 Groundwater under Direct Influence of Surface Water

The Agency shall, pursuant to Section 611.201, require all CWSs to demonstrate whether they are using "groundwater under the direct influence of surface water.". ~~:~~ The Agency must determine with information provided by the supplier whether a PWS uses "groundwater under the direct influence of surface water" on an individual basis. The Agency must determine that a groundwater source is under the direct influence of surface water based upon the following:

a) Physical characteristics of the source: whether the source is obviously a surface water source, such as a lake or stream. Other sources that may be subject to influence from surface waters include: springs, infiltration galleries, wells, or other collectors in subsurface aquifers.

b) Well construction characteristics and geology with field evaluation.

1) The Agency may use the wellhead protection program's requirements, which include delineation of wellhead protection areas, assessment of sources of contamination and implementation of management control systems, to determine if the wellhead is under the influence of surface water.

2) Wells less than or equal to 50 feet in depth are likely to be under the influence of surface water.

3) Wells greater than 50 feet in depth are likely to be under the influence of surface water, unless they include the following:

A) A surface sanitary seal using bentonite clay, concrete, or similar material~~,~~;

B) A well casing that penetrates consolidated (slowly permeable) material; and

C) A well casing that is only perforated or screened below consolidated (slowly permeable) material.

4) A source that is less than 200 feet from any surface water is likely to be under the influence of surface water.

c) Any structural modifications to prevent the direct influence of surface water and eliminate the potential for Giardia lamblia cyst contamination.

d) Source water quality records. The following are indicative that a source is under the influence of surface water:

1) A record of total coliform or fecal coliform contamination in untreated samples collected over the past three years;

2) A history of turbidity problems associated with the source; or

3) A history of known or suspected outbreaks of Giardia lamblia, Cryptosporidium or other pathogenic organisms associated with surface water that has been attributed to that source.

e) Significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH.

1) A variation in turbidity of 0.5 NTU or more over one year is indicative of surface influence.

2) A variation in temperature of ~~9~~ nine Fahrenheit degrees or more over one year is indicative of surface influence.

f) Significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH that closely correlate to climatological or surface water conditions are indicative of surface water influence.

1) Evidence of particulate matter associated with the surface water; or

2) Turbidity or temperature data that correlates to that of a nearby surface water source.

g) Particulate analysis: Significant occurrence of insects or other macroorganisms, algae, or large diameter pathogens such as Giardia lamblia is indicative of surface influence.

1) "Large diameter" particulates are those over ~~7~~ seven micrometers.

2) Particulates must be measured as specified in the "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources," ~~,~~ incorporated by reference in Section 611.102.

h) The potential for contamination by small-diameter pathogens, such as bacteria or viruses, does not alone render the source "under the direct influence of surface

water.".

BOARD NOTE: Derived from the definition of "groundwater under the direct influence of surface water" in 40 CFR 141.2 (2002) (2005); from the Preamble at 54 Fed. Reg. 27489 (June 29, 1989); and from the USEPA "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources,", incorporated by reference in Section 611.102.

(Source: Amended at 30 Ill. Reg. _____, effective _____)

SUBPART G: LEAD AND COPPER

Section 611.359 Analytical Methods

Analyses for lead, copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature must be conducted using the methods set forth in Section 611.611(a).

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

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

2) Achieve quantitative acceptance limits as follows:

A) For lead: ±30 percent of the actual amount in the performance evaluation sample when the actual amount is greater than or equal to 0.005 mg/ℓ (the PQL for lead is 0.005 mg/ℓ);

B) For copper: ±10 percent of the actual amount in the performance evaluation sample when the actual amount is greater than or equal to 0.050 mg/ℓ (the PQL for copper is 0.050 mg/ℓ);

C) Achieve the method detection limit (MDL) for lead (0.001 mg/ℓ, as defined in Section 611.350(a)) according to the procedures in 35 Ill. Adm. Code 186 and appendix B to 40 CFR 136, Appendix B: "Definition and Procedure for the Determination of the Method Detection Limit—Revision 1.11" (2002) (2005), incorporated by reference in Section 611.102(c). This need only be accomplished if the laboratory will be processing source water composite samples under Section 611.358(a)(1)(C); and

D) Be currently certified by USEPA or the Agency to perform

analyses to the specifications described in subsection (a)(2) of this Section.

BOARD NOTE: Subsection (a) is derived from 40 CFR 141.89(a) and (a)(1) ~~(2002)~~ (2005).

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

BOARD NOTE: Subsection (b) is derived from 40 CFR 141.89(a)(2) ~~(2002)~~ (2005).

c) Reporting lead and copper levels.

1) All lead and copper levels greater than or equal to the lead and copper PQL (Pb ≥ 0.005 mg/ℓ and Cu ≥ 0.050 mg/ℓ) must be reported as measured.

2) All lead and copper levels measured less than the PQL and greater than the MDL (0.005 mg/ℓ > Pb > MDL and 0.050 mg/ℓ > Cu > MDL) must be either reported as measured or as one-half the PQL set forth in subsection (a) of this Section (i.e., reported as 0.0025 mg/ℓ for lead or 0.025 mg/ℓ for copper).

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

BOARD NOTE: Subsection (c) is derived from 40 CFR 141.89(a)(3) and (a)(4) ~~(2002)~~ (2005).

(Source: Amended at 30 Ill. Reg. _____, effective _____)

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

Section 611.380 General Requirements

a) The requirements of this Subpart I constitute NPDWRs.

1) The regulations in this Subpart I establish standards under which a CWS supplier or an NTNCWS supplier that adds a chemical disinfectant to the water in any part of the drinking water treatment process ~~or which provides water that contains a chemical disinfectant~~ must modify its practices to meet MCLs and MRDLs in Sections 611.312 and 611.313, respectively, and

must meet the treatment technique requirements for DBP precursors in Section 611.385.

2) The regulations in this Subpart I establish standards under which a transient non-CWS supplier that uses chlorine dioxide as a disinfectant or oxidant must modify its practices to meet the MRDL for chlorine dioxide in Section 611.313.

3) The Board has established MCLs for TTHM and HAA5 and treatment technique requirements for DBP precursors to limit the levels of known and unknown DBPs that may have adverse health effects. These DBPs may include chloroform, bromodichloromethane, dibromochloromethane, bromoform, dichloroacetic acid, and trichloroacetic acid.

b) Compliance dates.

1) CWSs and NTNCWSs. Unless otherwise noted, a supplier must comply with the requirements of this Subpart I as follows: A Subpart B system supplier serving 10,000 or more persons must comply with this Subpart I beginning January 1, 2002. A Subpart B system supplier serving fewer than 10,000 persons or a supplier using only groundwater not under the direct influence of surface water must comply with this Subpart I beginning January 1, 2004.

2) Transient non-CWSs. A Subpart B system supplier serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with any requirements for chlorine dioxide in this Subpart I beginning January 1, 2002. A Subpart B system supplier ~~serving~~ that serves fewer than 10,000 persons and ~~using~~ which uses chlorine dioxide as a disinfectant or oxidant or a supplier ~~using~~ that uses only groundwater not under the direct influence of surface water and ~~using~~ which uses chlorine dioxide as a disinfectant or oxidant must comply with any requirements for chlorine dioxide in this Subpart I beginning January 1, 2004.

c) Each CWS or NTNCWS supplier regulated under subsection (a) of this Section must be operated by qualified personnel who meet the requirements specified in 35 Ill. Adm. Code 680.

d) Control of disinfectant residuals. Notwithstanding the MRDLs in Section 611.313, a supplier may increase residual disinfectant levels in the distribution system of chlorine or chloramines (but not chlorine dioxide) to a level and for a time necessary to protect public health, to address specific microbiological contamination problems caused by circumstances such as, but not limited to, distribution line breaks, storm run-off events, source water contamination events, or cross-connection events.

BOARD NOTE: Derived from 40 CFR 141.130 ~~(2002)~~ (2005).

(Source: Amended at 30 Ill. Reg. _____, effective _____)

Section 611.381 Analytical Requirements

a) A supplier must use only the analytical methods specified in this Section to demonstrate compliance with the requirements of this Subpart I.

b) Disinfection byproducts (DBPs).

1) A supplier must measure disinfection byproducts (DBPs) by the methods (as modified by the footnotes) listed in the following table:

Approved Methods for Disinfection Byproduct (DBP) Compliance Monitoring

Methodology[2]	EPA Method	Standard Methods, 19th ed., Method	Byproduct Measured[1]
P&T/GC/ElCD & PID	[3]502.2		TTHM
P&T/GC/MS	524.2		TTHM
LLE/GC/ECD	551.1		TTHM
LLE/GC/ECD		6251 B	HAA5
SPE/GC/ECD	552.1		HAA5
LLE/GC/ECD	552.2		HAA5
Amperometric Titration		4500-ClO_2 E	Chlorite[4]
IC	300.0		Chlorite[4]
IC	300.1		Chlorite[4], Bromate

[1] The listed method is approved for measuring specified disinfection byproduct.

[2] P&T = purge and trap; GC = gas chromatography; ElCD = electrolytic conductivity detector; PID = photoionization detector; MS = mass spectrometer; LLE = liquid/liquid extraction; ECD = electron capture detector; SPE = solid phase extractor; IC = ion chromatography.

[3] If TTHMs are the only analytes being measured in the sample, then a PID is not required.

[4] Amperometric titration may be used for routine daily monitoring of chlorite at the entrance to the distribution system, as prescribed in

Section 611.382(b)(2)(A)(i). Ion chromatography must be used for routine monthly monitoring of chlorite and additional monitoring of chlorite in the distribution system, as prescribed in Sections 611.382(b)(2)(A)(ii) and (b)(2)(B).

2) Analysis under this Section for DBPs must be conducted by laboratories that have received certification by USEPA or the Agency except as specified under subsection (b)(3) of this Section. To receive certification to conduct analyses for the contaminants in Section 611.312, the laboratory must carry out annual analyses of performance evaluation (PE) samples approved by USEPA or the Agency. In these analyses of PE samples, the laboratory must achieve quantitative results within the acceptance limit on a minimum of 80% of the analytes included in each PE sample. The acceptance limit is defined as the 95% confidence interval calculated around the mean of the PE study data between a maximum and minimum acceptance limit of ±50% and ±15% of the study mean.

3) A party approved by USEPA or the Agency must measure daily chlorite samples at the entrance to the distribution system.

c) Disinfectant residuals.

1) A supplier must measure residual disinfectant concentrations for free chlorine, combined chlorine (chloramines), and chlorine dioxide by the methods (as modified by the footnotes) listed in the following table:

Approved Methods for Disinfectant Residual Compliance Monitoring

Methodology	Standard Methods, 19th ed., Method	ASTM Method	Residual Measured[1]
Amperometric Titration	4500-Cl D	D1253-86	Free chlorine, Combined chlorine, Total chlorine
Low Level Amperometric Titration	4500-Cl E		Total chlorine
DPD Ferrous Titrimetric	4500-Cl F		Free chlorine, Combined chlorine, Total chlorine
DPD Colorimetric	4500-Cl G		Free chlorine, Combined chlorine, Total chlorine
Syringaldazine (FACTS)	4500-Cl H		Free chlorine

Iodometric Electrode	4500-Cl I	Total chlorine
DPD	4500-ClO_2 D	Chlorine dioxide
Amperometric Method II	4500-ClO_2 E	Chlorine dioxide

[1] The listed method is approved for measuring specified disinfectant residual.

2) If approved by the Agency, a supplier may also measure residual disinfectant concentrations for chlorine, chloramines, and chlorine dioxide by using DPD colorimetric test kits.

3) A party approved by USEPA or the Agency must measure residual disinfectant concentration.

d) A supplier required to analyze parameters not included in subsections (b) and (c) of this Section must use the methods listed below. A party approved by USEPA or the Agency must measure the following parameters:

1) Alkalinity. All methods allowed in Section 611.611(a)(21) for measuring alkalinity;

2) Bromide. USEPA Method 300.0 or USEPA Method 300.1;

3) Total Organic Carbon (TOC). Standard Methods, 19th ed., Method 5310 B (High-Temperature Combustion Method), Standard Methods, 19th ed., Method 5310 C (Persulfate-Ultraviolet or Heated-Persulfate Oxidation Method), or Standard Methods, 19th ed., Method 5310 D (Wet-Oxidation Method). TOC samples may not be filtered prior to analysis. TOC samples must either be analyzed or must be acidified to achieve pH less than 2.0 by minimal addition of phosphoric or sulfuric acid as soon as practical after sampling, not to exceed 24 hours. Acidified TOC samples must be analyzed within 28 days;

4) Specific Ultraviolet Absorbance (SUVA). SUVA is equal to the UV absorption at 254 nm (UV_{254}) (measured in m^{-1}) divided by the dissolved organic carbon (DOC) concentration (measured as mg/ℓ). In order to determine SUVA, it is necessary to separately measure UV_{254} and DOC. When determining SUVA, a supplier must use the methods stipulated in subsection (d)(4)(A) of this Section to measure DOC and the method stipulated in subsection (d)(4)(B) of this Section to measure UV_{254}. SUVA must be determined on water prior to the addition of disinfectants/oxidants by the supplier. DOC and UV_{254} samples used to determine a SUVA value must be taken at the same time and at the same location;

A) Dissolved Organic Carbon (DOC). Standard Methods, 19th ed., Method 5310 B (High-Temperature Combustion Method), Standard Methods, 19th ed., Method 5310 C (Persulfate-Ultraviolet or Heated-Persulfate Oxidation Method), or Standard Methods, 19th ed., Method 5310 D (Wet-Oxidation Method). Prior to analysis, DOC samples must be filtered through a 0.45 µm pore-diameter filter. Water passed through the filter prior to filtration of the sample must serve as the filtered blank. This filtered blank must be analyzed using procedures identical to those used for analysis of the samples and must meet the following standards: DOC less than 0.5 mg/ℓ. DOC samples must be filtered through the 0.45 µm pore-diameter filter prior to acidification. DOC samples must either be analyzed or must be acidified to achieve pH less than 2.0 by minimal addition of phosphoric or sulfuric acid as soon as practical after sampling, not to exceed 48 hours. Acidified DOC samples must be analyzed within 28 days; and

B) Ultraviolet Absorption at 254 nm (UV_{254}). Method 5910 B (Ultraviolet Absorption Method). UV absorption must be measured at 253.7 nm (may be rounded off to 254 nm). Prior to analysis, UV_{254} samples must be filtered through a 0.45 µm pore-diameter filter. The pH of UV_{254} samples may not be adjusted. Samples must be analyzed as soon as practical after sampling, not to exceed 48 hours; and

5) pH. All methods allowed in Section 611.611(a)(17) for measuring pH.

BOARD NOTE: Derived from 40 CFR 141.131 ~~(2002)~~ (2004).

(Source: Amended at 30 Ill. Reg. _____, effective _____)

SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.609 Determining Compliance

Compliance with the MCLs of Section 611.300 or 611.301 (as appropriate) must be determined based on the analytical results obtained at each sampling point.

a) For suppliers that monitor at a frequency greater than annual, compliance with the MCLs for antimony, arsenic (effective January 22, 2004), asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, or thallium is determined by a running annual average at each sampling point. Effective January 22, 2004, if a system fails to collect the required number of samples, compliance (average concentration) will be based on the total number of samples collected.

1) If the average at any sampling point is greater than the MCL, then the supplier is out of compliance.

2) If any one sample would cause the annual average to be exceeded, then the supplier is out of compliance immediately.

3) Any sample below the method detection limit must be calculated at zero for the purpose of determining the annual average.

BOARD NOTE: The "method detection limit" is different from the "detection limit, " as set forth in Section 611.600. The "method detection limit" is the level of contaminant that can be determined by a particular method with a 95 percent degree of confidence, as determined by the method outlined in appendix B to 40 CFR 136~~, Appendix B~~, incorporated by reference at Section 611.102.

b) For suppliers that monitor annually or less frequently, compliance with the MCLs for antimony, arsenic (effective January 22, 2004), asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, or thallium is determined by the level of the contaminant at any sampling point. If confirmation samples are required by the Agency, the determination of compliance will be based on the average of the annual average of the initial MCL exceedence and any Agency-required confirmation samples. Effective January 22, 2004, if a supplier fails to collect the required number of samples, compliance (average concentration) will be based on the total number of samples collected.

c) Compliance with the MCLs for nitrate and nitrite is determined based on one sample if the levels of these contaminants are below the MCLs. If the levels of nitrate or nitrite in the initial sample exceed the MCLs, Section 611.606 requires confirmation sampling, and compliance is determined based on the average of the initial and confirmation samples.

d) Arsenic sampling results must be reported to the nearest 0.001 mg/ℓ.

BOARD NOTE: Derived from 40 CFR 141.23(i)~~ (2002)~~ (2005).

(Source: Amended at 30 Ill. Reg. _____, effective _____)

Section 611.611 Inorganic Analysis

Analytical methods are from documents incorporated by reference in Section 611.102. These are mostly referenced by a short name defined by Section 611.102(a). Other abbreviations are defined in Section 611.101.

a) Analysis for the following contaminants must be conducted using the following

methods or an alternative approved pursuant to Section 611.480. Criteria for analyzing arsenic, chromium, copper, lead, nickel, selenium, sodium, and thallium with digestion or directly without digestion, and other analytical procedures, are contained in USEPA Technical Notes, incorporated by reference in Section 611.102. (This document also contains approved analytical test methods that remained available for compliance monitoring until July 1, 1996. These methods are not available for use after July 1, 1996.)

BOARD NOTE: Because MDLs reported in USEPA Environmental Metals Methods 200.7 and 200.9 were determined using a 2× preconcentration step during sample digestion, MDLs determined when samples are analyzed by direct analysis (i.e., no sample digestion) will be higher. For direct analysis of cadmium and arsenic by USEPA Environmental Metals Method 200.7, and arsenic by Standard Methods, 18th, 19th, or 20th ed., Method 3120 B sample preconcentration using pneumatic nebulization may be required to achieve lower detection limits. Preconcentration may also be required for direct analysis of antimony, lead, and thallium by USEPA Environmental Metals Method 200.9; antimony and lead by Standard Methods, 18th or 19th ed., Method 3113 B; and lead by ASTM Method ~~D3559-90 D~~ D3559-96 D unless multiple in-furnace depositions are made.

1) Alkalinity.

   A) Titrimetric.

      i) ASTM Method D1067-92 B; or

      ii) Standard Methods, 18th, 19th, or 20th ed.: Method 2320 B.

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

2) Antimony.

   A) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

   B) Atomic absorption, hydride technique: ASTM Method D3697-92.

   C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

   D) Atomic absorption, furnace technique: Standard Methods, 18th or 19th ed.: Method 3113 B.

3) Arsenic.

BOARD NOTE: If ultrasonic nebulization is used in the determination of arsenic by Methods 200.7, 200.8, or ~~SM~~ Standard Methods, 18th, 19th, or 20th ed., 3120 B, the arsenic must be in the pentavalent state to provide uniform signal response. For methods 200.7 and 3120 B, both samples and standards must be diluted in the same mixed acid matrix concentration of nitric and hydrochloric acid with the addition of 100 µℓ of 30% hydrogen peroxide per 100 mℓ of solution. For direct analysis of arsenic with method 200.8 using ultrasonic nebulization, samples and standards must contain one mg/ℓ of sodium hypochlorite.

A) Inductively-coupled plasma.

BOARD NOTE: Effective January 23, 2006, a supplier may no longer employ analytical methods using the ICP-AES technology because the detection limits for these methods are 0.008 mg/ℓ or higher. This restriction means that the two ICP-AES methods (USEPA Environmental Metals Method 200.7 and Standard Methods, Method 3120 B) approved for use for the MCL of 0.05 mg/ℓ may not be used for compliance determinations for the revised MCL of 0.010 mg/ℓ. However, prior to the 2005 through 2007 compliance period, a supplier may have compliance samples analyzed with these less sensitive methods.

i) USEPA Environmental Metals Methods: Method 200.7; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3120 B.

B) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

D) Atomic absorption, furnace technique.

i) ASTM Method D2972-97 C; or

ii) Standard Methods, 18th or 19th ed.: Method 3113 B.

E) Atomic absorption, hydride technique.

i) ASTM Method D2972-97 B; or

ii) Standard Methods, 18th or 19th ed.: Method 3114 B.

4) Asbestos: Transmission electron microscopy: USEPA Asbestos

Methods-100.1 and USEPA Asbestos Methods-100.2.

5) Barium.

A) Inductively-coupled plasma.

i) USEPA Environmental Metals Methods: Method 200.7; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3120 B.

B) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

C) Atomic absorption, direct aspiration technique: Standard Methods, 18th or 19th ed.: Method 3111 D.

D) Atomic absorption, furnace technique: Standard Methods, 18th, 19th ed.: Method 3113 B.

6) Beryllium.

A) Inductively-coupled plasma.

i) USEPA Environmental Metals Methods: Method 200.7; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3120 B.

B) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

D) Atomic absorption, furnace technique.

i) ASTM Method D3645-97 B; or

ii) Standard Methods, 18th or 19th ed.: Method 3113 B.

7) Cadmium.

A) Inductively-coupled plasma arc furnace: USEPA Environmental Metals Methods: Method 200.7.

B) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

D) Atomic absorption, furnace technique: Standard Methods, 18th or 19th ed.: Method 3113 B.

8) Calcium.

A) EDTA titrimetric.

i) ASTM Method D511-93 A; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3500-Ca D.

B) Atomic absorption, direct aspiration.

i) ASTM Method D511-93 B; or

ii) Standard Methods, 18th or 19th ed.: Method 3111 B.

C) Inductively-coupled plasma.

i) USEPA Environmental Metals Methods: Method 200.7; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3120 B.

9) Chromium.

A) Inductively-coupled plasma.

i) USEPA Environmental Metals Methods: Method 200.7; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3120 B.

B) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

D) Atomic absorption, furnace technique: Standard Methods, 18th or 19th ed.: Method 3113 B.

10) Copper.

A) Atomic absorption, furnace technique.

i) ASTM Method D1688-95 C; or

ii) Standard Methods, 18th or 19th ed.: Method 3113 B.

B) Atomic absorption, direct aspiration.

i) ASTM Method D1688-95 A; or

ii) Standard Methods, 18th or 19th ed.: Method 3111 B.

C) Inductively-coupled plasma.

i) USEPA Environmental Metals Methods: Method 200.7; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3120 B.

D) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

E) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

11) Conductivity; Conductance.

A) ASTM Method D1125-95 A; or

B) Standard Methods, 18th, 19th, or 20th ed.: Method 2510 B.

12) Cyanide.

A) Manual distillation (ASTM Method D2036-98 A or Standard Methods, 18th, 19th, or 20th ed.: Method 4500-CN^- C), followed by spectrophotometric, amenable.

i) ASTM Method D2036-98 B; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-CN^- G.

B) Manual distillation (ASTM Method D2036-98 A or Standard Methods, 18th, 19th, or 20th ed.: Method 4500-CN^- C), followed by spectrophotometric, manual.

i) ASTM Method D2036-98 A;

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-CN^- E; or

iii) USGS Methods: Method I-3300-85.

C) Manual distillation (ASTM Method D2036-98 A or Standard Methods, 18th, 19th, or 20th ed.: Method 4500-CN^- C), followed by semiautomated spectrophotometric: USEPA Environmental Inorganic Methods: Method 335.4.

D) Selective electrode: Standard Methods, 18th, 19th, or 20th ed.: Method 4500-CN^- F.

E) UV/Distillation/Spectrophotometric: Kelada 01.

F) Distillation/Spectrophotometric: QuickChem 10-204-00-1-X.

13) Fluoride.

A) Ion Chromatography.

i) USEPA Environmental Inorganic Methods: Method 300.0,

ii) ASTM Method D4327-97; or

iii) Standard Methods, 18th, 19th, or 20th ed.: Method 4110 B.

B) Manual distillation, colorimetric SPADNS: Standard Methods, 18th, 19th, or 20th ed.: Method 4500-F^- B and D.

C) Manual electrode.

i) ASTM Method D1179-93 B; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-F^- C.

D) Automated electrode: Technicon Methods: Method 380-75WE.

E) Automated alizarin.

i) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-F^- E; or

ii) Technicon Methods: Method 129-71W.

14) Lead.

A) Atomic absorption, furnace technique.

i) ASTM Method D3559-96 D; or

ii) Standard Methods, 18th or 19th ed.: Method 3113 B.

B) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

D) Differential Pulse Anodic Stripping Voltammetry: Palintest Method 1001.

15) Magnesium.

A) Atomic absorption.

i) ASTM Method D511-93 B; or

ii) Standard Methods, 18th or 19th ed.: Method 3111 B.

B) Inductively-coupled plasma.

i) USEPA Environmental Metals Methods: Method 200.7; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3120 B.

C) Complexation titrimetric.

i) ASTM Method D511-93 A; or

ii) Standard Methods, 18th or 19th ed.: Method 3500-Mg E.

iii) Standard Methods, 20th ed.: Method 3500-Mg B.

16) Mercury.

A) Manual cold vapor technique.

i) USEPA Environmental Metals Methods: Method 245.1;

ii) ASTM Method D3223-97; or

iii) Standard Methods, 18th or 19th ed.: Method 3112 B.

B) Automated cold vapor technique: USEPA Inorganic Methods: Method 245.2.

C) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

17) Nickel.

A) Inductively-coupled plasma.

i) USEPA Environmental Metals Methods: Method 200.7; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3120 B.

B) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

D) Atomic absorption, direct aspiration technique: Standard Methods, 18th or 19th ed.: Method 3111 B.

E) Atomic absorption, furnace technique: Standard Methods, 18th or 19th ed.: Method 3113 B.

18) Nitrate.

A) Ion chromatography.

i) USEPA Environmental Inorganic Methods: Method 300.0;

ii) ASTM Method D4327-97;

iii) Standard Methods, 18th, 19th, or 20th ed.: Method 4110 B; or

iv) Waters Test Method B-1011, available from Millipore Corporation.

B) Automated cadmium reduction.

i) USEPA Environmental Inorganic Methods: Method 353.2;

ii) ASTM Method D3867-90 A; or

iii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-NO_3^- F.

C) Ion selective electrode.

i) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-NO_3^- D; or

ii) Technical Bulletin 601.

D) Manual cadmium reduction.

i) ASTM Method D3867-90 B; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-NO_3^- E.

19) Nitrite.

A) Ion chromatography.

i) USEPA Environmental Inorganic Methods: Method 300.0;

ii) ASTM Method D4327-97;

iii) Standard Methods, 18th, 19th, or 20th ed.: Method 4110 B; or

iv) Waters Test Method B-1011, available from Millipore Corporation.

B) Automated cadmium reduction.

i) USEPA Environmental Inorganic Methods: Method 353.2;

ii) ASTM Method D3867-90 A; or

iii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-NO_3^- F.

C) Manual cadmium reduction.

i) ASTM Method D3867-90 B; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-NO_3^- E.

D) Spectrophotometric: Standard Methods, 18th, 19th, or 20th ed.: Method 4500-NO_2^- B.

20) Orthophosphate (unfiltered, without digestion or hydrolysis).

A) Automated colorimetric, ascorbic acid.

i) USEPA Environmental Inorganic Methods: Method 365.1; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-P F.

B) Single reagent colorimetric, ascorbic acid.

i) ASTM Method D515-88 A; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-P E.

C) Colorimetric, phosphomolybdate: USGS Methods: Method I-1601-85.

D) Colorimetric, phosphomolybdate, automated-segmented flow: USGS Methods: Method I-2601-90.

E) Colorimetric, phosphomolybdate, automated discrete: USGS Methods: Method I-2598-85.

F) Ion Chromatography.

i) USEPA Environmental Inorganic Methods: Method 300.0;

ii) ASTM Method D4327-97; or

iii) Standard Methods, 18th, 19th, or 20th ed.: Method 4110 B.

21) pH.

A) Electrometric.

i) USEPA Inorganic Methods: Method 150.1;

ii) ASTM Method D1293-95; or

iii) Standard Methods, 18th, 19th, or 20th ed.: Method 4500-H+ B.

B) USEPA Inorganic Methods: Method 150.2.

22) Selenium.

A) Atomic absorption, hydride.

i) ASTM Method D3859-98 A; or

ii) Standard Methods, 18th or 19th ed.: Method 3114 B.

B) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

D) Atomic absorption, furnace technique.

i) ASTM Method D3859-98 B; or

ii) Standard Methods, 18th or 19th ed.: Method 3113 B.

23) Silica.

A) Colorimetric, molybdate blue: USGS Methods: Method I-1700-85.

B) Colorimetric, molybdate blue, automated-segmented flow: USGS Methods: Method I-2700-85.

C) Colorimetric: ASTM Method D859-95.

D) Molybdosilicate: Standard Methods, 18th or 19th ed.: Method 4500-Si D or Standard Methods, 20th ed.: Method 4500-Si C.

E) Heteropoly blue: Standard Methods, 18th or 19th ed.: Method 4500-Si E or Standard Methods, 20th ed.: Method 4500-Si D.

F) Automated method for molybdate-reactive silica: Standard Methods, 18th or 19th ed.: Method 4500-Si F or Standard Methods, 20th ed.: Method 4500-Si E.

G) Inductively-coupled plasma.

i) USEPA Environmental Metals Methods: Method 200.7; or

ii) Standard Methods, 18th, 19th, or 20th ed.: Method 3120 B.

24) Sodium.

A) Inductively-coupled plasma: USEPA Environmental Metals Methods: Method 200.7.

B) Atomic absorption, direct aspiration: Standard Methods, 18th or 19th ed.: Method 3111 B.

25) Temperature; thermometric: Standard Methods, 18th, 19th, or 20th ed.: Method 2550.

26) Thallium.

A) Inductively-coupled plasma-mass spectrometry: USEPA Environmental Metals Methods: Method 200.8.

B) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods: Method 200.9.

b) Sample collection for antimony, arsenic (effective January 22, 2004), asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate, nitrite, selenium, and thallium pursuant to Sections 611.600 through 611.604 must be conducted using the following sample preservation, container, and maximum holding time procedures:

BOARD NOTE: For cyanide determinations samples must be adjusted with sodium hydroxide to pH 12 at the time of collection. When chilling is indicated the sample must be shipped and stored at 4° C or less. Acidification of nitrate or metals samples may be with a concentrated acid or a dilute (50% by volume) solution of the applicable concentrated acid. Acidification of samples for metals analysis is encouraged and allowed at the laboratory rather than at the time of sampling provided the shipping time and other instructions in Section 8.3 of USEPA Environmental Metals Method 200.7, 200.8, or 200.9 are followed.

1) Antimony.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within six months.

2) Arsenic.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within six months.

3) Asbestos.

A) Preservative: Cool to 4° C.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within 48 hours.

4) Barium.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within six months.

5) Beryllium.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within six months.

6) Cadmium.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within six months.

7) Chromium.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within six months.

8) Cyanide.

A) Preservative: Cool to 4° C. Add sodium hydroxide to pH greater than 12. See the analytical methods for information on sample preservation.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within 14 days.

9) Fluoride.

A) Preservative: None.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within one month.

10) Mercury.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within 28 days.

11) Nickel.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within six months.

12) Nitrate, chlorinated.

A) Preservative: Cool to 4° C.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within 14 days.

13) Nitrate, non-chlorinated.

A) Preservative: Concentrated sulfuric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within 14 days.

14) Nitrite.

A) Preservative: Cool to 4° C.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within 48 hours.

15) Selenium.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within six months.

16) Thallium.

A) Preservative: Concentrated nitric acid to pH less than 2.

B) Plastic or glass (hard or soft).

C) Holding time: Samples must be analyzed as soon after collection as possible, but in any event within six months.

c) Analyses under this Subpart N must be conducted by laboratories that received approval from USEPA or the Agency. The Agency must certify laboratories to conduct analyses for antimony, arsenic (effective January 23, 2006), asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate, nitrite, selenium, and thallium if the laboratory does as follows:

1) It analyzes performance evaluation (PE) samples, provided by the Agency pursuant to 35 Ill. Adm. Code 186, that include those substances at levels not in excess of levels expected in drinking water; and

2) It achieves quantitative results on the analyses within the following acceptance limits:

A) Antimony: ± 30% at greater than or equal to 0.006 mg/ℓ.

B) Arsenic: ± 30% at greater than or equal to 0.003 mg/ℓ.

C) Asbestos: 2 standard deviations based on study statistics.

D) Barium: ± 15% at greater than or equal to 0.15 mg/ℓ.

E) Beryllium: ± 15% at greater than or equal to 0.001 mg/ℓ.

F) Cadmium: ± 20% at greater than or equal to 0.002 mg/ℓ.

G) Chromium: ± 15% at greater than or equal to 0.01 mg/ℓ.

H) Cyanide: ± 25% at greater than or equal to 0.1 mg/ℓ.

I) Fluoride: ± 10% at 1 to 10 mg/ℓ.

J) Mercury: ± 30% at greater than or equal to 0.0005 mg/ℓ.

K) Nickel: ± 15% at greater than or equal to 0.01 mg/ℓ.

L) Nitrate: ± 10% at greater than or equal to 0.4 mg/ℓ.

M) Nitrite: ± 15% at greater than or equal to 0.4 mg/ℓ.

N) Selenium: ± 20% at greater than or equal to 0.01 mg/ℓ.

O) Thallium: ± 30% at greater than or equal to 0.002 mg/ℓ.

BOARD NOTE: Derived from 40 CFR 141.23(k) (2003).

(Source: Amended at 30 Ill. Reg. _____, effective _____)

SUBPART O: ORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.645 Analytical Methods for Organic Chemical Contaminants

Analysis for the Section 611.311(a) VOCs under Section 611.646; the Section 611.311(c) SOCs under Section 611.648; the Section 611.310 old MCLs under Section 611.641; and for THMs, TTHMs, and TTHM potential must be conducted using the methods listed in this Section or by equivalent methods as approved by the Agency pursuant to Section 611.480. All methods are from USEPA Organic Methods, unless otherwise indicated. All methods are incorporated by reference in Section 611.102.

Volatile Organic Chemical Contaminants (VOCs).

Contaminant	Analytical Methods
Benzene	502.2, 524.2
Carbon tetrachloride	502.2, 524.2, 551.1
Chlorobenzene	502.2, 524.2
1,2-Dichlorobenzene	502.2, 524.2
1,4-Dichlorobenzene	502.2, 524.2
1,2-Dichloroethane	502.2, 524.2
cis-Dichloroethylene	502.2, 524.2
trans-Dichloroethylene	502.2, 524.2
Dichloromethane	502.2, 524.2
1,2-Dichloropropane	502.2, 524.2
Ethylbenzene	502.2, 524.2
Styrene	502.2, 524.2
Tetrachloroethylene	502.2, 524.2, 551.1
1,1,1-Trichloroethane	502.2, 524.2, 551.1
Trichloroethylene	502.2, 524.2, 551.1
Toluene	502.2, 524.2
1,2,4-Trichlorobenzene	502.2, 524.2
1,1-Dichloroethylene	502.2, 524.2
1,1,2-Trichloroethane	502.2, 524.2
Vinyl chloride	502.2, 524.2
Xylenes (total)	502.2, 524.2

Synthetic Organic Chemical Contaminants (SOCs).

Contaminant	Analytical Methods
2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCDD or dioxin)	Dioxin and Furan Method 1613
2,4-D	515.2, 555, 515.1, 515.3, 515.4, ASTM Method D5317-93
2,4,5-TP (Silvex)	515.2, 555, 515.1, 515.3, 515.4, ASTM Method D5317-93
Alachlor	505*, 507, 508.1, 525.2, 551.1
Atrazine	505*, 507, 508.1, 525.2, 551.1, Syngenta AG-625
Benzo(a)pyrene	525.2, 550, 550.1
Carbofuran	531.1, 531.2, Standard Methods, 18th ed. Supplement, 19th ed., or 20th ed.: Method 6610
Chlordane	505, 508, 508.1, 525.2
Dalapon	515.1, 552.1, 552.2, 515.3, 515.4
Di(2-ethylhexyl)adipate	506, 525.2
Di(2-ethylhexyl)phthalate	506, 525.2
Dibromochloropropane (DBCP)	504.1, 551.1
Dinoseb	515.1, 515.2, 515.3, 515.4, 555
Diquat	549.1
Endothall	548.1
Endrin	505, 508, 508.1, 525.2, 551.1
Ethylene Dibromide (EDB)	504.1, 551.1
Glyphosate	547, Standard Methods, 18th ed., 19th ed., or 20th ed.: Method 6651
Heptachlor	505, 508, 508.1, 525.2, 551.1
Heptachlor Epoxide	505, 508, 508.1, 525.2, 551.1
Hexachlorobenzene	505, 508, 508.1, 525.2, 551.1
Hexachlorocyclopentadiene	505, 508, 508.1, 525.2, 551.1
Lindane	505, 508, 508.1, 525.2, 551.1

Methoxychlor	505, 508, 508.1, 525.2, 551.1
Oxamyl	531.1, 531.2, Standard Methods, 18th ed. Supplement, 19th ed., or 20th ed.: Method 6610
PCBs (measured for compliance purposes as decchlorobiphenyl)	508A
PCBs (qualitatively identified as Aroclors)	505, 508, 508.1, 525.2
Pentachlorophenol	515.1, 515.2, 525.2, 555, 515.3, 515.4, ASTM Method D5317-93
Picloram	515.1, 515.2, 555, 515.3, 515.4, ASTM Method D5317-93
Simazine	505*, 507, 508.1, 525.2, 551.2
Toxaphene	505, 508, 525.2, 508.1

Total Trihalomethanes (TTHMs).

Contaminant	Analytical Methods
Total Trihalomethanes (TTHMs), Trihalomethanes (THMs), and Maximum Total Trihalomethane Potential	502.2, 524.2, 551.1

State-Only MCLs (for which a method is not listed above).

Contaminant	Analytical Methods
Aldrin	505, 508, 508.1, 525.2
DDT	505, 508
Dieldrin	505, 508, 508.1, 525.2

* denotes that, for the particular contaminant, a nitrogen-phosphorus detector should be substituted for the electron capture detector in method 505 (or another approved method should be used) to determine alachlor, atrazine, and simazine if lower detection limits are required.

BOARD NOTE: Derived from 40 CFR 141.24(e) ~~(2003)~~ (2005).

(Source: Amended at 30 Ill. Reg. _____, effective _____)

Section 611.646 Phase I, Phase II, and Phase V Volatile Organic Contaminants

Monitoring of the Phase I, Phase II, and Phase V VOCs for the purpose of determining compliance with the MCL must be conducted as follows:

a) Definitions. As used in this Section the following have the given meanings:

"Detect" and "detection" mean that the contaminant of interest is present at a level greater than or equal to the "detection limit."

"Detection limit" means 0.0005 mg/ℓ.
BOARD NOTE: Derived from 40 CFR 141.24(f)(7), (f)(11), (f)(14)(i), and (f)(20) ~~(2003)~~ (2005). This is a "trigger level" for Phase I, Phase II, and Phase V VOCs inasmuch as it prompts further action. The use of the term "detect" in this Section is not intended to include any analytical capability of quantifying lower levels of any contaminant, or the "method detection limit." Note, however, that certain language at the end of federal paragraph (f)(20) is capable of meaning that the "method detection limit" is used to derive the "detection limit." The Board has chosen to disregard that language at the end of paragraph (f)(20) in favor of the more direct language of paragraphs (f)(7) and (f)(11).

"Method detection limit," as used in subsections (q) and (t) of this Section means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.
BOARD NOTE: Derived from appendix B to 40 CFR 136~~, Appendix B (2003)~~ (2005). The method detection limit is determined by the procedure set forth in appendix B to 40 CFR 136, ~~Appendix B~~ incorporated by reference in Section 611.102(c). See subsection (t) of this Section.

b) Required sampling. Each supplier must take a minimum of one sample at each sampling point at the times required in subsection (u) of this Section.

c) Sampling points.

1) Sampling points for a GWS. Unless otherwise provided by a SEP granted by the Agency pursuant to Section 611.110, a GWS supplier must take at least one sample from each of the following points: each entry point that is representative of each well after treatment.

2) Sampling points for an SWS or mixed system supplier. Unless otherwise provided by a SEP granted by the Agency pursuant to Section 611.110, an SWS or mixed system supplier must sample from each of the following points:

A) Each entry point after treatment; or

B) Points in the distribution system that are representative of each source.

3) The supplier must take each sample at the same sampling point unless the Agency has granted a SEP pursuant to Section 611.110 that designates another location as more representative of each source, treatment plant, or within the distribution system.

4) If a system draws water from more than one source, and the sources are combined before distribution, the supplier must sample at an entry point during periods of normal operating conditions when water is representative of all sources being used.

BOARD NOTE: Subsections (b) and (c) of this Section derived from 40 CFR 141.24(f)(1) through (f)(3) ~~(2003)~~ (2005).

d) Each CWS and NTNCWS supplier must take four consecutive quarterly samples for each of the Phase I VOCs, excluding vinyl chloride, and Phase II VOCs during each compliance period, beginning in the compliance period starting in the initial compliance period.

e) Reduction to annual monitoring frequency. If the initial monitoring for the Phase I, Phase II, and Phase V VOCs, as allowed in subsection (r)(1) of this Section, was completed by December 31, 1992, and the supplier did not detect any of the Phase I VOCs, including vinyl chloride; Phase II VOCs; or Phase V VOCs, then the supplier must take one sample annually beginning in the initial compliance period.

f) GWS reduction to triennial monitoring frequency. After a minimum of three years of annual sampling, GWS suppliers that have not previously detected any of the Phase I VOCs, including vinyl chloride; Phase II VOCs; or Phase V VOCs must take one sample during each three-year compliance period.

g) A CWS or NTNCWS supplier that has completed the initial round of monitoring required by subsection (d) of this Section and which did not detect any of the Phase I VOCs, including vinyl chloride; Phase II VOCs; and Phase V VOCs may apply to the Agency for a SEP pursuant to Section 611.110 that releases it from the requirements of subsection (e) or (f) of this Section. A supplier that serves fewer than 3300 service connections may apply to the Agency for a SEP that releases it from the requirements of subsection (d) of this Section as to 1,2,4-trichlorobenzene.

BOARD NOTE: Derived from 40 CFR 141.24(f)(7) and (f)(10) ~~(2003)~~ (2005), and the discussion at 57 Fed. Reg. 31825 (July 17, 1992). Provisions concerning the term of the waiver appear in subsections (i) and (j) of this Section. The definition of "detect," parenthetically added to the federal counterpart paragraph, is in subsection (a) of this Section.

h) Vulnerability assessment. The Agency must consider the factors of Section

611.110(e) in granting a SEP from the requirements of subsection (d), (e), or (f) of this Section sought pursuant to subsection (g) of this Section.

i) A SEP issued to a GWS pursuant to subsection (g) of this Section is for a maximum of six years, except that a SEP as to the subsection (d) of this Section monitoring for 1,2,4-trichlorobenzene must apply only to the initial round of monitoring. As a condition of a SEP, except as to a SEP from the initial round of subsection (d) of this Section monitoring for 1,2,4-trichlorobenzene, the supplier shall, within 30 months after the beginning of the period for which the waiver was issued, reconfirm its vulnerability assessment required by subsection (h) of this Section and submitted pursuant to subsection (g) of this Section, by taking one sample at each sampling point and reapplying for a SEP pursuant to subsection (g) of this Section. Based on this application, the Agency must do either of the following:

1) If it determines that the PWS meets the standard of Section 611.610(e), issue a SEP that reconfirms the prior SEP for the remaining three-year compliance period of the six-year maximum term; or

2) Issue a new SEP requiring the supplier to sample annually.

BOARD NOTE: Subsection (i) of this Section does not apply to an SWS or mixed system supplier.

j) Special considerations for a SEP for an SWS or mixed-system supplier.

1) The Agency must determine that an SWS is not vulnerable before issuing a SEP pursuant to Section 611.110 to an SWS supplier. A SEP issued to an SWS or mixed system supplier pursuant to subsection (g) of this Section is for a maximum of one compliance period; and

2) The Agency may require, as a condition to a SEP issued to an SWS or mixed supplier, that the supplier take such samples for Phase I, Phase II, and Phase V VOCs at such a frequency as the Agency determines are necessary, based on the vulnerability assessment.

BOARD NOTE: There is a great degree of similarity between 40 CFR 141.24(f)(7) ~~(2003)~~ (2005), the provision applicable to GWSs, and 40 CFR 141.24(f)(10) ~~(2003)~~ (2005), the provision for SWSs. The Board has consolidated the common requirements of both paragraphs into subsection (g) of this Section. Subsection (j) of this Section represents the elements unique to an SWSs or mixed system, and subsection (i) of this Section relates to a GWS supplier. Although 40 CFR 141.24(f)(7) and (f)(10) are silent as to a mixed system supplier, the Board has included a mixed system supplier with an SWS supplier because this best follows the federal scheme for all other contaminants.

k) If one of the Phase I VOCs, excluding vinyl chloride; a Phase II VOC; or a Phase V VOC is detected in any sample, then the following must occur:

1) The supplier must monitor quarterly for that contaminant at each sampling point that resulted in a detection.

2) Annual monitoring.

A) The Agency must grant a SEP pursuant to Section 611.110 that allows a supplier to reduce the monitoring frequency to annual at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.

B) A request for a SEP must include the following minimal information:

i) For a GWS, two quarterly samples.

ii) For an SWS or mixed system supplier, four quarterly samples.

C) In issuing a SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. Any SEP that allows less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring pursuant to subsection (k)(1) of this Section if it violates the MCL specified by Section 611.311.

3) Suppliers that monitor annually must monitor during the quarters that previously yielded the highest analytical result.

4) Suppliers that do not detect a contaminant at a sampling point in three consecutive annual samples may apply to the Agency for a SEP pursuant to Section 611.110 that allows it to discontinue monitoring for that contaminant at that point, as specified in subsection (g) of this Section.

5) A GWS supplier that has detected one or more of the two-carbon contaminants listed in subsection (k)(5)(A) of this Section must monitor quarterly for vinyl chloride as described in subsection (k)(5)(B) of this Section, subject to the limitation of subsection (k)(5)(C) of this Section.

A) "Two-carbon contaminants" (Phase I or II VOC) are the following:

1,2-Dichloroethane (Phase I)
1,1-Dichloroethylene (Phase I)

cis-1,2-Dichloroethylene (Phase II)
trans-1,2-Dichloroethylene (Phase II)
Tetrachloroethylene (Phase II)
1,1,1-Trichloroethylene (Phase I)
Trichloroethylene (Phase I)

B) The supplier must sample quarterly for vinyl chloride at each sampling point at which it detected one or more of the two-carbon contaminants listed in subsection (k)(5)(A) of this Section.

C) The Agency must grant a SEP pursuant to Section 611.110 that allows the supplier to reduce the monitoring frequency for vinyl chloride at any sampling point to once in each three-year compliance period if it determines that the supplier has not detected vinyl chloride in the first sample required by subsection (k)(5)(B) of this Section.

l) Quarterly monitoring following MCL violations.

1) Suppliers that violate an MCL for one of the Phase I VOCs, including vinyl chloride; Phase II VOCs; or Phase V VOCs, as determined by subsection (o) of this Section, must monitor quarterly for that contaminant, at the sampling point where the violation occurred, beginning the next quarter after the violation.

2) Annual monitoring.

A) The Agency must grant a SEP pursuant to Section 611.110 that allows a supplier to reduce the monitoring frequency to annually if it determines that the sampling point is reliably and consistently below the MCL.

B) A request for a SEP must include the following minimal information: four quarterly samples.

C) In issuing a SEP, the Agency must specify the level of the contaminant upon which the “reliably and consistently” determination was based. Any SEP that allows less frequent monitoring based on an Agency “reliably and consistently” determination must include a condition requiring the supplier to resume quarterly monitoring pursuant to subsection (l)(1) of this Section if it violates the MCL specified by Section 611.311.

D) The supplier must monitor during the quarters that previously yielded the highest analytical result.

m) Confirmation samples. The Agency may issue a SEP pursuant to Section 610.110 to require a supplier to use a confirmation sample for results that it finds dubious for whatever reason. The Agency must state its reasons for issuing the SEP if the SEP is Agency-initiated.

1) If a supplier detects any of the Phase I, Phase II, or Phase V VOCs in a sample, the supplier must take a confirmation sample as soon as possible, but no later than 14 days after the supplier receives notice of the detection.

2) Averaging is as specified in subsection (o) of this Section.

3) The Agency must delete the original or confirmation sample if it determines that a sampling error occurred, in which case the confirmation sample will replace the original or confirmation sample.

n) This subsection (n) corresponds with 40 CFR 141.24(f)(14), an optional USEPA provision relating to compositing of samples that USEPA does not require for state programs. This statement maintains structural consistency with USEPA rules.

o) Compliance with the MCLs for the Phase I, Phase II, and Phase V VOCs must be determined based on the analytical results obtained at each sampling point. Effective January 22, 2004, if one sampling point is in violation of an MCL, the system is in violation of the MCL.

1) Effective January 22, 2004, for a supplier that monitors more than once per year, compliance with the MCL is determined by a running annual average at each sampling point.

2) Effective January 22, 2004, a supplier that monitors annually or less frequently whose sample result exceeds the MCL must begin quarterly sampling. The system will not be considered in violation of the MCL until it has completed one year of quarterly sampling.

3) Effective January 22, 2004, if any sample result will cause the running annual average to exceed the MCL at any sampling point, the supplier is out of compliance with the MCL immediately.

4) Effective January 22, 2004, if a supplier fails to collect the required number of samples, compliance will be based on the total number of samples collected.

5) Effective January 22, 2004, if a sample result is less than the detection limit, zero will be used to calculate the annual average.

6) Until January 22, 2004, for a supplier that conducts monitoring at a

frequency greater than annual, compliance is determined by a running annual average of all samples taken at each sampling point.

A) If the annual average of any sampling point is greater than the MCL, then the supplier is out of compliance.

B) If the initial sample or a subsequent sample would cause the annual average to exceed the MCL, then the supplier is out of compliance immediately.

C) Any samples below the detection limit must be deemed as zero for purposes of determining the annual average.

7) Until January 22, 2004, if monitoring is conducted annually, or less frequently, the supplier is out of compliance if the level of a contaminant at any sampling point is greater than the MCL. Until January 22, 2004, if a confirmation sample is taken, the determination of compliance is based on the average of two samples.

p) This subsection (p) corresponds with 40 CFR 141.24(f)(16), which USEPA removed and reserved. This statement maintains structural consistency with the federal regulations.

q) Analysis under this Section must only be conducted by laboratories that have received certification by USEPA or the Agency according to the following conditions:

1) To receive certification to conduct analyses for the Phase I VOCs, excluding vinyl chloride; Phase II VOCs; and Phase V VOCs, the laboratory must do the following:

A) It must analyze performance evaluation (PE) samples that include these substances provided by the Agency pursuant to 35 Ill. Adm. Code 186.170;

B) It must achieve the quantitative acceptance limits under subsections (q)(1)(C) and (q)(1)(D) of this Section for at least 80 percent of the regulated organic contaminants in the PE sample;

C) It must achieve quantitative results on the analyses performed under subsection (q)(1)(A) of this Section that are within ± 20 percent of the actual amount of the substances in the PE sample when the actual amount is greater than or equal to 0.010 mg/ℓ;

D) It must achieve quantitative results on the analyses performed under subsection (q)(1)(A) of this Section that are within ± 40

percent of the actual amount of the substances in the PE sample when the actual amount is less than 0.010 mg/ℓ; and

E) It must achieve a method detection limit of 0.0005 mg/ℓ, according to the procedures in appendix B to 40 CFR 136~~, Appendix B~~, incorporated by reference in Section 611.102.

2) To receive certification to conduct analyses for vinyl chloride the laboratory must do the following:

A) It must analyze PE samples provided by the Agency pursuant to 35 Ill. Adm. Code 186.170;

B) It must achieve quantitative results on the analyses performed under subsection (q)(2)(A) of this Section that are within ± 40 percent of the actual amount of vinyl chloride in the PE sample;

C) It must achieve a method detection limit of 0.0005 mg/ℓ, according to the procedures in appendix B to 40 CFR 136~~, Appendix B~~, incorporated by reference in Section 611.102; and

D) It must obtain certification pursuant to subsection (q)(1) of this Section for Phase I VOCs, excluding vinyl chloride; Phase II VOCs; and Phase V VOCs.

r) This subsection (r) corresponds with 40 CFR 141.24(f)(18), an obsolete provision that relates to the initial compliance period from 1993 through 1995. This statement maintains consistency with the federal regulations.

s) The Agency shall, by a SEP issued pursuant to Section 611.110, increase the number of sampling points or the frequency of monitoring if it determines that it is necessary to detect variations within the PWS.

t) Each laboratory certified for the analysis of Phase I, Phase II, or Phase V VOCs pursuant to subsection (q)(1) or (q)(2) of this Section shall do the following:

1) Determine the method detection limit (MDL), as defined in appendix B to 40 CFR 136~~, Appendix B~~, incorporated by reference in Section 611.102, at which it is capable of detecting the Phase I, Phase II, and Phase V VOCs; and,

2) Achieve an MDL for each Phase I, Phase II, and Phase V VOC that is less than or equal to 0.0005 mg/ℓ.

u) Each supplier must monitor, within each compliance period, at the time designated by the Agency by SEP pursuant to Section 611.110.

v) A new system supplier or a supplier that uses a new source of water that begins operation after January 22, 2004 must demonstrate compliance with the MCL within a period of time specified by a permit issued by the Agency. The supplier must also comply with the initial sampling frequencies specified by the Agency to ensure the supplier can demonstrate compliance with the MCL. Routine and increased monitoring frequencies must be conducted in accordance with the requirements in this Section.

BOARD NOTE: Derived from 40 CFR 141.24(f) ~~(2003)~~ (2005).

(Source: Amended at 30 Ill. Reg. _____, effective _____)

SUBPART Q: RADIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.720 Analytical Methods

a) The methods specified below, incorporated by reference in Section 611.102, are to be used to determine compliance with Section 611.330, except in cases where alternative methods have been approved in accordance with Section 611.480.

1) Gross Alpha and Beta.

A) Standard Methods.

i) Method 302, 13th ed.; or

ii) Method 7110 B, 17th, 18th, 19th, or 20th ed.;

B) USEPA Interim Radiochemical Methods: page 1;

C) USEPA Radioactivity Methods: Method 900.0;

D) USEPA Radiochemical Analyses: page 1;

E) USEPA Radiochemistry Methods: Method 00-01; or

F) USGS Methods: Method R-1120-76.

2) Gross Alpha.

A) Standard Methods, 18th, 19th, or 20th ed.: Method 7110 C; or

B) USEPA Radiochemistry Methods: Method 00-02.

3) Radium-226.

A) ASTM Methods.

i) Method D2460-90; or

ii) Method D3454-97;

B) New York Radium Method;

C) Standard Methods.

i) Method 304, 13th ed.;

ii) Method 305, 13th ed.;

iii) Method 7500-Ra B, 17th, 18th, 19th, or 20th ed.; or

iv) Method 7500-Ra C, 17th, 18th, 19th, or 20th ed.;

D) USDOE ~~Methods~~ Manual: Method Ra-04;

E) USEPA Interim Radiochemical Methods: pages 13 and 16;

F) USEPA Radioactivity Methods: Methods 903.0, 903.1;

G) USEPA Radiochemical Analyses: page 19;

H) USEPA Radiochemistry Methods: Methods Ra-03, Ra-04; or

I) USGS Methods.

i) Method R-1140-76; or

ii) Method R-1141-76.

4) Radium-228.

A) Standard Methods, 17th, 18th, 19th, or 20th ed.: Method 7500-Ra D;

B) New York Radium Method;

C) USEPA Interim Radiochemical Methods: page 24;

D) USEPA Radioactivity Methods: Method 904.0;

E) USEPA Radiochemical Analyses: page 19;

F) USEPA Radiochemistry Methods: Method Ra-05;

G) USGS Methods: Method R-1142-76; or

H) New Jersey Radium Method.

5) Uranium.

A) Standard Methods, 17th, 18th, 19th, or 20th ed.: Method 7500-U C;

B) Standard Methods, 20th ed.: Method 3125;

C) ASTM Methods.

i) Method D2907-97;

ii) Method D3972-97;

iii) Method D5174-97; or

iv) Method D5673-03;

D) USEPA Radioactivity Methods: Methods 908.0, 908.1;

E) USEPA Environmental Metals Methods: Method 200.8;

F) USEPA Radiochemical Analyses: page 33;

G) USEPA Radiochemistry Methods: Method 00-07;

H) USDOE ~~Methods~~ Manual: Method U-02 or U-04; or

I) USGS Methods.

i) Method R-1180-76;

ii) Method R-1181-76; or

iii) Method R-1182-76.

BOARD NOTE: If uranium (U) is determined by mass, a conversion factor of 0.67 pCi/µg of uranium must be used. This conversion factor is

based on the 1:1 activity ratio of ^{234}U and ^{238}U that is characteristic of naturally occurring uranium.

6) Radioactive Cesium.

A) ASTM Methods.

i) Method D2459-72; or

ii) Method D3649-91;

B) Standard Methods.

i) Method 7120, 19th or 20th ed.; or

ii) Method 7500-Cs B, 17th, 18th, 19th, or 20th ed.;

C) USDOE ~~Methods~~ Manual: Method 4.5.2.3;

D) USEPA Interim Radiochemical Methods: page 4;

E) USEPA Radioactivity Methods: Methods 901.0, 901.1;

F) USEPA Radiochemical Analyses: page 92; or

G) USGS Methods.

i) Method R-1110-76; or

ii) Method R-1111-76.

7) Radioactive Iodine.

A) ASTM Methods.

i) D3649-91; or

ii) D4785-93;

B) Standard Methods.

i) Method 7120, 19th or 20th ed.;

ii) Method 7500-I B, 17th, 18th, 19th, or 20th ed.;

iii) Method 7500-I C, 17th, 18th, 19th, or 20th ed.; or

iv) Method 7500-I D, 17th, 18th, 19th, or 20th ed.;

C) USDOE ~~Methods~~ Manual: Method 4.5.2.3;

D) USEPA Interim Radiochemical Methods: pages 6, 9;

E) USEPA Radiochemical Analyses: page 92; or

F) USEPA Radioactivity Methods: Methods 901.1, 902.0.

8) Radioactive Strontium-89 & 90.

A) Standard Methods.

i) Method 303, 13th ed.; or

ii) Method 7500-Sr B, 17th, 18th, 19th, or 20th ed.;

B) USDOE ~~Methods~~ Manual.

i) Method Sr-01; or

ii) Method Sr-02;

C) USEPA Interim Radiochemical Methods: page 29;

D) USEPA Radioactivity Methods: Method 905.0;

E) USEPA Radiochemical Analyses: page 65;

F) USEPA Radiochemistry Methods: Method Sr-04; or

G) USGS Methods: Method R-1160-76.

9) Tritium.

A) ASTM Methods: Method D4107-91;

B) Standard Methods.

i) Method 306, 13th ed.; or

ii) Method ~~7500-3H~~ 7500-^{3}H B, 17th, 18th, 19th, or 20th ed.;

C) USEPA Interim Radiochemical Methods: page 34;

D) USEPA Radioactivity Methods: Method 906.0;

E) USEPA Radiochemical Analyses: page 87;

F) USEPA Radiochemistry Methods: Method H-02; or

G) USGS Methods: Method R-1171-76.

10) Gamma Emitters.

A) ASTM Methods.

i) Method D3649-91; or

ii) Method D4785-93;

B) Standard Methods.

i) Method 7120, 19th or 20th ed.;

ii) Method 7500-Cs B, 17th, 18th, 19th, or 20th ed.; or

iii) Method 7500-I B, 17th, 18th, 19th, or 20th ed.;

C) USDOE ~~Methods~~ Manual: Method Ga-01-R;

D) USEPA Radioactivity Methods: Methods 901.0, 901.1, or 902.0;

E) USEPA Radiochemical Analyses: page 92; or

F) USGS Methods: Method R-1110-76.

b) When the identification and measurement of radionuclides other than those listed in subsection (a) of this Section are required, the following methods, incorporated by reference in Section 611.102, are to be used, except in cases where alternative methods have been approved in accordance with Section 611.480:

1) "Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions," available from NTIS.

2) HASL Procedure Manual, HASL 300, available from ERDA Health and Safety Laboratory.

c) For the purpose of monitoring radioactivity concentrations in drinking water, the required sensitivity of the radioanalysis is defined in terms of a detection limit.

The detection limit must be that concentration which can be counted with a precision of plus or minus 100 percent at the 95 percent confidence level (1.96σ, where σ is the standard deviation of the net counting rate of the sample).

1) To determine compliance with Section 611.330(b), (c), and (e), the detection limit must not exceed the concentrations set forth in the following table:

Contaminant	Detection Limit
Gross alpha particle activity	3 pCi/ℓ
Radium-226	1 pCi/ℓ
Radium-228	1 pCi/ℓ
Uranium	1 µg/ℓ

BOARD NOTE: Derived from 40 CFR 141.25(c) Table B ~~(2003)~~ (2005).

2) To determine compliance with Section 611.330(d), the detection limits must not exceed the concentrations listed in the following table:

Radionuclide	Detection Limit
Tritium	1,000 pCi/ℓ
Strontium-89	10 pCi/ℓ
Strontium-90	2 pCi/ℓ
Iodine-131	1 pCi/ℓ
Cesium-134	10 pCi/ℓ
Gross beta	4 pCi/ℓ
Other radionuclides	1/10 of applicable limit

BOARD NOTE: Derived from 40 CFR 141.25(c) Table C ~~(2003)~~ (2005).

d) To judge compliance with the MCLs listed in Section 611.330, averages of data must be used and must be rounded to the same number of significant figures as the MCL for the substance in question.

BOARD NOTE: Derived from 40 CFR 141.25 ~~(2003)~~ (2005).

(Source: Amended at 30 Ill. Reg. _____, effective _____)

Section 611.Appendix D Defined Substrate Method for the Simultaneous Detection of Total Coliforms and Escherichia Coli from Drinking Water

Autoanalysis Colilert Presence-Absence (AC P-A) Method.

The AC P-A test format must be either a 100 mℓ 10-tube most probable number test (one tube positive denoting the presence of total coliforms in that sample) or a single vessel containing

sufficient reagent to receive 100 mℓ of sample. The reagent is available from Access Medical Systems, Branford Connecticut.

The AC P-A method must be performed as follows:

1. For the 10-tube method, add 10 mℓ of water sample to each test tube. For the single-vessel method, add 100 mℓ of water sample to the vessel.

2. Dissolve the reagent powder by agitation. (This should produce a colorless solution.)

3. Incubate the test tubes or vessel at 35°C for 24 hours.

4. Development of yellow during incubation denotes the presence of total coliforms in either the test tube or the vessel.

5. Expose each positive (yellow) test tube or vessel to a fluorescent (366 nm) light source. Fluorescence specifically demonstrates the presence of Escherichia coli.

BOARD NOTE: Derived from S. Edberg, M. Allen & D. Smith, "National Field Evaluation of a Defined Substrate Method for the Simultaneous Detection of Total Coliforms and Escherichia coli from Drinking Water: Comparison with Presence-Absence Techniques,"~~,~~ Applied and Environmental Microbiology, vol. 55, pp. 1003-1008, as incorporated by reference~~ at 40 CFR 141.21(f)(6)(iii) (2002)~~ in Section 611.102(b) (2004). This method is for use in conjunction with the requirements of Section 611.526.

(Source: Amended at 30 Ill. Reg. _____, effective _____)

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on October 5, 2006, by a vote of 4-0.

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board