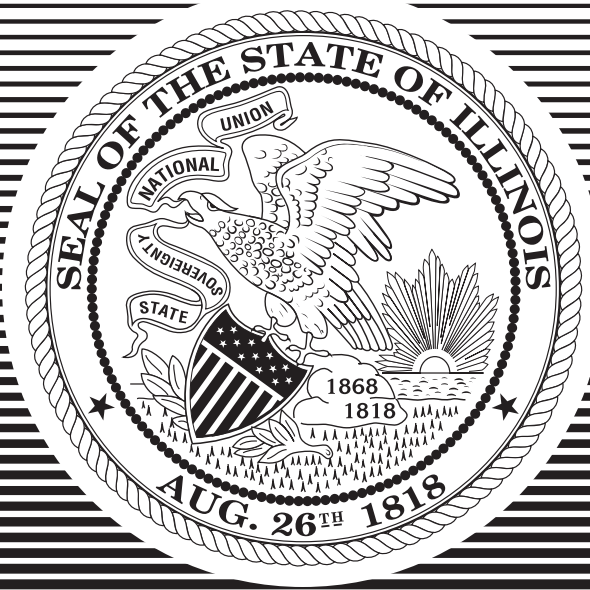

ILLINOIS

REGISTER



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February 23, 2018 Volume 42, Issue 8

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INTRODUCTION

The *Illinois Register* is the official state document for publishing public notice of rulemaking activity initiated by State governmental agencies. The table of contents is arranged categorically by rulemaking activity and alphabetically by agency within each category.

Rulemaking activity consists of proposed or adopted new rules; amendments to or repealers of existing rules; and rules promulgated by emergency or peremptory action. Executive Orders and Proclamations issued by the Governor; notices of public information required by State Statute; and activities (meeting agendas; Statements of Objection or Recommendation, etc.) of the Joint Committee on Administrative Rules (JCAR), a legislative oversight committee which monitors the rulemaking activities of State Agencies; is also published in the Register.

The Register is a weekly update of the Illinois Administrative Code (a compilation of the rules adopted by State agencies). The most recent edition of the Code, along with the Register, comprise the most current accounting of State agencies' rulemakings.

The *Illinois Register* is the property of the State of Illinois, granted by the authority of the Illinois Administrative Procedure Act [5 ILCS 100/1-1, et seq.].

ILLINOIS REGISTER PUBLICATION SCHEDULE FOR 2018

Issue#	Rules Due Date	Date of Issue
1	December 26, 2017	January 5, 2018
2	January 2, 2018	January 12, 2018
3	January 8, 2018	January 19, 2018
4	January 16, 2018	January 26, 2018
5	January 22, 2018	February 2, 2018
6	January 29, 2018	February 9, 2018
7	February 5, 2018	February 16, 2018
8	February 13, 2018	February 23, 2018
9	February 20, 2018	March 2, 2018
10	February 26, 2018	March 9, 2018
11	March 5, 2018	March 16, 2018
12	March 12, 2018	March 23, 2018
13	March 19, 2018	March 30, 2018
14	March 26, 2018	April 6, 2018
15	April 2, 2018	April 13, 2018
16	April 9, 2018	April 20, 2018
17	April 16, 2018	April 27, 2018
18	April 23, 2018	May 4, 2018
19	April 30, 2018	May 11, 2018
20	May 7, 2018	May 18, 2018
21	May 14, 2018	May 25, 2018
22	May 21, 2018	June 1, 2018
23	May 29, 2018	June 8, 2018
24	June 4, 2018	June 15, 2018

25	June 11, 2018	June 22, 2018
26	June 18, 2018	June 29, 2018
27	June 25, 2018	July 6, 2018
28	July 2, 2018	July 13, 2018
29	July 9, 2018	July 20, 2018
30	July 16, 2018	July 27, 2018
31	July 23, 2018	August 3, 2018
32	July 30, 2018	August 10, 2018
33	August 6, 2018	August 17, 2018
34	August 13, 2018	August 24, 2018
35	August 20, 2018	August 31, 2018
36	August 27, 2018	September 7, 2018
37	September 4, 2018	September 14, 2018
38	September 10, 2018	September 21, 2018
39	September 17, 2018	September 28, 2018
40	September 24, 2018	October 5, 2018
41	October 1, 2018	October 12, 2018
42	October 9, 2018	October 19, 2018
43	October 15, 2018	October 26, 2018
44	October 22, 2018	November 2, 2018
45	October 29, 2018	November 9, 2018
46	November 5, 2018	November 16, 2018
47	November 13, 2018	November 26, 2018
48	November 19, 2018	November 30, 2018
49	November 26, 2018	December 7, 2018
50	December 3, 2018	December 14, 2018
51	December 10, 2018	December 21, 2018
52	December 17, 2018	December 28, 2018

DEPARTMENT OF FINANCIAL AND PROFESSIONAL REGULATION

NOTICE OF PROPOSED AMENDMENTS

- 1) Heading of the Part: Illinois Physical Therapy Act
- 2) Code Citation: 68 Ill. Adm. Code 1340
- 3)

<u>Section Numbers:</u>	<u>Proposed Actions:</u>
1340.20	Amendment
1340.30	Amendment
1340.40	Amendment
1340.50	Amendment
1340.57	Amendment
1340.60	Amendment
1340.61	Amendment
1340.65	Amendment
1340.66	Amendment
1340.70	Amendment
1340.75	New Section
- 4) Statutory Authority: Implementing the Illinois Physical Therapy Act [225 ILCS 90] and authorized by Section 2105-15(7) of the Civil Administrative Code of Illinois [20 ILCS 2105/2105-15(7)].
- 5) A Complete Description of the Subjects and Issues Involved: PA 100-418 makes a significant change to the Physical Therapy Act [225 ILCS 90]. This includes allowing physical therapists to perform intramuscular manual therapy within their scope of practice. These proposed rules implement these statutory changes. In addition, the proposed rules also clean up some of the language throughout the current rules.
- 6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: None
- 7) Will this rulemaking replace any emergency rule currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this rulemaking contain incorporations by reference? Yes, the "Code of Ethics", July 2010, approved by the American Physical Therapy Association, 1111 North Fairfax Street, Alexandria VA 22314, with no later amendments or editions.
- 10) Are there any other rulemakings pending on this Part? No

DEPARTMENT OF FINANCIAL AND PROFESSIONAL REGULATION

NOTICE OF PROPOSED AMENDMENTS

- 11) Statement of Statewide Policy Objective (if applicable): This rulemaking has no impact on local governments.
- 12) Time, Place and Manner in which interested persons may comment on this proposed rulemaking: Persons who wish to comment on this proposed rulemaking may submit written comments no later than 45 days after the publication of this Notice.

Department of Financial and Professional Regulation
Attention: Craig Cellini
320 West Washington, 3rd Floor
Springfield IL 62786

217/785-0813
fax #: 217/557-4451

All written comments received within 45 days after this issue of the *Illinois Register* will be considered.

- 13) Initial Regulatory Flexibility Analysis:
 - A) Types of small businesses, small municipalities and not-for-profit corporations affected: Physical therapists and/or physical therapist assistants regulated under the Act may be affected.
 - B) Reporting, bookkeeping or other procedures required for compliance: None
 - C) Types of professional skills necessary for compliance: Physical therapy skills are required for licensure.
- 14) Regulatory Agenda on which this rulemaking was summarized: July 2017

The full text of the Proposed Amendments begins on the next page:

DEPARTMENT OF FINANCIAL AND PROFESSIONAL REGULATION

NOTICE OF PROPOSED AMENDMENTS

TITLE 68: PROFESSIONS AND OCCUPATIONS

CHAPTER VII: DEPARTMENT OF FINANCIAL AND PROFESSIONAL REGULATION

SUBCHAPTER b: PROFESSIONS AND OCCUPATIONS

PART 1340

ILLINOIS PHYSICAL THERAPY ACT

Section

1340.15	Application for Licensure Under Section 8.1 of the Act (Grandfather) (Repealed)
1340.20	Approved Curriculum
1340.30	Application for Licensure on the Basis of Examination
1340.40	Examination
1340.50	Endorsement
1340.55	Renewals
1340.57	Fees
1340.60	Restoration
1340.61	Continuing Education
1340.65	Unprofessional Conduct
1340.66	Advertising
1340.70	Granting Variances
1340.75	Intramuscular Manual Therapy

AUTHORITY: Implementing the Illinois Physical Therapy Act [225 ILCS 90] and authorized by Section 2105-15(7) of the Civil Administrative Code of Illinois [20 ILCS 2105/2105-15(7)].

SOURCE: Adopted at 5 Ill. Reg. 6500, effective June 3, 1981; codified at 5 Ill. Reg. 11048; emergency amendment at 6 Ill. Reg. 916, effective January 6, 1982, for a maximum of 150 days; amended at 6 Ill. Reg. 7448, effective June 15, 1982; amended at 9 Ill. Reg. 1906, effective January 28, 1985; recodified from Chapter I, 68 Ill. Adm. Code 340 (Department of Registration and Education) to Chapter VII, 68 Ill. Adm. Code 1340 (Department of Professional Regulation) pursuant to P.A. 85-225, effective January 1, 1988, at 12 Ill. Reg. 2959; amended at 12 Ill. Reg. 8030, effective April 25, 1988; amended at 15 Ill. Reg. 5254, effective March 29, 1991; emergency amendment at 15 Ill. Reg. 11503, effective July 30, 1991, for a maximum of 150 days; emergency expired December 27, 1991; amended at 16 Ill. Reg. 3175, effective February 18, 1992; amended at 17 Ill. Reg. 14606, effective August 27, 1993; amended at 20 Ill. Reg. 10678, effective July 26, 1996; amended at 23 Ill. Reg. 11970, effective September 17, 1999; amended at 24 Ill. Reg. 567, effective December 31, 1999; amended at 26 Ill. Reg. 11953, effective July 18, 2002; amended at 28 Ill. Reg. 16252, effective December 2, 2004; amended at

DEPARTMENT OF FINANCIAL AND PROFESSIONAL REGULATION

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38 Ill. Reg. 19686, effective October 10, 2014; amended at 41 Ill. Reg. 2912, effective March 1, 2017; amended at 42 Ill. Reg. _____, effective _____.

Section 1340.20 Approved Curriculum

- a) In determining whether an applicant's curriculum should be approved, the Department of Financial and Professional Regulation-Division of Professional Regulation (Division) may consider accreditation of the applicant's school by the Commission on Accreditation in Physical Therapy Education (CAPTE).
- b) The Division shall, upon the recommendation of the Physical Therapy Licensing and Disciplinary Board (Board), approve an applicant's physical therapist curriculum if the school from which the applicant graduated meets the following minimum criteria:
 - 1) It is legally recognized and authorized by the jurisdiction in which it is located to confer a physical therapy degree;
 - 2) It has a faculty sufficient to make certain that the educational obligations to the student are fulfilled. The faculty must have demonstrated competence as evidenced by appropriate degrees in their areas of teaching from professional colleges or institutions; and
 - 3) It maintains permanent student records that summarize the credentials for admission, attendance, grades and other records of performance.
 - 4) For applicants graduating prior to January 1, 2002, the applicant's curriculum shall have a minimum of 120 semester hours that shall include a minimum of 50 semester hours credit in general education and at least the following subject areas in professional education (a minimum of 57 semester hours required):
 - A) Basic Health Sciences
 - i) Anatomy
 - ii) Physiology
 - iii) Pathology

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- iv) Kinesiology
 - v) Neurology
 - vi) Psychology
- B) Clinical Sciences to include, but not limited to the major areas of:
- i) Medicine
 - ii) Surgery
 - iii) Physical therapy theory and application, including therapeutic exercise, evaluation procedures, physical agents, mechanical modalities, electrotherapy, massage, orthotics and prosthetics, and professional issues
- C) Clinical Education – a minimum of 800 clock hours.
- 5) Applicants graduating after January 1, 2002 must have a minimum of a master's degree in physical therapy.
- 6) No course in which the applicant received a grade lower than a C will be accepted for coursework.
- c) The Division shall, upon the recommendation of the Board, approve an applicant's physical therapist assistant curriculum if it meets the following minimum criteria:
- 1) The school from which the applicant graduated:
 - A) Is legally recognized and authorized by the jurisdiction in which it is located to offer a physical therapist assistant curriculum that leads to an associate degree;
 - B) Has a faculty sufficient to make certain that the educational obligations to the student are fulfilled. The faculty must have demonstrated competence as evidenced by appropriate degrees in their areas of teaching from professional colleges or institutions;

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and

- C) Maintains permanent student records that summarize the credentials for admission, attendance, grades and other records of performance.
- 2) The applicant's curriculum includes at least the following subject areas in professional education (a minimum of 29 semester hours required):
 - A) Basic Health Sciences, which shall include the following:
 - i) Anatomy and physiology
 - ii) Pathology
 - iii) Psychology
 - iv) Kinesiology
 - B) Clinical Sciences to include, but not be limited to, the major areas of:
 - i) Medicine and surgery
 - ii) Applied physical therapy science, including gross evaluation techniques, physical agents, mechanical modalities, therapeutic exercise, electrotherapy, massage, and professional issues; and
 - C) Clinical Education – a minimum of 600-clock hours.
 - 3) No course in which the applicant received lower than a C will be accepted for coursework.
- d) Recommendation of Approval
 - 1) The Division, upon the recommendation of the Board, has determined that the curricula of all physical therapist and physical therapist assistant programs accredited by CAPTE on or after January 1, 1996 meet the

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minimum criteria set forth in subsections (b) and (c) and are, therefore, approved.

- 2) In the event of a decision by CAPTE to deny or withdraw accreditation of any physical therapist or physical therapist assistant program, the Board shall proceed to evaluate the curriculum and either approve or disapprove it in accordance with subsections (b) and (c).
- e) Graduates from Outside the United States
- 1) A graduate of a physical therapist program outside the United States or its territories shall have his or her credentials evaluated, by a credentialing service acceptable to the Department, to determine equivalence of education to an approved curriculum in the United States. The credentialing service must have a physical therapist consultant on its staff. The Department and the Board recognize the Foreign Credentialing Commission of Physical Therapy, Inc. (FCCPT), P.O. Box 25827, Alexandria, Virginia 22313 as an acceptable service. A person who graduated from a physical therapist program outside the United States or its territories and whose first language is not English shall submit certification of passage of the Test of English as a Foreign Language (TOEFL).
 - 2) A graduate of a physical therapist assistant program outside the United States or its territories shall have his or her credentials evaluated, by a credentialing service acceptable to the Department, to determine equivalence of education to a physical therapist assistant degree conferred by a regionally accredited college or university in the United States. The Board recognizes FCCPT as an acceptable service. A person who graduated from a physical therapist assistant program outside the United States or its territories and whose first language is not English shall submit certification of passage of TOEFL.
 - 3) An individual who is deficient in course work may complete the required courses at a regionally accredited college or university within the United States or its territories. The individual will be required to submit an official transcript from the program indicating successful completion of the course and a course description to FCCPT or another credentialing service acceptable to the Department. ~~A passing CLEP (College Level~~

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~~Examination Program) test score is also acceptable in satisfying a deficiency requirement.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.30 Application for Licensure on the Basis of Examination

- a) An applicant for a physical therapist license by examination shall submit:
 - 1) A completed and signed application on forms provided by the Division;
 - 2) Certification of graduation from a physical therapist program, signed by the Director of the Physical Therapy Program or other authorized university official and bearing the seal of the university, which meets the requirements set forth in Section 1340.20; and
 - 3) The required fee set forth in Section 1340.57.
- b) An applicant for a physical therapist assistant license by examination shall submit:
 - 1) A completed and signed application on forms provided by the Division;
 - 2) Certification of graduation from a physical therapist assistant program and attainment of a minimum of an associate's degree signed by the director of the Physical Therapist Program or other authorized school official and bearing the seal of a school that meets the requirements set forth in Section 1340.20; and
 - 3) The required fee set forth in Section 1340.57.
- c) If supporting documentation for the application is not in English, a certified translation must be included.
- d) An applicant shall have 60 days, or until the next date when the test is administered, after approval of the application to take the examination. If the examination is not taken on the authorized test date, the examination fee is forfeited and the applicant shall resubmit the required examination fee to the designated testing service. An applicant who fails to take the examination on the

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authorized test date shall forfeit the right to work as a physical therapist or physical therapist assistant until the examination is passed.

- e) If the applicant has ever been licensed/registered in another state or territory of the United States, the applicant shall also submit a certification, on forms provided by the Division, from the state or territory of the United States in which the applicant was originally licensed and the state in which the applicant predominantly practices and is currently licensed, stating:
 - 1) The time during which the applicant was licensed/registered in that jurisdiction, including the date of the original issuance of the license;
 - 2) A description of the examination in that jurisdiction; and
 - 3) Whether the file on the applicant contains any record of disciplinary actions taken or pending.
- f) An applicant for a license, who has successfully completed the examination recognized by the Division in another jurisdiction but who has not been licensed in that jurisdiction, shall file an application in accordance with subsection (a) or (b) and have the examination scores submitted to the Division by the reporting entity.
- g) When the accuracy of any submitted documentation or the relevance or sufficiency of the course work or experience is questioned by the Division or the Board because of lack of information, discrepancies or conflicts in information given or a need for clarification, the applicant seeking licensure shall be requested to:
 - 1) Provide ~~the requested such~~ information as may be necessary; and/or
 - 2) Appear for an interview before the Board to explain the relevance or sufficiency, clarify information or clear up any discrepancies or conflicts in information.
- h) If the applicant has been determined eligible for licensure except for passing of the examination, the applicant shall be issued a letter of authorization that allows the applicant to practice under supervision in accordance with Section 2 of the Illinois Physical Therapy Act (the Act). Supervision shall constitute the presence

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of the licensed physical therapist on site to provide supervision. The applicant shall not begin practice as a physical therapist or physical therapist assistant, license pending, until the letter of authorization is received from the Division.

- i) Examination Prior to Graduation
 - 1) An applicant enrolled in an approved physical ~~therapist~~therapy program or physical ~~therapist~~therapy assistant program may apply to take the examination no more than 120 days prior to graduation if the applicant provides certification from the physical ~~therapist~~therapy program or physical ~~therapist~~therapy assistant program of the date upon which the applicant is expected to graduate. If certification of graduation is not received within 90 days after the scheduled graduation date, the results of the examination shall be void.
 - 2) The results of the examination shall be made available to the applicant, but no license shall be issued until the Division has received certification that the applicant graduated within 90 days after the scheduled graduation date specified in the certification received from the physical ~~therapist~~therapy program or physical ~~therapist~~therapy assistant program required by subsection (i)(1), and until the applicant has met all other requirements for licensure set forth in the Act and this Part.
 - 3) If the applicant fails the examination, the applicant must submit a certificate of graduation to the Division or its designated testing service prior to taking the next examination.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.40 Examination

- a) The examination for a physical therapist license shall be the National Physical Therapy Examination (NPTE) of the Federation of State Boards of Physical Therapy for physical therapists.
- b) The examination for a physical therapist assistant license shall be the NPTE for physical therapist assistants.
- c) The passing score for the physical therapy and physical therapist assistant

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examination shall be the passing score established by the testing entity. The scores shall be submitted to the Division from the designated testing service.

- d) An applicant who fails the examination 3 times in any jurisdiction will be required to furnish proof of remedial training to the [Division or Board](#) ~~on forms provided by the Division~~. The proof shall include certification that the applicant successfully completed a structured clinical [or didactic](#) training program of not less than 3 months on a full-time basis. The training shall be under the direct, on site, personal supervision of a licensed physical therapist preapproved by the Department or Board.
- e) Any person licensed in Illinois as a physical therapist or physical therapist assistant shall not be admitted to the examination. However, in no way shall this provision limit the Division's ability to require reexaminations for restoration or enforcement purposes.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.50 Endorsement

- a) An applicant who is currently licensed under the laws of another state or territory of the United States and who wishes to be licensed as a physical therapist or physical therapist assistant by endorsement shall submit:
- 1) A completed and signed application, on forms provided by the Division;
 - 2) Certification, on forms provided by the Division, of successful completion of an approved physical therapist or physical therapist assistant program as set forth in Section 1340.20;
 - 3) Certification from the state or territory of original licensure and the state in which the applicant is currently licensed and practicing, if other than original, stating the time during which the applicant was licensed in that state, whether the file on the applicant contains record of any disciplinary actions taken or pending, and the applicant's license number;
 - 4) If the applicant's first language is not English, certification of passage of TOEFL. This provision does not apply to individuals who are licensed in a U.S. jurisdiction and have been actively practicing in another U.S.

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jurisdiction for 3 years prior to the date of application for licensure in Illinois;

- 5) A report of the applicant's examination record forwarded directly from the test reporting service; and
 - 6) The required fee set forth in Section 1340.57.
- b) The Division shall examine each endorsement application to determine whether the requirements in the jurisdiction at the date of licensing were substantially equivalent to the requirements then in force in this State and whether the applicant has otherwise complied with the Act.
 - c) The Division shall either issue a license by endorsement to the applicant or notify the applicant in writing of the reasons for the denial of the application.
 - d) ~~When an applicant for licensure by endorsement as a physical therapist or physical therapist assistant is notified in writing by the Division that the application is complete, the applicant may practice in Illinois for one year or until licensure has been granted or denied, whichever period of time is lesser, as set forth in Section 2(4) of the Act.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.57 Fees

The following fees shall be paid to the Division and are not refundable:

- a) Application Fees
 - 1) The fee for application for a license as a physical therapist or physical therapist assistant is \$100. In addition, applicants for an examination shall be required to pay, either to the Division or to the designated testing service, a fee covering the cost of determining an applicant's eligibility and providing the examination. Failure to appear for the examination on the scheduled date, at the time and place specified, after the applicant's application for examination has been received and acknowledged by the Division or the designated testing service, shall result in the forfeiture of the examination fee.

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- 2) The fee for application as a continuing education sponsor is \$500. Illinois State colleges and universities and Illinois State agencies are exempt from payment of this fee.
- b) Renewal Fees
- 1) The fee for the renewal of a license shall be calculated at the rate of \$30 per year.
 - 2) The fee for renewal of CE sponsor approval is \$250 for the renewal period.
- c) General Fees
- 1) The fee for the restoration of a license other than from inactive status is \$50 plus payment of all lapsed renewal fees, but not to exceed \$200.
 - 2) The fee for restoration of a license from inactive status is the current renewal fee.
 - ~~3) The fee for the issuance of a duplicate license, for the issuance of a replacement license for a license that has been lost or destroyed or for the issuance of a license with a change of name or address, other than during the renewal period, is \$20. No fee is required for name and address changes on Division records when no duplicate license is issued.~~
 - ~~3)4) The fee for a certification of a licensee's record for any purpose is \$20.~~
 - ~~4)5) The fee to have the scoring of an examination authorized by the Division reviewed and verified is \$20 plus any fees charged by the designated testing service.~~
 - ~~6) The fee for a wall certificate showing licensure shall be the actual cost of producing the certificate.~~
 - ~~5)7) The fee for a roster of persons licensed as physical therapists or physical therapist assistants in this State shall be the actual cost of producing the roster.~~

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(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.60 Restoration

- a) Any person seeking restoration of a license that has expired or been placed on inactive status for more than 5 years shall submit:
- 1) A completed and signed application, on forms provided by the Division;
 - 2) The required fee set forth in Section 1340.57; and
 - 3) Proof of having met the CE requirements set forth in Section 1340.61. CE must be completed during the 24 months preceding application for restoration. In addition, the applicant shall submit one of the following:
 - A) Certification of current licensure from another state or territory completed by the appropriate state board and proof of current active practice;
 - B) An affidavit attesting to military service as set forth in Section 15 of the Act. If application is made within 2 years after discharge, and if all other provisions of Section 15 of the Act are satisfied, the applicant will not be required to pay a restoration fee or any lapsed renewal fees;
 - C) Proof of passage of the examination set forth in Section 1340.40; or
 - D) Evidence of recent attendance at educational programs in physical therapy, including attendance at college level courses, special seminars, or any other similar program, or evidence of recent related work experience to show that the applicant has maintained competence in the applicant's field. The Division will accept:
 - i) For an applicant whose license has lapsed 5 to 10 years, 160 contact hours of clinical training under the supervision of a licensed physical therapist preapproved by the Board.

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- ii) For an applicant whose license has lapsed for 10 years or more, 320 contact hours of clinical training under the supervision of a licensed physical therapist preapproved by the Board.
- b) A person applying for restoration of a license that has expired for 5 years or less shall submit:
 - 1) A completed and signed application, on forms provided by the Division;
 - 2) The required fees set forth in Section 1340.57. If application is made within 2 years after discharge from military service, and if all other provisions of Section 15 of the Act are satisfied, the applicant will be required to pay only the current renewal fee; and
 - 3) Proof of the required hours of CE set forth in Section 1340.61. These CE hours shall be earned within the 2 years immediately preceding the restoration of the license.
- c) A licensee seeking restoration of a license that has been on inactive status for less than 5 years shall have the license restored upon payment of the current renewal. A licensee seeking restoration of a license shall be required to submit proof of the required hours of CE set forth in Section 1340.61. These CE hours shall be earned within the 2 years immediately preceding the restoration of the license.
- d) When the accuracy of any submitted documentation or the relevance or sufficiency of the course work or experience is questioned by the Division or the Board because of lack of information, discrepancies or conflicts in information given or a need for clarification, the applicant seeking restoration ~~may~~ shall be requested to:
 - 1) Provide ~~the requested~~ such information as may be necessary; and/or
 - 2) Appear for an interview before the Board to explain the relevance or sufficiency, clarify information, or clear up any discrepancies or conflicts of information. Upon the recommendation of the Board and approval by the Director, an applicant shall have the license restored or will be notified in writing of the reason for the denial of the application.

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(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.61 Continuing Education

- a) CE Hour Requirements
- 1) Every physical therapist shall complete 40 hours of CE relevant to the practice of physical therapy during each prerenewal period as a condition of renewal. Beginning with the September 2016 renewal, at least 3 hours of the 40 hours must include content related to the ethical practice of physical therapy.
 - 2) Every physical therapist assistant shall complete 20 hours of CE relevant to the practice of physical therapy during each prerenewal period as a condition of renewal. Beginning with the September 2017 renewal, at least 3 hours of the 20 hours must include content related to the ethical practice of physical therapy.
 - 3) A prerenewal period is the 24 months ~~preceding~~preceeding September 30 in the year of the renewal.
 - 4) A CE hour equals 50 minutes. After completion of the initial CE hour, credit may be given in one-half hour increments.
 - 5) Courses that are part of the curriculum of a university, college or other educational institution shall be allotted CE credit at the rate of 15 CE hours for each semester hour or 10 CE hours for each quarter hour of academic credit awarded.
 - 6) A renewal applicant is not required to comply with CE requirements for the first renewal following the original issuance of the license.
 - 7) Physical therapists and physical therapist assistants licensed in Illinois but residing and practicing in other states must comply with the CE requirements set forth in this Section. CE credit hours used to satisfy the CE requirements of another state may be submitted for approval for fulfillment of the CE requirements of the State of Illinois if the CE requirements in the other state are equivalent to the CE requirements in this Section.

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- b) Approved CE
- 1) All CE activities shall be relevant to the advancement, extension and enhancement of providing patient/client management, including but not limited to physical therapy examination, evaluation, intervention, and prevention and providing physical therapy services or fulfilling the other professional roles of a physical therapist or physical therapist assistant. Courses not acceptable for the purpose of this definition include, but are not limited to, personal estate planning, personal financial planning, personal investments, and personal health.
 - 2) CE hours may be earned by verified attendance at or participation in a program that is offered by an approved CE sponsor who meets the requirements set forth in subsection (c). Credit shall not be given for courses taken in Illinois from unapproved sponsors.
 - 3) CE may also be earned from the following activities:
 - A) Teaching a course for an approved CE sponsor or a CAPTE accredited PT or PTA program. An applicant will receive 2 hours of credit for each CE hour awarded to course attendees the first time the course is taught and 1 hour of credit for each CE hour the second time the same course is taught; no credit will be given for teaching the same course 3 or more times. A maximum of 50% of the total CE requirements may be earned through CE instruction. The applicant must be able to provide verification of unique content for each CE course taught via course goals, objectives, and outline.
 - B) American Board of Physical Therapy Specialties (ABPTS) Clinical Specialist Certification. An applicant will receive 40 hours of CE credit for the prerenewal period in which the initial certification is awarded.
 - C) American Physical Therapy Association (APTA)-approved post-professional clinical residency or fellowship. An applicant will receive 1 hour of CE credit for every 2 hours spent in clinical residency, up to a maximum of 20 hours. Clinical residency hours

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may not be used for CE credit if the applicant is also seeking CE credit for hours earned for post-professional academic coursework in the same prerenewal period.

- D) Professional research/writing. An applicant may receive CE credit for publication of scientific papers, abstracts, or review articles in peer-reviewed and other professional journals; publication of textbook chapters; and poster or platform presentations at conferences sponsored by any entity that has preapproved status, up to a maximum of 50% of the total CE requirements:
- i) 15 hours for each refereed article.
 - ii) 3 hours for each non-refereed article, abstract of published literature or book review.
 - iii) 5 hours for each textbook chapter.
 - iv) 5 hours for each poster or platform presentation or review article.
- E) Self-study. A maximum of 50% of the total CE requirements may be earned through the following self-study activities:
- i) An applicant may obtain CE credit by taking correspondence or web-based courses including pre-recorded professional presentations and pre-recorded webinars from an approved CE sponsor. These courses shall include a test that must be passed in order to obtain credit.
 - ii) ~~An applicant can receive CE credit for utilizing moderated teleconferences, webinars, or prerecorded professional presentations offered by approved sponsors. The applicant will be responsible for verifying purchase/registration for teleconferences or audio presentations.~~
 - ii)iii) An applicant can receive CE credit for completion of published tests/quizzes based on APTA publications. The

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applicant will be responsible for verifying successful completion. (These publication-based tests/quizzes, typically offered for less than 1 hour of CE credit, are the only exception to the requirement that all approved CE activities must be at least 1 hour.)

- F) Journal clubs. Up to 5 hours of CE credit may be obtained for participation in a journal club. Credit will be earned based on actual hours of participation and must be verified with an attendance list and list of articles from peer-reviewed journals discussed at each meeting.
- G) Educational programs at Illinois Physical Therapy Association (IPTA) district meetings. Up to 5 hours of CE credit may be obtained for attendance at these programs. Credit will be earned based on actual hours of participation and must be verified with an attendance list and referenced presentation materials.
- H) Departmental inservices. Up to 5 hours of CE credit may be obtained for attendance at inservices at healthcare facilities or organizations. Credit will be earned based on actual hours of participation and must be verified with an attendance list and referenced presentation materials.
- I) Up to 5 CE hours may be earned for completion of skills certification courses. A maximum of 2 hours in cardiopulmonary resuscitation certified by the American Red Cross, American Heart Association, or other qualified organization may be accepted, while a maximum of 3 hours may be accepted for certification or recertification in Basic Life Support for Healthcare Providers (BLS), Advanced Cardiac Life Support (ACLS), or Pediatric Advanced Life Support (PALS) or their equivalent.
- J) Clinical instructor. Up to 5 hours of CE credit may be obtained by being a clinical instructor for ~~either PT or~~ PTA students and up to 10 hours of CE credit may be obtained by being a clinical instructor for PT students. Credit will be earned based on hours of cumulative student clinical instruction, with 1 hour of CE credit per 120 student hours. CE credit hours for clinical instruction will

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be awarded by the student's academic institution.

K) Virtual attendance at live professional presentations, provided the participant is able to communicate in real time with the speaker and other participants. This shall not be considered self-study under subsection (b)(3)(E).

- 4) CE will not be awarded for the following types of activities:
- A) Entry-level physical therapist or physical therapist assistant academic coursework.
 - B) Employee orientation programs.
 - C) Professional meetings or conventions, other than educational programming by approved sponsors.
 - D) Committee meetings.
 - E) Work experience.
 - F) Individual scholarship, mass media programs or self-study activities not identified in subsection (b)(2)(E).

c) CE Sponsors and Programs

- 1) Approved sponsor, as used in this Section, shall mean:
- A) APTA and its components, including programs, courses and activities approved by the IPTA;
 - B) Federation of State Boards of Physical Therapy, including programs, courses and activities approved through its ProCert program;
 - C) Colleges, universities, or community colleges or institutions with physical therapist or physical therapist assistant education programs accredited by the Commission on Accreditation in Physical Therapy Education; for post-professional academic

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coursework, all regionally accredited colleges and universities would be approved sponsors; and

- D) Any other person, firm, association, corporation, or group that has been approved and authorized by the Division pursuant to subsection (c)(2) upon the recommendation of the Board to coordinate and present CE courses or programs.
- 2) Entities seeking a license as a CE sponsor pursuant to subsection (c)(1)(D) shall file a sponsor application, along with the required fee set forth in Section 1340.57. (State agencies, State colleges and State universities in Illinois shall be exempt from paying this fee.) The applicant shall certify to the following:
- A) That all courses and programs offered by the sponsor for CE credit will comply with the criteria in subsection (b) and all other criteria in this Section. The applicant shall be required to submit a sample 3-hour CE program with course materials, presenter qualifications and course outline for review prior to being approved as a CE sponsor;
 - B) That the sponsor will be responsible for verifying attendance at each course or program, and provide a certification of attendance as set forth in subsection (c)(7)(A); and
 - C) That, upon request by the Division, the sponsor will submit evidence as is necessary to establish compliance with this Section. Evidence shall be required when the Division has reason to believe that there is not full compliance with the statute and this Part and that this information is necessary to ensure compliance.
- 3) Each licensed sponsor shall submit by September 30 of each even-numbered year a sponsor application along with the renewal fee set forth in Section 1340.57.
- 4) Each CE program by a licensed sponsor shall provide a mechanism for written evaluation of the program and instructor by the participants. The evaluation forms shall be kept for 5 years and shall be made available to the Division upon written request.

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- 5) All courses and programs shall:
 - A) Contribute to the advancement, extension and enhancement of professional clinical skills and scientific knowledge in the practice of physical therapy;
 - B) Provide experiences that contain scientific integrity, relevant subject matter and course materials;
 - C) Be developed and presented by persons with education and/or experience in the subject matter of the program;
 - D) Provide for a mechanism for the evaluation of the program by the participants;
 - E) Be open to all licensed physical therapists and physical therapist assistants and not be limited to the members of a single organization or a group; and
 - F) Specify the number of CE hours that may be applied toward Illinois CE requirements for licensure renewal.

- 6) Certificate of Attendance by a Licensed Sponsor
 - A) It shall be the responsibility of the sponsor to provide each participant in a program with a certificate of attendance signed by the sponsor. The sponsor's certificate of attendance shall contain:
 - i) The name of the sponsor;
 - ii) The name of the participant;
 - iii) A detailed statement of the subject matter;
 - iv) The number of hours actually attended in each topic;
 - v) The date of the program;

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- vi) Signature of the sponsor.
 - B) The sponsor shall maintain these records for not less than 5 years.
 - 7) The licensed sponsor shall be responsible for assuring verified continued attendance at each program. No renewal applicant shall receive credit for time not actually spent attending the program.
 - 8) Upon the failure of a licensed sponsor to comply with any of the foregoing requirements, the Division, after notice to the sponsor and hearing before and recommendation by the Board pursuant to the Administrative Hearing Rules (see 68 Ill. Adm. Code 1110) shall thereafter refuse to accept CE credit for attendance at or participation in any of that sponsor's CE programs until the Division receives reasonably satisfactory assurances of compliance with this Section.
- d) CE Earned in Other Jurisdictions
- 1) If a licensee has earned CE hours in another jurisdiction from a nonapproved sponsor for which he/she will be claiming credit toward full compliance in Illinois, that applicant shall submit an application along with a \$20 processing fee prior to taking the program or 90 days prior to the expiration date of the license. The Division or the Board shall review and recommend approval or disapproval of this program using the criteria set forth in this Section.
 - 2) If a licensee fails to submit an out of state CE approval form within the required time, late approval may be obtained by submitting the application with the \$20 processing fee plus a \$10 per CE hour late fee not to exceed \$150. The Division or the Board shall review and recommend approval or disapproval of this program using the criteria set forth in this Section.
- e) Certification of Compliance with CE Requirements
- 1) Each renewal applicant shall certify, on the renewal application, full compliance with CE requirements set forth in subsection (a).
 - 2) The Division may require additional evidence demonstrating compliance with the CE requirements. It is the responsibility of each renewal

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applicant to retain or otherwise produce evidence of compliance for a minimum of 5 years.

- 3) When there appears to be a lack of compliance with CE requirements, an applicant will be notified and may request an interview with the Board, at which time the Board may recommend that steps be taken to begin formal disciplinary proceedings as required by Section 10-65 of the Illinois Administrative Procedure Act [5 ILCS 100/10-65].
- f) Waiver of CE Requirements
- 1) Any renewal applicant seeking renewal of his/her license without having fully complied with these CE requirements shall file with the Division a renewal application, the renewal fee set forth in Section 1340.57, a statement setting forth the facts concerning the noncompliance, and a request for waiver of the CE requirements on the basis of those facts. If the Division, upon the written recommendation of the Board, finds from the affidavit or any other evidence submitted that good cause has been shown for granting a waiver, the Division shall waive enforcement of the CE requirements for the renewal period for which the applicant has applied.
 - 2) Good cause shall be defined as an inability to devote sufficient hours to fulfilling the CE requirements during the applicable prerenewal period because of:
 - A) Full-time service in the armed forces of the United States of America during a substantial part of the prerenewal period; or
 - B) Extreme hardship shall be determined on an individual basis by the Board and be defined as an inability to devote sufficient hours to fulfilling the CE requirements during the applicable prerenewal period because of:
 - i) A temporary incapacitating illness documented by a statement from a currently licensed physician. A CE waiver under this subsection (f) may only be granted for one renewal period and shall not be granted for any subsequent period;

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- ii) Temporary undue hardship (e.g., prolonged hospitalization, being disabled and unable to practice physical therapy on a temporary basis).
- ~~B) Extreme hardship, which shall be determined on an individual basis by the Board and shall be limited to documentation of:~~
 - i) ~~An incapacitating illness documented by a currently licensed physician;~~
 - ii) ~~A physical inability to travel to the sites of approved programs; or~~
 - iii) ~~Any other similar extenuating circumstances.~~
- 3) If an interview with the Board is requested at the time the request for the waiver is filed with the Division, the renewal applicant shall be given at least 20 days written notice of the date, time and place of the interview by certified mail, return receipt requested.
- 4) Any renewal applicant who submits a request for waiver pursuant to subsection (f)(1) shall be deemed to be in good standing until the Division's final decision on the application has been made.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.65 Unprofessional Conduct

- a) Pursuant to Section 17(1)(H) of the Act, unprofessional conduct in the practice of physical therapy shall include, but not be limited to:
 - 1) The promotion of the sale of services, goods, appliances or drugs in such manner as to exploit the patient or client for the financial gain of the practitioner or of a third party.
 - 2) Directly or indirectly offering, giving, soliciting, or receiving, or agreeing to receive any fee or other consideration to or from a third party for the referral of a patient or client.

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- 3) Revealing of personally identifiable facts, data or information about a patient or client obtained in a professional capacity without the prior consent of the patient or client, except as authorized or required by law.
- 4) Practicing or offering to practice beyond the scope permitted by law, or accepting and performing professional responsibilities which the licensee knows or has reason to know that he or she is not competent to perform.
- 5) Delegating professional responsibilities to a person when the licensee delegating such responsibilities knows or has reason to know that the person to whom the responsibilities were delegated is not qualified by training, experience, or licensure to perform them.
- 6) Failing to exercise appropriate supervision over persons who are authorized to practice only under the supervision of a licensed physical therapist.
- 7) Overutilizing services by providing excessive evaluation or treatment procedures not warranted by the condition of the patient or by continuing treatment beyond the point of possible benefit.
- 8) Making gross or deliberate misrepresentations or misleading claims as to professional qualifications or of the efficacy or value of the treatments or remedies given or recommended, or those of another practitioner.
- 9) Gross and willful and continued overcharging for professional services, including filing false statements for collection of fees for which services are not rendered.
- 10) Failing to maintain a record for each patient that accurately reflects the evaluation and treatment of the patient.
- 11) Advertising or soliciting for patronage in a manner that is fraudulent or misleading. Examples of advertising or soliciting which is considered fraudulent or misleading, for example advertising that contains false, fraudulent, deceptive or misleading materials, warranties or guarantees of success, statements that play upon vanities or fears of the public, or statements that promote or produce unfair competition. ~~shall include, but~~

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~~not be limited to:~~

- ~~A) Advertising by means of testimonials, anecdotal reports of physical therapy practice successes or claims of superior quality of care to entice the public; or~~
- ~~B) Advertising which contains false, fraudulent, deceptive or misleading materials, warranties or guarantees of success, statements which play upon vanities or fears of the public or statements which promote or produce unfair competition.~~

- b) The Division hereby incorporates by reference the "Code of Ethics", July 2010, approved by the American Physical Therapy Association, 1111 North Fairfax Street, Alexandria VA 22314, with no later amendments or editions.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.66 Advertising

- a) Persons licensed to practice physical therapy in the State of Illinois may advertise in any medium or other form of public communications in a manner which presents information to the public in a truthful, direct, dignified and readily comprehensible manner.
- b) If an advertisement is communicated to the public over television or radio, it shall be prerecorded and approved for broadcast by the licensee and a recording of the actual transmission, including videotape, shall be retained by the licensee for 3 years.
- c) Information which may be contained in advertising shall include, but not be limited to:
 - 1) Licensee's name, address, office hours and telephone number;
 - 2) Schools attended;
 - 3) Announcement of additions to or deletions from professional staff;
 - 4) Announcement of the opening of, change of, or return to practice;

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- 5) Professional memberships;
 - 6) Credit arrangements and/or acceptance of Medicare/Medicaid patients and credit cards;
 - 7) Foreign language ability;
 - 8) Usual and customary fees for routine professional services which must include a statement that fees may be adjusted due to complications or unforeseen circumstances; and
 - 9) Description of offices in which licensee practices, e.g., accessibility to the disabled, convenience of parking.
- d) Information which may be untruthful, fraudulent, deceptive or misleading includes, but is not limited to, that which:
- 1) Contains an offer to treat patients independent of referrals or a current and relevant diagnosis from a physician, dentist or podiatrist;
 - 2) Contains a misrepresentation of fact or omits a material fact required to prevent deception;
 - 3) Guarantees favorable results or creates false or unjustified expectations of favorable results;
 - 4) Takes advantage of the potential client's fears, anxieties, vanities, or other emotions;
 - 5) Contains ~~testimonials and/or~~ exaggerations pertaining to the quality of physical therapy care;
 - 6) Describes as available products or services which are not permitted by the laws of this State or applicable Federal laws; and
 - 7) Advertises professional services which the licensee is not licensed to render.

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(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.70 Granting Variances

~~a)~~The Director may grant variances from this Part in individual cases when he or she finds that:

- ~~a)1)~~ the provision from which the variance is granted is not statutorily mandated;
- ~~b)2)~~ no party will be injured by the granting of the variance; and
- ~~c)3)~~ the rule from which the variance is granted would, in the particular case, be unreasonable or unnecessarily burdensome.
- b) ~~The Director shall notify the Board of the granting of the variance, and the reasons for granting the variance, at the next meeting of the Board.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1340.75 Intramuscular Manual Therapy

- a) A physical therapist licensed to practice in the State of Illinois may only perform intramuscular manual therapy under the following conditions:
 - 1) Prior to completion of the education under subsection (a)(2), successful completion of a total of 50 hours of instruction in the following areas:
 - A) the musculoskeletal and neuromuscular system;
 - B) the anatomical basis of pain mechanisms, chronic pain and referred pain;
 - C) myofascial trigger point theory; and
 - D) universal precautions.
 - 2) Completion of at least 30 hours of didactic course work specific to intramuscular manual therapy. This requirement can be fulfilled by the didactic pre-study required for the intramuscular manual therapy practicum course.

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- 3) Successful completion of at least 54 practicum hours in intramuscular manual therapy course work approved by the Federation of State Boards of Physical Therapy or its successor (or substantial equivalent), as determined by the Department. Each instructional course shall specify what anatomical regions are included in the instruction and describe whether the course offers introductory or advanced instruction in intramuscular manual therapy. Each instruction course shall include the following areas:
 - A) intramuscular manual therapy technique;
 - B) intramuscular manual therapy indications and contraindications;
 - C) documentation of intramuscular manual therapy;
 - D) management of adverse effects;
 - E) practical psychomotor competency; and
 - F) the Occupational Safety and Health Administrations Bloodborne Pathogens standard.
- 4) Postgraduate classes qualifying for completion of the mandated 54 hours of intramuscular manual therapy shall be in one or more modules, with the initial module being no fewer than 27 hours. Therapists shall complete at least 54 hours in no more than 12 months. Physical therapists who completed the initial module prior to the adoption of this Section shall complete the remainder of the 54 hours within 12 months after adoption of this Section.
- 5) Completion of at least 200 patient treatment sessions under general supervision recognized by the American Physical Therapy Association.
- 6) Successful completion of a competency examination approved by the Division. The Division will accept competency examinations administered as part of the intramuscular manual therapy practicum course work.

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- b) Each licensee is responsible for maintaining records of the completion of the requirements of this subsection (a) and shall be prepared to produce those records upon request by the Division.
- c) A newly-licensed physical therapist shall not practice intramuscular manual therapy for at least one year from the date of initial licensure unless the practitioner can demonstrate compliance with subsection (a) through his or her prelicensure educational coursework.
- d) Intramuscular manual therapy may only be performed by a licensed physical therapist and may not be delegated to a physical therapist assistant or support personnel.
- e) A physical therapist shall not advertise, describe to patients or the public, or otherwise represent that dry needling is acupuncture, nor shall he or she represent that he or she practices acupuncture unless separately licensed under the Acupuncture Practice Act [225 ILCS 2].

(Source: Added at 42 Ill. Reg. _____, effective _____)

OFFICE OF THE STATE FIRE MARSHAL

NOTICE OF PROPOSED AMENDMENTS

- 1) Heading of the Part: General Requirements for Underground Storage Tanks and the Storage, Transportation, Sale and Use of Petroleum and Other Regulated Substances
- 2) Code Citation: 41 Ill. Adm. Code 174
- 3)

<u>Section Numbers:</u>	<u>Proposed Actions:</u>
174.100	Amendment
174.210	Amendment
174.300	Amendment
174.310	Amendment
174.320	Amendment
174.400	Amendment
174.420	Amendment
174.440	Amendment
174.450	Amendment
174.APPENDIX A	Repealed
- 4) Statutory Authority: Implementing and authorized by Section 2 of the Gasoline Storage Act [430 ILCS 15/2].
- 5) A Complete Description of the Subjects and Issues Involved: Updates existing underground storage tank system (UST) rules concerning the storage, handling and use of flammable and combustible liquids, bulk handling, mobile fueling, incorporations by reference, and definitions for purpose of UST rules. Implements Public Act 100-299 by providing that landfills permitted by IEPA may utilize mobile fueling for the fueling of off-road vehicles and equipment used at and for the operation of these landfill sites. Makes non-substantive changes.
- 6) Published Studies or Reports, and sources of underlying data used to compose this rulemaking: Standards adopted by the National Fire Protection Association for installation and use of flammable and combustible liquids available at <http://www.nfpa.org> and portions of federal regulations at 40 CFR 280. Also various other codes as cited in the incorporations by reference Section (174.210) by such entities as the American Petroleum Institute, the Institute of International Banking Law and Practice, and the Petroleum Equipment Institute. Also, portions of US EPA FAQs on new UST rule requirements were reviewed and in part relied upon in promulgating these amendatory rules. These are posted on the US EPA web site at www.epa.gov/oust and are also available in the Office of the State Fire Marshal, 1035 Stevenson Drive, Springfield IL 62703.

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- 7) Will this rulemaking replace any emergency rulemaking currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this rulemaking contain incorporations by reference? Yes. A variety of codes and standards developed by independent national associations and work groups have been incorporated and are available for public inspection at:
- Office of the State Fire Marshal
1035 Stevenson Dr.
Springfield IL 62703-4259
- fax: 217/524-9284
- 10) Are there any other rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objectives: This Part could have an impact on local government to the extent that local government units might own or operate an underground storage tank system.
- 12) Time, Place, and Manner in which interested persons may comment on this rulemaking: Persons wishing to comment on this proposed rulemaking may submit comments no later than 45 days after the publication of this Notice to:
- Tom Andryk
Division of Legal Counsel
Office of the State Fire Marshal
1035 Stevenson Dr.
Springfield IL 62703-4259
- 217/785-5758
- fax: 217/524-5487
- 13) Initial Regulatory Flexibility Analysis:

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- A) Types of small businesses, small municipalities and not-for-profit corporations affected: This rulemaking could have an impact on those small businesses, not-for-profit entities, and small municipalities that own and operate UST systems.
- B) Reporting, bookkeeping or other procedures required for compliance: UST system installations and upgrades have various reporting and permitting requirements as described in Parts 174, 175, and 176 (41 Ill. Adm. Code 174, 175, and 176). Typically the contractor obtains the permit on behalf of the owner/operator.
- C) Types of Professional skills necessary for compliance: Owners and operators of USTs must ensure that all persons installing and doing work on UST systems have been trained appropriately and licensed by OSFM.
- 14) Regulatory Agenda on which this rulemaking was summarized: July 2017 & January 2018

The full text of the Proposed Amendments begins on the next page:

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TITLE 41: FIRE PROTECTION
CHAPTER I: OFFICE OF THE STATE FIRE MARSHAL

PART 174
GENERAL REQUIREMENTS FOR UNDERGROUND STORAGE TANKS
AND THE STORAGE, TRANSPORTATION, SALE AND USE OF
PETROLEUM AND OTHER REGULATED SUBSTANCES

SUBPART A: DEFINITIONS

Section
174.100 Definitions

SUBPART B: INCORPORATION BY REFERENCE

Section
174.200 Incorporation of National Standards
174.210 Incorporations by Reference

SUBPART C: BULK LOADING AND UNLOADING AND
GENERAL UNDERGROUND STORAGE TANK FACILITY REQUIREMENTS

Section
174.300 Storage, Handling and Use of Flammable and Combustible Liquids
174.310 Bulk Loading and Unloading for Railroad Tank Cars and Tank Vehicles
174.320 Locating Bulk Facilities Adjacent to a Motor Fuel Dispensing Facility; Dual
Purpose USTs
174.330 Heating Systems
174.340 Greasing Pits
174.350 Fire Extinguishers
174.360 Fireworks
174.370 General Requirement to Maintain All Equipment

SUBPART D: PORTABLE AND VEHICULAR DISPENSING

Section
174.400 Dispensing Requirements at Motor Fuel Dispensing Facilities
174.410 Portable Containers and Portable Fuel Tanks
174.420 Deliveries from Portable Fuel Tanks and Tank Vehicles Restricted
174.430 Auxiliary Fuel Tanks for Vehicles over a Certain Size
174.440 Dispensing or Delivery of Flammable or Combustible Motor Fuels from Tank
Vehicles

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174.450 Requirements for Permit to Fuel Motor Vehicles from Tank Vehicles

174.APPENDIX A Derivation Table [\(Repealed\)](#)

AUTHORITY: Implementing the Gasoline Storage Act [430 ILCS 15] and authorized by Section 2 of the Gasoline Storage Act [430 ILCS 15/2].

SOURCE: Adopted at 34 Ill. Reg. 13318, effective September 2, 2010; amended at 42 Ill. Reg. _____, effective _____.

SUBPART A: DEFINITIONS

Section 174.100 Definitions

The following definitions shall apply to 41 Ill. Adm. Code 174, 175, 176 and 177 concerning underground storage tanks and tank systems and the storage, transportation, sale and use of petroleum and other regulated substances.

"Abandonment-in-place" is the permanent placement of a UST in an inoperative condition by filling it with inert material in accordance with 41 Ill. Adm. Code 175.840.

"Airport Hydrant Fuel Distribution System" or "Airport Hydrant System" means a UST system that fuels aircraft and operates under high pressure with large diameter piping that typically terminates into one or more hydrants (fill stands). An airport hydrant system may have one or more of the following connected together: aboveground tanks, underground tanks, underground piping, field constructed tanks, or factory constructed tanks. The airport hydrant system begins where fuel enters one or more tanks from an external source such as a pipeline, barge, rail car, or other motor fuel carrier.

"Air Test" or "Air Tested" means a type of integrity test used to demonstrate tightness in a UST or associated piping at installations and upgrades. An air test can only be used when all sides of the tank and/or piping being tested are visible. Test procedures will be performed in accordance with manufacturer's specifications or PEI/RP 100 Recommended Practices for Installation of Underground Liquid Storage Systems.

"American Suction" is any suction system other than European.

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"Ancillary Equipment" means any devices including, but not limited to, piping, fittings, flanges, valves, pumps, dispensers, line leak detection equipment, ATG probes, interstitial tank sensors, sump sensors, flex connectors, and automatic overfill prevention devices used to distribute, meter or control the flow of regulated substances to and from a UST.

"ANSI" means American National Standards Institute.

"API" means American Petroleum Institute.

"ASTM" means American Society for Testing and Materials.

"Attendant" means the owner or any person who is employed by an owner of a motor fuel dispensing facility to dispense motor fuel at that facility.

"Blended Fuel" means gasoline containing greater than 10% ethanol and petroleum diesel containing greater than 20% biodiesel.

"Building" means any three dimensional space that is enclosed by a roof and walls where more than 50% of the possible area of the perimeter walls (sides) of the space is covered and not open to the outside.

"Bulk Storage" means the containment in a UST of a regulated substance for purposes of the bulk transfer or bulk transport of regulated substances and not for retail sale to the public.

"Bunker Tank" means a commercial heating oil or emergency power generator tank situated below grade, in a basement, on a floor, and enclosed in a masonry wall structure, with the tank completely or partially covered by sand, or otherwise not fully accessible to inspection.

"Cathodic Protection" is a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, a tank system can be cathodically protected through the application of either galvanic anodes or impressed current.

"Class I Liquids" – See Flammable Liquids.

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"Class II and III Liquids" – See Combustible Liquids.

"Combustible Liquids" are defined in NFPA 30 as Class II, IIIa and IIIb liquids.

"Compatible" means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST.

"Containment Sump" means a factory manufactured liquid-tight container that protects the environment by containing leaks and spills of regulated substances from piping, dispensers, pumps and related components in the containment area. Containment sumps may be single-walled or secondarily contained and located at the top of the tank (tank top or submersible turbine pump), underneath the dispenser (under-dispenser containment sump), or at other points in the piping run (transition or intermediate sump)~~factory manufactured containments resistant to petroleum and chemical products that may contain system piping, electrical conduits, pumps and leak sensors.~~

"Contractor" is a person licensed under the Petroleum Equipment Contractor's Licensing Act [225 ILCS 729], excluding employees of the contractor, who performs any UST activity for an owner or operator.

"Corrosion Expert" is a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. This person shall be accredited as being qualified by the National Association of Corrosion Engineers (NACE) or be an Illinois Licensed Professional Engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.

"Days" means calendar days unless otherwise stated.

"Decommission" or "Decommissioning" means to permanently close the UST by removal or abandonment-in-place pursuant to 41 Ill. Adm. Code 175.830 and 175.840, and using a contractor that is OSFM-licensed in the decommissioning module pursuant to 41 Ill. Adm. Code 172.

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"Dielectric Material" is a material that does not conduct direct electric current. Dielectric coatings are used to electrically isolate USTs from the surrounding soil. Dielectric bushings are used to electrically isolate portions of the UST (i.e., tank from piping).

"Dispenser" means equipment located above ground that dispenses regulated substances from the UST system.

"Dispenser System" means the dispenser and the equipment necessary to connect the dispenser to the underground storage tank system.

"Dispensing" means the transfer of a regulated substance from a UST directly into the fuel tank of a motor vehicle operated by an internal combustion engine, for use by that motor vehicle. Also, "dispensing" is the transfer of a regulated substance from a UST directly into a portable container, safety can or portable fuel tank.

"Double-walled", in reference to tanks and piping, is a factory certified container consisting of an inner wall and an outer wall with an interstitial space between the inner wall and outer wall suitable for interstitial monitoring, and is designed, constructed and installed to:

contain regulated substances released from the tank system until they are detected and removed;

prevent the release of regulated substances to the environment at any time during the operational life of the UST; and

be checked at least every 30 days for evidence of a release.

A field-installed liner or insert does not qualify as a double-walled tank.

"Dual Purpose UST" or "Multi-purpose UST" is an underground storage tank system in compliance with the requirements of Sections 174.310 and 174.320 and 41 Ill. Adm. Code 160, 172, 174, 175, 176, 177 and 180 and is connected to one or more dispensers and a bulk load-out at the same time.

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"Emergency Stop" or "Emergency Shutoff Switch" or "E-stop" means a device or switch that, when activated, will disconnect power to all dispensing devices, to all remote pumps serving the dispensing devices, to all associated power, control and signal circuits, and to other electrical equipment in the hazardous (classified) locations surrounding the fuel dispensing devices, but not including intrinsically safe electrical equipment. ~~An emergency shutoff switch may also be known as an emergency shutoff (or stop) button or a master electrical shutoff.~~

"European Suction" is a piping system that draws a liquid through the system by suction pump or vacuum pump located at the dispenser. To qualify as European suction, the system shall meet the requirements set forth in 40 CFR ~~280.41(b)(1)(ii)(A) through (E)~~~~280.41(b)(2)(i) through (v)~~ and 41 Ill. Adm. Code 175.640(b)(2)(A) through (E).

"Excavation Zone" is the cubic area containing the tank system and backfill material, bounded by the ground surface, walls and floor of the pit and trenches into which the UST is placed at the time of installation.

"Farm" or "Agricultural Site" is a tract of land devoted to the production of crops or raising of animals, including fish. "Farm" includes all contiguous land and structures and other appurtenances and improvements; also, fish hatcheries, rangeland and nurseries with growing operations. "Farm" does not include agribusiness (as defined in 20 ILCS 3501/801-10(z)), laboratories where animals are raised, land used to grow timber, and pesticide aviation operations. Moreover, this definition does not include retail stores or garden centers where nursery farm products are marketed, but not grown.

"Farm Tank" means a motor fuel UST located on a farm and used exclusively for farm purposes.

"Field-Constructed Tank" means a tank constructed in the field. For example, a tank constructed of concrete that is poured in the field, or a steel or fiberglass tank primarily fabricated in the field, is considered field-constructed.

"Flammable Liquids" are defined in NFPA 30, and are divided into Class Ia, Ib and Ic liquids.

"Flow-through Process Tank" is a tank that forms an integral part of a production process through which there is a steady, variable, recurring or intermittent flow of

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materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction to the process or for the storage of finished products or by-products from the production process. When the process is shut down, flow-through process tanks do not store product to be used once the process is resumed and may contain no more than a de minimis amount of product.

"Gathering Lines" are any pipeline, equipment, facility or building used in the transportation of oil or gas during oil or gas production or gathering operations.

"Hazardous Substance" means any substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 USC 9601(14)), but does not include any substance regulated as a hazardous waste under subtitle C of the Resource Conservation and Recovery Act of 1976 (RCRA) (42 USC 6901 et seq.) or any mixture of those substances and petroleum.

"Hazardous Substance UST" means an underground storage tank system that contains a hazardous substance or any mixture of those substances and petroleum and that is not a petroleum UST.

"Heating Oil" means petroleum that is No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy or No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C) and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers or furnaces.

"Heating Oil Tank for Consumptive Use on the Premises Where Stored" means heating oil consumed exclusively on the same or contiguous property where the heating oil UST is located, for heating purposes. Thus, centralized heating units using heating oil that serve more than one building on the same property are included. It does not include using heating oil to heat from a boiler or furnace, through direct conductivity, any product or substance used in a manufacturing or production process or using heating oil as an ingredient in a manufacturing or production process. Heating oil used to heat grain dryers or kilns is used for consumptive use on the premises.

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"Hearing Officer" means the presiding official designated by the State Fire Marshal to conduct a hearing and preside over pre-hearing and post-hearing matters in a contested case.

"Hot Work" means operations or work on a UST capable of providing a source of ignition, such as drilling, welding, cutting, burning or heating.

"Hydraulic Lift Tank" means a tank holding hydraulic fluid for a closed loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators or other similar devices.

"ICC" means International Code Council.

"IEMA" means the Illinois Emergency Management Agency.

"Interior Lining" or "Internal Lining" means corrosion and chemical resistant materials that are sprayed, brushed or applied to the inside of a tank to protect the tank and its product from contamination by corrosion or to ensure that the inside of the tank is compatible with the product stored. Interior lining is applied by a contractor licensed by OSFM to conduct interior lining.

"Interstitial Monitoring" is a release detection method used to determine the presence of a regulated substance between the inner and outer barriers of a secondary containment system of an underground tank and/or piping system and is designed, constructed and installed to detect a leak from any portion of the tank or piping that routinely contains product and meets any other applicable requirements of 41 Ill. Adm. Code 175.630(~~f~~g) and 40 CFR 280.43(g).

"Intrinsically Safe Electrical Equipment" means equipment and wiring that is incapable of releasing sufficient electrical or thermal energy under normal or abnormal conditions to cause ignition of a specific hazardous atmospheric mixture in its most easily ignited concentration.

"Kerosene" is a refined petroleum distillate consisting of a homogeneous mixture of hydrocarbons essentially free of water, inorganic, acidic or basic compounds, and excessive amounts of particulate contaminants. Two classifications exist as follows:

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No. 1-K (also known as "K-1") – A special low-sulfur grade kerosene suitable for use in non-flue connected kerosene burner appliances and for use in wick-fed illuminating lamps; and

No. 2-K (also known as "K-2") – A regular grade kerosene suitable for use only in flue connected burner appliances and for use in wick-fed illuminating lamps.

"Liquid Traps or Associated Gathering Lines Directly Related to Oil or Gas Production or Gathering Operations" refers to sumps, well cellars or other traps, used in association with oil or gas production, gathering or extraction operations (including gas production plants), for the purpose of collecting oil, water or other liquids. Liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream or may collect and separate liquids from a gas stream.

"Liquefied Petroleum Gas" or "LP Gas" *means any material which is composed predominately of any of the following hydrocarbons or mixtures of the same: propane, propylene, butanes (normal butane and iso-butane) and butylenes.* [430 ILCS 10/2].

"Listed" or "Third Party Listed" means equipment, materials or services included in a list specifying the intended use and that has been published by a third party organization that:

is acceptable to OSFM and concerned with evaluation of products or services;

maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services; and

for each listing states that either the equipment, material or service meets appropriate designated standards or has been tested and found suitable for its intended use.

"Maintenance" means normal operational upkeep to prevent a UST from releasing product.

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"Motor Fuel" means ~~a complex blend of hydrocarbons typically used in the operation of a motor engine, such as petroleum or a petroleum-based substance that is~~ motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, ~~whether alone or in combination with agricultural products,~~ or any blend ~~containing one or more of these substances (for example, motor gasoline blended with alcohol) of petroleum and ethanol and is typically used in the operation of a motor engine.~~

"Motor Fuel Dispensing Facility" means that portion of a property where motor fuels are stored and dispensed from a UST, using fixed equipment, into the fuel tanks of motor vehicles, marine craft or aircraft, or into approved containers, including all equipment used in connection with that storage and dispensing. The term "motor fuel dispensing facility" includes the locations of emergency ~~stopshutoff switches~~ and fueling observation points, and all buildings involved with dispensing activities. Motor fuel dispensing facilities may take the following forms:

"Attended Self-Service Motor Fuel Dispensing Facility" means a motor fuel dispensing facility that has an attendant or employee on duty whenever the facility is open for business. The attendant or employee on duty does not typically dispense motor fuels into fuel tanks or containers. The customer or vehicle operator usually conducts the dispensing.

"Fleet Vehicle Motor Fuel Dispensing Facility" means a motor fuel dispensing facility at a commercial, industrial, governmental or manufacturing property where motor fuels are dispensed into the fuel tanks of motor vehicles that are used in connection with the business or operation of that property by persons within the employ of the business or operation.

"Full-Service Motor Fuel Dispensing Facility" means a motor fuel dispensing facility that has one or more attendants or supervisors on duty to dispense motor fuels into fuel tanks or containers whenever the facility is open for business. All dispensing at a full-service motor fuel dispensing facility is conducted by an attendant and no dispensing is conducted by customers.

"Marine Motor Fuel Dispensing Facility" means a motor fuel dispensing facility at or adjacent to shore, a pier, a wharf, or a floating dock where motor fuels are dispensed into the fuel tanks of marine craft.

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"Motor Fuel Dispensing Facility Located Inside a Building" means that portion of a motor fuel dispensing facility having obtained written permission by OSFM to be located within the perimeter of a building or building structure that also contains other occupancies. The term also includes detached buildings separated by at least 20 feet from other buildings and used exclusively for dispensing of motor fuels in compliance with NFPA 30A, incorporated by reference in Section 174.210.

"Unattended Self-Service Motor Fuel Dispensing Facility" means a motor fuel dispensing facility that has no attendant or employee on duty. The customer or vehicle operator conducts the dispensing operation. This includes coin, currency, membership card and credit card dispensing operations.

"NACE" means National Association of Corrosion Engineers.

"NFPA" means National Fire Protection Association.

"NLPA" means National Leak Prevention Association.

"Noncommercial Purposes", with respect to motor fuel, means not for resale.

"NOV" means a notice of violation issued by OSFM.

"NWGLDE" means National Work Group on Leak Detector Evaluations.

"Operational Maintenance Inspection" or "OMI" or "Certification Audit" means an inspection performed by an STSS to establish a facility's regulatory compliance.

"Operation" or "Use" in reference to underground storage tanks *means that the tank must have had input or output of petroleum, petroleum products, or hazardous substances, with the exception of hazardous wastes, during the regular course of its usage. "Operation" does not include compliance with leak detection requirements as prescribed by rules and regulations of the Office of the State Fire Marshal or the mere containment or storage of petroleum, petroleum products, or*

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hazardous substances, with the exception of hazardous wastes. [430 ILCS 15/4(b)(1)(D)]

"Operator" means any person in control of, or having responsibility for, the daily operation of the UST.

"OSFM" means the Office of the State Fire Marshal.

"OSFM Rules", unless otherwise specified, means the rules of OSFM located at 41 Ill. Adm. Code 160, 172, 174, 175, 176, 177 and 180.

"OSI" or "Operational Safety Inspection" means an inspection of any activity requiring an STSS on site.

"Owner" means:

In the case of a UST in use on November 8, 1984, or brought into use after that date, any person who owns a UST used for storage, use or dispensing of regulated substances; and

In the case of any UST in use before November 8, 1984, but no longer in use on that date, any person who owned the UST immediately before the discontinuation of its use.

"Owner of Motor Fuel Dispensing Facility" means any individuals or legal entity holding title, lease, license or any interest in a motor fuel dispensing facility. The legal name, residence, address and county of any individuals who are owners shall be filed with OSFM.

"PAI" or "Performance Assurance Inspection" means an inspection for work that must be scheduled with OSFM and for which an STSS may be present.

"Party" means any individual, trust, firm, partnership, joint stock company, corporation, consortium, joint venture, commercial entity, federal government, State government, municipality, commission, unit of local government or political subdivision of the State, or any interstate body.

"PEI" means the Petroleum Equipment Institute.

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"Person" means any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, municipality, commission, political subdivision of a state, interstate body, or other legal entity, or their legal representative, agent or assigns. "Person" also includes any consortium, joint venture, commercial entity or the United States Government and any federal agency.

"Petroleum" (including crude oil or any fraction of crude oil that is liquid at standard conditions of temperature and pressure (60°F and 14.7 pounds per square inch absolute)), includes, but is not limited to, petroleum-based substances comprised of a complex blend of hydrocarbons ~~derived from crude oil through processes of separation, conversion, upgrading or finishing~~, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents or used oils.

"Petroleum UST" means an underground storage tank system that contains petroleum or a mixture of petroleum with de minimis quantities of other regulated substances. Petroleum USTs include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents or used oils.

"Pipe" or "Piping" is any hollow cylinder or tubular conduit that is constructed of non-earthen materials. Such piping includes any elbows, couplings, unions, valves or other in-line fixtures that contain and convey regulated substances from the underground tanks to the dispensers.

"Pipeline Facilities" (including gathering lines) includes new or existing pipe rights-of-way and any equipment, facilities or buildings used in the transportation of gas (or hazardous liquids, which include petroleum or any other liquid designated by the U.S. Secretary of Transportation) or the treatment of gas or designated hazardous liquids during the course of transportation.

"Precision Test" or "Precision Tested" means a type of integrity test used to demonstrate tightness in a UST or associated piping. A precision test must be performed by an OSFM-licensed contractor, certified in the appropriate module, utilizing methods and equipment listed by an independent third party testing laboratory and listed in the NWGLDE publication List of Leak Detection Evaluations for Storage Tank Systems. Test procedures will be performed in accordance with manufacturer's specifications for the testing equipment being used, and must be able to detect a leak at a rate of at least 0.1 gallon per hour from

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any portion of the tank or piping that routinely contains product, with a probability of detection of at least 95 percent and a probability of false alarm of no more than five percent.

"Re-certified Tank" A re-certified tank is any used tank that has been inspected and certified pursuant to the requirements of 41 Ill. Adm. Code 175.400(c).

"Regulated Substance" means: ~~petroleum or hazardous substance as defined in this Section.~~

Any substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (but not including any substance regulated as a hazardous waste under subtitle C); and

Petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute). The term regulated substance includes, but is not limited to, petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

"Release" means any spilling, overfilling, leaking, emitting, discharging, escaping, leaching or disposing from a UST into groundwater, surface water or subsurface soils.

"Release Detection" means determining whether a release of a regulated substance has occurred from the UST system into the environment or a leak has occurred into the interstitial space between the UST system and its secondary barrier or secondary containment around it.

"Removal" means removal of the underground storage tank system in accordance with 41 Ill. Adm. Code 175.830.

"Repair" means to restore to proper operating condition a tank, a pipe, spill prevention equipment, overfill prevention equipment, corrosion protection equipment, release detection equipment, or other UST component that has caused

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or may cause a release of product from the UST system or has failed to function properly.

"Reportable Quantity" means the extent of a hazardous substance release that requires notification under Section 176.320 or 176.340. The reportable quantity varies depending upon the substance involved and is determined under 40 CFR 302.1 through 302.6 and 355.40, incorporated by reference in 41 Ill. Adm. Code 174.210. A list of the reportable quantities for various hazardous substances can be found at <http://www.epa.gov/emergencies/tools.htm#lol>.

"Residence" means single-family dwelling unit or duplex, and the parcel of property each is located on, with only one unit or duplex per parcel.

"Residential Tank" is a motor fuel underground storage tank located on residential property used for noncommercial purposes by a single family and located on property on which that family's residence is located.

"Revocation of the License of a Contractor" means termination of a contractor's license to perform any activity the contractor was licensed to perform.

"Revocation of the Registration of an Underground Storage Tank System" means termination by OSFM of the registration of a UST.

"Safety Can" means a container of not more than 5.3 gallons capacity having a spring-closing lid and spout cover, and designed so that it will safely relieve internal pressure when subjected to fire exposure, per NFPA 30 and 30A, incorporated by reference in 41 Ill. Adm. Code 174.210.

"Secondary Containment" or "Secondarily Contained" means a release prevention and release detection system for underground storage tanks and/or piping, consisting of an inner and outer barrier with an interstitial space that is monitored for leaks~~suitable for interstitial monitoring~~, and designed, constructed and installed to:

contain regulated substances released from the tank system until they are detected and removed;

prevent the release of regulated substances to the environment at any time during the operational life of the UST; and

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be checked at least every 30 days for evidence of a release.

Secondary containment may include double-walled tanks and piping. [This term includes containment sumps when used for interstitial monitoring of piping.](#)

"Site Assessment" is sampling and analyzing the results of the sampling to determine if a release has occurred and if contamination is present on a site, pursuant to 41 Ill. Adm. Code 176.330.

"STI" means Steel Tank Institute.

"Stormwater Collection System" or "Wastewater Collection System" means all piping, pumps, conduit and any other equipment necessary to collect and transport the flow of surface water runoff resulting from precipitation or domestic, commercial or industrial wastewater to and from retention areas or areas where treatment is designated to occur. The collection of stormwater or wastewater does not include treatment, except when incidental to conveyance.

"STSS" means a Storage Tank Safety Specialist employed by OSFM.

"Surface Impoundment" is a natural topographic depression, man-made excavation or diked area formed primarily of earthen materials (although it may be lined with man-made materials) that is not an injection well.

"Suspension of the License of a Contractor" means the prohibition of a contractor's performance of any activity the contractor was licensed to perform for a period of time not to exceed one year.

"Tank" is a stationary device designed to contain an accumulation of regulated substances and constructed of non-earthen materials (e.g., steel, fiberglass, concrete or plastic) that provides structural support.

"Tank Vehicle" means any tank truck, tank full-trailer, or tractor and tank semi-trailer combination.

"Tank Containment Sump" means a factory manufactured containment located at the tank at the submersible pump or the entry point of American suction piping at

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the tank that will prevent leaks from the product piping from reaching soil or groundwater.

"Ten Percent or More Beneath the Surface of the Ground", with reference to a tank, means that its volume (including the volume of its connected underground piping) is 10 percent or more beneath the ground surface or otherwise covered with earthen materials. If a tank is in a vault, it is considered "beneath the surface of the ground" if it cannot be viewed from all sides and top and base.

"Third Party", unless otherwise specified in the rule, when applied to a device or system, means an independent nationally recognized organization or independent professionally licensed individual that evaluates the device or system according to a nationally recognized practice. Examples include, but are not limited to, UL, UL CAN, ANSI, ASTM, NLPA, API or NWGLDE.

"UL" means Underwriters Laboratories, Inc.

"UL Canada" or "UL CAN" means Underwriters Laboratories of Canada.

"Under-dispenser Containment" or "UDC" means factory manufactured containment underneath a dispenser that will prevent leaks from the dispenser and piping within or above the UDC from reaching soil or groundwater. The containment:

must be liquid-tight on its sides, bottom and at any penetrations or sidewall seam;

must be compatible with the substance conveyed by the piping; and

must allow for visual inspection and access to the components in the containment system and/or be monitored.

"Underground Storage Tank System" or "UST" means any one or combination of tanks (including connected underground pipes, connected ancillary equipment, ~~and~~ and connected cathodic protection, and containment system, if any) used to contain an accumulation of regulated substances, the volume of which (including the volume of underground connected pipes) is 10 percent or more beneath the surface of the ground. A UST does include an emergency power generator tank system that stores any classification of fuel for use exclusively, alternately or

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concurrently by an emergency power generator, except as otherwise excluded in this definition. The term "underground storage tank system" or "UST" does not include any pipes connected to any tank excluded from this definition.

Underground storage tank system or UST does not include any tank system as follows:

Farm or residential tank with a capacity of 1,100 gallons or less used for storing motor fuel for noncommercial purposes;

Heating oil tank of any capacity used exclusively for storing heating oil for consumptive use on a farm or residence;

Septic tank;

Pipeline facility (including gathering lines):

~~Regulated under [49 USC Ch. 601](#); or the [Natural Gas Pipeline Safety Act of 1968](#) ([49 USC 1671 et seq.](#), recodified at [49 USC 60101 et seq.](#));~~

~~Regulated under the [Hazardous Liquid Pipeline Safety Act of 1979](#) ([49 USC 2001 et seq.](#), recodified at [49 USC 60101 et seq.](#)); or~~

Regulated under the Illinois Gas Pipeline Safety Act [220 ILCS 20] and determined by the Secretary of Transportation to be connected to a pipeline, or to be operated or intended to be capable of operating at pipeline pressure or as an integral part of a pipeline;

Any wastewater treatment tank system (including oil-water separators) that is part of a wastewater treatment facility regulated under section 402 or 307(b) of the Clean Water Act (33 USC 1342 or 1317(b));

Surface impoundment, pit, pond or lagoon;

Stormwater or wastewater collection system;

Flow-through process tank;

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Emergency spill protection tank or overflow tank that is emptied expeditiously following use;

Liquid trap or associated gathering line directly related to oil or gas production and gathering operations;

Storage tank situated in an underground area (such as a basement, cellar, mine working, drift, shaft or tunnel) if the storage tank is situated upon or above the surface of the floor and can be viewed from all sides and top and base;

Storage tank situated in a vault (whether underground or aboveground), if the storage tank is situated upon or above the surface of the floor or ground and can be viewed from all sides and top and base;

Tank abandoned-in-place by filling with inert material in compliance with 41 Ill. Adm. Code 175.840, [while the condition allowing abandonment in place still exists](#);

Tank with a capacity of 110 gallons or less;

Any UST holding hazardous wastes listed or identified under subtitle C of the Solid Waste Disposal Act (42 USC 3251 et seq.);

Tank that contains a de minimis concentration of regulated substances, except that the tank shall have been in that status as of April 21, 1989 and may not have been converted to a UST tank on or after that date, unless the tank has been re-certified and is in compliance with applicable upgrade requirements; or

Equipment or machinery that contains regulated substances for operational purposes, such as hydraulic lift tanks or electrical equipment tanks.

With the exception of release reporting, response, ~~and~~ corrective action [and financial responsibility](#) requirements, the following USTs (whether single- or double-wall construction) are [partially excluded](#)~~deferred~~ under 40 CFR 280.10(c) from UST regulatory requirements found in 41 Ill. Adm. Code 172, 174, 175, 176 and 177:

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Wastewater treatment tank ~~system~~system not regulated under Section 402 or 307B of the Clean Water Act (33 USC 1342 or 1317(b)), (including oil-water separators, except that oil-water separators that are components of an oil processing, refining or treatment system are not wastewater treatment tanks);

Aboveground storage tanks associated with both airport hydrant fuel distribution systems and UST systems with field-constructed tanks regulated under subpart I;

Any UST containing radioactive material that is regulated under the Atomic Energy Act of 1954 (42 USC 2011 et seq.); and

Any UST that is part of an emergency generation system at a nuclear power generation facility ~~licensed~~regulated by the U.S. Nuclear Regulatory Commission and subject to Nuclear Regulatory Commission requirements regarding design and quality criteria, including, but not limited to, 10 CFR 50.;

~~Airport hydrant fuel distribution system; and~~

~~Any field-constructed tank.~~

Although these systems are ~~partially excluded~~deferred (and therefore partially exempt from the requirements in 41 Ill. Adm. Code 172, 174, 175, 176 and 177) under 40 CFR 280.10(c) and 280.11, they are required to comply with release reporting, response, ~~and~~ corrective action and financial responsibility requirements in 41 Ill. Adm. Code 176.~~200300~~ through 176.360 and, by December 22, 1998, are required to comply with the following:

Be constructed to prevent releases due to corrosion or structural failure for the operational life of the UST;

Be cathodically protected against corrosion, constructed of non-corrodible material, steel clad with a non-corrodible material, or designed in a manner to prevent the release or threatened release of any stored substance;

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Be constructed or lined with material that is compatible with the stored substance; and

Have installed a method for leak detection in accordance with written directives issued by OSFM.

"UST Activity" means a UST:

Installation – including retrofitting and cathodic protection installation;

Repair – including upgrade, which includes retrofitting and cathodic protection installation;

Removal – decommissioning, which includes abandonment-in-place;

Lining;

Lining ~~inspection~~ inspections;

Tank entry;

Precision testing of one or more tanks or lines; ~~or~~

Cathodic protection testing;

Containment sump testing;

Overfill prevention equipment inspection;

Spill prevention equipment testing; or

Release detection equipment and system testing.

"UST System" means a UST.

"Upgrade" is the addition or retrofit of some portion of a UST, such as cathodic protection, leak detection, new dispenser islands, new piping, interior lining or spill and overfill controls, installation of a manway, flex connectors, or other new openings.

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"Wastewater Treatment Tank" means a tank that is designed to receive and treat any influent wastewater through physical, chemical or biological methods.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART B: INCORPORATION BY REFERENCE

Section 174.210 Incorporations by Reference

If a UST was installed prior to adoption of these standards, the standard that shall apply to any maintenance or repair shall be the standard cited in this Section unless otherwise specified in 41 Ill. Adm. Code 174, 175, 176 or 177. If a UST or a component of the system is installed, replaced or upgraded, the installation, replacement or upgrade shall comply with the standards listed in this Section.

- a) The following publications are incorporated by reference and apply to 41 Ill. Adm. Code 174, 175, 176, and 177:

[Airlines for America \(formerly, Air Transport Association \(ATA\)\), 1275 Pennsylvania Avenue, NW, Suite 1300, Washington DC 20004. Website for listing of publications: <https://publications.airlines.org>.](#)

["Airport Fuel Facility Operations and Maintenance Guidance Manual" \(2004 Edition\).](#)

American Petroleum Institute (API). Available from the American Petroleum Institute, 1220 L Street, N.W., Washington ~~DC~~^{DC} 20005, (202)682-8000:

API Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks", Third Edition, 1996.

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NFPA 10, "Standard for Portable Fire Extinguishers" ([20132007](#)).

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NFPA 17, "Standard for Dry Chemical Extinguishing Systems" ([20172009](#)).

~~NFPA 72, "National Fire Alarm Code" (2010).~~

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National Leak Prevention Association (NLPA). Available from the National Leak Prevention Association, 75-4 Main Street, Suite 300, Plymouth NH 03264, info@NLPA-online.org, (815)301-2785 (phone), (240)757-0211 (fax):

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A) and "Future Internal Inspection Requirements ~~for~~ Lined Tanks" (Chapter B), ~~Fifth~~^{Third} Edition, ~~2001~~¹⁹⁹¹.

National Work Group on Leak Detector Evaluations (NWGLDE), List of Leak Detection Evaluations for Storage Tank Systems, ~~Twenty-Third~~^{Sixteenth} Edition (January ~~412~~, ~~2016~~²⁰⁰⁹), available at ~~www.nwglde.org~~^{www.nglde.org}.

Petroleum Equipment Institute (PEI). Available from the Petroleum Equipment Institute, P.O. Box 2380, Tulsa OK 74101-2380, RP@pei.org, (918)494-9696 (phone), (918)491-9895 (fax):

PEI/RP 100-17, "Recommended Practices for Installation of Underground Liquid Storage Systems" (2017).

PEI/RP 500-11, "Recommended Practices for Inspection and Maintenance of Motor Fuel Dispensing Equipment" (2011).

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PEI/RP 1200-17, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities" (2017).

PEI/RP 1300-13, "Recommended Practices for the Design, Installation, Service, Repair and Maintenance of Aviation Fueling Systems" (2013).

PEI/RP 1400-14, "Recommended Practices for the Design and Installation of Fueling Systems for Emergency Generators, Stationary Diesel Engines and Oil Burner Systems" (2014).

Steel Tank Institute (STI). Available from the Steel Tank Institute, 944 Donata Court, Lake Zurich IL 60047, (847)438-8265:

STI (F894.01) (ACT 100), "Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks", revised

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January 2009. ~~Underwriters~~~~Underwriter~~ Laboratories, c/o COMM 2000,
151 Eastern Avenue, Bensenville IL 60106, 1-888-853-3503:

Pre-Engineered Dry Chemical Extinguishing System Units, UL
1254 (2005).

- b) The following federal regulations (Code of Federal Regulations (CFR)) are incorporated by reference and apply to 41 Ill. Adm. Code 174, 175, 176 and 177. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington ~~DCD-C~~: 20401, (202)512-1800:

29 CFR 1910.146 (~~December 27, 2011~~).

29 CFR 1926 (July ~~2615, 2016~~~~2002~~)

40 CFR 280 (~~October 13, 2015~~~~September 7, 1995~~)

40 CFR 302.1 through 302.6 and 355.40 (~~July 1, 2015~~~~December 18, 2008~~).

- c) If the above-referenced publications conflict with specific provisions of 41 Ill. Adm. Code 174, 175, 176 or 177, the Illinois rules shall take precedence over the publications identified in subsection (a) and the federal rules (identified in subsection (b)) shall take precedence over the Illinois rules. However, the provisions of 41 Ill. Adm. Code 174, 175, 176, and 177 shall not be deemed to be in conflict with federal rules on the basis that the Illinois rules are more specific than, more stringent than, or impose requirements for which no similar requirements are contained in, laws and rules enforced by agencies of the federal government.
- d) The following Illinois regulations are referenced in this Part:

Pollution Control Board: 35 Ill. Adm. Code 734, 742 and 750.410

Department of Transportation: 92 Ill. Adm. Code 172

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART C: BULK LOADING AND UNLOADING AND

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GENERAL UNDERGROUND STORAGE TANK FACILITY REQUIREMENTS

Section 174.300 Storage, Handling and Use of Flammable and Combustible Liquids

With regard to USTs, except as otherwise provided in 41 Ill. Adm. Code 172, 174, 175, 176, 177, 160 and 180, the storage, handling and use of flammable and combustible liquids shall comply with NFPA 30 and 30A, incorporated by reference in 41 Ill. Adm. Code 174.210, as of [October 13, 2018](#)~~September 1, 2010~~.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 174.310 Bulk Loading and Unloading for Railroad Tank Cars and Tank Vehicles

- a) Any kind of loading or unloading activity, either to or from railroad tank cars and tank vehicles, or any other kind of loading or unloading into or out of USTs, shall require compliance with Section 174.300 and the following minimum requirements.
 - 1) All electrical installations shall comply with the Edition of NFPA 70 in force at the time of installation of the electrical equipment at all hazardous (classified) locations, such as loading and unloading docks, to include vapor-proof lighting, wiring in sealed conduit, and explosion-proof switches. Equipment and installations shall further comply with the requirements of 41 Ill. Adm. Code 175.425.
 - 2) A person shall be present to actively supervise the product transfer during loading and unloading operations.
 - 3) When transferring Class I liquids, motors of tank vehicles and portable or auxiliary pumps shall be shut down during the making and breaking of hose connections. If loading or unloading is done without requiring the use of the motor of the tank vehicle, the motor shall be shut down throughout the transfer operations.
 - 4) Before loading or unloading operations begin, the depositor shall determine the quantity of product that can be unloaded into each tank or tank vehicle (i.e., the tank ullage) without overflow of product. The volume shall be logged with the facility owner/operator. The log may consist of any bill of lading.

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- 5) The driver, operator or attendant of any tank vehicle shall not remain in the vehicle, but shall not leave the vehicle unattended during the loading or unloading process. Delivery hose, when attached to a tank vehicle, shall be considered to be a part of the tank vehicle. [The driver, operator or attendant shall monitor fuel flow at the deposit point at all times during fuel transfer operations.](#)
- 6) When loading or unloading product into or from underground tanks located at bulk facilities and motor fuel dispensing facilities equipped with tank vapor recovery equipment, the driver, operator or attendant of the tank truck shall ensure that all vapor return paths are effectively made liquid and vapor tight to prevent the discharge of vapors at grade level.
- 7) No fuel deliveries shall be made while tank entry work is going on at the same UST facility unless the facility can demonstrate that:
 - A) the fill port to be fueled is not connected to the UST being worked on;
 - B) no other connection directly or indirectly exists between the UST being worked on and the UST receiving the fuel; and
 - C) the conditions for delivery are safe, including the distance between the UST being worked on and the UST receiving fuel.
- 8) Smoking on or about any tank truck while loading or unloading any flammable or combustible liquid is forbidden. Extreme care shall be taken during unloading operations to avoid deliveries where spark generating equipment is being operated nearby, to avoid other practices involving a risk of fire, to keep fire away, and to prevent persons in the vicinity from smoking, lighting matches or carrying any flame or lighted cigar, pipe or cigarette.
- 9) Tank trucks and tank wagons used for the transport and delivery of Class I, II or III liquids shall not be parked for other than delivery purposes in residential districts, as defined in the Illinois Vehicle Code [625 ILCS 5/1-172].

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- 10) Owners, operators and delivery personnel shall ensure that releases due to spilling or overfilling do not occur and that all transfer operations are monitored constantly to prevent overfilling and spilling.
- 11) The depositor shall report any release of a regulated substance into the environment according to the reporting requirements for owners/operators set forth in 41 Ill. Adm. Code 176.340. The depositor shall then also notify the UST owner/operator immediately. If the depositor fails to report, the facility shall report under 41 Ill. Adm. Code 176.340.
- 12) Owners or operators shall report, investigate and clean up any spills or overfills in accordance with 41 Ill. Adm. Code 176.300 through 176.350, including the required reporting of a release when not already reported by the depositor.
 - b) The unloading hose from a railroad tank car or tank vehicle into an underground tank shall have a static wire or its equivalent and shall be equipped with a non-ferrous nozzle or tight connection metal nipple.
 - c) Before unloading operations begin, the depositor shall determine the following:
 - 1) The facility has a green decal (facility operating permit), issued by OSFM, that is current and valid and in plain view.
 - 2) Any fill or remote fill that has a red tag, issued by OSFM, attached. Depositing into the associated tank is prohibited.
 - 3) The depositor shall inspect the fill device to assure that no tampering has occurred. Before unloading may begin into a remote fill, the depositor shall ensure that all fill caps are secure and tight. Any overriding or tampering with an overfill device that may result in the overfilling of any tank is prohibited ~~(unless authorized by OSFM for the purpose of precision testing only).~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

**Section 174.320 Locating Bulk Facilities Adjacent to a Motor Fuel Dispensing Facility;
Dual Purpose USTs**

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- a) Dispensing from a bulk tank into the tank of a motor vehicle is prohibited.
- b) Bulk facilities (including any bulk storage, bulk plant or bulk load-out) located adjacent to or at a motor fuel dispensing facility shall be separated from public fuel dispensing areas by a fence or similar barrier from the area in which bulk operations are conducted.
- c) Installations of piping to connect bulk storage to a UST at a motor fuel dispensing facility permitted prior to July 1, 1985 shall comply with 41 Ill. Adm. Code 160.15 and the following requirements:
 - 1) Any alteration of a UST component at the bulk and motor fuel dispensing facilities shall require that UST component be upgraded to current design, operating and other technical requirements found in 41 Ill. Adm. Code 174, 175 and 176.
 - 2) Replacement of any UST piping shall require that all UST piping associated and interconnected with the bulk and motor fuel dispensing facilities and USTs be upgraded to current standards for new piping, including requirements for double-wall piping equipped with interstitial monitoring and all appropriate sumps (see 41 Ill. Adm. Code 174, 175 and 176).
 - 3) Replacement of underground storage tanks at bulk and motor fuel dispensing facilities shall require that the entire UST related to the tank replacement be upgraded to standards for newly installed USTs (see 41 Ill. Adm. Code 174, 175 and 176).
- d) Existing Dual Purpose USTs permitted after May 1, 2003. Beginning May 1, 2003, connections between a single bulk load-out and a single UST at a motor fuel dispensing facility shall be allowed to remain if the UST and piping meets all technical standards at the time of installation. Existing dual purpose USTs shall have evidence of OSFM's written consent to operate.
- e) New Installations of and New Conversions to Dual Purpose USTs. On and after September 1, 2010, requests to connect new and existing bulk load-outs to new or existing USTs located at motor fuel dispensing facilities must be reviewed and approved by OSFM, and shall be limited to a single underground storage tank connected to one or more dispensers and a bulk load-out at the same time.

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Approval from OSFM shall require an OSFM permit issued under 41 Ill. Adm. Code 175.300 prior to construction or installation and shall be contingent upon, and require compliance with, subsections (a), (b) and (c) and 41 Ill. Adm. Code 160, 172, 174, 175, 176, 177 and 180 and the following requirements:

- 1) All product piping extensions at the motor fuel dispensing facility shall be underground and be equipped with automatic line leak detectors (ALLDs) and meet all other release detection requirements for UST piping;
- 2) The UST connected to any bulk load-out shall be designed for the working pressures and volume of products to be transferred and for the specific use and location;
- 3) Individual tanks shall not be interconnected, siphoned or manifolded when serving as a dual purpose UST; e.g., a dual purpose UST may not at the same time be connected to any other tanks or USTs;
- 4) Product piping shall not be routed under buildings;
- 5) Dispensers from which retail sales to the public are made shall not be connected, directly or indirectly, to any tank for which the total of all compartments~~that~~ is over 30,000 gallons capacity;
- 6) General Requirement that Dual Purpose USTs Meet Requirements for Newly Installed USTs
 - A) Dual purpose USTs shall meet all design and other UST technical requirements for newly installed USTs, including:
 - i) design requirements for tanks and piping (see 41 Ill. Adm. Code 175.Subpart D and 176.430(f));
 - ii) corrosion protection (see 41 Ill. Adm. Code 175.Subpart E); and
 - iii) release detection that also includes all underground product piping extensions (see 41 Ill. Adm. Code 175.Subpart F);

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- B) Dual purpose USTs shall also be compatible with the product stored (see 41 Ill. Adm. Code 175.415), and meet all required setbacks and separation distances (see 41 Ill. Adm. Code 175.Subpart D). When an existing UST to be connected to a bulk load-out does not meet current requirements for newly installed USTs, the UST must be upgraded to standards for new installations at the time the connection to a bulk loadout is made;
- 7) Deliveries from the tank vehicle into vehicles at the motor fuel dispensing facility are prohibited;
- 8) The service station portion must comply with all requirements of 41 Ill. Adm. Code 174, 175, 176, 177 and 180 applicable to service stations;
- 9) The bulk facility portion shall comply with all applicable requirements of this Subpart and 41 Ill. Adm. Code 160, 174, 175, 176, 177 and 180;
- 10) An OSFM permit shall be obtained prior to connecting a new or existing bulk load-out to a new or existing UST at a motor fuel dispensing facility.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART D: PORTABLE AND VEHICULAR DISPENSING

Section 174.400 Dispensing Requirements at Motor Fuel Dispensing Facilities

- a) All dispensing of motor fuels at motor fuel dispensing facilities shall only be directly into the fuel tanks of motor vehicles when the tanks are connected with the fuel systems of the vehicles, or into safety cans, or portable containers, or portable tanks in compliance with Section 174.410.
- b) With the exception of industrial or fleet facilities with no connection to any UST from which regulated products are sold at retail to the public, the capacity of the total of all compartments of any UST installed at a motor fuel dispensing facility shall not exceed 30,000 gallons.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 174.420 Deliveries from Portable Fuel Tanks and Tank Vehicles Restricted

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- a) Dispensing or delivery of flammable or combustible motor vehicle fuels from tank vehicles, tank trucks, tank wagons or other portable tanks is prohibited except as follows:
- 1) Agricultural sites for agricultural purposes (farm use);
 - 2) Construction sites for refueling construction equipment used only at the construction site (this exception does not apply to trucks or passenger cars that have license plates attached and may be driven to motor fuel dispensing facilities);
 - 3) Sites used for the refueling of police, fire or emergency medical services vehicles or other vehicles that are owned, leased or operated by (or operated under contract with) the State, a unit of local government, a school district, or any agency of the State and that are not normally accessible to the public;
 - 4) Sites permitted under the Environmental Protection Act [415 ILCS 5] as waste disposal sites, sanitary landfills, and municipal solid waste landfill units, but only for the fueling of off-road vehicles and equipment used at and for the operation of these sites;
 - 54) Sites used for the parking, operation or maintenance of a commercial vehicle fleet, but only if the site is located in a county with 3,000,000 or more inhabitants or a county contiguous to a county with 3,000,000 or more inhabitants and the site is not normally accessible to the public; and
 - 65) Airports for fueling of aircraft as defined in, and in compliance with, 41 Ill. Adm. Code 180.
- b) Under no circumstances shall the exceptions listed in subsection~~subsections~~ (a)(~~1~~) ~~through (a)(5)~~ be construed to allow retail sales to the public from tank vehicles, tank trucks, tank wagons or other portable tanks. Dispensing or delivery of flammable or combustible motor vehicle fuels to or from tank vehicles for the purposes set forth in subsections (a)(1) through (a)(54) shall comply with Sections 174.440 and 174.450, except that a permit shall not be required for fueling pursuant to subsections (a)(1) through (a)(43).

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- c) Additional Exception to Ban on Mobile Fueling. In addition to the fueling described in subsections (a) and (b), when Class I or II liquids are to be transported for agriculture or construction as described in subsections (a)(1) and (a)(2), the party performing the fueling may also transport 119 gallons or less per vehicle subject to the following conditions:
- 1) Containers shall be tanks constructed of 18 gauge or heavier steel or equivalent gauge aluminum.
 - 2) Tanks shall be securely fastened to prevent separation from the vehicle in the event of a collision.
 - 3) Tanks shall be electrically bonded to the frame of the vehicle.
 - 4) Tanks shall be protected against leakage or damage in the event of a turnover.
 - 5) Tanks may not be drained by gravity. Only top mounted pumps designed and labeled for use with flammable and combustible liquids may be used to transfer Class I and II liquids from the tanks to other storage tanks or vehicle fuel tanks. No top mounted pump shall be higher than the highest point of the vehicle or permanently attached appurtenances (i.e., roll bars).
 - 6) Flammable liquid petroleum products being transported on a single vehicle may not exceed 119 gallons.
 - 7) Each tank is clearly labeled with the name of the product it contains in letters at least 2" in height with the letters to be white in color on a contrasting background, or placarded in accordance with Illinois Department of Transportation hazardous materials rules (92 Ill. Adm. Code 172).
 - 8) Vehicles transporting regulated products under this subsection (c) shall also comply with the regulations of the Illinois Department of Transportation regarding that transport.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 174.440 Dispensing or Delivery of Flammable or Combustible Motor Fuels from Tank Vehicles

Dispensing or delivery of flammable or combustible motor vehicle fuels from tank vehicles is allowed at sites used for the parking, operation or maintenance of a commercial vehicle fleet under the following conditions:

- a) The site is located in a county with 3,000,000 or more inhabitants or a county contiguous to a county with 3,000,000 or more inhabitants and:
 - 1) The site is not normally accessible to the public and has been approved by OSFM.
 - 2) The vehicles being fueled are part of a fleet of commercial vehicles that are normally parked, operated or maintained at the fueling site.
 - 3) An inspection of the fueling site has been made and approval granted in the form of a permit issued by OSFM. An inspection of the facility may be made at any time. The permit application may be found at <https://www2.illinois.gov/sites/sfm/About/Divisions/Fire-Prevention-and-Building-Safety/Pages/Mobile-Fueling.aspx> www.state.il/osfm/Fire-Prevention/PDFS/AppMobileFuelingSite.pdf.
 - 4) Electrical devices and wiring in areas where fuel is dispensed are in accordance with the edition of NFPA 70 in effect at the time the mobile fueling site was constructed.
 - 5) Dispensing locations are at least 50 feet from structures or combustible storage, including structures or storage on adjacent properties.
 - 6) Signs are posted prohibiting smoking or open flames within 25 feet of the fuel tanker and the point of fueling.
- b) The tank vehicle is owned and operated by a company licensed by OSFM to perform mobile fueling.
- c) The tank vehicle complies with the requirements of NFPA 385, incorporated by reference in Section 174.210 and has been approved by OSFM.

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- d) The tank vehicle displays a mobile-fueling sticker issued by OSFM.
- e) The dispensing hose does not exceed 50 feet in length.
- f) The dispensing nozzle is a listed automatic-closing type with a latch-open device.
- g) Nighttime deliveries are only be made in adequately lighted areas.
- h) The tank vehicle's flasher lights are in operation while dispensing.
- i) Fuel expansion space is left in each fuel tank to prevent overflow in the event of temperature increase.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 174.450 Requirements for Permit to Fuel Motor Vehicles from Tank Vehicles

- a) The person, company or other entity proposing to deposit fuel into tanks of motor vehicles from tank vehicles must first have a permit from OSFM. The application may be found at <https://www2.illinois.gov/sites/sfm/About/Divisions/Fire-Prevention-and-Building-Safety/Pages/Mobile-Fueling.aspx> www.state.il.us/osfm/FirePrevention/PDFS/AppMobileFuelingContractor_1.pdf. A permit will be granted under the following circumstances.
 - 1) The person must apply for a permit by providing the following information:
 - A) The name of business, proof of good standing if a corporation, proof of compliance with the Assumed Name Act if applicable, and the principal address of the business.
 - B) Proof that the vehicles used for fueling are in compliance with Section 174.440.
 - C) Evidence that employees have knowledge of the requirements contained in Section 174.440.

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- 2) An annual fee of \$500 shall be charged each person engaging in fueling from tank vehicles for the period from January 1 through December 31 of each calendar year.
- 3) Each vehicle used for fueling must comply with Section 174.440 and:
 - A) OSFM approval shall consist of a decal or other evidence issued by OSFM attached to the vehicle. The application can be found at [the website cited in subsection \(a\).www.state.il.us/osfm/FirePrevention/PDFS/AppMobileFuelingVehicle.pdf](http://www.state.il.us/osfm/FirePrevention/PDFS/AppMobileFuelingVehicle.pdf). Tank vehicles shall be subject to periodic inspections.
 - B) Vehicles without a permit shall not be allowed to engage in tank vehicle fueling.
 - C) A replacement or added vehicle shall not engage in fueling until an inspection is made to determine compliance and evidence of compliance is issued.
 - D) An annual fee of \$100 shall be charged for each vehicle engaged in the fueling. Replacement vehicles shall be charged at the same rate. The evidence of compliance shall be for January 1 through December 31.
- b) Each location (site) where fueling from tank vehicles is conducted shall be inspected by OSFM. No fueling from tank vehicles shall take place until the location for the fueling is approved by OSFM.
- 1) The owner/lessee or other person who has vehicles to be fueled by tank vehicle shall pay OSFM an annual fee for each location where the fueling will take place. Fees shall be as follows:

Number of Vehicles Fueled	Fee
1-25	\$100
26-50	\$200
51-100	\$300
101 or more	\$400

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- 2) The locations shall be approved if they meet the requirements of Section 174.440.
- 3) The location must be approved annually.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 174.APPENDIX A Derivation Table (Repealed)

The following table indicates the Sections of 41 Ill. Adm. Code 170 that formerly stated requirements identical or related to those now located within this Part 174.

New Section	Old Section
174.100	170.10, 170.150(b), 170.400, 170.800, 170.1000
.....	
174.200	170.11

174.210	170.410, 170.705

174.300	None

174.310	170.80, 170.429

174.320	170.426(h)
.....	
174.330	170.110, 170.115

174.340	170.130

174.350	170.145

174.360	170.180

174.370	170.200

174.400	170.15(a), 170.546(a)

174.410	170.15(a), 170.91, 170.150(d)(7)(G), (I), 170.310(a)(5)(C), (D)

174.420	170.15(c), 170.210(b)

174.430	170.15(b)

174.440	170.211

174.450	170.212

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~~APPENDIX~~

~~None~~

~~A~~

(Source: Repealed at 42 Ill. Reg. _____, effective _____)

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- 1) Heading of the Part: Technical Requirements for Underground Storage Tanks and the Storage, Transportation, Sale and Use of Petroleum and Other Regulated Substances
- 2) Code Citation: 41 Ill. Adm. Code 175
- 3)

<u>Section Numbers:</u>	<u>Proposed Actions:</u>
175.200	Amendment
175.210	Amendment
175.220	Amendment
175.230	Amendment
175.240	Amendment
175.250	Amendment
175.300	Amendment
175.310	Amendment
175.320	Amendment
175.330	Repealed
175.400	Amendment
175.405	Amendment
175.410	Amendment
175.415	Amendment
175.420	Amendment
175.425	Amendment
175.430	Amendment
175.435	Amendment
175.450	Amendment
175.460	Amendment
175.465	Amendment
175.500	Amendment
175.510	Amendment
175.610	Amendment
175.620	Amendment
175.630	Amendment
175.640	Amendment
175.650	Amendment
175.700	Amendment
175.710	Amendment
175.720	Amendment
175.800	Amendment
175.810	Amendment

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175.820	Amendment
175.830	Amendment
175.840	Amendment
175.900	New Section
175.910	New Section
175.920	New Section
175.APPENDIX A	Amendment
175.APPENDIX B	Amendment
175.APPENDIX C	Repealed

- 4) Statutory Authority: Implementing and authorized by Section 2 of the Gasoline Storage Act [430 ILCS 15/2].

- 5) A Complete Description of the Subjects and Issues Involved: This rulemaking will revise the Illinois technical requirements for underground storage tank systems ("USTs") to conform to new federal regulatory requirements that became effective on October 13, 2015. These changes would include requiring federally acceptable proofs of compatibility for underground storage tanks, piping and all related system components whenever such systems store or dispense ethanol blends above 10% ethanol (E10) for gasoline or above 20% biodiesel (B20) for diesel. Federally required changes will also include monthly walkthrough inspections by Certified Operators, tightness testing of spill buckets and piping containments every three years, inspection of overfill prevention equipment every three years, prohibition of ball float vent valves at time of installation or replacement, full regulation of airport hydrant fueling systems, and full regulation of field constructed tanks. This rulemaking will also update these rules to incorporate and streamline current practices, including the electronic submission of reporting forms and permit applications. This rulemaking will also address an unsafe product piping set-up caused when formerly separate regular, midgrade and premium gasoline product piping lines are installed so that two products are mixed at the dispenser to create the midgrade product. When done incorrectly, this piping set-up may and has led to an open pipe end and the release of product when the dispenser is struck by a vehicle and the piping is broken. Makes non-substantive changes.

- 6) Published Studies or Reports, and sources of underlying data used to compose this rulemaking: Standards adopted by the National Fire Protection Association for installation and use of flammable and combustible liquids available at <http://www.nfpa.org> and portions of federal regulations at 40 CFR 280. Also various other codes as cited in the incorporations by reference Section (174.210) by such entities as the American Petroleum Institute, the Institute of International Banking Law and

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Practice, and the Petroleum Equipment Institute. Also, portions of US EPA FAQs on new UST rule requirements were reviewed and in part relied upon in promulgating these amendatory rules. These are posted on the US EPA web site at www.epa.gov/oust and are also available in the Office of the State Fire Marshal, 1035 Stevenson Drive, Springfield IL. 62703.

- 7) Will this rulemaking replace any emergency rule currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this rulemaking contain incorporations by reference? Yes. A variety of codes and standards developed by independent national associations and work groups have been incorporated and are available for public inspection at:

Office of the State Fire Marshal
1035 Stevenson Dr.
Springfield IL 62703-4259

fax: 217/524-9284

- 10) Are there any other rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objective: This Part could have an impact on local government to the extent that local government units might own or operate an underground storage tank system.
- 12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: Persons wishing to comment on this proposed rulemaking may submit comments no later than 45 days after the publication of this Notice to:

Tom Andryk
Division of Legal Counsel
Office of the State Fire Marshal
1035 Stevenson Dr.
Springfield IL 62703-4259

217/785-5758
fax: 217/524-5487

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- 13) Initial Regulatory Flexibility Analysis:
- A) Types of small businesses, small municipalities and not-for-profit corporations affected: This rulemaking could have an impact on those small businesses, not-for-profit entities, and small municipalities that own and operate UST systems.
 - B) Reporting, bookkeeping or other procedures required for compliance: UST system installations and upgrades have various reporting and permitting requirements as described in Parts 174, 175, and 176 (41 Ill. Adm. Code 174, 175, and 176). Typically the contractor obtains the permit on behalf of the owner/operator.
 - C) Types of Professional skills necessary for compliance: Owners and operators of USTs must ensure that all persons installing and doing work on UST systems have been trained appropriately and licensed by OSFM.
- 14) Regulatory Agenda on which this rulemaking was summarized: July 2017 & January 2018

The full text of the Proposed Amendments begins on the next page:

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TITLE 41: FIRE PROTECTION
CHAPTER I: OFFICE OF THE STATE FIRE MARSHAL

PART 175

TECHNICAL REQUIREMENTS FOR UNDERGROUND STORAGE TANKS AND THE
STORAGE, TRANSPORTATION, SALE AND USE OF PETROLEUM
AND OTHER REGULATED SUBSTANCES

SUBPART A: DEFINITIONS

Section
175.100 Definitions

SUBPART B: MOTOR FUEL DISPENSING FACILITY REQUIREMENTS

Section
175.200 General Requirements for Motor Fuel Dispensing Facilities
175.210 Attended Self-Service Motor Fuel Dispensing Facilities and Islands
175.220 Unattended Self-Service Motor Fuel Dispensing Facilities and Islands
175.230 Fleet Vehicle Motor Fuel Dispensing Facilities
175.240 Full Service Motor Fuel Dispensing Facilities and Islands
175.250 Marine Motor Fuel Dispensing Facilities
175.260 Miscellaneous General Operating Requirements

SUBPART C: PERMITS, FEES AND SCHEDULING

Section
175.300 Permitted UST Activity
175.310 Site Plans
175.320 Scheduling of UST Activity
175.330 Payment of 1988 Annual UST Fee ([Repealed](#))

SUBPART D: DESIGN, INSTALLATION AND CONSTRUCTION REQUIREMENTS

Section
175.400 Design and Construction of USTs
175.405 Spill Containment and Overfill Prevention Equipment
175.410 Containment Sumps
175.415 UST Compatibility with Product Stored

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175.420	Piping
175.425	UST Wiring Procedures
175.430	Clearance Required for USTs
175.435	Pressure Testing of Tanks or Lines
175.440	Venting of Tanks
175.445	Fill Pipes
175.450	Pumps, Dispensers and Other Product Transfer Equipment
175.455	USTs Inside or Under Buildings
175.460	Marinas
175.465	Additional Requirements for Installation and Upgrade of USTs

SUBPART E: CORROSION PROTECTION

Section

175.500	Interior Lining and Lining Inspection of USTs
175.510	Corrosion Protection

SUBPART F: RELEASE DETECTION

Section

175.600	Owner/Operator Spill and Overfill Release Control Responsibilities
175.610	General Release Detection Requirements for All USTs
175.620	Release Detection Requirements for Hazardous Substance USTs
175.630	Methods of and Requirements for Release Detection for Tanks
175.640	Methods of and Requirements for Release Detection for Piping
175.650	Release Detection and Cathodic Protection Recordkeeping

SUBPART G: REPAIRS TO UNDERGROUND STORAGE TANKS
AND DEFECTIVE EQUIPMENT

Section

175.700	Repairs Allowed
175.710	Emergency Repairs
175.720	Defective or Non-Compliant Equipment and Emergency Action by OSFM

SUBPART H: REMOVAL, ABANDONMENT AND CHANGE-IN-SERVICE

Section

175.800	Removal, <u>Abandonment-in-Place</u> or Change-in-Service Records
175.810	Temporary Closure

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- 175.820 Change-in-Service of USTs
175.830 Removal of USTs
175.840 Abandonment-in-Place

SUBPART I: UST SYSTEMS WITH FIELD-CONSTRUCTED TANKS AND
AIRPORT HYDRANT FUEL DISTRIBUTION SYSTEMS

Section

- 175.900 General Requirements
175.910 Additions, Exceptions, and Alternatives for UST Systems with Field-Constructed
Tanks and Airport Hydrant Systems
175.920 Partial Exclusions for Aboveground Storage Tanks Associated with Airport
Hydrant Systems and Field-Constructed Tanks

- 175.APPENDIX A UST Activity that Cannot Proceed Without an OSFM Inspector on Site
175.APPENDIX B The Type of OSFM Permit Required for Specific Permitted UST
Activities
175.APPENDIX C Derivation Table (Repealed)

AUTHORITY: Implementing the Gasoline Storage Act [430 ILCS 15] and authorized by
Section 2 of the Gasoline Storage Act [430 ILCS 15/2].

SOURCE: Adopted at 34 Ill. Reg. 13358, effective September 2, 2010; emergency amendment
at 37 Ill. Reg. 5195, effective April 4, 2013, for a maximum of 150 days; amended at 37 Ill. Reg.
13443, effective August 1, 2013; amended at 42 Ill. Reg. _____, effective _____.

SUBPART B: MOTOR FUEL DISPENSING FACILITY REQUIREMENTS

Section 175.200 General Requirements for Motor Fuel Dispensing Facilities

- a) Other than kerosene and except as otherwise provided in this Subpart B and 41 Ill. Adm. Code 180, all dispensing of flammable and combustible liquids at motor fuel dispensing facilities shall be from underground storage tanks.
- b) All motor fuel dispensing facilities must abide by the operating and other requirements of this Subpart B.
- c) Motor fuel dispensing facilities must hold a current and valid motor fuel dispensing permit for the particular type of facility involved in order to operate.

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No motor fuel dispensing facility shall open for business until inspected and approved by OSFM. Facilities operating under different classifications at any time shall obtain dispensing permits for and meet the requirements for all respective classifications that apply to the facility. Approval for dispensing operations will be granted upon compliance with 41 Ill. Adm. Code 172, 174, 175, 176 and 177. No owner or other person or responsible entity shall permit any person to violate the provisions of this Subpart B. Violation of the requirements for motor fuel dispensing facilities of this Subpart B may subject the owner or operator to penalties that may include revocation of the facility motor fuel dispensing permit issued under this Subpart and the compliance certification (green decal) issued under 41 Ill. Adm. Code 177 as required for operation of the facility. Failure to remain in compliance with UST rules may also result in OSFM's issuance of a red tag for the tanks ~~or facility~~ at issue, prohibiting any further operation of the facility or further deposit of regulated substances into any tank subject to a red tag. Maintenance of ~~dispensers, hoses, emergency breakaways, electrical~~ equipment physically connected directly tied to the UST, including and emergency ~~stopshutoffs~~ and shear valves, are ~~examples of~~ required items subject to red tag for noncompliance.

- d) Applications for a Motor Fuel Dispensing Facility Permit
- 1) No construction of a motor fuel dispensing facility or modification of an existing motor fuel dispensing facility shall be commenced until applications and plans are given written approval in the form of a review letter by OSFM.
 - 2) Only contractors currently licensed and certified in accordance with 41 Ill. Adm. Code 172 may submit motor fuel dispensing facility permit applications. A UST contractor portal for the on-line submission of the motor fuel dispensing permit application can be found at <https://webapps.sfm.illinois.gov/USTPortal>. The applications shall be those prescribed by OSFM and plans must be submitted ~~in triplicate~~ for each motor fuel dispensing facility showing compliance with applicable OSFM rules. The plans shall be drawn to scale and shall, at a minimum, include the following:
 - A) Lot lines and dimensions.
 - B) Building lines and dimensions.

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- C) Location and size of tanks and pump island.
 - D) Location of control station (if applicable).
 - E) Type, make, model and location of dispensing devices or equipment.
 - F) Fire extinguisher locations.
 - G) Clearances from dispensing devices to property lines and buildings both on and off the property.
 - H) Locations of all emergency stops.
 - I) Locations of all collision protection for dispensers.
 - J) Locations of any propane storage, with a description of collision protection conforming to Section 175.210(q).
- 3) After examining the submitted application and plans, OSFM shall issue a review letter valid for a period of 6 months. Submission of incomplete or illegible applications and/or plans shall be cause for denial of applications.
- 4) Motor fuel dispensing facility work of the following kinds requires application and plan submittal to OSFM prior to commencing the work:
- A) A station being newly constructed.
 - B) A station being established in a building that previously contained a different occupancy.
 - C) Making substantial modifications to an existing facility. Substantial modification would include, but not be limited to:
 - i) Installation of new dispensing islands or dispensers in new locations.
 - ii) Relocation of an emergency stopshutoff switch.

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- D) Changing from one facility category to another, as those categories are listed in Sections 175.210 through 175.250. The requirement to obtain a permit for the change will still apply even if only part of the facility is being changed (for example only one dispenser island) or if the facility plans to operate under a different category for only a portion of a 24-hour period.
 - E) Construction or relocation of buildings on the property, even if they are not the "primary" motor fuel dispensing facility station control buildings.
- 5) Motor fuel dispensing facility work of the following kinds does not require application and plan submittal to OSFM prior to commencing the work. This type of work or modifications will be inspected by OSFM when the facility is due for permit renewal:
- A) Like-for-like replacement of existing equipment (e.g., replacement of existing dispensing cabinets or components not involving the shear valve or items below the shear valve; changing existing dispensing nozzles, hoses or fittings; replacing an existing emergency ~~stop shutoff switch~~ in its current location).
 - B) Replacing (or installing additional) collision protection posts or guardrails.
 - C) Changing or replacing warning or instructional signs.
 - D) Replacing or adding to the complement of portable fire extinguishers.
- 6) In addition to the requirement for a motor fuel dispensing permit pursuant to this Subpart before any dispensing can occur, work affecting UST components or equipment shall also require a separate Section 175.300 permit to be obtained via the submittal of separate applications to OSFM pursuant to that Section.
- e) Issuance and Renewal of Motor Fuel Dispensing Facility Permits

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- 1) A motor fuel dispensing facility permit or permit renewal will be issued by OSFM after an on-site inspection has been conducted by OSFM to verify compliance with all applicable OSFM rules.
 - 2) No motor fuel dispensing facility shall open for business until inspected and approved by OSFM, and until OSFM issues a motor fuel dispensing facility permit, which must be prominently displayed at all times at the motor fuel dispensing facility. When a facility is required to obtain more than one kind of permit, all the permits shall be displayed.
 - 3) Motor fuel dispensing facility permits shall be issued on a biennial basis. These permits shall expire on December 31 of the year shown on the permit.
 - 4) Any name or ownership change shall require submission to OSFM of a Notification of Ownership Change for Underground Storage Tanks under 41 Ill. Adm. Code 176.440(g)~~separate notification to OSFM~~ within 30 days. Copies of proof of legal ownership, including, but not limited to, the current deed, contract or lease, shall be supplied to OSFM with this Notification upon OSFM's written request.
- f) Storage and handling of LP gases at motor fuel dispensing facilities shall be in accordance with 41 Ill. Adm. Code 200.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.210 Attended Self-Service Motor Fuel Dispensing Facilities and Islands

All dispensing of Class I, II or III liquids at attended self-service motor fuel dispensing facilities and islands must be under the supervision and control of an attendant. The following requirements shall apply to attended self-service motor fuel dispensing facilities and islands:

- a) All electrical installations shall comply with the edition of NFPA 70 in effect at the time of installation of the electrical equipment and shall further comply with the applicable requirements of Section 175.425.
- b) Every self-service motor fuel dispensing facility shall maintain a control station in a location readily accessible to the attendant. Separate fueling areas more than 100 feet apart and designated by signage so indicating may have separate control

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stations if each separate fueling area complies with this Subpart B and 41 Ill. Adm. Code 174, 175 and 176.

- c) A method that does not require coins or currency to activate shall be provided for the attendant to contact the fire department.
- d) Conspicuously marked and easily accessible emergency ~~stopshutoff switches~~ must be provided at each facility and shall be:
 - 1) Located so that at least one emergency ~~stopshutoff~~ is at least 20 feet but not more than 100 feet from each dispenser.
 - 2) Interconnected so that activation of one ~~emergency stopshutoff~~ activates all the ~~emergency stopshutoffs~~ whenever more than one emergency ~~stopshutoff switch~~ is provided.
 - 3) Equipped with an ~~additional~~ emergency ~~stopshutoff~~ at ~~allthe~~ control ~~stationsstation~~, which shall be conspicuously marked and readily accessible to the attendant, ~~whether or not~~~~whenever~~ the control station is less than 20 feet from any dispenser or a security booth is provided for the attendant. The emergency ~~stopshutoff~~ shall be located in a position to allow all dispensing devices to be readily visible to the attendant, or as approved by OSFM, ~~and where a security booth is provided, the control station and emergency shutoff shall be inside the security booth.~~
 - 4) Compliance retrofits shall be completed by September 1, 2013.
- e) Power for illumination of dispensing areas required by this Subpart B shall not be affected by activation of any of the electrical shutoffs when the illumination is located outside of hazardous (classified) locations or is intrinsically safe.
- f) Resetting from an emergency ~~stop activation~~~~electrical shutoff condition~~ shall require manual intervention by the owner or attendant and shall be accomplished only after the condition that caused ~~the activation~~~~it to be activated~~ has been corrected.
- g) All dispensing units shall be readily visible from the control station without assistive devices. However, as an alternative, in the event that the attendant's view of a dispenser is permanently obstructed, or if a dispenser is located so that

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activity at the dispenser is not readily visible, closed-circuit cameras that provide a view of each side of the dispensing unit and project an image on a screen at least 6 inches in diagonal located at the control station may be used. The cameras shall be allowed to sweep to provide a view of multiple dispensing locations, but must provide a view on the screen of each dispensing unit at least every 30 seconds. In lieu of the closed-circuit camera, the facility may elect to have an emergency ~~stop electrical shutoff switch~~ that shall be located at least 20 and not more than 50 feet from the dispenser that has a permanently obstructed view. Using an emergency ~~stop shutoff switch~~ in lieu of the closed-circuit camera pursuant to this subsection (g) must be approved in advance by OSFM. If a closed-circuit camera or viewing screen is inoperable and cannot provide surveillance of dispensing units to the attendant at the control station, and an emergency ~~stop electrical shutoff switch~~ has not been approved by OSFM and provided in lieu of the camera as provided in this subsection (g), self-service dispensing of fuel at these dispensers is prohibited.

- h) The attendant shall at all times be able to communicate with persons in the dispensing area. For distances greater than 40 feet between the control station and the dispenser, a communication system audible to each dispensing area shall be required that allows the attendant to give instruction or warning to the customer.
- i) All emergency ~~stop shutoff switches~~ shall be tested, and all shear valves visually inspected, at least annually to ensure that they are functioning properly and that the dispenser is mounted properly. Inspection should ensure that the shear valves are located ½ inch above or below grade; are securely mounted using a listed rigid anchor device; and the link arm functions when tripped, allowing the poppet valve to close freely. Upon completion of this testing and inspection, the owner/operator shall complete forms titled "Certification of Operational Testing of Emergency Stops" and "Certification of Annual Inspection of All Dispenser Shear Valves", available at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx>. Documentation of annual emergency stop testing and shear valve inspection, using the OSFM forms, shall be kept at the motor fuel dispensing facility for 2 years and available for examination by a representative of OSFM. If documentation of annual testing of emergency ~~stop shutoff switches~~ is not available, the facility shall be subject to demonstration of this equipment during inspection by OSFM.
- j) Attendants

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- 1) At all times when an attended motor fuel dispensing station is open for public use, at least one attendant shall be on duty, and no motor fuel shall be dispensed at any time when the attendant is not at or near the control station or pump island. The attendant's primary duty shall be to supervise the dispensing of motor fuels, motor oils and services normally related to the dispensing.
- 2) The attendant shall refuse service to any person who is smoking or who appears to be unable to dispense fuel safely, and shall shut off the dispensing unit if a patron fails to follow instructions in compliance with OSFM rules. It shall be the responsibility of the attendant to:
 - A) carefully observe the dispensing of liquids into vehicles and portable containers;
 - B) control or eliminate sources of ignition;
 - C) immediately notify local fire authorities of any product spilled;
 - D) take other appropriate actions to prevent ignition of accidental spills;
 - E) refuse service to any customer who appears to lack the ability to properly and safely utilize the equipment (e.g., intoxication, inability to place the nozzle in the gas tank receptacle, inability to follow written or oral instructions of the attendant, or the person is too young to be aware of the hazards and requirements for safe dispensing of motor vehicle fuels);
 - F) to inspect all portable containers for conformance with 41 Ill. Adm. Code 174.
- k) All attendants and other employees of the motor fuel dispensing facility shall be thoroughly instructed in the location, operation and proper use of the communication system, control station, emergency ~~stops, shutoff switches,~~ fire extinguishing equipment, operation of the dispensing units, and safety regulations for the dispensing of motor fuels. Upon request, all attendants shall demonstrate to OSFM their ability to use this equipment. Facilities that fail to instruct

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employees in these requirements shall be in violation and subject to enforcement action.

- l) No dwelling unit or sleeping facilities of any kind for the owner, attendant or any person shall be permitted at a self-service motor fuel dispensing facility. This does not include dormitory facilities for use of drivers at truck stops, provided that the dormitories are in compliance with the applicable provisions of 41 Ill. Adm. Code 100.
- m) Fire extinguishers shall be provided in accordance with 41 Ill. Adm. Code 174.350.
- n) Signs giving instructions for the operation of dispensing equipment must be conspicuously posted on each dispensing island where self-service is offered.
- o) Minimum Signage. Signs shall be provided that are clearly visible to all self-service customers. The signs shall be made of all-weather material and the lettering shall be not less than $\frac{7}{8}$ inch high. The signs shall be mounted no higher than 10 feet above grade with not less than 4 nor more than 6½ feet from the bottom of the sign to the ground, or at a height approved by OSFM, and shall include the following wording, at a minimum:
 - 1) "Warning";
 - 2) "Stop Engine";
 - 3) "No Smoking";
 - 4) "Persons fueling vehicles shall remain with their vehicle, at the nozzle, while fueling is in progress. It is unlawful and dangerous for anyone to dispense gasoline into unapproved containers";
 - 5) "It is unlawful and dangerous for anyone to dispense gasoline into unapproved containers. It is unlawful and dangerous to dispense gasoline without an attendant on duty".
- p) Dispensing activity shall be limited to or supervised by persons old enough to hold a valid driver's license.

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- q) Collision Protection for LP Gas Storage Cabinets at Motor Fuel Dispensing Facilities. LP gas storage cabinets (including cabinets for LP gas tank exchange for gas grills) shall comply with Section 8.4 of NFPA 58, incorporated by reference in 41 Ill. Adm. Code 174.210, and shall also provide collision protection that consists of one of the following options:
- 1) guardrails;
 - 2) steel or concrete bollards;
 - 3) raised sidewalks that are at least 5 inches tall at the face with the cabinet set up so the distance from the face of the raised sidewalk to the front of the cabinet is at least 40 inches. This measurement may also include an additional bumper guard to reach the required 40 inches. Raised sidewalks may also consist of curbs or parking bumper guards; or
 - 4) any other arrangement certified by a Licensed Professional Engineer in accordance with national codes of practice and accepted engineering practices and approved in advance by OSFM.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.220 Unattended Self-Service Motor Fuel Dispensing Facilities and Islands

Unattended self-service motor fuel dispensing facilities and islands shall comply with all of the requirements for attended motor fuel dispensing facilities and islands (see Section 175.210) with the additions and modifications provided in this Section. Requirements specific to control stations and attendants in Section 175.210 are not applicable to unattended facilities. If a motor fuel dispensing facility is to be operated as an unattended station during any portion of a day, it shall meet the standards for unattended operation.

- a) Minimum Signage. Signs shall be posted in all weather materials by each actuator (or at the dispenser if the actuator is an integral part of the dispenser) and the lettering shall be not less than 7/8 inch high. The signs shall be mounted no higher than 10 feet above grade. These instructions shall be mounted with not less than 4 feet nor more than 6 1/2 feet from the bottom of the sign to the ground, or at a height approved by OSFM, and shall include, at a minimum, the following wording, at a minimum information in letters not less than 7/8 inch in height:

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- 1) "No smoking";
 - 2) "Turn off engine";
 - 3) "Containers for gasoline must be red";
 - 4) "Containers for kerosene must be blue";
 - 5) "It is dangerous and unlawful to fill unapproved containers with gasoline, diesel or kerosene";
 - 6) "In case of fire or spill use EMERGENCY STOP emergency shutoff (or stop) button located at..." (owner must insert the locations of the emergency stopshutoffs);
 - 7) "EMERGENCY STOP activation ~~Master electrical shutoff~~ transmits a fire alarm to the fire department".
- b) Easily~~Conspicuously marked and easily~~ accessible emergency stopshutoff ~~switches~~ must be provided at each dispensing island. Each emergency stop shall be identified by an approved sign on all-weather materials stating "EMERGENCY STOP" in 2 inch red capital letters. Combinations of dispenser islands where a master and corresponding satellite dispenser are used to fuel saddle tanks on trucks and similar vehicles shall be considered as being on one island so long as the piping and electronics are one integral unit and the satellite unit is controlled by the master dispensing unit. In addition, there shall be at least one emergency stop located at least 20 feet but not more than 100 feet from each dispenser, in addition to the emergency shutoff switch that is required to be located at least 20 feet but not more than 100 feet from each dispenser. When more than one emergency stopshutoff switch is provided, all devices shall be interconnected so that activation of one emergency stop activates all the emergency stops. Stations with only one island may elect to utilize a single emergency stopshutoff switch located at least 20 feet but not more than 100 feet from each dispenser, or at a location approved by OSFM. A sign shall be placed at ~~or near~~ each emergency stopshutoff switch stating that activation of the emergency stopshutoff switch "transmits a fire alarm to the fire department". Resetting from an emergency stop activation~~electrical shutoff condition~~ shall require manual intervention by the owner or attendant and shall be accomplished only after the condition that caused the activation~~it to be activated~~ has been corrected.

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- c) Fire Alarm Systems
- 1) Activation of any emergency ~~stopshutoff switch~~ at the facility shall automatically transmit an alarm to local emergency fire services providers by sending a signal via one of the following mechanisms, which shall meet the requirements of NFPA 72:
 - A) Auxiliary alarm system;
 - B) Central station alarm connection;
 - C) Proprietary alarm receiving facility or system;
 - D) Remote station alarm connection; or
 - E) When the mechanisms in subsections (c)(1)(A) through (c)(1)(D) are not available, an alternate plan for notification of local emergency services meeting NFPA 70 and NFPA 72 and approved by OSFM in advance of the use.
 - 2) The fire alarm system shall be installed, tested and maintained according to NFPA 70 and NFPA 72. The alarm system must also meet the alarm system requirements of subsections (h)(1)(C) and (h)(2)(D), including the requirement for an audible alarm when triggered.
- d) All emergency ~~stopshutoff switches~~ shall be tested, and all shear valves visually inspected, at least annually to ensure that they are functioning properly and that the dispenser is mounted properly. Documentation of annual emergency stop testing and shear valve inspection shall be kept at the motor fuel dispensing facility and available for examination by a representative of OSFM. If documentation of annual testing of emergency ~~stopshutoff switches~~ is not available, the facility shall be subject to demonstration of this equipment during inspection by OSFM.
- e) Actuators may use currency, coins, keys, ~~or~~ cards or electronic means to activate ~~dispensersdispenser~~ and pumps.

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- f) Dispensing devices or actuators must limit the delivery of product in a manner that requires reactivation of the latch open (hold-open) device for any dispensing beyond the following amounts:
- 1) Motor vehicle fuels (Class I, II and III)
 - A) Class I liquids (gasoline, gasohol, ethanol, motor fuel blends) – maximum ~~100~~50 gallons.
 - B) Class II and III liquids (diesel fuel) – maximum 250 gallons.
 - 2) Kerosene (grade K-1 only) – 18 gallons.
 - 3) Other Class I, II and III liquids – 6 gallons.
- g) Except for farms, when kerosene is to be dispensed at unattended motor fuel dispensing facilities, only grade K-1 kerosene shall be dispensed.
- h) All unattended motor fuel dispensing facilities shall have installed and maintained equipment and systems that meet the requirements of subsection (h)(1) or (h)(2), although local governments may require option (h)(1) or (h)(2):
- 1) Unattended dispensing areas for Class I, II and III liquid motor fuels utilizing this option shall be protected by an automatic fire suppression systems meeting the standards of UL 1254 and NFPA 17. If a fire suppression system meeting these requirements is installed, no fire extinguishers are required. In the event of a fire suppression system discharge, the fuel dispensing facility shall not be returned to service until the suppression system is recharged and fully operational in the area protected by the system. The fire suppression system shall, when activated:
 - A) Automatically activate an emergency ~~stop~~shutoff switch that is equipped so that all fuel dispensing units and submersible pumps would be stopped by the activation.
 - B) Sound a local alarm notification device that is audible throughout the dispensing area and meets the requirements of NFPA 72.

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- C) Automatically transmit an alarm, through a system installed, tested and maintained according to NFPA 70 and 72, to local emergency fire services providers by sending a signal via one of the following mechanisms, which shall meet the requirements of NFPA 72:
- i) Auxiliary alarm system;
 - ii) Central station alarm connection;
 - iii) Proprietary alarm receiving facility or system;
 - iv) Remote station alarm connection; or
 - v) Where the mechanisms in subsections (h)(1)(C)(i) through (iv) are not available, an alternate plan for notification of local emergency services meeting NFPA 70 and NFPA 72 and approved by OSFM in advance of the use.
- D) Include extinguishing agent discharge nozzles mounted above dispensers and at or near ground level to discharge agent underneath vehicles being fueled.
- 2) Unattended dispensing areas for Class I, II and III motor vehicle fuels electing this option shall be equipped with portable fire extinguishers and a fire detection system located under a weather enclosure canopy (unless written documentation is submitted verifying that the detection system will operate properly without a canopy).
- A) The system shall detect a fire in the dispensing area through the use of rate compensation, rate of rise or flame sensing detectors. The installation must meet the requirements of NFPA 72.
 - B) Activation of the system shall automatically activate an emergency [stopshutoff switch](#) that is equipped so that all fuel dispensing units [and submersible pumps](#) would be stopped by the activation.
 - C) Activation of the system shall cause the sounding of a local alarm notification device audible throughout the dispensing area and meeting the requirements of NFPA 72.

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- D) Activation of the system, which shall be installed, tested and maintained according to NFPA 70 and 72, shall automatically transmit an alarm to local emergency fire services providers by sending a signal via one of the following mechanisms, which shall meet the requirements of NFPA 72:
- i) Auxiliary alarm system;
 - ii) Central station alarm connection;
 - iii) Proprietary alarm receiving facility or system;
 - iv) Remote station alarm connection; or
 - v) Where the mechanisms in subsections (h)(2)(D)(i) through (iv) are not available, an alternate plan for notification of local emergency services meeting NFPA 70 and NFPA 72 and approved by OSFM in advance of the use.
- E) Fire extinguishers meeting the requirements of 41 Ill. Adm. Code 174.350 shall be installed and maintained at each island and at the emergency ~~stopshutoff switch~~. Cabinets, or other enclosures for extinguishers, shall not require breaking of glass or other acts that could injure users attempting to access the extinguishers, though doors, panels and local alarm systems may be provided for these enclosures at the owner's option.
- 3) The annual system testing required under NFPA 17 and NFPA 72 must be documented and the documents regarding this testing kept at the facility or available within 30 minutes or before OSFM completes its inspection, whichever is later.
- 4) In meeting the requirements of subsections (c) and (h), facilities in existence as of September 1, 2010 shall have the option of complying with the editions of NFPA 17, NFPA 70 and NFPA 72 and UL 1254 incorporated by reference in 41 Ill. Adm. Code 174.210 or the OSFM alarm system and fire suppression and fire detection system requirements in effect at the time of their installation.

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- 5) Any changes to either fire suppression or fire detection systems and related alarms require that the facility notify OSFM in writing at least 60 days in advance of the change.
- i) At least once each year the facility shall verify that the alarm notification devices required under subsections (c) and (h) ~~of this Section~~ are working. The facility shall record the verification date and results on a record kept along with the other facility records.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.230 Fleet Vehicle Motor Fuel Dispensing Facilities

Fleet vehicle motor fuel dispensing facilities shall comply with all of the requirements for unattended self-service motor fuel dispensing facilities in Section 175.220, except that the signs required under Section 175.220(a) and the fire detection and fire suppression systems required under Section 175.220(h) shall not be required. Automatic notification to local emergency fire services providers when the emergency stop is activated shall not be required so long as the facility is not open to the public for unattended dispensing at any time. Fleet facilities shall comply with requirements for portable fire extinguishers found in Section 175.220(h)(2)(E) and 41 Ill. Adm. Code 174.350. Other signage requirements under Section 175.220 (~~for example, that emergency shutoffs be conspicuously marked~~) shall still apply, along with the remainder of the requirements of Section 175.220.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.240 Full Service Motor Fuel Dispensing Facilities and Islands

Full service motor fuel dispensing facilities and islands shall comply with all of the requirements for attended self-service motor fuel dispensing facilities in Section 175.210, with the following modifications or additions.

- a) A control station and audible communication system shall not be required at a full service motor fuel dispensing facility or island. The attendant shall, however, at all times be able to communicate with persons in the dispensing area. Facilities with dispensers that are not on a full-service island remain subject to the requirements for attended facilities under Section 175.210 for the dispensers that are not full-service.

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- b) Minimum Signage. Signs shall be provided that are clearly visible to all ~~full-service~~~~self-service~~ customers. ~~The signs shall be made of all-weather material and the lettering shall be not less than 7/8 inch high. The signs shall be mounted no higher than 10 feet above grade, or at a height approved by OSFM, and shall include the following wording, at a minimum: The signs shall be mounted not less than 4 feet nor more than 6½ feet from the bottom of the sign to the ground and made of all-weather rigid material and the lettering shall be not less than 7/8 inch high. The signs shall, at a minimum, include the wording-~~ "No dispensing by anyone other than the attendant".

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.250 Marine Motor Fuel Dispensing Facilities

- a) Marine motor fuel dispensing facilities shall be of the attended type only. Self-service is prohibited.
- b) No vessel or marine craft shall be made fast to any other vessel or marine craft occupying a berth at a fuel dispensing location during fueling operations.
- c) Smoking materials, including matches and lighters, shall not be used within 20 feet of areas used for fueling, servicing fuel systems for internal combustion engines, or receiving or dispensing Class I liquids.
- d) The fuel delivery nozzle shall be put into contact with the vessel fill pipe before the flow of fuel commences and this bonding contact shall be continuously maintained until fuel flow has stopped to avoid possibility of electrostatic discharge.
- e) At all marinas, clearly identified emergency ~~stop~~~~shutoff~~ switches that are readily accessible in case of fire or physical damage at any dispensing unit shall be provided on each marine wharf and located at least 20 feet but not more than 100 feet from each dispenser, or at a location as approved by OSFM. The ~~emergency stop~~~~shutoffs~~ shall be ~~interconnected~~~~interlocked~~ to shut off power to all ~~dispenser and submersible~~ pump motors from any individual location ~~and shall be manually reset only from a master switch~~. Each emergency ~~stop~~~~shutoff~~ switch shall be identified by an approved sign on all-weather materials stating "EMERGENCY STOP" MASTER ELECTRICAL SHUTOFF" or "EMERGENCY SHUTOFF".

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~~SWITCH"~~ in 2 inch red capital letters. Resetting from an emergency stop activation~~electrical shutoff condition~~ shall require manual intervention by the owner or attendant and shall be accomplished only after the condition that caused ~~the activation~~~~it to be activated~~ has been corrected. A master electrical shutoff means an emergency stopshutoff switch.

- f) All emergency stopshutoff switches shall be tested and all shear valves visually inspected at least annually to ensure that they are functioning properly and that the dispenser is mounted properly. Documentation of annual emergency stop testing and shear valve inspection shall be kept at the motor fuel dispensing facility and available for examination by a representative of OSFM. If documentation of annual testing of emergency stopshutoff switches is not available, the facility shall be subject to demonstration of this equipment during inspection by OSFM.
- g) Minimum Signage. A conspicuous sign shall be made of all-weather material with prominent letters not less than 7/8 inch high. The sign shall be mounted no higher than 10 feet above the dispenser base, or at a height approved by OSFM, and shall be mounted not less than 4 feet nor more than 6 1/2 feet above the base of the dispenser, or at a height approved by OSFM, on all-weather materials, visible in all directions, stating ~~in prominent letters not less than 7/8 inch in height~~ "No dispensing by anyone other than the attendant".
- h) Fire Extinguishers. Fire extinguishers shall be provided in accordance with 41 Ill. Adm. Code 174.350.
- i) Spill containment shall be provided on docks adjacent to dispensers to contain spills that may occur during the filling of approved portable containers. Portable containers of ~~642~~ gallons or less shall be filled on the dock where spill containment is provided.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART C: PERMITS, FEES AND SCHEDULING

Section 175.300 Permitted UST Activity

Any UST activity or other permitted activity under this Section must comply with the following:

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- a) Permit Requirements
- 1) Prior to the onset of UST activity, a completed permit application, including fee payment of \$200 per permitted activity, shall be submitted to OSFM.
 - 2) A separate fee is required for each type of activity.
 - 3) This fee is to be paid by check, ~~or~~ money order made payable to "Office of the State Fire Marshal", or electronic payment via the UST contractor portal (at <https://webapps.sfm.illinois.gov/USTPortal>) and is to be from the licensed contractor obtaining the permit.
 - 4) Only contractors currently licensed and certified in accordance with 41 Ill. Adm. Code 172 may obtain permits. Contractors are required to be OSFM licensed and have at least one employee doing the work who shall be certified under 41 Ill. Adm. Code 172 for the UST activity that is being performed. A UST contractor portal for the on-line submission of permit applications and the scheduling of permitted work can be found at the website cited in subsection (a)(3). ~~Contractor licensing applications and information can be found at www.state.il.us/osfm/forms/AppUSTContractorLicense.pdf and at www.state.il.us/osfm/PetroChemSaf/172%20Contractor%20Licensing%20Rules.pdf.~~
 - 5) Only contractors, their employees or subcontractors may perform the permitted UST activity in accordance with 41 Ill. Adm. Code 172.
 - 6) ~~The current OSFM permit application forms for the given activity shall be submitted. Electronically reproduced forms shall be identical to the current OSFM approved permit application forms at www.state.il.us/osfm/Techservices/application_forms.htm.~~
 - 67) Permit applications denied or rejected the second time will require a new permit application and submission of a new fee.
 - 78) Permit applications and issued permits are not transferable.
 - 89) The owner of the UST must be identified on the permit application.

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- 910) No permit may be issued when the current owner listed on the application owes fees pursuant to ~~Section 175.330 or~~ 41 Ill. Adm. Code 176.450 or 176.455 until the fees are paid in full.
- 1011) No permit may be issued for UST activity unrelated to correcting existing violations while the violations continue to exist on that same site.
- b) No UST activity requiring a permit may proceed without a granted permit ~~in the possession of the contractor or representative of the contractor at the UST site, except pursuant to Section 175.710, and the permit shall be available to an OSFM representative, on request. For emergency repair procedures, see Section 175.710. Performance by a contractor of a UST activity in violation of this Section may result in the suspension or revocation of the license of that contractor to perform any UST activity pursuant to 41 Ill. Adm. Code 172.~~
- c) No UST owners or operators may perform any UST activity, unless the owner complies with the licensing and certification requirements of 41 Ill. Adm. Code 172.
- d) UST activity performed that is not in compliance with the conditions of a permit issued to a licensed contractor, or false information supplied to obtain a permit, is cause for permit revocation, or suspension or revocation of the license of the contractor to perform any UST activity.
- e) For purposes of this Section, the following terms shall be considered interchangeable or equivalent: "installer" and "replacer"; "install" and "replace"; "repairer" and "a person who upgrades"; "repair" and "upgrade"; "remover" and "a person who abandons-in-place"; and "remove" and "abandon-in-place".
- f) Actions Requiring a Permit. A permit is required to do any of the following to USTs:
- 1) install new underground tanks or piping;
 - 2) remove tanks, piping or interstitial sensors;
 - 3) abandon-in-place a UST or piping;
 - 4) upgrade;

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- 5) repair, including replacing flex connectors, risers or vents. If the work performed on risers or vents is done as a result of water ingress or a failed tank precision test, a subsequent tank precision test shall be performed after the work is completed~~connector replacement~~;
- 6) line;
- 7) inspect linings;
- 8) emergency repairs;
- 9) repair, ~~or~~ install or remove cathodic or corrosion protection, including on flex connectors;
- 10) perform any hot work on a UST;
- 11) installation, upgrade or removal of the following (except for any like-for-like replacements listed in subsection (g)):
 - A) leak detection systems (see Section 175.630(f)~~175.630(g)~~, providing that existing interstitial monitoring sensors and systems cannot be removed);
 - B) spill containment at the tank or remote fills; and
 - C) overfill prevention equipment;
- 12) dispenser activity that triggers the requirement to install under-dispenser containment under Section 175.410(cd) and any new dispenser location;
- 13) submersible activity that triggers the requirement to install a tank containment sump under Section 175.410(cb);
- 14) electronic enhancement of an automatic tank gauge (ATG) that requires work within the ATG control module;
- 15) connection of a new or existing bulk load-out to a new or existing UST at a motor fuel dispensing facility.

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- g) Actions Not Requiring a Permit.
- 1) No permit is required to do like-for-like replacements for the following:
 - A) submersible pumps, if already equipped with a tank containment sump;
 - B) spill containment devices (insert replacements shall be at least 3.55 gallons capacity; newly installed spill containment devices shall be a minimum of 5 gallons capacity);
 - C) drop tube valves;
 - ~~D) ball floats;~~
 - ~~DE) ATG probes;~~
 - ~~EF) mechanical line leak detectors;~~
 - ~~FG) electronic line leak detectors;~~
 - ~~GH) wireless electronic line leak detectors;~~
 - ~~HF) rectifiers; or~~
 - ~~I) interstitial monitoring sensors.~~
 - 2) The exceptions listed in subsection (g)(1) are the only exceptions from the permit requirement. If the equipment is not present or another type of equipment is to be used, a permit shall be required. Any pipe or flex connector work requires a permit. However, merely disconnecting a fitting, coupling or union without replacing that fitting, coupling or union to accomplish the replacement of the like-for-like equipment on the list in subsection (g)(1) will not by itself trigger the requirement for a permit. Although a permit is not required for like-for-like replacements, the work must still be performed by a licensed contractor. When product piping is broken or disconnected to perform a like-for-like replacement, the piping line must be precision tested as tight prior to putting the piping line back

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into service. Replacing any of the equipment listed in subsection (g)(1) must be reported electronically or in writing, within 24 hours after the activity, to OSFM, on a Like-for-Like Replacement Report form ~~forms~~ provided by OSFM (available at the website cited in subsection (a)(3) - www.state.il.us/osfm/PetroChemSaf/LikeForLike.pdf, listing the make, model and manufacturer of the equipment, and indicating where the equipment is being installed. ~~Copies of these notifications shall also be maintained at the site or available within 30 minutes or before OSFM completes its inspection, whichever is later, for a period of at least 2 years.~~ For a list of the types of OSFM permits required for specific permitted UST activities, see Appendix B.

- h) Expiration and Extension of Permits. Permits expire 6 months from the date they are issued. The applicant may apply for additional 6-month extensions. Permit extensions that circumvent newly adopted technical requirements will not be allowed. If a party submits evidence of non-cancelable contracts executed in reliance on the permit sought to be extended, or if work has commenced, a party will not be viewed as circumventing the technical requirement. Each extension request must be submitted electronically or in writing before the permit lapses and must be accompanied by a \$200 fee.
- i) Amended Permits. Granted permits may be amended ~~twice only once~~ without a new application fee. For all permit amendments, each change that requires a new contractor, more than minor changes to the site plan, or another engineering review to determine acceptability will require submission of a new permit application and \$200 fee. Drawings related to any amendment must be submitted to OSFM with the amendment ~~"As-built" drawings reflecting any amendment to the site plan shall be submitted to OSFM within 10 days after the amendment.~~ Permit amendments that circumvent newly adopted technical requirements will not be allowed.
- j) Site plans showing setback distances shall be submitted ~~in triplicate,~~ by the contractor listed on the permit application, to OSFM, along with any motor fuel dispensing permit application required by Section 175.200. Site plans are subject to approval by OSFM before any new construction, addition or remodeling that alters building size, when encroachment on required setbacks would occur; dispenser locations; or locations or sizes of vehicle service area or storage tanks. Removals, lining and upgrades that involve replacing equipment with that of identical manufacture and model do not require submission of site plans.

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- k) Miscellaneous
- 1) In the event that equipment requiring a permit is installed without a permit or in violation of the terms of the permit, the owner/operator will be required to do the following:
 - A) Hire an OSFM licensed contractor other than the person and company who did the unauthorized/non-permitted work.
 - B) Submit the proper permit application to OSFM and obtain approval from OSFM.
 - C) The work shall be uncovered as necessary to allow proper inspection of the UST installation or modification at issue and OSFM may require any changes necessary to bring the installation into compliance with 41 Ill. Adm. Code 160, 174, 175, 176, 177 and 180.
 - 2) When temporarily replacing a defective electronic line leak detector with a mechanical line leak detector, the contractor must notify OSFM electronically or in writing within 8 working hours after replacement, on a Like-for-Like Replacement Report form provided by OSFM (available at the website cited in subsection (a)(3) www.state.il.us/osfm/PetroChemSaf/LifeForLike.pdf). Replacement of the temporary mechanical line leak detector with the final electronic line leak detector must be completed within 10 working days, and notification of this replacement shall be submitted to OSFM electronically or in writing on a Like-for-Like Replacement Report form provided by OSFM at www.state.il.us/osfm/PetroChemSaf/LifeForLike.pdf within the same 10 day period.
 - 3) When removed piping exceeds 20 feet or 50% of the total piping run ~~When piping is removed from an existing trench and replaced with new piping installed in another location~~ at a site, both a removal and an upgrade permit are required. When there are indications of a leak that are not contained to the UST system, owners and operators shall follow the procedures and requirements of 41 Ill. Adm. Code 176.Subpart C ~~However, where piping is removed from an existing trench and replaced with new piping installed in the same trench, only an upgrade permit is~~

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~~required, although at least one employee certified in the decommissioning module shall be required for the work.~~

- 4) A valid permit does not remedy the technical compliance aspects of a violation until the work is completed and does not allow for any extensions of time for compliance. Completion of the work and a satisfactory OSFM final inspection does not preclude OSFM enforcement action against the person who illegally installed the equipment without a permit.
 - 5) ~~A permit must be obtained prior to construction of a building or structure where loading and unloading or dispensing operations will occur. However, the permit will not require the customary permit fee, nor licensing or certification of a contractor, under this Section.~~
- l) Permits for Marinas. Due to the unique characteristics of the site at marina locations, additional information will be required as specified in this subsection (l) and as determined to be necessary by OSFM.
 - 1) Additional statements will be required as requested by OSFM to substantiate ownership or consent from authorities having jurisdiction over the waterway.
 - 2) Site Plans and Drawings. Detailed site plans and drawings shall be supplied as requested by OSFM to show length, width, location and configuration of the dock, type of construction, dispenser location and dispensing area, along with profiles of the UST indicating differences in elevation between tanks, piping and dispensers showing all valves, manholes, sumps, location of leak detection equipment, anti-siphon devices, pressure relief valves, pipe chases, sewage lines, etc. High water, low water and normal pool elevations shall also be given in relation to tank, piping and dispensers, along with any pertinent site characteristics.
 - m) Permits for Abandonment-in-Place.
 - 1) An on-site evaluation shall be submitted by the OSFM-licensed contractor and must include accurate site plans. A complete plan or diagram of the area shall be provided and show the location of tanks, fill pipes, vent lines, sewers, streets, product lines, utilities and buildings. The facility name

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and location and the number and size of USTs involved shall also be included in the site plans.

2) A description of the specific inert material to be used shall be indicated on the permit application. Allowed inert material shall be limited to sand, gravel, clay, bentonite or inert material mixed with portland cement to increase flowability. The portland cement concentration may not exceed 50 lbs. per cubic yard of mixed material. Any other materials must be approved by OSFM during the permit process. If tripolymer foam is to be used, the permit application must include buoyancy calculations based upon the particular tripolymer foam to be used. Information must also be included that verifies the methods and materials that will be used to protect against UST floatation once abandoned-in-place. PEI/RP-100 addresses the issue of floatation and anchorage calculations that may be of assistance to the submitting contractor relative to determining ballast needs.

3) If the ability to abandon-in-place is questioned, a third-party professional structural engineer may be used to determine the feasibility of removal in order to verify that the tank is or is not eligible to be abandoned in place under Section 175.840(a).

~~nm)~~ For permits applicable to Fleet mobile fueling sites and related contractors, see require a different permit under 41 Ill. Adm. Code 174.440 and 174.450.

~~on)~~ In the event there is a delegation of authority to the City of Chicago to enforce UST rules and regulations, pursuant to the Gasoline Storage Act [430 ILCS 15/2], subject to the terms of that agreement, the City has the authority to modify subsections (a)(1) through (a)(10) ~~of this Section~~ to issue the permits and collect the fees for its own use, regarding UST activities within the jurisdiction of the City.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.310 Site Plans

When OSFM permit application forms indicate that permit submittals must be accompanied by site plans, the following shall apply:

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- a) Site plans shall be submitted simultaneously with associated permit applications and shall accurately reflect the scope and all components of the work involved.
- b) Site plans shall be submitted ~~in triplicate~~, by the contractor listed on the permit application.
- c) Site plans shall be legible and sizes shall be 8½" x 11", 8½" x 14", ~~or~~ 11" x 17" or electronic scans only; blueprints are not acceptable as site plans.
- d) Site plans shall be drawn to an identified scale, or all dimensions shall be labeled to allow OSFM to determine compliance with applicable rules.
- e) Site plans shall indicate or contain the following information:
 - 1) The name of the OSFM-licensed contractor proposing the work;
 - 2) The name and address of the facility where the proposed work is to occur, including the location of the proposed work with reference to city, village or town;
 - 3) The plot to be utilized and its immediate surroundings on all sides. All property lines are to be designated and adjacent streets and highways shall be named, and legends or markings shall include a compass marking the directions of north, east, south and west;
 - 4) The components of the installation as proposed, including tanks and their capacities, name and class of liquids to be stored, piping, pumps, dispensers, buildings and all UST equipment. When partial piping is being installed or replaced, show total length of the entire piping run and identify the specific length and location of the portion of the piping that is being installed or replaced;
 - 5) Clearance from tanks and piping to property lines;
 - 6) Clearances from tanks and piping to adjacent buildings;
 - 7) Separation distance between USTs when more than one UST is present;
 - 8) Location of driveways or paths for vehicle access;

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- 9) Location of existing piping trenches not being reused, existing trenches being reused, and new trenches where new piping is being installed;
 - 10) Location of electrical wiring and conduit, including an indication of the depth or elevation at which these components will be installed;
 - 11) Location of basements, cellars or pits of buildings on the property or on adjacent properties, and location of tanks and piping to allow OSFM to ensure compliance with Section 175.430. If buildings on the property or adjacent property have no basements, cellars or pits, a notation to that effect shall be made on the site plan;
 - 12) Location of sewers, manholes, catch basins, cesspools, septic tanks, wells or cisterns (whether on the property, on adjacent property or in adjoining streets, highways or alleys); whether the sewer is made of petroleum-resistant piping or material; and location of tanks and piping to allow OSFM to ensure compliance with Section 175.430. If there is no sewer, manhole or catch basin in a street or alley or no sewer, cesspool, septic tank, well or cistern on a property, a notation to that effect shall be made on the site plan;
 - 13) Location of UST vent piping, vent termination points, and any other vent outlets required by Section 175.440, including a clear indication of the elevation of vent termination points;
 - 14) Location of fill pipes, including remote fills, required by Section 175.445;
 - 15) Ventilation methods for grease pits or other below-grade areas required by Section 175.450(f);
 - 16) Location and form of all collision protection for dispensers and vent terminals; and
 - 17) Any other information pertinent to the installation to ensure that OSFM plan reviewers can determine compliance with applicable rules.
- f) In the event there is a delegation of authority to the City of Chicago to enforce UST rules and regulations, pursuant to the Gasoline Storage Act [430 ILCS 15/2],

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subject to the terms of the agreement, the City has the authority to modify this Section to change any reference to "Office of the State Fire Marshal" or OSFM to the appropriate City authority.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.320 Scheduling of UST Activity

- a) All permitted activity shall be scheduled with OSFM. There are 2 sets of procedures for scheduling permitted activity, Operational Safety Inspection (OSI) or Performance Assurance Inspection (PAI). The procedures for scheduling OSI Activity (Date Certain) are set forth in subsection (c) and for PAI Activity (Date and Time Certain) are set forth in subsection (d). A contractor shall have at least one employee certified for the UST activity for which the permit was issued actively supervising in person the UST activity being performed on the site; ~~unless the contractor is personally certified in the UST activity for which the permit was issued and is actively supervising the work.~~ At all times during permitted activity, including at all STSS inspections, including any final inspection, there shall be an employee or individual contractor certified in the work to be done on the job site. Subcontractors are not "employees" for this purpose.
- b) No permitted and scheduled OSI or PAI activity can be performed outside the schedule unless changes have been approved in advance by OSFM. ~~No more than 2 schedule changes will be allowed, except for new tank installations, for which 2 additional schedule changes may be used for final inspection only.~~ Notice of cancellation must be received by OSFM ~~no later than 6:00 a.m. at least one complete work day in advance~~ of the scheduled date ~~and time~~ and the revised date of the work must be at least ~~one~~ 2 complete working ~~day~~ days after OSFM receipt of the revised job schedule request. The day of receipt is not included in the advance notice/receipt calculation. ~~At the discretion of OSFM, adverse natural occurrences or other emergencies will allow a shorter time frame for cancellation and rescheduling.~~ A new permit and fee will be required when there is a failure to meet any of the schedules. This includes not being present for inspection, not being completely ready for inspection, allowing permit to expire before completing the final inspection, or not canceling the job within the allowed time frame. Failure to meet the schedules also includes a failure to complete all UST work and site preparation necessary for the STSS inspection, including any necessary testing and related corrections, prior to the time the STSS is scheduled

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to first arrive. Upon these events, the permit is considered ~~void~~~~revoked~~ and no work may commence until a new permit is issued and the work scheduled pursuant to this Section.

- c) OSI (Date Certain) Activity. OSI activity includes UST installations, installation or removal of an entire pipe run, tank removal, abandonment-in-place, lining and lining inspection, tank entry and any hot work. Regarding UST installation, scheduled OSFM inspections are required for an air test on the tank prior to installation, tank installation, air test on primary lines, air test on secondary containment, hydrostatic test on containments prior to backfill, and final inspection. Regarding installation of an entire pipe run, OSFM inspections are required for both the primary and secondary air test on the piping and a hydrostatic test on containments prior to backfill, and final inspection. Any additional inspection in follow-up to tank penetration via hot work, including a final lining inspection and tank precision testing, shall be scheduled as a PAI inspection. For a listing of OSI activities, see Appendix A to this Part.
- 1) For OSI activity, the contractor shall have a granted permit ~~in his or her possession before scheduling with~~OSFM between 8:30 a.m. and 3:00 p.m. on State business days to establish a ~~mutually agreed~~ specific date and time that is not less than one complete working day before the anticipated date of the ~~for the~~ permitted activity. A UST contractor portal for the on-line submission of permit applications and the scheduling of permitted work can be found at <https://webapps.sfm.illinois.gov/USTPortal>.
 - 2) Only the contractor or an employee of the contractor (this does not include subcontractors) may schedule the work with OSFM.
 - 3) For OSI activity, the work will not be allowed to be done unless an STSS is on site.
- d) PAI (Time and Date Certain) Activity. PAI permitted activity includes ~~installation, upgrades~~ not involving piping installation, flex connector activity, repairs not involving hot work, or cathodic protection activity. PAI activities will be scheduled for a period of at least 2 working hours (between ~~8:30~~10:00 a.m. and 3:30 p.m. on State business days) and subsequent activities that interfere with the ability to inspect will not proceed until the time period is over. ~~Regarding tank installation, scheduled OSFM inspections are required for an air test on the tank prior to installation, air test on primary lines, hydrostatic test on~~

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~~containments prior to backfill, tank installation, air test on secondary containment, and final inspection. For tank installation only, the completed Notification of Underground Storage Tanks form (www.state.il.us/OSFM/PetroChemSaf/Notify.pdf) must be ready to present to the STSS during the final inspection. For all other activity, both OSI and PAI, the appropriate OSFM notification forms at www.state.il.us/osfm/PetroChemSaf/home.htm, under "downloadable applications shall be completed and submitted to OSFM within 30 days after completion of the permitted work. Tank~~ Although tank and line precision tightness testing and cathodic protection testing following permitted activity, or at any time in the course of investigating a suspected release, or pursuant to an NOV and the cleaning of tank and line interstitial spaces following a release are not permitted activities, they must still be scheduled with OSFM pursuant to subsection (d)(2). For a listing of OSI activities, see Appendix A.

- 1) Permitted PAI Activity. The contractor shall have a granted permit before scheduling the permitted activity with OSFM in his or her possession and shall transmit to OSFM, not less than 5 working days after the approval date on the permit and not less than one complete² working day^{days} before the anticipated date of work, ~~by U.S. Mail, express mail, package service, fax, or email, a completed OSFM prescribed job schedule form www.state.il.us/osfm/PetroChemSaf/home.htm, under "downloadable applications").~~ A UST contractor portal for the on-line submission of permit applications and the scheduling of permitted work can be found at the website cited in subsection (c)(1). The Division of Petroleum and Chemical Safety (DPCS) will transmit an e-mail confirmation of scheduling approval~~a stamped acknowledgement receipt~~ back to the contractor within one working day. ~~A copy of this receipt, along with a copy of the permit, will be kept on the job site at all times.~~ Work shall not commence until the contractor receives~~obtains~~ this confirmation~~receipt~~. Only the contractor or an employee of the contractor (this does not include subcontractors) may schedule the work with OSFM.
- 2) Non-permitted PAI Activity. Non-permitted PAI activity includes tank and line precision testing and cathodic protection testing following permitted activity, or at any time in the course of investigating a suspected release, or pursuant to an NOV. The contractor or contractor's employee shall schedule the activity with OSFM~~submit the OSFM prescribed job schedule form (www.state.il.us/osfm/PetroChemSaf/home.htm, under "downloadable~~

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~~applications") at least 24 hours~~ in advance of the anticipated work ~~date~~. Only the contractor or an employee of the contractor (this does not include subcontractors) may schedule the work with OSFM. [A UST contractor portal for the on-line scheduling of non-permitted work can be found at the website cited in subsection \(c\).](#)

- 3) For spill or overflow prevention device final PAI (Time and Date Certain) inspections, a contractor representative is not required to be on site, but scheduling of the final inspection is required.
- 4) Any time an emergency repair permit is issued, the contractor shall schedule and complete the final inspection within 10 days after issuance of the permit.

e) [A Notification for Underground Storage Tanks form provided by OSFM \(available at https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx\)](https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx) shall be completed and submitted to OSFM within 30 days after completion of the permitted work for UST removal and abandonment-in-place. For all UST installations, the final inspection shall not be scheduled without prior submission of the completed Notification form and, if applicable, the completed motor fuel dispensing permit application. Other kinds of permitted work do not require submission of this Notification form.

fe) There shall be no transfer or sale of product from a UST until the UST is in compliance with OSFM rules and any required final inspection has been completed. Any request to fill a required minimal amount of fuel necessary to perform compliance testing must be submitted by an OSFM-licensed contractor in writing and approved by OSFM in advance. A Drop Fuel Request form is available at the UST contractor portal at the website cited in subsection (c)(1). A depositor may make one deposit of a regulated substance to a newly installed or newly lined tank to provide ballast; that fuel shall not be sold or dispensed until the required decal is obtained.

gf) In the event there is a delegation of authority to the City of Chicago to enforce UST rules and regulations, pursuant to the Gasoline Storage Act [430 ILCS 15/2], subject to the terms of that agreement and to the extent the City is authorized to supervise the above-referenced activities, the City is authorized to substitute, for

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references in this Section to OSFM or its agents or employees, comparable references to the City or its agents or employees.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.330 Payment of 1988 Annual UST Fee (Repealed)

~~The owner of any registered underground petroleum storage tank (excluding heating oil USTs for consumptive use on the premises where stored) in the ground at any time in 1988 and in operation at any time after January 1, 1974 shall pay a 1988 annual fee of \$100 per tank on or before 90 days from the date on the invoice requesting payment of the fee. The payment is to be by check or money order made payable to "Office of the State Fire Marshal".~~

(Source: Repealed at 42 Ill. Reg. _____, effective _____)

SUBPART D: DESIGN, INSTALLATION AND CONSTRUCTION REQUIREMENTS

Section 175.400 Design and Construction of USTs

- a) Tanks. Any newly installed or replaced underground tank shall be of double-wall construction and equipped with interstitial monitoring that meets the applicable requirements of Section 175.630(fg) and 40 CFR 280.43(g) for all permits issued on February 1, 2008 and after. ~~Any release into the interstice of any double wall tank shall require that the interstice be cleaned under accepted engineering practices before the tank can be put back into service, the out-of-service period not to exceed one year. Although such work does not require a permit, the work must be scheduled with OSFM under Section 175.320 and the work must be done by a contractor that meets the licensing and certification requirements for a tank precision tester under 41 Ill. Adm. Code 176.470 and 41 Ill. Adm. Code 172. (See also Section 175.630(g).) If the interstice cannot be cleaned so as to allow proper functioning of the interstitial monitoring and the tank has been out-of-service for one year, then the tank shall be removed within 60 days. Third-party listed, factory manufactured, jacketed tanks having an interstitial space with interstitial monitoring capable of being cleaned following any contamination shall be considered as meeting the double-wall requirement.~~
- b) Each newly installed, replaced and existing tank shall be properly designed, constructed and installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and third-

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party listed for its intended use. Any portion underground that routinely contains product shall be protected from corrosion. In addition, each tank shall meet one of the following requirements:

- 1) The tank is constructed of fiberglass-reinforced plastic.
 - 2) The tank is constructed of steel and protected in the following manner:
 - A) Metallic tanks installed on or after April 21, 1989 shall be thoroughly coated on the outside with suitable rust-resisting dielectric material; and
 - B) All steel tanks shall utilize a cathodic protection system designed by a corrosion expert certified by NACE in cathodic protection design or by an Illinois Licensed Professional Engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks. If an impressed current system is selected, it must also be designed to allow determination of the system's operating status by means of permanently installed lights and gauges as required in Section 175.510.
 - 3) The tank is constructed of steel and clad or jacketed with a noncorrodible material~~a steel fiberglass reinforced plastic composite~~.
 - 4) The tank construction and corrosion protection are determined by OSFM to be designed to prevent release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than this subsection (b). Before the installation of any tank, its construction and corrosion protection shall be submitted to OSFM, in writing, and is subject to written approval by OSFM.
- c) Re-certified tanks shall satisfy the requirements of subsection (b), and, on or after February 1, 2008, shall be double-walled with interstitial monitoring; however, written proof of re-certification shall be submitted to OSFM. Re-certified tanks must be reinstalled within 6 months after removal or re-certification, whichever is sooner. Re-certified tanks must have a warranty remaining for at least 5 years. Re-certifications must be conducted by a Licensed Professional Engineer having expertise in UST design or the original tank manufacturer.

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- d) Any UST that fails to meet the criteria and requirements of Subparts D, E and F shall be removed within 60 days after receipt of a Notice of Violation requiring its removal. Field-constructed tanks and airport hydrant systems shall comply with Subpart I.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.405 Spill Containment and Overfill Prevention Equipment

- a) To prevent spilling and overfilling associated with product transfer to the UST, owners or operators shall use the following spill containment and overfill prevention equipment:
- 1) Both:
 - A) Spill containment equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (e.g., a spill catch basin). As of May 1, 2003, new or replaced spill containment equipment must have a minimum 5 gallon capacity, except that a third party listed replacement containment designed by the manufacturer to be inserted into an existing spill containment will be allowed as long as it has a minimum capacity of 3.5 gallons. Spill containment equipment shall ~~and~~ be maintained in a dry, clean state; and
 - B) Overfill prevention equipment that:
 - i) Automatically shuts off flow into the tank when the tank is no more than 95% ~~percent~~ full; or
 - ii) Alerts the transfer operator when the tank is no more than 90% ~~percent~~ full by restricting the flow into the tank or triggering an audible and visual ~~a~~ high-product level alarm; or
 - 2) Provides alternative methods that are no less restrictive than subsections (a)(1) and (a)(2) and no less protective of human health or the environment, as approved in writing by OSFM.

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- b) Owners and operators of UST systems with spill and overfill prevention equipment must meet the following requirements of this subsection (b) and shall ensure the equipment is operating properly and will prevent releases to the environment. Spill prevention equipment (such as a catchment basin, spill bucket, or other spill containment device) must prevent releases to the environment by meeting one of the following:
- 1) The equipment is double-walled and the integrity of both walls is periodically monitored at a frequency not less than once every 30 days. Owners and operators must begin meeting the testing requirements of subsection (b)(1)(B) and conduct a test within 30 days after discontinuing periodic monitoring of this equipment; or
 - 2) The spill prevention equipment is tested at installation, immediately after any repairs, and at least once every three years to ensure the equipment is liquid tight by using vacuum, pressure or liquid testing in accordance with one of the following criteria:
 - A) Requirements developed by the manufacturer of the spill prevention equipment. Owners and operators may use this option only if the manufacturer has developed requirements;
 - B) Requirements developed by the manufacturer of the testing equipment; or
 - C) A hydrostatic test that meets the requirements of Section 175.410(j).
- c) Overfill prevention equipment must be inspected at installation, immediately after any repairs, and at least once every three years, and the inspection shall meet the following criteria:
- 1) At a minimum, the inspection must ensure that overfill prevention equipment is set to activate at the correct level specified in subsection (a);
 - 2) The overfill prevention equipment will activate when the regulated substance reaches that level; and

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- 3) Inspections must be conducted in accordance with inspection requirements developed by the manufacturer.
- d) Owners and operators must begin meeting the requirements for testing and inspection in subsections (b) and (c) as follows:
- 1) For UST systems in use on or before October 13, 2015, the initial spill prevention equipment test and overfill prevention equipment inspection must be conducted not later than October 13, 2018.
 - 2) For UST systems brought into use after October 13, 2015, these requirements apply at installation.
- e) Owners and operators must maintain the following records for spill prevention equipment and overfill prevention equipment:
- 1) All records of testing or inspection must be maintained for three years; and
 - 2) For spill prevention equipment not tested every three years, documentation showing that the prevention equipment is double-walled and the integrity of both walls is periodically monitored every 30 days must be maintained for as long as the equipment is periodically monitored.
- f) Ball float~~Float~~ vent valves for overfill prevention shall not be installed on new and existing UST systems after October 13, 2015~~allowed on any type of suction system.~~ If an approved method of overfill prevention is not present on a UST when a ball float valve fails inspection, overfill prevention equipment meeting the requirements of this Section shall be installed.
- ge) A UST that is filled by transfers of no more than 25 gallons at one time shall require spill containment but does not require overfill prevention.
- hd) In addition to the requirements of subsections (a), (b) and (c), waste oil tanks shall be equipped with spill containment devices at all fill and retrieval points.
- i) All testing and inspections required by this Section shall be performed:
- 1) By an OSFM-licensed contractor that has licensure in the installation/retrofitting or tank and piping tightness testing module; and

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- 2) Using an employee for testing or inspection who is certified by the manufacturer of the equipment being inspected and the testing equipment being utilized.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.410 Containment Sumps

- a) All containment sumps must consist of a factory manufactured containment that is liquid-tight on its sides, bottom and at any penetrations and is compatible with the substance conveyed by the piping.
- ba) On or after May 1, 2003, a ~~submersible tank~~ containment sump must be installed at the tank on all new tanks with submersible pumps or American suction piping systems. European suction piping systems are not required to have this containment. ~~All tank containment sumps must consist of a factory manufactured containment that is liquid tight on its sides, bottom and at any penetrations and is compatible with the substance conveyed by the piping. European suction systems are not required to have this containment.~~
- cb) When an existing submersible pump is removed and replaced with another submersible pump, or when piping, flex connectors or other transitional components at the submersible pump are replaced, a ~~submersible tank~~ containment sump must be installed.
- de) On or after May 1, 2003, under-dispenser containment must be installed on all new dispenser installations where there previously was no dispenser. European suction systems are not exempt from the requirement for under-dispenser containment. Under-dispenser containment must allow for visual inspection and access to the components in the containment system or be monitored every 30 days for leaks from the dispenser system.
- ed) Under-dispenser containment shall be required when:
- 1) Both the dispenser and the equipment needed to connect the dispenser to the underground storage tank system are installed at a UST facility. The equipment necessary to connect the dispenser to the underground storage tank system includes check valves, shear valves, unburied risers or flexible

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connectors, or other transitional components that are underneath the dispenser and connect the dispenser to the underground piping; or

- 2) Work is being done to replace or modify any components at or below the shear valve, regardless of whether the dispenser is replaced. ~~When an existing dispenser is removed and replaced with another dispenser and equipment at or below the shear valve used to connect the dispenser to the UST is replaced, under dispenser containment is required. This equipment may include flex connectors or risers or other transitional components that are beneath the dispenser and connect the dispenser to the piping.~~

f) On or after October 13, 2028, containment sumps shall be installed where none previously were installed.

ge) If more than 20 feet or 50% of a pipe run is replaced, the appropriate containment required to make the associated interstitial monitoring functional (e.g., a tank containment sump, under-dispenser containment, or a junction sump) shall also be installed.

hf) Water in Sumps

- 1) Sumps Without Interstitial Monitoring Sensors. If water is in a sump and it is in contact with bare metal piping or metal, including flex connectors, then corrosion protection, using impressed current, spike anodes, or wristband anodes with proper electrolyte, must be installed on the metal piping in accordance with Section 175.510.
- 2) Sumps with Interstitial Monitoring Sensors. Water that could interfere with the operation of double-wall interstitial monitoring systems or that is in contact with bare metal piping or metal, including flex connectors, shall be permanently removed and the source of ingress repaired. The sump shall be maintained so that, other than internal condensation, there is no water in contact with bare metal.
- 3) Requirement for All Sumps. In all cases, sumps shall be maintained and repaired using petroleum compatible materials as necessary so that, in the event of a release, product will not be leaked out of sumps via cracks, broken seals or other openings.

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- ig) Ban on Field-installed Spray-on or Pour-on Materials in UST Containment Sumps. All required containments shall be factory manufactured containments resistant to petroleum and chemical products. Field-applied spray-on or pour-on materials shall not be used in UST containment sumps. All repairs shall be made according to manufacturer's specifications. The application of any material shall not interfere with the normal operation of the shear valves or fusible links, or any equipment installed under dispensers or submersible pumps.
- jh) A hydrostatic test will be performed on all containment sump installations and immediately after repairs (including all submersible, piping, transition and fill sumps, whether single-walled or double-walled) as follows:
- 1) All penetrations, including electrical, must be completed prior to testing.
 - 2) Piping containment sumps are to be filled with water to a height that covers the highest penetration or sidewall seam by 4 inches~~Containment is to be filled with water to a height that covers the highest penetration by 2 inches.~~
 - 3) Fill sumps (spill buckets) shall be filled to within 1½ inches of the top of the sump.
 - 4) Minimal backfilling that may be necessary for support of the containment sump is allowed prior to the test.
 - 54) Test duration is 30 minutes and performed under PAI Time and Date Certain requirements with no drop in water level of more than 1/8 inch.
- k) All testing required by this Section shall be performed:
- 1) By an OSFM-licensed contractor that has licensure in the installation/retrofitting or tank and piping tightness testing module; and
 - 2) Using a certified employee for testing who is certified by the manufacturer of the equipment being tested and the testing equipment being utilized.
- l) Owners and operators of UST systems with containment sumps used for interstitial monitoring of piping must meet these requirements for periodic testing

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and shall ensure the equipment is operating properly and will prevent releases to the environment by meeting one of the following:

- 1) The equipment is double-walled and the integrity of both walls is periodically monitored at a frequency not less than once annually. Owners and operators must begin meeting the testing requirements of this subsection (1)(1) and conduct a test within 30 days after discontinuing periodic monitoring of this equipment;
- 2) The containment sumps used for interstitial monitoring of piping are tested at least once every three years to ensure the equipment is liquid-tight by using vacuum, pressure or liquid testing in accordance with one of the following criteria:
 - A) Requirements developed by the manufacturer of the containment sump. Owners and operators may use this option only if the manufacturer has developed testing requirements;
 - B) Requirements developed by the manufacturer of the testing equipment; or
 - C) A hydrostatic test that meets the requirements of subsection (j); or
- 3) An alternative test procedure for containment sumps with discriminating and nondiscriminating sensors is allowed as follows:
 - A) A liquid level sensor is mounted at the lowest point in the sump and a periodic test is performed by adding liquid to a point that will ensure activation of the sensor;
 - B) The submersible pump automatically shuts off when liquid activates the sensor;
 - C) The level of liquid and type of liquid used to ensure activation of the sensor conforms to the sensor manufacturer's specifications;
 - D) Written documentation from the manufacturer detailing the minimum amount of liquid and the type of testing liquid required to activate the sensor must be provided when OSFM requests it;

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- E) Sensors found to be raised out of the required position for proper activation shall trigger an NOV requiring hydrostatic testing above the highest penetration or seam for the containment sump in question, if the containment sump has been tested using the alternative test procedure in this subsection (l)(3); and
- F) Containment sumps shall be inspected prior to testing. Sumps must be free of debris and moisture prior to testing, and those sumps with obvious structural damage, such as cracks or breaks in the walls or floor of the containment sump, shall require repair or replacement. Containment sumps shall be tested pursuant to subsection (j) following repair or replacement of the sump.
- m) Owners and operators must begin meeting the requirements for testing in subsection (l) as follows:
- 1) For UST systems in use on or before October 13, 2015, the initial testing for containment sumps used for interstitial monitoring of piping must be conducted not later than October 13, 2018.
 - 2) For UST systems brought into use after October 13, 2015, these requirements apply at installation.
- n) Owners and operators must maintain both the following installation and periodic testing records for containment sumps used for interstitial monitoring of piping:
- 1) All records of testing must be maintained for three years; and
 - 2) For containment sumps used for interstitial monitoring of piping not tested every three years, documentation showing that the containment sumps used for interstitial monitoring of piping, are double-walled and the integrity of both walls is periodically monitored every 30 days, must be maintained for as long as the equipment is periodically monitored.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.415 UST Compatibility with Product Stored

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- a) Owners and operators shall use a UST made of or lined with materials that are compatible with the ~~substance~~product stored in the UST.
- b) Owners and operators must notify OSFM at least 30 days prior to switching to a regulated substance containing greater than 10% ethanol, greater than 20% biodiesel, or any other regulated substance identified by OSFM, using a Notification for Underground Storage Tanks form (available at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx>). In addition, owners and operators with UST systems storing these regulated substances must meet one of the following:
- 1) Demonstrate compatibility of the UST system (including the tank and any internal lining materials, piping, containment sumps, pumping equipment (including submersible, suction and dispenser pumps, as well as attached hoses and nozzles), release detection equipment, spill equipment, and overfill equipment and, for USTs installed after October 13, 2018, any associated seals, gaskets and adhesives). Owners and operators may demonstrate compatibility of the UST system by using one of the following options:
- A) Certification or listing of UST system equipment or components by a nationally recognized, independent testing laboratory for use with the regulated substance stored; or
- B) Equipment or component manufacturer approval. The manufacturer's approval must be in writing, indicate an affirmative statement of compatibility, specify the range of biofuel blends with which the equipment or component is compatible, and be from the equipment or component manufacturer; or
- 2) Use another option determined by OSFM to be no less protective of human health and the environment than the options listed in subsection (b)(1). Demonstration of any such method shall be in writing submitted to OSFM. If the option is approved, the owner or operator shall comply with any conditions imposed by OSFM to ensure the protection of human health or the environment. Before the utilization of the option, OSFM shall issue written approval.

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- c) The following code of practice may be useful in complying with this Section: American Petroleum Institute Recommended Practice 1626, "Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Filling Stations".~~b) All UST components shall be listed for compatibility with the product being stored by a nationally recognized independent third party organization. In the event the third party listing is unattainable for a UST component, for petroleum products only, OSFM may accept certification of the non-listed component by a Licensed Professional Engineer that the non-listed component is compatible with the product that will be stored.~~
- d) Owners and operators must maintain records in accordance with 41 Ill. Adm. Code 176.430 documenting compliance with subsection (b) for as long as the UST system is used to store the regulated substance. Documentation shall include a completed Checklist for Documenting UST Compatibility form is available at the website cited in subsection (b).
- e) ~~In the event third party listing and certification by a Licensed Professional Engineer are both unattainable for a leak detection device or dispenser, for petroleum products only, OSFM may permit the use of the non-listed and non-certified component if a licensed installation/retrofitting contractor inspects the component on an annual or more frequent basis and, after each inspection, certifies to OSFM on forms provided by OSFM at www.state.il.us/osfm/PetroChemSaf/home.htm, under "downloadable applications", that the component has been inspected and there is no visible evidence of product leakage or release or other operational problems. Copies of these certifications provided to OSFM shall be maintained at the site or available within 30 minutes or before OSFM completes its inspection, whichever comes later, for at least a 2-year period. In the event that a listed component becomes available, facilities shall have 12 months to replace non-listed components with listed components.~~
- d) ~~New installations or new conversions to blended fuel (as defined in 41 Ill. Adm. Code 174.100) shall comply with the following:~~
- 1) ~~OSFM will permit a blended fuel to be stored in steel tanks, or any fiberglass tanks manufactured after 1991 if certified by the manufacturer as compatible with the product stored.~~

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- 2) ~~The associated piping must be steel or fiberglass piping manufactured after 1991.~~
- e) Existing USTs Previously Converted to a Blended Fuel (as defined in 41 Ill. Adm. Code 174.100). In those instances in which a blended fuel is being stored in an existing tank lined at any time, the lining material must be approved by OSFM based on information supplied by the manufacturer or a nationally recognized, independent testing laboratory~~Licensed Professional Engineer~~, in accordance with the criteria identified in Section 175.500, as compatible with the blended fuel, or the owner/operator must remove the blended fuel from the tank. Existing field installed linings shall be allowed to remain if both the lining and all UST components are compatible with the product stored, but shall comply with the requirements of Section 175.500, including requirements for 5-year inspections by a certified contractor. New field-installed linings for compatibility purposes only are allowed after January 1, 2011. These provisions, allowing new linings for compatibility purposes only, shall not be used to circumvent prohibitions against lining tanks for purposes of corrosion protection or repair after January 1, 2011. A steel tank shall be deemed compatible with all motor, alternative and blended fuels in the absence of a detailed engineering evaluation by an Illinois Licensed Professional Engineer establishing a problem with compatibility between the steel tank and the substance proposed to be stored in the tank, subject to the following requirements:
- 1) ~~The lining material shall be compatible with the product stored, as established by proof of compatibility from the lining manufacturer;~~
 - 2) ~~All linings must comply with the requirements of Section 175.500, including requirements for lining inspections under Section 175.500(b) that must take place within 5 years after initial lining and every 5 years thereafter;~~
 - 3) ~~Linings that fail for any reason may not be touched up, repaired or totally relined and tanks failing any lining inspection shall be removed within 60 days; and~~
 - 4) ~~These provisions, allowing new linings for compatibility purposes only, shall not be used to circumvent prohibitions against lining tanks for purposes of corrosion protection or repair after January 1, 2011. A steel tank shall be deemed compatible with all motor, alternative and blended~~

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~~fuels in the absence of a detailed engineering evaluation by an Illinois Licensed Professional Engineer establishing that there is a compatibility issue.~~

- f) ~~Blended Fuels and Compatibility. Materials and leak detection equipment that are listed as compatible with gasoline and/or petroleum diesel will be permitted to be used with gasoline/ethanol blends equal to or less than 10% ethanol or diesel/biodiesel blends equal to or less than 20% biodiesel that are less than 21% ethanol or biodiesel blend, respectively. Materials and leak detection equipment that is listed as compatible with a certain percentage of product (i.e., E85, B30, B50) may be used with blends that are less than the blended fuel percentage listed. As an example, line leak detection equipment listed as compatible with E85 may be used with all E blends of 85% or less. The same is true for B blends. Line leak detection equipment listed as compatible with B50 may be used with all B blends of 50% or less.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.420 Piping

- a) Piping that routinely contains regulated substances and is in contact with the ground, backfill or water shall be properly designed, constructed and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory, shall be third party listed for its intended use, and shall also meet the requirements of one of the following subsections~~subsection (a)(1), (a)(2) or (a)(3):~~
- 1) The piping is constructed of noncorrodible material~~fiberglass reinforced plastic.~~
 - 2) The piping is constructed of steel and protected as follows:
 - A) The piping is coated with a suitable dielectric material, if installed on or after April 21, 1989; and
 - B) All steel piping utilizes a cathodic protection system designed by a corrosion expert certified by NACE in cathodic protection design or by an Illinois Licensed Professional Engineer who has certification or licensing that includes education and experience in

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corrosion control of buried or submerged metal piping systems and metal tanks. If an impressed current system is selected, it must also be designed to allow determination of system operating status by means of permanently installed lights, amp, volts and hour gauges as required in Section 175.510.

- 3) The piping construction and corrosion protection are determined by OSFM to be designed to prevent release or threatened release of any stored regulated substance, in a manner that is no less protective of human health and the environment than the requirements in subsections (a)(1) and (a)(2). Before the installation of any such piping, its construction and corrosion protection shall be submitted to OSFM, in writing, and OSFM shall issue written approval.
- b) Installed underground piping shall be of double-wall construction and equipped with interstitial monitoring that meets the applicable requirements of Section 175.630(fg) and 40 CFR 280.43(g) for all permits issued February 1, 2008 and after. When required to make interstitial monitoring functional, the appropriate containment (e.g., under-dispenser containment, tank containment sumps, or junction sumps) shall be installed. Any replaced piping that exceeds 20 feet or 50% of the total piping run shall require the entire pipe run to be replaced with double-wall, monitored piping as required for newly installed piping. If the site has multiple distinct pipe runs, only that piping run being replaced shall be required to be double-wall construction with interstitial monitoring installed in compliance with this subsection (b). ~~Any release into the interstice of any double-wall piping shall require that the interstice be cleaned under accepted engineering practices before the piping run can be put back into service. Although this work does not require a permit, the work must be scheduled with OSFM under Section 175.320 and the work must be done by a contractor that meets the licensing and certification requirements for a tank precision tester under 41 Ill. Adm. Code 176.470 and 41 Ill. Adm. Code 172. (See also Section 175.640.) If the interstice cannot be cleaned so as to allow proper functioning of the interstitial monitoring, then the piping shall be replaced.~~ European suction systems are exempt from the requirement for having double-wall product piping, as well as from the requirement for having interstitial monitoring.
- c) Piping, valves and fittings for flammable liquids shall be designed for the working pressures and structural stresses to which they may be subjected and third party listed for their intended use. The application of any material shall not interfere

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with the normal operation of the shear valves, fusible links or any equipment installed under the dispensers or submersibles. They shall be of steel or other materials suitable for use with the liquid being handled.

- d) All piping shall be located so as to be protected from physical damage. Pipe trenches and pipe installation shall meet manufacturer's specifications for depth, width, slope, spacing and placement of pipe. Joint adhesive and thread sealant shall meet manufacturer's requirements for the regulated substance stored and/or transported by the pipe.
- e) Pressurized piping systems (including existing systems) shall also be equipped with automatic line leak detectors (see Section 175.640(a)). After installation, pressurized piping shall be air tested for 30 minutes at 1.5 times the working pressure or 50 psi, whichever is higher. Suction and vent piping shall be air tested at a minimum positive pressure of 7 psi or in accordance with the manufacturer's recommended procedures.
- f) All steel risers, vents and fills in contact with the ground, backfill or water shall be dielectrically wrapped or coated.
- g) Beginning May 1, 2003, a positive shutoff valve shall be installed on the product line at the submersible or at the tank for all suction systems on all new installations and when piping is replaced at existing sites and made accessible at grade. An extractor valve will be accepted on European suction instead of a positive shutoff valve.
- h) Vent lines will be air tested from the tank to grade level at the time of installation. This test will be done at 7 psi minimum or at the pressure recommended by the manufacturer. This test will be performed at the time of the line PAI test.
- i) The application of any material shall not interfere with the normal operation of the shear valves or fusible links, or any equipment installed under dispensers or submersibles.
- j) Any time product piping is installed or broken for repairs, a precision ~~line~~ tightness test must be conducted before the piping is put back into service.

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- k) Beginning May 1, 2003, the new installation or total upgrade of product piping shall be double-walled for the entire length of that product line, with the exception of European suction.
- l) Any UST that fails to meet the criteria and requirements of Subparts D, E and F shall be removed within 60 days after receipt of a Notice of Violation requiring that removal. Field-constructed tanks and airport hydrant systems shall comply with Subpart I.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.425 UST Wiring Procedures

- a) Unless otherwise specified in this Section, all wiring at UST locations shall be in accordance with the Edition of NFPA 70 in force at the time of installation of the electrical equipment.
- b) Wiring within 20 feet of tanks and product piping, dispenser pumps or product lines shall be installed in rigid metallic conduit, threaded steel conduit, or any petroleum or product resistant rigid nonmetallic conduit listed and manufacturer-approved for that use. Rigid nonmetallic conduit must have written verification of its approval for petroleum or other product use. The approval must be via manufacturer's certification or third-party listing and must be kept on site and must be submitted with any applicable permit application. Electrical conduit shall maintain at least 6 inches of separation from product piping to avoid damage from abrasion or stray electrical current and shall be routed in compliance with subsection (e) when it becomes necessary to locate electrical wiring in the same trench as product piping.
- c) A minimum of 24 inches of cover is required over all UST wiring conduit. When rigid nonmetallic conduit is used, threaded rigid metal conduit or threaded steel intermediate metal conduit shall be used for the last 2 feet of the underground run to emergence or to the point of connection to the aboveground raceway.
- d) Intrinsically safe wiring shall be in conduit when installed within Class I locations, as specified in NFPA 70. Caution shall be taken when grounding not to impair cathodic protection of metallic tanks or piping.

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- e) When locating electrical wiring in the same trench as the product lines, the conduit shall be positioned on either side of the product piping but not above or below the product piping. The electrical conduit shall cross over the top of any product piping whenever a crossover is necessary, unless all connections and fittings in the conduit run are liquid-tight. [Any connections and fittings in the electrical conduit where the conduit crosses over or under the product piping shall be a minimum of 10 feet from the point where the conduit crosses the piping.](#) A minimum ~~6 inch~~ separation shall be maintained at all times, even during a crossover. All crossovers shall be kept to a minimum.
- f) All electrical power shall be shut off at the immediate location where installations, repairs or upgrades are in progress.
- g) All electrical seal-offs are to be properly filled whether being used or for future use.
- h) [Beginning October 13, 2018, all electrical conduit run to under-dispenser containment sumps shall enter the sump by going over the top of the side wall of the containment sump. No penetration of the under-dispenser sump by electrical conduit shall be allowed.](#)

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.430 Clearance Required for USTs

- a) Distance to Basements. No UST shall be less than 20 feet from any basement, cellar, pit or below-grade excavation on or off the property.
- b) Distance to Sewers. Individual tanks and piping shall be buried so that the tops of the tanks and piping are lower than the bottom level of all sewers, manholes, catch-basins, cesspools, septic tanks, septic tank clean out stations, wells or cisterns within 20 feet, on or off the property, or tanks and piping shall maintain a full clearance of 20 feet. The term "sewer" includes sanitary and storm sewer lines out of motor fuel dispensing facilities and bulk facilities. These clearances shall not be required when a sewer line is constructed throughout of petroleum resistant piping.
- c) Distance to Property Lines. Individual tanks shall be at least 20 feet to property lines unless; provided, however, that these clearances on the side adjacent to a

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public street, alley or highway are waived by consent of the authority having immediate jurisdiction over the public street, alley or highway. In the event the clearances to property lines is waived by the consent of the authority having immediate jurisdiction over the public street, alley or highway, provided that the required sewer clearances will be maintained.

- d) Distance to Special Classes of Property. Tanks and dispensers shall maintain a clearance of not less than 300 feet to any mine shaft, air or escape shaft for any mine and 85 feet to any educational, health care or assembly occupancy, as defined in 41 Ill. Adm. Code 100. The distance shall be measured from the nearest points of tanks and pumps to the nearest points of buildings or shafts.
- e) Tanks in service on October 1, 1985 (or after October 1, 1985 if approved by OSFM) may maintain existing underground tank clearances. Basements at motor fuel dispensing facilities existing on October 1, 1985 less than 20 feet from a UST shall be provided with mechanical ventilation. Only non-sparking explosion proof motors and compressors shall be permitted in these basements. Proof of compliance shall be submitted to OSFM.
- f) Except for the 20-foot clearance distance to basements, the clearances required under this Section shall not be required when both tanks and piping are double-walled with interstitial monitoring. For these USTs, the minimum clearance shall be such as to avoid projecting loads onto underground sewers, utilities and other structures. The clearance must also be sufficient to ensure that site activity does not undermine the UST backfill materials (for example, pea gravel base) for any UST once in place.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.435 ~~Pressure~~ Testing of Tanks or Lines

- a) The use of air or non-inert gases to ~~pressure~~ test underground storage tanks or piping containing, or that have contained, flammable or combustible liquids is prohibited.
- b) Approved tank or ~~line precision~~ ~~line tightness~~ testing with inert gases (nitrogen and helium) may be utilized.

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- c) ~~Prior to the precision test, preliminary~~Preliminary air tests may be used for tanks cleaned and vapor freed for the purposes of testing manway coverplates or gaskets.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.450 Pumps, Dispensers and Other Product Transfer Equipment

- a) Pumps. Petroleum and hazardous substances shall be transferred from tanks by means of fixed pumps designed and equipped to allow control of the flow and to prevent leakage or accidental discharge. Systems that employ continuous air pressure on storage tanks in connection with gauging or ~~venting~~venting devices are prohibited, with the exception of those systems utilized in Stage II Vapor Recovery.
- b) Gravity Flow Prohibitions and Precautions
- 1) Devices that discharge by gravity are prohibited and were to have been removed by January 1, 1986. The transfer of waste motor oil to or from USTs is not subject to the requirements for transfer by means of fixed pumps. Gravity transfer of waste motor oil is permitted. Gravity devices at motor fuel dispensing facilities, bulk facilities, motor vehicle repair shops and parking garages that are retained for their novelty or historical interest may be retained at the facility, but shall be rendered nonfunctional.
 - 2) Where tanks are at an elevation that produces a gravity head on the dispensing device, the tank outlet shall be equipped with a device, such as a solenoid valve, positioned downstream as close as possible to the tank, installed and adjusted so that liquid cannot flow by gravity from the tank.
- c) Siphon Bars. Siphon bars that are used to transfer petroleum and hazardous substances between tanks by means of gravity or negative atmospheric pressure shall be permitted subject to the following requirements:
- 1) The height of the tops of all tanks connected by the siphon bars shall be within 6 inches of each other;
 - 2) Piping shall meet the requirements of Section 175.420; and

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- 3) Release detection methods for tanks and piping shall be of a type approved for tanks connected by siphon bars, in accordance with Section 175.630.
- d) Electrical Equipment and Requirements for Pumps and Dispensers. All pumps and dispensing devices for petroleum and hazardous substances and all connected electrical equipment shall be installed in accordance with Section 175.425. Dispenser discharge nozzles shall be constructed of nonferrous material or equipped with static wire hose.
- e) Dispensers. All dispensers shall be required to comply with the following:
 - 1) Under-dispenser Containment. Under-dispenser containment is required pursuant to Section 175.410.
 - 2) Labeling. All dispensing devices used for drawing regulated substances from USTs shall be labeled in a conspicuous place with the name of the product.
 - 3) Size Limits. With the exception of industrial or fleet facilities with no connection to any UST from which regulated products are sold at retail, dispensers shall not be connected, directly or indirectly, to any tank for which the total of all compartments~~that~~ is over 30,000 gallons capacity.
 - 4) Hoses and Reels. Mechanical retractable devices are required on dispenser hoses in excess of 18 feet in length. Hose length on mechanical retractors shall not exceed 50 feet without written approval of OSFM. Detection of any of the following conditions indicates permanent damage and shall require that the hose be replaced with the nozzle immediately bagged if any portion of the hose or nozzle is actively leaking:
 - A) hose cuts, abrasions or cracks in the hose cover that penetrates to the reinforcement;
 - B) blisters or loose cover;
 - C) soft spots in the hose, particularly adjacent to the coupling;
 - D) indication of coupling slippage or irregular coupling alignment; or

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- E) flattened or kinked hose resulting in permanent deformation.
- 5) Third-party Listed Latch-open Devices. When dispensing liquids into motor vehicle fuel tanks, dispenser nozzles shall be either manually held open or may be held open by a latch-open device that is an integral part of the listed nozzle assembly. An automatic self-closing type nozzle with a latch hold open device must be installed as an integral part of the listed nozzle assembly.
- 6) The dispensing nozzle must be an automatic closing type that has been tested and is third party listed for its intended use. [Nozzles used to dispense diesel fuel at attended self-service and unattended self-service motor fuel dispensing facilities shall have large-diameter, "leaded" spouts to avoid dispensing diesel fuel into vehicles with gasoline tanks.](#)
- 7) Prohibition on Unapproved Hold-open Devices. Temporary, portable or removable hold-open devices, including, but not limited to, plastic hooks, wires, wood blocks, gas caps and similar devices, shall not be used on dispenser nozzles. No person shall market, expose for sale, sell or distribute by any means whatsoever, in the State of Illinois, any temporary, portable or readily removable device designed or intended to be used for the purpose of holding open flammable or combustible liquid dispensing nozzles during dispensing operations at motor fuel dispensing facilities.
- 8) Requirements for a Secondary Means of Control. Any dispensing devices from which the flow of product is normally stopped by means other than by the closure of the nozzle valve shall further comply with either of the following:
- A) The system shall be provided with equipment with a feature that causes or requires the closing of the nozzle valve before product flow may be resumed or before the nozzle can be replaced in its normal position in the dispenser; or
- B) The nozzle valve latch-open device shall be removed.
- 9) Flow Shutoff

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- A) Hose nozzle valves shall be of the type that will close automatically, independent of the latch-open device, upon loss of pressure in the dispensing system. The latch-open device may only be engaged when the dispensing system is under pressure.
 - B) All dispensing devices shall be equipped with 2 methods of controlling the flow of fuel:
 - i) deactivation of the dispenser; and
 - ii) closing of the hand nozzle or some other secondary means to shut off flow.
 - C) The nozzle must be designed and maintained to cease the flow of product if the nozzle falls to the ground from the fill pipe of the motor vehicle being fueled.
 - D) A listed emergency breakaway device designed to retain liquid on both sides of the breakaway point shall be installed on each hose. If hoses are attached to a hose-retrieving mechanism, the listed emergency breakaway device shall be installed between the point of attachment of the hose-retrieving mechanism to the hose and the hose nozzle valve.
 - E) A control shall be provided that will permit the pump to operate only when a dispensing nozzle is removed from its bracket or normal position with respect to the dispensing device, and the switch on the dispensing device is manually activated. This control shall also stop the pump when all nozzles have been returned, either to their brackets or normal nondispensing position.
- 10) Rebuilt Hose Nozzles. Rebuilt hose nozzles may be used if they are listed for that purpose.
- 11) Spout Anchor Springs. Nozzles must be equipped with devices (e.g., wire or a spout anchor spring) designed to retain the nozzle spout in the vehicle fill pipe while refueling. These devices must be part of the listed nozzle assembly. The spout anchor spring shall be of the type recommended by the manufacturer of the hose nozzle valve and be

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installed and maintained in accordance with the manufacturer's recommendations. Vacuum assist and balanced type vapor recovery nozzles prohibited from having wire or spout anchor springs as the result of their design shall be exempt from this requirement.

- 12) Shear Valve. Pressurized piping systems require a listed rigidly anchored emergency shutoff (shear) valve installed per manufacturer's specifications in each supply line at the base of each individual dispenser. The valve shall incorporate a fusible link or other thermally activated device, designed to close automatically in the event of severe impact or fire exposure.
- A) In addition to being rigidly anchored to structural supports, each shear valve shall also be:
- i) Installed so as to align with the dispenser piping to avoid stresses on the connection between the shear valve and the dispenser supply piping;
 - ii) Installed so that the shearpoint of the valve is within ½ inch plus or minus of grade, with grade being the mounting plane of the dispenser base; and
 - iii) Installed so that the link arms can freely operate and the valve close without interference.
- B) After October 13, 2018, any product piping manifolded beneath a dispenser must be manifolded so that each line connecting to dispenser supply piping is on its own separate shear valve.
- i) Manifolding of piping under a dispenser shall not be done above a shear valve.
 - ii) Piping beneath a dispenser that was manifolded above a shear valve prior to October 13, 2018 may remain in that configuration until the piping is upgraded, provided that any single poppet shear valve beneath the dispenser is replaced with a double poppet shear valve. This shear valve

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replacement, if indicated, shall be completed by October 13, 2019.

- ~~13)~~ ~~Emergency Shutoff for Remote Pumps. Devices served by remote pumps shall be equipped with a listed emergency shutoff valve.~~
- ~~13~~4) Collision Protection for Dispensers. All fuel dispensers shall be mounted or protected against collision damage by means of islands, posts or an equivalent means.
- ~~14~~5) Secure Mounting of Dispensers. Dispensing devices shall be bolted to their mounting surface in accordance with the manufacturer's instructions.
- ~~15~~6) Under-dispenser containments shall be factory manufactured and shall comply with the design requirements of Section 175.410(~~is~~).
- f) Location of Pumps and Dispensers
- 1) Unless otherwise allowed under this Section or permitted at the time of installation, dispensers and pumps shall be located outside of buildings. Dispenser hoses shall not be able to reach to within 5 feet from any building or window or other building opening, such as a basement, cellar, pit, ventilated soffit or any air intake or exhaust of any building, and must be located to avoid pocketing of vapor or liquid. Dispensers installed after October 1, 1985 shall not be located below grade. A transfer pump is not considered a dispenser and may be located inside a pumphouse or industrial building. Bulk-load outs are not considered dispensing and shall comply with NFPA 30 (see ~~Section~~ 41 Ill. Adm. Code 174.310).
 - 2) However, detached buildings separated by at least 20 feet from other buildings and used exclusively for fleet dispensing of motor fuels may house dispensers and dispensing equipment for combustible liquids (Class II and III) so long as the buildings and equipment are in compliance with NFPA 30A, incorporated by reference in 41 Ill. Adm. Code 174.210.
 - 3) Indoor dispensing shall otherwise be allowed only if approved by OSFM in writing prior to November 29, 1993 and if the following requirements are met:

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- A) For dispensing units existing prior to September 15, 1978:
- i) be separated from other areas by 2 hour fire resistive construction;
 - ii) be provided with a mechanical or gravity ventilation system electrically interlocked with the dispensing units so that the dispensing units cannot be operated, unless the ventilation fan motors are energized and operating. The system shall be upgraded to meet NFPA 30A not later than September 1, 2011; and
 - iii) have all openings beneath dispenser enclosures sealed to prevent the flow of leaking fuel to lower building spaces.
- B) For dispensers existing as of October 1, 1985 and located within repair and parking garages:
- i) be not below grade;
 - ii) be separated from motor vehicle repair areas, pits and basements by 2 hour fire resistive construction;
 - iii) be protected against physical damage from vehicles by mounting the dispensing unit on a concrete island or by equivalent means;
 - iv) be located in a position where the dispensers and pumps cannot be struck by an out-of-control vehicle descending a ramp or other slope;
 - v) be provided with an approved mechanical or gravity ventilation system, that shall be upgraded to meet NFPA 30A by not later than September 1, 2011; and
 - vi) be provided with a clearly identified emergency ~~stop~~shutoff switch, readily accessible in case of fire or physical

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damage to any dispensing units to shut off the power to dispensing units and submersible pumps.

- C) Existing dispensing units located below grade in repair and parking garages as of October 1, 1985 shall have independent mechanical ventilation systems and the entire dispensing area shall be protected by an automatic sprinkler system conforming to the requirements of NFPA 13, incorporated by reference in 41 Ill. Adm. Code 174.210. The sprinkler system shall be interconnected to an alarm system conforming to NFPA 72, incorporated by reference in 41 Ill. Adm. Code 174.210, and the sprinkler system shall be a wet system except in unheated areas. Facilities in existence as of September 1, 2011 shall have the option of complying with the Edition of NFPA 72 incorporated by reference in 41 Ill. Adm. Code 174.210 or the NFPA alarm and sprinkler system requirements in effect at the time of their installation.
- i) The ventilation systems shall be electrically interlocked with the gasoline dispensing units so that the dispensing units cannot be operated unless the ventilation fan motors are energized and operating, and shall be upgraded to meet NFPA 30A by not later than September 1, 2011.
 - ii) Existing dispensing units located below grade within buildings shall also comply with subsection (f)(3)(B), as applicable.
- 4) Curb pumps or pumps located in any portion of a public street are prohibited, except that devices at motor fuel dispensing facilities, bulk facilities, vehicle repair garages and parking garages that are retained for their novelty or historical interest may be retained at the facility if rendered nonfunctional.
- 5) Dispensing devices at a motor fuel dispensing facility shall be located 10 feet or more from any property lines or buildings, so that all parts of the vehicle being served will be on the premises of the facility or garage.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 175.460 Marinas

- a) Dispensing equipment at marine motor fuel dispensing facilities shall comply with the requirements of Section 175.450(e), with the additions or modifications specified in this Section. Marine motor fuel dispensing facilities shall also comply with Section 175.250.
 - 1) Dispensing devices at marine motor fuel dispensing facilities may be located on open piers, wharves or floating docks, on shore, or on piers of the solid-fill type and shall be located away from other structures to provide room for safe ingress and egress of craft to be fueled.
 - 2) Under-dispenser containment shall be required for dispensers.
 - 3) A mechanical return reel shall be required for hose lengths in excess of 18 feet. All hose shall be secured and protected from damage and shall not be permitted to lie in the water or on the ground in a manner that is unprotected from accidental damage.
 - 4) Dispenser nozzles shall be of the automatic closing type; hold-open clips or devices shall not be allowed.
- b) Piping and Shutoff Valves
 - 1) Anti-siphon devices such as solenoid valves shall be required when the piping slopes downward from the tank.
 - 2) Floating docks or structures shall require flexible lines from shore to dock. Suitable lengths of approved flexible hose may be employed between the shore piping and the piping on the floating structure, as made necessary by change in water level or shoreline. A breakaway valve shall be installed on shore where the piping approaches the dock or other floating structure. Any product supply line shall have secondary containment, and new installations must be double-wall after April 1, 1995. Flexible connectors shall be required at dock hinge points for rigid primary.
 - 3) All aboveground piping shall have proper hangers or mounts and shall be protected from physical damage.

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- 4) Where stray electrical currents are encountered, piping containing liquids at marine motor fuel dispensing facilities shall be electrically insulated from the shore piping.
 - 5) A readily accessible valve to shut off the product supply from shore shall be provided in each pipeline at or near the approach to the pier and at the shore end of each marine pipeline, adjacent to the point where a flexible hose is attached.
- c) Leak Detection
- 1) All pressurized piping systems shall be equipped with line leak detectors pursuant to Section 175.640.
 - 2) After April 1, 1995, all installations shall have double-wall piping with interstitial monitoring.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.465 Additional Requirements for Installation and Upgrade of USTs

Installation and upgrade of USTs shall be properly conducted in accordance with 41 Ill. Adm. Code 174 through 176 and manufacturer's recommended procedures and instructions. In addition, the following requirements shall be adhered to:

- a) Excavation for USTs shall be made with due care to avoid undermining of foundations of existing structures.
- b) The UST site shall be prepared to ensure safe movement and installation of equipment and materials. Sloping, benching, stepping or shoring the sides of excavations shall be performed in compliance with OSHA requirements under 29 CFR 1926.
- c) Upon delivery at the installation site, tanks and piping shall be inspected to detect any evidence of damage to coatings or structure.
- d) Upon discovery of any damage to tanks or piping, repairs shall be made in accordance with 41 Ill. Adm. Code 172, 174, 175 and 176 and manufacturer's instructions.

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- e) Equipment shall be provided with sufficient lifting capacity to unload and place USTs into the tank excavation. The tank shall be placed in the excavation with care, since dropping or rolling the tank into the excavation can break a weld, puncture or damage the tank, or scrape off the protective coating of coated tanks. Tanks shall not be rolled, dropped or dragged.
- f) ~~Tanks~~ Steel tanks shall be set on firm foundations and surrounded with at least 12 inches of noncorrosive inert material such as clean sand or gravel, well-tamped in place.
- g) ~~In areas subject to flooding or high groundwater,~~ USTs shall be installed to safeguard against movement by anchoring or ballasting in accordance with manufacturer's instructions.
- h) Unless otherwise prescribed by the manufacturer's recommended installation procedures, steel tanks shall be covered with a minimum of 3 feet of earth. USTs existing on October 1, 1985 shall be buried so that the tops of the tanks will not be less than 2 feet below the surface of the ground or shall be under at least 12 inches of earth and a slab of reinforced concrete not less than 4 inches in thickness; the slab shall be set on a firm, well-tamped earth foundation and shall extend at least one foot beyond the outline of the tank in all directions. When asphaltic or reinforced paving is used as part of the protection, it shall extend at least one foot horizontally beyond the outline of the tank in all directions.
- i) Tank to tank separation distance shall be a minimum of 24 inches for all tanks installed after May 1, 2003.
- j) There shall be a minimum of 2 manufactured slotted or perforated observation wells of at least 4" diameter installed in each new tank field of tanks larger than 1,000 gallons and one well for 1,000 gallon tanks or less and shall have 2 wells for fields with more than one tank. They shall be placed at opposite ends or opposite corners one foot below the invert elevation of the lowest UST. Lids shall be securely protected against unauthorized activities. Only one well will be required if groundwater flow direction can be proven and that proof is supplied at the time of permitting and the well is then installed in the downstream location.

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- k) Metallic tanks and metallic piping shall not be backfilled with cinders or other material of corrosive effect. Corrosion protection shall be provided in accordance with Section 175.510.
- l) Before the final inspection, but after the UST system has been installed, connected, backfilled and covered, tank and line precision testing shall be done on the entire UST system. Passing test results from the tank and line precision tests shall be available for the inspector to verify at the time of the final inspection.
- m) Any work performed in or around the excavation area must stop at sunset unless adequate lighting is provided.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART E: CORROSION PROTECTION

Section 175.500 Interior Lining and Lining Inspection of USTs

- a) Tank Lining Requirements. Lining of tanks shall no longer be allowed for all permit applications received on or after January 1, 2011. Existing lined tanks shall be allowed to use lining as a primary method of corrosion protection only if the tanks continue to pass the lining inspections as provided in this Section. Tanks failing to pass the lining inspection criteria will not be allowed to be touched up, repaired, totally relined or put back into use and shall be placed out of service~~decommissioned~~ immediately and decommissioned~~removed~~ within 60 days after the lining inspection. As an alternative to decommissioning after a tank fails an internal lining inspection, a tank may be upgraded by installing a self-structural tank provided the tank material and installation procedure are third party listed for its intended use, and shall meet all other requirements of OSFM rules. The upgrade shall require submission of an OSFM Upgrade permit application within 60 days after the failed lining inspection, and the work may only be performed by an OSFM-licensed contractor in accordance with 41 Ill. Adm. Code 172. The permit application shall be accompanied by either a passing tank precision test report or a site assessment report based on soil borings taken around each tank being upgraded. This kind of upgrade shall be designated as an OSI activity that may not proceed without the presence of an STSS on site. If the upgrade permit application is not submitted within 60 days after the failed lining inspection, any tank that failed its lining inspection shall be decommissioned.

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- 1) The manufacturers of materials used to line ~~or repair leaking~~ tanks for the storage of petroleum or hazardous substances shall ~~register with OSFM. The manufacturers shall provide and maintain a current annual list of installers of their particular methods and materials for lining and repairing tanks. The list shall only contain the names of installers who are certified by the respective manufacturers. This manufacturer's registration shall include the submission of evidence for materials and tank specifications indicated in NLPA Standard 631, incorporated by reference in 41 Ill. Adm. Code 174.210. The manufacturer shall also certify compatibility of the lining material with products to be stored by submitting to OSFM the following data as required by Section A4.6 of NLPA 631. Tanks may be lined for purposes of compatibility only. Testing and inspection of linings and lining materials shall meet the specifications and procedures required by NLPA 631.~~
 - A) ~~Laboratory Data:~~
 - i) ~~Bonded Linings: When applied to properly prepared steel, concrete, fiberglass and other tank surfaces, bonded linings shall maintain a minimum useful life of 10 years.~~
 - ii) ~~Coefficient of Thermal Expansion: The coefficient of thermal expansion of the lining shall not result in loss of bonding due to normal operating temperature changes.~~
 - iii) ~~Immersion Tests: Representative lining samples shall be tested to determine compatibility of the lining material with stored products. Samples shall be immersed in the liquids listed below at either 38°C (100°F) for periods of one, 3, 6 and 12 months. Upon completion of each immersion period, testing of the samples must verify that the lining and repair materials have not substantially deteriorated.~~
 - B) ~~Test Data: The following tests, standards and equipment shall be conducted as indicated in Section A4.6 of NLPA 631 for the following:~~
 - i) ~~Bonding Strength, using Elecometer 106 with rating of 0-2000 lbs. per sq. inch~~

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- ii) ~~Flexural Strength~~
 - iii) ~~Impact Resistance~~
 - iv) ~~Barcol Hardness, using Barber Coleman GYZJ 935-1~~
 - v) ~~Film Integrity Procedure 1~~
- C) ~~Lining sample testing shall require lining samples to be immersed for the required timeframes specified in Section A4.6 of NLP 631, in each of the following liquids: Unleaded Gasoline, Leaded Gasoline, ASTM Reference Fuel C, No. 2 Fuel Oil or Diesel Fuel, Toluene, Xylene, Gasohol (10% Ethanol), Oxinol 50 (90% gasoline, 5% methanol and 5% GTBA) 85% methanol, 15% gasoline and distilled water. Physical properties, after the final immersion period, shall be a minimum of 30% of the original physical properties before immersion with a stable trend indicating little or no further long term deterioration for Toluene, Xylene and distilled water, and 50% for all other listed material.~~
- 2) Interior Lining Procedures. For all permit applications received prior to January 1, 2011, any tank that has not previously been internally lined may be lined only once by following the steps outlined in this Section.
- A) Tank Entry. Before entering tanks, the procedures described in API 2015, incorporated by reference in 41 Ill. Adm. Code 174.210, shall be complied with. These requirements include checking the oxygen content inside the tank with a properly calibrated oxygen monitor. At all times, personnel entering the tank shall be equipped with positive pressure air supplied equipment with full face enclosure and safety harness connected to a safety line held by an attendant located outside the tank and using a tripod with a mechanical winch adequate to lift the person and equipment working inside the tank. Oil and water resistant rubber or neoprene boots and gloves shall be worn. Clothing shall cover the arms, legs, torso and head of tank entry personnel. Disposable clothing, impervious to product, is preferred. Clothing saturated with product shall be removed immediately upon departure from

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the tank. Tests with the combustible gas indicator and oxygen monitor shall be performed periodically in the tank to ascertain that the tank vapors and oxygen content are in the safe range. It shall be recognized that if the tank is perforated, product or vapors that have leaked into the soil may re-enter the tank through a perforation. The vent line shall remain clear and unobstructed to allow continuous ventilation. All other lines and openings shall be plugged or capped off to insure no liquids or vapors may enter the tank during the lining operation.

- B) Structural Criteria. Prior to the application of lining, a structural criteria inspection shall be performed and the results of that inspection documented, as to whether the tank or tanks to be lined meet each of the structural criteria to be eligible to be lined pursuant to NLP 631, and this subsection (a)(2)(B). The records from the structural criteria inspection shall be retained by the owner/operator for the life of the tank. Lining of tanks shall not be allowed if:
- i) The shell or heads are more than 2% out of round;
 - ii) The shell or heads have one or more flat spots that have a cross measurement greater than the radius of the tank endcap;
 - iii) The shell or heads have any dent with a cross measurement greater than the radius of the tank endcap;
 - iv) The shell or heads have any dent that protrudes into the tank a distance greater than one inch for every foot of tank radius;
 - v) The shell or head has any seam split greater than 1/2 inch wide or 1/6 of the circumference of the tank in length;
 - vi) The unrepaired shell or head thickness is less than 75% of the original tank thickness;

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- vii) The number of perforations, not larger than $\frac{1}{2}$ inch, per 500 square feet of tank exceeds the limits in Table A10.4.2.4 of NLPA 631; or
 - viii) There are any welded repairs on the inside of the tank.
- C) Application of Lining. Prior to the application of lining material, a $\frac{1}{4}$ inch steel reinforcing plate rolled to the contour of the tank and with minimum dimensions of 8 inches by 8 inches shall be installed under the fill (drop) tube and gauging tube. This plate shall be covered with fiberglass cloth embedded in resin. The blast-cleaned surface shall be coated within 8 hours after blasting and before any visible rusting occurs. Only those lining materials meeting the specifications in API 1631 and NLPA 631 shall be used. Manufacturer's instructions are to be complied with on handling and mixing of resin compounds, and these compounds shall be applied to the entire interior surface of the tank by the manufacturer or the manufacturer's designated distributor following the specified method of application, to the designated thickness and at the recommended application temperature. If a heater is used to accelerate the curing process, all other work which might release flammable vapors shall be halted, and the heating unit shall be attended whenever it is in operation. The coating shall be cured thoroughly to the manufacturer's specifications and checked for air pockets and pinholes using a holiday detector. If any exceptions are found, they shall be repaired to manufacturer's specifications. The contractor shall protect the coated surfaces from contamination by foreign matter. The coating thickness shall be checked with an Elcometer Thickness Gauge or equivalent and tested for hardness using a Barcol Hardness Tester or equivalent to ensure compliance with manufacturer's specifications.
- D) Tank Closing. If a tank has been previously lined and passes its internal inspection, the following may be done in lieu of the manway requirements of subsection (a)(2)(E) ~~of this Section~~:
- i) A $\frac{1}{4}$ inch thick steel cover plate, rolled to the contour of the tank, shall be made to overlap the hole at least 2 inches on

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each side (e.g., should measure at least 26 inches by 26 inches, if manhole was cut 22 inches by 22 inches);

- ii) The cover shall be used as a template to locate $\frac{3}{4}$ inch diameter holes not exceeding 5 inch centers, one inch from the edge of the cover;
 - iii) The cover plate shall be sandblasted to white metal on both sides, and the entire inside surface shall be coated with coating material to act as a gasket;
 - iv) After being bolted to the tank, the cover plate and surrounding tank surface shall be properly sandblasted, coated with coating material and allowed to cure before backfilling the hole;
- E) Tank Closing after Entry Procedures. When a tank is being lined the following shall apply:
- i) Attach a manway no less than 18 inches in diameter that fits the contour of the tank. This manway shall be surrounded with self-supporting material and be accessible from surface grade.
 - ii) The manway shall be used as a template around which will be located $\frac{3}{4}$ inch diameter holes, 5 inches apart from center to center, one inch from the edge, and overlapping the entry hole at least 2 inches on each side, or welded in place if soil conditions will allow (no contamination is present). The lining material shall extend into the neck of the manway.
- F) Tank Lining Shall Conform to NLPA Standard 631. Original field notes documenting that the pre-lining inspection and tank lining application process complied with the requirements of NLPA Standard 631 shall be kept by the owner/operator for the life of the tank. ~~Completion of the forms provided by OSFM for tank linings at www.state.il/osfm/PetroChemSaf/LiningForms.htm shall be~~

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~~considered as equivalent to the forms required under NLPA Standard 631.~~

- G) Within 5 years after lining, and every 5 years thereafter, the lined tank shall be internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications. An interior lining inspection permit under Section 175.300 must be obtained to do an internal inspection. The results and data from the lining inspection, including whether the tank passed or failed, shall be kept by the tank owner for the life of the UST. Failed test reports shall be submitted to OSFM by the contractor within 3 days~~within 10 days after the lining inspection.~~
- 3) Internal Lining Combined with Cathodic Protection.
- A) For all applications received prior to January 1, 2011, a tank may be upgraded by both internal lining and cathodic protection if:
- i) The lining is installed in accordance with the requirements of subsection (a)(2)~~above~~ and Section 175.700; and
 - ii) The cathodic protection system meets the requirements of Section 175.400(b)(2)(B) through (C) and 175.510.
- B) An interior inspection for an installation of internal lining combined with cathodic protection is required only once, provided the installation of both was completed within 90 days of each other and a structural criteria inspection was performed and documented.
- b) Within 5 years after initial lining or total subsequent lining of a tank, a physical internal inspection shall be performed as follows:
- 1) The procedures for tank lining in subsection (a) shall be followed while entry is made into an existing UST for internal inspection purposes.
 - 2) Once a UST has been entered, a visual inspection of the lining shall be made. The lining shall be visually inspected for obvious evidence of peeling, blistering, surface wrinkling or roughing of the lining material. No repairs of any kind to existing linings will be allowed.

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- A) Testing shall be done to check the thickness of the shell and heads of the tank. The average metal thickness shall be at least 75% of the original tank metal thickness. Ultrasonic testing shall be done in accordance with Chapter B7 of NLP Standard 631.
- i) Tanks not meeting the wall thickness requirements shall be condemned and not put back into service as referenced in Section B8.1 of NLP 631.
 - ii) No welding or cutting will be allowed inside the tank.
- B) After a lined tank passes both the visual and the tank wall thickness test, it must be tested for holidays (air pockets) in the lining material. This test shall be performed using a holiday detector with a silicon brush electrode or other acceptable instrument to ensure the integrity of the lining material. The internal inspection holiday test shall be conducted at a rate of at least 100 volts per mil of nominal lining thickness, but in no case less than 12,500 volts or more than 35,000 volts. Tanks needing repairs shall be placed out of service pursuant to subsection (a) condemned and not put back into service.
- C) If all previous testing ensures the integrity of the lining, it shall then be tested for hardness. Lining hardness test shall be performed using a Barcol Hardness Tester or another acceptable instrument to determine that the lining was properly cured when installed or that it has not been affected by the product stored. The overall hardness must meet the lining manufacturer's specifications for the product stored. In the event that some areas pass the hardness test and other areas fail the hardness test, the tank shall be placed out of service pursuant to subsection (a) condemned and not put back into service.
- D) The final test to verify that an existing lining still meets the manufacturer's original specifications shall determine the thickness of the coating. The entire interior tank lining wall surface shall be no less than 100 mils thick with a nominal (i.e., approximate) thickness of 125 mils. If any areas of the existing coating do not

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meet the 100 mils minimum thickness requirement, the tank shall be placed out of service pursuant to subsection (a)~~condemned and not put back into service.~~

- E) Where applicable, interior inspections of lined fiberglass tanks shall be the same as lined steel tanks, except testing will not be required for tank thickness and for holidays in the lining material.
- 3) During the Operational Safety Inspection, the contractor will not be allowed to either cut a new access hole into the tank, nor break open an existing entrance patch until all the required testing equipment is on site. The OSFM inspector must be on site before work may commence.~~Also, a complete set of OSFM reporting forms found at www.state.il/OSFM/PetroChemSaf/LiningForms.htm must also be onsite before the entering process may begin.~~
- 4) The entrance manhole, hole or patch opening shall be closed and sealed. When a bolted manway is to be installed as a new access opening for future access use, an upgrade permit will be required to make this type of improvement to the tank. No upgrade permit will be required if a manway is installed in conjunction with a lining permit or lining inspection permit, with manholes bolted to the tank top only in conjunction with an inspection, so as not to damage the existing lining.
- 5) All completed forms required by NLP 631 shall be kept by the owner for the life of the UST.~~Written documentation generated from the lining of a tank, consisting of completed OSFM forms for tank linings found at www.state.il/OSFM/PetroChemSaf/LiningForms.htm, shall be submitted to OSFM no later than 10 days after the lining procedure completion.~~
- 6) Every 5 years after the initial 5 year internal inspection, the tank must be reinspected. This can be done by a physical inspection or by another method approved by OSFM. The results and data from the lining inspection, including whether the tank passed or failed, shall be submitted to OSFM within 10 days after the lining inspection.
- 7) All interior inspections require an Internal Inspection Permit.

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- c) UST lining and internal inspections shall meet the following OSFM requirements:
- 1) Secure proper permitting and obtain OSI schedule.
 - 2) Contractor shall present to OSFM inspector the OSHA Confined Space Entry permit for this job at the time of tank entry.
 - 3) All monitoring equipment shall be maintained according to manufacturer's specifications.
 - 4) Establish an exclusion zone, approved by the on-site STSS, within which any ignition source shall be prohibited. The use of spark producing/non-explosion proof equipment is prohibited in the vapor hazard area prior to attaining the LEL/oxygen levels required in subsection (c)(7).
 - 5) USTs to be entered shall be isolated from all distribution lines, siphons, manifolds and manifold vent systems.
 - 6) Remove all liquids from the tank using explosion proof pumps or hand pumps.
 - 7) The tank atmosphere and the excavation area shall be regularly monitored, with a combustible gas indicator, for flammable or combustible vapor concentration. Monitoring of the UST shall be done at 3 levels in the tank: top, middle and bottom. Lower explosive limits (LEL) of 5% or less, or oxygen of 5% or less, shall be attained.
 - 8) Except as otherwise provided in this Section, vapor freeing shall be done in accordance with API 1631 Section 2.4, incorporated by reference in 41 Ill. Adm. Code 174.210. Dry ice shall not be allowed as a method of ~~inerting~~~~inserting~~ tanks. All inductors and diffusers must use metallic pipe. When vapor freeing the tank with compressed air or using inert gases under pressure, all devices shall be bonded to the tank, and the tank shall be grounded to a separated ground. Except when using liquid nitrogen, when using inert gases, the cylinder shall be equipped with a pressure gauge, so that no more than 5 psi can be discharged into the tank during vapor freeing procedures. To ensure and maintain proper grounding and bonding, the connections shall be tested by the contractor for continuity.

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This testing shall be done with equipment designed for continuity testing.

- 9) The STSS shall be on site before venting, cutting, cleaning or entry operations may proceed.
 - 10) If no access exists, an opening with the minimum dimensions of 18 inches by 18 inches shall be cut in the top of the UST using non-sparking equipment in preparation for a manway. All installed manways must be accessible from surface grade by way of a non-collapsible structure.
 - 11) Personal protective equipment shall be in accordance with API 1631.
 - 12) Cutting, cleaning and application of lining material shall be done in accordance with manufacturer's specifications and OSFM requirements.
 - ~~13) Tank owner shall file an amended Notification on OSFM forms found at www.state.il/OSFM/PetroChemSaf/Notify.pdf with OSFM within 30 days after the tank has been lined.~~
 - 1314) For performing internal inspections, once a tank has been reclassified as a non-hazardous confined space, a positive flow of fresh air must be supplied into the tank in lieu of supplied air and continuous monitoring must be performed during the operation
- d) The following testing and records requirements shall apply to all tank lining and lining inspections activity:
- 1) It shall be the responsibility of the lining contractor to have a precision test performed within 3 days after the lining or lining inspection procedure completion and before the tank is put back into use and to submit the results to OSFM ~~within 10 days after, or~~ within 3 days after a failed test, on forms provided by OSFM ([available at https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx](https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx)) at www.state.il/OSFM/PetroChemSaf/LiningStatementPrecisionTightnessTest.pdf and at www.state.il/OSFM/PetroChemSaf/FailedUST.pdf. This precision test shall be performed any time a UST is entered to install a manway, install a cover plate after lining, do an internal

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inspection of the tank, or penetrate the tank for any lining or lining inspections purpose.

- 2) ~~Tank owner shall file an amended notification on OSFM forms found at www.state.il/osfm/PetroChemSaf/Notify.pdf with OSFM within 30 days after the tank has been lined.~~
- 23) Lining inspections records shall be maintained for the life of the UST, and the most recent inspection record shall be kept on site pursuant to Section 175.650(e). The results and data from the lining inspection, including whether the tank passed or failed, shall be kept by the owner of the tank for the life of the UST ~~submitted to OSFM within 10 days after all lining inspections.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.510 Corrosion Protection

In all situations, no matter which method is used to assess the integrity of the tank prior to addition of cathodic protection, the cathodic protection system being field installed in Illinois must be designed by a corrosion expert who is NACE certified in cathodic protection design or by a Licensed Professional Engineer with the state who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks. Those contractors installing the cathodic protection systems in Illinois must be licensed as cathodic protection installers. These contractors must successfully pass the International Code Council (ICC) certification exam module for cathodic protection. An installation/retrofitting ICC certified contractor may install wristband anodes or spike anodes on a flex connector without having a cathodic protection ICC certification.

- a) Cathodic Protection. A tank may be upgraded by cathodic protection if the cathodic protection system meets the requirements of 41 Ill. Adm. Code 174 through 176, and the integrity of the tank is ensured using one of the following methods:
- 1) To be suitable for upgrading by cathodic protection, the integrity of the tank must be ensured by one of the following methods:
- A) For tanks installed for less than 10 years, one of the following requirements ~~applies~~apply:

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- i) The tank is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic protection system. ~~ii) The tank is monitored monthly for releases using a permanent method of leak detection as approved by OSFM. Monthly inventory control, manual tank gauging and Statistical Inventory Reconciliation (SIR) do not meet this requirement;~~ ~~iii) Two tank precision tests must also be conducted that meet the requirements of OSFM precision tank tightness testing. The first precision test shall be conducted prior to the installation of the cathodic protection system. The second precision test shall be conducted between 3 and 6 months following the first operation of the installed cathodic protection system. Both precision tests must indicate tightness of the tanks; or~~
- ~~iiiv) Use of alternative methods approved by OSFM. These acceptable alternative methods are indicated in subsection (a)(1)(B) for tanks that are over 10 years old.~~
- B) For tanks installed for more than 10 years, the following methods apply:
- i) An invasive inspection method that ensures the tank is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic system. The internal inspection procedures shall follow the requirements of NLP 631.;
- ii) An invasive remote video camera test is conducted prior to the installation of the cathodic protection system. The video system must be capable of recording a video survey of the interior surface of the tank with a suitable lighting source; or;
- ~~iii) A non-invasive tank life/corrosion model test is conducted to examine the soil environment in the immediate vicinity of the tank and the relationship of the metal UST to this environment. A statistical model is used to assess the~~

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~~relationship between the aggressiveness of the environment and the rate of corrosion and to predict the remaining life of the UST prior to corrosion failure. An example of a noninvasive test method is Mean Time to Corrosion Failure (MTCF).~~

- ~~iii+v)~~ The tanks are assessed for corrosion holes by other methods determined by OSFM, to prevent releases in a manner that is no less protective of human health and the environment than subsections (a)(1)(B)(i) and; (ii) ~~and (iii)~~.
- 2) OSFM requires a tank integrity assessment even if both cathodic protection and interior lining systems are being installed. If the cathodic protection and interior lining are installed at the same time, only one approved integrity assessment is required. Even if both systems have been installed, OSFM requires routine inspection and maintenance of both systems to continue.
- ~~3) If one of the non-invasive methods described in this Section has been used to assess tank integrity of a tank older than 10 years, the leak detection method used on these tanks after installing the cathodic protection system may not be the monthly inventory control method, SIR, or manual tank gauging method of leak detection. Acceptable leak detection methods that can be used are as follows: automatic tank gauging, vapor monitoring, groundwater monitoring, interstitial monitoring, fiber optics or tracer elements.~~
- 34) USTs equipped with both interior lining and cathodic protection (sacrificial anodes or impressed current).
- A) The following maintenance procedures shall apply:
- i) Sacrificial anodes must be tested according to the requirements of subsection (f).
- ii) Impressed current records of operation must be recorded every 30 days and records kept on site for 2 years. The system must be tested annually according to the

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requirements of subsection (f) and records kept on site for 3 years.

- iii) As of September 1, 2010, some facilities may exist that had been previously granted an OSFM waiver for the UST lining maintenance requirements based upon original field notes from the initial lining, of an invasive method of initial tank integrity assessment verifying that there were no holes in the tank. For these systems, only the external cathodic protection system must be maintained and tested. This is contingent upon the original field notes being available, and a letter from OSFM existing from that time to verify the waiver was granted.
- B) For those USTs where a non-invasive tank integrity assessment method was used or if there were any holes present in the tank, regular interior lining inspections must continue as described in Section 175.500.
- b) ACT-100 Tanks Installed with Sacrificial Anodes. Owners of ACT-100 tanks meeting STI F894.01, incorporated by reference in 41 Ill. Adm. Code 174.210, and able to produce ACT-100 warranty papers may choose the steel-FRP composite design as a sole method of corrosion protection instead of maintaining the sacrificial anodes.
- c) Upgrades to Combine Internal Lining with Cathodic Protection. For all permit applications received prior to January 1, 2011, a tank may be upgraded by both internal lining and cathodic protection if:
- 1) The lining is installed in accordance with the requirements of Section 175.500; and
 - 2) The cathodic protection system meets the requirements of Section 175.400(b)(2)(B) and this Section 175.510.
- d) Piping Corrosion Protection Requirements. All UST metal product piping that is in contact with backfill, ground or water shall be cathodically protected. All metal risers, vents and fills in contact with backfill, ground or water shall be

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dielectrically coated. Shrink-wrap or boots are not acceptable as a form of cathodic protection in a water environment.

- e) Wiring of all associated electrical equipment shall conform to the requirements of Section 175.425 and shall also conform to the following requirements:
- 1) All wiring that is connected to any anode of an impressed current system shall be no less than No. 10 stranded, with jacketing that is suitable for direct burial and that is petroleum or hazard resistant for the product conveyed. Such jacketing is to have a thickness sufficient to cause the wiring to have a diameter of at least $\frac{5}{16}$ inch. Systems existing prior to May 1, 2003 may remain.
 - 2) All wiring connected to any anode of a sacrificial anode system shall be suitable for direct burial and shall be resistant to petroleum and/or hazardous substances.
 - 3) All structural lead wiring of any cathodic protection system shall be suitable for direct burial and shall be petroleum and/or hazard resistant.
 - 4) For installation of cathodic protection systems to facilities existing prior to May 1, 2003, existing anode wiring may be replaced~~placed~~ into existing pavement saw-cuts, provided that the following conditions are met:
 - A) No part of the wiring is less than one inch below the finished pavement surface, and provided that the portion of the saw-cut groove above the wiring is filled with a combination of at least $\frac{3}{8}$ inch of backer rod~~backer rod~~ and at least $\frac{1}{2}$ inch of self-leveling caulk suitable as a concrete filler.
 - B) Structure lead wiring of impressed current systems shall consist of at least 2 separate leads. Such leads running from the junction box or rectifier to the UST structures must be in separate saw-cuts, jumpering from one UST structure to the next. One lead shall connect to the first structure to be protected and continue on to all structures in the UST. The second lead will connect to the last structure to be protected. Such loop is to ensure that if one lead were to become cut or disconnected, the other lead would ensure

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the continued connection of the UST structures and the junction box or rectifier.

- C) All wiring from anodes shall terminate and be identified (as to location per approved site plan), in strategically located junction boxes, placed in and around the protected field. This will facilitate the testing of each anode.
- D) Any additions or extensions done to the existing network must conform to Section 175.425(a).
- 5) Beginning May 1, 2003 for installation of cathodic protection systems, all wiring running outside of manholes or sumps shall be located at least 12 inches below the finished grade and installed in conduit approved for petroleum and/or hazardous installations.
- f) Operation and Maintenance of Cathodic Protection. Owners or operators of steel USTs with corrosion protection shall comply with the following requirements to ensure that releases due to corrosion are prevented for as long as the UST is used to store regulated substances:
- 1) All corrosion protection systems shall be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain regulated substances and are in contact with the ground, backfill or water. ~~STI-P3 tanks are to be tested every 3 years for proper corrosion protection operation.~~
 - 2) All USTs equipped with sacrificial anode or impressed current cathodic protection systems shall be regularly tested and inspected for proper operation, including when being first put into operation, by an OSFM-licensed contractor ~~who that~~ has licensure in the cathodic protection module, using an employee who has successfully passed the International Code Council (ICC) certification exam module for cathodic protection. Such testing shall be in accordance with the following requirements:
 - A) Frequency. ~~All cathodic protection systems shall be re-tested no less than 24 weeks and no more than 28 weeks from the date of installation or repairs. All sacrificial anode systems shall be tested every 3 years by a tester that meets the qualifications of this~~

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~~subsection (f)(2). In the event that a reading of -875 millivolts or less is recorded with testing being conducted above the structure, on any type of corrosion protection system, then annual testing will be required thereafter. In the event that upgrading of the cathodic protection system results with readings greater than -875 millivolts with readings being conducted above the structure, then testing may be conducted every 3 years, unless the 6 month test after upgrading produces a reading of -875 millivolts or less, then annual testing will be required.~~

- i) Sacrificial anodes shall be tested every 3 years as long as testing results are -850 millivolts or a higher negative number. In the event testing results do not meet the -850 millivolt requirement, the anodes shall be replaced. This requirement applies to all sacrificial anodes, including wristband and spike anodes.
 - ii) Impressed current systems shall be tested annually as long as testing results are -850 millivolts or a higher negative number. In the event testing results do not meet the -850 millivolt requirement, the impressed current system shall be repaired or upgraded as needed to meet the -850 millivolt requirement.
 - iii) All cathodic protection systems shall be re-tested no less than 24 weeks and no more than 28 weeks from the date of installation or repairs.
- B) Inspection Criteria. The criteria that are used to determine that cathodic protection is adequate as required by this subsection (f)(2)(B) shall be in accordance with NACE ~~SP0285RP0285~~ and SP0169, incorporated by reference in 41 Ill. Adm. Code 174.210. Subject to the technical applicability of these criteria given actual site conditions, one or more of the following criteria shall apply for adequacy of cathodic protection. Cathodic protection shall be repaired or replaced if it fails to meet the standards provided in this subsection (f)(2)(B).

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- i) A negative (cathodic) potential of ~~-850 millivolts or a higher negative number at least 850 millivolts~~ with cathodic protection applied. This potential is measured with respect to a saturated copper/copper sulfate reference electrode contacting the electrolyte.
 - ii) A minimum 100 millivolt of cathodic polarization between the structure and a saturated copper/copper sulfate reference electrode contacting the electrolyte. Such polarization shall be determined from the taking of a valid "instant-off" test, that, for each testing point, determines the voltage reading at the second drop in voltage following the interruption in cathodic protection being applied, and determines if the voltage reading is at least 100 millivolts higher than either the native reading or any other reading after the structure has had time to depolarize with no cathodic protection applied.
- 3) USTs with impressed current cathodic protection systems shall ~~also be tested and inspected, prior to being put into operation and~~ every 30 days ~~thereafter~~, to ensure the equipment is running properly ~~and the entire system must be tested annually by a cathodic protection tester certified under the requirements of 41 Ill. Adm. Code 172.~~
 - 4) For USTs using cathodic protection, records of the operation of the cathodic protection shall be maintained to demonstrate compliance with the performance standards in this Section. These records shall provide the following:
 - A) The results of 6-month testing for sacrificial anode systems; ~~the 6-month test and annual tests~~ must be maintained on site for 2 years;
 - B) All records from the last 2 cathodic protection total system tests by a qualified cathodic protection tester pursuant to a 3-year cycle must be maintained on site; ~~and~~
 - C) Impressed current systems must be inspected every 30 days and reports or a log maintained that shows date of inspection, initials of inspector, hour, volt and amp readings, and power on verification.

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A minimum of 2 years of records shall be kept on site; ~~and. Also, a certified corrosion protection contractor must check the total system annually after the date of installation and results shall be kept on site for 2 years.~~

D) The records from the impressed current annual test conducted by an OSFM licensed contractor shall be kept on site for 2 years.

- 5) Alternative methods of corrosion protection may be used if approved in writing by OSFM, provided they are no less protective of human health or the environment.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART F: RELEASE DETECTION

Section 175.610 General Release Detection Requirements for All USTs

- a) Owners or operators of new and existing USTs shall provide a method, or combination of methods, of release detection that:
- 1) Can detect a release from the entire tank and any portion of the connected underground piping that routinely contains product;
 - 2) Is installed, calibrated, operated and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition; ~~and~~
 - 3) Meets the performance requirements in Sections 175.630, ~~and~~ 175.640 or Subpart I, as applicable. All performance claims and the manner of determining the claims shall be described in writing by the equipment manufacturer or installer. In addition, methods used ~~on or after December 22, 1990 (except for methods permanently installed prior to that date)~~ shall be capable of detecting the leak rate or quantity specified for that method in Section 175.630 and 175.640 with a probability of detection of 0.95 and a probability of false alarm of 0.05. Release detection for tanks and piping permitted on or after February 1, 2008 must also meet the interstitial monitoring requirements indicated in Sections 175.400 and 175.420; ~~and~~.

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- 4) Beginning October 13, 2018, is operated and maintained, and electronic and mechanical components are tested for proper operation, in accordance with manufacturer's instructions or a code of practice developed by a nationally recognized association or independent testing laboratory. As an alternative, another test method may be used that is determined by OSFM to be not less protective of human health and the environment. Before the utilization of any such method, it shall be submitted to OSFM in writing, and OSFM shall issue written approval.
- A) A test of the proper operation must be performed at installation and at least annually thereafter and, at a minimum, as applicable to the facility, shall cover the following components and criteria:
- i) Automatic tank gauge and other controllers: test alarm; verify system configuration; test battery backup;
 - ii) Probes and sensors: inspect for residual buildup; ensure floats move freely; ensure shaft is not damaged; ensure cables are free of kinks and breaks; test alarm operability and communication with controller;
 - iii) Automatic line leak detector: test operation to meet criteria in Section 175.640(a)(3) by simulating a leak;
 - iv) Vacuum pumps and pressure gauges: ensure proper communication with sensors and controller; and
 - v) Hand-held electronic sampling equipment associated with groundwater and vapor monitoring: ensure proper operation.
- B) All testing and inspections required by this Section shall be performed:
- i) By an OSFM-licensed contractor that has licensure in the installation/retrofitting or tank and piping tightness testing module; and

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- ii) [Using an ICC-certified employee for testing or inspection who is also certified by the manufacturer of the equipment being inspected and any testing equipment being utilized.](#)
- b) All leak detection equipment must be evaluated and be listed in the NWGLDE publication "List of Leak Detection Evaluations for Storage Tank Systems", as referenced in 41 Ill. Adm. Code 174.210, or, may be utilized if approved by OSFM.
- c) When a release detection method operated in accordance with the performance standards in Sections 175.630 and 175.640 [or Subpart I](#) indicates a release may have occurred, owners or operators shall notify the Illinois Emergency Management Agency in accordance with 41 Ill. Adm. Code 176.300 through 176.330.
- d) All leak detection equipment installed on a UST, whether required or not, shall be maintained. Self-diagnosing release detection systems may not be used to circumvent any testing required by 41 Ill. Adm. Code 174, 175, 176 or 177.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.620 Release Detection Requirements for Hazardous Substance USTs

- a) Owners or operators of hazardous substance USTs, permitted prior to February 1, 2008, shall provide release detection that complies with Section 175.610 and 40 CFR 280.42, and shall be designed, constructed and installed to contain regulated substances released from the tank system until they are detected and removed, prevent the release of regulated substances to the environment at any time during the operational life of the UST, and be checked at least every 30 days for evidence of a release. Underground piping shall be equipped with secondary containment as allowed under subsections (a) and (b) and, if under pressure, be equipped with both an automatic line leak detector and interstitial monitoring meeting the requirements of Sections 175.640(a) and 175.630(~~fg~~) and 40 CFR 280.
- b) The following existing systems installed before February 1, 2008 are allowed:
- 1) Secondary containment systems with interstitial monitoring [meeting the requirements of Section 175.630\(f\) and](#) capable of detecting a failure from the inner and outer wall.

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- 2) Double-wall tanks which are able to detect the failure of the inner or outer wall.
- 3) External liners (including vaults) that meet the requirements of 40 CFR 280.42.
- 4) Other methods of release detection may be used if owners or operators:
 - A) Demonstrate to OSFM that an alternate method can detect a release of the stored substance as effectively as the method allowed in Section 175.630(fg); written approval is required from OSFM to use the alternate release detection method before it can be used; and
 - B) Provide written information to OSFM on effective corrective action technologies, health risks and chemical and physical properties of the stored substance, and the characteristics of the UST site.
- c) Hazardous substance USTs permitted on or after February 1, 2008 shall be double-wall and shall have interstitial monitoring in compliance with Section 175.630(fg). All pressurized piping shall have automatic line leak detectors. Hazardous substance USTs shall not be permitted unless all UST components are listed by a nationally recognized independent third party organization as compatible with the product being stored.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.630 Methods of and Requirements for Release Detection for Tanks

Owners and operators of petroleum USTs shall provide release detection on tanks. Only one approved method of primary release detection is required for each tank although multiple methods are acceptable. If present, secondary release detection systems must be maintained. No method of release detection shall be used unless that method has been approved by OSFM. USTs must be monitored at least every 30 days for releases using one or more of the methods listed below:

- a) ~~Monthly Inventory Control~~

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- 1) ~~Product inventory control (or another test of equivalent performance) shall be conducted monthly to detect a release of at least 1.0 percent of the flow through plus 130 gallons on a monthly basis in the following manner:~~
 - A) ~~Inventory volume measurements for regulated substance inputs, withdrawals and the amount still remaining in the tank are recorded each operating day;~~
 - B) ~~The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest 1/8 inch;~~
 - C) ~~The regulated substance inputs are reconciled with delivery receipts by measurement of the tank inventory volume before and after delivery;~~
 - D) ~~Deliveries are made through a drop tube that extends to within 6 inches of the tank bottom;~~
 - E) ~~Product dispensing is metered and recorded pursuant to Section 8 of the Weights and Measures Act [225 ILCS 470/8];~~
 - F) ~~The measurement of any water level in the bottom of the tank is made to the nearest 1/8 inch at least once a month;~~
 - G) ~~All personnel involved in performing inventory control measurements, recordkeeping and related performance must be knowledgeable in that performance and activities;~~
 - H) ~~Monthly inventory control records for the previous 2 years must be kept on site or available within 30 minutes or before OSFM completes its inspection, whichever is later;~~
 - I) ~~This method can only be used for a period of 10 years after the date cathodic protection was first installed on the tank. A precision tank test must be performed at 5 years and 10 years and these records kept on site for 10 years. At the 10 year point, another form of leak detection is required;~~

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~~J) No USTs installed after May 1, 2003 will be allowed to use this method.~~

~~K) Inventory control may not be used on systems with blending pumps or siphon tanks.~~

~~2) Monthly inventory control cannot be used as a method of release detection for any tank that, after passing only a noninvasive tank integrity assessment, was upgraded using the cathodic protection method.~~

~~a)~~ Manual Tank Gauging

1) Only tanks of 600 gallons or less nominal capacity may use the method described in this subsection ~~(a) as the sole method of release detection. Tanks over 2,000 gallons may not use this method of release detection.~~ All owners or operators using manual tank gauging methods must conduct a monthly reconciliation and maintain those reconciliation records. The requirements for this type of release detection shall adhere to requirements listed in this subsection for the specific tank sizes noted:

Requirements

Nominal tank capacity	Whether use of manual tank gauging for release detection is allowed	Time limit on use of manual tank gauging for release detection
600 gallons or less	Allowed as sole method of release detection	Allowed indefinitely
601-2,000 gallons	Not allowed Only in combination with annual tank precision testing	Not allowed Only for the first 10 years after the date cathodic protection was first installed
Over 2,000 gallons	Not allowed even in combination with annual tank precision testing	Not Never allowed

2) Standards

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- A) In order to be eligible to continue to use manual tank gauging alone (tanks 600 gallons or less only) ~~or in combination with other methods (tanks up to 2,000 gallons only)~~, the following standards regarding maximum variation between beginning and ending product level measurements shall be adhered to:

Standards

Nominal tank capacity	Weekly standard (one test)	Monthly standard (average of 4 tests taken once weekly over a 4- week period)
600 gallons or less	10 gallons	5 gallons
601-1,000 gallons	13 gallons	7 gallons
1,001-2,000 gallons	26 gallons	13 gallons

- B) A leak is suspected and subject to the requirements of 41 Ill. Adm. Code 176.300 through 176.360 if the variation between beginning and ending measurements exceeds the weekly or monthly standards as listed in this subsection (b). Weekly inventory records, monthly reconciliation records, ~~annual tightness test results~~, and related records shall be maintained for 2 years in order to continue to be eligible to continue to use manual tank gauging.
- 3) Manual tank gauging shall also meet the following requirements:
- A) Tank liquid level measurements are taken at the beginning and ending of a period of at least 36 hours during which no liquid is added to or removed from the tank;
- B) Level measurements are based on an average of 2 consecutive stick readings at both the beginning and ending of the period;
- C) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest $\frac{1}{8}$ inch;

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- D) The measurement of any water level in the bottom of the tank is made to the nearest $\frac{1}{8}$ inch at least once a month; and
- E) All personnel involved in performing manual tank gauging measurements, recordkeeping and related performance must be knowledgeable in that performance and activities.
- 4) Manual tank gauging cannot be used as a method of release detection for any tank that, after passing only a noninvasive tank integrity assessment, was upgraded using the cathodic protection method.
- 5) ~~This method will not be allowed for tanks 601 to 2,000 gallons after May 1, 2003, except that, for those tanks for which this method was being used on May 1, 2003, the method may be used until the 10-year allowance expires.~~
- be) In conjunction with a Statistical Inventory Reconciliation (SIR) and any other release detection methods when required~~monthly inventory control or manual tank gauging, tank precision tank tightness~~ testing, as approved by OSFM (not a stand-alone method of release detection):
- 1) Tank ~~precision~~tightness testing (or another test of equivalent performance) shall be capable of detecting a 0.1 gallon per hour leak rate from any portion of the tank that routinely contains product while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table. There are 4 types of tank precision testing:
- A) ~~100% percent~~ volumetric overfill;
- B) Volumetric underfill with an approved ullage test of negative pressure or inert gas as approved by OSFM;
- C) A negative pressure; or
- D) Other approved methods, in accordance with subsection (hi).

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- 2) In the case of a suspected release, tracer elements and automatic tank gauging (ATG) are not ~~an~~-approved ~~methods~~method of tank precision ~~tank~~ testing.
- cd) Automatic Tank Gauging (use of an ATG). ATG equipment that tests for the loss of product and conducts inventory control shall meet the following requirements:
- 1) The automatic product level monitor test can detect a 0.2 gallon per hour leak rate from any portion of the tank that routinely contains product;
 - 2) The ATG must also meet or exceed the performance criteria and requirements found at 40 CFR 280.43(a) and the test must be performed with the system operating in one of the following modes:
 - A) In-tank static testing conducted at least once every 30 days; or
 - B) Continuous in-tank leak detection operating on an uninterrupted basis or operating within a process that allows the system to gather incremental measurements to determine the leak status of the tank at least once every 30 days.
 - 32) The ATG must be installed, calibrated and in compliance with the protocol of the third party evaluation;
 - 43) Beginning May 1, 2003, all new or replacement ATG monitors shall be mounted no more than 6 feet from the floor and must remain unobstructed and accessible;
 - 54) All ATG systems must be equipped with printers. If a system has to be retrofitted, a permit will be required. Systems with remote printers will be accepted.
- de) Vapor Monitoring. Testing or monitoring for vapors within the soil gas of the excavation zone shall meet the following requirements:
- 1) The materials used as a backfill are sufficiently porous (e.g., gravel, sand or crushed rock) to readily allow diffusion of vapor from releases into the excavation area;

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- 2) The stored regulated substance or a tracer compound placed in the tank system is sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;
- 3) The measurement of vapors by the monitoring device is not rendered inoperative by groundwater, rainfall, soil moisture or other known interferences so that a release could go undetected for more than 30 days;
- 4) The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank;
- 5) The vapor monitors are designed and operated to detect any significant increase in concentration above the background of the regulated substance stored in the tank system, a component or components of that substance, or a tracer compound placed in the tank system; vapor monitor sensors must be permanently installed in the vapor monitor wells; a monthly inspection of the vapor monitoring system must be made and a log maintained showing the date of inspection, results and initials of the party doing the inspection; all vapor sensors must be tested for functionality by a licensed contractor [pursuant to Section 175.610\(a\)\(4\)](#) at least once every 3 years and the records kept until the next test;
- 6) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in subsections [\(de\)](#)(1) through (4) and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains product. [In the event of a confirmed release, this method of release detection may not be used until remediation is complete and a new site assessment is conducted that demonstrates that the vapor monitoring system will meet all criteria, including documentation on the threshold for a release and documentation that background contamination will not interfere with the ability to detect a release. If replacement of the UST system triggers the requirement for double-walled tanks and piping, interstitial monitoring is required. If the owner/operator wishes to combine this form of release detection with groundwater monitoring during seasonal variations, the site assessment must clearly document that use;](#)

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- 7) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering;
 - 8) Vapor monitoring wells shall be of sufficient design to allow vapors to be detected from any portion of the tank being monitored and shall be a minimum of 4 inches in diameter or as approved by OSFM on the applicable permit; ~~and~~
 - 9) An adequate number of vapor monitoring wells shall be provided to ensure that a release can be detected from any portion of the tank. Adequacy of the wells is subject to approval of OSFM on the applicable permit; ~~and~~.
 - 10) Phase out and elimination of vapor monitoring. Except pursuant to Subpart I, no permits for installation of vapor monitoring systems will be issued after October 13, 2018. Except pursuant to Subpart I, this method will no longer be allowed for tanks after October 13, 2023.
- e) Groundwater Monitoring. Testing or monitoring for liquids on the groundwater shall meet the following requirements:
- 1) The regulated substance stored is immiscible in water and has a specific gravity of less than one;
 - 2) Groundwater is never more than 20 feet from the ground surface, the hydraulic conductivity of the soil between the UST and the monitoring wells or devices is not less than 0.01 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials), and groundwater shall be present in the groundwater monitoring wells at all times;
 - 3) The slotted or perforated portion of the monitoring well casing shall be designed to prevent migration of natural soils or filter pack into the well and to allow entry of regulated substance on the water table into the well under both high and low groundwater conditions;
 - 4) Groundwater monitoring wells shall be sealed from the ground surface to the top of the filter pack;

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- 5) Monitoring wells or devices intercept the excavation zone or are as close to it as is technically feasible;
- 6) The continuous monitoring devices or manual methods used can detect the presence of at least $\frac{1}{8}$ inch of free product on top of the groundwater in the monitoring wells.
 - A) The continuous monitoring devices must be fixed sensors mounted permanently inside the well or samples must be taken by a mechanical bailer capable of detecting the presence of at least $\frac{1}{8}$ inch of free product on top of the groundwater in the monitoring wells.
 - B) Groundwater monitoring must be done monthly and a log of the inspection made showing the date of the inspection, initials of the person conducting the inspection, and results of the well sampling;
- 7) Within and immediately below the UST excavation zone, the site is assessed to ensure compliance with the requirements in subsections (f)(1) through (5) and to establish the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains product. In the event of a confirmed release, this method of release detection may not be used until remediation is complete and a new site assessment is conducted that demonstrates that the groundwater monitoring system will meet all criteria, including documentation on the threshold for a release and documentation that background contamination will not interfere with the ability to detect a release. If replacement of the UST system triggers the requirement for double-walled tanks and piping, interstitial monitoring is required. If the owner/operator wishes to combine this form of release detection with vapor monitoring during seasonal variations, the site assessment must clearly document that use;
- 8) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering;
- 9) As of September 1, 2010, the minimum diameter of newly installed groundwater monitoring wells shall be 8 inches; ~~and~~

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- 10) An adequate number of groundwater monitoring wells shall be provided to ensure that a release can be detected from any portion of the tank based upon the direction of groundwater flow and the tank placement. Adequacy of the wells is subject to approval of OSFM on the applicable permit. Beginning May 1, 2003, an adequate number of monitoring wells shall require a minimum of 2 ~~8 inch~~ 8-inch diameter monitoring wells for the first tank and one additional well for each additional tank installed. The wells will be of manufactured slotted or perforated type. They shall be at opposite ends and corners, one foot below the invert elevations of the lowest UST; ~~and:~~
- 11) [Phase out and elimination of groundwater monitoring. Except pursuant to Subpart I, no permits for installation of groundwater monitoring leak detection systems shall be issued after October 13, 2018. Except pursuant to Subpart I, this method will no longer be allowed for tanks after October 13, 2023.](#)
- fg) Interstitial Monitoring. Interstitial monitoring between the UST and a secondary barrier immediately around or beneath it, or interstitial monitoring as required by Sections 175.400(a) and 175.420(b) and meeting the requirements of this Section, may be used but only if the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains product. All tanks permitted on or after February 1, 2008 must be equipped with interstitial monitoring sensors. When required to make tank or piping interstitial monitoring functional, the appropriate containment (e.g., under-dispenser containment, tank containment sumps or junction sumps) shall be installed. All existing interstitial monitoring systems and sensors shall be maintained and, beginning September 8, 2008, may not be removed irrespective of whether the leak detection is secondary or redundant to other forms of leak detection. If the interstitial monitoring is not functional or not operating properly it shall promptly be repaired or replaced and any necessary measures to prevent false positive and false negative readings shall be implemented.
- 1) Interstitial monitoring must also meet one of the following requirements:
- A) For double-wall USTs, the sampling or testing method can detect a release through the inner wall in any portion of the tank that routinely contains product;

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- B) For USTs existing prior to February 1, 2008 and with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the underground storage tank system and the secondary barrier.
- i) The secondary barrier around or beneath the UST consists of artificially constructed material that is sufficiently thick and impermeable (~~at least~~not in excess of 0.000001 cm/sec for the regulated substance stored) to direct a release to the monitoring point and permit its detection;
 - ii) The barrier is compatible with the regulated substance stored so that a release from the UST will not cause a deterioration of the barrier allowing a release to pass through undetected;
 - iii) For cathodically protected tanks, the secondary barrier shall be installed so that it does not interfere with the proper operation of the cathodic protection system;
 - iv) The groundwater, soil moisture or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days;
 - v) The site is assessed to ensure that the secondary barrier is always above the groundwater and not in a 25-year flood plain unless the barrier and monitoring designs are for use under those conditions;
 - vi) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering; and
 - vii) An adequate number of monitoring wells shall be provided to ensure that a release can be detected from any portion of the tank. Adequacy of the number of the wells is subject to the approval of OSFM.

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- C) For tanks with an internally fitted liner, an automated device can detect a release between the inner wall of the tank and the liner, and the liner is compatible with the substance stored.
- 2) The interstitial monitoring system must be tested every year pursuant to Section 175.610(a)(4) to verify its operation and records from the 2 previous tests must be kept on site, or available within 30 minutes or before OSFM completes its inspection, whichever is later. Testing of the system sensors shall be done in such a way as to verify their function but not damage the sensors. This testing shall be done by a licensed contractor. Interstitial monitoring must also comply with the requirements of Section 175.640.
- 3) The operability of the interstitial monitoring sensors shall be inspected and verified by the owner/operator every 30 days. Pursuant to Section 175.650(e), records for the previous 2 years must be kept on site or available within 30 minutes or before OSFM completes its inspection, whichever is later.
- ~~gh)~~ Statistical Inventory Reconciliation-~~(SIR)~~
- 1) Release detection methods based on the application of statistical principles to inventory data must meet the following requirements:
- A) Report a quantitative result with a calculated leak rate;
- B) Be capable of detecting a leak rate of 0.2 gallon per hour or a release of 150 gallons within 30 days; and
- C) Use a threshold that does not exceed one-half the minimum detectible leak rate.
- 2i) The company that uses this method shall provide OSFM a written affirmation that their data collection staff is trained in the data gathering procedures and that only trained staff will be utilized for data collection. Each tank monitored by SIR shall be identified to OSFM in writing within 30 days after the commencement of the monitoring, specifying tank size, product stored, facility location and any other pertinent identification information necessary. SIR data shall be compiled and analyzed once each

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month to determine if a release has occurred, and the results put into a monthly report that is maintained by the facility.

- 32) SIR methods may only be used in conjunction with tank precision ~~tank tightness~~ testing conducted annually, starting with the time that SIR is first used. An additional tank precision ~~tank tightness~~ test pursuant to subsection ~~(b)~~ shall be mandatory if any data analysis indicates a possible release or is inconclusive or indeterminate, or for any test result other than a pass, or when a report is not available for any month of monitoring.
- 43) The measurement of any water level in the bottom of the tank is made to the nearest $\frac{1}{8}$ inch at least once a month.
- 54) New requests to use SIR after May 1, 2003 will no longer be accepted. If SIR is discontinued on a UST, SIR will not be allowed again.
- 65) After January 1, 2006, SIR may not be used on systems with blending pumps or siphon tanks.
- h) Other Methods. Any other type of release detection method or combination of methods, approved by OSFM, may be used if the owner or operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in subsections ~~(b)~~ through ~~(f)~~. Demonstration of any such method shall be in writing submitted to OSFM. In comparing methods, OSFM shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method is approved, the owner or operator shall comply with any conditions imposed by OSFM on its use to ensure the protection of human health or the environment. Before the utilization of the method, OSFM shall issue written approval.
- i) One copy of each independent third-party evaluation and its protocol, for the release detection methods in subsections ~~(b)~~, (c), (d), ~~(f)~~, (g), and (h) ~~and (i)~~, shall be submitted to OSFM as part of the permit application process. Any deviation from the third-party evaluation shall be submitted to OSFM for approval with the permit application, including, but not limited to, an evaluation by a licensed professional engineer finding that the release detection system as installed meets the performance requirements of 40 CFR 280 and this Part and the performance claims established by the independent third party evaluation and its

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protocol. For requirements regarding listing of components used with alternative or blended fuels, see Section 175.415.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.640 Methods of and Requirements for Release Detection for Piping

Owners and operators of petroleum USTs shall provide release detection for all piping containing regulated substances. The release detection must meet the requirements specified in this Section.

- a) Pressurized piping systems shall comply with the following requirements:
- ~~1)~~ ~~Both new and existing pressurized piping installations shall be equipped with automatic line leak detectors.~~
 - 12) Every pressurized piping line installed after February 1, 2008 shall be equipped with interstitial monitoring sensors at all piping sumps, dispenser sumps, and piping junction sumps. For installations and replacements after~~As of~~ September 1, 2010, these sensors must immediately shut off the submersible turbine pump (STP) supplying that line upon detection of a release, except for USTs serving emergency power generators. Sensors for USTs serving emergency power generators shall trigger a local alarm upon the detection of a release. The automatic shutoff shall be deactivated in any UST serving emergency power generators when that function has been previously installed. Pursuant to Sections~~Section~~ 175.630(~~f~~)(~~g~~) and 175.610(a)(4), all interstitial monitoring sensors shall be tested annually, and the sensors inspected for operability at least once per month and a record of the inspection results generated.
 - 23) All new and existing sump sensors must be installed so as to detect liquid per manufacturer's specifications or, if not specified by the manufacturer, at~~below~~ the lowest ~~contained entry~~ point in the sump.
 - 34) Both new and existing pressurized piping installations shall be equipped with automatic line leak detectors. Mechanical and electronic line leak detectors that alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm may be used only if they detect leaks of 3 gallons per hour at 10 pounds per square inch line pressure within one

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hour, except for USTs serving emergency power generators. All line leak detectors must have a functionality test performed annually [pursuant to Section 175.610\(a\)\(4\)](#). Self-diagnosing line leak detectors are not alone sufficient to meet the requirement for an annual functionality test. Automatic line leak detectors for USTs serving emergency power generators shall trigger a local alarm upon the detection of a release. Any automatic flow restriction or shutoff shall be deactivated in pressurized piping serving emergency generators when that function has been previously installed.

- ~~45~~) In addition to utilizing automatic line leak detectors, pressurized piping systems shall utilize either line ~~precision~~~~tightness~~ testing pursuant to this subsection (a)~~(45)~~ or monthly monitoring pursuant to subsection (c). Line ~~precision~~~~tightness~~ testing requirements may be met by one of the following methods:
- A) Pressurized lines must have an annual precision test that is capable of detecting a 0.1 gallon per hour leak rate at 1.5 times the operating pressure for 30 minutes. Use of an inert gas to pressurize piping is also acceptable. Use of air to pressurize piping that contains product is prohibited.
 - B) The use of electronic line leak detection that is able to detect a 0.1 gallon per hour leak at 1.5 times the operating pressure in an annual [precision](#) test of the line, with the records of the 2 most recent annual [precision](#) tests kept on site or available within 30 minutes or before OSFM completes its inspection, whichever is later.
 - C) A method meeting the requirements of the NWGLDE publication "List of Leak Detection Evaluations for Storage Tank Systems", as referenced in 41 Ill. Adm. Code 174.210, or, if unavailable, as approved by OSFM.
 - D) [In the case of a suspected release, tracer elements and line testing using the automatic tank gauge \(ATG\) are not approved methods of line precision testing.](#)
- b) Suction lines and systems must comply with the following requirements:

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- 1) American Suction
 - A) ~~For all installations and replacements after As of~~ September 1, 2010, every American suction piping line shall be equipped with interstitial monitoring sensors at all piping sumps, dispenser sumps and piping junction sumps that will immediately shut off the ~~product supply pumps~~ ~~supply of product at the dispenser~~ upon the detection of a release, except for USTs serving emergency power generators. Sensors for USTs serving emergency power generators shall trigger a local alarm upon the detection of a release. The automatic shutoff shall be deactivated in any UST serving emergency power generators when that function has been previously installed. All interstitial monitoring sensors shall be tested annually pursuant to the requirements of ~~Sections~~ ~~Section~~ 175.630(~~fg~~) and 175.610(a)(4). All interstitial monitoring sensors shall be inspected for operability at least once per month and a record of the inspection results generated.
 - B) All American suction lines shall be precision tested annually ~~using positive pressure of at least 7 psi for 30 minutes, or, use~~ using a monthly monitoring method as approved by OSFM.
- 2) European suction lines do not require line leak detection or a precision line test if they are designed and constructed to meet the following:
 - A) The below grade piping operates at less than atmospheric pressure;
 - B) The below grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;
 - C) Only one check valve is included in each suction line;
 - D) The check valve is located directly below and as close as practical to the suction pump; and
 - E) A method is provided that allows compliance with subsections (b)(2)(B), (C) and (D) to be readily determined as of the time of OSFM inspection.

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- 3) Suction systems that do not meet the requirements of subsections (b)(2)(A) through (E) shall be classified as American suction and subject to the requirements for American suction in subsection (b)(1). European suction piping meeting the requirements of subsections (b)(2)(A) through (E) remains subject to requirements for under-dispenser containment pursuant to Section 175.410.
- c) Any of the methods in Section 175.630(~~de~~) through (~~fg~~) and (~~hi~~) may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances, as approved by OSFM. SIR is not acceptable as a form of line leak detection. Precision testing is not a stand-alone method for line leak detection.
- d) Existing interstitial monitoring systems and sensors shall be maintained and, beginning September 8, 2008, may not be removed irrespective of whether the leak detection is secondary or redundant to other forms of leak detection. If the interstitial monitoring is not functional or not operating properly it shall promptly be repaired or replaced and any necessary measures to prevent false positive and false negative readings shall be implemented.
- e) One copy of an independent third-party evaluation and its protocol for each piping release detection method shall be submitted to OSFM as part of the permit application process. Any deviation from the third-party evaluation shall be submitted to OSFM for approval with the permit application, including but not limited to an evaluation by a licensed professional engineer finding that the release detection system as installed meets the performance requirements of 40 CFR 280 and this Part and the performance claims established by the independent third-party evaluation and its protocol. See also Section 175.415 regarding compatibility with product stored.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.650 Release Detection and Cathodic Protection Recordkeeping

UST owners or operators shall maintain records in accordance with 41 Ill. Adm. Code 176.430, demonstrating compliance with all applicable Sections of this Subpart F. Unless stated otherwise below, all records shall be maintained for at least the 2 most recent years and shall be kept on site or available within 30 minutes, or before OSFM completes its inspection, whichever is later, via

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fax, email or other transfer of information. The failure to maintain or produce the records required under this Section may result in OSFM's issuance of a red tag for the tank or tanks at issue pursuant to 41 Ill. Adm. Code 177 indicating non-compliance with the rules of OSFM and prohibiting any further deposit of regulated substances into the tank or tanks subject to a red tag in the event that testing with corresponding documentation is not forthcoming within ~~60~~³⁰ days. These records shall include the following:

- a) All written performance claims pertaining to any release detection system used and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, shall be maintained for the life of the UST release detection equipment;
- b) The results of any sampling, testing or monitoring conducted or otherwise required shall be maintained for the required 2-year period, except that:
 - 1) The results of annual operation tests conducted in accordance with Section 175.610(a)(4) must be maintained for at least 3 years. At a minimum, the results must list each component tested, indicate whether each component tested meets criteria in Section 175.610(a)(3) or needs to have action taken, and describes any action taken to correct an issue;
 - 2) The ~~the~~ results of tank ~~precision~~^{tightness} testing conducted in accordance with Section 175.630(~~be~~) shall be retained until the next test is conducted; and
 - 3) The results of tank tightness testing, line tightness testing, and vapor monitoring using a tracer compound placed in the tank system conducted in accordance with Subpart I must be retained until the next test is conducted.
- c) Written documentation of all calibration, maintenance and repair of release detection equipment permanently located on site shall be maintained for 5 years after the date of installation, and thereafter for 3 years after the servicing work is completed. Any schedules of required calibration and maintenance provided by the release detection equipment manufacturer shall be retained for the life of the UST release detection equipment;

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- d) All records from the last 2 cathodic protection total system tests by a qualified cathodic protection tester pursuant to a 3-year cycle must be maintained on site; and
- e) At the time of a compliance inspection/audit, the following shall be verified:
 - 1) Corrosion Protection
 - A) Lining inspections records shall be maintained for the life of the UST, and the most recent inspection record shall be kept on site pursuant to Section 175.650(e).
 - B) All corrosion protection records must be maintained for the time periods required under Section 175.510.
 - 2) Tank Leak Detection
 - A) Manual Tank Gauging. Weekly inventory records, monthly reconciliation records, ~~annual tightness test results~~, and related records shall be maintained.
 - B) Interstitial Monitoring. Records of interstitial monitoring of tanks and testing of interstitial monitoring systems must be maintained. The records can be from an ATG system showing the interstitial monitor's status (pass/normal/other) on a print out tape or by maintaining a log showing date of inspection, initials of inspector and status of system (pass/normal/other).
 - C) Inventory Control. ~~Pursuant to Section 175.630(a), a precision tank tightness test must be performed at 5 years and 10 years after corrosion protection installation and prior to changing leak detection methods. Daily Inventory~~inventory control records ~~for airport hydrant systems and field-constructed tanks and monthly reconciliation records~~ shall be maintained for 2 years and tightness test records shall be maintained until the next tightness test is conducted.
 - D) Automatic Tank Gauge. A print out tape of the tank leak test showing one pass per tank per month must be kept. ~~If no tape is~~

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~~available from the unit, a log showing date, initials of person conducting the test and leak results shall be maintained.~~

- E) SIR. Annual tank ~~precisiontightness~~ test results and monthly SIR monitoring reports shall be maintained. At the commencement of SIR monitoring, a lag time of 60 days is allowed for the compilation of data and the generation of the monthly report for that data.
- F) Vapor and Groundwater Monitoring. No later than October 13, 2018, records of site assessments under Section 175.630(d) and (e) must be maintained for as long as the methods are used, and shall be redone if found to be missing. Records of site assessments developed after October 13, 2015 must be signed by a professional engineer or professional geologist. A monthly record must be taken on a log showing date of each monthly inspection, results/status (pass or fail), and the initials of the party doing the inspection for each vapor monitoring sensor or groundwater monitoring well with records maintained.
- 3) Line Leak Detection
- A) Unless otherwise indicated in this Part, all line leak detection records, including any required line ~~precisiontightness~~ testing results, shall be maintained for a period of at least 2 years.
- B) Interstitial monitoring records for lines shall comply with the same requirements and be maintained in the same manner as interstitial monitoring for tanks.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART G: REPAIRS TO UNDERGROUND STORAGE TANKS
AND DEFECTIVE EQUIPMENT

Section 175.700 Repairs Allowed

Owners and operators of USTs shall ensure that repairs will prevent releases due to structural failure or corrosion as long as the UST is used to store regulated substances. Any hole

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or penetration made into a tank, including, but not limited to, any bung openings or any entrance way established for interior lining inspection, shall be installed and closed as per this Section.

- a) ~~All repairs~~Repairs to USTs shall be properly conducted in accordance with manufacturer's recommended procedures and a code of practice developed by a nationally recognized association or an independent testing laboratory and 41 Ill. Adm. Code 174 through 176. For repairs involving tank penetration or tank entry, the vapor freeing and inerting procedures and related requirements of Sections 175.500(a) and (c) and 175.830(a) shall be followed. No welding or cutting will be allowed inside the tank in conducting repairs.
- b) Repairs to fiberglass-reinforced plastic tanks shall be made by the manufacturer's authorized representative or a representative of any fiberglass tank manufacturer in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory~~NLPA 631, incorporated by reference in 41 Ill. Adm. Code 174.210.~~
- c) Metal pipe sections and fittings that have released product as a result of corrosion or other damage shall be replaced. The entire pipe run shall be replaced upon finding a second corrosion-related piping leak in the wall of the same pipe run. ~~Noncorrodible~~Fiberglass pipes and fittings may be repaired in accordance with the manufacturer's specifications. All repairs shall comply with the requirements of Section 175.420.
- d) Repairs to secondary containment areas of tanks and piping used for interstitial monitoring must have the secondary containment tested for tightness according to the instructions of the manufacturer of the tanks or piping, or a code of practice developed by a nationally recognized association or independent testing laboratory, prior to being brought back into use and within 30 days following the date of completion of the repair. All other repairs to tanks and piping must be precision tested in accordance with Sections 175.630(b) and 175.640(a)(4) prior to being brought back into use and within 30 days following the date of the completion of the repair, except as provided in subsections (d)(1) through (d)(3) of this Section.~~Repaired tanks and piping shall be tightness tested in accordance with Sections 175.630(c) and 175.640(a)(5) prior to being brought back into use and within 30 days following the date of the completion of the repair, except as provided in this subsection (d)(1) through (3).~~

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- 1) The repaired tank is internally inspected in accordance with Section 175.500;
 - 2) The repaired portion of the UST is monitored monthly for releases in accordance with a method specified in Section 175.630(~~cd~~) through (~~gh~~);
or
 - 3) Another test method is used that is determined by OSFM to be not less protective of human health and the environment than those listed in subsections (d)(1) and (2); before the utilization of any such method, it shall be submitted to OSFM in writing, and OSFM shall issue written approval.
- e) Within 6 months following the repair of any cathodically protected UST system, the cathodic protection system must be tested in accordance with Section 175.510(f) to ensure that it is operating properly.
- f) All repaired spill prevention equipment and all repaired containment sumps shall be tested for being liquid-tight before being put back into operation. All repaired overfill prevention equipment shall be inspected before being put back into operation to insure it is operating properly. The testing or inspection described in this subsection shall be done according to the respective requirements of Sections 175.405 and 175.410.
- ~~ge~~) UST owners or operators shall maintain records of each repair for the remaining operating life of the UST that demonstrate compliance with the requirements of this Section. The last 2 years of records shall be retained on site.
- hf) All materials used to make necessary repairs shall comply with Subpart D of this Part.
- ~~ig~~) When a tank is determined to be leaking, it can be permanently abandoned-in-place (subject to Section 175.840), removed (subject to Section 175.830), replaced (subject to Section 175.Subpart D) or repaired (subject to this Section).
- ~~jh~~) Removal or abandonment-in-place of a leaking tank shall be in compliance with Sections 175.830 and 175.840. Leaking piping shall be removed or abandoned-in-place in compliance with these Sections.

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- i) ~~For permit applications received prior to January 1, 2011, storage tanks may be lined if done in compliance with Section 175.500.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.710 Emergency Repairs

- a) An emergency consists of a defect in a UST that is causing or threatens to cause harm to human health or the environment, or presents a threat to fire safety, and contact of the regulated substance with the defect cannot be prevented. In the event of a release, release reporting, investigation and initial response shall be conducted pursuant to 41 Ill. Adm. Code 174, 175 and 176. All emergency repairs shall meet the requirements of Section 175.700 and require a permit applied for after-the-fact on the next business day and require a final inspection scheduled pursuant to Section 175.320 within 10 days after issuance of the permit. A UST contractor portal for the on-line submission of permit applications and the scheduling of permitted work can be found at <https://webapps.sfm.illinois.gov/USTPortal>.
- b) If minor or temporary repairs are required to correct the defect, only the defective area can be repaired.
- c) Economic loss or the threat of economic loss does not constitute an emergency.
- d) Minor or temporary repairs, as a result of an emergency, to tanks or piping may begin on weekends, holidays and after business hours, when the repairs would otherwise require a permit prior to being performed. Permit applications are required for this UST activity and shall be submitted to OSFM after-the-fact, on the next business day. All repairs shall be inspected and precision tested in accordance with Sections 175.630(b) and 175.640(a)(4) prior to the repaired UST being put back into operation and within 30 days following the completion of the repair, unless otherwise directed by OSFM.
- e) When the emergency prompting the need for repairs occurs on a business day, the contractor shall ~~contact OSFM and~~ obtain authorization to proceed with the emergency repair by submitting an electronic Emergency Repair Request on-line or by calling OSFM. After obtaining authorization, the contractor shall apply for a permit on the next business day. A UST contractor portal for the on-line submission of an Emergency Repair Request and permit applications and other

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~~forms can be found at the website in subsection (a) fax a statement to OSFM indicating what facility and what specific repair is being requested.~~

- f) Repairs completed in violation of 41 Ill. Adm. Code 172, 174, 175, 176 and 177 may be required to be removed, exposed or replaced at the discretion of OSFM.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.720 Defective or Non-Compliant Equipment and Emergency Action by OSFM

- a) Pursuant to Section 6 of the Gasoline Storage Act [430 ILCS 15/6], whenever necessary or appropriate to assure that the public health or safety is not threatened, OSFM shall have the authority to undertake emergency action whenever there is a release or substantial threat of a release of petroleum or regulated substances from a UST.
- b) Failed tank or line precision ~~tank or line~~ tests and defective tank or piping leak detection equipment will require that particular tank system to be shut down until repaired and functioning properly. Another approved method of leak detection may be implemented if approved by OSFM on an interim basis.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART H: REMOVAL, ABANDONMENT AND CHANGE-IN-SERVICE

Section 175.800 Removal, Abandonment-in-Place or Change-in-Service Records

Owners or operators shall maintain records in accordance with 41 Ill. Adm. Code 176.430 that are capable of demonstrating compliance with removal, abandonment-in-place or change-in-service requirements under all applicable Sections of this Subpart H. The results of the excavation zone or other assessment required in 41 Ill. Adm. Code 176.360 shall be maintained for the time period specified in 41 Ill. Adm. Code 176.330 following completion of a removal, abandonment-in-place or change-in-service in one of the following ways:

- a) By the owners or operators who took the UST out of service;
- b) By the current owners or operators of the UST site; or

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- c) By mailing these records to OSFM if they cannot be maintained at the facility where the tank has been removed.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.810 Temporary Closure

- a) USTs may be put into a temporary closure status provided they meet the performance standards for new UST systems or the upgrading requirements specified in 41 Ill. Adm. Code 174 through 176 and 40 CFR 280, except that spill and overfill prevention equipment requirements do not have to be met. The USTs may continue in a temporary closure status for a period of 5 years from the date of last use provided they meet the following requirements:
- 1) The tank and product lines shall be emptied immediately upon placing the UST in a temporary closure status. The UST is empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (one inch) of residue, or 0.3% ~~percent~~ by weight of the total capacity of the UST system, remain in the system. ~~Any UST placed in a temporary closure status, formerly known as out of service status, prior to September 1, 2010 and containing more than one inch of product may be allowed to continue in temporary closure status as long as release detection is maintained during its remaining temporary closure period.~~
 - 2) Pursuant to Sections 175.500 and 175.510, all corrosion~~Cathodic~~ protection shall be maintained and operational for all tanks and lines, and tested as required, to include flex/pipe connectors. This will include any monthly logs that need to be maintained.
 - 3) OSFM must receive a written request, within 30 days after the date the tank was last used, requesting temporary closure status. The request shall be submitted on a Notification for Underground Storage Tanks on OSFM forms (available at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx>).~~forms provided by OSFM at www.state.il/OSFM/PetroChemSaf/Notify.pdf.~~
 - 4) Vent lines shall be left open and functioning.

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- 5) Within 7 days, the owner/operator shall cap and secure all product lines and secure all pumps, manways and ancillary equipment.
 - 6) Subject to all other applicable OSFM requirements, a UST may be put back in operation any time during the first 12 months, without meeting the requirements of subsection (d) subsections (b) and (e), subject to the requirement that OSFM be notified in writing on the Notification for Underground Storage Tanks form OSFM forms at www.state.il.gov/OSFM/PetroChemSaf/Notify.pdf at least 10 days prior to operation.
 - 7) If there is no ongoing incident cleanup related to the tanks that are the subject of the temporary closure request, a site assessment using the procedures of 41 Ill. Adm. Code 176.330 shall be conducted prior to bringing the UST back into service, and the report required under 41 Ill. Adm. Code 176.330(e) shall be submitted to OSFM.
 - 8) The owner/operator shall inspect the UST for compliance with the temporary closure requirements of this subsection (a) every 6 months, and for each inspection, the owner/operator shall attest, under penalty of perjury and on a form provided by OSFM at www.state.il.us/osfm/PetroChemSaf/home.htm, under "downloadable applications", that the UST is in compliance with the temporary closure requirements of this subsection (a).
- b) Failure to maintain corrosion protection at any point during the remaining 4-year temporary closure period referenced in subsection (de) shall require the removal of the USTstanks. Failure to maintain release detection on any UST placed in a temporary closure status, formerly known as an out of service status, prior to September 1, 2010 and containing more than one inch of residue shall require the owner/operator to provide OSFM with a site assessment and passing results for tank and line precision testing within 30 days after issuance of an NOV in order for the tanks to remain in a temporary closure status. Immediately after tank and line testing the tanks shall be emptied to one inch or less. Release detection is not required as long as all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (one inch) of residue, or 0.3 percent by weight of the total capacity of the UST system, remain in the system.

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- c) Failure to empty tanks in temporary closure shall require the owner to remove all contents to less than an inch before proceeding with bringing the tanks back into service.
- d) Systems that have been out of use for over one year but less than 5 years may be put back in service provided that the following additional requirements are met:
- 1) Tanks and lines shall be precision tested and proven sufficient.
 - 2) Tank and line release detection is tested and proven operational.
 - 3) Cathodic protection is tested and proven sufficient.
 - 4) A site assessment is conducted prior to bringing the UST back into service.
 - 5) All tests referenced in subsections (d)(1) through (d)(3) must be performed not more than 90 days and not less than 30 days before placing the tank back in service and submitted to OSFM at least 10 days prior to reopening so that a certification audit can be performed.
 - 6) Prior to a tank being put back in service, all requirements for return to service must be met, and all testing and inspections passed, and a Notification for Underground Storage Tanks Form placing the tanks "Currently in Use" must be submitted.
- e) Single-wall USTs over 30 years old that have been in temporary closure, formerly known as out-of-service, more than one year shall be removed rather than placed back into service.
- f) If a UST is not placed back into service within 5 years from the date of last use, the tank system shall be removed within 60 days after the conclusion of the 5-year period.
- g) USTs with double-walled tanks and piping equipped with interstitial monitoring shall not be subject to the 5-year limit during the period the tank manufacturer's warranty is in place if all of the following requirements are met:
- 1) Corrosion protection has been and continues to be maintained;

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- 2) A site assessment under Section ~~176.330~~175.330 has been performed;
- 3) Any UST components found to be defective are replaced in the 45 days prior to any return to active use; and
- 4) All requirements for return to use under subsection ~~(d)~~(de) and this Section are met.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.820 Change-in-Service of USTs

- a) From a Regulated Substance to a Non-Regulated Substance. Continued use of a UST to store a non-regulated substance (so that it is no longer classified as a UST) is considered a change-in-service. Before a change-in-service, owners or operators shall empty and clean the tank by removing all liquid and accumulated sludge and conduct a site assessment. The minimum requirements for the site assessment will be the procedures and requirements of 41 Ill. Adm. Code 176.330. However, a change-in-service may only occur during the first 2 years, commencing with the date of installation of the tank. A tank system classified as a UST may not be re-classified as being a non-UST unless there has been a change-in-service as provided in this Section.
- b) From a Regulated Substance to a Regulated Substance. A change-in-service also consists of a conversion of a petroleum UST to a non-compatible petroleum UST or a hazardous substance UST to a non-compatible hazardous substance UST or a petroleum UST to a hazardous substance UST and vice versa. Before a change-in-service, owners or operators shall empty and clean the tank by removing all liquid and accumulated sludge in accordance with the requirements of Sections 175.500(a) and (c) and 175.830(a), including API 2015, incorporated by reference in 41 Ill. Adm. Code 174.210. The owner or operator shall verify that the UST meets the requirements of a hazardous material system if being changed over to a hazardous material substance, including requirements for secondary containment with interstitial monitoring after December 22, 1998. (See Section 175.415~~(e)~~ and ~~(d)~~ regarding when an existing UST is converted to a blended or alternative fuel.)

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- c) From a Non-Regulated Substance to a Regulated Substance. A non-UST, which is used to store a non-regulated substance, may not be converted to a UST unless the tank has been re-certified and is in compliance with all applicable upgrade requirements for newly installed USTs. A waste oil tank that is supplying fuel to a waste oil furnace and is taken out of service shall be no longer classified as a heating oil tank. If the tank does not meet all upgrade requirements for release detection, spill, overfill and corrosion protection, the tank shall be removed.
- d) For all activity related to a change-in-service, the equipment must be compatible with the product being stored and notification of change-in-service must be ~~submitted~~provided on the Notification for Underground Storage Tanks form (available at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx>)~~OSFM forms at www.state.il/osfm/PetroChemSaf/Notify.pdf~~ to OSFM not less than 30 days prior to the change-in-service.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.830 Removal of USTs

- a) For tank removals, the following requirements and procedures shall be followed:
- 1) Compliance with subsections (a)(2) through (a)(18) is the responsibility of the contractor.
 - 2) Except as otherwise provided in this Section, the procedures of API 1604, incorporated by reference in 41 Ill. Adm. Code 174.210, shall be followed for vapor freeing and inerting procedures.
 - 3) Secure proper permitting and schedule removal date with OSFM. A new permit and fee will be required when there is a failure to meet the Date Certain schedule established under Section 175.320, including not showing for the inspection, not being completely ready for the inspection, allowing the permit to expire before the inspection, or not cancelling the job before 6:00 a.m. the morning of 24 hours prior to the scheduled activity. (See Section 175.300 for additional permit requirements.)
 - 4) Maintain all combustible gas indicator equipment according to manufacturer's specifications.

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- 5) Establish an exclusion zone within which smoking is prohibited, which shall include all hazardous (classified) locations/areas where work related to removal is being conducted. The use of spark producing/non-explosion proof equipment is prohibited in the vapor hazard area prior to removal of product and sludges and attaining the lower explosive limit (LEL)/oxygen levels required in subsection (a)(9).
- 6) Excavate to the top of the tank. Drain product from piping into the tank or into approved drums, being careful to avoid any spillage to the excavation area. Safely disconnect product piping from the tank, and remove the piping. Pipe trenches shall remain open for inspection by an OSFM Storage Tank Safety Specialist (STSS). Further excavation below the top of the tank is not allowed until STSS has verified that tank conditions meet the LEL/oxygen criteria of subsection (a)(9).
- 7) Remove all liquids from the tank using explosion-proof pumps or hand pumps. When suctioning product out of tanks, plastic pipes shall not be allowed as a suction tube.
- 8) Regularly monitor the tank atmosphere and the excavation area with a combustible gas indicator for flammable or combustible vapor concentration until the tank is removed from both the excavation and the site. Monitoring the UST shall be done at 3 levels in the tank: top, middle and bottom. A confined space entry permit shall be obtained prior to tank entry and [Safety Data Sheets \(SDS\)](#)~~MSDS sheets~~ must be on site.
- 9) Regularly monitor the tank to insure explosive conditions do not exist. A maximum of 5% of the LEL, or 5% or less oxygen concentration, shall be attained before the tank is considered safe for removal, instead of ~~1020%~~, as required in the API 1604. Dry ice shall not be allowed as a method of inerting tanks as referred to in API 1604.
- 10) Bond all devices to the tank and ground the tank to a separate ground when vapor freeing the tank with compressed air or using inert gases under pressure. When using inert gases the cylinder shall be equipped with a pressure gauge, so that no more than 5 psi can be discharged into the tank during vapor freeing procedures. To ensure and maintain proper grounding and bonding, the connections shall be tested by the contractor

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for continuity. This testing shall be done with equipment designed for continuity testing. When vapor freeing of tanks, plastic pipes shall not be allowed as a vent tube on eductors.

- 11) Plug and cap all accessible tank holes. One plug should have an 1/8 inch vent hole.
- 12) Excavate around the tank to prepare for removal. This shall include excavation along one side and one end, from top to bottom.
- 13) A STSS shall be on site before hot work can proceed.
- 14) With STSS on site, remove tank from the ground. Equipment with sufficient lifting capacity shall be used to lift the tank from the excavation and must be rated as appropriate for the particular site and excavation.
- 15) Protective Equipment and Tank Cleaning Requirements
 - A) Cleaning procedures shall be in accordance with API 2015, incorporated by reference in 41 Ill. Adm. Code 174.210. Personal protection requirements for tank cleaning personnel shall, at a minimum, include the following:
 - i) protective respiratory equipment for tank cleaning personnel shall be the type that provides supplied positive air pressure to a full-face mask throughout the breathing cycle during all cleaning operations, in accordance with API 2015~~supplied air with full face mask~~;
 - ii) level B personal protective equipment with body harness and tag line;
 - iii) protective booties;
 - iv) continual monitoring of LEL and oxygen during cleaning;
and
 - v) attendant/observer;

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- vi) ~~positive flow of fresh air supplied during all cleaning operations.~~
- B) Requirements in subsection (a)(15)(A) shall not apply in the event that no physical entry is made into the tank.
- 16) Any UST removed from the excavation zone shall be properly cleaned on site the day of the removal and removed from the site within 24 hours.
- 17) Tanks larger than 2,000 gallons in capacity shall have holes or openings no less than 3 feet x 3 feet, one on each end or side, for cleaning. Tanks less than 2,000 gallons capacity shall have one entire side removed from end to end and shall be no less than 3 feet wide.
- 18) The use of spark producing/non-explosion proof equipment is prohibited in the vapor hazard area prior to attaining the LEL/oxygen levels required in subsection (a)(9).
- 19) The tank owner must ~~submit file~~ an amended Notification ~~for~~ Underground Storage Tanks on OSFM forms (available at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx>)~~provided by OSFM at www.state.il.gov/OSFM/PetroChemSaf/Notify.pdf to~~ with OSFM within 30 days after the tank removal.
- 20) If an STSS has observed evidence of a release, the owner, operator or designated representative of the UST owner/operator must notify the Illinois Emergency Management Agency. This is to be done at the site immediately following the field determination and the incident number shall be given to the STSS prior to his/her leaving the site.
- 21) All ~~tank~~ removals require a site assessment pursuant to 41 Ill. Adm. Code 176.330.
- 22) Any tank being removed without an OSFM permit will be required to be put back in the excavation and vented to 12 feet above grade if it has not been removed from the site and covered with backfill until a permit and licensed contractor can remove it properly.

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b) Bunker Tanks

- 1) A commercial heating oil or emergency power generator tank situated below grade, in a basement, on a floor, and enclosed in a masonry wall structure, with the tank completely or partially covered by sand, or otherwise not fully accessible to inspection, commonly referred to as a "bunker tank", meets the definition of a UST (see 41 Ill. Adm. Code 174.100). Removal of a bunker tank shall require the owner or operator to hire a licensed decommissioning contractor to secure proper permitting and schedule the removal pursuant to Section 175.320.
- 2) That section of the enclosing masonry partition wall that is not part of the building's basement exterior wall will need to be dismantled, and all sand within the enclosure removed. Both masonry rubble and sand from the enclosure will be hauled off as special waste under manifest by a licensed waste hauler (see 35 Ill. Adm. Code 808 and 809).
- 3) The exposed tank will be emptied as much as possible of any residual liquids, and the area will be monitored for vapors, and ventilation provided as needed to maintain LELs of 5% or less. No further work on the tank removal will be allowed unless the STSS is on site.
- 4) With the STSS on site and LELs at a maximum of 5%, the tank will be accessed for cleaning. Tanks larger than 2,000 gallons in capacity shall have holes or openings no less than 3 feet x 3 feet, one on each end or side, for cleaning. Tanks less than 2,000 gallons capacity shall have one entire side removed from end to end and shall be no less than 3 feet wide.
- 5) Once cleaned, the tank will be cut up on site, the pieces removed from the building, and all parts of the tank scrapped.
- 6) Once the enclosure wall, sand and tank have been properly removed, the area where the bunker tank had been will be evaluated under the direction of the STSS on site.
 - A) For bunker tanks, soil sampling and a site assessment will be required if either of the following conditions are found:

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- i) Evidence indicating product may have migrated from the bunker tank to the environment beyond the floor or walls of the building it was located within, such as finding free product in a drain; or
 - ii) Evidence is seen of both leakage of product on the floor or building wall where the bunker tank was located, and the area of floor or wall associated with evidence of leakage of product from the bunker tank is deteriorated or cracked such that there is a possibility of the product having migrated beyond the enclosure confines.
 - B) In the event that any of the conditions described in subsection (b)(6)(A)(i) or (ii) are found, samples will be obtained from soil borings from beneath the floor or from outside the wall from areas where contamination is most likely to be present, based on the evidence discovered. Samples will be submitted for analysis and the release shall be reported if indicated.
 - C) In the event that none of the conditions described in subsection (b)(6)(A)(i) or (ii) are found, no samples from soil borings will be required, and no incident shall be reported.
 - D) The STSS on site will clearly document his/her observations under "Remarks" on the Log of Removal, noting whether any of the conditions listed in subsections (b)(6)(A)(i) and (ii) were present.
- 7) In addition to submitting the OSFM Site Assessment Results Report form, the following supplemental documentation shall also be submitted to OSFM to properly close the removal of a bunker tank. The form is available at the website cited in subsection (a)(19).
- A) If there is "Contamination" being reported:
 - i) The report from the lab, including analytical results derived from the soil samples showing locations of the samples taken, shall be attached to the OSFM Site Assessment Results Report;

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- ii) The OSFM form indicating "Contamination" shall be signed by a Professional Engineer or a Professional Geologist;
 - iii) The IEMA Incident Number from the release report shall be recorded on the OSFM form; and
 - iv) The box indicating "Bunker Tank" shall be marked on the OSFM form.
- B) If there is "No Contamination" being reported:
- i) A letter from the contractor shall be submitted, attesting to the proper handling of the debris generated by the removal and a description of the condition of the floor and building walls of the former enclosure (see subsection (b)(6)(A)(ii));
 - ii) A copy of the hauler's manifests for the sand and masonry rubble shall be submitted;
 - iii) The box indicating "Bunker Tank" shall be marked on the form; and
 - iv) The OSFM form indicating "No Contamination" shall be submitted, and may be signed by the property owner.
- cb) Disposal of Tanks
- 1) If a tank is to be scrapped as junk, it shall be retested for combustible or flammable vapors and, if necessary, rendered gas free.
 - 2) If the tank last contained leaded gasoline, an unknown petroleum product or a hazardous substance, it may only be scrapped or junked, recertified, or discarded at a special waste or hazardous waste landfill as designated by Illinois EPA regulations. If tanks are being re-certified, the contractor must give written notice to OSFM on the removal permit as to the intent to re-certify and re-use the tanks being removed. The re-certified tank must be re-installed within 6 months from removal.

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- 3) Removed tanks may not be reused for any purpose other than those allowed by OSFM rules (proper disposal at an approved landfill, scrapped or junked after proper cleaning, or recertified pursuant to OSFM rules).
- 4) Compliance with this subsection (~~c~~**b**) is the responsibility of the contractor.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 175.840 Abandonment-in-Place

- a) No tank or piping may be abandoned-in-place unless the permit applicant demonstrates eligibility for a waiver of the removal requirement for the tank and/or piping. The waiver shall be granted only in the following instances:
 - 1) where it would be infeasible to remove the UST due to loss of adjacent or subjacent support of nearby structures, such as railroad tracks, streets (as defined in Section 1-201 of the Illinois Vehicle Code [625 ILCS 5/1-201]), and other USTs;
 - 2) removal is infeasible because of inaccessibility, as determined by OSFM; or
 - 3) in unusual situations where removal is infeasible due to other reasons, as determined by OSFM.
- b) In the event there is a delegation of authority to the City of Chicago to enforce UST rules and regulations, pursuant to the Gasoline Storage Act [430 ILCS 15/2], subject to the terms of such agreement, the City has the authority to modify subsection (d) of this Section, to issue permits to abandon in-place USTs located within the jurisdiction of the City and request records of abandonment-in-place; however, any criteria for abandonment-in-place shall be as stringent as that of OSFM. Tanks, inside the jurisdiction of the City of Chicago, which were abandoned-in-place prior to July 28, 1989 (the date of repeal of home rule by the City over USTs) in accordance with City laws, regulations or ordinances, need not be removed so long as a condition under subsection (a) allowing abandonment continues to exist.

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- c) Tanks, outside the jurisdiction of the City of Chicago, filled with inert material, as described in subsection (d)(~~1314~~), prior to October 1, 1985, need not be removed so long as a condition under subsection (a) allowing abandonment exists; however, the owners shall provide documentation of fill material and date of fill, upon request by OSFM. The documentation shall be a receipt or a written statement from the contractor who did the fill, a statement from the inspector who inspected the tank or a written statement from anyone designated by the State Fire Marshal or the Director of the Division of Petroleum and Chemical Safety.
- d) For UST abandonment-in-place, the following requirements and procedures shall be followed:
- 1) ~~An OSFM permit under Section 175.300 shall be obtained and the work scheduled with OSFM on-site evaluation shall be done by the owner or operator, or designated representative, to prepare an accurate Certification of Site Condition with site drawings. If the ability to abandon in place is questioned, a third party professional structural engineer may be used to determine the feasibility of removal in order to verify that the tank is or is not eligible to be abandoned in place pursuant to subsection (a).~~
 - 2) Except as otherwise provided in this Section, the procedures of API 1604 shall be followed for vapor freeing and inerting procedures.
 - 3) ~~Proper permitting shall be obtained.~~
 - A) ~~A complete plan or diagram of the area shall be provided and show the location of tanks, fill pipes, vent lines, sewers, streets, product lines and buildings;~~
 - B) ~~A Certification of Site Condition shall be provided, which includes, but is not limited to, facility name and location, number and size of USTs involved and that the subject UST site is clean or contaminated. This Certification of Site Condition shall be based on a professional site assessment from soil sampling and this site assessment must accompany the site certification form (www.state.il.us/osfm/Techservices/doc/TS101-Abandonment_In_Place_032008.Doc); and~~

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☞ ~~A description of the specific inert material to be used shall be indicated on the permit application.~~

- 34) All health and safety monitoring equipment shall be maintained according to manufacturer's specifications.
- 45) An exclusion zone shall be established, within which smoking is prohibited. The exclusion zone shall include all hazardous (classified) locations/areas where work related to abandonment-in-place is being conducted. The use of spark producing/non-explosion proof equipment is prohibited in the vapor hazard area prior to removal of product and sludges and attaining the LEL/oxygen levels required in subsection (d)(940).
- 56) Upon excavating to the top of the tank, on-site personnel shall drain product into approved drums or other approved receptacles and remove all piping except the vent line. Any associated piping to be abandoned-in-place shall be properly secured or capped and have prior approval by OSFM. Pipe trenches shall remain open for inspection by OSFM Storage Tank Safety Specialist (STSS). Further excavation below the top of the tank is not allowed until STSS is present and has verified that tank conditions meet the LEL/oxygen criteria of subsection (d)(940).
- 67) All liquids shall be removed from the tank using explosion-proof pumps or hand pumps.
- 78) The tank atmosphere and the excavation area shall be regularly monitored with a combustible gas indicator for flammable or combustible vapor concentration. Monitoring the UST shall be done at 3 levels in the tank: top, middle and bottom. A confined space entry permit shall be obtained prior to tank entry and ~~SDSMSDS sheets~~ must be on site.
- 89) Vapor freeing shall be done in accordance with API 1604, except that dry ice shall not be allowed as a method of inerting tanks. When vapor freeing the tank with compressed air or using inert gases under pressure, all devices shall be bonded to the tank and the tank shall be grounded to a separate ground. When using inert gases, the cylinder shall be equipped with a pressure gauge so that no more than 5 psi can be discharged into the tank during vapor freeing procedures. To ensure and maintain proper

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grounding and bonding, the connections shall be tested by the contractor for continuity. This testing shall be done with equipment designed for continuity testing. When vapor freeing a tank, plastic pipes shall not be allowed as a vent tube on eductors.

- ~~9~~10) The tank shall be regularly monitored to insure that explosive conditions do not exist. A maximum of 5% of the LEL, or 5% or less oxygen concentration, shall be attained before the tank is considered safe for abandonment.
- ~~10~~11) An STSS shall be on site before hot work can proceed.
- ~~11~~12) A sufficient number of holes or openings shall be made in the tank for abandonment-in-place procedures if existing openings are not adequate.
- ~~12~~13) Cleaning procedures shall be in accordance with API 2015, incorporated by reference in 41 Ill. Adm. Code 174.210. Protective respiratory equipment for tank cleaning personnel shall be the type that provides positive air pressure to a full-face mask throughout the breathing cycle, in accordance with API 2015.
- ~~13~~14) After cleaning, on-site personnel shall proceed to introduce an OSFM-approved, inert material through openings in the top of the tank to minimize any surface settling subsequent to abandonment of the tank in place. Allowed inert material shall be limited to sand, gravel, clay, bentonite or inert material mixed with portland cement to increase flowability. The portland cement concentration may not exceed 50 lbs. per cubic yard of mixed material. Any other materials must be approved by OSFM during the permit process. The procedure for filling shall be in accordance with API 1604.
- ~~14~~15) After the tank is filled with inert material, all tank openings shall be plugged or capped unless it was necessary to cut open the tank top. The vent line shall be disconnected, capped and removed.
- ~~15~~16) The tank owner must ~~submitfile~~ an amended Notification ~~foref~~ Underground Storage Tanks on OSFM forms (available at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx>) to ~~www.state.il/OSFM/~~

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~~www.state.il/osfm/PetroChemSaf/Notify.pdf~~ with OSFM within 30 days after the abandonment-in-place.

- 16) If an STSS has observed evidence of a release, the owner, operator or designated representative of the UST owner/operator must notify IEMA. This is to be done at the site immediately following the field determination and the incident number shall be given to the STSS prior to his/her leaving the site.
- 17) Every abandonment-in-place requires a site assessment (see 41 Ill. Adm. Code 176.330).
- 1847) When a UST is abandoned-in-place, the owner of the UST shall keep a permanent record of the UST location, the date of abandonment-in-place and the procedure used for abandonment-in-place. ~~Upon request by OSFM, Division of Petroleum and Chemical Safety, the owner shall forward a copy of the record to OSFM, within 14 days after receipt of a written request by OSFM sent to the last known address by U.S. registered or certified mail.~~
- e) When a UST is allowed to be abandoned-in-place, as specified in this Section, the abandoned-in-place UST shall be removed when the condition for issuing the abandonment permit no longer exists. The removal procedures shall be followed and a removal permit is required.
- f) Compliance with subsections (d)(1) through (d)(~~1445~~) is the responsibility of the contractor.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART I: UST SYSTEMS WITH FIELD-CONSTRUCTED TANKS AND
AIRPORT HYDRANT FUEL DISTRIBUTION SYSTEMS

Section 175.900 General Requirements

- a) Implementation of requirements. Owners and operators must comply with the requirements of this Part for UST systems with field-constructed tanks and airport hydrant systems as follows:

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- 1) For UST systems installed on or before October 13, 2015 the requirements are effective according to the following schedule:

<u>Requirement</u>	<u>Effective Date</u>
<u>Upgrading UST systems; general operating requirements; and operator training</u>	<u>October 13, 2018</u>
<u>Release detection</u>	<u>October 13, 2018</u>
<u>Release reporting, response, and investigating; closure; financial responsibility and notification (except as provided in subsection (b))</u>	<u>October 13, 2018</u>

- 2) For UST systems installed after October 13, 2015, the requirements apply at installation.

- b) Not later than October 13, 2018, all owners of previously deferred UST systems must submit a one-time notice of tank system existence to OSFM, using the form required by 41 Ill. Adm. Code 176.440. Owners and operators of UST systems in use as of October 13, 2015 must demonstrate financial responsibility at the time of submission of the notification form.
- c) Except as provided in Section 175.910, owners and operators must comply with the requirements of 41 Ill. Adm. Code 174, 175, 176 and 177.
- d) Airport hydrant systems and field constructed tanks shall be designed and constructed by professional engineers with training and experience in the design of those systems. In addition to the other codes of practice listed in 41 Ill. Adm. Code 174.210, owners and operators may use military construction criteria, such as Unified Facilities Criteria (UFC) 3-460-01, Petroleum Fuel Facilities, or may also use NFPA 407 Standard for Aircraft Fuel Servicing when designing, constructing and installing airport hydrant systems and field-constructed tanks, when applicable.

(Source: Added at 42 Ill. Reg. _____, effective _____)

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Section 175.910 Additions, Exceptions, and Alternatives for UST Systems with Field-Constructed Tanks and Airport Hydrant Systems

- a) Exception to piping secondary containment requirements. Owners and operators may use single-walled piping when installing or replacing piping associated with UST systems with field-constructed tanks greater than 50,000 gallons and piping associated with airport hydrant systems. Piping associated with UST systems with field-constructed tanks less than or equal to 50,000 gallons and not part of an airport hydrant system must meet the secondary containment requirement when installed or replaced.

- b) Upgrade requirements. Not later than October 13, 2018, airport hydrant systems and UST systems with field-constructed tanks, when installation commenced on or before October 13, 2015, must meet the following requirements or be permanently closed pursuant to Section 175.830 or 175.840.
 - 1) Corrosion protection. UST system components in contact with the ground that routinely contain regulated substances must meet one of the following:
 - A) Except as provided in subsection (a), the new UST system performance standards for tanks at Section 175.400 and for piping at Section 175.420; or
 - B) Be constructed of metal and be cathodically protected, according to a code of practice developed by a nationally recognized association or independent testing laboratory, and meet the following:
 - i) Cathodic protection must meet the requirements of Sections 175.400(b) and 175.510 for tanks and Sections 175.420(a) and 175.510 for piping.
 - ii) Pursuant to Section 175.510(a), tanks without cathodic protection must be assessed to ensure the tank is structurally sound and free of corrosion holes prior to adding cathodic protection. The assessment must be by internal inspection or another method determined by OSFM to adequately assess the tank for structural soundness and corrosion holes.

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- 2) Spill and overfill prevention equipment. To prevent spilling and overfilling associated with product transfer to the UST system, all UST systems with field-constructed tanks and airport hydrant systems must comply with new UST system spill and overfill prevention equipment requirements specified in Section 175.405.

- c) Walkthrough inspections. In addition to the walkthrough inspection requirements in 41 Ill. Adm. Code 176.655(b), owners and operators must inspect the following additional areas for airport hydrant systems at least once every 30 days, if confined space entry according to the Occupational Safety and Health Administration (see 29 CFR 1910) is not required, or at least annually, if confined space entry is required, and keep documentation of the inspection (see 41 Ill. Adm. Code 176.655(b)).
 - 1) Hydrant pits: Visually check for any damage; remove any liquid or debris; check for any leaks.
 - 2) Hydrant piping vaults: Check for any hydrant piping leaks.

- d) Release detection. Owners and operators of UST systems with field-constructed tanks and airport hydrant systems, when installation commenced on or before October 13, 2015, must begin meeting the release detection requirements described in this Subpart not later than October 13, 2018.
 - 1) Methods of release detection for field-constructed tanks. Owners and operators of field-constructed tanks with a capacity less than or equal to 50,000 gallons must meet the release detection requirements in Subpart F. Owners and operators of field-constructed tanks with a capacity greater than 50,000 gallons must meet either the requirements in Subpart F (except Section 175.630(d) and (e) must be combined with inventory control (see subsection (d)(1)(E)) or use one or a combination of the following alternative methods of release detection:
 - A) Conduct an annual tank tightness test that can detect a 0.5 gallon per hour leak rate;
 - B) Use an automatic tank gauging system to perform release detection at least every 30 days that can detect a leak rate less than or equal

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to one gallon per hour. This method must be combined with a tank tightness test that can detect a 0.2 gallon per hour leak rate performed at least every 3 years;

- C) Use an automatic tank gauging system to perform release detection at least every 30 days that can detect a leak rate less than or equal to 2 gallons per hour. This method must be combined with a tank tightness test that can detect a 0.2 gallon per hour leak rate performed at least every 2 years;
- D) Perform vapor monitoring (conducted in accordance with Section 175.630(d) for a tracer compound placed in the tank system) capable of detecting a 0.1 gallon per hour leak rate at least every 2 years;
- E) Perform inventory control (conducted in accordance with the ATA Airport Fuel Facility Operations and Maintenance Guidance Manual or equivalent procedures) at least every 30 days that can detect a leak equal to or less than 0.5% of flow-through and either:
- i) Perform tank tightness test that can detect a 0.5 gallon per hour leak rate at least every 2 years;
 - ii) Perform vapor monitoring or groundwater monitoring (conducted in accordance with Section 175.630(d) and (e), respectively, for the stored regulated substance) at least every 30 days; or
- F) Another method approved by OSFM if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in subsections (d)(1)(A) through (d)(1)(E). Demonstration of any such method shall be submitted in writing to OSFM. In comparing methods, OSFM shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method is approved, the owner or operator shall comply with any conditions imposed by OSFM on its use to ensure the protection of human health and the environment. Before the utilization of the method, OSFM shall issue written approval.

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- 2) Methods of release detection for piping. Owners and operators of underground piping associated with field-constructed tanks less than or equal to 50,000 gallons must meet the release detection requirements in Subpart F. Owners and operators of underground piping associated with airport hydrant systems and field-constructed tanks greater than 50,000 gallons must follow either the requirements in Subpart F (except Section 175.630(d) and (e) must be combined with inventory control see subsection (d)(2)(B)) or use one or a combination of the following alternative methods of release detection:

A) Acceptable methods of leak detection:

- i) Perform a semiannual or annual line tightness test at or above the piping operating pressure in accordance with the following table.

Maximum Leak Detection Rate Per Test Section Volume

<u>Test Section Volume (gallons)</u>	<u>Semiannual Test leak detection rate not to exceed (gallons/hour)</u>	<u>Annual Test leak detection rate not to exceed (gallons/hour)</u>
<u><50,000</u>	<u>1.0</u>	<u>0.5</u>
<u>≥50,000 to <75,000</u>	<u>1.5</u>	<u>0.75</u>
<u>≥75,000 to <100,000</u>	<u>2.0</u>	<u>1.0</u>
<u>≥100,000</u>	<u>3.0</u>	<u>1.5</u>

- ii) Piping segment volumes ≥100,000 gallons not capable of meeting the maximum 3.0 gallon per hour leak rate for the semiannual test may be tested at a leak rate up to 6.0 gallons per hour according to the following schedule:

Phase In For Piping Segments ≥100,000 Gallons In Volume

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<u>First Test</u>	<u>Not later than October 13, 2018 (may use up to 6.0 gph leak rate)</u>
<u>Second Test</u>	<u>Between October 13, 2018 and October 13, 2021 (may use up to 6.0 gph leak rate)</u>
<u>Third Test</u>	<u>Between October 13, 2021 and October 13, 2022 (must use 3.0 gph for leak rate)</u>
<u>Subsequent Tests</u>	<u>After October 13, 2022, begin using semiannual or annual line testing according to the Maximum Leak Detection Rate Per Test Section Volume table in subsection (d)(2)(A)(i)</u>

- B) Perform vapor monitoring (conducted in accordance with Section 175.630(d) for a tracer compound placed in the tank system) capable of detecting a 0.1 gallon per hour leak rate at least every 2 years;
- C) Perform inventory control (conducted in accordance with Department of Defense Directive 4140.25; ATA Airport Fuel Facility Operations and Maintenance Guidance Manual; or equivalent procedures) at least every 30 days that can detect a leak equal to or less than 0.5% of flow-through and either:
- i) Perform a line tightness test (conducted in accordance with subsection (d)(2)(A) using the leak rates for the semiannual test) at least every 2 years; or
 - ii) Perform vapor monitoring or groundwater monitoring (conducted in accordance with Section 175.630(d) or (e), respectively, for the stored regulated substance) at least every 30 days; or
- D) Another method approved by OSFM if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in subsections (d)(2)(A) through (d)(2)(C). Demonstration of any such method shall be submitted

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in writing to OSFM. In comparing methods, OSFM shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method is approved, the owner or operator shall comply with any conditions imposed by OSFM on its use to ensure the protection of human health or the environment. Before the utilization of the method, OSFM shall issue written approval.

- 3) Recordkeeping for release detection. Owners and operators must maintain release detection records according to the recordkeeping requirements in Section 175.650.
- e) Applicability of closure requirements to previously closed UST systems. When directed by OSFM, the owner and operator of a UST system, with field-constructed tanks or airport hydrant system permanently closed before October 13, 2015, must assess the excavation zone and close the UST system in accordance with Section 175.830 or 175.840, and 41 Ill. Adm. Code 176.Subpart C, if releases from the UST may, in the judgment of OSFM, pose a current or potential threat to human health and the environment.

(Source: Added at 42 Ill. Reg. _____, effective _____)

Section 175.920 Partial Exclusions for Aboveground Storage Tanks Associated with Airport Hydrant Systems and Field-Constructed Tanks

Aboveground storage tanks (ASTs) associated with airport hydrant systems and field-constructed tanks shall not be required to comply with 41 Ill. Adm. Code 174, 175, 176 and 177, except that they are required to comply with release reporting, response and corrective action requirements in 41 Ill. Adm. Code 176.300 through 176.360, and shall comply with 41 Ill. Adm. Code 160 and 180, as applicable. These ASTs shall also comply with the requirements for partially excluded USTs found at 41 Ill. Adm. Code 174.100 (definition of underground storage tank system).

(Source: Added at 42 Ill. Reg. _____, effective _____)

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Section 175.APPENDIX A UST Activity that Cannot Proceed Without an OSFM Inspector on Site

In addition to obtaining a permit pursuant to 41 Ill. Adm. Code 175.300, the UST activities listed in this Appendix A will require that the inspection be scheduled with OSFM as an OSI, meaning under circumstances where the work cannot proceed in the absence of having an STSS on site. (See Section 175.320, regarding scheduling of UST activity.) Proceeding without completion of the required OSFM inspection is a violation of OSFM rules.

~~Removal of a UST or UST system, or removal of an entire underground pipe run/Tank or piping removal (with the exception of piping that is repaired or replaced within the same trench)~~

Abandonment-in-place, tanks or piping

UST hot work/~~tank entry~~ (if cutting or penetration of tank shell ~~or work capable of providing a source of ignition or heat is involved, including for tank lining or lining inspection purposes~~)
(See definition of "hot work" at 41 Ill. Adm. Code 174.100)

Lining and lining inspection
Installation of a UST or UST system, or installation of an entire underground pipe run (See Section 175.320(c))

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 175.APPENDIX B The Type of OSFM Permit Required for Specific Permitted UST Activities

Pursuant to Section 175.300 and 41 Ill. Adm. Code 174.440 and 174.450, the UST activities listed in this Appendix B will require the kinds of permits listed in this chart. [A UST contractor portal for the on-line submission of permit applications and the scheduling of permitted work can be found at https://webapps.sfm.illinois.gov/USTPortal.](https://webapps.sfm.illinois.gov/USTPortal)

Type of UST Activity	Permit Required
Installation of a complete UST with all components, or installation of just the tank	Installation permit and motor fuel dispensing permit pursuant to Section 175.200
Installation of any portion of a UST (except corrosion protection or lining)	Upgrade permit and motor fuel dispensing permit pursuant to Section 175.200 as may be applicable
Removal of an UST or UST system, underground tank or removal of an entire underground pipe/piping run (with the exception of piping that is repaired or replaced within the same trench)	Removal permit
Removal of underground piping when the piping is replaced or repaired all within the same trench	Upgrade permit (requires at least one employee certified in the decommissioning module)
Abandonment-in-place of any tank or piping	Abandonment-in-place permit
UST repair to make an existing UST part functional, including flex connector replacement but not including lining or corrosion protection	Upgrade permit
Tank lining or tank lining inspections	Lining or interior lining inspection permit
Emergency repairs (excluding corrosion protection)	Upgrade permit (see the procedures of Section 175.710)
Repair or install cathodic protection or corrosion protection, including on flex connectors (but see wristband/spike anodes below)	Cathodic protection permit
Manway installation (no separate upgrade or entry permit for a manway is required where the original lining permit or lining inspection permit includes the installation of a manway)	Hot work/tank entry Upgrade permit

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UST activity requiring the cutting or penetration of the tank shell in any way (no separate hot work permit required where a lining or lining inspection , upgrade or other permit is being issued)	Hot work permit
Installation, upgrade or removal of leak detection systems	Upgrade permit
New spill containment (except that replacement of spill containment is a like-for-like replacement that requires only notification to OSFM pursuant to Section 175.300)	Upgrade permit
Installation or replacement of a remote fill	Upgrade permit
New or replaced overfill prevention equipment (except that replacement of drop tube valves and ball floats are like-for-like replacements that require only notification to OSFM pursuant to Section 175.300)	Upgrade permit
Installation or replacement of dispensers where piping or any other transitional components at or below the shear valve (including the shear valve) are replaced at the same time	Upgrade permit
Installation or replacement of an ATG unit (except that replacement of ATG probes are like-for-like replacements that require only notification to OSFM pursuant to Section 175.300)	Upgrade permit
Installation or replacement of a flex connector connector (only)	Upgrade permit
Installation of wristband anodes or spike anodes on an existing flex connector (only)	Cathodic protection Upgrade permit
Installation or replacement of a flex connector and wristband anodes or spike anodes on the flex connector (only)	Cathodic protection Upgrade permit (shall also be licensed in the retrofitting/installation module)
Connecting a new or existing bulk load-out to a new or existing UST at a motor fuel dispensing facility	Upgrade permit (Installation permit if an entire UST is being installed)
Construction of a building or structure where loading or unloading or dispensing operations will occur	Motor fuel dispensing Installation permit pursuant to Section 175.200

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Site for the mobile fueling of commercial vehicle fleets (pursuant to Section 1(d)(C) of the Gasoline Storage Act [430 ILCS 15/2(1)(d)(C)])	Mobile fueling site permit (pursuant to 41 Ill. Adm. Code 174.440 and 174.450)
Tank vehicle to be used for the mobile fueling of commercial vehicle fleets (pursuant to Section 1(d)(C) of the Gasoline Storage Act [430 ILCS 15/2(1)(d)(C)])	Mobile fueling vehicle permit (pursuant to 41 Ill. Adm. Code 174.440 and 174.450)
Person, company, or other entity proposing to conduct mobile fueling using tank vehicles to be used for the mobile fueling of commercial vehicle fleets (pursuant to Section 1(d)(C) of the Gasoline Storage Act [430 ILCS 15/2(1)(d)(C)])	Mobile fueling contractor permit (pursuant to 41 Ill. Adm. Code 174.440 and 174.450)

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 175.APPENDIX C Derivation Table (Repealed)

The following table indicates the Sections of 41 Ill. Adm. Code 170 that formerly stated requirements identical to or related to those now located within this Part 175.

New Section	Old Section
175.100	170.400
.....	
175.200	170.150(a), (c), (e), 170.210(a), 170.310(d), 170.426(g)
175.210	170.150, 170.428(g)
175.220	170.310, 170.428(g)
175.230	None
175.240	None
175.250	170.145, 170.426(j), 170.428(e), (g), (m), 170.APPENDIX E
175.260	170.91, 170.160, 170.310(d), 170.426(l)
175.300	170.541, 170.APPENDIX E
175.310	170.542
175.320	170.543
.....	
175.330	170.441
175.400	170.420(a), (b)
175.405	170.420(c)
175.410	170.420(d)(19), 170.421(i)
175.415	170.470
175.420	170.420(d)(12), (13), 170.421

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175.425	170.421(f)
175.430	170.422
175.435	170.423
175.440	170.424
175.445	170.425
175.450	170.91, 170.150(d)(5), (6), 170.160(g), (h), 170.310(a)(1), (2), 170.426, 170.428(a), (h), (i), (j), (k), (l), 170.546(a)
175.455	170.150(d)(2), 170.420(d)(1), 170.545, 170.672(e)
175.460	170.426(j), 170.428(b), (c), (e), (l), 170.APPENDIX E
175.465	170.420(b)(3), (4), 170.420(d), 170.546(b)
175.500	170.430
175.510	170.460, 170.480(e)
175.600	170.450
175.610	170.500
175.620	170.520
175.630	170.530
175.640	170.540
175.650	170.550
175.700	170.480
175.710	170.481

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175.720	170.200, 170.427
175.800	170.660
175.810	170.411
175.820	170.630
175.830	170.670(a), (b), (c)
175.840	170.670(d)
175.APPENIDX A	None
175.APPENDIX B	None
175.APPENDIX C	None

(Source: Repealed at 42 Ill. Reg. _____, effective _____)

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- 1) Heading of the Part: Administrative Requirements for Underground Storage Tanks and the Storage, Transportation, Sale and Use of Petroleum and Other Regulated Substances
- 2) Code Citation: 41 Ill. Adm. Code 176
- 3)

<u>Section Numbers:</u>	<u>Proposed Actions:</u>
176.100	Amendment
176.200	Amendment
176.205	Amendment
176.215	Amendment
176.220	Amendment
176.225	Amendment
176.230	Amendment
176.235	Repealed
176.240	Amendment
176.250	Amendment
176.300	Amendment
176.310	Amendment
176.320	Amendment
176.330	Amendment
176.340	Amendment
176.360	Amendment
176.420	Amendment
176.430	Amendment
176.440	Amendment
176.455	New Section
176.470	Amendment
176.500	Amendment
176.505	Amendment
176.610	Amendment
176.615	Amendment
176.620	Amendment
176.625	Amendment
176.630	Amendment
176.635	Amendment
176.645	Amendment
176.650	Amendment
176.655	Amendment
176.APPENDIX A	Repealed

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- 4) Statutory Authority: Implementing and authorized by Section 2 of the Gasoline Storage Act [430 ILCS 15/2].
- 5) A Complete Description of the Subjects and Issues Involved: This rulemaking will revise the Illinois technical requirements for underground storage tank systems ("USTs") to conform to new federal regulatory requirements that became effective on October 13, 2015. These changes would include requiring federally acceptable proofs of compatibility for underground storage tanks, piping and all related system components whenever such systems store or dispense ethanol blends above 10% ethanol (E10) for gasoline or above 20% biodiesel (B20) for diesel. Federally required changes will also include monthly walkthrough inspections by Certified Operators, tightness testing of spill buckets and piping containments every three years, inspection of overfill prevention equipment every three years, prohibition of ball float vent valves at time of installation or replacement, full regulation of airport hydrant fueling systems, and full regulation of field constructed tanks. This rulemaking will also update these rules to incorporate and streamline current practices, including the electronic submission of reporting forms and permit applications. Increases the length of time for required repeat Operator training from two to four years and allows Class A and B Operators to avoid retraining in response to a Notice of Violation by electing to retrain every year. Makes non-substantive changes.
- 6) Published studies or reports, and sources of underlying data used to compose this rulemaking: Standards adopted by the National Fire Protection Association for installation and use of flammable and combustible liquids available at <http://www.nfpa.org> and portions of federal regulations at 40 CFR 280. Also various other codes as cited in the incorporations by reference Section (174.210) by such entities as the American Petroleum Institute, the Institute of International Banking Law and Practice, and the Petroleum Equipment Institute. Also, portions of US EPA FAQs on new UST rule requirements were reviewed and in part relied upon in promulgating these amendatory rules. These are posted on the US EPA web site at www.epa.gov/oust and are also available in the Office of the State Fire Marshal, 1035 Stevenson Drive, Springfield, IL. 62703.
- 7) Will this rulemaking replace any emergency rule currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No

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- 9) Does this rulemaking contain incorporations by reference? Yes. A variety of codes and standards developed by independent national associations and work groups have been incorporated and are available for public inspection at:

Office of the State Fire Marshal
1035 Stevenson Dr.
Springfield IL 62703-4259

fax: 217-524-9284

- 10) Are there any other rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objective: This rulemaking could have an impact on local government to the extent that local government units might own or operate an underground storage tank system.
- 12) Time, Place, and Manner in which interested persons may comment on this rulemaking: Persons wishing to comment on this proposed rulemaking may submit comments no later than 45 days after the publication of this Notice to:

Tom Andryk
Division of Legal Counsel
Office of the State Fire Marshal
1035 Stevenson Dr.
Springfield IL 62703-4259

217/785-5758
fax: 217/524-5487

- 13) Initial Regulatory Flexibility Analysis:
- A) Types of small businesses, small municipalities and not-for-profit corporations affected: This rulemaking could have an impact on those small businesses, not-for-profit entities, and small municipalities that own and operate UST systems.
- B) Reporting, bookkeeping or other procedures required for compliance: UST system installations and upgrades have various reporting and permitting requirements as described in Parts 174, 175, and 176 (41 Ill. Adm. Code 174, 175,

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and 176). Typically the contractor obtains the permit on behalf of the owner/operator.

- C) Types of professional skills necessary for compliance: Owners and operators of USTs must ensure that all persons installing and doing work on UST systems have been trained appropriately and licensed by OSFM.
- 14) Regulatory Agenda on which this rulemaking was summarized: July 2017 & January 2018

The full text of the Proposed Amendments begins on the next page:

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TITLE 41: FIRE PROTECTION
CHAPTER I: OFFICE OF THE STATE FIRE MARSHAL

PART 176

ADMINISTRATIVE REQUIREMENTS FOR UNDERGROUND STORAGE TANKS
AND THE STORAGE, TRANSPORTATION, SALE AND USE OF
PETROLEUM AND OTHER REGULATED SUBSTANCES

SUBPART A: DEFINITIONS

Section
176.100 [Incorporation of](#) Definitions

SUBPART B: FINANCIAL ASSURANCE

Section
176.200 Definitions
176.205 Applicability
176.210 Amount
176.215 Mechanisms of Financial Responsibility
176.220 Proof of Financial Responsibility
176.225 Substitution of Financial Responsibility Mechanisms by an Owner or Operator
176.230 Cancellation or Non-Renewal by a Provider of Financial Assurance
176.235 Reporting by Owner or Operator ([Repealed](#))
176.240 Recordkeeping
176.245 Release from the Requirements
176.250 Bankruptcy or Other Incapacity of Owner, Operator or Provider of Financial Assurance

SUBPART C: RELEASE REPORTING AND SITE ASSESSMENT

Section
176.300 Reporting of Suspected Releases
176.310 Release Investigation Reporting and Site Assessment
176.320 Initial Response and Reporting of Confirmed Releases
176.330 Procedures for Site Assessments
176.340 Reporting and Cleanup of Spills and Overfills
176.350 Initial Release Abatement Measures
176.360 Assessing the Site at Removal of, Previously Removed, or Change-in-Service of

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USTs

SUBPART D: GENERAL TECHNICAL REQUIREMENTS,
INCLUDING REPORTING, RECORDKEEPING AND NOTIFICATION

Section

176.400	Delegation of Authority to Enforce UST Rules and Regulations
176.410	General Requirement to Maintain All Equipment
176.420	Requirement that UST Components Be Third Party Listed
176.430	Reporting and Recordkeeping
176.440	Notification Requirements for Purposes of UST Registration
176.450	UST Registration Fees
176.455	Payment of 1988 Annual UST Fee
176.460	Pre-'74 and Heating Oil USTs
176.470	Requirements for Conducting Precision Testing of Tanks and Piping, Cathodic Protection Testing, and Testing of Other UST Equipment

SUBPART E: HEARINGS AND ENFORCEMENT PROCEDURES

Section

176.500	Definitions
176.505	Enforcement Action
176.510	Grounds and Time for Appeal
176.515	Notice of Hearing
176.520	Continuances
176.525	Appearances
176.530	Service of Papers and Computation of Time
176.535	Stipulations
176.540	Evidence
176.545	Official Notice
176.550	Authority of Hearing Officer
176.555	Default
176.560	Post-Hearing Submissions
176.565	Transcripts
176.570	Final Order
176.575	License Suspension or Revocation and Assessment of Fines Against a Contractor
176.580	Assessment of Penalties
176.585	Subpoena – Fees and Mileage of Witnesses
176.590	Paper Hearings

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SUBPART F: OPERATOR TRAINING

Section	
176.600	Purpose
176.605	Scope
176.610	Definitions
176.615	Class A, B and C Operator Classifications
176.620	Training
176.625	Minimum Training Requirements
176.630	Examination Frequency
176.635	Approval of Required Training and Examination Location
176.640	Examination Fees
176.645	Recordkeeping
176.650	Out-of-Compliance Retraining
176.655	Periodic Operation and Maintenance Walkthrough Inspections and Written Facility Operations and Maintenance Plan; and Class A, B and C Operator Responsibilities
176.660	Violations

176.APPENDIX A Derivation Table ([Repealed](#))

AUTHORITY: Implementing the Gasoline Storage Act and authorized by Section 2 of the Gasoline Storage Act [430 ILCS 15].

SOURCE: Adopted at 34 Ill. Reg. 13485, effective September 2, 2010; amended at 36 Ill. Reg. 3187, effective February 15, 2012; amended at 42 Ill. Reg. _____, effective _____.

SUBPART A: DEFINITIONS

Section 176.100 [Incorporation of Definitions](#)

Unless otherwise provided in this Part, all terms in this Part shall have the definitions provided by 41 Ill. Adm. Code [174.100.174](#).

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART B: FINANCIAL ASSURANCE

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Section 176.200 Definitions

"Bodily Injury" means bodily injury, sickness or disease sustained by a person, including death at any time, resulting from a release of petroleum from a UST.

~~"IEMA" means the Illinois Emergency Management Agency.~~

"Occurrence" means an accident, including continuous or repeated exposure to conditions, that results in a release of petroleum into the environment from a UST.

~~"OSFM" means the Office of the State Fire Marshal.~~

"Property Damage" means physical injury to, destruction of, or contamination of tangible property, including all resulting loss of use of that property; or loss of use of tangible property that is not physically injured, destroyed or contaminated, but has been evacuated, withdrawn from use, or rendered inaccessible because of an occurrence.

"Provider of Financial Assurance" means an entity that provides financial assurance to an owner or operator of a UST through one or more mechanisms listed in Section 176.215, including the fiduciary of a designated savings account.

"Tangible Net Worth" means the tangible assets that remain after deducting total liabilities. These assets do not include intangibles such as goodwill and rights to patents or royalties. For purposes of this definition, "assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity as a result of past transactions.

"Underground Storage Tank Trust Fund" or "UST Fund" means the fund created as a special fund in the Illinois State Treasury at 415 ILCS 5/57.11.

~~"UST" means underground storage tank system.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.205 Applicability

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- a) This Subpart B applies to all owners or operators of USTs in the ground as of April 1, 1995 and implements Section 6.1 of the Gasoline Storage Act [430 ILCS 15/6.1], which imposes a State law financial assurance requirement of \$20,000 per owner or operator.
- b) All owners or operators of hazardous substance USTs are excluded from regulation under this Subpart B.
- c) Although the UST Fund assists certain petroleum UST owners in paying for corrective action or third-party liability (see 415 ILCS 5/57.9), for purposes of this Subpart the UST Fund is not considered a mechanism for the financial responsibility compliance required under Section 6.1 of the Gasoline Storage Act as implemented by this Subpart.
- d) ~~None of the financial responsibility mechanisms specified in Section 176.215 are required by OSFM to include a standby trust.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.215 Mechanisms of Financial Responsibility

Under Section 6.1 of the Gasoline Storage Act, only the following may be considered acceptable mechanisms for financial responsibility:

- a) Commercial or private insurance, including risk retention groups ~~(40 CFR 280.97, incorporated by reference in 41 Ill. Adm. Code 174.210);~~
- b) Self-insurance ~~(40 CFR 280.95, incorporated by reference in 41 Ill. Adm. Code 174.210)~~, if there is a tangible net worth of at least \$200,000;
- c) Guarantee ~~(40 CFR 280.96, incorporated by reference in 41 Ill. Adm. Code 174.210);~~
- d) Surety bond ~~(40 CFR 280.98, incorporated by reference in 41 Ill. Adm. Code 174.210);~~
- e) Letter of credit ~~(40 CFR 280.99, incorporated by reference in 41 Ill. Adm. Code 174.210);~~

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- f) Certificate of deposit;
- g) Designated savings account; or
- h) Any combination of the mechanisms listed in this Section.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.220 Proof of Financial Responsibility

- a) Proof of financial responsibility for Section 176.215(a), (b), (c), (d) or (e) shall be maintained on the respective OSFM forms, which may be complemented by industry customs and practices so long as the OSFM form language is utilized. The forms are available at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx>. Any requirement to submit original documents to OSFM on third party instruments shall be governed by ISP 98 Form 11.1 (Model Government Standby Form), incorporated by reference in 41 Ill. Adm. Code 174.210, located in 40 CFR 280, incorporated by reference in 41 Ill. Adm. Code 174.210. These forms shall be modified to comply with Section 176.210. It is the responsibility of tank owners or operators to modify the forms.
- b) Proof of financial responsibility for Section 176.215(f) or (g) shall be documented by written proof from the appropriate financial institution that is at all times current, as reflected by copies of the same records on file with the financial institution.
- c) The forms referenced in subsection (a) ~~of this Section~~ shall be renewed on an annual basis.
- d) A completed Certificate of Financial Responsibility~~An annual notification~~ indicating the financial responsibility mechanism chosen under Section 176.215 by the owner or operator, on forms provided by OSFM (available at the website cited in subsection (a) www.state.il.us/osfm/PetroChemSaf/home.htm, under "downloadable applications") shall be submitted~~sent~~ to OSFM on an annual basis.
- e) If a self-insurance mechanism (under Section 176.215(b)) is chosen, the facility shall submit~~send~~ copies of the required proof to OSFM on an annual basis, which shall include:

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- 1) the annual Certificate of Financial Responsibility~~notification~~ under ~~this~~ subsection (d), indicating the financial responsibility mechanism chosen;
 - 2) a letter by the owner's/operator's Chief Financial Officer that ~~may shall~~ include the items specified for this letter as stated in 40 CFR 280.95, but must demonstrate at least~~although it may show~~ a tangible net worth equal to or greater than \$200,000;
 - 3) a statement prepared by an independent public accountant that may include~~meets~~ the financial criteria and requirements of 40 CFR 280.95, but must demonstrate at least~~except that the statement may show~~ a tangible net worth equal to or greater than \$200,000, ~~which statement may be on the OSFM form provided for this purpose, found at www.state.il.us/osfm/PetroChemSaf/home.htm, under "downloadable applications"~~;
 - 4) Facilities that choose a self-insurance mechanism and are owned and operated by the US Government or the State of Illinois shall complete the annual Certificate of Financial Responsibility but shall not be required to provide the documentation described in subsections (e)(2) and (e)(3).
- ~~f~~e) The forms referenced in subsections (a), (b) and (c) ~~of this Section~~ shall include the name, address and facility identification number for each facility, as applicable.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.225 Substitution of Financial Responsibility Mechanisms by an Owner or Operator

- a) An owner or operator may substitute any alternative financial responsibility mechanism specified in Section 176.215, provided that at all times the owner or operator maintains an effective financial responsibility mechanism or combination of mechanisms that satisfies the requirements of this Subpart.
- b) After replacing a financial responsibility mechanism with a different mechanism~~obtaining alternative financial responsibility as~~ specified in Section

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176.215, an owner or operator may cancel the replaced financial responsibility mechanism by providing notice to the provider of financial assurance.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.230 Cancellation or Non-Renewal by a Provider of Financial Assurance

- a) Except as otherwise provided, a provider of financial assurance may cancel or fail to renew an assurance mechanism by sending notice of termination by certified mail to the owner or operator.
- 1) Termination of a guarantee, surety bond or letter of credit may not occur until 120 days after the date on which the owner or operator receives the notice of termination as evidenced by the return receipt.
 - 2) Termination of commercial or private insurance or risk retention group coverage may not occur until 60 days after the date on which the owner or operator receives the notice of termination as evidenced by the return receipt.
- b) If a provider of financial assurance cancels or fails to renew an assurance mechanism, ~~for reasons specified in Section 176.250(e),~~ the owner or operator must obtain ~~replacement~~ alternative coverage, in a ~~mechanism~~ form allowed by Section 176.215, within 60 days after receipt of the notice of termination. When the owner or operator fails to obtain ~~replacement~~ alternative coverage within 60 days after receipt of the notice of termination, the owner or operator shall notify OSFM of that failure, in writing, by certified mail, within 10 days. The notification to OSFM shall include:
- 1) Name and address of the provider of financial assurance;
 - 2) Effective date of termination;
 - 3) Evidence of the financial responsibility mechanism subject to the termination, maintained in accordance with Section 176.240(b); and
 - 4) Name, address and facility identification number for each affected facility.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 176.235 Reporting by Owner or Operator (Repealed)

- a) ~~An owner or operator shall certify compliance with the financial responsibility requirements in Section 176.215, as specified in the notification form provided by OSFM at www.state.il/osfm/PetroChemSaf/Notify.pdf, when notifying OSFM of any new or existing UST, in accordance with Section 176.440.~~
- b) ~~An owner or operator shall notify OSFM on an amended notification form when there is a change in status of financial responsibility, in accordance with Section 176.440(g).~~
- c) ~~OSFM may require an owner or operator to submit evidence of financial responsibility as described in Section 176.240(b) or other information relevant to compliance with this Subpart at any time. The request shall be in writing, sent by U.S. Mail, registered or certified, to the facility or owner's address on the most recent notification form submitted to OSFM.~~

(Source: Repealed at 42 Ill. Reg. _____, effective _____)

Section 176.240 Recordkeeping

- a) Owners or operators shall maintain evidence of all financial responsibility mechanisms used to demonstrate financial responsibility (pursuant to this Subpart) for a UST until released from the requirements of this Subpart under Section 176.245. An owner or operator shall maintain that evidence at the UST site or the owner's or operator's principal place of business. Records maintained off-site shall be made available upon written or oral request from OSFM, ~~sent by U.S. Mail, registered or certified, to the facility or owner's address on the most recent notification form submitted to OSFM, and the recipient shall comply within 10 days after receipt.~~
- b) An owner or operator shall maintain a copy of the following types of evidence of financial responsibility:
 - 1) An owner or operator using a financial responsibility mechanism as specified in Section 176.215 shall maintain a copy of the instrument required under Section 176.220.

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- 2) An owner or operator using a financial test or guarantee shall maintain a copy of the chief financial officer's letter based on year-end financial statements for the most recent completed financial reporting year. This evidence shall be on file no later than ~~180~~120 days after the close of the financial reporting year. The letter by the Chief Financial Officer shall be accompanied by the documents identified in Section ~~176.220(e)(1) and (e)(3)~~176.220(d)(1) and (d)(3) and ~~may shall~~ include the items specified for this letter in 40 CFR 280.95, ~~but must demonstrate at least~~although it ~~may show~~ a tangible net worth equal to or greater than \$200,000.
- 3) An owner or operator using a commercial or private insurance policy or risk retention group coverage shall maintain a copy of the signed insurance policy or risk retention group coverage policy, with the endorsement or certificate of insurance and any amendments to the agreement.
- 4) ~~An owner or operator using a financial responsibility mechanism as specified in Section 176.215 shall maintain an updated copy of a certification of financial responsibility (see 40 CFR 280.111(b)(11), incorporated by reference in 41 Ill. Adm. Code 174.210).~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.250 Bankruptcy or Other Incapacity of Owner, Operator or Provider of Financial Assurance

- a) Within 10 days after commencement of a voluntary or involuntary proceeding for relief under the United States Bankruptcy Code (11 USC 101 et seq.) naming an owner or operator as debtor, the owner or operator must notify OSFM by certified mail of that commencement and submit the appropriate forms listed in Section 176.240(b), documenting current financial responsibility.
- b) Within 10 days after commencement of a voluntary or involuntary proceeding for relief under the United States Bankruptcy Code naming a guarantor providing financial assurance as debtor, the guarantor must notify the owner or operator by certified mail of that commencement ~~as required under the terms of the guarantee specified in 40 CFR 280.96, incorporated by reference in 41 Ill. Adm. Code 174.210.~~

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- c) An owner or operator who obtains financial assurance by a mechanism other than the financial test of self-insurance will be deemed to be without the required financial responsibility in the event of a bankruptcy or incapacity of its provider of financial assurance or a suspension or revocation of the authority of the provider of financial assurance to issue a guarantee, commercial or private insurance policy, risk retention group coverage policy, surety bond, letter of credit or certificate of deposit or act as fiduciary of a designated savings account. The owner or operator must obtain alternative financial assurance as specified in Section 176.215 within 30 days after receiving notice of such an event. ~~If the owner or operator does not obtain alternative coverage within 30 days after notification, the owner or operator shall notify OSFM in writing, sent by certified mail, within 10 days after receiving notice of the bankruptcy event.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART C: RELEASE REPORTING AND SITE ASSESSMENT

Section 176.300 Reporting of Suspected Releases

- a) Owners or operators of USTs shall immediately report to IEMA (from Illinois, 1-800-782-7860; from outside Illinois, 217/782-7860) and follow the procedures in Sections 176.310, 176.320(b) and (c) and 176.350 in any of the following situations:
- 1) The discovery by owners, operators, product delivery drivers or others of released regulated substances at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer or utility lines or nearby surface water);
 - 2) Unusual operating conditions observed by owners or operators (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST or an unexplained presence of water in the tank, or liquid in the interstitial space of any secondarily contained systems), ~~unless: system equipment is found to be defective but not leaking and is immediately repaired or replaced; or~~
 - A) The system equipment or component is found not to be releasing regulated substances to the environment;

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- B) Any defective system equipment or component is immediately repaired or replaced; and
 - C) For secondarily contained systems, except as provided for in 41 Ill. Adm. Code 175.630(f)(1)(B)(iv), any liquid in the interstitial space not used as part of the interstitial monitoring method (for example, brine filled) is immediately removed;
- 3) Monitoring results, including investigation of an alarm, from a release detection method required under 41 Ill. Adm. Code 175.620, 175.630 or 175.640 that indicate a release may have occurred, unless one or more of the following exists:
- A) The monitoring device is found to be defective and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result; ~~or~~
 - B) The leak is contained in the secondary containment and:
 - i) Except as provided for in 41 Ill. Adm. Code 175.630(f)(1)(B)(iv), any liquid in the interstitial space not used as part of the interstitial monitoring method (for example, brine filled) is immediately removed; and
 - ii) Any defective system equipment or component is immediately repaired or replaced;
 - ~~C~~) In the case of monthly inventory control, described in 41 Ill. Adm. Code 175.Subpart I, a second month of data does not confirm the initial result or the investigation determines that no release has occurred; or; however, the immediate reporting requirement under this Section remains in effect.
 - D) The alarm was investigated and determined to be a nonrelease event (for example, from a power surge or caused by filling the tank during release detection testing).
- b) In addition to IEMA, the 911 call center shall immediately be called when a suspected release presents a hazard to life, for example, when observations

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demonstrate the presence of petroleum or hazardous substance vapors in sewers or basements or free product near utility lines, or where a sheen is present on a body of water.

- c) Once a release has been confirmed under the procedures of Section 176.310, the reporting procedures of Section 176.320 shall apply.
- d) Notification of Suspected Release at the Direction of the storage tank safety specialist (STSS) employed by OSFM.~~STSS.~~ The owner, operator or designated representative of the UST must notify IEMA and any other entities required to be notified under Section 176.320 of a suspected release, when directed to do so by the ~~storage tank safety specialist (STSS) employed by OSFM.~~ This is to be done at the time of discovery and the incident number shall be given to the STSS prior to leaving the site.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.310 Release Investigation Reporting and Site Assessment

- a) Investigation Due to Off-Site Impact. When required in writing by OSFM, owners or operators of USTs shall follow the procedures in Subpart C to determine if the UST is the source of off-site impacts. These impacts include the discovery of regulated substances, such as the presence of free product or vapors in soils, basements, sewer or utility lines or nearby surface or drinking water that have been observed by OSFM or brought to its attention by another party.
- b) Release Investigations and Confirmation Steps. Unless corrective action is initiated in accordance with 35 Ill. Adm. Code 734, owners or operators shall immediately investigate and within 7 days shall confirm the presence or absence of all suspected releases of regulated substances requiring reporting, using the following procedures:
 - 1) System Test. Owners and operators must conduct tests (according to the requirements for precision~~tightness~~ testing ~~in~~in 41 Ill. Adm. Code 175.630(b)~~175.630(e)~~ and 175.640(a)(4) or, as appropriate, secondary containment testing described in 41 Ill. Adm. Code 175.700(d),~~175.640(a)(5))~~ that
 - A) The test must determine whether:

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- i) A leak exists in that portion of the tank that routinely contains product, or the attached delivery piping; ~~or both.~~
 - ii) A breach of either wall of the secondary containment has occurred.
 - B) If the system test confirms a leak into the interstice or a release, owners and ~~Owners or~~ operators shall repair, replace, ~~or upgrade~~ or decommission the UST. In addition, owners and operators shall ~~and~~ begin corrective action pursuant to 35 Ill. Adm. Code 734; if the test results for the system, tank or delivery piping indicate that a ~~release~~ leak exists;
 - 2) Further investigation is not required if the test results for the tank system and delivery piping do not indicate that a ~~release~~ leak exists and if environmental contamination is not the basis for suspecting a release; and
 - 3) Owners or operators shall conduct a site assessment (utilizing the requirements of Section 176.330) if ~~the test results for the system, tank and delivery piping do not indicate that a leak exists, but~~ environmental contamination is the basis for suspecting a release. In the event lab results are not forthcoming within 7 days, the owner/operator shall have such reasonable additional time as is necessary to receive the results, but the total time period to confirm the presence or absence of a release and report any confirmed release shall not in any event exceed 45 days.
- c) Initial Site Assessment. An initial site assessment shall follow the procedures and requirements identified in Section 176.330.
- 1) If the ~~site assessment~~ test results for the excavation zone or the UST site indicate that a release has occurred, owners or operators shall begin initial response and initial abatement procedures under Sections 176.350 and 176.320(b) and (c), and begin corrective action pursuant to 35 Ill. Adm. Code 734.
 - 2) If the ~~site assessment~~ test results for the excavation zone or the UST site do not indicate that a release has occurred, further investigation is not required.

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(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.320 Initial Response and Reporting of Confirmed Releases

Initial Response. Upon confirmation of a release of a regulated substance, owners or operators shall perform the following initial response actions:

- a) Immediately report the release.
 - 1) The release shall be reported by calling the 911 call center and then IEMA in the following situations:
 - A) Spills and overfills of petroleum products over 25 gallons and spills and overfills of hazardous substances over a reportable quantity as defined in 41 Ill. Adm. Code 174.100.
 - B) Spills, overfills or confirmed releases that present a hazard to life, for example, when observations demonstrate the presence of petroleum or hazardous substance vapors in sewers or basements or free product near utility lines, or where a sheen is present on a body of water.
 - 2) All other confirmed releases shall be reported to the local authority having jurisdiction and to IEMA. A call to the fire department in whose jurisdiction the release occurred may be done in the absence of an available 911 emergency telephone number. IEMA may be reached at 1-800-782-7860 (from inside Illinois) or 217-782-7860 (from outside Illinois). If known, the caller shall inform IEMA whether the same release had previously been called in as a suspected release.
 - 3) A release of a hazardous substance equal to or in excess of the reportable quantity shall be reported to the following entities in addition to those identified in subsection (a)(1):
 - A) to the Local Emergency Planning Committee (LEPC) that is likely to be affected by the release (found at www.illinois.gov/iema/Preparedness/SERC/Documents/LEPC_ReleaseReporting)

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[ContactList.pdf;http://www.state.il.us/iema/disaster/LEPCContactList.xls](http://www.state.il.us/iema/disaster/LEPCContactList.xls)); and

- B) the National Response Center (800-424-8802);
- b) Take immediate action to prevent any further release of the regulated substance into the environment; and
- c) Immediately identify and mitigate fire, explosion and vapor hazards.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.330 Procedures for Site Assessments

- a) All site assessments and related reports must be conducted or prepared under the supervision of a Licensed Professional Engineer or Licensed Professional Geologist. All site assessment work shall meet accepted engineering standards or accepted standards for the practice of professional geology and be conducted according to the best professional judgment and diligence of the supervising Licensed Professional Engineer or Licensed Professional Geologist, as the case may be.
- b) Owners or operators shall measure for the presence of a release where contamination is most likely to be present at the UST site by conducting sampling in the same manner and following the same procedures as required under the Board's Petroleum Underground Storage Tanks rules at 35 Ill. Adm. Code 734.210(h)(1) and (2). Samples must be analyzed for the same applicable indicator contaminants as required under 35 Ill. Adm. Code 734.405. All sampling must meet the same data quality and certification requirements as set forth in 35 Ill. Adm. Code 734.415 and 734.420. If soil borings are involved the owner or operator must follow the same requirements as set forth in 35 Ill. Adm. Code 734.425 and 734.435. For all UST decommissioning (both removal and abandonment-in-place), UST removals, samples shall be taken in native soil with the excavation for the removal or abandonment still open and prior to backfill and with the STSS still on site, within 24 hours after removal of the tanks and piping. In selecting sample types, sample locations and sample measurement methods, owners or operators shall also consider the nature of the stored substance, the type of initial alarm or cause for suspicion, if any, the method of tank removal or abandonment-in-place, the types of backfill, the depth of groundwater and other

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factors appropriate for identifying the presence and source of ~~at~~the release. Packaging for shipping or delivery should be done in a manner that will preserve the sample and prevent deterioration or dilution, as for example, putting samples in sealed containers in ice.

- c) Within 45 days after receipt of lab results from a full site assessment pursuant to subsection (b), owners or operators must designate and ~~submit~~provide to OSFM, on OSFM forms (~~titled entitled~~ "Site Assessment Results" ~~form~~ "site assessments results form" and available at <https://www2.illinois.gov/sites/sfm/About/Division/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx> found at www.state.il.us/osfm/PetroChemSaf/home.htm, under "downloadable applications"), a "contamination" or "no contamination" ~~pass/fail~~ result indicating whether a release has occurred, along with associated lab results. This determination shall be based upon an evaluation of lab results to determine whether any contamination has been found. The determination ~~A pass result for the UST (finding no contamination and, therefore, no need to report to IEMA)~~ must be certified by a Licensed Professional Engineer or Licensed Professional Geologist. Even if "no contamination" is being reported, the analytical report with tables and a site map showing sampling/boring locations shall be submitted to OSFM. licensed environmental engineer or licensed environmental geologist, competent and experienced in performing site assessments, using accepted practices for these assessments, consistent with the site characteristics and conditions. In the event a suspected release was previously called into IEMA and is being confirmed by site assessment, the "contamination" or "no contamination" ~~pass/fail~~ result on the Site Assessment Results form shall be provided to IEPA in addition to OSFM.
- d) In the event that sampling or other site observations disclose evidence of a release or site assessment lab results show site contamination, the owner or operator shall immediately ~~cease site assessment work and shall immediately~~ notify IEPA and any other required entities of a suspected release, as required by Section 176.320, and begin corrective action pursuant to 35 Ill. Adm. Code 734.
- e) Records generated from site assessments and related activity shall be kept at the site (or available within 30 minutes or before OSFM completes its inspection, whichever is later) and may not be discarded or destroyed unless and until a No Further Remediation (NFR) letter is issued by IEPA or until the site permanently ceases the activity involved in using the USTs and any site assessments required under this Part are completed and show no evidence of contamination. Owners or

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operators claiming that required records were destroyed, discarded or lost prior to September 1, 2010 or by a prior owner of the subject UST property shall conduct a new site assessment when the assessment is required by OSFM rules for continued or future use of the USTs.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.340 Reporting and Cleanup of Spills and Overfills

- a) Owners or operators of USTs shall contain and immediately clean up a spill or overfill, immediately report either release to the 911 call center and then to IEMA, ~~and~~ begin initial response and initial abatement in accordance with Sections 176.310, 176.320 and 176.350, and begin corrective action pursuant to 35 Ill. Adm. Code 734, in the following situations:
- 1) Spill or overfill of petroleum that results in a release to the environment that exceeds 25 gallons or that causes a sheen on a nearby body of water; or
 - 2) Spill or overfill of a hazardous substance that results in a release to the environment that equals or exceeds the reportable quantity (see 41 Ill. Adm. Code 174.100). Under Section 176.320, this kind of release shall also be immediately reported to the Local Emergency Planning Committee and to the National Response Center.
- b) Owners or operators of USTs shall contain and immediately clean up a spill or overfill of petroleum that is 25 gallons or less and a spill or overfill of a hazardous substance that is less than the reportable quantity. In doing so, the owner or operator shall comply with procedures specified in Section 176.350. If cleanup cannot be accomplished within 24 hours, owners or operators shall immediately notify IEMA and the local authority having jurisdiction of the release.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.360 Assessing the Site at Removal of, Previously Removed, or Change-in-Service of USTs

- a) Before the STSS leaves the site for the day and while the excavation for a removal or abandonment-in-place is still open (prior to any backfill placed back

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~~into the excavation), Within 24 hours after removal is completed,~~ or prior to a change in service from a regulated product to an unregulated product, the following procedures shall be conducted:-

- 1) The owner or operator shall perform a site assessment using the procedures and requirements of Section 176.330;
 - 2) The owner or operator, or his or her designated representative, shall immediately report a release or suspected release, based upon a visual observation by STSS or upon a site assessment showing the existence of a release, to IEMA and any other entities required under Section 176.320 and secure an incident number. If confirmation of the release is via a visual observation by STSS or otherwise confirmed while STSS is still on site, the incident number shall be provided to STSS at the conclusion of the removal and prior to the departure of STSS.
 - 3) If contaminated soils, contaminated groundwater or free product as a liquid or vapor, resulting from a UST release is discovered, the owner or operator shall begin initial response and initial abatement procedures in accordance with Sections 176.310, 176.320 and 176.350 and begin corrective action pursuant to 35 Ill. Adm. Code 734.
- b) When directed in writing by OSFM, the owner or operator of a UST previously removed shall assess the excavation zone (including, if so ordered, re-excavating and assessing the site where the tank had been located) in accordance with Section 176.330.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART D: GENERAL TECHNICAL REQUIREMENTS,
INCLUDING REPORTING, RECORDKEEPING AND NOTIFICATION

Section 176.420 Requirement that UST Components Be Third Party Listed

- a) All installed UST components and ancillary equipment shall be third party listed (see 41 Ill. Adm. Code 174.100) for their performance in the intended use, as well as installed and maintained according to the manufacturer's instructions. Replaceable subcomponents shall be of a type recommended by the manufacturer. ~~In the event the third party listing is unattainable, OSFM may accept, from a~~

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~~Licensed Professional Engineer, certification that the non-listed component will perform as intended and will meet performance requirements under 40 CFR 280 and this Part when used as intended. In the event third party listing and certification by a licensed professional engineer are both unattainable, OSFM may permit use of the component if a licensed installation/retrofitting contractor inspects the component on an annual or more frequent basis and, after each inspection, certifies to OSFM on forms provided by OSFM (available at www.state.il.us/osfm/PetroChemSaf/home.htm, under "downloadable applications"), that the component has been inspected and there is no visible evidence of product leakage, release, or other operational problems or other defect in performance. In the event a listed component becomes available, facilities shall have 12 months to replace non-listed components with listed components.~~

- b) In addition to the requirement that all UST components be third party listed for their performance in the intended use, all UST components must also be third party listed or certified by the manufacturer as compatible with the product to be stored under 41 Ill. Adm. Code 175.415. This would include third party listing requirements for components used with alternative or blended fuels and product compatibility requirements for hazardous substance USTs, see 41 Ill. Adm. Code 175.415 and 175.620.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.430 Reporting and Recordkeeping

- a) Reporting. Owners and operators must submit the following information to OSFM:
- 1) Notification for all USTs (Section 176.440); which includes notification when any person assumes ownership of a UST system (Section 176.440(g));
 - 2) Notification prior to UST systems switching to certain regulated substances (41 Ill. Adm. Code 175.415(b));
 - 3) Certification of installation for USTs (Section 176.430(f));

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- ~~43~~) Reports of all releases, including suspected releases (Section 176.300), spills and overfills (Section 176.340), and confirmed releases (Section 176.320);
- ~~54~~) Initial response, including leak abatement, site characterization, and fire and explosion mitigation (40 CFR 280, subpart F, incorporated by reference in 41 Ill. Adm. Code 174.210) when requested by OSFM;
- ~~65~~) A notification related to removal, abandonment-in-place or change-in-service (41 Ill. Adm. Code 175.820(d), ~~and~~ 175.830(a)(19) and 175.840(d)(15));
- ~~76~~) A completed Site Assessment Results form ~~A pass/fail determination and notification~~ (Section 176.330(c)), ~~(to be submitted to OSFM within 45 days after the receipt of laboratory data in connection with a site assessment); and~~
- ~~87~~) Proof of financial responsibility on an annual basis (Section 176.220).
- b) Recordkeeping. Owners and operators must maintain the following information for the life of the UST (unless a shorter or longer period is provided in this subsection (b) or by the applicable Section cited or by other OSFM rule):
- 1) Documentation of operation of corrosion protection equipment and methods (see 41 Ill. Adm. Code 175.500 and 175.510).
 - 2) Documentation of UST repairs (see 41 Ill. Adm. Code 175.700 and 175.710).
 - 3) All records required to show compliance with release detection requirements (see 41 Ill. Adm. Code 175.600 through 175.650), with all tank and piping precision test results kept for 2 years or at least until the next precision test, whichever is longer.
 - 4) All written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer.

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- 5) Written documentation of all calibration, maintenance and repair of release detection equipment permanently located on site, including schedules of required calibration and maintenance provided by the release detection equipment manufacturer.
- 6) Documentation of compliance with testing, inspection and recordkeeping for spill and overfill prevention equipment and containment sumps used for interstitial monitoring of piping (see 41 Ill. Adm. Code 175.405 and 175.410).
- ~~7~~6) The results of any sampling, testing or monitoring not specified in subsections (a), (b), (f) and (g) ~~of this Section.~~
- 8) The results of the vapor and groundwater monitoring site assessments conducted pursuant to 41 Ill. Adm. Code 175.650(e)(2)(F).
- ~~9~~7) Results of the site assessment conducted at removal, abandonment-in-place or change-in-service (see 41 Ill. Adm. Code 175.800) and copies of the results of any other site assessment conducted pursuant to OSFM rules with all completed Site Assessment Results forms pass/fail determinations and notifications submitted to OSFM pursuant to Section 176.330.
- ~~10~~8) Proof of financial responsibility submitted under Section 176.220.
- ~~11~~9) Copies of all records submitted to OSFM under subsections (a), (f) and (g) ~~of this Section.~~
- ~~12~~10) Copies of the records required by Sections 176.645 and 176.655.
- 13) Tank Installation information, including all paperwork relating to the manufacturer's instructions and warranty, final tank and line precision test results and the contractor's certification of UST installation or upgrade and the related documentation required by subsection (f).
- 14) Copies of annual release detection operation tests required by 41 Ill. Adm. Code 175.610(a)(4), including the annual ATG configuration test results.
- 15) Documentation of compatibility for UST systems (see 41 Ill. Adm. Code 175.415).

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- c) Availability and Maintenance of Records. Owners or operators shall keep the records required in subsection (b) at the UST site or available to the OSFM inspector within 30 minutes or before OSFM completes its inspection, whichever is later, via fax, email or other transfer of information. Financial responsibility records may be maintained at the owner or operator's principal place of business and shall be produced within 10 days after OSFM request.
- d) Owners or operators of unmanned sites will be given prior notification of inspection/audit of those sites.
- e) Failure to maintain or produce the records required under this Section may result in OSFM's issuance of a red tag or revocation of a facility operating permit (green decal) for the tank or tanks or facility at issue (see 41 Ill. Adm. Code 177), prohibiting any further operation of the facility or further deposit of regulated substances into a tank subject to a red tag.
- f) Certification of UST Installation or Upgrade and Related Documentation
 - 1) Contractors shall certify, on the [Notification for Underground Storage Tanks](https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx) form provided by OSFM at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx> www.state.il/OSFM/PetroChemSaf/Notify.pdf, that:
 - A) The installer has been certified or licensed by OSFM. If applicable, the contractor shall also certify that the installer has been certified by the tank and piping manufacturers.
 - B) The installation and/or upgrade has been performed in accordance with 41 Ill. Adm. Code 172 through 176.
 - C) All work listed in the manufacturer's installation checklist has been completed and submitted in accordance with this subsection (f), 41 Ill. Adm. Code 175.400 and 175.465, Section 176.420 (or compliance with applicable third-party standards or codes cited in OSFM rules as of the date of installation), and Section 176.440(f), if applicable.

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- 2) Contractors shall complete the manufacturer's installation checklist for USTs, which shall be available at the time of final inspection. The owner and operator shall maintain a copy of the checklist on-site for the life of the UST.
 - 3) In lieu of the contractor's certification, an owner or operator may provide OSFM with a certification from a licensed professional engineer with education and experience in UST installation stating that the UST installation or upgrade was inspected by that engineer and that the UST installation or upgrade was properly installed in accordance with manufacturer's recommendations and OSFM rules.
 - 4) OSFM shall not issue a green decal pursuant to 41 Ill. Adm. Code 177.115 for the UST until OSFM has received the completed certification of UST installation or upgrade by the licensed contractor or the certification of proper installation or upgrade from a licensed professional engineer.
- g) Results from ~~precision~~ tank and piping ~~precision~~ testing, cathodic protection testing, containment sump testing, functionality testing of automatic or mechanical line leak detectors, release detection sensors testing, and interior lining testing shall be handled as follows:
- 1) All test results are to be issued to the facility and owner.
 - 2) Test results that fail must be ~~submitted~~reported to OSFM by the licensed testing contractor within 3 working days.
 - 3) All test results required due to Notice of Violation must be kept at the facility and available to OSFM upon request~~reported to OSFM within 3 working days~~.
 - 4) All test results required to be submitted to OSFM must be submitted with a form provided by OSFM. The form is available at the forms page of the OSFM's Division of Petroleum and Chemical Safety at the website cited in subsection (f)(1).www.state.il/OSFM/PetroChemSaf/home.htm, under "downloadable applications".

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 176.440 Notification Requirements for Purposes of UST Registration

- a) For any UST, with the exception of a UST containing heating oil for consumptive use on the premises where stored:
- 1) Any owner of a UST in operation at any time after January 1, 1974, and in the ground as of September 24, 1987, shall submit immediately a notice of existence of the tank system to OSFM, on the [Notification for Underground Storage Tanks](#) form provided by OSFM, available at the [forms page for the Division of Petroleum and Chemical Safety](#) at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx>.
www.state.il/OSFM/PetroChemSaf/Notify.pdf.
 - ~~2) Where no owner/operator can be determined and a non-owner elects to voluntarily undertake responsibility for removal and cleanup, the party electing to proceed under this Part and 35 Ill. Adm. Code 734.105 shall submit a written verification of the election to proceed as a third party.~~
 - 23) Any owner of a UST brought into operation on or after April 21, 1989 shall submit, within 30 days before bringing the tank into operation, a notice of existence of the tank system to OSFM, on the [Notification for Underground Storage Tanks](#) form provided by OSFM at [the website cited in subsection \(a\)\(1\)](#) www.state.il/OSFM/PetroChemSaf/Notify.pdf. This applies even if the UST was subject to a change-in-service under 41 Ill. Adm. Code 175.820(a) or (b) within the 30-day time period.
 - 34) OSFM shall use the information required to be submitted under [this](#) subsection (a) to determine whether a UST must be registered.
- b) For a UST containing heating oil for consumptive use on the premises where stored:
- 1) Any owner of a heating oil UST greater than 1,100 gallons in capacity and in the ground as of July 11, 1990 shall submit immediately a notice of existence of the tank system to OSFM, on the [Notification for Underground Storage Tanks](#) form provided by OSFM, at www.state.il/OSFM/PetroChemSaf/Notify.pdf.

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- 2) Any owner of a heating oil UST greater than 110 gallons and less than or equal to 1,100 gallons in capacity and in the ground as of September 6, 1991 shall submit immediately a notice of existence of the tank system to OSFM, on the [Notification for Underground Storage Tanks](http://www.state.il/osfm/PetroChemSaf/Notify.pdf) form provided by OSFM at www.state.il/osfm/PetroChemSaf/Notify.pdf.
 - 3) Any owner of a heating oil UST greater than 110 gallons in capacity installed after September 6, 1991 shall submit, within 30 days after bringing the tank into operation, a notice of existence of the tank system to OSFM, on the [Notification for Underground Storage Tanks](http://www.state.il/osfm/PetroChemSaf/Notify.pdf) form provided by OSFM at www.state.il/osfm/PetroChemSaf/Notify.pdf. This applies even if the UST was subject to a change-in-service under 41 Ill. Adm. Code 175.820(a) or (b) within the 30-day time period.
 - 4) A heating oil tank used exclusively for storing heating oil for consumptive use on a farm or residence is not classified as a UST.
 - 5) OSFM shall use the information required to be submitted by this subsection (b) to determine whether a UST must be registered.
- c) Owners required to submit notices under subsection (a) or (b) shall provide notice for each tank they own. Owners may provide notice for more than one tank using one notification form, but owners who own tanks located at more than one facility shall file a separate notification form for each separate facility. The owner shall provide the proper street address for the owner and for each facility.
 - d) Owners shall provide all of the information required in subsections (a) and (b), on the [Notification for Underground Storage Tanks](http://www.state.il/osfm/PetroChemSaf/Notify.pdf) forms provided by OSFM, at www.state.il/osfm/PetroChemSaf/Notify.pdf including any certification required of the owner by this Part.
 - e) Any owner of a UST newly installed on or after April 21, 1989 shall certify compliance with the following requirements (in the [Notification for Underground Storage Tanks](http://www.state.il/osfm/PetroChemSaf/Notify.pdf) notification form found at the website cited in subsection (a)(1) www.state.il/osfm/PetroChemSaf/Notify.pdf compliance with the following requirements):
 - 1) Installation of tanks under 41 Ill. Adm. Code 175.400, 175.405, 175.410 and 175.465, Sections 176.420 (or compliance with applicable third-party

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- standards or codes as cited in OSFM rules as of the date of installation) and 176.430(f) and installation of piping under 41 Ill. Adm. Code 175.420;
- 2) Cathodic protection of steel tanks and piping under 41 Ill. Adm. Code 175.400(b), 175.420(a) and 175.510;
 - 3) Release detection under 41 Ill. Adm. Code 175.610, 175.620, 175.630 and 175.640; and
 - 4) Financial responsibility in accordance with Subpart B of this Part. The green decal (facility operating permit) shall not be issued for a new tank installation until the notification required by this Section has been received by OSFM.
- f) Beginning January 1, 1989, all owners and operators of USTs being installed, ~~upgraded or lined~~ shall ensure that the contractor certifies in the [Notification for Underground Storage Tanks form](#)~~notification form~~ that the methods used to perform the UST activity comply with the requirements of 41 Ill. Adm. Code 174 through 176, and the contractor shall complete the certification. The notification form (found at [the website cited in subsection \(a\)\(1\)-www.state.il/OSFM/PetroChemSaf/Notify.pdf](#)) is to be submitted to OSFM within 30 days after completion of the activity requiring certification.
- g) Any change in information stated in the form as described in subsections (a) and (b) is to be submitted to OSFM on an amended form (found at [the website cited in subsection \(a\)\(1\)-www.state.il/OSFM/PetroChemSaf/Notify.pdf](#).) within 30 days, commencing from the date of the change. This includes, but is not limited to, removal, abandonment-in-place and temporary out-of-service status. A change in ownership is considered a change in information and each subsequent owner is required to report that change within 30 days after acquisition. When the only change is a change in ownership, the one-page form entitled Notification of Ownership Change for Underground Storage Tanks shall be used (found at the website cited in subsection (a)(1). The new owner shall provide the Property Identification Number (PIN) for the facility property when completing this one-page form. Copies of proof of legal ownership, including, but not limited to the current deed, contract or lease, shall be supplied to OSFM with this Notification upon OSFM's written request.

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- h) Commencing April 1, 1995, any person who sells a new or re-certified tank intended to be used as a UST shall notify the purchaser of the owner's notification obligations under this Section. The [Notification for Underground Storage Tanks notification](#) form provided by OSFM at www.state.il/OSFM/PetroChemSaf/Notify.pdf shall be used to comply with this requirement.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.455 Payment of 1988 Annual UST Fee

The owner of any registered underground petroleum storage tank (excluding heating oil USTs for consumptive use on the premises where stored) in the ground at any time in 1988 and in operation at any time after January 1, 1974 shall pay a 1988 annual fee of \$100 per tank on or before 90 days from the date on the invoice requesting payment of the fee. The payment is to be by check or money order made payable to "Office of the State Fire Marshal".

(Source: Added at 42 Ill. Reg. _____, effective _____)

Section 176.470 Requirements for Conducting Precision Testing of Tanks and Piping, Cathodic Protection Testing, and Testing of Other UST Equipment

Persons conducting precision testing of tanks and piping, cathodic protection testing, and testing of other UST equipment shall be ICC certified in the appropriate module and be licensed by OSFM pursuant to 41 Ill. Adm. Code 172. All persons conducting precision testing must be certified by the manufacturer of the testing equipment being used.

- a) Tank ~~precision test~~~~tightness~~ methods shall be evaluated and listed by an independent third-party. Proof of evaluation and listing shall be demonstrated by the methods being published in the NWGLDE publication "List of Leak Detection Evaluations for Storage Tank Systems", incorporated by reference in 41 Ill. Adm. Code 174.210(a). All tank tightness methods are subject to approval by OSFM.
- b) UST equipment (including all equipment other than that listed in ~~subsection~~~~subsections~~ (a)(1) and (2)). To qualify as a tester under this subsection, an individual must be an employee of an OSFM-licensed contractor with at least one employee who is ICC certified in the appropriate module, with that ICC certified employee on site and actively supervising the work at all times. All

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testers must also be certified by the manufacturer in the testing of the equipment being evaluated for its operation in accordance with manufacturers' specifications.

- c) For purposes of this Section, "license" (or any comparable variation of the term) is synonymous with "registration" (or any comparable variation of the term).
- d) Each tester shall also abide by any other applicable requirements found in 41 Ill. Adm. Code 172.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART E: HEARINGS AND ENFORCEMENT PROCEDURES

Section 176.500 Definitions

~~"NOV" means a notice of violation issued by OSFM.~~

"Revocation of the Registration of an Underground Storage Tank System" means termination by OSFM of the registration of a UST.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.505 Enforcement Action

Except in the case of an emergency administrative order, all~~At~~ enforcement action shall begin with the issuance of an NOV by OSFM. The violations cited on the NOV shall be corrected within 60 calendar days after the issuance of the NOV. A copy of the NOV shall be left with any owner, employee or agent of the owner at the facility at the time of inspection or may be mailed or served by other legal process in the case of a closed or unattended facility.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART F: OPERATOR TRAINING

Section 176.610 Definitions

"Certified Operator" means a Class A, B or C Operator who has completed all the training required under this Subpart for his or her particular operator training classification.

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"Class A Operator" is someone who has primary responsibility to operate and maintain a UST in accordance with applicable regulatory requirements. The Class A Operator's responsibilities often include managing resources and personnel, such as establishing work assignments, to achieve and maintain compliance with regulatory requirements.

"Class B Operator" is someone who has day-to-day responsibility for implementing applicable UST regulatory requirements and standards. The Class B Operator typically implements in-field ~~in the field, including the day-to-day~~ aspects of UST operation, maintenance and recordkeeping at one or more UST facilities.

"Class C Operator" is an employee who is responsible for initially addressing ~~responding to~~ alarms or other indications of emergencies caused by spills or releases from USTs. The Class C Operator typically controls or monitors the dispensing or sale of regulated substances. ~~Not all employees of a UST facility are necessarily Class C Operators.~~

"Four-Year Anniversary Date" means the four-year deadline for completion of repeat training in ordinary course, including continuing education, training and a general examination. This deadline is the later of:

Four years after the completion of initial or repeat training (see Section 176.615), as shown by the most recent valid completion certificate; or

Four years after the completion of out-of-compliance retraining (see Section 176.650), as shown by the most recent valid completion certificate.

"Manned Facility" means a UST facility that has a responsible attendant present during all hours of operation.

~~"Notice of Violation" or "NOV" means a document issued by OSFM that is the first step in the OSFM enforcement process.~~

"Operator Training" means the training required under this Subpart.

~~"OSFM" means the Office of the State Fire Marshal.~~

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~~"Third Party Provider"~~ means an entity that provides online or other approved training and examinations for Class A, B and C Operators and issues the certificate of completion when the candidates taking the examinations have completed the training and passed the examination.

"Training Program" means any program that provides information to and evaluates the knowledge of a Class A, Class B or Class C Operator through a combination of both training and testing approved in advance by OSFM and meeting the requirements of this Subpart F.

~~"Two Year Anniversary Date" or "2 Year Anniversary Date" means the 2 year deadline for completion of repeat training in ordinary course, including continuing education, training and a general examination. This deadline is the later of:~~

~~2 years after the completion of initial or repeat training (see Section 176.615), as shown by the most recent valid completion certificate; or~~

~~2 years after the completion of out of compliance retraining (see Section 176.650), as shown by the most recent valid completion certificate.~~

"Unmanned Facility" means a UST facility that does not have a responsible attendant present during all hours of operation.

~~"UST" means underground storage tank system.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.615 Class A, B and C Operator Classifications

The owner of each UST or group of USTs at a facility must have a Class A, Class B and Class C Operator designated and shall ensure that each is trained in accordance with this Subpart. Separate individuals may be designated for one or more classes of operators, so long as they successfully complete the required training program and examination according to the operator class in which the individual is designated. ~~Each and each~~ facility must designate one or more individuals for each operator class. In addition, any personnel at the facility that meet the definition of a Class C Operator as defined in Section 176.610 shall complete the Class C

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Operator training required for those individuals and be on the facility's list of designated Class C Operators.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.620 Training

- a) A Class A, Class B or Class C Operator satisfies the training requirements of this Subpart by completing both training and an examination as determined to be appropriate by OSFM. This may be internet, computer software, live or equivalent training and examination so long as the training and examination is approved by OSFM in advance under Section 176.635.
- b) All Class A ~~and Class~~, B ~~and C~~ Operators shall also complete continuing education and training requirements and a general examination, either:
- 1) ~~Once every~~ once every ~~four~~ two years, with the deadline for the completion of the training and examination to be no later than the ~~four~~ two-year anniversary date or the last retraining in response to an NOV, whichever is later; ~~or: The first retraining deadline shall be August 8, 2014, or the 2-year date from the last retraining triggered by receipt of an NOV, whichever is later.~~
 - 2) Annually, in which case there shall be no retraining in response to an NOV for the Class A or Class B Operator.
- c) Class C Operators shall retrain every four years using an OSFM approved Class C Operator training program.
- d) Class A or Class B Operators may retrain Class C Operators so long as the training and examination administered to the Class C Operators has been approved in advance by OSFM and otherwise meets the requirements of Section 176.635 and this Part.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.625 Minimum Training Requirements

OSFM will approve ~~an online~~ training mechanism for Class A, Class B and Class C Operators to be implemented by OSFM approved ~~third party~~ providers. Training and related examinations

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under this Subpart shall cover and test for appropriate knowledge of Illinois UST regulations. Generally, Class A, B and C Operators will be trained in the following:

- a) For Class A Operators, subject matter shall include, but not be limited to, financial responsibility documentation requirements, notification requirements, release and suspected release reporting, temporary and permanent closure requirements, operator training requirements, and a general knowledge of USTs requirements, including regulations relating to spill prevention, overfill prevention, release detection, corrosion protection, emergency response, ~~and~~ product and equipment compatibility and demonstration, environmental and regulatory consequences of releases, and related reporting, recordkeeping, testing and inspections. Class A operators must have the knowledge and skills to make informed decisions regarding compliance and to determine whether the appropriate individuals are fulfilling the operation, maintenance and recordkeeping requirements for UST systems in accordance with this subsection.
- b) For Class B Operators, subject matter shall include, but not be limited to, components of UST systems, materials of UST components, methods of release detection and release prevention applied to UST components, reporting and recordkeeping requirements, operator training requirements, and the operation and maintenance requirements of USTs that relate to spill prevention, overfill prevention, release detection and related reporting, corrosion protection, emergency response and product and equipment compatibility and demonstration, environmental and regulatory consequences of releases, and related reporting, recordkeeping, testing and inspections. Training for the Class B operator must cover the general requirements that encompass all regulatory requirements and typical equipment used at UST facilities or site-specific requirements that address only the regulatory requirements and equipment specific to the facility.; ~~and~~
- c) For Class C Operators, subject matter shall include, but not be limited to:
 - 1) recommended responses to:
 - A) emergencies (such as, situations posing an immediate danger or threat to the public or to the environment requiring immediate action);
 - B) spill alarms; and

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- C) releases from a UST;
- 2) the locations and proper operation of emergency stops; shutoff systems
~~and~~
- 3) the use of other emergency equipment; and
- 4) notifying the appropriate authorities in response to such emergencies, alarms and release.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.630 Examination Frequency

The owner of a facility must ensure that Class A and Class B Operators are trained within 30 days after assuming operation and maintenance responsibilities for a UST and that Class C Operators are trained before assuming responsibility involving emergency response. At no time may a UST operate without a validly-trained Class A Operator, Class B Operator and Class C Operator. Continuing education, training and a general examination regarding operator-specific subject matter shall take place once every ~~four~~² years for all Class C Operators. Class A and B Operators may choose to retrain either annually or every four years. Class A and B Operators who choose to retrain every four years may be required by Section 176.650 to retrain before the end of the four-year period. In all cases, ~~and~~ evidence of completed retraining shall be available at the facility in accordance with Sections 176.645, 176.650 and 176.655. ~~OSFM may also require retraining pursuant to Section 176.650.~~

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.635 Approval of Required Training and Examination Location

All training programs used to meet the operator training requirements must have prior written approval by OSFM. These programs must at least meet the criteria of this Subpart in order to be approved. These programs shall appropriately test the person being trained for knowledge and skills to make informed decisions regarding compliance and to implement regulatory requirements in the field regarding ~~of~~ the relevant UST technical requirements for the Class of Operator trained, including those requirements found at 41 Ill. Adm. Code 174, 175, 176 and 177. The provider must also demonstrate its ability to maintain and track test scores and maintain appropriate security. Upon approval, the training can be conducted multiple times at multiple locations. The approved training can include in-class, online, or hands-on training.

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Submission of an incomplete application may result in the denial of the application. If OSFM has denied a training provider's application 3 times, the applicant shall not re-submit an application for a period of one year from the date of receipt of the third denial.

- a) Course approvals shall be valid for a period of 5 years. Applications must be submitted at least 120 days prior to the first scheduled date of training and at least 120 days prior to the expiration of the course approval. Applications for approval of training courses shall be on OSFM forms on 8½ by 11 sheets of paper or via electronic submission and contain:
 - 1) a complete course outline, including:
 - A) a detailed description of subject matter, order of presentation, and amount of time scheduled for the course presentation, with a breakdown of time spent on each specific area of instruction;
 - B) a description of all training aids, devices and handouts;
 - C) a description of the test to be given at the conclusion of each training course, including:
 - i) procedures for conducting and grading the test (including a description of the hands-on practical demonstration of knowledge at the UST site, if applicable);
 - ii) the passing score for the training exam and any procedure for review of failing areas and retesting for any Class A, B or C Operator who fails to achieve an initial passing grade;
 - iii) the number of questions per topic identified in Section 176.625; and
 - iv) examples or a sampling of test questions;
 - D) one set of proposed training materials;
 - E) sample certificates;
 - F) the methodology for verifying participation and completion;

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- G) the anticipated number and locations for any classroom, hands-on or webinar course to be offered;
 - H) the name, address and phone number of the training provider and of the contact person;
 - I) the credentials of any classroom, hands-on or webinar instructors, including title, affiliation and summary of professional background (i.e., a curriculum vitae); and
 - J) a certification that the technology or methods to be presented in the training program will satisfy Illinois and federal laws.
- b) The minimum required passing score set by the training provider shall be at least 75%. The training provider must supply those individuals who successfully complete a training program with a certificate of training documenting the level of training received. Upon request, the training provider must submit individual test results and documents verifying training completion to OSFM. This information shall include student rosters, student information, test results and other information as may be requested by OSFM.
- c) Training providers will be required to apply for and receive written approval from OSFM for any modifications to approved training programs prior to their implementation. All training must reflect the existing State of Illinois requirements for the operation and maintenance of USTs and must be updated for any Illinois statute or rule changes affecting operation and maintenance requirements. OSFM may review and propose revision to the entire training program at the time of any requested modification.
- d) Online and software courses shall possess reasonable topic and total course minimum time requirements to insure that trainees read the online materials.
- e) OSFM may periodically audit or review any training class, and the trainer shall allow a maximum of 2 OSFM employees to attend any training class on request without charge and without certification.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 176.645 Recordkeeping

- a) The following records shall be maintained and readily available at each UST facility:
 - 1) A list of the designated current Class A, Class B and Class C Operators for the UST facility (identified by facility number and address), including:
 - A) For each Class A, B and C Operator, records detailing the name, date each assumed duties, training classification (Class A, B or C or a combination), date of most recent retraining, and date current completion certificate will expire; and
 - B) For Class A and Class B Operators who are not permanently onsite or who are assigned to more than one facility, telephone numbers to contact the Class A and B Operators;
 - 2) A copy of the current testing certificates showing the name of the trainee, date trained and operator class for all current Class A, B and C Operators. Class A and Class B certificates shall indicate whether the certificate is a one-year certificate or a four-year certificate. These certificates shall also be signed by the trainer and include the company name, address, phone, name of trainer, and, for computer-based programs, the name of the training program and web address where internet-based;
 - 3) A copy of the current Class C Operator instructions or procedures required by subsection (b); and
 - 4) A copy of the written UST facility operation and maintenance plan and all 30-day quarterly inspection checklists used by the certified operators for the past 2 years pursuant to Section 176.655.
- b) The UST owner shall provide all Class C Operators with written instructions that include all of the following:
 - 1) Emergency response procedures, including:
 - A) procedures for overfill protection during delivery of regulated substances;

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- B) operation of emergency ~~stopsshut-off systems~~;
 - C) appropriate responses to all alarms;
 - D) reporting of leaks, spills and releases; and
 - E) site-specific emergency procedures, if any.
- 2) The name and other information needed for contacting appropriate parties if a leak, spill, release or alarm occurs.
- c) For unmanned facilities, the records identified in subsections (a) and (b) shall be maintained at the UST facility or available to the OSFM inspector within 30 minutes or before OSFM completes its inspection, whichever is later, via facsimile, e-mail, hand delivery or other transfer of information.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.650 Out-of-Compliance Retraining

- a) Appropriate retraining, including both training and testing, is required for both Class A and Class B Operators of USTs who do not retrain annually, when those Operators have been determined by OSFM to be out of compliance by issuing an NOV pertaining to release detection, corrosion protection, spill and overflow, financial responsibility, or failure to complete training and testing as required by this Subpart. The training program or comparable examination must be developed or administered by an independent organization, OSFM, or a recognized authority.
- b) Retraining required under this Section shall be completed within ~~3060~~ days after issuance of the NOV indicating noncompliance.
- c) Evidence of ~~completed~~retraining shall be at the UST facility and available for inspection within ~~3060~~ days after issuance of the NOV indicating noncompliance. When the NOV pertains to a failure to complete the training and testing required by this Subpart, the owner must have evidence of completed training and testing at the facility and available for inspection within 30 calendar days after receipt of the NOV.

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(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 176.655 Periodic Operation and Maintenance Walkthrough Inspections and Written Facility Operations and Maintenance Plan; and Class A, B and C Operator Responsibilities

- a) At a manned facility, a Class A, Class B or Class C Operator must be onsite at all times. For unmanned facilities, emergency contact information for Class A, B and C Operators, including names and telephone numbers, shall be conspicuously posted at the facility unless a toll-free number for 24 hour dispatch to the facility has been prominently displayed at the facility. At both manned and unmanned facilities, the Class C Operator is responsible for responding to alarms or other indications of emergencies caused by spills or releases from USTs and shall be familiar with the written emergency response instructions and procedures for the facility.
- b) Periodic Operation and Maintenance Walkthrough Inspections and Operations and Maintenance Plan. Each Class A or Class B Operator shall perform walkthrough inspections~~a quarterly inspection~~ of each storage tank system for which he or she is designated and shall record the results of each inspection on a checklist to be maintained with the facility records. ~~At a minimum,~~ walkthrough~~quarterly~~ inspections shall be conducted at least once every 30 days and once per year, with the results~~and~~ recorded on a checklist that details the inspection of the following:
- 1) At least once every 30 days:
- A) Release detection methods, including monitoring systems and all associated sensors shall be maintained by:
- i) checking to ensure that the entire system is,~~checking that they are~~ fully operational;
- ii) checking, for potential releases and that there are no alarms or any other unusual operating conditions present; and,
- iii) checking and collecting 30-day Pass reports for ATGs and 30-day Normal reports for sensors and checking that all

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~~other for all~~ required records are reviewed and current; ~~and whether UST facility staff and Class C Operators appropriately responded to all alarms and any conditions that might have indicated a release of a regulated substance;~~

~~B)~~ ~~The overall status of the UST, for alarms and unusual operating conditions that may indicate a release, and investigating and documenting same if it has not been reported as a suspected release under Subpart C;~~

B~~E~~) Integrity of spill and overflow prevention and spill containment equipment and manholes shall be maintained by:

i) Visually checking for damage, including cracks, holes or bulges;

ii) removing all liquid and debris;

iii) checking for a release of regulated substances in all areas of the containments, including the interstitial areas of any double-walled spill prevention equipment with interstitial monitoring;

iv) testing the overflow alarm for operation, if present;

v) checking for and removing any obstructions lodged in the fill pipe;

vi) checking to make sure the fill cap is securely on the fill pipe; and

vii) checking for all potential sources of water entry; (for cracks, holes or bulges), and for the presence of regulated substances, water or debris in the spill prevention equipment;

C~~D~~) Visually checking dispensers~~Dispensers, hoses, breakaways and hardware for leaks and damage, visible product piping and~~

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~~dispenser sumps for the presence of regulated substances, water and debris;~~

~~E) All containment sumps, including those at the submersible junction sumps, remote fills, single wall piping sumps, and at secondary containments, for visual damage to the sump, for the presence of regulated substances or any indication that a release may have occurred, and that these sumps are free of water, product and debris;~~

~~F) If an alarm condition has occurred since the last monthly inspection on any double wall system, whether UST staff and Class C Operators appropriately responded, and, if necessary, whether the appropriate sumps were opened, inspected and cleaned, with the sensors placed back into operational position or status in such a manner as to detect a leak at the earliest possible time;~~

DG) That any impressed current cathodic protection system being utilized is operational, checking and recording that the power is on and that the voltage, amps and hour meter have the appropriate readings required under Section 175.510(f), with a log entry that shows date of inspection, initials of inspector, hour, volt and amp readings, and power on verification;

2) At least once per year:

A) All containments sumps, remote fills, covers and lids, and secondary containments shall be maintained by:

i) checking for visual damage to the sumps, covers and lids;

ii) checking for the presence of regulated substances or any indication that a release may have occurred; and

iii) checking that these sumps and the interstitial areas for any double-walled sumps with interstitial monitoring are free of water, product and debris;

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- BH) All UST equipment including emergency stops shall be checked~~shutoffs~~, for the presence or absence of visible damage to any UST component;
- C) Documentation that the emergency stops have been tested by the owner/operator or a contractor for interconnection and pump shutdown shall be submitted and the testing shall comply with the following:
- i) Checking that activation of any single emergency stop results in the shutoff of all switches and pumps; and
 - ii) Making sure that this is done annually with the OSFM certification form completed (the OSFM form titled "Certification of Operational Testing of Emergency Stops" is available at <https://www2.illinois.gov/sites/sfm/About/Divisions/Petroleum-Chemical-Safety/Pages/Applications-and-Forms.aspx>);
- D) Documentation that the shear valves have been visually inspected by the owner/operator or a contractor shall be submitted and the inspection shall comply with the following:
- i) checking that the shear valves are located ½ inch above or below grade, with grade being the surface upon which the dispenser is mounted;
 - ii) checking that the shear valves are securely mounted using a listed rigid anchor device;
 - iii) checking that the link arm operates when tripped, ensuring the poppet valve closes easily; and
 - iv) Making sure that this is done annually with the OSFM certification form completed (the OSFM form titled "Certification of Annual Inspection of All Dispenser Shear Valves" is available at the website cited in subsection (b)(2)(C);

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- E) Making sure that all~~AH~~ required signs are fully visible and all communication systems in place and operational; ~~and~~
- F) Completing all~~AH~~ other daily, 30-day, monthly and annual inspections, testing, reporting and records as required under 41 Ill. Adm. Code 174, 175 and 176; ~~and-~~
- G) If applicable, checking the tank gauge stick or groundwater bailers for operability and serviceability (manual tank gauging or groundwater monitoring).
- c) The OSFM 30-day and annual walkthrough inspections checklist is available at the website cited in subsection (b)(2)(C).
- d~~z~~) Operations and Maintenance Plan. UST facility owners and operators shall also, in conjunction with their designated Class A and B Operators, adopt and implement a written operations and maintenance plan signed by both the owner and either a Class A or Class B Operator designated for the UST facility. The plan shall be kept at the facility for the life of the UST and shall be updated to reflect changes in the UST facility equipment and operations as they occur. The operations and maintenance plan shall be as specific as possible for each facility. At a minimum, the operations and maintenance plan shall include the following:
- 1~~A~~) A detailed plan showing what inspections, operations, testing, maintenance and recordkeeping shall be done on a daily, 30-day, monthly, quarterly and annual basis in accordance with OSFM rules.
- 2~~B~~) A description of the manner in which UST facility owners and operators properly dispose of regulated substances spilled at the facility, including any water or soil removed from any part of the UST when there is any indication it might be or has been contaminated with a regulated substance.
- 3~~C~~) The emergency procedures and instructions required under Section 176.645.
- ee) The UST facility owner and operator and certified operators shall ensure that all inspections and testing, as outlined in the operations and maintenance plan and required by this Subpart, are properly performed. They shall also ensure that the

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work is performed by licensed contractors if required by 41 Ill. Adm. Code 174, 175 or 176.

- fd) The certified operators shall provide the UST facility owner and operator with a copy of each inspection checklist and alert the owner and operator to any condition that requires follow-up actions. The certified operator doing this shall date and initial the 30-day and annual walkthrough~~quarterly~~ inspection checklist, indicating that this information has been provided to the UST facility owner and operator and a description of the actions taken to correct an issue. The UST owner and operator shall promptly address and correct each compliance and maintenance item noted as being deficient on the checklist.
- ge) A Class A, B or C Operator shall not represent himself or herself as certified unless the person has a current valid certificate of training from an approved trainer.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 176.APPENDIX A Derivation Table (Repealed)

The following table indicates the Sections of 41 Ill. Adm. Code 170 that formerly stated requirements identical or related to those now located within this Part 176.

New Section	Old Section
176.100	170.10, 170.400
.....	
176.200	170.700

176.205	170.710

176.210	170.720

176.215	170.730

176.220	170.740

176.225	170.750

176.230	170.760

176.235	170.770

176.240	170.780

176.245	170.790

176.250	170.795

176.300	170.560 and 170.580(e)

176.310	170.580

176.320	170.580

176.330	170.580(e), 170.610(e), 170.640(a), (e)
.....	
176.340	170.590

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176.350	170.610
176.360	170.640
176.400	170.412
176.410	170.200, 170.427
176.420	170.150(d)(5), (6), 170.310(a)(2), 170.420(a), 170.421(a), (b), (d), 170.500(a)(3), 170.530(j), 170.540(a), (c)
176.430	170.420(e), 170.490, 170.544(b), 170.550, 170.660, 170.780
176.440	170.440
176.450	170.442
176.460	170.672
176.470	170.460(f), 170.480(e), 170.544
176.500	170.800
176.505	None
176.510	170.810
176.515	170.820(a)
176.520	170.820(b), (c)
176.525	170.830
176.530	None
176.535	None
176.540	None

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176.545 _____	170.840
176.550 _____	170.850
176.555 _____	None
176.560 _____	170.870
176.565 _____	170.880
176.570 _____	170.890
176.575 _____	170.910
176.580 _____	170.920, 170.930, 170.940
176.585 _____	None
176.590 _____	None
176.APPENDIX A _____	None

(Source: Repealed at 42 Ill. Reg. _____, effective _____)

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- 1) Heading of the Part: Compliance Certification for Underground Storage Tanks
- 2) Code Citation: 41 Ill. Adm. Code 177
- 3)

<u>Section Numbers</u> :	<u>Proposed Actions</u> :
177.100	Amendment
177.105	Amendment
177.115	Amendment
177.APPENDIX A	Repealed
- 4) Statutory Authority: Implementing and authorized by Sections 2 and 3.5 of the Gasoline Storage Act [430 ILCS 15/2 and 3.5].
- 5) A Complete Description of the Subjects and Issues Involved: Updates existing underground storage tank system (UST) rules concerning the compliance certification required to be issued by OSFM under Section 3.5 of the Gasoline Storage Act. Makes non-substantive changes.
- 6) Published Studies or Reports, and sources of underlying data used to compose this rulemaking: None
- 7) Will this rulemaking replace any emergency rule currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this rulemaking contain incorporations by reference? No
- 10) Are there any other rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objective: These rules could have an impact on local government to the extent that local government units might own or operate a UST system.
- 12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: Persons wishing to comment on this proposed rulemaking may submit comments no later than 45 days after the publication of this Notice to:

Tom Andryk
Division of Legal Counsel

OFFICE OF THE STATE FIRE MARSHAL

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Office of the State Fire Marshal
1035 Stevenson Dr.
Springfield IL 62703-4259

217/785-5758
fax: 217/524-5487

- 13) Initial Regulatory Flexibility Analysis:
- A) Types of small businesses, small municipalities and not-for-profit corporations affected: This rulemaking could have an impact on those small businesses, not-for-profit entities, and small municipalities that own and operate UST systems.
 - B) Reporting, bookkeeping or other procedures required for compliance: The text of this proposed Part 177 requires compliance with technical requirements for UST systems. UST system installations and upgrades have various reporting and permitting requirements as described in Parts 174, 175 and 176 (41 Ill. Adm. Code 174, 175 and 176). Typically the contractor obtains the permit on behalf of the owner/operator.
 - C) Types of professional skills necessary for compliance: Owners and operators of USTs must ensure that all persons installing and doing work on underground storage tank systems have been trained appropriately and licensed by the OSFM.
- 14) Regulatory Agenda on which this rulemaking was summarized: July 2017 & January 2018

The full text of the Proposed Amendments begins on the next page:

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TITLE 41: FIRE PROTECTION
CHAPTER I: OFFICE OF THE STATE FIRE MARSHAL

PART 177

COMPLIANCE CERTIFICATION FOR UNDERGROUND STORAGE TANKS

Section

177.100	Definitions
177.105	Deposit Prohibited
177.110	Inspection of UST Facilities
177.115	Evidence of Compliance Status for UST Facilities
177.120	Certificate of Exemption
177.125	Missing, Damaged or Destroyed Evidence of Compliance Status
177.130	Expiration of Certificates

177.APPENDIX A Derivation Table [\(Repealed\)](#)

AUTHORITY: Implementing the Gasoline Storage Act [430 ILCS 15] and authorized by Sections 2 and 3.5 of the Gasoline Storage Act [430 ILCS 15/2 and 3.5].

SOURCE: Adopted at 34 Ill. Reg. 13531, effective September 2, 2010; amended at 42 Ill. Reg. _____, effective _____.

Section 177.100 Definitions

"Deposit" means the act of placing in or filling of a UST or directing the act of placing in or filling of a UST with a regulated substance.

"Evidence of Compliance Status" means a tag or decal issued by OSFM that is visible to persons making delivery of petroleum, petroleum product, hazardous substances or regulated substances under to this Part.

"Non-Motor Fuel Dispensing Facility" means a location where petroleum or petroleum-based product other than motor fuel is dispensed from a UST.

~~"OSFM" means the Office of the State Fire Marshal.~~

All other terms shall have the meanings ascribed to them in 41 Ill. Adm. Code 174.100.

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(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 177.105 Deposit Prohibited

- a) Effect of Green Decal. Beginning December 22, 1998, no person shall deposit or arrange for or allow another person to deposit petroleum, petroleum product, hazardous substances or regulated substances into any UST unless evidence is displayed that the UST is in compliance with 41 Ill. Adm. Code 174, 175 and 176, except as provided in this Part.
- b) Effect of Red Tag. Beginning December 22, 1998, no person shall deposit or arrange for or allow another person to deposit petroleum, petroleum product, hazardous substances or regulated substances into any UST that displays evidence that the UST is not in compliance with the applicable rules of OSFM. A depositor may make one deposit of a regulated substance to a newly installed or newly lined tank to provide ballast, or to conduct tank or line ~~precision~~~~tightness~~ testing if approved by OSFM. That regulated substance shall not be sold or dispensed until the required decal is obtained.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 177.115 Evidence of Compliance Status for UST Facilities

- a) Evidence of compliance status for UST facilities shall consist of a tag or decal issued by OSFM. The tag or decal shall be either:
 - 1) Red: indicating non-compliance; or
 - 2) Green: indicating compliance; or
 - 3) Yellow: indicating exempt (see Section 177.120).
- b) Evidence of compliance status (green decal) shall be affixed as follows:
 - 1) for motor fuel dispensing facilities, to the window closest to the main entry of the motor fuel dispensing facility or, if such a window is not available, to the inside window of the dispenser cabinet;

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- 2) for non-motor fuel dispensing facilities, to the fill pipe of the UST or near the fill pipe at a location agreed to by the representative of OSFM.
- c) If more than one UST is located at the facility, and some but not all USTs are in compliance, OSFM, in its discretion, may issue a green decal that shall be affixed as provided in subsection (b) and will issue individual red tags for each of the non-compliant USTs that shall be affixed directly onto the fill pipe of the non-compliant UST or near the fill pipe of the non-compliant UST at a location approved by OSFM.
- d) Evidence of compliance status may also be a notice or letter issued by OSFM indicating the facility status. The letter or notice shall be valid for 30 days from the date of the notice or letter.
- e) No decal or tag shall be removed by anyone other than an employee of OSFM. Upon reaching full compliance with the requirements of 41 Ill. Adm. Code 174, 175 and 176 and this Part, OSFM shall issue a green decal to a facility as soon as practicable. Upon reaching full compliance for a particular tank, OSFM shall remove any red tag prohibiting deposit into a particular UST as soon as practicable. Any request to fill a UST with a required minimal amount of fuel necessary to perform ~~precision~~compliance testing must be submitted in writing and approved by OSFM in advance. A depositor may make one deposit of a regulated substance to a newly installed or newly lined tank to provide ballast. That regulated substance shall not be sold or dispensed until the required decal is obtained.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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Section 177.APPENDIX A Derivation Table (Repealed)

The following table indicates the Sections of 41 Ill. Adm. Code 170 or 171 that formerly stated requirements identical or related to those now located within this Part 177.

New Section	Old Section
177.100	170.400, 171.10
.....	
177.110	171.70(a), 171.100(a)

177.115	171.90, 171.110

177.120	171.150

177.125	171.160

177.130	171.180

177.APPENDIX A-----	None

(Source: Repealed at 42 Ill. Reg. _____, effective _____)

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENT

- 1) Heading of the Part: Air Quality Standards
- 2) Code Citation: 35 Ill. Adm. Code 243
- 3) Section Number: 243.108 Proposed Action: Amendment
- 4) Statutory Authority: 415 ILCS 5/7.2, 10, and 27.
- 5) A Complete Description of the Subjects and Issues Involved: The following briefly describes the subjects and issues involved in this rulemaking. A comprehensive description is contained in the Board's opinion and order of February 8, 2018, proposing amendment in docket R18-15 for public comment, which opinion and order is available from the address below. As is explained in that opinion, the Board will receive public comment on the proposed amendment for 45 days from the date it appears in the *Illinois Register* before proceeding to adopt amendment based on this proposal.

The R18-15 proceeding relates to the Illinois ambient air quality requirements in 35 Ill. Adm. Code 243 of the Illinois air pollution control rules. This amendment would update the Illinois ambient air quality requirements to correspond with amendments to the federal National Ambient Air Quality Standards (NAAQSs) that the United States Environmental Protection Agency (USEPA) adopted during the period July 1, 2017 through December 31, 2017. Board action now will obviate action in a subsequent rulemaking.

The Federal NAAQS are codified at 40 C.F.R. 50. During this period, USEPA amended implementation of its NAAQSs as follows:

September 25, 2017 (82 Fed. Reg. 44612)	USEPA designated three new FRMs for particulate matter (PM10), fine particulate matter (PM2.5), and coarse particulate matter (PM10-2.5) in ambient air. Board action on the December 15, 2017 updated version of USEPA's List of Designated Reference and Equivalent Methods will obviate separate action on this USEPA action.
October 2, 2017 (82 Fed. Reg. 45842)	USEPA designated one new FRM for carbon monoxide (CO) in ambient air. Board action on the December 15, 2017 updated version of USEPA's

POLLUTION CONTROL BOARD

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List of Designated Reference and Equivalent Methods will obviate separate action on this USEPA action.

December 15, 2017

USEPA issued an updated version of its List of Designated Reference and Equivalent Methods. The updated version includes the FRMs designated on September 25, 2017 and October 2, 2017. The Board must update the incorporation by reference in the Illinois rules to this version of the List. Doing so will obviate separate actions on the September 25, 2017 and October 2, 2017 methods designations.

The Board deviated from the literal text of the USEPA amendment by using incorporation by reference rather than listing the designated methods. The Board further updated incorporations by reference to *Code of Federal Regulations* provisions to the latest version available.

Tables appear in a document entitled "Identical-in-Substance Rulemaking Addendum (Proposed)" (IIS-RA(P)) that the Board added to docket R18-15 which list the limited revisions that are not based on current federal amendments. The tables contain the deviation from the literal text of the federal actions underlying this amendment, as well as updates to incorporations by reference to the *Code of Federal Regulations* that the Board made in the base text involved. Persons interested in the details of those corrections and amendments should refer to the IIS-RA(P) in docket R18-15.

Section 10(H) of the Environmental Protection Act [415 ILCS 5/10(H)] provides that Section 5-35 of the Administrative Procedure Act [5 ILCS 100/5-35] does not apply to this rulemaking. Because this rulemaking is not subject to Section 5-35 of the APA, it is not subject to First Notice or to Second Notice review by the Joint Committee on Administrative Rules (JCAR).

- 6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: None
- 7) Does this rulemaking replace any emergency rule currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No

POLLUTION CONTROL BOARD

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- 9) Does this rulemaking contain incorporations by reference? Yes
- 10) Are there any other rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objective: These proposed amendments do not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b)].
- 12) Time, Place and Manner in which interested persons may comment on this rulemaking:
The Board will accept written public comment on this proposal for a period of 45 days after the date of this publication. Comments should reference docket R18-15 and be addressed to:

Don A. Brown, Clerk
Illinois Pollution Control Board
State of Illinois Center, Suite 11-500
100 W. Randolph St.
Chicago IL 60601

The Board will conduct one public hearing on the proposed amendment because it will ultimately result in submission to the United States Environmental Protection Agency of an amendment to the State Implementation Plan (SIP). Section 110(a)(2) of the Federal Clean Air Act (42 U.S.C. § 7410(a)(2) (2014)) requires reasonable notice and hearing before a state undertakes an amendment to the SIP. The public hearing will occur by videoconference at the following time and between the following locations:

1:30 p.m., April 22, 2018

Room 11-512
James R. Thompson Center
100 W. Randolph St.
Chicago IL 60601

and

Sangamo Building
Illinois Pollution Control Board Hearing Room
1021 North Grand Avenue
Springfield IL 62702

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Comments should reference docket R18-15 and be addressed to:

Don A. Brown, Clerk
Illinois Pollution Control Board
State of Illinois Center, Suite 11-500
100 W. Randolph St.
Chicago IL 60601

Please direct inquiries to the following person and reference docket R18-15:

Michael J. McCambridge
Staff Attorney
Illinois Pollution Control Board
100 W. Randolph 11-500
Chicago IL 60601

312/814-6924
e-mail: michael.mccambridge@illinois.gov

Request copies of the Board's opinion and order at 312/814-3620, or download a copy from the Board's Website at <http://www.ipcb.state.il.us>.

13) Initial Regulatory Flexibility Analysis:

- A) Types of small businesses, small municipalities, and not-for-profit corporations affected: This rulemaking may affect those small businesses, small municipalities, and not-for-profit corporations that emit pollutants that could potentially affect ambient air quality in any area of Illinois. These proposed amendments do not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b)].
- B) Reporting, bookkeeping or other procedures required for compliance: The existing rules and proposed amendments require extensive reporting, bookkeeping and other procedures, including emissions monitoring, annual reports, and maintenance of operating records. These proposed amendments do not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b)].

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- C) Types of professional skills necessary for compliance: Compliance with the existing rules and proposed amendments may require the services of an attorney, certified public accountant, chemist, and registered professional engineer. These proposed amendments do not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b)].
- 14) Regulatory agenda on which this rulemaking was summarized: January 2018.

The full text of the Proposed Amendment begins on the next page:

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NOTICE OF PROPOSED AMENDMENT

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE B: AIR POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER I: AIR QUALITY STANDARDS AND EPISODESPART 243
AIR QUALITY STANDARDS

SUBPART A: GENERAL PROVISIONS

Section

243.101	Definitions
243.102	Scope
243.103	Applicability
243.104	Nondegradation (Repealed)
243.105	Air Quality Monitoring Data Influenced by Exceptional Events
243.106	Monitoring (Repealed)
243.107	Reference Conditions
243.108	Incorporations by Reference

SUBPART B: STANDARDS AND MEASUREMENT METHODS

Section

243.120	PM ₁₀ and PM _{2.5}
243.121	Particulates (Repealed)
243.122	Sulfur Oxides (Sulfur Dioxide)
243.123	Carbon Monoxide
243.124	Nitrogen Oxides (Nitrogen Dioxide as Indicator)
243.125	Ozone
243.126	Lead
243.APPENDIX A	Rule into Section Table (Repealed)
243.APPENDIX B	Section into Rule Table (Repealed)
243.APPENDIX C	Past Compliance Dates (Repealed)
243.TABLE A	Schedule for Flagging and Documentation Submission for Data Influenced by Exceptional Events for Use in Initial Area Designations (Repealed)

AUTHORITY: Implementing Sections 7.2 and 10 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/7.2, 10, and 27].

POLLUTION CONTROL BOARD

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SOURCE: Adopted as Chapter 2: Air Pollution, Part III: Air Quality Standards, in R71-23, filed and effective April 14, 1972; amended in R80-11, at 6 Ill. Reg. 5804, effective April 22, 1982; amended in R82-12, at 7 Ill. Reg. 9906, effective August 18, 1983; codified at 7 Ill. Reg. 13630; amended in R91-35 at 16 Ill. Reg. 8185, effective May 15, 1992; amended in R09-19 at 35 Ill. Reg. 18857, effective October 25, 2011; amended in R13-11 at 37 Ill. Reg. 12882, effective July 29, 2013; amended in R14-6 at 37 Ill. Reg. 19848, effective November 27, 2013; amended in R14-16 at 38 Ill. Reg. 12900, effective June 9, 2014; amended in R15-4 at 39 Ill. Reg. 5434, effective March 24, 2015; amended in R16-2 at 40 Ill. Reg. 4906, effective March 3, 2016; amended in R17-1 at 41 Ill. Reg. 1121, effective January 23, 2017; amended in R17-10 at 41 Ill. Reg. 13413, effective October 23, 2017; amended in R18-15 at 42 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL PROVISIONS

Section 243.108 Incorporations by Reference

The following materials are incorporated by reference. These incorporations do not include any later amendments or editions:

Government Printing Office (GPO), 732 Capitol Street NW, Washington, DC 20401 (telephone: 202-512-1800 or 866-512-1800; website: www.gpo.gov). The following documents incorporated by reference are available from this source:

Appendix A-1 to 40 CFR 50 (~~20172016~~) (Reference Measurement Principle and Calibration Procedure for the Measurement of Sulfur Dioxide in the Atmosphere (Ultraviolet Fluorescence Method)), referenced in Section 243.122.

Appendix A-2 to 40 CFR 50 (~~20172016~~) (Reference Method for the Determination of Sulfur Dioxide in the Atmosphere (Pararosaniline Method)), referenced in Section 243.122.

Appendix B to 40 CFR 50 (~~20172016~~) (Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High-Volume Method)), referenced in appendix G to 40 CFR 50 (see below).

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENT

Appendix C to 40 CFR 50 ([20172016](#)) (Reference Measurement Principle and Calibration Procedure for the Measurement of Carbon Monoxide in the Atmosphere (Non-Dispersive Infrared Photometry)), referenced in Section 243.123.

Appendix D to 40 CFR 50 ([20172016](#)) (Reference Measurement Principle and Calibration Procedure for the Measurement of Ozone in the Atmosphere), referenced in Section 243.125.

Appendix F to 40 CFR 50 ([20172016](#)) (Reference Measurement Principle and Calibration Procedure for the Measurement of Nitrogen Dioxide in the Atmosphere (Gas Phase Chemiluminescence)), referenced in Section 243.124.

Appendix G to 40 CFR 50 ([20172016](#)) (Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air), referenced in Section 243.126.

Appendix H to 40 CFR 50 ([20172016](#)) (Interpretation of the 1-Hour Primary and Secondary National Ambient Air Quality Standards for Ozone), referenced in Section 243.125.

Appendix I to 40 CFR 50 ([20172016](#)) (Interpretation of the 8-Hour Primary and Secondary National Ambient Air Quality Standards for Ozone), referenced in Section 243.125.

Appendix J to 40 CFR 50 ([20172016](#)) (Reference Method for the Determination of Particulate Matter as PM₁₀ in the Atmosphere), referenced in Section 243.120.

Appendix K to 40 CFR 50 ([20172016](#)) (Interpretation of the Primary and Secondary National Ambient Air Quality Standards for Particulate Matter), referenced in Section 243.120.

Appendix L to 40 CFR 50 ([20172016](#)) (Reference Method for the Determination of Fine Particulate Matter as PM_{2.5} in the Atmosphere), referenced in Section 243.120.

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Appendix N to 40 CFR 50 (~~20172016~~), as amended at 82 Fed. Reg. 14325 (Mar. 20, 2017) (Interpretation of the Primary and Secondary National Ambient Air Quality Standards for Particulate Matter), referenced in Section 243.120.

Appendix O to 40 CFR 50 (~~20172016~~) (Reference Method for the Determination of Coarse Particulate Matter as PM_{10-2.5} in the Atmosphere), referenced in appendix Q to 40 CFR 50 and for use in federally required monitoring by the NCore system pursuant to 40 CFR 58.

Appendix P to 40 CFR 50 (~~20172016~~) (Interpretation of the Primary and Secondary National Ambient Air Quality Standards for Ozone), referenced in Section 243.125.

Appendix Q to 40 CFR 50 (~~20172016~~) (Reference Method for the Determination of Lead in Particulate Matter as PM₁₀ Collected from Ambient Air), referenced in appendix R to 40 CFR 50.

Appendix R to 40 CFR 50 (~~20172016~~) (Interpretation of the National Ambient Air Quality Standards for Lead), referenced in Section 243.126.

Appendix S to 40 CFR 50 (~~20172016~~) (Interpretation of the Primary National Ambient Air Quality Standards for Oxides of Nitrogen (Nitrogen Dioxide)), referenced in Section 243.124.

Appendix T to 40 CFR 50 (~~20172016~~) (Interpretation of the Primary National Ambient Air Quality Standards for Oxides of Sulfur (Sulfur Dioxide)), referenced in Section 243.122.

Appendix U to 40 CFR 50 (~~20172016~~) (Interpretation of the Primary National Ambient Air Quality Standards for Ozone), referenced in Section 243.125.

Clean Air Act, 42 USC 7401 et seq. (~~20162013~~) (for definitions of terms only), referenced in Section 243.102.

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BOARD NOTE: Segments of the Code of Federal Regulations and the United States Code are available for free download as PDF documents from the GPO FDsys website: <http://www.gpo.gov/fdsys/>.

USEPA, National Exposure Research Laboratory, Human Exposure & Atmospheric Sciences Division (MD-D205-03), Research Triangle Park, NC 27711. The following documents incorporated by reference are available from this source:

"List of Designated Reference and Equivalent Methods" (~~December 16, 2017~~[June 16, 2017](#)) (referred to as the "List of Designated Methods" and referenced in Sections 243.101, 243.120, 243.122, 243.123, 243.124, 243.125, and 243.126.

BOARD NOTE: The List of Designated Methods is available for free download as a PDF document from the USEPA, Technology Transfer, Ambient Monitoring Technology Information Center website: <http://www.epa.gov/ttn/amtic/criteria.html>.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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NOTICE OF PROPOSED AMENDMENT

- 1) Heading of the Part: Primary Drinking Water Standards
- 2) Code Citation: 35 Ill. Adm. Code 611
- 3)

<u>Section Numbers</u> :	<u>Proposed Actions</u> :
611.102	Amendment
611.381	Amendment
611.531	Amendment
611.611	Amendment
611.720	Amendment
611.802	Amendment
611.1052	Amendment
- 4) Statutory Authority: 415 ILCS 5/7.2, 17, 17.5, and 27
- 5) A Complete description of the Subjects and Issues Involved: The following briefly describes the subjects and issues involved in the docket R18-9 rulemaking which amends Part 611. A comprehensive description is contained in the Board's opinion and order of February 8, 2018, proposing amendments in docket R18-9, which opinion and order is available from the address below.

This Board reserved this docket to update the Illinois Safe Drinking Water Act (SDWA) rules to correspond with amendments adopted by the United States Environmental Protection Agency (USEPA) that appeared in the Federal Register during the update period July 1, 2017 through December 31, 2017. During this period, USEPA approved several new equivalent analytical methods on July 27, 2017. Review of the text open based on USEPA actions indicates a limited number of corrections not based on present USEPA actions. The Board found that the corrections are needed, as is provided in section 7.2(b) of the Environmental Protection Act. (415 ILCS 5/7.2(b) (2016))

The corrections and clarifying amendments are not directly derived from the instant federal amendments. A comprehensive description of the subjects and issues involved in the docket R18-9 rulemaking is contained in the Board's opinion and order of February 8, 2018, proposing amendments in docket R18-9, which opinion and order is available from the address below.

The Board has assembled an identical-in-substance rulemaking addendum (proposed) IIS-RA(P) for this proceeding. Tables appear in the IIS-RA(P) in docket R18-9 that list the corrections and amendments. Table 1 lists the few USEPA amendments that are not

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENT

needed in this proceeding. Table 2 lists the several deviations from the text of the USEPA amendments included in this proceeding. Table 3 lists the numerous corrections that the Board has proposed not deriving from current USEPA amendments. Interested persons can access the IIS-RA(P) for the February 8, 2018 opinion and order on the webpage for docket R18-9 in the Board's Clerk's Office On-Line (COOL) system at www.ipcb.state.il.us.

Section 17.5 of the Environmental Protection Act [415 ILCS 5/17.5] provides that Section 5-35 of the Administrative Procedure Act [5 ILCS 100/5-35] does not apply to this rulemaking. Because this rulemaking is not subject to Section 5-35 of the APA, it is not subject to First Notice or to Second Notice review by the Joint Committee on Administrative Rules (JCAR).

- 6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: None
- 7) Will this rulemaking replace an emergency rule currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this rulemaking contain incorporations by reference? Yes
- 10) Are there any other rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objective: These proposed amendments do not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b) (2016)].
- 12) Time, Place and Manner in which interested persons may comment on this proposed rulemaking: The Board will accept written public comment on this proposal for a period of 45 days after the date of this publication. Comments should reference docket R18-9 and be addressed to:

Don A. Brown, Clerk
Illinois Pollution Control Board
State of Illinois Center, Suite 11-500
100 W. Randolph St.
Chicago IL 60601

POLLUTION CONTROL BOARD

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Please direct inquiries to the following person and reference docket R18-9:

Michael J. McCambridge
Staff Attorney
Illinois Pollution Control Board
100 W. Randolph 11-500
Chicago IL 60601

312/814-6924
email: michael.mccambridge@illinois.gov

Request copies of the Board's opinion and order at 312/814-3620, or download a copy from the Board's Website at <http://www.ipcb.state.il.us>.

13) Initial Regulatory Flexibility Analysis:

- A) Types of small businesses, small municipalities, and not-for-profit corporations affected: This rulemaking may affect those small businesses, small municipalities, and not-for-profit corporations that own or operate a public water supply. These proposed amendments do not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b)].
- B) Reporting, bookkeeping or other procedures required for compliance: The existing rules and proposed amendments require extensive reporting, bookkeeping and other procedures, including the preparation of reports, water analyses, and maintenance of operating records. These proposed amendments do not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b)].
- C) Types of professional skills necessary for compliance: Compliance with the existing rules and proposed amendments may require the services of an attorney, certified public accountant, chemist, and registered professional engineer. These proposed amendments do not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b)].

14) Regulatory Agenda on which this rulemaking was summarized: January 2018

The full text of the Proposed Amendments begins on the next page:

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TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE F: PUBLIC WATER SUPPLIES
CHAPTER I: POLLUTION CONTROL BOARDPART 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
611.130	Special Requirements for Certain Variances and Adjusted Standards
611.131	Relief Equivalent to SDWA Section 1415(e) Small System Variance
611.160	Composite Correction Program
611.161	Case-by-Case Reduced Subpart Y Monitoring for Wholesale and Consecutive Systems

SUBPART B: FILTRATION AND DISINFECTION

Section	
611.201	Requiring a Demonstration
611.202	Procedures for Agency Determinations

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

SUBPART C: USE OF NON-CENTRALIZED TREATMENT DEVICES

Section

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

SUBPART D: TREATMENT TECHNIQUES

Section

611.295	General Requirements
611.296	Acrylamide and Epichlorohydrin
611.297	Corrosion Control

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

Section

611.300	Old MCLs for Inorganic Chemical Contaminants
611.301	Revised MCLs for Inorganic Chemical Contaminants
611.310	State-Only Maximum Contaminant Levels (MCLs) for Organic Chemical Contaminants

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611.311	Revised MCLs for Organic Chemical Contaminants
611.312	Maximum Contaminant Levels (MCLs) for Disinfection Byproducts (DBPs)
611.313	Maximum Residual Disinfectant Levels (MRDLs)
611.320	Turbidity (Repealed)
611.325	Microbiological Contaminants
611.330	Maximum Contaminant Levels for Radionuclides
611.331	Beta Particle and Photon Radioactivity (Repealed)

SUBPART G: LEAD AND COPPER

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

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

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

SUBPART K: GENERAL MONITORING AND ANALYTICAL REQUIREMENTS

Section	
611.480	Alternative Analytical Techniques

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611.490	Certified Laboratories
611.491	Laboratory Testing Equipment
611.500	Consecutive PWSs
611.510	Special Monitoring for Unregulated Contaminants (Repealed)

SUBPART L: MICROBIOLOGICAL MONITORING
AND ANALYTICAL REQUIREMENTS

Section

611.521	Routine Coliform Monitoring (Repealed)
611.522	Repeat Coliform Monitoring (Repealed)
611.523	Invalidation of Total Coliform Samples (Repealed)
611.524	Sanitary Surveys (Repealed)
611.525	Fecal Coliform and E. Coli Testing (Repealed)
611.526	Analytical Methodology (Repealed)
611.527	Response to Violation (Repealed)
611.528	Transition from Subpart L to Subpart AA Requirements (Repealed)
611.531	Analytical Requirements
611.532	Unfiltered PWSs
611.533	Filtered PWSs

SUBPART M: TURBIDITY MONITORING AND ANALYTICAL REQUIREMENTS

Section

611.560	Turbidity
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SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

Section

611.591	Violation of a State MCL
611.592	Frequency of State Monitoring
611.600	Applicability
611.601	Monitoring Frequency
611.602	Asbestos Monitoring Frequency
611.603	Inorganic Monitoring Frequency
611.604	Nitrate Monitoring
611.605	Nitrite Monitoring
611.606	Confirmation Samples
611.607	More Frequent Monitoring and Confirmation Sampling

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611.608	Additional Optional Monitoring
611.609	Determining Compliance
611.610	Inorganic Monitoring Times
611.611	Inorganic Analysis
611.612	Monitoring Requirements for Old Inorganic MCLs
611.630	Special Monitoring for Sodium
611.631	Special Monitoring for Inorganic Chemicals (Repealed)

SUBPART O: ORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

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

SUBPART P: THM MONITORING AND ANALYTICAL REQUIREMENTS

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

SUBPART Q: RADIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

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

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

Section

611.740	General Requirements
611.741	Standards for Avoiding Filtration
611.742	Disinfection Profiling and Benchmarking
611.743	Filtration
611.744	Filtration Sampling Requirements
611.745	Reporting and Recordkeeping Requirements

SUBPART S: GROUNDWATER RULE

Section

611.800	General Requirements and Applicability
611.801	Sanitary Surveys for GWS Suppliers
611.802	Groundwater Source Microbial Monitoring and Analytical Methods
611.803	Treatment Technique Requirements for GWS Suppliers
611.804	Treatment Technique Violations for GWS Suppliers
611.805	Reporting and Recordkeeping for GWS Suppliers

SUBPART T: REPORTING AND RECORDKEEPING

Section

611.830	Applicability
611.831	Monthly Operating Report
611.832	Notice by Agency (Repealed)
611.833	Cross Connection Reporting
611.840	Reporting
611.851	Reporting MCL, MRDL, and other Violations (Repealed)
611.852	Reporting other Violations (Repealed)
611.853	Notice to New Billing Units (Repealed)
611.854	General Content of Public Notice (Repealed)
611.855	Mandatory Health Effects Language (Repealed)
611.856	Fluoride Notice (Repealed)
611.858	Fluoride Secondary Standard (Repealed)
611.860	Record Maintenance
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AUTHORITY: Implementing Sections 7.2, 17, and 17.5 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/7.2, 17, 17.5, and 27].

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

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"AMI Turbiwell Method" means "Continuous Measurement of Turbidity Using a SWAN AMI Turbiwell Turbidimeter", available from NEMI or from SWAN Analytische Instrumente AG.

"Aqueous Radiochemical Procedures" means "Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions", available from NTIS; USEPA, EMSL; and USEPA, NSCEP.

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

"Charm Fast Phage" means "Fast Phage Test Procedure. Presence/Absence for Coliphage in Ground Water with Same Day Positive Prediction", [ver.version](#) 009 (Nov. 2012), available from Charm Sciences Inc.

"ChlordioX Plus Test" means "Chlorine Dioxide and Chlorite in Drinking Water by Amperometry using Disposable Sensors", available from Palintest Ltd.

"Chromocult[®] Method" 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 Millipore.

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

"E*Colite Test" means "Charm E*Colite Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Drinking Water", available from Charm Sciences, Inc. and USEPA, Water Resource Center.

"EML Procedures Manual" means "EML Procedures Manual, HASL 300", available from USDOE, EML.

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"Enterolert" means "Evaluation of Enterolert for Enumeration of Enterococci in Recreational Waters", available from American Society for Microbiology.

"Georgia Radium Method" means "The Determination of Radium-226 and Radium-228 in Drinking Water by Gamma-ray Spectrometry Using HPGE or Ge(Li) Detectors", [rev.Revision](#) 1.2, December 2004, available from the Georgia Tech Research Institute.

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

"Guidance Manual for Filtration and Disinfection" means "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources", March 1991, available from USEPA, NSCEP.

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

"Hach Method 8026" means "Spectrophotometric Measurement of Copper in Finished Drinking Water", December 2015, [rev.Revision](#) 1.2, available from the Hach Company.

"Hach Method 10241" means "Spectrophotometric Measurement of Free Chlorine (Cl₂) in Finished Drinking Water", November 2015, [rev.Revision](#) 1.2, available from the Hach Company.

"Hach Method 10258" means "Determination of Turbidity by 360° Nephelometry", January 2016, available from the Hach Company.

"Hach Method 10260" means "Hach Method 10260 – Determination of Chlorinated Oxidants (Free and Total) in Water Using Disposable Planar Reagent-filled Cuvettes and Mesofluic Channel Colorimetry", available from the Hach Company.

"Hach Method 10261" means "Total Organic Carbon in Finished Drinking Water by Catalyzed Ozone Hydroxyl Radical Oxidation Infrared

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Analysis", December 2015, [rev.Revision 1.2](#), available from the Hach Company.

"Hach Method 10267" means "Spectrophotometric Measurement of Total Organic Carbon (TOC) in Finished Drinking Water", December 2015, [rev.Revision 1.2](#), available from the Hach Company.

"Hach Method 10272" means "Spectrophotometric Measurement of Copper in Finished Drinking Water", December 2015, [rev.Revision 1.2](#), available from the Hach Company.

"Hach SPDANS 2 Method 10225" means "Hach Company SPADNS 2 (Arsenic-free) Fluoride Method 10225 – Spectrophotometric Measurement of Fluoride in Water and Wastewater", available from the Hach Co.

"Hach TNTplus 835/836 Method 10206" means "Hach Company TNTplus 835/836 Nitrate Method 10206 – Spectrophotometric Measurement of Nitrate in Water and Wastewater", available from the Hach Co.

"ITS Method D99-003" means Method D99-003, [rev.Revision 3.0](#), "Free Chlorine Species (HOCl⁻ and OCl⁻) by Test Strip", available from Industrial Test Systems, Inc.

"Kelada 01" means "Kelada Automated Test Methods for Total Cyanide, Acid Dissociable Cyanide, and Thiocyanate", [rev.Revision 1.2](#), available from NTIS.

["Lovibond PTV 1000" means "Continuous Measurement of Drinking Water Turbidity Using a Lovibond PTV 1000 White Light LED Turbidimeter," December 2016. Revision 1.0, available from Tintometer, Inc.](#)

["Lovibond PTV 2000" means "Continuous Measurement of Drinking Water Turbidity Using a Lovibond PTV 2000 660-nm LED Turbidimeter," December 2016. Revision 1.0, available from Tintometer, Inc.](#)

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"Lovibond PTV 6000" means "Continuous Measurement of Drinking Water Turbidity Using a Lovibond PTV 6000 Laser Turbidimeter," December 2016. Revision 1.0, available from Tintometer, Inc.

"m-ColiBlue24 Test" means "Total Coliforms and E. coli Membrane Filtration Method with m-ColiBlue24[®] Broth", available from USEPA, Water Resource Center and Hach Company.

"Method ME355.01" means "Determination of Cyanide in Drinking Water by GC/MS Headspace Analysis", available from NEMI or from H&E Testing Laboratory.

"Mitchell Method M5271, rev. 1.1" means "Determination of Turbidity by Laser Nephelometry", available from NEMI and Leck Mitchell, PhD.

"Mitchell Method M5331, rev.1.1" means "Determination of Turbidity by LED Nephelometry", available from NEMI and Leck Mitchell, PhD.

"Mitchell Method M5331, rev. 1.2" means "Determination of Turbidity by LED or Laser Nephelometry", available from NEMI and Leck Mitchell, PhD.

"Modified Colitag[™] Test" means "Modified Colitag[™] Test Method for Simultaneous Detection of E. coli and other Total Coliforms in Water", available from NEMI and CPI International.

"NBS Handbook 69" means "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure", available from IAEA and ORAU.

"NECi Nitrate-Reductase Method" means Nitrate Elimination Company, Inc. (NECi), "Method for Nitrate Reductase Nitrate-Nitrogen Analysis of Drinking Water", ver. 1.0, rev. 2.0, February 2016, available from Superior Enzymes, Inc.

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

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

"OI Analytical Method OIA-1677" means "Method OIA-1677, DW Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry", available from ALPKEM, Division of OI Analytical.

"Orion Method AQ4500" means "Determination of Turbidity by LED Nephelometry", available from Thermo Scientific.

"Palintest ChloroSense" means "Measurement of Free and Total Chlorine in Drinking Water by Palintest ChloroSense", available from NEMI or Palintest Ltd.

"Palintest Method 1001" means "'Lead in Drinking Water by Differential Pulse Anodic Stripping Voltammetry,' 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[®] 2007" means "Readycult[®] Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Finished Waters", v. 1.1, available from EMD Millipore.

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

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

"Standard Methods Online" means the website maintained by the Standard Methods Organization (at www.standardmethods.org) for purchase of the latest versions of methods in an electronic format.

"Syngenta AG-625" means "Atrazine in Drinking Water by

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Immunoassay", February 2001 is available from Syngenta Crop Protection, Inc.

"Systea Easy (1-Reagent)" means "Systea Easy (1-Reagent) Nitrate Method", available from NEMI or Systea Scientific LLC.

"Technical Bulletin 601" means "Technical Bulletin 601, Standard Method of Testing for Nitrate in Drinking Water", July 1994, available from Thermo Scientific.

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

"Tecta EC/TC P-A Test" means "TECTA™ EC/TC medium and the TECTA™ Instrument: a Presence/Absence Method for Simultaneous Detection of Total Coliforms and Escherichia coli (E. coli) in Drinking Water", ver. 1.0 or 2.0, available from [Pathogen Detection Systems, Inc. Veolia Water Solutions and Technologies](http://www.pathogendetection.com).

"Thermo-Fisher Discrete Analyzer" means "Drinking Water Orthophosphate for Thermo Scientific Gallery discrete analyzer", available from Thermo-Fisher Scientific.

"Thermo-Fisher Method 557.1" means "Thermo Fisher Method 557.1: Determination of Haloacetic Acids in Drinking Water using Two-Dimensional Ion Chromatography with Suppressed Conductivity Detection," January 2017. ver. 1.0, available from Thermo-Fisher Scientific.

"USEPA Asbestos Method 100.1" means Method 100.1, "Analytical Method for Determination of Asbestos Fibers in Water", September 1983, available from NTIS.

"USEPA Asbestos Method 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 Inorganic Methods" means "Methods for the Determination of Inorganic Substances in Environmental Samples",

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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 (pages 1-3, 4-5, 6-8, 9-12, 13-15, 16-23, 24-28, 29-33, and 34-37 only). Available from NTIS; USEPA, EMSL; and USEPA, NSCEP.

["USEPA Method 150.3" means "Determination of pH in Drinking Water", February 2017, ver. 1.0, EPA 815/B-17/001, available from USEPA, NSCEP.](#)

"USEPA Method 1600" means "Method 1600: Enterococci in Water by Membrane Filtration Using Membrane-Enterococcus Indoxyl-b-D-Glucoside Agar (mEI)", available from NEMI; USEPA, NSCEP; and USEPA, Water Resource Center.

"USEPA Method 1601" means "Method 1601: Male-specific (F⁺) and Somatic Coliphage in Water by Two-step Enrichment Procedure", available from NEMI; USEPA, NSCEP; and USEPA, Water Resource Center.

"USEPA Method 1602" means "Method 1602: Male-specific (F⁺) and Somatic Coliphage in Water by Single Agar Layer (SAL) Procedure", available from NEMI; USEPA, NSCEP; and USEPA, Water Resource Center.

"USEPA Method 1604" means "Method 1604: Total Coliforms and Escherichia coli in Water by Membrane Filtration Using a Simultaneous Detection Technique (MI Medium)", available from NEMI; USEPA, NSCEP; and USEPA, Water Resource Center.

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"USEPA NERL Method 200.5 (rev. 4.2)" means Method 200.5, [rev. Revision](#) 4.2, "Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry", October 2003, EPA 600/R-06/115. Available from USEPA, ORD.

"USEPA NERL Method 415.3 (rev. 1.1)" means Method 415.3, [rev. Revision](#) 1.1, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water", USEPA, February 2005, EPA 600/R-05/055. Available from USEPA, NSCEP and USEPA, ORD.

"USEPA NERL Method 415.3 (rev. 1.2)" means Method 415.3, [rev. Revision](#) 1.2, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water", USEPA, September 2009, EPA 600/R-09/122. Available from NEMI; USEPA, NSCEP; and USEPA, ORD.

"USEPA NERL Method 525.3 (ver. 1.0)" means Method 525.3, Version 1.0, "Determination of Total Semivolatile Organic Chemicals in Drinking Water by Solid Phase Extraction and Capillary Column Gas Chromatography/Mass Spectrometry (GC/MS)", USEPA, February 2012, EPA 600/R-12/010. Available from USEPA, NSCEP and USEPA, ORD.

"USEPA NERL Method 549.2" means Method 549.2, [rev. Revision](#) 1.0, "Determination of Diquat and Paraquat in Drinking Water by Liquid-Solid Extraction and High Performance Liquid Chromatography with Ultraviolet Detection", June 1997. Available from NEMI and USEPA, ORD.

"USEPA OGWDW Methods" means the methods listed as available from the USEPA, Office of Ground Water and Drinking Water (Methods 302.0, 317.0 (rev. 2.0), 326.0 (rev. 1.0), 327.0 (rev. 1.1), 334.0, 515.4 (rev. 1.0), 523 (rev. 1.0), 524.3 (rev. 1.0), 524.4, 531.2 (rev. 1.0), 536 (rev. 1.0), 552.3 (rev. 1.0), 557, 1622 (99), 1622 (01), 1622 (05), 1623 (99), 1623 (01), 1623 (05), and 1623.1). Available from NEMI (Methods 302.0, 317.0, 326.0, 327.0, 334.0, 515.4, 524.3, 531.2, 552.3, 557, 1622 (01), and 1623 (01) only); USEPA, NSCEP; and USEPA, OGWDW.

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"USEPA Organic Methods" means "Methods for the Determination of Organic Compounds in Drinking Water", December 1988 (revised July 1991) (Methods 508A (rev. 1.0) and 515.1 (rev. 4.0)); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement I", July 1990 (Methods 547, 550, and 550.1); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement II", August 1992 (Methods 548.1 (rev. 1.0), 552.1 (rev. 1.0), and 555 (rev. 1.0)); and "Methods for the Determination of Organic Compounds in Drinking Water – Supplement III", August 1995 (Methods 502.2 (rev. 2.1), 504.1 (rev. 1.1), 505 (rev. 2.1), 506 (rev. 1.1), 507 (rev. 2.1), 508 (rev. 3.1), 508.1 (rev. 2.0), 515.2 (rev. 1.1), 524.2 (rev. 4.1), 525.2 (rev. 2.0), 531.1 (rev. 3.1), 551.1 (rev. 1.0), and 552.2 (rev. 1.0)). Available from NEMI; NTIS; USEPA, NSCEP; and USEPA, EMSL.

"USEPA Organic and Inorganic Methods" means "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Volume 1", EPA 815/R-00/014, PB2000-106981, August 2000 (Methods 300.1 (rev. 1.0), 321.8 (rev. 1.0), and 515.3 (rev. 1.0) only). Available from NEMI; NTIS; and USEPA, NSCEP.

"USEPA Radioactivity Methods" means "Prescribed Procedures for Measurement of Radioactivity in Drinking Water", EPA 600/4-80/032, August 1980 (Methods 900.0, 901.0, 901.1, 902.0, 903.0, 903.1, 904.0, 905.0, 906.0, 908.0, and 908.1). Available from NEMI (Methods 900.0, 901.1, 903.0, 903.1, and 908.0 only); NTIS; and USEPA, NSCEP.

"USEPA Radiochemical Analyses" means "Radiochemical Analytical Procedures for Analysis of Environmental Samples", March 1979 (pages 1-5, 19-32, 33-48, 65-73, 87-91, and 92-95 only). Available from NTIS and USEPA, NSCEP.

"USEPA Radiochemistry Procedures" means "Radiochemistry Procedures Manual", EPA 520/5-84/006, December 1987 (Methods 00-01, 00-02, 00-07, H-02, Ra-03, Ra-04, Ra-05, Sr-04). Available from NEMI; NTIS; and USEPA, NSCEP.

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

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"USGS Method" means the designated method in "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.

BOARD NOTE: The USGS Methods are available in three volumes published in 1977, 1989, and 1993, as outlined in subsection (b).

"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:

ALPKEM, Division of OI Analytical, P.O. Box 9010, College Station, TX 77842-9010, telephone: 979-690-1711, Internet: www.oico.com.

OI Analytical Method OIA-1677, "Method OIA-1677 DW, Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry", EPA 821/R-04/001, January 2004, referenced in Section 611.611.

BOARD NOTE: Also available online for download from www.epa.gov/waterscience/methods/method/cyanide/1677-2004.pdf.

APHA. American Public Health Association, ~~800 I-4015 Fifteenth~~ Street NW, Washington, DC 20005 202-777-2742.

Standard Methods, 16th ed., "Standard Methods for the Examination of Water and Wastewater", 16th Edition, 1985. See the methods listed separately for the same references under American Waterworks Association.

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

Standard Methods, 18th ed., "Standard Methods for the

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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. See the methods listed separately for the same references under American Waterworks Association.

Standard Methods, 19th ed., "Standard Methods for the Examination of Water and Wastewater", 19th Edition, 1995, including "Supplement to the 19th Edition of Standard Methods for the Examination of Water and Wastewater", 1996. See the methods listed separately for the same references under American Waterworks Association.

Standard Methods, 20th ed., "Standard Methods for the Examination of Water and Wastewater", 20th Edition, 1998. See the methods listed separately for the same references under American Waterworks Association.

Standard Methods, 21st ed., "Standard Methods for the Examination of Water and Wastewater", 21st Edition, 2005. See the methods listed separately for the same references under American Waterworks Association.

Standard Methods, 22nd ed., "Standard Methods for the Examination of Water and Wastewater", 22nd Edition, 2012. See the methods listed separately for the same references under American Waterworks Association.

American Society for Microbiology, 1752 N Street N.W., Washington, DC 20036, 202-737-3600:

Enterolert, "Evaluation of Enterolert for Enumeration of Enterococci in Recreational Waters", Applied and Environmental Microbiology, Oct. 1996, vol. 62, no. 10, p. 3881, referenced in Section 611.802.

BOARD NOTE: At the table to 40 CFR 141.402(c)(2), USEPA approved the method as described in the above literature review. The method itself is embodied in the printed instructions to the

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proprietary kit available from IDEXX Laboratories, Inc. (accessible on-line and available by download from www.asm.org, as "Enterolert™ Procedure"). ASTM approved the method as "Standard Test Method for Enterococci in Water Using Enterolert™", which is available in two versions from ASTM: ASTM Method D6503-99 (superseded) and ASTM Method D6503-99. While it is more conventional to incorporate the method as presented in the kit instructions or as approved by ASTM by reference, the Board is constrained to incorporate the version that appears in the technical literature by reference, which is the version that USEPA has explicitly approved.

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

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

Method 302, Gross Alpha and Gross Beta Radioactivity in Water (Total, Suspended, and Dissolved), 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, 17th ed., "Standard Methods for the Examination of Water and Wastewater", 17th Edition, 1989.

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

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Section 611.720.

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

Method 7500-³H 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, 18th ed., "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.

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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,

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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-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-ClO₂ C, Chlorine Dioxide, Amperometric Method I, referenced in Section 611.531.

Method 4500-ClO₂ D, Chlorine Dioxide, DPD Method, referenced in Section 611.531.

Method 4500-ClO₂ E, Chlorine Dioxide, Amperometric Method II (Proposed), referenced in Section 611.531.

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

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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-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-NO₂⁻ B, Nitrogen (Nitrite), Colorimetric Method, referenced in Section 611.611.

Method 4500-NO₃⁻ D, Nitrogen (Nitrate), Nitrate Electrode Method, referenced in Section 611.611.

Method 4500-NO₃⁻ E, Nitrogen (Nitrate), Cadmium Reduction Method, referenced in Section 611.611.

Method 4500-NO₃⁻ F, Nitrogen (Nitrate), Automated Cadmium Reduction Method, referenced in Section 611.611.

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Method 4500-O₃ B, Ozone (Residual) (Proposed), Indigo Colorimetric Method, referenced in Section 611.531.

Method 4500-P E, Phosphorus, Ascorbic Acid Method, referenced in Section 611.611.

Method 4500-P F, Phosphorus, Automated Ascorbic Acid Reduction Method, referenced in Section 611.611.

Method 4500-Si D, Silica, Molybdosilicate Method, referenced in Section 611.611.

Method 4500-Si E, Silica, Heteropoly Blue Method, referenced in Section 611.611.

Method 4500-Si F, Silica, Automated Method for Molybdate-Reactive Silica, referenced in Section 611.611.

Method 6651 B, Glyphosate Herbicide (Proposed), referenced in Section 611.645.

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

Method 7110 C, Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved), Coprecipitation Method for Gross Alpha Radioactivity in Drinking Water (Proposed), referenced in Section 611.720.

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

Method 7500-³H B, Tritium, Liquid Scintillation Spectrometric Method, referenced in Section 611.720.

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

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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, Precipitation Method, referenced in Section 611.720.

Method 7500-Ra C, Radium, Emanation Method, 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, Precipitation Method, 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.

Method 9215 B, Heterotrophic Plate Count, Pour Plate Method, referenced in Section 611.531.

Method 9221 A, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9221 B, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Standard Total Coliform Fermentation Technique, referenced in section 611.531.

Method 9221 C, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Estimation of

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Bacterial Density, referenced in Section 611.531.

Method 9221 E, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Fecal Coliform Procedure, referenced in Section 611.531.

Method 9222 A, Membrane Filter Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9222 B, Membrane Filter Technique for Members of the Coliform Group, Standard Total Coliform Membrane Filter Procedure, referenced in Section 611.531.

Method 9222 C, Membrane Filter Technique for Members of the Coliform Group, Delayed-Incubation Total Coliform Procedure, referenced in Section 611.531.

Method 9222 D, Membrane Filter Technique for Members of the Coliform Group, Fecal Coliform Membrane Filter Procedure, referenced in Section 611.531.

Method 9223, Chromogenic Substrate Coliform Test (Proposed) (also referred to as the variations "Colilert[®] Test" and "Colisure[™] Test"), referenced in Section 611.531.

Method 9223 B, Chromogenic Substrate Coliform Test (Proposed), referenced in Section 611.1004.

"Supplement to the 18th Edition of Standard Methods for the Examination of Water and Wastewater", American Public Health Association, 1994.

Method 6610, Carbamate Pesticide Method, referenced in Section 611.645.

Standard Methods, 19th ed., "Standard Methods for the Examination of Water and Wastewater", 19th Edition, 1995.

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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.

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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-Cl D, Chlorine, Amperometric Titration Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl E, Chlorine, Low-Level Amperometric Titration Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl F, Chlorine, DPD Ferrous Titrimetric Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl G, Chlorine, DPD Colorimetric Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl H, Chlorine, Syringaldazine (FACTS) Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl I, Chlorine, Iodometric Electrode Method, referenced in Sections 611.381 and 611.531.

Method 4500-ClO₂ C, Chlorine Dioxide, Amperometric Method I, referenced in Section 611.531.

Method 4500-ClO₂ D, Chlorine Dioxide, DPD Method, referenced in Sections 611.381 and 611.531.

Method 4500-ClO₂ E, Chlorine Dioxide, Amperometric Method II, referenced in Sections 611.381 and 611.531.

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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-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-NO₂⁻ B, Nitrogen (Nitrite), Colorimetric Method, referenced in Section 611.611.

Method 4500-NO₃⁻ D, Nitrogen (Nitrate), Nitrate Electrode Method, referenced in Section 611.611.

Method 4500-NO₃⁻ E, Nitrogen (Nitrate), Cadmium Reduction Method, referenced in Section 611.611.

Method 4500-NO₃⁻ F, Nitrogen (Nitrate), Automated Cadmium Reduction Method, referenced in Section

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611.611.

Method 4500-O₃ B, Ozone (Residual) (Proposed), Indigo Colorimetric Method, referenced in Section 611.531.

Method 4500-P E, Phosphorus, Ascorbic Acid Method, referenced in Section 611.611.

Method 4500-P F, Phosphorus, Automated Ascorbic Acid Reduction Method, referenced in Section 611.611.

Method 4500-Si D, Silica, Molybdosilicate Method, referenced in Section 611.611.

Method 4500-Si E, Silica, Heteropoly Blue Method, referenced in Section 611.611.

Method 4500-Si F, Silica, Automated Method for Molybdate-Reactive Silica, referenced in Section 611.611.

Method 5910 B, UV Absorbing Organic Constituents, Ultraviolet Absorption Method, referenced in Section 611.381.

Method 6251 B, Disinfection Byproducts: Haloacetic Acids and Trichlorophenol, Micro Liquid-Liquid Extraction Gas Chromatographic Method, referenced in Section 611.381.

Method 6610, Carbamate Pesticide Method, referenced in Section 611.645.

Method 6651 B, Glyphosate Herbicide, referenced in Section 611.645.

Method 7110 B, Gross Alpha and Gross Beta Radioactivity, Evaporation Method for Gross Alpha-Beta, referenced in Section 611.720.

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Method 7110 C, Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved), Coprecipitation Method for Gross Alpha Radioactivity in Drinking Water (Proposed), referenced in Section 611.720.

Method 7120, Gamma-Emitting Radionuclides, referenced in Section 611.720.

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

Method 7500-³H B, Tritium, Liquid Scintillation Spectrometric Method, 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, Precipitation Method, referenced in Section 611.720.

Method 7500-Ra C, Radium, Emanation Method, referenced in Section 611.720.

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

Method 7500-Sr B, Total Radiactive Strontium and Strontium 90, Precipitation Method, referenced in Section 611.720.

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

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

Method 9215 B, Heterotrophic Plate Count, Pour Plate Method, referenced in Section 611.531.

Method 9221 A, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9221 B, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Standard Total Coliform Fermentation Technique, referenced in Section 611.531.

Method 9221 C, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Estimation of Bacterial Density, referenced in Section 611.531.

Method 9221 E, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Fecal Coliform Procedure, referenced in Section 611.531.

Method 9222 A, Membrane Filter Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9222 B, Membrane Filter Technique for Members of the Coliform Group, Standard Total Coliform Membrane Filter Procedure, referenced in Section 611.531.

Method 9222 C, Membrane Filter Technique for Members of the Coliform Group, Delayed-Incubation Total Coliform Procedure, referenced in Section 611.531.

Method 9222 D, Membrane Filter Technique for Members of the Coliform Group, Fecal Coliform Membrane Filter Procedure, referenced in Section 611.531.

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Method 9223, Chromogenic Substrate Coliform Test (also referred to as the variations "Colilert[®] Test", ~~and~~ "Colisure[™] Test", and Colilert-18[®] Test), referenced in Section 611.531.

Method 9223 B, Chromogenic Substrate Coliform Test (Proposed), referenced in Section 611.1004.

"Supplement to the 19th Edition of Standard Methods for the Examination of Water and Wastewater", American Public Health Association, 1996.

Method 5310 B, TOC, Combustion-Infrared Method, referenced in Section 611.381.

Method 5310 C, TOC, Persulfate-Ultraviolet Oxidation Method, referenced in Section 611.381.

Method 5310 D, TOC, Wet-Oxidation Method, referenced in Section 611.381.

Standard Methods, 20th ed., "Standard Methods for the Examination of Water and Wastewater", 20th Edition, 1998.

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

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Method 3125, Metals by Inductively Coupled Plasma/Mass Spectrometry, referenced in Section 611.720.

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

Method 3500-Mg B, Magnesium, EDTA Titrimetric 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-Cl D, Chlorine, Amperometric Titration Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl E, Chlorine, Low-Level Amperometric Titration Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl F, Chlorine, DPD Ferrous Titrimetric Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl G, Chlorine, DPD Colorimetric Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl H, Chlorine, Syringaldazine (FACTS) Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl I, Chlorine, Iodometric Electrode Method, referenced in Sections 611.381 and 611.531.

Method 4500-ClO₂ C, Chlorine Dioxide, Amperometric Method I, referenced in Section 611.531.

Method 4500-ClO₂ D, Chlorine Dioxide, DPD Method, referenced in Sections 611.381 and 611.531.

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Method 4500-ClO₂ E, Chlorine Dioxide, Amperometric Method II (Proposed), referenced in Sections 611.381 and 611.531.

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-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-NO₂⁻ B, Nitrogen (Nitrite), Colorimetric Method, referenced in Section 611.611.

Method 4500-NO₃⁻ D, Nitrogen (Nitrate), Nitrate Electrode Method, referenced in Section 611.611.

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Method 4500-NO₃⁻ E, Nitrogen (Nitrate), Cadmium Reduction Method, referenced in Section 611.611.

Method 4500-NO₃⁻ F, Nitrogen (Nitrate), Automated Cadmium Reduction Method, referenced in Section 611.611.

Method 4500-O₃ B, Ozone (Residual) (Proposed), Indigo Colorimetric Method, referenced in Section 611.531.

Method 4500-P E, Phosphorus, Ascorbic Acid Method, referenced in Section 611.611.

Method 4500-P F, Phosphorus, Automated Ascorbic Acid Reduction Method, referenced in Section 611.611.

Method 4500-SiO₂ C, Silica, Molybdosilicate Method, referenced in Section 611.611.

Method 4500-SiO₂ D, Silica, Heteropoly Blue Method, referenced in Section 611.611.

Method 4500-SiO₂ E, Silica, Automated Method for Molybdate-Reactive Silica, referenced in Section 611.611.

Method 5310 B, TOC, Combustion-Infrared Method, referenced in Section 611.381.

Method 5310 C, TOC, Persulfate-Ultraviolet Oxidation Method, referenced in Section 611.381.

Method 5310 D, TOC, Wet-Oxidation Method, referenced in Section 611.381.

Method 5910 B, UV-Absorbing Organic Constituents, Ultraviolet Absorption Method, referenced in Section 611.381.

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Method 6251 B, Disinfection By-Products: Haloacetic Acids and Trichlorophenol, Micro Liquid-Liquid Extraction Gas Chromatographic Method, referenced in Section 611.381.

Method 6610, Carbamate Pesticide Method, referenced in Section 611.645.

Method 6651 B, Glyphosate Herbicide, Liquid Chromatographic Post-Column Fluorescence Method, referenced in Section 611.645.

Method 7110 B, Gross Alpha and Gross Beta Radioactivity, Evaporation Method for Gross Alpha-Beta, referenced in Section 611.720.

Method 7110 C, Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved), Coprecipitation Method for Gross Alpha Radioactivity in Drinking Water (Proposed), referenced in Section 611.720.

Method 7120, Gamma-Emitting Radionuclides, referenced in Section 611.720.

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

Method 7500-³H B, Tritium, Liquid Scintillation Spectrometric Method, 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.

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

Method 7500-Ra C, Radium, Emanation Method, referenced in Section 611.720.

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

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

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

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

Method 9060 A, Samples, Collection, referenced in Section 611.1052.

Method 9215 B, Heterotrophic Plate Count, Pour Plate Method, referenced in Section 611.531.

Method 9221 A, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9221 B, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Standard Total Coliform Fermentation Technique, referenced in Sections 611.531, 611.802, and 611.1052.

Method 9221 C, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Estimation of Bacterial Density, referenced in Sections 611.531 and 611.1052.

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Method 9221 D, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Presence-Absence (P-A) Coliform Test, referenced in Sections 611.802 and 611.1052.

Method 9221 E, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Fecal Coliform Procedure, referenced in Section 611.531.

Method 9221 F, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Escherichia Coli Procedure (Proposed), referenced in Sections 611.802 and 611.1052.

Method 9222 A, Membrane Filter Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9222 B, Membrane Filter Technique for Members of the Coliform Group, Standard Total Coliform Membrane Filter Procedure, referenced in Sections 611.531, 611.802, and 611.1052.

Method 9222 C, Membrane Filter Technique for Members of the Coliform Group, Delayed-Incubation Total Coliform Procedure, referenced in Sections 611.531, 611.802, and 611.1052.

Method 9222 D, Membrane Filter Technique for Members of the Coliform Group, Fecal Coliform Membrane Filter Procedure, referenced in Sections 611.531 and 611.1004.

Method 9222 G, Membrane Filter Technique for Members of the Coliform Group, MF Partition Procedures, referenced in Sections 611.802, 611.1004, and 611.1052.

Method 9223, Chromogenic Substrate Coliform Test (also referred to as the variations "Colilert® Test" and

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"Colisure™ Test" and "Colilert-18® Test), referenced in Section 611.531.

Method 9223 B, Chromogenic Substrate Coliform Test (also referred to as the variations "Colilert® Test" and "Colisure™ Test"), referenced in Sections 611.802, 611.1004, and 611.1052.

Method 9230 B, Fecal Streptococcus and Enterococcus Groups, Multiple Tube Techniques, referenced in Section 611.802.

Method 9230 C, Fecal Streptococcus and Enterococcus Groups, Membrane Filter Techniques, referenced in Section 611.802.

Standard Methods, 21st ed., "Standard Methods for the Examination of Water and Wastewater", 21st Edition, 2005.

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.

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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 3125, Metals by Inductively Coupled Plasma/Mass Spectrometry, referenced in Section 611.720.

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

Method 3500-Mg B, 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-Cl D, Chlorine, Amperometric Titration Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl E, Chlorine, Low-Level Amperometric Titration Method, referenced in Sections 611.381 and 611.531.

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Method 4500-Cl F, Chlorine, DPD Ferrous Titrimetric Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl G, Chlorine, DPD Colorimetric Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl H, Chlorine, Syringaldazine (FACTS) Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl I, Chlorine, Iodometric Electrode Method, referenced in Sections 611.381 and 611.531.

Method 4500-ClO₂ C, Chlorine Dioxide, Amperometric Method I, referenced in Section 611.531.

Method 4500-ClO₂ D, Chlorine Dioxide, Amperometric Method I, referenced in Section 611.381.

Method 4500-ClO₂ E, Chlorine Dioxide, Amperometric Method II (Proposed), referenced in Sections 611.381 and 611.531.

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-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.

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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-NO₂⁻ B, Nitrogen (Nitrite), Colorimetric Method, referenced in Section 611.611.

Method 4500-NO₃⁻ D, Nitrogen (Nitrate), Nitrate Electrode Method, referenced in Section 611.611.

Method 4500-NO₃⁻ E, Nitrogen (Nitrate), Cadmium Reduction Method, referenced in Section 611.611.

Method 4500-NO₃⁻ F, Nitrogen (Nitrate), Automated Cadmium Reduction Method, referenced in Section 611.611.

Method 4500-O₃ B, Ozone (Residual) (Proposed), Indigo Colorimetric Method, referenced in Section 611.531.

Method 4500-P E, Phosphorus, Ascorbic Acid Method, referenced in Section 611.611.

Method 4500-P F, Phosphorus, Automated Ascorbic Acid Reduction Method, referenced in Section 611.611.

Method 4500-SiO₂ C, Silica, Molybdosilicate Method, referenced in Section 611.611.

Method 4500-SiO₂ D, Silica, Heteropoly Blue Method, referenced in Section 611.611.

Method 4500-SiO₂ E, Silica, Automated Method for Molybdate-Reactive Silica, referenced in Section 611.611.

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Method 5310 B, TOC, Combustion-Infrared Method, referenced in Section 611.381.

Method 5310 C, TOC, Persulfate-Ultraviolet Oxidation Method, referenced in Section 611.381.

Method 5310 D, TOC, Wet-Oxidation Method, referenced in Section 611.381.

Method 5910 B, UV-Absorbing Organic Constituents, Ultraviolet Absorption Method, referenced in Section 611.381.

Method 6251 B, Disinfection By-Products: Haloacetic Acids and Trichlorophenol, Micro Liquid-Liquid Extraction Gas Chromatography Method, referenced in Section 611.381.

Method 6610 B, Carbamate Pesticide Method, High-Performance Liquid Chromatographic Method, referenced in Section 611.645.

Method 6640 B, Acidic Herbicide Compounds, Micro Liquid-Liquid Extraction Gas Chromatographic Method, referenced in Section 611.645.

Method 6651 B, Glyphosate Herbicide, Liquid Chromatographic Post-Column Fluorescence Method, referenced in Section 611.645.

Method 7110 B, Gross Alpha and Gross Beta Radioactivity, Evaporation Method for Gross Alpha-Beta, referenced in Section 611.720.

Method 7110 C, Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved), Coprecipitation Method for Gross Alpha Radioactivity in Drinking Water (Proposed), referenced in Section 611.720.

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Method 7120, Gamma-Emitting Radionuclides, referenced in Section 611.720.

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

Method 7500-³H B, Tritium, Liquid Scintillation Spectrometric Method, 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, Precipitation Method, referenced in Section 611.720.

Method 7500-Ra C, Radium, Emanation Method, referenced in Section 611.720.

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

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

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

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

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Method 9060 A, Samples, Collection, referenced in Section 611.1052.

Method 9215 B, Heterotrophic Plate Count, Pour Plate Method, referenced in Section 611.531.

Method 9221 A, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9221 B, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Standard Total Coliform Fermentation Technique, referenced in Sections 611.531 and 611.1052.

Method 9221 C, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Estimation of Bacterial Density, referenced in Section 611.531.

Method 9221 D, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Presence-Absence (P-A) Coliform Test, referenced in Sections 611.802 and 611.1052.

Method 9221 E, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Fecal Coliform Procedure, referenced in Section 611.531.

Method 9222 A, Membrane Filter Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9222 B, Membrane Filter Technique for Members of the Coliform Group, Standard Total Coliform Membrane Filter Procedure, referenced in Sections 611.531 and 611.1052.

Method 9222 C, Membrane Filter Technique for Members of the Coliform Group, Delayed-Incubation Total Coliform

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Procedure, referenced in Sections 611.531, 611.802, and 611.1052.

Method 9222 D, Membrane Filter Technique for Members of the Coliform Group, Fecal Coliform Membrane Filter Procedure, referenced in Sections 611.531 and 611.1052.

Method 9222 G, Membrane Filter Technique for Members of the Coliform Group, MF Partition Procedures, referenced in Section 611.1052.

Method 9223, Chromogenic Substrate Coliform Test (also referred to as the variations "Colilert[®] Test" and "Colisure[™] Test"), referenced in Section 611.531.

Method 9223 B, Chromogenic Substrate Coliform Test (also referred to as the variations "Colilert[®] Test", "Colisure[™] Test", and "Colilert-18[®] Test", based on the particular medium used, available from IDEXX Laboratories, Inc.), referenced in Sections 611.531, 611.802, and 611.1052.

BOARD NOTE: See the Board note appended to Standard Methods Online in this Section about methods that appear in Standard Methods, 21st ed. which USEPA has cited as available from Standard Methods Online.

Standard Methods, 22nd ed., "Standard Methods for the Examination of Water and Wastewater", 22nd Edition, 2012, for the specified methods, as modified by "22nd Edition of Standard Methods for the Examination of Water and Wastewater ERRATA" dated December 16, 2013 and available online for free download at www.standardmethods.org/PDF/22nd_Ed_Errata_12_16_13.pdf.

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

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

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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 B, Calcium, EDTA Titrimetric Method, referenced in Section 611.611.

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

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

Method 4500-Cl D, Chlorine, Amperometric Titration Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl E, Chlorine, Low-Level Amperometric Titration Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl F, Chlorine, DPD Ferrous Titrimetric Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl G, Chlorine, DPD Colorimetric Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl H, Chlorine, Syringaldazine (FACTS) Method, referenced in Sections 611.381 and 611.531.

Method 4500-Cl I, Chlorine, Iodometric Electrode Method, referenced in Sections 611.381 and 611.531.

Method 4500-ClO₂ C, Chlorine Dioxide, Amperometric Method I, referenced in Section 611.531.

Method 4500-ClO₂ E, Chlorine Dioxide, Amperometric Method II (Proposed), referenced in Sections 611.381 and 611.531.

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.

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

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-NO₂⁻ B, Nitrogen (Nitrite), Colorimetric Method, referenced in Section 611.611.

Method 4500-NO₃⁻ D, Nitrogen (Nitrate), Nitrate Electrode Method, referenced in Section 611.611.

Method 4500-NO₃⁻ E, Nitrogen (Nitrate), Cadmium Reduction Method, referenced in Section 611.611.

Method 4500-NO₃⁻ F, Nitrogen (Nitrate), Automated Cadmium Reduction Method, referenced in Section 611.611.

Method 4500-O₃ B, Ozone (Residual) (Proposed), Indigo Colorimetric Method, referenced in Section 611.531.

Method 4500-P E, Phosphorus, Ascorbic Acid Method, referenced in Section 611.611. Modified by the above-cited errata sheet.

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Method 4500-P F, Phosphorus, Automated Ascorbic Acid Reduction Method, referenced in Section 611.611.

Method 4500-SiO₂ C, Silica, Molybdosilicate Method, referenced in Section 611.611.

Method 4500-SiO₂ D, Silica, Heteropoly Blue Method, referenced in Section 611.611.

Method 4500-SiO₂ E, Silica, Automated Method for Molybdate-Reactive Silica, referenced in Section 611.611.

Method 5310 B, TOC, Combustion-Infrared Method, referenced in Section 611.381.

Method 5310 C, TOC, Persulfate-Ultraviolet Oxidation Method, referenced in Section 611.381.

Method 5310 D, TOC, Wet-Oxidation Method, referenced in Section 611.381.

Method 5910 B, UV-Absorbing Organic Constituents, Ultraviolet Absorption Method, referenced in Section 611.381.

Method 6251 B, Disinfection By-Products: Haloacetic Acids and Trichlorophenol, referenced in Section 611.381.

Method 6610 B, Carbamate Pesticide Method, High-Performance Liquid Chromatographic Method, referenced in Section 611.645.

Method 6640 B, Acidic Herbicide Compounds, Micro Liquid-Liquid Extraction Gas Chromatographic Method, referenced in Section 611.645.

Method 6651 B, Glyphosate Herbicide, Liquid Chromatographic Post-Column Fluorescence Method, referenced in Section 611.645.

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Method 7110 B, Gross Alpha and Gross Beta Radioactivity, Evaporation Method for Gross Alpha-Beta, referenced in Section 611.720.

Method 7110 C, Gross Alpha and Beta Radioactivity (Total, Suspended, and Dissolved), Coprecipitation Method for Gross Alpha Radioactivity in Drinking Water (Proposed), referenced in Section 611.720. Modified by the above-cited errata sheet.

Method 7120, Gamma-Emitting Radionuclides, referenced in Section 611.720.

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

Method 7500-³H B, Tritium, Liquid Scintillation Spectrometric Method, 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, Precipitation Method, referenced in Section 611.720.

Method 7500-Ra C, Radium, Emanation Method, referenced in Section 611.720.

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

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[Method 7500-Ra E, Radium, Gamma Spectrometry Method, referenced in Section 611.720.](#)

Method 7500-Sr B, Total Radioactive Strontium and Strontium 90, Precipitation Method, referenced in Section 611.720. Modified by the above-cited errata sheet.

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

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

Method 9215 B, Heterotrophic Plate Count, Pour Plate Method, referenced in Section 611.531.

Method 9221 A, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9221 B, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Standard Total Coliform Fermentation Technique, referenced in Sections 611.531 and 611.1052.

Method 9221 C, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Estimation of Bacterial Density, referenced in Section 611.531. Modified by the above-cited errata sheet.

Method 9221 E, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Fecal Coliform Procedure, referenced in Section 611.531.

Method 9221 F, Multiple-Tube Fermentation Technique for Members of the Coliform Group, Escherichia Coli Procedure (Proposed), referenced in Section 611.802 and 611.1052.

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Method 9222 A, Membrane Filter Technique for Members of the Coliform Group, Introduction, referenced in Section 611.531.

Method 9222 B, Membrane Filter Technique for Members of the Coliform Group, Standard Total Coliform Membrane Filter Procedure, referenced in Section 611.531. Modified by the above-cited errata sheet.

Method 9222 C, Membrane Filter Technique for Members of the Coliform Group, Delayed-Incubation Total Coliform Procedure, referenced in Section 611.531.

Method 9222 D, Membrane Filter Technique for Members of the Coliform Group, Fecal Coliform Membrane Filter Procedure, referenced in Section 611.531.

Method 9223, Chromogenic Substrate Coliform Test (also referred to as the variations "Colilert[®] Test" and "Colisure[™] Test"), referenced in Section 611.531.

Method 9223 B, Chromogenic Substrate Coliform Test (also referred to as the variations "Colilert[®] Test", "Colisure[™] Test", and "Colilert-18[®] Test", based on the particular medium used, available from IDEXX Laboratories, Inc.), referenced in Sections 611.802, 611.1004, and 611.1052.

BOARD NOTE: See the Board note appended to Standard Methods Online in this Section about methods that appear in Standard Methods, 22nd ed., which USEPA has cited as available from Standard Methods Online.

BOARD NOTE: Individual Methods from Standard Methods are available online from Standard Methods Online.

ASTM. American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 (610-832-9585).

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ASTM Method D511-93 A and B, "Standard Test Methods for Calcium and Magnesium in Water", "Test Method A – Complexometric Titration" and "Test Method B – Atomic Absorption Spectrophotometric", approved 1993, referenced in Section 611.611.

ASTM Method D511-03 A and B, "Standard Test Methods for Calcium and Magnesium in Water", "Test Method A – Complexometric Titration" and "Test Method B – Atomic Absorption Spectrophotometric", approved 2003, referenced in Section 611.611.

ASTM Method D511-09 A and B, "Standard Test Methods for Calcium and Magnesium in Water", "Test Method A – Complexometric Titration" and "Test Method B – Atomic Absorption Spectrophotometric", approved 2009, referenced in Section 611.611.

ASTM Method D511-14 A and B, "Standard Test Methods for Calcium and Magnesium in Water", "Test Method A – Complexometric Titration" and "Test Method B – Atomic Absorption Spectrophotometric", approved 2014, referenced in Section 611.611.

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

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

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

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

ASTM Method D859-10, "Standard Test Method for Silica in

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Water", approved 2010, referenced in Section 611.611.

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

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

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

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

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

ASTM Method D1179-93 B, "Standard Test Methods for Fluoride in Water", "Test Method B – Ion Selective Electrode", approved 1993, referenced in Section 611.611.

ASTM Method D1179-99 B, "Standard Test Methods for Fluoride in Water", "Test Method B – Ion Selective Electrode", approved 1999, referenced in Section 611.611.

ASTM Method D1179-04 B, "Standard Test Methods for Fluoride in Water", "Test Method B – Ion Selective Electrode", approved 2004, referenced in Section 611.611.

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ASTM Method D1179-10 B, "Standard Test Methods for Fluoride in Water", "Test Method B – Ion Selective Electrode", approved 2010, referenced in Section 611.611.

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

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

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

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

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

ASTM Method D1293-95, "Standard Test Methods for pH of Water", approved 1995, referenced in Section 611.611.

ASTM Method D1293-99, "Standard Test Methods for pH of Water", approved 1999, referenced in Section 611.611.

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

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

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

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

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

ASTM Method D2036-98 A and B, "Standard Test Methods for Cyanide in Water", "Test Method A – Total Cyanides after Distillation" and "Test Method B – Cyanides Amenable to Chlorination by Difference", approved 1998, referenced in Section 611.611.

ASTM Method D2036-06 A and B, "Standard Test Methods for Cyanide in Water", "Test Method A – Total Cyanides after Distillation" and "Test Method B – Cyanides Amenable to Chlorination by Difference", approved 2006, referenced in Section 611.611.

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

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

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

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

ASTM Method D2972-97 B and C, "Standard Test Methods for Arsenic in Water", "Test Method B – Atomic Absorption, Hydride Generation" and "Test Method C – Atomic Absorption, Graphite Furnace", approved 1997, referenced in Section 611.611.

ASTM Method D2972-03 B and C, "Standard Test Methods for Arsenic in Water", "Test Method B – Atomic Absorption, Hydride Generation" and "Test Method C – Atomic Absorption, Graphite Furnace", approved 2003, referenced in Section 611.611.

ASTM Method D2972-08 B and C, "Standard Test Methods for Arsenic in Water", "Test Method B – Atomic Absorption, Hydride Generation" and "Test Method C – Atomic Absorption, Graphite Furnace", approved 2008, referenced in Section 611.611.

[ASTM Method D2972-15 B and C, "Standard Test Methods for Arsenic in Water", "Test Method B—Atomic Absorption, Hydride Generation" and "Test Method C—Atomic Absorption, Graphite Furnace", approved 2015, referenced in Section 611.611.](#)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ASTM Method D3859-98 A and B, "Standard Test Methods for Selenium in Water", "Method A – Atomic Absorption, Hydride Method" and "Method B – Atomic Absorption, Graphite Furnace", approved 1998, referenced in Section 611.611.

ASTM Method D3859-03 A and B, "Standard Test Methods for Selenium in Water", "Method A – Atomic Absorption, Hydride Method" and "Method B – Atomic Absorption, Graphite Furnace", approved 2003, referenced in Section 611.611.

ASTM Method D3859-08 A and B, "Standard Test Methods for Selenium in Water", "Method A – Atomic Absorption, Hydride Method" and "Method B – Atomic Absorption, Graphite Furnace", approved 2008, referenced in Section 611.611.

[ASTM Method D3859-15 A and B, "Standard Test Methods for Selenium in Water", "Method A—Atomic Absorption, Hydride Method" and "Method B—Atomic Absorption, Graphite Furnace", approved 2015, referenced in Section 611.611.](#)

ASTM Method D3867-90 A and B, "Standard Test Methods for Nitrite-Nitrate in Water", "Test Method A – Automated Cadmium

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Reduction" and "Test Method B – Manual Cadmium Reduction", approved January 10, 1990, referenced in Section 611.611.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[ASTM Method D6508-15, "Standard Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices Using Capillary Ion Electrophoresis and Chromate Electrolyte", approved 2015, referenced in Section 611.611.](#)

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

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

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

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

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

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

BOARD NOTE: The most recent version of ASTM methods are available for paid download from the ASTM at www.astm.org. Note that the most recent version of an ASTM method may not be the version approved for use by USEPA and incorporated by reference in this subsection (b).

Bran + Luebbe, 1025 Busch Parkway, Buffalo Grove, IL 60089.

Technicon Methods, Method #129-71W, "Fluoride in Water and Wastewater", Industrial Method #129-71W, December 1972. See 40 CFR 141.23(k)(1), footnote 11 ~~(2014)~~, referenced in Section 611.611.

Technicon Methods, Method #380-75WE, "Fluoride in Water and Wastewater", #380-75WE, February 1976. See 40 CFR 141.23(k)(1), footnote 11 ~~(2014)~~, referenced in Section 611.611.

Charm Sciences, Inc., 659 Andover St., Lawrence, MA 01843-1032:

E*Colite Test, "Charm E*Colite Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Drinking Water", January 9, 1998 (referred to as "E*Colite Test"), referenced in Sections 611.802 and 611.1052 (also available from USEPA, Water Resource Center).

"Charm Fast Phage Test. Presence/Absence for Coliphage in Ground Water with Same Day Positive Prediction", version 009 (Nov. 2012), referenced in Section 611.802.

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CPI International, Inc., 5580 Skylane Blvd., Santa Rosa, CA 95403 (800-878-7654 /fax: 707-545-7901/Internet address: www.cpiinternational.com).

Modified Colitag™ Test, "Modified Colitag™ Test Method for Simultaneous Detection of E. coli and other Total Coliforms in Water (ATP D05-0035)", August 2009, referenced in Sections 611.802 and 611.1052. See also NEMI.

EMD Millipore (division of Merck KGaA, Darmstadt, Germany), 290 Concord Road, Billerica, MA 01821 (800-645-5476 or 781-533-6000).

Chromocult® Method, "Chromocult® Coliform Agar Presence/Absence Membrane Filter Test Method for Detection and Identification of Coliform Bacteria and Escherichia coli in Finished Waters", November 2000, Version 1.0, referenced in Sections 611.802 and 611.1052.

Readycult® 2007, "Readycult Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Finished Waters", Version 1.1, January 2007, referenced in Sections 611.802 and 611.1052.

Georgia Tech Research Institute, Robert Rosson, 925 Dalney Road, Atlanta, GA 30332 (404-407-6339).

Georgia Radium Method, "The Determination of Radium-226 and Radium-228 in Drinking Water by Gamma-ray Spectrometry Using HPGE or Ge(Li) Detectors", [rev. Revision](#) 1.2, December 2004, referenced in Section 611.720.

Great Lakes Instruments, Inc., 8855 North 55th Street, Milwaukee, WI 53223.

GLI Method 2, "Turbidity", Nov. 2, 1992, referenced in Section 611.531.

H&E Testing Laboratory, 221 State Street, Augusta, ME 04333 (207-287-2727).

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Method ME355.01, [rev.Revision](#) 1, "Determination of Cyanide in Drinking Water by GC/MS Headspace Analysis", May 2009, referenced in Section 611.611. See also NEMI.

The Hach Company, P.O. Box 389, Loveland, CO 80539-0389 (800-227-4224/Internet address: www.hach.com).

Hach FilterTrak Method 10133, "Determination of Turbidity by Laser Nephelometry", January 2000, [rev.Revision](#) 2.0, referenced in Section 611.531.

Hach Method 8026, "Spectrophotometric Measurement of Copper in Finished Drinking Water", December 2015, [rev.Revision](#) 1.2, referenced in Section 611.611.

Hach Method 10241, "Spectrophotometric Measurement of Free Chlorine (Cl₂) in Finished Drinking Water", November 2015, [rev.Revision](#) 1.2 (referred to as "Hach Method 10241"), referenced in Sections 611.381 and 611.531.

Hach Method 10258, "Determination of Turbidity by 360° Nephelometry", January 2016, [rev.Revision](#) 1.0, referenced in Section 611.531.

Hach Method 10260", Determination of Chlorinated Oxidants (Free and Total) in Water Using Disposable Planar Reagent-filled Cuvettes and Mesofluic Channel Colorimetry", April 2013, referenced in Sections 611.381 and 611.531.

Hach Method 10261, "Total Organic Carbon in Finished Drinking Water by Catalyzed Ozone Hydroxyl Radical Oxidation Infrared Analysis", December 2015, [rev.Revision](#) 1.2, referenced in Section 611.381.

Hach Method 10267, "Spectrophotometric Measurement of Total Organic Carbon (TOC) in Finished Drinking Water", December 2015, [rev.Revision](#) 1.2, referenced in Section 611.381.

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Hach Method 10272, "Spectrophotometric Measurement of Copper in Finished Drinking Water", December 2015, ~~rev.~~Revision 1.2, referenced in Section 611.611.

Hach SPADNS 2 Method 10225, "Fluoride, USEPA SPADNS 2 Method 10225", ~~rev.~~revision 2.0, January 2011, referenced in Section 611.611.

Hach TNTplus 835/836 Method 10206, "Hach Company TNTplus 835/836 Nitrate Method 10206 – Spectrophotometric Measurement of Nitrate in Water and Wastewater", ~~rev.~~revision 2.0, January 2011, referenced in Section 611.611.

m-ColiBlue24 Test, "Total Coliforms and E. coli Membrane Filtration Method with m-ColiBlue24[®] Broth", Method No. 10029, ~~rev.~~Revision 2, August 17, 1999, referenced in Sections 611.802 and 611.1052 (also available from USEPA, Water Resource Center).

Palintest Method 1001, "Method 1001: Lead in Drinking Water by Differential Pulse Anodic Stripping Voltammetry", August 1999, referenced in Section 611.611.

IAEA. International Atomic Energy Agency, Vienna International Centre, PO Box 100, 1400 Vienna, Austria, telephone: (+43-1) 2600-0.

NBS Handbook 69, "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure" August 1963, referenced in Sections 611.101 and 611.330. Also available from NTIS and ORAU. Internet link for document: http://www.iaea.org/inis/collection/NCLCollectionStore/_Public/37/048/37048205.pdf.

BOARD NOTE: The 1963 version of National Bureau of Standards Handbook 69 modifies the 1959 publication of the National Committee on Radiation Protection, NCRP Report No. 22, of the same title. The version available on the NCRP website is the 1959 document.

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IDEXX Laboratories, Inc., One IDEXX Drive, Westbrook, Maine 04092 (800-321-0207).

SimPlate Method, "IDEXX SimPlate TM HPC Test Method for Heterotrophs in Water", November 2000, referenced in Section 611.531.

Industrial Test Systems, Inc., 1875 Langston St., Rock Hill, SC 29730 (803-329-2999).

ITS Method D99-003, ~~rev.Revision~~ 3.0, "Free Chlorine Species (HOCl⁻ and OCl⁻) by Test Strip", November 21, 2003, referenced in Section 611.381.

Lachat Instruments, 6645 W. Mill Rd., Milwaukee, WI 53218 (414-358-4200).

QuikChem Method 10-204-00-1-X, "Digestion and distillation of total cyanide in drinking and wastewaters using MICRO DIST and determination of cyanide by flow injection analysis", ~~rev.Revision~~ 2.1, November 30, 2000, referenced in Section 611.611.

Leck Mitchell, PhD, PE, 656 Independence Valley Dr., Grand Junction, CO 81507 (920-244-8661). See also NEMI.

Mitchell Method M5271, rev. 1.1, "Determination of Turbidity by Laser Nephelometry", March 2009, referenced in Section 611.531.

Mitchell Method M5331, rev. 1.1, "Determination of Turbidity by LED Nephelometry", March 2009, referenced in Section 611.531.

Mitchell Method M5331, rev. 1.2, "Determination of Turbidity by LED or Laser Nephelometry", February 2016, referenced in Section 611.531.

NEMI. National Environmental Method Index (on-line at www.nemi.gov/home/).

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AMI Turbiwell Method, "Continuous Measurement of Turbidity Using a SWAN AMI Turbiwell Turbidimeter", August 2009, referenced in Section 611.531. See also SWAN Analytische Instrumente AG.

Dioxin and Furan Method 1613, rev. B, "Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS", October 1994, EPA 821/B-94/005, referenced in Section 611.645. See also NTIS and USEPA, NSCEP.

Method ME355.01, rev. 1, "Determination of Cyanide in Drinking Water by GC/MS Headspace Analysis", May 2009, referenced in Section 611.611. See also H&E Testing Laboratory.

Mitchell Method M5271, rev. 1.1, "Determination of Turbidity by Laser Nephelometry", March 2009, referenced in Section 611.531. See also Leck Mitchell, PhD, PE.

Mitchell Method M5331, rev. 1.1, "Determination of Turbidity by LED Nephelometry", March 2009, referenced in Section 611.531. See also Leck Mitchell, PhD, PE.

Mitchell Method M5331, rev. 1.2, "Determination of Turbidity by LED or Laser Nephelometry", February 2016, referenced in Section 611.531. See also Leck Mitchell, PhD, PE.

Modified Colitag™ Test, "Modified Colitag™ Test Method for Simultaneous Detection of E. coli and other Total Coliforms in Water (ATP D05-0035)", August 2009, referenced in Section 611.802. See also CPI International, Inc.

Orion Method AQ4500, "Determination of Turbidity by LED Nephelometry", May 2009, referenced in Section 611.531. See also Thermo Scientific.

Palintest ChloroSense, "Measurement of Free and Total Chlorine in Drinking Water by Palintest ChloroSense", September 2009, referenced in Sections 611.381 and 611.531. See also Palintest.

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Systema Easy (1-Reagent), "Systema Easy (1-Reagent) Nitrate Method", February 2009, referenced in Section 611.611. See also Systema Scientific, LLC.

USEPA Asbestos Method 100.1, "Analytical Method for Determination of Asbestos Fibers in Water", September 1983, EPA 600/4-83-043, referenced in Section 611.611. See also NTIS and USEPA, NSCEP.

USEPA Asbestos Method 100.2, "Determination of Asbestos Structures over 10-mm in Length in Drinking Water", June 1994, EPA 600/R-94-134, referenced in Section 611.611. See also NTIS and USEPA, NSCEP.

USEPA Environmental Inorganic Methods, "Methods for the Determination of Inorganic Substances in Environmental Samples", August 1993, EPA 600/R-93-100, referenced in Sections 611.381, 611.531 and 611.611. (Methods 180.1 (rev. 2.0), 300.0 (rev. 2.1), 335.4 (rev. 1.0), 353.2 (rev. 2.0), and 365.1 (rev. 2.0) only.) (Individual methods available by method number.) See also NTIS and USEPA, NSCEP.

USEPA Environmental Metals Methods, "Methods for the Determination of Metals in Environmental Samples – Supplement I", May 1994, EPA 600/R-94-111, referenced in Sections 611.600, 611.611, 611.612, and 611.720. (Methods 200.7 (rev. 4.4), 200.8 (rev. 5.3), 200.9 (rev. 2.2), and 245.1 (rev. 3.0) only.) (Individual methods available by method number.) See also NTIS and USEPA, NSCEP.

USEPA Inorganic Methods, "Methods for Chemical Analysis of Water and Wastes", March 1983, EPA 600/4-79-020, referenced in Section 611.611. (Methods 150.1, 150.2, and 245.2 only.) (Individual methods available by method number.) See also NTIS and USEPA, NSCEP.

USEPA Method 1600, "Method 1600: Enterococci in Water by Membrane Filtration Using Membrane-Enterococcus Indoxyl-b-D-Glucoside Agar (mEI)", September 2002, EPA 821/R-02/022 is an

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approved variation of Standard Methods, Method 9230 C, "Fecal Streptococcus and Enterococcus Groups, Membrane Filter Techniques" (which has not itself been approved for use by USEPA) (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1600sp02.pdf>), referenced in Section 611.802. See also USEPA, NSCEP and USEPA, Water Resource Center.

USEPA Method 1601, "Method 1601: Male-specific (F+) and Somatic Coliphage in Water by Two-step Enrichment Procedure", April 2001, EPA 821/R-01/030 (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1601ap01.pdf>), referenced in Section 611.802. See also USEPA, NSCEP and USEPA, Water Resource Center.

USEPA Method 1602, "Method 1602: Male-specific (F+) and Somatic Coliphage in Water by Single Agar Layer (SAL) Procedure", April 2001, EPA 821/R-01/029 (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1602ap01.pdf>), referenced in Section 611.802. See also USEPA, NSCEP and USEPA, Water Resource Center.

USEPA Method 1604, "Method 1604: Total Coliforms and Escherichia coli in Water by Membrane Filtration Using a Simultaneous Detection Technique (MI Medium)", September 2002, EPA 821/R-02/024 (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1604sp02.pdf>), referenced in Sections 611.802 and 611.1052. See also USEPA, NSCEP and USEPA, Water Resource Center.

USEPA NERL Method 200.5, rev. 4.2, "Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry", October 2003, EPA 600/R-06/115, referenced in Sections 611.611 and 611.612. See also USEPA, ORD and USEPA, NSCEP.

USEPA NERL Method 415.3, rev. 1.2, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water", September 2009, EPA 600/R-09/122,

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referenced in Section 611.381. See also USEPA, ORD and USEPA, NSCEP.

USEPA NERL Method 549.2, rev. 1.0, "Determination of Diquat and Paraquat in Drinking Water by Liquid-Solid Extraction and High Performance Liquid Chromatography with Ultraviolet Detection", June 1997, referenced in Section 611.645. See also USEPA, ORD.

USEPA OGWDW Methods, Method 302.0, "Determination of Bromate in Drinking Water Using Two-Dimensional Ion Chromatography with Suppressed Conductivity Detection", September 2009, EPA 815/B-09/014, referenced in Sections 611.381 and 611.382. See also USEPA, OGWDW and USEPA, NSCEP.

USEPA OGWDW Methods, Method 317.0, rev. 2.0, "Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography with the Addition of a Postcolumn Reagent for Trace Bromate Analysis", July 2001, EPA 815/B-01/001, referenced in Sections 611.381 and 611.382. See also USEPA, OGWDW and USEPA, NSCEP.

USEPA OGWDW Methods, Method 326.0, rev. 1.0, "Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography Incorporating the Addition of a Suppressor Acidified Postcolumn Reagent for Trace Bromate Analysis", June 2002, EPA 815/R-03/007, referenced in Sections 611.381 and 611.382. See also NTIS; USEPA, OGWDW; and USEPA, NSCEP.

USEPA OGWDW Methods, Method 327.0, rev. 1.1, "Determination of Chlorine Dioxide and Chlorite Ion in Drinking Water Using Lissamine Green B and Horseradish Peroxidase with Detection by Visible Spectrophotometry", May 2005, EPA 815/R-05/008, referenced in Sections 611.381 and 611.531. See also USEPA, OGWDW and USEPA, NSCEP.

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USEPA OGWDW Methods, Method 334.0, "Determination of Residual in Drinking Water Using an On-line Chlorine Analyzer", August 2009, EPA 815/B-09/013, referenced in Sections 611.381 and 611.531. See also USEPA, OGWDW and USEPA, NSCEP.

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

USEPA OGWDW Methods, Method 524.3, rev. 1.0, "Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry", June 2009, EPA 815/B-09/009, referenced in Sections 611.381 and 611.645. See also USEPA, OGWDW; and USEPA, NSCEP.

USEPA OGWDW Methods, Method 531.2, rev. 1.0, "Measurement of N-methylcarbamoyloximes and N-methylcarbamates in Water by Direct Aqueous Injection HPLC with Postcolumn Derivatization", September 2001, EPA 815/B-01/002 (document file name "met531_2.pdf"), referenced in Section 611.645. See also USEPA, OGWDW and USEPA, NSCEP.

USEPA OGWDW Methods, Method 552.3, rev. 1.0, "Determination of Haloacetic Acids and Dalapon in Drinking Water by Liquid-Liquid Microextraction, Derivatization, and Gas Chromatography with Electron Capture Detection", July 2003, EPA 815/B-03/002, referenced in Sections 611.381 and 611.645. See also USEPA, OGWDW and USEPA, NSCEP.

USEPA OGWDW Methods, Method 557, "Determination of Haloacetic Acids, Bromate, and Dalapon in Drinking Water by Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry", September 2009, EPA 815/B-09/012, referenced in

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Sections 611.381, 611.382, and 611.645. (Search for "815B09012".) See also USEPA, OGWDW and USEPA, NSCEP.

USEPA OGWDW Methods, Method 1622 (01), "Cryptosporidium in Water by Filtration/IMS/FA", April 2001, EPA 821/R-01/026, referenced in Section 611.1007. See also USEPA, OGWDW and USEPA, NSCEP.

USEPA OGWDW Methods, Method 1623 (01), "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA", April 2001, EPA 821/R-01/025, referenced in Section 611.1007. See also USEPA, OGWDW and USEPA, NSCEP.

USEPA Organic and Inorganic Methods, "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Volume 1", August 2000, EPA 815/R-00/014, referenced in Sections 611.381, 611.382, 611.611, and 611.645 (Methods 300.1 (rev. 1.0), 321.8 (rev. 1.0), and 515.3 (rev. 1.0) only). (Individual methods available by method number.) See also NEMI, NTIS, and USEPA, NSCEP.

USEPA Organic Methods, "Methods for the Determination of Organic Compounds in Drinking Water", December 1988, revised July 1991, EPA 600/4-88/039, referenced in Sections 611.645 and 611.648 (Methods 508A (rev. 1.0) and 515.1 (rev. 4.0) only); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement I", July 1990, EPA 600/4-90/020, referenced in Sections 611.645 and 611.648 (Methods 547, 550, and 550.1 only); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement II", August 1992, EPA 600/R-92/129, referenced in Sections 611.381 and 611.645 (Methods 548.1 (rev. 1.0), 552.1 (rev. 1.0), and 555 (rev. 1.0) only); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement III", August 1995, EPA 600/R-95/131, referenced in Sections 611.381, 611.645, and 611.648 (Methods 502.2 (rev. 2.1), 504.1 (rev. 1.1), 505 (rev. 2.1), 506 (rev. 1.1), 507 (rev. 2.1), 508 (rev. 3.1), 508.1 (rev. 2.0), 515.2 (rev. 1.1), 524.2 (rev. 4.1), 525.2 (rev. 2.0), 531.1 (rev. 3.1), 551.1 (rev. 1.0), and 552.2 (rev. 1.0) only). (Individual methods

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available by method number.) See also NTIS; USEPA, EMSL; and USEPA, NSCEP.

USEPA Radioactivity Methods, "Prescribed Procedures for Measurement of Radioactivity in Drinking Water", August 1980, EPA 600/4-80/032, referenced in Section 611.720 (Methods 900.0, 901.1, 903.0, 903.1, and 908.0 only.) (Individual methods available by method number.) See also NTIS and USEPA, NSCEP.

USEPA Radiochemistry Procedures, "Radiochemistry Procedures Manual", EPA 520/5-84/006, August 1984, Doc. No. PB84-215581, referenced in Section 611.720. (Methods 00-01, 00-02, 00-07, H-02, Ra-03, Ra-04, Ra-05, Sr-04 only.) (Individual Methods Ra-04 and Sr-04 available by method number.) See also NTIS and USEPA, NSCEP.

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, 5301 Shawnee Road, Alexandria, VA 22312 (703-605-6000 or 800-553-6847, www.ntis.gov).

Aqueous Radiochemical Procedures, "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. See also USEPA, EMSL and USEPA, NSCEP.

Dioxin and Furan Method 1613, rev. B, "Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS", October 1994, ~~rev.~~ [Revision B](#), EPA 821/B-94/005, Doc. No. 94-104774, referenced in Section 611.645. See also USEPA, NSCEP.

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Kelada 01, "Kelada Automated Test Methods for Total Cyanide, Acid Dissociable Cyanide, and Thiocyanate", [rev. Revision 1.2](#), August 2001, EPA 821/B-01-009, referenced in Section 611.611.

NBS Handbook 69, "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure", as amended August 1963, U.S. Department of Commerce, referenced in Sections 611.101 and 611.330.

USEPA Asbestos Method 100.1, "Analytical Method for Determination of Asbestos Fibers in Water", EPA 600/4-83-043, September 1983, Doc. No. PB83-260471, referenced in Section 611.611. See also NEMI and USEPA, NSCEP.

USEPA Asbestos Method 100.2, "Determination of Asbestos Structures over 10-mm in Length in Drinking Water", EPA 600/R-94-134, June 1994, Doc. No. PB94-201902, referenced in Section 611.611. See also NEMI and USEPA, NSCEP.

USEPA Environmental Inorganic Methods, "Methods for the Determination of Inorganic Substances in Environmental Samples", August 1993, EPA 600/R-93-100, Doc. No. PB94-121811, referenced in Sections 611.381, 611.531, and 611.611. (Methods 180.1 (rev. 2.0), 300.0 (rev. 2.1), 335.4 (rev. 1.0), 353.2 (rev. 2.0), and 365.1 (rev. 2.0) only.) See also NEMI and USEPA, NSCEP.

USEPA Environmental Metals Methods, "Methods for the Determination of Metals in Environmental Samples – Supplement I", May 1994, EPA 600/R-94-111, Doc. No. PB95-125472, referenced in Sections 611.600, 611.611, 611.612, and 611.720. (Methods 200.7 (rev. 4.4), 200.8 (rev. 5.3), 200.9 (rev. 2.2), and 245.1 (rev. 3.0) only.) See also NEMI and USEPA, NSCEP.

USEPA Inorganic Methods, "Methods for Chemical Analysis of Water and Wastes", March 1983, EPA 600/4-79-020, Doc. No. PB84-128677, referenced in Section 611.611. (Methods 150.1, 150.2, and 245.2 only.) See also NEMI and USEPA, NSCEP.

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USEPA Interim Radiochemical Methods, "Interim Radiochemical Methodology for Drinking Water", EPA 600/4-75-008 (revised), Doc. No. PB253258, March 1976, referenced in Section 611.720 (pages 1-3, 4-5, 6-8, 9-12, 13-15, 16-23, 24-28, 29-33, and 34-37 only). See also USEPA, EMSL and USEPA, NSCEP.

USEPA OGWDW Methods, Method 326.0, ~~rev.~~Revision 1.0, "Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography Incorporating the Addition of a Suppressor Acidified Postcolumn Reagent for Trace Bromate Analysis", June 2002, EPA 815/R-03/007, Doc. No. PB2003-107402, referenced in Sections 611.381 and 611.382. See also NEMI; USEPA, NSCEP; and USEPA, OGWDW.

USEPA Organic and Inorganic Methods, "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Volume 1", August 2000, EPA 815/R-00/014, Doc. No. PB2000-106981, referenced in Sections 611.381, 611.362, 611.611, and 611.645. (Methods 300.1 (rev. 1.0), 321.8 (rev. 1.0), and 515.3 (rev. 1.0).) See also NEMI and USEPA, NSCEP.

USEPA Organic Methods, "Methods for the Determination of Organic Compounds in Drinking Water", December 1988 (revised July 1991), EPA 600/4-88/039, Doc. No. PB91-231480, referenced in Sections 611.645 and 611.648 (Methods 508A (rev. 1.0) and 515.1 (rev. 4.0) only); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement I", July 1990, EPA 600/4-90/020, Doc. No. PB91-146027, referenced in Section 611.645 (Methods 547, 550, and 550.1 only); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement II", August 1992, EPA 600/R-92/129, Doc. No. PB92-207703, referenced in Sections 611.381 and 611.645. (Methods 548.1 (rev. 1.0), 552.1 (rev. 1.0), and 555 (rev. 1.0) only); and "Methods for the Determination of Organic Compounds in Drinking Water – Supplement III", August 1995, EPA 600/R-95/131, Doc. No. PB95-261616, referenced in Sections 611.381 and 611.645 (Methods 502.2 (rev. 2.1), 504.1 (rev. 1.1), 505 (rev. 2.1), 506 (rev. 1.1), 507 (rev. 2.1), 508 (rev. 3.1), 508.1 (rev. 2.0), 515.2 (rev.

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1.1), 524.2 (rev. 4.1), 525.2 (rev. 2.0), 531.1 (rev. 3.1), 551.1 (rev. 1.0), and 552.2 (rev. 1.0) only.) See also NEMI; USEPA, EMSL; and USEPA, NSCEP.

USEPA Radioactivity Methods, "Prescribed Procedures for Measurement of Radioactivity in Drinking Water", EPA 600/4-80/032, August 1980, Doc. No. PB80-224744, referenced in Section 611.720 (Methods 900.0, 901.0, 901.1, 902.0, 903.0, 903.1, 904.0, 905.0, 906.0, 908.0, 908.1 only). See also NEMI and USEPA, NSCEP.

USEPA Radiochemical Analyses, "Radiochemical Analytical Procedures for Analysis of Environmental Samples", March 1979, Doc. No. EMSL LV 053917, referenced in Section 611.720. (Pages 1-5, 19-32, 33-48, 65-73, 87-91, and 92-95 only.) Also available from USEPA, NSCEP.

USEPA Radiochemistry Procedures, "Radiochemistry Procedures Manual", EPA 520/5-84-006, August 1984, Doc. No. PB84-215581, referenced in Section 611.720. (Methods 00-01, 00-02, 00-07, H-02, Ra-03, Ra-04, Ra-05, Sr-04 only.) See also NEMI and USEPA, NSCEP.

USEPA Technical Notes, "Technical Notes on Drinking Water Methods", EPA 600/R-94/173, October 1994, Doc. No. PB95-104766, referenced in Sections 611.531, 611.611, and 611.645. See also USEPA, NSCEP.

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)-~~(2014)~~: "This document contains other analytical test procedures and approved analytical methods that remain available for compliance monitoring until July 1, 1996." Also available online at <http://nepis.epa.gov/EPA/html/Pubs/pubtitleORD.htm> under the document designation "600R94173".

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

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New Jersey Radium Method, "Determination of Radium 228 in Drinking Water", August 1990, referenced in Section 611.720.

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

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

ORAU. Oak Ridge Associated Universities, MC100-44, PO Box 117, Oak Ridge, TN 37831-0117, telephone: 865-576-3146.

NBS Handbook 69, "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure", August 1963, referenced in Sections 611.101 and 611.330. Internet link for document: www.ornl.gov/ptp/Library/NBS/NBS%2069.pdf. Also available from IAEA and NTIS.

BOARD NOTE: The 1963 version of National Bureau of Standards Handbook 69 modifies the 1959 publication of the National Committee on Radiation Protection, NCRP Report No. 22, of the same title. The version available on the NCRP website is the 1959 document.

Palintest, Ltd., 1455 Jamike Avenue, Suite 100, Erlanger, KY (800-835-9629).

ChlordioX Plus Test, "Chlorine Dioxide and Chlorite in Drinking Water by Amperometry using Disposable Sensors", November 2013, referenced in Sections 611.381 and 611.531.

Palintest Method 1001, "Method 1001: Lead in Drinking Water by Differential Pulse Anodic Stripping Voltammetry", August 1999, referenced in Section 611.611.

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Palintest ChloroSense, "Measurement of Free and Total Chlorine in Drinking Water by Palintest ChloroSense", September 2009, referenced in Sections 611.381 and 611.531. See also NEMI.

[Pathogen Detection Systems, Inc., 382 King Street, Kingston, Ontario, Canada K7K 2Y2 \(844-215-7122 or www.tecta-pds.ca\).](#)

[Tecta EC/TC P-A Test, ver. 1.0, "TECTA™ EC/TC medium and the TECTA™ Instrument: a Presence/Absence Method for Simultaneous Detection of Total Coliforms and Escherichia coli \(E.coli\) in Drinking Water", ver. 1.0, May 2014, referenced in Sections 611.802 and 611.1052.](#)

[Tecta EC/TC P-A Test, ver. 2.0, "TECTA™ EC/TC medium and the TECTA™ Instrument: a Presence/Absence Method for Simultaneous Detection of Total Coliforms and Escherichia coli \(E.coli\) in Drinking Water", ver. 2.0, February 2017, referenced in Sections 611.802 and 611.1052.](#)

Standard Methods Online, available online from the Standard Methods Organization at www.standardmethods.org.

Method 3113 B-04, Metals by Electrothermal Atomic Absorption Spectrometry, Electrothermal Atomic Absorption Spectrometric Method, referenced in Sections 611.611 and 611.612.

[Method 7110 D-17, Liquid Scintillation Spectroscopic Method for Gross Alpha-Beta, referenced in Section 611.802.](#)

Method 9230 B-04, Fecal Streptococcus and Enterococcus Groups, Multiple Tube Techniques, referenced in Section 611.802.

[BOARD NOTE: Where, in appendix A to subpart C of 40 CFR 141, USEPA has authorized use of an approved alternative method from Standard Methods Online, and that version of the method appears also in Standard Methods, 21st or 22nd ed., the Board cites only to Standard Methods, 21st or 22nd ed. for that method. The methods that USEPA listed as available from Standard Methods Online, and which are listed above as in Standard Methods, 21st or 22nd edition, are the following:](#)

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2320 B-97 (for alkalinity), 3112 B-09 (for mercury), 3114 B-09 (for arsenic and selenium), 4500-P E-99 and 4500-P F-99; (for orthophosphate); 4500-SO₄-2 C-97, 4500-SO₄-2 D-97, 4500-SO₄-2 E-97, and 4500-SO₄-2 F-97 (for sulfate); 6640 B-01 (for 2,4-D, 2,4,5-TP (silvex), dalapon, dinoseb, pentachlorophenol, and picloram); 5561 B-00 (for glyphosate); 7500-Ra E-07 (for radium-226 and -228); and 9223 B-97 (for E. coli). Since each method is the same version from both sources, the Board views a copy from Standard Methods Online as equivalent to a copy from Standard Methods Online, even though the Board does not also cite to Standard Methods Online. The Board intends that use of the version of the method that is incorporated by reference is acceptable from either source.

~~BOARD NOTE: Where, in appendix A to subpart C of 40 CFR 141 (2014), USEPA has authorized use of an approved alternative method from Standard Methods Online, and that version of the method appears also in Standard Methods, 21st or 22nd ed., the Board cites only to Standard Methods, 21st or 22nd ed. for that method. The methods that USEPA listed as available from Standard Methods Online, and which are listed above as in Standard Methods, 21st or 22nd edition, are the following: 2320 B-97 (for alkalinity), 3112 B-09 (for mercury), 3114 B-09 (for arsenic and selenium), 4500 P E 99 and 4500 P F 99; (for orthophosphate); 4500 SO₄⁻² C 97, 4500 SO₄⁻² D 97, 4500 SO₄⁻² E 97, and 4500 SO₄⁻² F 97 (for sulfate); 6640 B-01 (for 2,4-D, 2,4,5-TP (silvex), dalapon, dinoseb, pentachlorophenol, and picloram); 5561 B-00 (for glyphosate); and 9223 B-97 (for E. coli). Since each method is the same version from both sources, the Board views a copy from Standard Methods Online as equivalent to a copy from Standard Methods Online, even though the Board does not also cite to Standard Methods Online. The Board intends that use of the version of the method that is incorporated by reference is acceptable from either source.~~

SWAN Analytische Instrumente AG, Studbachstrasse 13, CH-8340, Hinwil, Switzerland.

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AMI Turbiwell Method, "Continuous Measurement of Turbidity Using a SWAN AMI Turbiwell Turbidimeter", August 2009, referenced in Section 611.531. See also NEMI.

Superior Enzymes, Inc., 334 Hecla Street, Lake Linden, Michigan 49945 (906-296-1115).

NECi Nitrate Reductase Method, "Method for Nitrate Reductase Nitrate-Nitrogen Analysis of Drinking Water", ver. 1.0, rev. 2.0, February 2016, referenced in Section 611.611.

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

Syngenta AG-625, "Atrazine in Drinking Water by Immunoassay", February 2001, referenced in Section 611.645.

Systema Scientific LLC, 900 Jorie Blvd., Suite 35, Oak Brook, IL 60523 (630-645-0600).

Systema Easy (1-Reagent), "Systema Easy (1-Reagent) Nitrate Method", February 2009, referenced in Section 611.611. See also NEMI.

[Thermo-Fisher Scientific, 490 Lakewside Dr, Sunnyvale, CA 94085 \(800-556-2323 or www.thermofisher.com\).](http://www.thermofisher.com)

[Thermo-Fisher Method 557.1, "Determination of Haloacetic Acids in Drinking Water using Two-Dimensional Ion Chromatography with Suppressed Conductivity Detection," January 2017, ver. 1.0, referenced in Section 611.611.](http://www.thermofisher.com)

Thermo-Fisher Scientific, 168 Third Ave, Waltham, MA 02451 (800-556-2323 or www.thermofisher.com).

Orion Method AQ4500, "Determination of Turbidity by LED Nephelometry", May 2009, referenced in Section 611.531. See also NEMI.

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Technical Bulletin 601, "Standard Method of Testing for Nitrate in Drinking Water", July, 1994, PN 221890-001, referenced in Section 611.611.

Thermo-Fisher Scientific, Ratastie 2, 01620 Vantaa, Finland.

Thermo-Fisher Discrete Analyzer, "Thermo Fisher Scientific Drinking Water Orthophosphate Method for Thermo Scientific Gallery Discrete Analyzer", February 2016, rev. 5, referenced in Section 611.611.

[Tintometer, Inc., 6456 Parkland Drive, Sarasota, FL 34243 \(800-922-5242, 941-758-6410, or www.lovibond.us\).](#)

[Lovibond PTV 1000, "Continuous Measurement of Drinking Water Turbidity Using a Lovibond PTV 1000 White Light LED Turbidimeter," December 2016. rev. 1.0, referenced in Section 611.531.](#)

[Lovibond PTV 2000, "Continuous Measurement of Drinking Water Turbidity Using a Lovibond PTV 2000 660-nm LED Turbidimeter," December 2016. rev. 1.0, referenced in Section 611.531.](#)

[Lovibond PTV 6000, "Continuous Measurement of Drinking Water Turbidity Using a Lovibond PTV 6000 Laser Turbidimeter," December 2016. rev. 1.0, referenced in Section 611.531.](#)

USDHS, STD. United States Department of Homeland Security, Science and Technology Directorate (formerly United States Department of Energy, Environmental Measurements Laboratory), currently available on-line in the 28th edition only, at www.hsdl.org/?abstract&doc=100185&coll=limited. See also USDOE, EML.

EML Procedures Manual (28th ed.), "EML Procedures Manual", HASL 300, 28th ed., 1997 (Methods Ga-01-R, Ra-04, Sr-01, Sr-02, U-02, and U-04 only), referenced in Section 611.720.

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USDOE, EML. United States Department of Energy, Environmental Measurements Laboratory (United States Department of Homeland Security, Science and Technology Directorate, since 2003), currently available on-line in the 28th edition only, at www.wipp.energy.gov/namp/emllegacy/procman.htm. See also USDHS, STD.

EML Procedures Manual (27th ed.), "EML Procedures Manual", HASL 300, 27th Edition, Volume 1, 1990 (Methods Ga-01-R, Ra-04, Sr-01, Sr-02, U-02, and U-04 only), referenced in Section 611.720.

EML Procedures Manual (28th ed.), "EML Procedures Manual", HASL 300, 28th ed., 1997 (Methods Ga-01-R, Ra-04, Sr-01, Sr-02, U-02, and U-04 only), referenced in Section 611.720.

BOARD NOTE: Although only the 28th edition is currently available, USEPA has approved use of the methods from the 27th edition also. The Board has retained the reference to the 27th edition for the benefit of any laboratory that may be using that edition.

USEPA, EMSL. United States Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, OH 45268 (513-569-7586).

Aqueous Radiochemical Procedures, "Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions", EPA-R4-73-014, May 1973, referenced in Section 611.720. See also NTIS and USEPA, NSCEP.

USEPA Interim Radiochemical Methods, "Interim Radiochemical Methodology for Drinking Water", EPA 600/4-75/008 (revised), March 1976, referenced in Section 611.720 (pages 1-3, 4-5, 6-8, 9-12, 13-15, 16-23, 24-28, 29-33, and 34-37 only). See also NTIS and USEPA, NSCEP.

USEPA Organic Methods, "Methods for the Determination of Organic Compounds in Drinking Water", December 1988 (revised July 1991), EPA 600/4-88/039, referenced in Sections 611.645 and 611.648 (Methods 508A (rev. 1.0) and 515.1 (rev. 4.0) only);

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"Methods for the Determination of Organic Compounds in Drinking Water – Supplement I", July 1990, EPA 600/4-90/020, referenced in Section 611.645 (Methods 547, 550, and 550.1 only); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement II", August 1992, EPA 600/R-92/129, referenced in Sections 611.381 and 611.645 (Methods 548.1 (rev. 1.0), 552.1 (rev. 1.0), and 555 (rev. 1.0) only); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement III", August 1995, EPA 600/R-95/131, referenced in Sections 611.381 and 611.645 (Methods 502.2 (rev. 2.1), 504.1 (rev. 1.1), 505 (rev. 2.1), 506 (rev. 1.1), 507 (rev. 2.1), 508 (rev. 3.1), 508.1 (rev. 2.0), 515.2 (rev. 1.1), 524.2 (rev. 4.1), 525.2 (rev. 2.0), 531.1 (rev. 3.1), 551.1 (rev. 1.0), and 552.2 (rev. 1.0) only). See also NEMI; NTIS; and USEPA, NSCEP.

USEPA, NSCEP. United States Environmental Protection Agency, National Service Center for Environmental Publications, P.O. Box 42419, Cincinnati, OH 45242-0419 (except for OGWDW Method 1622 (99), accessible on-line and available by download from <http://www.epa.gov/nscep/> using the search term indicated for the individual method).

Aqueous Radiochemical Procedures, "Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions", EPA-R4-73-014, May 1973, referenced in Section 611.720. (Search for "R473014".) See also NTIS and USEPA, EMSL.

Dioxin and Furan Method 1613, rev. B, "Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS", October 1994, EPA 821/B-94/005, referenced in Section 611.645. (Search for "821B94005".) See also NEMI and NTIS.

Guidance Manual for Filtration and Disinfection, "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources", March 1991, EPA 570/3-91-001, referenced in Sections 611.111 and 611.212. (Search for "570391001".)

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USEPA Asbestos Method 100.1, "Analytical Method for Determination of Asbestos Fibers in Water", September 1983, EPA 600/4-83-043, referenced in Section 611.611. (Search for "600483043".) See also NEMI and NTIS.

USEPA Asbestos Method 100.2, "Determination of Asbestos Structures over 10-mm in Length in Drinking Water", June 1994, EPA 600/R-94-134, referenced in Section 611.611. (Search for "600R94134".) See also NEMI and NTIS.

USEPA Environmental Inorganic Methods, "Methods for the Determination of Inorganic Substances in Environmental Samples", August 1993, EPA 600/R-93-100, referenced in Sections 611.381, 611.531, and 611.611. (Methods 180.1 (rev. 2.0), 300.0 (rev. 2.1), 335.4 (rev. 1.0), 353.2 (rev. 2.0), and 365.1 (rev. 2.0) only.) (Search for "600R93100".) See also NEMI and NTIS.

USEPA Environmental Metals Methods, "Methods for the Determination of Metals in Environmental Samples – Supplement I", May 1994, EPA 600/R-94-111, referenced in Sections 611.600, 611.611, 611.612, and 611.720. (Methods 200.7 (rev. 4.4), 200.8 (rev. 5.3), 200.9 (rev. 2.2), and 245.1 (rev. 3.0) only.) (Search for "600R94111".) See also NEMI and NTIS.

USEPA Inorganic Methods, "Methods for Chemical Analysis of Water and Wastes", March 1983, EPA 600/4-79-020, referenced in Section 611.611. (Methods 150.1, 150.2, and 245.2 only.) (Search for "600479020".) See also NEMI and NTIS.

USEPA Interim Radiochemical Methods, "Interim Radiochemical Methodology for Drinking Water", EPA 600/4-75/008 (revised), March 1976, referenced in Section 611.720 (pages 1-3, 4-5, 6-8, 9-12, 13-15, 16-23, 24-28, 29-33, and 34-37 only). (Search for "600475008".) See also NTIS and USEPA, EMSL.

USEPA Method 1600, "Method 1600: Enterococci in Water by Membrane Filtration Using Membrane-Enterococcus Indoxyl-b-D-Glucoside Agar (mEI)", September 2002, EPA 821/R-02/022 is an approved variation of Standard Methods, Method 9230 C, "Fecal

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Streptococcus and Enterococcus Groups, Membrane Filter Techniques" (which has not itself been approved for use by USEPA) (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1600sp02.pdf>), referenced in Section 611.802. (Search for "821R02022".) See also NEMI and USEPA, Water Resource Center.

USEPA Method 1601, "Method 1601: Male-specific (F+) and Somatic Coliphage in Water by Two-step Enrichment Procedure", April 2001, EPA 821/R-01/030 (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1601ap01.pdf>), referenced in Section 611.802. (Search for "821R01030".) See also NEMI and USEPA, Water Resource Center.

USEPA Method 1602, "Method 1602: Male-specific (F+) and Somatic Coliphage in Water by Single Agar Layer (SAL) Procedure", April 2001, EPA 821/R-01/029 (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1602ap01.pdf>), referenced in Section 611.802. (Search for "821R01029".) See also NEMI and USEPA, Water Resource Center.

USEPA Method 1604, "Method 1604: Total Coliforms and Escherichia coli in Water by Membrane Filtration Using a Simultaneous Detection Technique (MI Medium)", September 2002, EPA 821/R-02/024 (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1604sp02.pdf>), referenced in Sections 611.802 and 611.1052. (Search for "821R02024".) See also NEMI and USEPA, Water Resource Center.

USEPA NERL Method 200.5, rev. 4.2, "Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry", October 2003, EPA 600/R-06/115, referenced in Sections 611.611 and 611.612. (Search for "600R06115".) See also NEMI and USEPA, ORD.

USEPA NERL Method 415.3, rev. 1.1, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source

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Water and Drinking Water", February 2005, EPA 600/R-05/055, referenced in Section 611.381. (Search for "600R05055".) See also USEPA, ORD.

USEPA NERL Method 415.3, rev. 1.2, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water", September 2009, EPA 600/R-09/122, referenced in Section 611.381. (Search for "600R09122".) See also NEMI and USEPA, ORD.

USEPA NERL Method 525.3, ver. 1.0, "Determination of Total Semivolatile Organic Chemicals in Drinking Water by Solid Phase Extraction and Capillary Column Gas Chromatography/Mass Spectrometry (GC/MS)", February 2012, EPA 600/R-12/010, referenced in Section 611.645. (Search for "600R12010".) See also USEPA, ORD.

USEPA OGWDW Methods, Method 302.0, "Determination of Bromate in Drinking Water Using Two-Dimensional Ion Chromatography with Suppressed Conductivity Detection", September 2009, EPA 815/B-09/014, referenced in Sections 611.381 and 611.382. (Search for "815B09014".) See also NEMI and USEPA, OGWDW.

[USEPA Method 150.3, "Determination of pH in Drinking Water", February 2017, ver. 1.0, EPA 815/B-17/001, referenced in Sections 611.611. \(Search for "815B17001".\)](#)

USEPA OGWDW Methods, Method 317.0, rev. 2.0, "Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography with the Addition of a Postcolumn Reagent for Trace Bromate Analysis", July 2001, EPA 815/B-01/001, referenced in Sections 611.381 and 611.382. (Search for "815B01001".) See also NEMI and USEPA, OGWDW.

USEPA OGWDW Methods, Method 326.0, rev. 1.0, "Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography Incorporating the

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Addition of a Suppressor Acidified Postcolumn Reagent for Trace Bromate Analysis", June 2002, EPA 815/R-03/007, referenced in Sections 611.381 and 611.382. (Search for "815R03007".) See also NEMI, NTIS, and USEPA, OGWDW.

USEPA OGWDW Methods, Method 327.0, rev. 1.1, "Determination of Chlorine Dioxide and Chlorite Ion in Drinking Water Using Lissamine Green B and Horseradish Peroxidase with Detection by Visible Spectrophotometry", May 2005, EPA 815/R-05/008, referenced in Sections 611.381 and 611.531. (Search for "815R05008".) See also NEMI and USEPA, OGWDW.

USEPA OGWDW Methods, Method 334.0, "Determination of Residual in Drinking Water Using an On-line Chlorine Analyzer", September 2009, EPA 815/B-09/013, referenced in Sections 611.381 and 611.531. (Search for "815B09013".) See also NEMI and USEPA, OGWDW.

USEPA OGWDW Methods, Method 515.4, rev. 1.0, "Determination of Chlorinated Acids in Drinking Water by Liquid-Liquid Microextraction, Derivatization and Fast Gas Chromatography with Electron Capture Detection", April 2000, EPA 815/B-00/001 (document file name "met515_4.pdf"), referenced in Section 611.645. (Search for "815B00001".) See also NEMI and USEPA, OGWDW.

USEPA OGWDW Methods, Method 523, ver. 1.0, "Determination of Triazine Pesticides and Other Degradates in Drinking Water by Gas Chromatography/Mass Spectrometry (GC/MS)", February 2011, EPA 815/R-11/002, referenced in Section 611.645. (Search for "815R11002".) See also USEPA, OGWDW.

USEPA OGWDW Methods, Method 524.3, rev. 1.0, "Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry", June 2009, EPA 815/B-09/009, referenced in Sections 611.381 and 611.645. (Search for "815B09009".) See also NEMI and USEPA, OGWDW.

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USEPA OGWDW Methods, Method 524.4, "Measurement of Purgeable Organic Compounds in Water by Gas Chromatography/Mass Spectrometry Using Nitrogen Purge Gas", May 2013, EPA 815/R-13/002, referenced in Sections 611.381 and 611.645. (Search for "815R13002".) See also USEPA, OGWDW.

USEPA OGWDW Methods, Method 531.2, rev. 1.0, "Measurement of N-methylcarbamoyloximes and N-methylcarbamates in Water by Direct Aqueous Injection HPLC with Postcolumn Derivatization", September 2001, EPA 815/B-01/002 (document file name "met531_2.pdf"), referenced in Section 611.645. (Search for "815B01002".) See also NEMI and USEPA, OGWDW.

USEPA OGWDW Methods, Method 536, ver. 1.0, "Determination of Triazine Pesticides and Other Degradates in Drinking Water by Liquid Chromatography Electrospray Ionization Tandem Mass Spectrometry (LC/ESI-MS/MS)", October 2007, EPA 815/B-07/002, referenced in Section 611.645. (Search for "815R07002".) See also USEPA, OGWDW.

USEPA OGWDW Methods, Method 552.3, rev. 1.0, "Determination of Haloacetic Acids and Dalapon in Drinking Water by Liquid-Liquid Microextraction, Derivatization, and Gas Chromatography with Electron Capture Detection", July 2003, EPA 815/B-03/002, referenced in Sections 611.381 and 611.645. (Search for "815B03002".) See also NEMI and USEPA, OGWDW.

USEPA OGWDW Methods, Method 557, "Determination of Haloacetic Acids, Bromate, and Dalapon in Drinking Water by Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry", September 2009, EPA 815/B-09/012, referenced in Sections 611.381, 611.382, and 611.645. (Search for "815B09012".) See also NEMI and USEPA, OGWDW.

USEPA OGWDW Methods, Method 1622 (01), "Cryptosporidium in Water by Filtration/IMS/FA", April 2001, EPA 821/R-01/026,

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referenced in Section 611.1007. (Search for "821R01026".) See also NEMI and USEPA, OGWDW.

USEPA OGWDW Methods, Method 1622 (05), "Method 1622: Cryptosporidium in Water by Filtration/IMS/FA", December 2005, EPA 815/R-05/001, referenced in Sections 611.1004 and 611.1007. (Search for "815R05001".)

USEPA OGWDW Methods, Method 1623 (99), "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA", January 1999, EPA 821/R-99/006, referenced in Section 611.1007. (Search for "821R99006".) See also USEPA, OGWDW.

USEPA OGWDW Methods, Method 1623 (01), "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA", April 2001, EPA 821/R-01/025, referenced in Section 611.1007. (Search for "821R01025".) See also NEMI and USEPA, OGWDW.

USEPA OGWDW Methods, Method 1623 (05), "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA", December 2005, EPA 815/R-05/002, referenced in Sections 611.1004 and 611.1007. (Search for "815R05002".) See also USEPA, OGWDW.

USEPA OGWDW Methods, Method 1623.1, "Method 1623.1: Cryptosporidium and Giardia in Water by Filtration/IMS/FA", January 2012, EPA 816/R-12/001, referenced in Section 611.1004. (Search for "816R12001".) See also USEPA, OGWDW.

USEPA Organic and Inorganic Methods, "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Volume 1", August 2000, EPA 815/R-00/014, referenced in Sections 611.362, 611.381, 611.611, and 611.645. (Methods 300.1 (rev. 1.0), 321.8 (rev. 1.0), and 515.3 (rev. 1.0) only.) (Search for "815R00014".) See also NEMI and NTIS.

USEPA Organic Methods, "Methods for the Determination of Organic Compounds in Drinking Water", December 1988, revised

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July 1991, EPA 600/4-88/039, referenced in Sections 611.645 and 611.648 (Methods 508A (rev. 1.0) and 515.1 (rev. 4.0) only) (Search for "600488039"); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement I", July 1990, EPA 600/4-90/020, referenced in Section 611.645 (Methods 547, 550, and 550.1 only) (Search for "600490020"); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement II", August 1992, EPA 600/R-92/129, referenced in Sections 611.381 and 611.645 (Methods 548.1 (rev. 1.0), 552.1 (rev. 1.0), and 555 (rev. 1.0) only) (Search for "600R92129"); "Methods for the Determination of Organic Compounds in Drinking Water – Supplement III", August 1995, EPA 600/R-95/131, referenced in Sections 611.381 and 611.645 (Methods 502.2 (rev. 2.1), 504.1 (rev. 1.1), 505 (rev. 2.1), 506 (rev. 1.1), 507 (rev. 2.1), 508 (rev. 3.1), 508.1 (rev. 2.0), 515.2 (rev. 1.1), 524.2 (rev. 4.1), 525.2 (rev. 2.0), 531.1 (rev. 3.1), 551.1 (rev. 1.0), and 552.2 (rev. 1.0) only) (Search for "600R95131"). See also NEMI; NTIS; and USEPA, EMSL.

USEPA Radioactivity Methods, "Prescribed Procedures for Measurement of Radioactivity in Drinking Water", August 1980, EPA 600/4-80/032, referenced in Section 611.720. (Methods 900.0, 901.0, 901.1, 902.0, 903.0, 903.1, 904.0, 905.0, 906.0, 908.0, 908.1 only.) (Search for "821R01026".) See also NEMI and NTIS.

USEPA Radiochemical Analyses, "Radiochemical Analytical Procedures for Analysis of Environmental Samples", March 1979, Doc. No. EMSL LV 053917, referenced in Section 611.720. (Pages 1-5, 19-32, 33-48, 65-73, 87-91, and 92-95 only.) (Search for "EMSLV053917".) Also available from NTIS.

USEPA Radiochemistry Procedures, "Radiochemistry Procedures Manual", EPA 520/5-84-006, August 1984, Doc. No. PB84-215581, referenced in Section 611.720. (Methods 00-01, 00-02, 00-07, H-02, Ra-03, Ra-04, Ra-05, Sr-04 only.) (Search for "520584006".) See also NEMI and NTIS.

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USEPA Technical Notes, "Technical Notes on Drinking Water Methods", October 1994, EPA 600/R-94/173, referenced in Sections 611.531, 611.611, and 611.645. (Search for "821R94173".) See also NTIS.

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) (2014): "This document contains other analytical test procedures and approved analytical methods that remain available for compliance monitoring until July 1, 1996."

USEPA, OGWDW. United States Environmental Protection Agency, Office of Ground Water and Drinking Water (accessible on-line and available by download from www.epa.gov/dwanalyticalmethods/approved-drinking-water-analytical-methods).

USEPA OGWDW Methods, Method 302.0, "Determination of Bromate in Drinking Water Using Two-Dimensional Ion Chromatography with Suppressed Conductivity Detection", September 2009, EPA 815/B-09/014, referenced in Sections 611.381 and 611.382. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 317.0, rev. 2.0, "Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography with the Addition of a Postcolumn Reagent for Trace Bromate Analysis", USEPA, July 2001, EPA 815/B-01/001, referenced in Sections 611.381 and 611.382. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 326.0, rev. 1.0, "Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography Incorporating the Addition of a Suppressor Acidified Postcolumn Reagent for Trace Bromate Analysis", USEPA, June 2002, EPA 815/R-03/007, referenced in Sections 611.381 and 611.382. See also NTIS and USEPA, NSCEP.

USEPA OGWDW Methods, Method 327.0, rev. 1.1, "Determination of Chlorine Dioxide and Chlorite Ion in Drinking

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Water Using Lissamine Green B and Horseradish Peroxidase with Detection by Visible Spectrophotometry", USEPA, May 2005, EPA 815/R-05/008, referenced in Sections 611.381 and 611.531. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 334.0, "Determination of Residual in Drinking Water Using an On-line Chlorine Analyzer", USEPA, August 2009, EPA 815/B-09/013, referenced in Sections 611.381 and 611.531. See also USEPA, NSCEP.

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

USEPA OGWDW Methods, Method 523, ver. 1.0, "Determination of Triazine Pesticides and Other Degradates in Drinking Water by Gas Chromatography/Mass Spectrometry (GC/MS)", June 2009, EPA 815/B-09/009, referenced in Section 611.645. See also NEMI and USEPA, NSCEP.

USEPA OGWDW Methods, Method 524.3, rev. 1.0, "Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry", June 2009, EPA 815/B-09/009, referenced in Sections 611.381 and 611.645. See also NEMI and USEPA, NSCEP.

USEPA OGWDW Methods, Method 524.4, "Measurement of Purgeable Organic Compounds in Water by Gas Chromatography/Mass Spectrometry Using Nitrogen Purge Gas", May 2013, EPA 815/R-13/002, referenced in Sections 611.381 and 611.645. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 531.2, rev. 1.0, "Measurement of N-methylcarbamoyloximes and N-methylcarbamates in Water by Direct Aqueous Injection HPLC

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with Postcolumn Derivatization", September 2001, EPA 815/B-01/002 (document file name "met531_2.pdf"), referenced in Section 611.645. See also NEMI and USEPA, NSCEP.

USEPA OGWDW Methods, Method 536, ver. 1.0, "Determination of Triazine Pesticides and Other Degradates in Drinking Water by Liquid Chromatography Electrospray Ionization Tandem Mass Spectrometry (LC/ESI-MS/MS)", October 2007, EPA 815/B-07/002, referenced in Section 611.645. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 552.3, rev. 1.0, "Determination of Haloacetic Acids and Dalapon in Drinking Water by Liquid-liquid Microextraction, Derivatization, and Gas Chromatography with Electron Capture Detection", USEPA, July 2003, EPA 815/B-03/002, referenced in Sections 611.381 and 611.645.

USEPA OGWDW Methods, Method 557, "Determination of Haloacetic Acids, Bromate, and Dalapon in Drinking Water by Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry", September 2009, EPA 815-B-09-012, referenced in Sections 611.381, 611.382, and 611.645. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 1622 (05), "Method 1622: Cryptosporidium in Water by Filtration/IMS/FA", December 2005, EPA 815/R-05/001, referenced in Sections 611.1004 and 611.1007. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 1622 (01), "Method 1622: Cryptosporidium in Water by Filtration/IMS/FA", April 2001, EPA 821/R-01/026, referenced in Section 611.1007. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 1622 (99), "Method 1622: Cryptosporidium in Water by Filtration/IMS/FA", April 1999, EPA 821/R-99/001, referenced in Section 611.1007.

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USEPA OGWDW Methods, Method 1623 (05), "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA", December 2005, EPA 815/R-05/002, referenced in Sections 611.1004 and 611.1007. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 1623 (01), "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA", April 2001, EPA 821/R-01/025, referenced in Section 611.1007. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 1623 (99), "Method 1623: Cryptosporidium and Giardia in Water by Filtration/IMS/FA", January 1999, EPA 821/R-99/006, referenced in Section 611.1007. See also USEPA, NSCEP.

USEPA OGWDW Methods, Method 1623.1, "Method 1623.1: Cryptosporidium and Giardia in Water by Filtration/IMS/FA", January 2012, EPA 816/R-12/001, referenced in Section 611.1004. See also USEPA, NSCEP.

BOARD NOTE: Many of the above-listed documents available from the USEPA, Office of Ground Water and Drinking Water are also listed as available from USEPA, NSCEP and NTIS.

USEPA, ORD. USEPA, Office of Research and Development, National Exposure Research Laboratory, Microbiological & Chemical Exposure Assessment Research Division (accessible on-line and available by download from www.epa.gov/water-research/epa-drinking-water-researchmethods, with the exception of USEPA NERL Method 549.2, rev. 1.0).

USEPA NERL Method 200.5, rev. 4.2, "Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry", October 2003, EPA 600/R-06/115, referenced in Sections 611.611 and 611.612. See also USEPA, NSCEP.

USEPA NERL Method 415.3, rev. 1.1, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source

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Water and Drinking Water", February 2005, EPA 600/R-05/055, referenced in Section 611.381. See also USEPA, NSCEP.

USEPA NERL Method 415.3, rev. 1.2, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water", September 2009, EPA 600/R-09/122, referenced in Section 611.381. See also NEMI and USEPA, NSCEP.

USEPA NERL Method 525.3, ver. 1.0, "Determination of Total Semivolatile Organic Chemicals in Drinking Water by Solid Phase Extraction and Capillary Column Gas Chromatography/Mass Spectrometry (GC/MS)", February 2012, EPA 600/R-12/010, referenced in Section 611.645. See also USEPA, NSCEP.

USEPA NERL Method 549.2, rev. 1.0, "Determination of Diquat and Paraquat in Drinking Water by Liquid-Solid Extraction and High Performance Liquid Chromatography with Ultraviolet Detection", June 1997, referenced in Section 611.645. See also NEMI.

USEPA, Water Resource Center (RC-4100T), 1200 Pennsylvania Avenue, NW, Washington, DC 20460:

E*Colite Test, "Charm E*Colite Presence/Absence Test for Detection and Identification of Coliform Bacteria and Escherichia coli in Drinking Water", January 9, 1998, referenced in Sections 611.802 and 611.1052. See also Charm Sciences, Inc.

m-ColiBlue24 Test, "Total Coliforms and E. coli Membrane Filtration Method with m-ColiBlue24® Broth", Method No. 10029, rev. 2, August 17, 1999, referenced in Sections 611.802 and 611.1052. See also The Hach Company.

USEPA Method 1600, "Method 1600: Enterococci in Water by Membrane Filtration Using Membrane-Enterococcus Indoxyl-b-D-Glucoside Agar (mEI)", September 2002, EPA 821/R-02/022 is an approved variation of Standard Methods, Method 9230 C, "Fecal Streptococcus and Enterococcus Groups, Membrane Filter

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Techniques" (which has not itself been approved for use by USEPA) (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1600sp02.pdf>), referenced in Section 611.802. See also USEPA, NSCEP.

USEPA Method 1601, "Method 1601: Male-specific (F⁺) and Somatic Coliphage in Water by Two-step Enrichment Procedure", April 2001, EPA 821/R-01/030 (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1601ap01.pdf>), referenced in Section 611.802. See also USEPA, NSCEP.

USEPA Method 1602, "Method 1602: Male-specific (F⁺) and Somatic Coliphage in Water by Single Agar Layer (SAL) Procedure", April 2001, EPA 821/R-01/029 (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1602ap01.pdf>), referenced in Section 611.802. See also USEPA, NSCEP.

USEPA Method 1604, "Method 1604: Total Coliforms and Escherichia coli in Water by Membrane Filtration Using a Simultaneous Detection Technique (MI Medium)", September 2002, EPA 821/R-02/024 (accessible on-line and available by download from <http://www.epa.gov/nerlcwww/1604sp02.pdf>), referenced in Sections 611.802 and 611.1052. See also USEPA, NSCEP.

USGS. United States Geological Survey, Federal Center, Box 25286, Denver, CO 80225-0425.

Open File Report 93-125, method 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", 1993. Available on-line as a digital document at <https://pubs.usgs.gov/of/1993/0125/report.pdf>.

USGS Method I-2601-90, "Phosphorus, orthophosphate, colorimetry, phosphomolybdate, automated segment-flow," referenced in Section 611.611.

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USGS Techniques of Water-Resource Investigation: 05-A1, methods available upon request by method number from Book 5, Chapter A-1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments", 3rd ed., 1989. Available on-line as a digital document at https://pubs.usgs.gov/twri/twri5-a1/pdf/TWRI_5-A1.pdf.

USGS Method I-1030-85, "Alkalinity, electrometric titration", I-1030-85, referenced in Section 611.611.

USGS Method I-1601-85, "Phosphorus, orthophosphate, colorimetric, phosphomolybdate", I-1601-85, referenced in Section 611.611.

USGS Method I-1700-85, "Silica, colorimetric, molybdate blue", I-1700-85, referenced in Section 611.611.

USGS Method I-2598-85, "Phosphorus, orthophosphate, colorimetric, phosphomolybdate, automated-discrete", I-2598-85, referenced in Section 611.611.

USGS Method I-2700-85, "Silica, colorimetric, molybdate blue, automated-segmented flow", I-2700-85, referenced in Section 611.611.

USGS Method I-3300-85, "Cyanide, colorimetric, pyridine-pyrazolone", I-3300-85, referenced in Section 611.611.

USGS Techniques of Water-Resource Investigation: 05-A5, methods available upon request by method number from Book 5, Chapter A-5, "Methods for Determination of Radioactive Substances in Water and Fluvial Sediments", 1977. Available on-line as a digital document at https://pubs.usgs.gov/twri/twri5a5/pdf/TWRI_5-A5.pdf.

USGS Method R-1110-76, "Cesium-137 and cesium-134, dissolved. Inorganic ion-exchange method – gamma counting", R-1110-76, referenced in Section 611.720.

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USGS Method R-1111-76, "Radiocesium, dissolved, as cesium-137. Inorganic ion-exchange method – beta counting". R-1111-76, referenced in Section 611.720.

USGS Method R-1120-76, "Gross alpha and beta radioactivity, dissolved and suspended", R-1120-76, referenced in Section 611.720.

USGS Method R-1140-76, "Radium, dissolved, as radium-226. Precipitation method", R-1140-76, referenced in Section 611.720.

USGS Method R-1141-76, "Radium-226, dissolved. Radon emanation method", R-1141-76, referenced in Section 611.720.

USGS Method R-1142-76, "Radium-228, dissolved. Determination by separation and counting of actinium-228", R-1142-76, referenced in Section 611.720.

USGS Method R-1160-76, "Strontium-90, dissolved. Chemical separation and precipitation method", R-1160-76, referenced in Section 611.720.

USGS Method R-1171-76, "Tritium. Liquid scintillation, Denver lab method – gamma counting", R-1171-76, referenced in Section 611.720.

USGS Method R-1180-76, "Uranium, dissolved. Fluorometric method – direct", R-1180-76, referenced in Section 611.720.

USGS Method R-1181-76, "Uranium, dissolved. Fluorometric method – extraction procedure", R-1181-76, referenced in Section 611.720.

USGS Method R-1182-76, "Uranium, dissolved, isotopic ratios. Alpha spectrometry – chemical separation", R-1182-

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76, referenced in Section 611.720.

BOARD NOTE: USGS methods are freely available for download in an electronic format from the USGS Publications Warehouse, at pubs.er.usgs.gov/. Sections 611.611 and 611.720 do not distinguish the volume in which each USGS method appears. The distinction as to which volume where a particular method appears is made in this incorporation by reference.

~~Veolia Water Solutions and Technologies, Suite 4697, Biosciences Complex, 116 Barrie Street, Kingston, Ontario, Canada K7L 3N6.~~

~~"Tecta EC/TC P A Test, "TECTA™ EC/TC medium and the TECTA™ Instrument: a Presence/Absence Method for Simultaneous Detection of Total Coliforms and Escherichia coli (E. coli) in Drinking Water", April 2014, referenced in Sections 611.802 and 611.1052.~~

~~Waters Corporation, Technical Services Division, 34 Maple St., Milford, MA 01757 (800-252-4752 or 508-478-2000, www.waters.com).~~

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

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

40 CFR 3.3 ~~(2017)(2016)~~ (What Definitions Are Applicable to This Part?), referenced in Section 611.105.

40 CFR 3.10 ~~(2017)(2016)~~ (What Are the Requirements for Electronic Reporting to EPA?), referenced in Section 611.105.

40 CFR 3.2000 ~~(2017)(2016)~~ (What Are the Requirements Authorized State, Tribe, and Local Programs' Reporting Systems Must Meet?), referenced in Section 611.105.

40 CFR 136.3(a) ~~(2017)(2016)~~, referenced in Section 611.1004.

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Appendix B to 40 CFR 136 ~~(2017)(2016)~~, referenced in Sections 611.359, 611.609, and 611.646.

40 CFR 142.20(b)(1) ~~(2017)(2016)~~, referenced in Section 611.112.

Subpart G of 40 CFR 142 ~~(2017)(2016)~~, referenced in Section 611.113.

- d) This Part incorporates no later amendments or editions.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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

Section 611.381 Analytical Requirements

- a) A supplier must use only the analytical methods specified in this Section, each of which is incorporated by reference in Section 611.102, or alternative methods approved by the Agency pursuant to Section 611.480 to demonstrate compliance with the requirements of this Subpart I and with the requirements of Subparts W and Y.
- b) Disinfection byproducts (DBPs).
- 1) A supplier must measure disinfection byproducts (DBPs) by the appropriate of the following methods:
- A) TTHM:
- i) By purge and trap, gas chromatography, electrolytic conductivity detector, and photoionization detector: USEPA Organic Methods, Method 502.2 (rev. 2.1). If TTHMs are the only analytes being measured in the sample, then a photoionization detector is not required.
- ii) By purge and trap, gas chromatography-mass spectrometer: USEPA Organic Methods, Method 524.2 (rev. 4.1).

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- iii) By liquid-liquid extraction, gas chromatography, electron capture detector: USEPA Organic Methods, Method 551.1 (rev. 1.0).
- iv) By purge and trap, gas chromatography-mass spectrometry: USEPA OGWDW Methods, Method 524.3 (rev. 1.0) and 524.4.

BOARD NOTE: USEPA added USEPA OGWDW Methods, Method 524.3 (rev. 1.0) as an approved alternative method on August 3, 2009 (at 74 Fed. Reg. 38348). USEPA added USEPA OGWDW Methods, Method 524.4 as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558).

B) HAA5:

- i) By liquid-liquid extraction (diazomethane), gas chromatography, electron capture detector: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 6251 B.
- ii) By solid phase extractor (acidic methanol), gas chromatography, electron capture detector: USEPA Organic Methods, Method 552.1 (rev. 1.0).
- iii) By liquid-liquid extraction (acidic methanol), gas chromatography, electron capture detector: USEPA Organic Methods, Method 552.2 (rev. 1.0) or USEPA OGWDW Methods, Method 552.3 (rev. 1.0).
- iv) By ion chromatography, electrospray ionization, tandem mass spectrometry: USEPA OGWDW Methods, Method 557.
- v) [Two-dimensional ion chromatography \(IC\) with suppressed conductivity detection: Thermo-Fisher Method 557.1.](#)

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 6251 B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added USEPA OGWDW Methods, Method 557 as an approved alternative method on

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November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Method 6251 B as an approved alternative method on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 6251 B-07 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). [USEPA added Thermo-Fisher Method 557.1 as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#) Because Standard Methods, 22nd ed., Method 6251 B is the same version as Standard Methods Online, Method 6251 B-07, the Board has not listed the Standard Methods Online versions separately.

- C) Bromate:
- i) By ion chromatography: USEPA Organic and Inorganic Methods, Method 300.1 (rev. 1.0) or ASTM Method D6581-00.
 - ii) By ion chromatography and post-column reaction: USEPA OGWDW Methods, Method 317.0 (rev. 2.0) or 326.0 (rev. 1.0).
 - iii) By inductively coupled plasma-mass spectrometer: USEPA Organic and Inorganic Methods, Method 321.8 (rev. 1.0).
 - iv) By two-dimensional ion chromatography: USEPA OGWDW Methods, Method 302.0.
 - v) By ion chromatography, electrospray ionization, tandem mass spectrometry: USEPA OGWDW Methods, Method 557.
 - vi) By chemically suppressed chromatography: ASTM Method D6581-08 A.
 - vii) By electrolytically suppressed chromatography: ASTM Method D6581-08 B.

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BOARD NOTE: Ion chromatography and post column reaction or inductively coupled plasma-mass spectrometry must be used for monitoring of bromate for purposes of demonstrating eligibility of reduced monitoring, as prescribed in Section 611.382(b)(3)(B). For inductively coupled plasma-mass spectrometry, samples must be preserved at the time of sampling with 50 mg ethylenediamine (EDA) per liter of sample, and the samples must be analyzed within 28 days.

BOARD NOTE: USEPA added USEPA OGWDW Methods, Methods 302.0 and 557 and ASTM Methods D6581-08 A and B as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908).

D) Chlorite:

- i) By amperometric titration for daily monitoring pursuant to Section 611.382(b)(2)(A)(i): Standard Methods, 19th, 21st, or 22nd ed., Method 4500-ClO₂ E.
- ii) By amperometric sensor for daily monitoring pursuant to Section 611.382(b)(2)(A)(i): ChlordioX Plus Test.
- iii) By spectrophotometry: USEPA OGWDW Methods, Method 327.0 (rev. 1.1).
- iv) By ion chromatography: USEPA Environmental Inorganic Methods, Method 300.0 (rev. 2.1); USEPA Organic and Inorganic Methods, Method 300.1 (rev. 1.0); USEPA OGWDW Methods, Method 317.0 (rev. 2.0), or 326.0 (rev. 1.0); or ASTM Method D6581-00.
- v) By chemically suppressed chromatography: ASTM Method D6581-08 A.
- vi) By electrolytically suppressed chromatography: ASTM Method D6581-08 B.

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BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 4500-ClO₂ E as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods D6581-08 A and B as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Method 4500-ClO₂ E as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added ChlordioX Plus Test as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081).

BOARD NOTE: Amperometric titration or spectrophotometry 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 Section 611.382(b)(2)(A)(ii) and (b)(2)(B).

- 2) Analyses under this Section for DBPs must be conducted by a certified laboratory in one of the categories listed in Section 611.490(a) except as specified under subsection (b)(3). To receive certification to conduct analyses for the DBP contaminants listed in Sections 611.312 and 611.381 and Subparts W and Y, the laboratory must fulfill the requirements of subsections (b)(2)(A), (b)(2)(C), and (b)(2)(D).
 - A) The laboratory must analyze performance evaluation (PE) samples that are acceptable to USEPA or the Agency at least once during each consecutive 12-month period by each method for which the laboratory desires certification.
 - B) This subsection corresponds with 40 CFR 141.131(b)(2)(ii), which has expired by its own terms. This statement maintains structural consistency with the corresponding federal rule.
 - C) The laboratory must achieve quantitative results on the PE sample analyses that are within the acceptance limits set forth in subsections (b)(2)(C)(i) through (b)(2)(B)(xi), subject to the conditions of subsections (b)(2)(C)(xii) and (b)(2)(C)(xiii):

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- i) Chloroform (a THM): $\pm 20\%$ of true value;
 - ii) Bromodichloromethane (a THM): $\pm 20\%$ of true value;
 - iii) Dibromochloromethane (a THM): $\pm 20\%$ of true value;
 - iv) Bromoform (a THM): $\pm 20\%$ of true value;
 - v) Monochloroacetic Acid (an HAA5): $\pm 40\%$ of true value;
 - vi) Dichloroacetic Acid (an HAA5): $\pm 40\%$ of true value;
 - vii) Trichloroacetic Acid (an HAA5): $\pm 40\%$ of true value;
 - viii) Monobromoacetic Acid (an HAA5): $\pm 40\%$ of true value;
 - ix) Dibromoacetic Acid (an HAA5): $\pm 40\%$ of true value;
 - x) Chlorite: $\pm 30\%$ of true value; and
 - xi) Bromate: $\pm 30\%$ of true value.
 - xii) The laboratory must meet all four of the individual THM acceptance limits set forth in subsections (b)(2)(B)(i) through (b)(2)(B)(iv) in order to successfully pass a PE sample for TTHM.
 - xiii) The laboratory must meet the acceptance limits for four out of the five HAA5 compounds set forth in subsections (b)(2)(B)(v) through (b)(2)(B)(ix) in order to successfully pass a PE sample for HAA5.
- D) The laboratory must report quantitative data for concentrations at least as low as the minimum reporting levels (MRLs) listed in subsections (b)(2)(D)(i) through (b)(2)(D)(xi), subject to the limitations of subsections (b)(2)(D)(xii) and (b)(2)(D)(xiii), for all DBP samples analyzed for compliance with Sections 611.312 and 611.385 and Subparts W and Y:

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- i) Chloroform (a THM): 0.0010 mg/ℓ;
- ii) Bromodichloromethane (a THM): 0.0010 mg/ℓ;
- iii) Dibromochloromethane (a THM): 0.0010 mg/ℓ;
- iv) Bromoform (a THM): 0.0010 mg/ℓ;
- v) Monochloroacetic Acid (an HAA5): 0.0020 mg/ℓ;
- vi) Dichloroacetic Acid (an HAA5): 0.0010 mg/ℓ;
- vii) Trichloroacetic Acid (an HAA5): 0.0010 mg/ℓ;
- viii) Monobromoacetic Acid (an HAA5): 0.0010 mg/ℓ;
- ix) Dibromoacetic Acid (an HAA5): 0.0010 mg/ℓ;
- x) Chlorite: 0.020 mg/ℓ, applicable to monitoring as required by Section 611.382(b)(2)(A)(ii) and (b)(2)(B); and
- xi) Bromate: 0.0050, or 0.0010 mg/ℓ if the laboratory uses USEPA OGWDW Methods, Method 317.0 or 326.0 or USEPA Organic and Inorganic Methods, Method 321.8.
- xii) The calibration curve must encompass the regulatory MRL concentration. Data may be reported for concentrations lower than the regulatory MRL as long as the precision and accuracy criteria are met by analyzing an MRL check standard at the lowest reporting limit chosen by the laboratory. The laboratory must verify the accuracy of the calibration curve at the MRL concentration by analyzing an MRL check standard with a concentration less than or equal to 110% of the MRL with each batch of samples. The measured concentration for the MRL check standard must be $\pm 50\%$ of the expected value, if any field sample in the batch has a concentration less than five times the regulatory MRL. Method requirements to analyze higher concentration check standards and meet tighter acceptance

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criteria for them must be met in addition to the MRL check standard requirement.

- xiii) When adding the individual trihalomethane or haloacetic acid concentrations, for the compounds listed in subsections (b)(2)(D)(v) through (b)(2)(D)(ix), to calculate the TTHM or HAA5 concentrations, respectively, a zero is used for any analytical result that is less than the MRL concentration for that DBP, unless otherwise specified by the Agency.
- 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 appropriate of the methods listed in subsections (c)(1)(A) through (c)(1)(D), subject to the provisions of subsection (c)(1)(E):
 - A) Free Chlorine:
 - i) Amperometric titration: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl D, or ASTM Method D1253-86, D1253-96, D1253-03, D1253-08, or D1253-14;
 - ii) DPD ferrous titration: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl F;
 - iii) DPD colorimetric: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl G or Hach Method 10260;
 - iv) Syringaldazine (FACTS): Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl H;
 - v) Test strips: ITS Method D99-003 if approved by the Agency pursuant to subsection (c)(2);
 - vi) Amperometric sensor: Palintest ChloroSense;

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vii) On-line chlorine analyzer: USEPA OGWDW Methods, Method 334.0; or

viii) Indenophenol colorimetric: Hach Method 10241.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 4500-CI D, F, G, and H as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D1253-08, USEPA OGWDW Methods, Method 334.0, and Palintest ChloroSense as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Methods 4500-CI D, F, G, and H as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Hach Method 10260 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). USEPA added ASTM Method D1253-14 and Hach Method 10241 as approved alternative methods on July 19, 2016 (at 81 Fed. Reg. 46839).

B) Combined Chlorine:

i) Amperometric titration: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-CI D, or ASTM Method D1253-86, D1253-96, D1253-03, D1253-08, or D1253-14;

ii) DPD ferrous titration: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-CI F; or

iii) DPD colorimetric: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-CI G or Hach Method 10260.

BOARD NOTE: USEPA added Standard Methods, Methods 4500-CI D, F, and G as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D1253-08 as an approved alternative method on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Methods 4500-CI D, F, and G as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added

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Hach Method 10260 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). USEPA added ASTM Method D1253-14 as an approved alternative method on July 19, 2016 (at 81 Fed. Reg. 46839).

C) Total Chlorine:

- i) Amperometric titration: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl D, or ASTM Method D1253-86, D1253-96, D1253-03, D1253-08, or D1253-14;
- ii) Low-level amperometric titration: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl E;
- iii) DPD ferrous titration: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl F;
- iv) DPD colorimetric: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl G or Hach Method 10260;
- v) Iodometric electrode: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl I;
- vi) Amperometric sensor: Palintest ChloroSense; or
- vii) On-line chlorine analyzer: USEPA OGWDW Methods, Method 334.0.

BOARD NOTE: USEPA added Standard Methods, Methods 4500-Cl D, E, F, G, and I as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D1253-08, USEPA OGWDW Methods, Method 334.0, and Palintest ChloroSense as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Methods 4500-Cl D, E, F, G, and I as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Hach Method 10260 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081).

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USEPA added ASTM Method D1253-14 as an approved alternative method on July 19, 2016 (at 81 Fed. Reg. 46839).

- D) Chlorine Dioxide:
- i) DPD: Standard Methods, 19th, 20th, or 21st ed., Method 4500-ClO₂ D;
 - ii) Amperometric Method II: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 4500-ClO₂ E;
 - iii) Amperometric sensor: ChlordioX Plus Test; or
 - iv) Lissamine Green spectrophotometric: USEPA OGWDW Method 327.0 (rev. 1.1).

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 4500-ClO₂ D and E as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 4500-ClO₂ E as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added ChlordioX Plus Test as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081).

- E) The methods listed are approved for measuring the specified disinfectant residual. The supplier may measure free chlorine or total chlorine for demonstrating compliance with the chlorine MRDL and combined chlorine, or total chlorine may be measured for demonstrating compliance with the chloramine MRDL.
- 2) Alternative methods available only upon specific approval by the Agency.
- A) Test strips: ITS Method D99-003.

BOARD NOTE: USEPA added ITS Method D99-003 as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616), contingent upon specific state approval. The Board has opted to provide that the Agency can grant such approvals on a case-by-case basis using the SEP mechanism.

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- B) If approved by the Agency, by an SEP issued pursuant to Section 611.110, 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) must use the methods listed in this subsection (d). 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:
 - A) USEPA Inorganic Methods, Method 300.0 (rev. 2.1);
 - B) USEPA Organic and Inorganic Methods, Method 300.1 (rev. 1.0);
 - C) USEPA OGWDW Methods, Method 317.0 (rev. 2.0) or Method 326.0 (rev. 1.0); or
 - D) ASTM Method D6581-00.
 - 3) Total Organic Carbon (TOC), by any of the methods listed in subsection (d)(3)(A)(i), (d)(3)(A)(ii), (d)(3)(A)(iii), or (d)(3)(B), subject to the limitations of subsection (d)(3)(C):
 - A) High-temperature combustion:
 - i) Standard Methods, 19th (Supplement), 20th, 21st, or 22nd ed., Method 5310 B; or
 - ii) USEPA NERL Method 415.3 (rev. 1.1) or USEPA NERL Method 415.3 (rev. 1.2).

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- B) Persulfate-ultraviolet or heated-persulfate oxidation:
- i) Standard Methods, 19th (Supplement), 20th, 21st, or 22nd ed., Method 5310 C; or
 - ii) USEPA NERL Method 415.3 (rev. 1.1) or USEPA NERL Method 415.3 (rev. 1.2); or
 - iii) Hach Method 10267.
- C) Wet oxidation method:
- i) Standard Methods, 19th (Supplement), 20th, 21st, or 22nd ed., Method 5310 D; or
 - ii) USEPA NERL Method 415.3 (rev. 1.1) or USEPA NERL Method 415.3 (rev. 1.2).
- D) Ozone oxidation: Hach Method 10261.
- E) Inorganic carbon must be removed from the samples prior to analysis. TOC samples may not be filtered prior to analysis. TOC samples must be acidified at the time of sample collection to achieve pH less than or equal to 2 with minimal addition of the acid specified in the method or by the instrument manufacturer. Acidified TOC samples must be analyzed within 28 days.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 5310 B, C, and D as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added USEPA NERL Method 415.3 (rev. 1.2) as an approved alternative method on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Methods 5310 B, C, and D as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Hach Method 10267 as an approved alternative method on July 19, 2016 (at 81 Fed. Reg. 46839).

- 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.

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When determining SUVA, a supplier must use the methods stipulated in subsection (d)(4)(A) to measure DOC and the method stipulated in subsection (d)(4)(B) to measure UV₂₅₄. SUVA must be determined on water prior to the addition of disinfectants/oxidants by the supplier. DOC and UV₂₅₄ samples used to determine a SUVA value must be taken at the same time and at the same location.

- A) Dissolved Organic Carbon (DOC). Prior to analysis, DOC samples must be filtered through the 0.45 µm pore-diameter filter as soon as practical after sampling, not to exceed 48 hours. After filtration, DOC samples must be acidified to achieve pH less than or equal to 2 with minimal addition of the acid specified in the method or by the instrument manufacturer. Acidified DOC samples must be analyzed within 28 days after sample collection. Inorganic carbon must be removed from the samples prior to analysis. 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.
- i) High-Temperature Combustion Method: Standard Methods, 19th (Supplement), 20th, 21st, or 22nd ed., Method 5310 B or USEPA NERL Methods 415.3 (rev. 1.1) or 415.3 (rev. 1.2).
 - ii) Persulfate-Ultraviolet or Heated-Persulfate Oxidation Method, Standard Methods, 19th (Supplement), 20th, 21st, or 22nd ed., Method 5310 C or USEPA NERL Methods 415.3 (rev. 1.1) or 415.3 (rev. 1.2).
 - iii) Wet-Oxidation Method: Standard Methods, 19th (Supplement), 20th, 21st, or 22nd ed., Method 5310 D or USEPA NERL Methods 415.3 (rev. 1.1) or 415.3 (rev. 1.2).

BOARD NOTE: USEPA added Standard Methods, Methods 5310 B, C, and D as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added USEPA NERL Method 415.3 (rev. 1.2) as an approved alternative method on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods,

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22nd ed., Methods 5310 B, C, and D as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463).

- B) Ultraviolet Absorption at 254 nm (UV₂₅₄) by spectrometry: Standard Methods, 19th, 20th, 21st, or 22nd ed., Method 5910 B or USEPA NERL Method 415.3 (rev. 1.1) or 415.3 (rev. 1.2). UV absorption must be measured at 253.7 nm (may be rounded off to 254 nm). Prior to analysis, UV₂₅₄ samples must be filtered through a 0.45 µm pore-diameter filter. The pH of UV₂₅₄ samples may not be adjusted. Samples must be analyzed as soon as practical after sampling, not to exceed 48 hours; and

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 5910 B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added USEPA NERL Method 415.3 (rev. 1.2) as an approved alternative method on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Method 5910 B as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Standard Methods Online, Method 5910 B-11 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Methods 5910 B is the same version as Standard Methods Online, Method 5910 B-11, the Board has not listed the Standard Methods Online versions separately.

- 5) pH. All methods allowed in Section 611.611(a)(17) for measuring pH.
- 6) Magnesium. All methods allowed in Section 611.611(a) for measuring magnesium.

BOARD NOTE: Derived from 40 CFR 141.131 and appendix A to 40 CFR 141 ~~(2017)~~(2016).

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART L: MICROBIOLOGICAL MONITORING
AND ANALYTICAL REQUIREMENTS

Section 611.531 Analytical Requirements

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The analytical methods specified in this Section, or alternative methods approved by the Agency pursuant to Section 611.480, must be used to demonstrate compliance with the requirements of only 611.Subpart B. Measurements for pH, temperature, turbidity, and RDCs must be conducted under the supervision of a certified operator. Measurements for total coliforms, fecal coliforms and HPC must be conducted by a certified laboratory in one of the categories listed in Section 611.490(a). The following procedures must be performed by the following methods, incorporated by reference in Section 611.102:

- a) A supplier must conduct analyses as follows:
 - 1) The supplier must conduct analyses for pH and temperature in accordance with one of the methods listed at Section 611.611; and
 - 2) The supplier must conduct analyses for total coliforms, fecal coliforms, heterotrophic bacteria, and turbidity in accordance with one of the following methods, and by using analytical test procedures contained in USEPA Technical Notes, incorporated by reference in Section 611.102, as follows:

- A) Total Coliforms.

BOARD NOTE: The time from sample collection to initiation of analysis for source (raw) water samples required by Section 611.532 and Subpart B only must not exceed eight hours. The supplier is encouraged but not required to hold samples below 10° C during transit.

- i) Total coliform fermentation technique: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 9221 A, B, and C.

BOARD NOTE: Lactose broth, as commercially available, may be used in lieu of lauryl tryptose broth if the supplier conducts at least 25 parallel tests between this medium and lauryl tryptose broth using the water normally tested and this comparison demonstrates that the false-positive rate and false-negative rate for total coliforms, using lactose broth, is less than 10 percent. If inverted tubes are used to detect gas production, the media should cover these tubes at

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least one-half to two-thirds after the sample is added. No requirement exists to run the completed phase on 10 percent of all total coliform-positive confirmed tubes.

- ii) Total coliform membrane filter technique: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 9222 A, B, and C.
- iii) ONPG-MUG test (also known as the Colilert® Test): Standard Methods, 18th, 19th, 20th, or 21st ed., Method 9223 or Standard Methods, 21st or 22nd ed., Method 9223B.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 9221 A, B, and C; 9222 A, B, and C; and 9223 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616).

USEPA added Standard Methods, 22nd ed., Methods 9221 A, B, and C and 9223 B as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Standard Methods Online, Methods 9221 A, B, and C-06 and 9223 B-04 as approved alternative methods on June 19, 2014 (at 79 Fed. Reg. 35081). USEPA listed Standard Methods Online, Method 9223 B-97 in note 1 to the table in 40 CFR 141.25(a). This is identical to Standard Methods 21st ed., Method 9223 B. The Board lists both Standard Methods, Methods 9223 and 9223 B. Because Standard Methods, 22nd ed., Methods 9221 A, B, and C and 9223 B are the same versions as Standard Methods Online, Methods 9221 A, B, and C-06 and 9223 B-04, the Board has not listed the Standard Methods Online versions separately.

B) Fecal Coliforms.

BOARD NOTE: The time from sample collection to initiation of analysis for source (raw) water samples required by Section 611.532 and Subpart B only must not exceed eight hours. The supplier is encouraged but not required to hold samples below 10° C during transit.

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- i) Fecal coliform procedure: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 9221 E.

BOARD NOTE: A-1 broth may be held up to seven days in a tightly closed screwcap tube at 4° C (39° F).

- ii) Fecal Coliform Membrane Filter Procedure: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 9222 D.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 9221 E and 9222 D as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Methods 9221 E and 9222 D as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Standard Methods Online, Methods 9221 E-06 and 9222 D-06 as approved alternative methods on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Methods 9221 E and 9222 D are the same versions as Standard Methods Online, Methods 9221 E-06 and 9222 D-06, the Board has not listed the Standard Methods Online versions separately.

C) Heterotrophic bacteria.

- i) Pour plate method: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 9215 B.

BOARD NOTE: The time from sample collection to initiation of analysis must not exceed eight hours. The supplier is encouraged but not required to hold samples below 10° C during transit.

- ii) SimPlate method.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 9215 B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 9215 B as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Standard Methods Online, Method 9215 B-04 as an approved alternative method on

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June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 9215 B is the same version as Standard Methods Online, Method 9215 B-04, the Board has not listed the Standard Methods Online versions separately.

- D) Turbidity.
BOARD NOTE: Styrene divinyl benzene beads (e.g., AMCO-AEPA-1 or equivalent) and stabilized formazin (e.g., Hach StablCal™ or equivalent) are acceptable substitutes for formazin.
- i) Nephelometric method: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 2130 B.
 - ii) Nephelometric method: USEPA Environmental Inorganic Methods, Method 180.1 (rev.2.0).
 - iii) GLI Method 2.
 - iv) Hach FilterTrak Method 10133.
 - v) Laser nephelometry (on-line): Mitchell Method M5271, rev. 1.1 and Mitchell Method M5331, rev. 1.2.
 - vi) [Laser nephelometry \(on-line\): Lovibond PTV 6000.](#)
 - vii) LED nephelometry (on-line): Mitchell Method M5331, rev. 1.1 and Mitchell Method M5331, rev. 1.2.
 - viii) LED nephelometry (on-line): AMI Turbiwell Method.
 - ix) [LED nephelometry \(on-line\): Lovibond PTV 1000 or Lovibond PTV 2000.](#)
 - x) LED nephelometry (portable): Orion Method AQ4500.
 - xi) 360° Nephelometry: Hach Method 10258.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 9130 B as an approved alternative method on June 3, 2008

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(at 73 Fed. Reg. 31616). USEPA added Mitchell Method M5271 and Orion Method AQ4500 as approved alternative methods on August 3, 2009 (at 74 Fed. Reg. 38348). USEPA added AMI Turbiwell Method as an approved alternative method on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Method 2130 B as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Hach Method 10258 and Mitchell Method M5331, rev. 1.2 as approved alternative methods on July 19, 2016 (at 81 Fed. Reg. 46839). [USEPA added Lovibond PTV 1000, Lovibond PTV 2000, and Lovibond PTV 6000 as approved alternative methods on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#)

- b) A supplier must measure residual disinfectant concentrations with one of the following analytical methods:
- 1) Free chlorine.
 - A) Amperometric Titration.
 - i) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl D.
 - ii) ASTM Method D1253-03, D1253-08, or D1253-14.
 - B) DPD Ferrous Titrimetric: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl F.
 - C) DPD Colimetric:
 - i) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl G; or
 - ii) Hach Method 10260.
 - D) Syringaldazine (FACTS): Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl H.

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- E) On-line chlorine analyzer: USEPA OGWDW Methods, Method 334.0.
- F) Amperometric sensor: Palintest ChloroSense.
- G) Indophenol colorimetric: Hach Method 10241.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 4500-Cl D, F, G, and H; Method 4500-ClO₂ C and E as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D1253-08, USEPA OGWDW Methods, Method 334.0, and Palintest ChloroSense as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Methods 4500-Cl B, F, G, and H as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Hach Method 10260 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). USEPA added ASTM Method D1253-14 and Hach Method 10241 as approved alternative methods on July 19, 2016 (at 81 Fed. Reg. 46839).

- 2) Total chlorine.
 - A) Amperometric Titration:
 - i) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl D.
 - ii) ASTM Method D1253-03, D1253-08, or D1253-14.
 - B) Amperometric Titration (low level measurement): Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl E.
 - C) DPD Ferrous Titrimetric: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl F.
 - D) DPD Colimetric:
 - i) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl G; or

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- ii) Hach Method 10260.
- E) Iodometric Electrode: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-Cl I.
- F) On-line chlorine analyzer: USEPA OGWDW Methods, Method 334.0.
- G) Amperometric sensor: Palintest ChloroSense.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 4500-Cl D, E, F, G, and I as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D1253-08, USEPA OGWDW Methods, Method 334.0, and Palintest ChloroSense as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22nd ed., Methods 4500-Cl D, E, F, G, and I as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Hach Method 10260 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). USEPA added ASTM Method D1253-14 as an approved alternative method on July 19, 2016 (at 81 Fed. Reg. 46839).

- 3) Chlorine dioxide.
 - A) Amperometric Titration:
 - i) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-ClO₂ C or E; or
 - ii) ChlordioX Plus Test.
 - B) DPD Method: Standard Methods, 18th, 19th, or 20th ed., Method 4500-ClO₂ D.
 - C) Spectrophotometric: USEPA OGWDW Methods, Method 327.0 (rev. 1.1).

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BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 4500-ClO₂ C, D, and E and Method 4500-O₃ B as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Methods 4500-ClO₂ C and E as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added ChlordioX Plus Test as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081).

- 4) Ozone: Indigo Method: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-O₃ B.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 4500-O₃ B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 4500-O₃ B as an approved alternative method on May 31, 2013 (at 78 Fed. Reg. 32558).

- 5) Alternative test methods: The Agency may grant a SEP pursuant to Section 611.110 that allows a supplier to use alternative chlorine test methods as follows:
- A) DPD colorimetric test kits: Residual disinfectant concentrations for free chlorine and combined chlorine may also be measured by using DPD colorimetric test kits.
 - B) Continuous monitoring for free and total chlorine: Free and total chlorine residuals may be measured continuously by adapting a specified chlorine residual method for use with a continuous monitoring instrument, provided the chemistry, accuracy, and precision remain the same. Instruments used for continuous monitoring must be calibrated with a grab sample measurement at least every five days or as otherwise provided by the Agency.

BOARD NOTE: Suppliers may use a five-tube test or a 10-tube test.

BOARD NOTE: Derived from 40 CFR 141.74(a) and appendix A to subpart C of 40 CFR 141 [\(2017\)](#)~~(2016)~~.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

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 method 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.

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, 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, Method 3113 B; and lead by ASTM Method D3559-96 D or D3559-03 D unless multiple in-furnace depositions are made.

- 1) Alkalinity.
 - A) Titrimetric.
 - i) ASTM Method D1067-92 B, D1067-02 B, D1067-06 B, or D1067-11 B; or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 2320 B.
 - B) Electrometric titration: USGS Method I-1030-85.

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BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 2320 B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 2320 B and ASTM Method D1067-11 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558).

- 2) Antimony.
 - A) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
 - B) Atomic absorption, hydride technique: ASTM Method D3697-92, D3697-02, D3697-07, or D3697-12.
 - C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).
 - D) Atomic absorption, furnace technique:
 - i) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or
 - ii) Standard Methods Online, Method 3113 B-04.
 - E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 3113B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D3697-07 as an approved alternative method on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods Online, Method 3113 B-04 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Method 3113 B as an approved alternative method on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 3113 B-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed

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the Standard Methods Online versions separately. USEPA added ASTM Method D3697-12 as an approved alternative method on July 19, 2016 (at 81 Fed. Reg. 46839).

3) Arsenic.

BOARD NOTE: If ultrasonic nebulization is used in the determination of arsenic by Method 200.8, the arsenic must be in the pentavalent state to provide uniform signal response. 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-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
- B) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).
- C) Atomic absorption, furnace technique.
 - i) ASTM Method D2972-97 C, D2972-03 C, ~~or~~ D2972-08 C₂ [or D2972-15C](#);
 - ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or
 - iii) Standard Methods Online, Method 3113 B-04.
- D) Atomic absorption, hydride technique.
 - i) ASTM Method D2972-97 B, D2972-03 C, ~~or~~ D2972-08 B₂ [or D2972-15 B](#);
 - ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3114 B; or
 - iii) Standard Methods Online, Method 3114 B-04.
- E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

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BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 3113 B and 3114 B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods D2972-08 B and C as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods Online, Method 3113 B-04 and Method 3114 B-09 as approved alternative methods on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 3113 B and 3114 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). Because Standard Methods, 22nd ed., Method 3114 B is the same version as Standard Methods Online 3114 B-09, the Board has not listed the Standard Methods Online version separately. USEPA added Standard Methods Online, Method 3113 B-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). [USEPA added ASTM Methods D2972-15 B and C as approved alternative methods on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#) Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed the Standard Methods Online versions separately.

- 4) Asbestos: Transmission electron microscopy: USEPA Asbestos Method 100.1 or USEPA Asbestos Method 100.2.
- 5) Barium.
 - A) Inductively coupled plasma.
 - i) USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4); or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 3120 B.
 - B) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
 - C) Atomic absorption, direct aspiration technique: Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3111 D.

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- D) Atomic absorption, furnace technique:
- i) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or
 - ii) Standard Methods Online, Method 3113 B-04.
- E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 3111 D, 3113 B, and 3120 B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods Online, Method 3113 B-04 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 3111 D, 3113 B, and 3120 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 3113 B-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed the Standard Methods Online versions separately.

- 6) Beryllium.
- A) Inductively coupled plasma.
 - i) USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4); or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 3120 B.
 - B) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
 - C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).

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- D) Atomic absorption, furnace technique.
- i) ASTM Method D3645-97 B, D3645-03 B, ~~or~~ D3645-08 B, [or D3645-15 B](#);
 - ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or
 - iii) Standard Methods Online, Method 3113 B-04.
- E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 3113 B and 3120 B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D3645-08 B as an approved alternative method on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods Online, Method 3113 B-04 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 3113 B and 3120 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 3113 B-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). [USEPA added ASTM Method D3645-15 B as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#) Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed the Standard Methods Online versions separately.

- 7) Cadmium.
- A) Inductively coupled plasma arc furnace: USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4).
 - B) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
 - C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).

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- D) Atomic absorption, furnace technique:
- i) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or
 - ii) Standard Methods Online, Method 3113 B-04.
- E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 3113 B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods Online, Method 3113 B-04 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Method 3113 B as an approved alternative method on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 3113 B-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed the Standard Methods Online versions separately.

- 8) Calcium.
- A) EDTA titrimetric.
- i) ASTM Method D511-93 A, D511-03 A, D511-09 A, or D511-14A; or
 - ii) Standard Methods, 18th or 19th ed., Method 3500-Ca D or Standard Methods, 20th, 21st, or 22nd ed., Method 3500-Ca B.
- B) Atomic absorption, direct aspiration.
- i) ASTM Method D511-93 B, D511-03 B, D511-09 B, or D511-14B; or

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- ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3111 B.
- C) Inductively coupled plasma.
 - i) USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4); or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 3120 B.
- D) Ion chromatography: ASTM Method D6919-03 or D6919-09.
- E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 3111 B, 3120 B, and 3500-Ca B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods D511-09 A and B as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added ASTM Method D6919-09 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 3111 B, 3120 B, and 3500-Ca B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added ASTM Method D511-14 A and B as approved alternative methods on July 19, 2016 (at 81 Fed. Reg. 46839).

- 9) Chromium.
 - A) Inductively coupled plasma.
 - i) USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4); or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 3120 B.

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- B) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
- C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).
- D) Atomic absorption, furnace technique:
 - i) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or
 - ii) Standard Methods Online, Method 3113 B-04.
- E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 3113 B and 3120 B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods Online, Method 3113 B-04 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 3113 B and 3120 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 3113 B-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed the Standard Methods Online versions separately.

- 10) Copper.
 - A) Atomic absorption, furnace technique.
 - i) ASTM Method D1688-95 C, D1688-02 C, D1688-07 C, or D1688-12 C;
 - ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or

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- iii) Standard Methods Online, Method 3113 B-04.
- B) Atomic absorption, direct aspiration.
- i) ASTM Method D1688-95 A, D1688-02 A, D1688-07 A, or D1688-12 A; or
 - ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3111 B.
- C) Inductively coupled plasma.
- i) USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4); or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 3120 B.
- D) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
- E) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).
- F) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.
- G) Colorimetric: Hach Method 8026 or 10272.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 3111 B, 3113 B, and 3120 B and USEPA NERL Method 200.5 as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods D1688-07 A and C as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods Online, Method 3113 B-04 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 3111 B, 3113 B, and 3120 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 3113 B-10 as an approved

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alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed the Standard Methods Online versions separately. USEPA added ASTM Method D1688-12 A and C and Hach Methods 8026 and 10272 as approved alternative methods on July 19, 2016 (at 81 Fed. Reg. 46839).

11) Conductivity; Conductance.

- A) ASTM Method D1125-95(1999) A or D1125-14 A; or
- B) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 2510 B.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 2510 B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 2510 B as an approved alternative method on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added ASTM Method D1125-14 A as an approved alternative method on July 19, 2016 (at 81 Fed. Reg. 46839).

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 D2036-06 B; or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd 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 or D2036-06 A;

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- ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-CN⁻ E; or
 - iii) USGS Method I-3300-85.
- C) Spectrophotometric, semiautomated: USEPA Environmental Inorganic Methods, Method 335.4 (rev. 1.0).
- D) Selective electrode: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-CN⁻ F.
- E) UV/Distillation/Spectrophotometric: Kelada 01.
- F) Microdistillation/Flow Injection/Spectrophotometric: QuikChem 10-204-00-1-X.
- G) Ligand exchange and amperometry.
- i) ASTM Method D6888-04.
 - ii) OI Analytical Method OIA-1677 DW.
- H) Gas chromatography-mass spectrometry headspace: Method ME355.01.

BOARD NOTE: USEPA added ASTM Method D2036-06 A and Standard Methods, 21st ed., Methods 4500-CN⁻E, F, and G as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Method ME355.01 as an approved alternative method on August 3, 2009 (at 74 Fed. Reg. 38348). USEPA added Standard Methods, 22nd ed., Methods 4500-CN⁻ E, F, and G as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558).

- 13) Fluoride.
- A) Ion Chromatography.

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- i) USEPA Environmental Inorganic Methods, Method 300.0 (rev. 2.1) or USEPA Organic and Inorganic Methods, Method 300.1 (rev. 1.0);
 - ii) ASTM Method D4327-97, D4327-03, or D4327-11;
 - iii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4110 B; or
 - iv) Hach SPADNS 2 Method 10225.
- B) Manual distillation, colorimetric SPADNS: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-F⁻ B and D.
- C) Manual electrode.
- i) ASTM Method D1179-93 B, D1179-99 B, D1179-04 B, or D1179-10B; or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-F⁻ C.
- D) Automated electrode: Technicon Methods, Method 380-75WE.
- E) Automated alizarin.
- i) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-F⁻ E; or
 - ii) Technicon Methods, Method 129-71W.
- F) Capillary ion electrophoresis: ASTM Method D6508-00(2005).

BOARD NOTE: On March 12, 2007 (at 72 Fed. Reg. 11200), USEPA amended the entry for fluoride to add capillary ion electrophoresis in the table at corresponding 40 CFR 141.23(k)(1) to allow the use of "Waters Method D6508, Rev. 2". The Board attempt to locate a copy of the method disclosed that it is an ASTM method originally approved in 2000 and reapproved in

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2005. The Board has cited to the ASTM Method D6508-00 (2005).

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 4110 B and 4500-F⁻ B, C, D, and E and ASTM Method D1179-04 B as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Hach SPADNS 2 Method 10225 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added ASTM Method D1179-10 B as an approved alternative method on June 28, 2012 (at 77 Fed. Reg. 38523). USEPA added Standard Methods, 22nd ed., Methods 4110 B and 4500-F⁻ B, C, D, and E as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added ASTM Method D4327-11 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081).

- 14) Lead.
- A) Atomic absorption, furnace technique.
 - i) ASTM Method D3559-96 D, D3559-03 D, ~~or~~ D3559-08 D, [or D3559-08 D](#);
 - ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or
 - iii) Standard Methods Online, Method 3113 B-04.
 - B) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
 - C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).
 - D) Differential Pulse Anodic Stripping Voltammetry: Palintest Method 1001.
 - E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

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BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 3113 B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D3559-08 D as an approved alternative method on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods Online, Method 3113 B-04 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Method 3113 B as an approved alternative method on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 3113 B-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). [USEPA added ASTM Method D3559-08 D as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#) Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed the Standard Methods Online versions separately.

- 15) Magnesium.
- A) Atomic absorption.
 - i) ASTM Method D511-93 B, D511-03 B, D511-09 B, or D511-14 B; or
 - ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3111 B.
 - B) Inductively coupled plasma.
 - i) USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4); or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 3120 B.
 - C) Complexation titrimetric.
 - i) ASTM Method D511-93 A, D511-03 A, D511-09 A, or D511-14 A; or

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- ii) Standard Methods, 18th or 19th ed., Method 3500-Mg E or Standard Methods, 20th, 21st, or 22nd ed., Method 3500-Mg B.

D) Ion chromatography: ASTM Method D6919-03 or D6919-09.

E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 3111 B, 3120 B, and 3500-Mg B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods D511-09 A and B as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added ASTM Method D6919-09 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 3111 B, 3120 B, and 3500-Mg B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added ASTM Method D511-14 A and B as approved alternative methods on July 19, 2016 (at 81 Fed. Reg. 46839).

16) Mercury.

A) Manual cold vapor technique.

- i) USEPA Environmental Metals Methods, Method 245.1 (rev. 3.0);

- ii) ASTM Method D3223-97, D3223-02, or D3223-12; or

- iii) Standard Methods, 18th, 19th, 21st, or 22nd 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 (rev. 5.3).

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BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 3112 B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods Online, Method 3112 B-09 as an approved alternative method on June 28, 2012 (at 77 Fed. Reg. 38523). USEPA added Standard Methods, 22nd ed., Method 3112 B as an approved alternative method on May 31, 2013 (at 78 Fed. Reg. 32558). Because Standard Methods, 22nd ed., Method 3112 B is the same version as Standard Methods Online 3112 B-09, the Board has not listed the Standard Methods Online version separately. USEPA added ASTM D3223 B-12 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081).

- 17) Nickel.
- A) Inductively coupled plasma.
 - i) USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4); or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 3120 B.
 - B) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
 - C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).
 - D) Atomic absorption, direct aspiration technique: Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3111 B.
 - E) Atomic absorption, furnace technique:
 - i) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or
 - ii) Standard Methods Online, Method 3113 B-04.
 - F) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

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BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 3111 B, 3113 B, and 3120 B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods Online, Method 3113 B-04 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 3111 B, 3113 B, and 3120 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 3113 B-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed the Standard Methods Online versions separately.

- 18) Nitrate.
- A) Ion chromatography.
 - i) USEPA Environmental Inorganic Methods, Method 300.0 (rev. 2.1) or USEPA Organic and Inorganic Methods, Method 300.1 (rev. 1.0);
 - ii) ASTM Method D4327-97, D4327-03, or D4327-11;
 - iii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4110 B; or
 - iv) Waters Method B-1011, available from Millipore Corporation.
 - B) Automated cadmium reduction.
 - i) USEPA Environmental Inorganic Methods, Method 353.2 (rev. 2.0);
 - ii) ASTM Method D3867-90 A; or
 - iii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-NO₃⁻ F.

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- C) Ion selective electrode.
- i) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-NO₃⁻ D; or
 - ii) Technical Bulletin 601.
- D) Manual cadmium reduction.
- i) ASTM Method D3867-90 B; or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-NO₃⁻ E.
- E) Capillary ion electrophoresis: ASTM Method D6508-00(2005) [or D6508-15](#).
- F) Reduction-colorimetric: Syssta Easy (1-Reagent) or NECi Nitrate-Reductase Method.
- G) Direct colorimetric: Hach TNTplus 835/836 Method 10206.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 4110 B and 4500-NO₃⁻ D, E, and F as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Syssta Easy (1-Reagent) as an approved alternative method on August 3, 2009 (at 73 Fed. Reg. 38348). USEPA added Hach TNTplus 835/836 Method 10206 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 4110 B and 4500-NO₃⁻ D, E, and F as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added ASTM D4327-11 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). USEPA added NECi Nitrate-Reductase Method as an approved alternative method on July 19, 2016 (at 81 Fed. Reg. 46839). [USEPA added ASTM Method D6508-15 as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#)

- 19) Nitrite.

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- A) Ion chromatography.
- i) USEPA Environmental Inorganic Methods, Method 300.0 (rev. 2.1) or USEPA Organic and Inorganic Methods, Method 300.1 (rev. 1.0);
 - ii) ASTM Method D4327-97, D4327-03, or D4327-11;
 - iii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4110 B; or
 - iv) Waters Method B-1011, available from Millipore Corporation.
- B) Automated cadmium reduction.
- i) USEPA Environmental Inorganic Methods, Method 353.2 (rev. 2.0);
 - ii) ASTM Method D3867-90 A; or
 - iii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-NO₃⁻ F.
- C) Manual cadmium reduction.
- i) ASTM Method D3867-90 B; or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-NO₃⁻ E.
- D) Spectrophotometric: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-NO₂⁻ B.
- E) Capillary ion electrophoresis: ASTM Method D6508-00(2005), [or D6508-15](#).

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- F) Reduction-colorimetric: Syssta Easy (1-Reagent) or NECi Nitrate-Reductase Method.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 4110 B, 4500-NO₃⁻ E and F; and 4500-NO₂⁻ B as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Syssta Easy (1-Reagent) as an approved alternative method on August 3, 2009 (at 73 Fed. Reg. 38348). USEPA added Standard Methods, 22nd ed., Methods 4110 B, 4500-NO₃⁻ E and F, and 4500-NO₂⁻ B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added ASTM D4327-11 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). USEPA added NECi Nitrate-Reductase Method as an approved alternative method on July 19, 2016 (at 81 Fed. Reg. 46839). [USEPA added ASTM Method D6508-15 as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#)

- 20) Orthophosphate (unfiltered, without digestion or hydrolysis).
- A) Automated colorimetric, ascorbic acid.
- i) USEPA Environmental Inorganic Methods, Method 365.1 (rev. 2.0);
- ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-P F; or
- iii) Thermo-Fisher Discrete Analyzer.
- B) Single reagent colorimetric, ascorbic acid.
- i) ASTM Method D515-88 A; or
- ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-P E.
- C) Colorimetric, phosphomolybdate: USGS Method I-1601-85.
- D) Phosphorus, orthophosphate, colorimetry, phosphomolybdate, automated-segmented flow: USGS Method I-2601-90.

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- E) Colorimetric, phosphomolybdate, automated discrete: USGS Method I-2598-85.
- F) Ion Chromatography.
- i) USEPA Environmental Inorganic Methods, Method 300.0 (rev. 2.1) or USEPA Organic and Inorganic Methods, Method 300.1 (rev. 1.0);
- ii) ASTM Method D4327-97, D4327-03, or D4327-11; or
- iii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4110 B.
- G) Capillary ion electrophoresis: ASTM Method D6508-00(2005), [or D6508-15](#).

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 4110 B and 4500-P E and F as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). Because Standard Methods, 21st ed., Methods 4500-P E and F are the same versions as Standard Methods Online 4500-P E-99 and F-99, the Board has not listed the Standard Methods Online versions separately. USEPA added Standard Methods, 22nd ed., Methods 4500-P E and F and 4110 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added ASTM D4327-11 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). USEPA added Thermo-Fisher Discrete Analyzer as an approved alternative method on July 19, 2016 (at 81 Fed. Reg. 46839). [USEPA added ASTM Method D6508-15 as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\)](#).

- 21) pH: electrometric.
- A) USEPA Inorganic Methods, Method 150.1 or Method 150.2;
- B) ASTM Method D1293-95, D1293-99, or D1293-12; or

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C) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 4500-H⁺ B.

D) USEPA Method 150.3.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 4500-H⁺ B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 4500-H⁺ B and ASTM Method D1293-12 as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added USEPA Method 150.3 as an approved alternative method on July 27, 2017 (at 82 Fed. Reg. 34861).

22) Selenium.

A) Atomic absorption, hydride.

i) ASTM Method D3859-98 A, D3859-03 A, ~~or~~ D3859-08 A, or D3859-15 A; or

ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3114 B.

B) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).

C) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).

D) Atomic absorption, furnace technique.

i) ASTM Method D3859-98 B, D3859-03 B, ~~or~~ D3859-08 B, or D3859-15 B;

ii) Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3113 B; or

iii) Standard Methods Online, Method 3113 B-04.

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- E) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 3113 B and 3114 B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods D3859-08 A and B as approved alternative methods on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods Online, Method 3113 B-04 and Method 3114 B-09 as approved alternative methods on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Methods 3113 B and 3114 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). Because Standard Methods, 22nd ed., Method 3114 B is the same version as Standard Methods Online 3114 B-09, the Board has not listed the Standard Methods Online version separately. USEPA added Standard Methods Online, Method 3113 B-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). [USEPA added ASTM Methods D3859-15 A and B as approved alternative methods on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#) Because Standard Methods, 22nd ed., Method 3113 B is the same version as Standard Methods Online, Method 3113 B-10, the Board has not listed the Standard Methods Online versions separately.

23) Silica.

- A) Colorimetric, molybdate blue: USGS Method I-1700-85.
- B) Colorimetric, molybdate blue, automated-segmented flow: USGS Method I-2700-85.
- C) Colorimetric: ASTM Method D859-94, D859-00, D859-05, or D859-10.
- D) Molybdosilicate: Standard Methods, 18th or 19th ed., Method 4500-Si D or Standard Methods, 20th, 21st, or 22nd ed., Method 4500-SiO₂ C.
- E) Heteropoly blue: Standard Methods, 18th or 19th ed., Method 4500-Si E or Standard Methods, 20th, 21st, or 22nd ed., Method 4500-SiO₂ D.

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- F) Automated method for molybdate-reactive silica: Standard Methods, 18th or 19th ed., Method 4500-Si F or Standard Methods, 20th, 21st, or 22nd ed., Method 4500-SiO₂ E.
- G) Inductively coupled plasma.
 - i) USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4); or
 - ii) Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 3120 B.
- H) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added ASTM Method D859-05, Standard Methods, 21st ed.; Methods 3120 B and 4500-SiO₂ C, D, and E; and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D859-10 as an approved alternative method on June 28, 2012 (at 77 Fed. Reg. 38523). USEPA added Standard Methods, 22nd ed., Methods 3120 B and 4500-SiO₂ C, D, and E as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558).

- 24) Sodium.
 - A) Inductively coupled plasma: USEPA Environmental Metals Methods, Method 200.7 (rev. 4.4).
 - B) Atomic absorption, direct aspiration: Standard Methods, 18th, 19th, 21st, or 22nd ed., Method 3111 B.
 - C) Ion chromatography: ASTM Method D6919-03 or D6919-09.
 - D) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

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BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 3111 B and USEPA NERL Method 200.5 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D6919-09 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 22nd ed., Method 3111 B as an approved alternative method on May 31, 2013 (at 78 Fed. Reg. 32558).

- 25) Temperature; thermometric: Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 2550.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 2550 as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 2550 as an approved alternative method on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 2550-10 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 2550 is the same version as Standard Methods Online, Method 2550-10, the Board has not listed the Standard Methods Online versions separately.

- 26) Thallium.

- A) Inductively coupled plasma-mass spectrometry: USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3).
- B) Atomic absorption, platform furnace technique: USEPA Environmental Metals Methods, Method 200.9 (rev. 2.2).

- b) Sample collection for antimony, arsenic, 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)

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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).

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- 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).

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- 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.

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- 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 a certified laboratory in one of the categories listed in Section 611.490(a). The Agency must certify laboratories to conduct analyses for antimony, arsenic, asbestos, barium,

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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: $\pm 30\%$ at greater than or equal to 0.006 mg/l.
 - B) Arsenic: $\pm 30\%$ at greater than or equal to 0.003 mg/l.
 - C) Asbestos: 2 standard deviations based on study statistics.
 - D) Barium: $\pm 15\%$ at greater than or equal to 0.15 mg/l.
 - E) Beryllium: $\pm 15\%$ at greater than or equal to 0.001 mg/l.
 - F) Cadmium: $\pm 20\%$ at greater than or equal to 0.002 mg/l.
 - G) Chromium: $\pm 15\%$ at greater than or equal to 0.01 mg/l.
 - H) Cyanide: $\pm 25\%$ at greater than or equal to 0.1 mg/l.
 - I) Fluoride: $\pm 10\%$ at 1 to 10 mg/l.
 - J) Mercury: $\pm 30\%$ at greater than or equal to 0.0005 mg/l.
 - K) Nickel: $\pm 15\%$ at greater than or equal to 0.01 mg/l.
 - L) Nitrate: $\pm 10\%$ at greater than or equal to 0.4 mg/l.
 - M) Nitrite: $\pm 15\%$ at greater than or equal to 0.4 mg/l.
 - N) Selenium: $\pm 20\%$ at greater than or equal to 0.01 mg/l.
 - O) Thallium: $\pm 30\%$ at greater than or equal to 0.002 mg/l.

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BOARD NOTE: Derived from 40 CFR 141.23(k) and appendix A to subpart C of 40 CFR 141 ~~(2017)~~(2016).

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART Q: RADIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

Section 611.720 Analytical Methods

- a) The methods specified below, or alternative methods approved by the Agency pursuant to Section 611.480, 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) [Evaporation](#): Method 302, 13th ed.; or
 - ii) [Evaporation](#): Method 7110 B, 17th, 18th, 19th, 20th, 21st, or 22nd ed.;
 - B) [Evaporation](#): USEPA Interim Radiochemical Methods: pages 1-3;
 - C) [Evaporation](#): USEPA Radioactivity Methods, Method 900.0;
 - D) [Evaporation](#): USEPA Radiochemical Analyses: pages 1-5;
 - E) [Evaporation](#): USEPA Radiochemistry Procedures, Method 00-01;
or
 - F) [Evaporation](#): USGS Method R-1120-76.
 - G) [Liquid scintillation](#): [ASTM Method D7283-17](#).
 - H) [Liquid scintillation](#): [Standard Methods Online, Method 7110 D-17](#).

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BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 7110 B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 7110 B as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463). [USEPA added ASTM Method D7283-17 and Standard Methods Online, Method 7110 D-17 as approved alternative methods on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#)

- 2) Gross Alpha.
 - A) [Coprecipitation](#): Standard Methods, 18th, 19th, 20th, 21st, or 22nd ed., Method 7110 C; or
 - B) [Coprecipitation](#): USEPA Radiochemistry Procedures, Method 00-02.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 7110 C as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). See the comment appended to 611.611(a)(2)(D)(ii) re Standard Methods Online, Method 3113 B-04 for antimony. USEPA added Standard Methods, 22nd ed., Method 7110 C as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463).

- 3) Radium-226.
 - A) ASTM Methods.
 - i) [Radiochemical](#): Method D2460-97 or D2460-07; or
 - ii) [Radon emanation](#): Method D3454-97 or D3454-05;
 - B) [Radiochemical](#): New York Radium Method;
 - C) Standard Methods.
 - i) [Radiochemical](#): Method 304, 13th ed.;
 - ii) [Radon emanation](#): Method 305, 13th ed.;

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- iii) [Radiochemical](#): Method 7500-Ra B, 17th, 18th, 19th, 20th, 21st, or 22nd ed.; or
 - iv) [Radon emanation](#): Method 7500-Ra C, 17th, 18th, 19th, 20th, 21st, or 22nd ed.;
 - v) [Gamma spectrometry](#): Method 7500-Ra E, 22nd ed.;
- D) [Radon emanation](#): EML Procedures Manual (27th or 28th ed.), Method Ra-04;
- E) USEPA Interim Radiochemical Methods: ~~pages 13-15 or 16-23~~;
- i) [Radiochemical](#): pages 13-15; or
 - ii) [Radon emanation](#): pages 16-23;
- F) USEPA Radioactivity Methods: ~~Methods 903.0, 903.1~~;
- i) [Radiochemical](#): Method 903.0; or
 - ii) [Radon emanation](#): Method 903.1;
- G) [Radiochemical](#): USEPA Radiochemical Analyses, pages 19-32;
- H) [Radiochemical](#): USEPA Radiochemistry Procedures: ~~Method Ra-03 or Ra-04~~; or
- i) [Radiochemical](#): Method Ra-03; or
 - ii) [Radon emanation](#): Method Ra-04; or
- I) USGS Methods.
- i) [Radiochemical](#): USGS Method R-1140-76; or
 - ii) [Radon emanation](#): USGS Method R-1141-76.

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- J) [Radiochemical](#): Georgia Radium Method.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 7500-Ra B and C as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods D2460-07 and D3454-05 as approved alternative methods on June 8, 2010 (at 75 Fed. Reg. 32295). USEPA added Standard Methods, 22nd ed., Methods 7500-Ra B and C as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). [USEPA added Standard Methods, 22nd ed., Method 7500-Ra E as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#)

- 4) Radium-228.
- A) Standard Methods: ~~17th, 18th, 19th, 20th, 21st, or 22nd ed., Method 7500-Ra D;~~
- i) [Radiochemical: Method 7500-Ra D \(Standard Methods, 17th, 18th, 19th, 20th, 21st, or 22nd ed.\);](#)
- ii) [Gamma spectrometry: Method 7500-Ra E \(Standard Methods, 22nd ed.\);](#)
- B) [Radiochemical](#): New York Radium Method;
- C) [Radiochemical](#): USEPA Interim Radiochemical Methods, pages 24-28;
- D) [Radiochemical](#): USEPA Radioactivity Methods, Method 904.0;
- E) [Radiochemical](#): USEPA Radiochemical Analyses, pages 19-32;
- F) [Radiochemical](#): USEPA Radiochemistry Procedures, Method Ra-05;
- G) [Radiochemical](#): USGS Method R-1142-76;
- H) [Radiochemical](#): New Jersey Radium Method; or

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- D) [Radiochemical](#): Georgia Radium Method.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 7500-Ra D as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 7500-Ra D as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463). [USEPA added Standard Methods, 22nd ed., Method 7500-Ra E as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\).](#)

- 5) Uranium.

- A) Standard Methods, 17th, 18th, 19th, 20th, 21st, or 22nd ed.; ~~Method 7500-U B or 7500-U C~~;

i) [Radiochemical](#): Method 7500-U B; or

ii) [Fluorometric](#): Method 7500-U C;

- B) [ICP-MS](#): Standard Methods, 20th or 21st ed., Method 3125;

- C) ASTM Methods.

i) [Fluorometric](#): Method D2907-97;

ii) [Alpha spectrometry](#): Method D3972-97, D3972-02, or D3972-09;

iii) [Laser spectrometry](#): Method D5174-97, D5174-02, or D5174-07;

iv) [ICP-MS](#): Method D5673-03, Method D5673-05, or Method D5673-10; or

v) [Alpha liquid scintillation spectrometry](#): Method D6239-09;

- D) USEPA Radioactivity Methods; ~~Methods 908.0, 908.1~~;

i) [Radiochemical](#): Method 908.0; or

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- ii) [Fluorometric: Method 908.1;](#)
- E) [ICP-MS:](#) USEPA Environmental Metals Methods, Method 200.8 (rev. 5.3);
- F) [Alpha spectrometry:](#) USEPA Radiochemical Analyses, pages 33-48;
- G) [Alpha spectrometry:](#) USEPA Radiochemistry Procedures, Method 00-07;
- H) EML Procedures Manual (27th or 28th ed.); ~~Method U-02 or U-04;~~
~~or~~
 - i) [Alpha spectrometry: Method U-02; or](#)
 - ii) [Fluorometric: Method U-04; or](#)
- I) USGS Methods.
 - i) [Fluorometric:](#) USGS Method R-1180-76;
 - ii) [Fluorometric:](#) USGS Method R-1181-76; or
 - iii) [Alpha spectrometry:](#) USGS 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 ²³⁴U and ²³⁸U that is characteristic of naturally occurring uranium.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 7500-U B and Method 7500-U C and ASTM Method D5673-05 as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D5174-07 as an approved alternative method on June 8, 2010 (at 75 Fed. Reg. 32295). USEPA added ASTM Method D3972-09 as an approved alternative method on June 24, 2011 (at 76 Fed. Reg. 37014). USEPA added Standard Methods, 21st ed., Method

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3125 and ASTM Methods D5673-10 and D6329-09 as approved alternative methods on June 3, 2012 (at 77 Fed. Reg. 38523). USEPA added Standard Methods, 22nd ed., Methods 7500-U B and C as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463).

- 6) Radioactive Cesium.
- A) ASTM Methods.
 - i) [Radiochemical:](#) Method D2459-72; or
 - ii) [Gamma ray spectrometry:](#) Method D3649-91, D3649-98a, or D3649-06;
 - B) Standard Methods.
 - i) [Gamma ray spectrometry:](#) Method 7120, 19th, 20th, 21st, or 22nd ed.; or
 - ii) [Radiochemical:](#) Method 7500-Cs B, 17th, 18th, 19th, 20th, 21st, or 22nd ed.;
 - C) [Gamma ray spectrometry:](#) EML Procedures Manual (27th or 28th ed.), Method Ga-01-R;
 - D) [Radiochemical:](#) USEPA Interim Radiochemical Methods, pages 4-5;
 - E) USEPA Radioactivity Methods; ~~Methods 901.0, 901.1;~~
 - i) [Radiochemical: Method 901.0;](#) or
 - ii) [Gamma ray spectrometry: Method 901.1;](#)
 - F) [Gamma ray spectrometry:](#) USEPA Radiochemical Analyses, pages 92-95; or
 - G) USGS Methods.

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- i) [Gamma ray spectrometry](#): USGS Method R-1110-76; or
- ii) [Radiochemical](#): USGS Method R-1111-76.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 7120 and 7500-Cs B as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D3649-06 as an approved alternative method on June 8, 2010 (at 75 Fed. Reg. 32295). USEPA added Standard Methods, 22nd ed., Methods 7120 and 7500-Cs B as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463).

- 7) Radioactive Iodine.
 - A) ASTM Methods.
 - i) [Radiochemical](#): D3649-91, D3649-98a, or D3649-06; or
 - ii) [Gamma ray spectrometry](#): D4785-93, D4785-00a, or D4785-08;
 - B) Standard Methods.
 - i) Method 7120, 19th, 20th, 21st, or 22nd ed.;
 - ii) [Radiochemical](#): Method 7500-I B, 17th, 18th, 19th, 20th, 21st, or 22nd ed.;
 - iii) [Radiochemical](#): Method 7500-I C, 17th, 18th, 19th, 20th, 21st, or 22nd ed.; or
 - iv) [Radiochemical](#): Method 7500-I D, 17th, 18th, 19th, 20th, 21st, or 22nd ed.;
 - C) [Gamma ray spectrometry](#): EML Procedures Manual (27th or 28th ed.), Method Ga-01-R;
 - D) [Radiochemical](#): USEPA Interim Radiochemical Methods, pages 6-8 or 9-12;

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- E) [Gamma ray spectrometry](#): USEPA Radiochemical Analyses, pages 92-95; or
- F) USEPA Radioactivity Methods; ~~Methods 901.1 or 902.0.~~
 - i) [Gamma ray spectrometry: Method 901.1](#); or
 - ii) [Radiochemical: Method 902.0.](#)

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 7120 and 7500-I B, C, and D as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods D3649-06 and D4785-08 as approved alternative methods on June 8, 2010 (at 75 Fed. Reg. 32295). USEPA added Standard Methods, 22nd ed., Methods 7120 and 7500-I B, C, and D as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463).

- 8) Radioactive Strontium-89 and 90.
 - A) Standard Methods.
 - i) [Radiochemical](#): Method 303, 13th ed.; or
 - ii) [Radiochemical](#): Method 7500-Sr B, 17th, 18th, 19th, 20th, 21st, or 22nd ed.;
 - B) [Radiochemical](#): EML Procedures Manual (27th or 28th ed.), Method Sr-01 or Sr-02.
 - C) [Radiochemical](#): USEPA Interim Radiochemical Methods, pages 29-33;
 - D) [Radiochemical](#): USEPA Radioactivity Methods, Method 905.0;
 - E) [Radiochemical](#): USEPA Radiochemical Analyses, pages 65-73;
 - F) [Radiochemical](#): USEPA Radiochemistry Procedures, Method Sr-04; or

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- G) [Radiochemical](#): USGS Method R-1160-76.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 7500-Sr B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22nd ed., Method 7500-Sr B as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463).

- 9) Tritium.

- A) [Liquid scintillation](#): ASTM Methods: Method D4107-91, D4107-98, or D4107-08;

- B) Standard Methods.

- i) [Liquid scintillation](#): Method 306, 13th ed.; or

- ii) [Liquid scintillation](#): Method 7500-³H B, 17th, 18th, 19th, 20th, 21st, or 22nd ed.;

- C) [Liquid scintillation](#): USEPA Interim Radiochemical Methods, pages 34-37;

- D) [Liquid scintillation](#): USEPA Radioactivity Methods, Method 906.0;

- E) [Liquid scintillation](#): USEPA Radiochemical Analyses, pages 87-91;

- F) [Liquid scintillation](#): USEPA Radiochemistry Procedures, Method H-02; or

- G) [Liquid scintillation](#): USGS Method R-1171-76.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Method 7500-³H B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Method D4107-08 as an approved alternative method on June 8, 2010 (at 75 Fed. Reg. 32295). USEPA added Standard Methods, 22nd ed., Method 7500-³H B as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463).

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- 10) Gamma Emitters.
- A) ASTM Methods.
- i) [Gamma ray spectrometry](#): Method D3649-91, D3649-98a, or D3649-06; or
- ii) [Gamma ray spectrometry](#): Method D4785-93, D4785-00a, or D4785-08;
- B) Standard Methods.
- i) [Gamma ray spectrometry](#): Method 7120, 19th, 20th, 21st, or 22nd ed.;
- ii) [Gamma ray spectrometry](#): Method 7500-Cs B, 17th, 18th, 19th, 20th, 21st, or 22nd ed.; or
- iii) [Gamma ray spectrometry](#): Method 7500-I B, 17th, 18th, 19th, 20th, 21st, or 22nd ed.;
- C) [Gamma ray spectrometry](#): EML Procedures Manual (27th or 28th ed.), Method Ga-01-R;
- D) [Gamma ray spectrometry](#): USEPA Radioactivity Methods, Methods 901.0, 901.1, or 902.0;
- E) [Gamma ray spectrometry](#): USEPA Radiochemical Analyses, pages 92-95; or
- F) [Gamma ray spectrometry](#): USGS Method R-1110-76.

BOARD NOTE: USEPA added Standard Methods, 21st ed., Methods 7120, 7500-Cs B, and 7500-I B as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods D3649-08 and D4785-08 as approved alternative methods on June 8, 2010 (at 75 Fed. Reg. 32295). USEPA added Standard Methods, 22nd ed., Methods

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7120, 7500-Cs B, and 7500-I B as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463).

b) When the identification and measurement of radionuclides other than those listed in subsection (a) 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) Aqueous Radiochemical Procedures.
- 2) EML Procedures Manual (27th or 28th ed.).

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 [\(2017\)](#)~~(2013)~~.

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

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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 [\(2017\)](#)~~(2013)~~.

- 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 and appendix A to subpart C of 40 CFR 141 [\(2017\)](#)~~(2016)~~.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART S: GROUNDWATER RULE

Section 611.802 Groundwater Source Microbial Monitoring and Analytical Methods

- a) Triggered source water monitoring.
- 1) General requirements. A GWS supplier must conduct triggered source water monitoring if the following conditions exist.
- A) The supplier does not provide at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for each groundwater source.

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- B) This subsection (a)(1)(B) corresponds with 40 CFR 141.802(a)(1)(ii), which has no operative effect after a past implementation date. This statement maintains structural consistency with the federal regulations.
 - C) The system is notified that a sample collected under Sections 611.1054 through 611.1057 is total coliform-positive and the sample is not invalidated under Section 611.1053(c).
- 2) Sampling requirements. A GWS supplier must collect, within 24 hours after notification of the total coliform-positive sample, at least one groundwater source sample from each groundwater source in use at the time the total coliform-positive sample was collected pursuant to Sections 611.1054 through 611.1057, except as provided in subsection (a)(2)(B).
- A) The Agency may, by a SEP issued pursuant to Section 611.110, extend the 24-hour time limit on a case-by-case basis if it determines that the supplier cannot collect the groundwater source water sample within 24 hours due to circumstances beyond the supplier's control. In the case of an extension, the Agency must specify how much time the supplier has to collect the sample.
 - B) If approved by the Agency, a supplier with more than one groundwater source may meet the requirements of this subsection (a)(2) by sampling a representative groundwater source or sources. If directed by the Agency by a SEP issued pursuant to Section 611.110, the supplier must submit for Agency approval a triggered source water monitoring plan that identifies one or more groundwater sources that are representative of each monitoring site in the system's sample siting plan pursuant to Section 611.521 and that the system intends to use for representative sampling pursuant to this subsection (a).
 - C) This subsection (a)(2)(C) corresponds with 40 CFR 141.802(a)(1)(ii), a now-obsolete implementing provision. This statement maintains structural consistency with the federal regulations.

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- D) A GWS supplier that serves 1,000 or fewer people may use a repeat sample collected from a groundwater source to meet both the requirements of Subpart AA and to satisfy the monitoring requirements of subsection (a)(2) for that groundwater source only if the Agency, by a SEP issued pursuant to Section 611.110, approves the use of E. coli as a fecal indicator for source water monitoring pursuant to this subsection (a) and approves the use of a single sample for meeting both the triggered source water monitoring requirements in this subsection (a) and the repeat monitoring requirements in Section 611.1058. If the repeat sample collected from the groundwater source is E. coli-positive, the system must comply with subsection (a)(3).
- 3) Additional requirements. If the Agency does not require corrective action pursuant to Section 611.803(a)(2) for a fecal indicator-positive source water sample collected pursuant to subsection (a)(2) that is not invalidated pursuant to subsection (d), the system must collect five additional source water samples from the same source within 24 hours after being notified of the fecal indicator-positive sample.
- 4) Consecutive and wholesale systems.
- A) In addition to the other requirements of this subsection (a), a consecutive GWS supplier that has a total coliform-positive sample collected pursuant to Sections 611.1054 through 611.1057, must notify the wholesale systems within 24 hours after being notified of the total coliform-positive sample.
- B) In addition to the other requirements of this subsection (a), a wholesale GWS supplier must comply with the following requirements:
- i) A wholesale GWS supplier that receives notice from a consecutive system it serves that a sample collected pursuant to Sections 611.1054 through 611.1057, is total coliform-positive must, within 24 hours after being notified, collect a sample from its groundwater sources pursuant to subsection (a)(2) and analyze it for a fecal indicator pursuant to subsection (c).

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- ii) If the sample collected pursuant to subsection (a)(4)(B)(i) is fecal indicator-positive, the wholesale GWS supplier must notify all consecutive systems served by that groundwater source of the fecal indicator source water positive within 24 hours after being notified of the groundwater source sample monitoring result and must meet the requirements of subsection (a)(3).
- 5) Exceptions to the triggered source water monitoring requirements. A GWS supplier is not required to comply with the source water monitoring requirements of subsection (a) if either of the following conditions exists:
 - A) The Agency determines, and documents in writing, by a SEP issued pursuant to Section 611.110, that the total coliform-positive sample collected pursuant to Sections 611.1054 through 611.1057, is caused by a distribution system deficiency; or
 - B) The total coliform-positive sample collected pursuant to Sections 611.1054 through 611.1057, is collected at a location that meets Agency criteria for distribution system conditions that will cause total coliform-positive samples.
- b) Assessment source water monitoring. If directed by the Agency by a SEP issued pursuant to Section 611.110, a GWS supplier must conduct assessment source water monitoring that meets Agency-determined requirements for such monitoring. A GWS supplier conducting assessment source water monitoring may use a triggered source water sample collected pursuant to subsection (a)(2) to meet the requirements of subsection (b). Agency-determined assessment source water monitoring requirements may include the following:
 - 1) Collection of a total of 12 groundwater source samples that represent each month the system provides groundwater to the public;
 - 2) Collection of samples from each well, unless the system obtains written Agency approval to conduct monitoring at one or more wells within the GWS that are representative of multiple wells used by that system and which draw water from the same hydrogeologic setting;

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- 3) Collection of a standard sample volume of at least 100 ml for fecal indicator analysis, regardless of the fecal indicator or analytical method used;
 - 4) Analysis of all groundwater source samples using one of the analytical methods listed in subsection (c)(2) for the presence of E. coli, enterococci, or coliphage;
 - 5) Collection of groundwater source samples at a location prior to any treatment of the groundwater source unless the Agency approves a sampling location after treatment; and
 - 6) Collection of groundwater source samples at the well itself, unless the system's configuration does not allow for sampling at the well itself and the Agency approves an alternate sampling location by a SEP issued pursuant to Section 611.110 that is representative of the water quality of that well.
- c) Analytical methods.
- 1) A GWS supplier subject to the source water monitoring requirements of subsection (a) must collect a standard sample volume of at least 100 ml for fecal indicator analysis, regardless of the fecal indicator or analytical method used.
 - 2) A GWS supplier must analyze all groundwater source samples collected pursuant to subsection (a) using one of the analytical methods listed in subsections (c)(2)(A) through (c)(2)(C), each incorporated by reference in Section 611.102, or alternative methods approved by the Agency pursuant to Section 611.480, subject to the limitations of subsection (c)(2)(D), for the presence of E. coli, enterococci, or coliphage:
 - A) E. coli:
 - i) Colilert[®] Test₅; Standard Methods, 20th, 21st, or 22nd ed., Method 9223 B.
 - ii) Colisure[™] Test₅; Standard Methods, 20th, 21st, or 22nd ed., Method 9223 B.

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- iii) Membrane Filter Method with MI Agar; USEPA Method 1604.
- iv) m-ColiBlue24 Test.
- v) E*Colite Test.
- vi) EC-MUG; Standard Methods, 20th or 22nd ed., Method 9221 F.
- vii) NA-MUG; Standard Methods, 20th ed., Method 9222 G.
- viii) Colilert-18[®] Test; Standard Methods, 20th, 21st, or 22nd ed., Method 9223 B.
- ix) Readycult[®] 2007.
- x) Modified Colitag[™] Test.
- xi) Chromocult[®] Method.
- xii) Tecta EC/TC P-A Test, [ver. 1.0 or 2.0](#).

BOARD NOTE: EC-MUG (Standard Methods, Method 9221 F) or NA-MUG (Standard Methods, Method 9222 G) can be used for E. coli testing step, as described in Section 611.526(f)(1) or (f)(2) after use of Standard Methods, 20th ed., Method 9221 B, 9221 D, 9222 B, or 9222 C. USEPA added Standard Methods, 21st ed., Method 9223 B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Readycult[®] 2007, Modified Colitag[™] Test, and Chromocult[®] Method as approved alternative methods on June 8, 2010 (at 75 Fed. Reg. 32295). USEPA added Standard Methods, 22nd ed., Methods 9221 F and 9223 B as approved alternative methods on May 31, 2013 (at 78 Fed. Reg. 32558). USEPA added Standard Methods Online, Method 9221 F-06 and 9223 B-04 and Tecta EC/TC P-A Test, [ver 1.0](#) as approved alternative methods on June 19, 2014 (at 79 Fed. Reg. 35081). [USEPA added Tecta EC/TC P-A Test, ver. 2.0 as](#)

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[an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\)](#). Because Standard Methods, 22nd ed., Methods 9223 B and 9221 F are the same versions as Standard Methods Online, Methods 9223 B-04 and 9221 F-06, the Board has not listed the Standard Methods Online versions separately.

B) Enterococci:

- i) Multiple-Tube Technique; Standard Methods, 20th ed., Method 9230 B or Standard Methods Online, Method 9230 B-04.
- ii) Membrane Filter Technique; Standard Methods, 20th ed., Method 9230 C, and USEPA Method 1600.

BOARD NOTE: The holding time and temperature for groundwater samples are specified in subsection (c)(2)(D), rather than as specified in Section 8 of USEPA Method 1600.

iii) Enterolert.

BOARD NOTE: Medium is available through IDEXX Laboratories, Inc., at the address set forth in Section 611.102(b). Preparation and use of the medium must be as set forth in the article that embodies the method as incorporated by reference in Section 611.102(b).

BOARD NOTE: USEPA added Standard Methods Online, Method 9230 B-04 as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616).

C) Coliphage:

- i) Two-Step Enrichment Presence-Absence Procedure; USEPA Method 1601 or Charm Fast Phage.
- ii) Single Agar Layer Procedure; USEPA Method 1602.

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- D) Limitation on methods use. The time from sample collection to initiation of analysis may not exceed 30 hours. The GWS supplier is encouraged but is not required to hold samples below 10°C during transit.
- d) Invalidation of a fecal indicator-positive groundwater source sample.
- 1) A GWS supplier may obtain Agency invalidation of a fecal indicator-positive groundwater source sample collected pursuant to subsection (a) only under either of the following conditions:
- A) The supplier provides the Agency with written notice from the laboratory that improper sample analysis occurred; or
- B) The Agency determines and documents in writing by a SEP issued pursuant to Section 611.110 that there is substantial evidence that a fecal indicator-positive groundwater source sample is not related to source water quality.
- 2) If the Agency invalidates a fecal indicator-positive groundwater source sample, the GWS supplier must collect another source water sample pursuant to subsection (a) within 24 hours after being notified by the Agency of its invalidation decision, and the supplier must have it analyzed for the same fecal indicator using the analytical methods in subsection (c). The Agency may extend the 24-hour time limit on a case-by-case basis if the supplier cannot collect the source water sample within 24 hours due to circumstances beyond its control. In the case of an extension, the Agency must specify how much time the system has to collect the sample.
- e) Sampling location.
- 1) Any groundwater source sample required pursuant to subsection (a) must be collected at a location prior to any treatment of the groundwater source unless the Agency approves a sampling location after treatment.
- 2) If the supplier's system configuration does not allow for sampling at the well itself, it may collect a sample at an Agency-approved location to meet the requirements of subsection (a) if the sample is representative of the water quality of that well.

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- f) New sources. If directed by the Agency by a SEP issued pursuant to Section 611.110, a GWS supplier that places a new groundwater source into service must conduct assessment source water monitoring pursuant to subsection (b). If directed by the SEP, the system must begin monitoring before the groundwater source is used to provide water to the public.
- g) Public Notification. A GWS supplier with a groundwater source sample collected pursuant to subsection (a) or (b) that is fecal indicator-positive and which is not invalidated pursuant to subsection (d), including a consecutive system supplier served by the groundwater source, must conduct public notification pursuant to Section 611.902.
- h) Monitoring Violations. A failure to meet the requirements of subsections (a) through (f) is a monitoring violation that requires the GWS supplier to provide public notification pursuant to Section 611.904.

BOARD NOTE: Derived from 40 CFR 141.402 and appendix A to subpart C of 40 CFR 141 [\(2017\)](#)~~(2016)~~.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

SUBPART AA: REVISED TOTAL COLIFORM RULE

Section 611.1052 Analytical Methods and Laboratory Certification

- a) Analytical methodology.
 - 1) The standard sample volume required for analysis, regardless of analytical method used, is 100 ml.
 - 2) A supplier needs only determine the presence or absence of total coliforms and E. coli; a determination of density is not required.
 - 3) The time from sample collection to initiation of test medium incubation may not exceed 30 hours. Suppliers are encouraged but not required to hold samples below 10° C during transit.

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- 4) If water having residual chlorine (measured as free, combined, or total chlorine) is to be analyzed, sufficient sodium thiosulfate ($\text{Na}_2\text{S}_2\text{O}_3$) must be added to the sample bottle before sterilization to neutralize any residual chlorine in the water sample. Dechlorination procedures are addressed in section 2 of Standard Methods, 20th or 21st ed., Method 9060 A, each incorporated by reference in Section 611.102.
- 5) The supplier must conduct total coliform and E. coli analyses in accordance with one of the following analytical methods, each incorporated by reference in Section 611.102:

BOARD NOTE: All monitoring and analyses must be done in accordance with the version of the approved method recited in this subsection (a) and incorporated by reference in Section 611.102. The methods listed are the only versions that may be used for compliance with this Subpart AA. Laboratories should be careful to use only the approved versions of the methods, as product package inserts may not be the same as the approved versions of the methods.

A) Total coliforms, lactose fermentation methods:

- i) Standard total coliform fermentation technique: sections 1 and 2 of Standard Methods, 20th, 21st, or 22nd ed., Method 9221 B; or

BOARD NOTE: Lactose broth, as commercially available, may be used in lieu of lauryl tryptose broth, if the supplier conducts at least 25 parallel tests between lactose broth and lauryl tryptose broth using the water normally tested, and if the findings from this comparison demonstrate that the false-positive rate and false-negative rate for total coliforms, using lactose broth, is less than 10 percent. Because Standard Methods, 21st ed., Method 9221 B is the same version as Standard Methods Online 9221 B-99, the Board has not listed the Standard Methods Online version separately.

- ii) Presence-absence (P-A) coliform test: sections 1 and 2 of Standard Methods, 20th or 21st, Method 9221 D.

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BOARD NOTE: A multiple tube enumerative format, as described in Standard Methods, 20th or 21st, Method 9221 D, is approved for this method for use in presence-absence determination under this Subpart AA. Because Standard Methods, 21st ed., Method 9221 D is the same version as Standard Methods Online 9221 D-99, the Board has not listed the Standard Methods Online version separately.

BOARD NOTE: USEPA added sections 1 and 2 of Standard Methods Online, Method 9221 B-06 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 9221 B is the same version as Standard Methods Online, Method 9221 B-06, the Board has not listed the Standard Methods Online versions separately.

B) Total coliforms, membrane filtration methods:

- i) Standard total coliform membrane filter procedure: Standard Methods, 20th or 21st ed., Method 9222 B or C.

BOARD NOTE: Because Standard Methods, 20th ed., Methods 9222 B and C are the same version as Standard Methods Online 9222 B and C-97, the Board has not listed the Standard Methods Online version separately.

- ii) Membrane filtration using MI medium: USEPA Method 1604.
- iii) m-ColiBlue24[®] Test.

BOARD NOTE: All filtration series must begin with membrane filtration equipment that has been sterilized by autoclaving. Exposure of filtration equipment to UV light is not adequate to ensure sterilization. Subsequent to the initial autoclaving, exposure of the filtration equipment to UV light may be used to sanitize the funnels between filtrations within a filtration series. Alternatively,

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membrane filtration equipment that is pre-sterilized by the manufacturer (i.e., disposable funnel units) may be used.

- iv) Chromocult® Method.

BOARD NOTE: All filtration series must begin with membrane filtration equipment that has been sterilized by autoclaving. Exposure of filtration equipment to UV light is not adequate to ensure sterilization. Subsequent to the initial autoclaving, exposure of the filtration equipment to UV light may be used to sanitize the funnels between filtrations within a filtration series. Alternatively, membrane filtration equipment that is pre-sterilized by the manufacturer (i.e., disposable funnel units) may be used.

- C) Total coliforms, enzyme substrate methods:

- i) Colilert® Test: Standard Methods, 20th, 21st, or 22nd ed., Method 9223 B;

BOARD NOTE: Multiple-tube and multi-well enumerative formats for this method are approved for use in presence-absence determination under this Subpart AA.

- ii) Colilert-18® Test: Standard Methods, 20th, 21st, or 22nd ed., Method 9223 B;

- iii) Colisure™ Test: Standard Methods, 20th, 21st, or 22nd ed., Method 9223 B;

BOARD NOTE: Multiple-tube and multi-well enumerative formats for this method are approved for use in presence-absence determination under this Subpart AA. Colisure™ Test results may be read after an incubation time of 24 hours. Because Standard Methods, 20th ed., Method 9223 B is the same version as Standard Methods Online 9223 B-97, the Board has not listed the Standard Methods Online version separately.

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- iv) E*Colite[®] Test;
- v) Readycult[®] 2007 Test;
- vi) Modified Colitag[™] Test; or
- vii) Tecta EC/TC P-A Test, [ver. 1.0 or 2.0](#).

BOARD NOTE: USEPA added Standard Methods Online, Method 9223 B-04, Colilert-18[®] Test, and Tecta EC/TC P-A Test, [ver 1.0](#) as approved alternative methods on June 19, 2014 (at 79 Fed. Reg. 35081). [USEPA added Tecta EC/TC P-A Test, ver. 2.0 as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\)](#). Because Standard Methods, 22nd ed., Method 9223 B-04, the Board has not listed the Standard Methods Online versions separately.

- D) E. coli (following lactose fermentation methods), EC-MUG medium: section 1 of Standard Methods, 20th or 22nd ed., Method 9221 F.

BOARD NOTE: USEPA added section 1 of Standard Methods Online, Method 9221 F-06 as an approved alternative method on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22nd ed., Method 9221 F is the same version as Standard Methods Online, Method 9221 F-06, the Board has not listed the Standard Methods Online versions separately.

- E) E. coli, partition method:
 - i) EC broth with MUG (EC-MUG): section 1.c(2) of Standard Methods, 20th or 21st ed., Method 9222 G; or

BOARD NOTE: The following changes must be made to the EC broth with MUG (EC-MUG) formulation:
potassium dihydrogen phosphate (KH₂PO₄) must be 1.5 g,
and 4-methylumbelliferyl-β-D-glucuronide must be 0.05 g.

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- ii) NA-MUG medium: section 1.c(1) of Standard Methods, 20th or 21st ed., Method 9222 G.

F) E. coli, membrane filtration methods:

- i) Membrane filtration using MI medium: USEPA Method 1604.
- ii) m-ColiBlue24[®] Test.

BOARD NOTE: All filtration series must begin with membrane filtration equipment that has been sterilized by autoclaving. Exposure of filtration equipment to UV light is not adequate to ensure sterilization. Subsequent to the initial autoclaving, exposure of the filtration equipment to UV light may be used to sanitize the funnels between filtrations within a filtration series. Alternatively, membrane filtration equipment that is pre-sterilized by the manufacturer (i.e., disposable funnel units) may be used.

- iii) Chromocult[®] Method.

BOARD NOTE: All filtration series must begin with membrane filtration equipment that has been sterilized by autoclaving. Exposure of filtration equipment to UV light is not adequate to ensure sterilization. Subsequent to the initial autoclaving, exposure of the filtration equipment to UV light may be used to sanitize the funnels between filtrations within a filtration series. Alternatively, membrane filtration equipment that is pre-sterilized by the manufacturer (i.e., disposable funnel units) may be used.

G) E. coli, enzyme substrate methods:

- i) Colilert[®] Test: Standard Methods, 20th, 21st, or 22nd ed., Method 9223 B;

BOARD NOTE: Multiple-tube and multi-well enumerative formats for this method are approved for use in presence-

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absence determination under this Subpart AA. Because Standard Methods, 20th ed., Method 9223 B is the same version as Standard Methods Online 9223 B-97, the Board has not listed the Standard Methods Online version separately.

- ii) Colilert-18[®] Test: Standard Methods, 20th, 21st, or 22nd ed., Method 9223 B;
- iii) Colisure[™]: Standard Methods, 20th, 21st, or 22nd ed., Method 9223 B;

BOARD NOTE: Multiple-tube and multi-well enumerative formats for this method are approved for use in presence-absence determination under this Subpart AA. Colisure[™] results may be read after an incubation time of 24 hours. Because Standard Methods, 20th ed., Method 9223 B is the same version as Standard Methods Online 9223 B-97, the Board has not listed the Standard Methods Online version separately.

- iv) E*Colite[®] Test;
- v) ReadyCult[®] 2007 Test;
- vi) Modified Colitag[™] Test; or
- vii) Tecta EC/TC P-A Test, [ver. 1.0 or 2.0](#).

BOARD NOTE: USEPA added Standard Methods, 22nd ed., Method 9223 B as an approved alternative method on June 21, 2013 (at 78 Fed. Reg. 37463). USEPA added Standard Methods Online, Method 9223 B-04, Colilert-18[®] Test, and Tecta EC/TC P-A Test, [ver. 1.0](#) as approved alternative methods on June 19, 2014 (at 79 Fed. Reg. 35081). [USEPA added Tecta EC/TC P-A Test, ver. 2.0 as an approved alternative method on July 27, 2017 \(at 82 Fed. Reg. 34861\)](#). Because Standard Methods, 22nd ed., Method 9223 B is the same version as Standard Methods Online, Method

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9223 B-04, the Board has not listed the Standard Methods Online versions separately.

- b) Laboratory certification. A supplier must have all compliance samples required by this Subpart AA analyzed by a certified laboratory in one of the categories listed in Section 611.490(a). The laboratory used by the supplier must be certified for each method (and associated contaminants) that is used for compliance monitoring analyses under this Subpart AA.
- c) This subsection (c) corresponds with 40 CFR 141.1052(c), which is a centralized listing of incorporations by reference for the purposes of subpart Y to 40 CFR 141. The Board has centrally located all incorporations by reference in Section 611.102. This statement maintains structural consistency with the federal rules.

BOARD NOTE: Derived from 40 CFR 141.852 and appendix A to subpart C of 40 CFR 141 [\(2017\)](#)~~(2016)~~.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

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- 1) Heading of the Part: Universities Retirement
- 2) Code Citation: 80 Ill. Adm. Code 1600
- 3)

<u>Section Numbers:</u>	<u>Proposed Action:</u>
1600.205	Amendment
1600.270	Amendment
1600.271	New Section
- 4) Statutory Authority: 40 ILCS 5/15-177
- 5) A Complete Description of the Subjects and Issues Involved: The proposed amendments to Section 1600.205, 1600.270, and the new addition of Section 1600.271 are intended to implement legislative changes to Article 15 of the Illinois Pension Code (40 ILCS 5/15) made by PA 99-897, effective January 1, 2017, and PA 100-23, effective July 6, 2017, in addition to making minor stylistic corrections.
- 6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: None
- 7) Will this rulemaking replace any emergency rule currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this rulemaking contain incorporations by reference? No
- 10) Are there any other rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objective: This rulemaking does not affect units of local government.
- 12) Time, Place and Manner in which interested persons may comment on this rulemaking: Comments on the proposed rulemaking may be submitted in writing for a period of 45 days following publication of this Notice to:

Albert J. Lee, Associate General Counsel
State Universities Retirement System
1901 Fox Drive
Champaign IL 61820

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- 13) Initial Regulatory Flexibility Analysis:
- A) Types of small businesses, small municipalities and not-for-profit corporations affected: None
 - B) Reporting, bookkeeping or other procedures required for compliance: None
 - C) Types of professional skills necessary for compliance: None
- 14) Regulatory Agenda on which this rulemaking was summarized: January 2018

The full text of the Proposed Amendments begins on the next page:

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NOTICE OF PROPOSED AMENDMENTS

TITLE 80: PUBLIC OFFICIALS AND EMPLOYEES
SUBTITLE D: RETIREMENT SYSTEMS
CHAPTER II: STATE UNIVERSITIES RETIREMENT SYSTEMPART 1600
UNIVERSITIES RETIREMENT

SUBPART A: GENERAL

Section

1600.100	Definitions
1600.110	Freedom of Information Act
1600.120	Open Meetings Act
1600.130	Procurement
1600.140	Compliance with the Internal Revenue Code
1600.145	Compliance with Final 415 Treasury Regulations
1600.150	Group Trust Provisions

SUBPART B: CONTRIBUTIONS AND SERVICE CREDIT

Section

1600.202	Return to Employment
1600.203	Independent Contractors
1600.205	Earnings Subject to Withholding and Crediting
1600.210	Crediting Interest on Participant Contributions and Other Reserves
1600.220	Election to Make Contributions Covering Leave of Absence at Less Than 50% Pay
1600.230	Election to Pay Contributions Based upon Employment that Preceded Certification as a Participant
1600.240	Election to Make Contributions Covering Periods of Military Leave Protected under USERRA
1600.241	Survivor Benefits for Members Who Die While on Military Leave Protected under USERRA
1600.250	Sick Leave Accrual Schedule
1600.260	Part-time/Concurrent Service Adjustment
1600.270	Employer Contributions for Benefit Increases Resulting from Earnings Increases Exceeding 6%
<u>1600.271</u>	<u>Employer Contributions for Earnings in Excess of the Governor's Salary</u>
1600.275	Employer Contributions for Employing Affected Annuitants

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SUBPART C: SURVIVORS AND BENEFICIARIES

Section

- 1600.300 Effective Beneficiary Designations
- 1600.305 Full-Time Student Survivors Insurance Beneficiaries
- 1600.310 Dependency of Beneficiaries
- 1600.320 Disability Claims Procedure (Renumbered)

SUBPART D: BENEFIT CALCULATION AND PAYMENT

Section

- 1600.400 Determination of Final Rate of Earnings Period
- 1600.410 Twenty Percent Limitation on Final Rate of Earnings Increases
- 1600.420 Making Preliminary Estimated Payments
- 1600.430 Excess Benefit Arrangement
- 1600.431 Indirect Payments to Minors and Legally Disabled Persons
- 1600.432 Indirect Payments to Child Survivors Through the Surviving Spouse
- 1600.440 Voluntary Deductions from Annuity Payments
- 1600.450 Overpayment Recovery

SUBPART E: DISABILITY CLAIMS AND ADMINISTRATIVE REVIEW

Section

- 1600.500 Administrative Staff Determinations and Rules for Appeal – Nature and Requirements of Formal Hearings
- 1600.510 Employer-Related Determinations and Rules for Appeal
- 1600.550 Disability Claims Procedure

SUBPART F: QUALIFIED ILLINOIS DOMESTIC RELATIONS ORDERS

Section

- 1600.600 Definitions
- 1600.605 Requirements for a Valid Qualified Illinois Domestic Relations Order
- 1600.610 Invalid Orders
- 1600.615 Filing a QILDRO with the System
- 1600.620 Modified QILDROs
- 1600.625 Benefits Affected by a QILDRO
- 1600.630 Effect of a Valid QILDRO

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1600.635	QILDROs Against Persons Who Became Members Prior to July 1, 1999
1600.640	Alternate Payee's Address
1600.645	Electing Form of Payment
1600.650	Automatic Annual Increases
1600.655	Expiration of a QILDRO
1600.660	Reciprocal Systems QILDRO Policy Statement
1600.665	Providing Benefit Information for Divorce Purposes

SUBPART G: BOARD TRUSTEE ELECTION

Section	
1600.700	Nomination of Candidates
1600.705	Election Date/Election Day – Defined
1600.710	Petitions
1600.715	Eligible Voters
1600.720	Election Materials
1600.725	Casting Votes
1600.730	Return of Ballots and Ballot Counting Process
1600.735	Certification of Ballot Counting
1600.740	Challenges to Election Results
1600.745	Candidate Informational Communication
1600.750	Filling a Vacancy in the Term of an Elected Trustee

AUTHORITY: Implementing and authorized by Section 15-177 of the Illinois Pension Code [40 ILCS 5/15-177].

SOURCE: Amended September 2, 1977; amended at 2 Ill. Reg. 31, p.53, effective July 30, 1978; amended at 7 Ill. Reg. 8139, effective June 29, 1983; codified at 8 Ill. Reg. 19683; amended at 11 Ill. Reg. 15656, effective September 9, 1987; amended at 13 Ill. Reg. 18939, effective November 21, 1989; amended at 14 Ill. Reg. 6789, effective April 20, 1990; emergency amendment at 21 Ill. Reg. 4864, effective March 26, 1997, for a maximum of 150 days; amended at 21 Ill. Reg. 6095, effective May 2, 1997; amended at 21 Ill. Reg. 11962, effective August 13, 1997; amended at 21 Ill. Reg. 12653, effective August 28, 1997; amended at 22 Ill. Reg. 4116, effective February 9, 1998; amended at 23 Ill. Reg. 13667, effective November 1, 1999; amended at 25 Ill. Reg. 10206, effective July 30, 2001; amended at 28 Ill. Reg. 2292, effective January 23, 2004; expedited correction at 28 Ill. Reg. 7575, effective January 23, 2004; amended at 29 Ill. Reg. 2729, effective March 1, 2005; amended at 29 Ill. Reg. 11819, effective July 12, 2005; amended at 29 Ill. Reg. 14060, effective September 1, 2005; amended at 29 Ill. Reg. 14351, effective September 6, 2005; amended at 30 Ill. Reg. 6170, effective March 21, 2006;

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amended at 30 Ill. Reg. 7778, effective April 5, 2006; amended at 30 Ill. Reg. 9911, effective May 9, 2006; amended at 30 Ill. Reg. 17509, effective October 19, 2006; amended at 31 Ill. Reg. 4267, effective February 22, 2007; amended at 31 Ill. Reg. 4927, effective March 12, 2007; recodified at 31 Ill. Reg. 10194; amended at 32 Ill. Reg. 16515, effective September 25, 2008; emergency amendment at 33 Ill. Reg. 6525, effective April 27, 2009, for a maximum of 150 days; emergency expired September 23, 2009; amended at 33 Ill. Reg. 10757, effective July 1, 2009; amended at 33 Ill. Reg. 16755, effective November 23, 2009; amended at 34 Ill. Reg. 9523, effective June 25, 2010; amended at 35 Ill. Reg. 10952, effective June 22, 2011; amended at 36 Ill. Reg. 3938, effective February 22, 2012; amended at 37 Ill. Reg. 1309, effective January 15, 2013; amended at 37 Ill. Reg. 3866, effective March 15, 2013; amended at 37 Ill. Reg. 10698, effective June 26, 2013; amended at 37 Ill. Reg. 15517, effective September 12, 2013; amended at 38 Ill. Reg. 5659, effective February 11, 2014; emergency amendment at 38 Ill. Reg. 11376, effective May 9, 2014, for a maximum of 150 days; amended at 38 Ill. Reg. 16375, effective July 17, 2014; amended at 38 Ill. Reg. 17457, effective July 30, 2014; amended at 39 Ill. Reg. 8317, effective June 1, 2015; amended at 40 Ill. Reg. 8437, effective June 3, 2016; amended at 41 Ill. Reg. 11606, effective September 1, 2017; amended at 41 Ill. Reg. 15353, effective December 5, 2017; amended at 42 Ill. Reg. _____, effective _____.

SUBPART B: CONTRIBUTIONS AND SERVICE CREDIT

Section 1600.205 Earnings Subject to Withholding and Crediting

- a) Purpose. This Section provides guidance on which payments for compensation constitute "earnings" under ~~Sections~~Section 15-111 and 15-111.5 of the Code. Section 15-157 of the Code requires every participating employee to make contributions of 8% of his or her pay to fund the benefits payable under SURS. This contribution is deducted from the participating employee's pay on a pre-tax basis and remitted to SURS via payroll deduction. The contributions are made as a percentage of the participating employee's "earnings".
- b) Definition. "Earnings", defined under Section 15-111 of the Code, *is an amount paid for personal services equal to the sum of the basic compensation plus extra compensation for summer teaching, overtime and other extra service, subject to the following:-*
- 1) *For periods for which an employee receives service credit under Section 15-113.1(c) or 15-113.2 of the Code, earnings are equal to the basic compensation on which contributions are paid by the employee during such periods.*

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- 2) Earnings shall include the basic compensation on which employee contributions required under Section 15-157 of the Code are paid by the employee for periods of furlough as provided under Section 15-113.11 of the Code.
 - 3) Earnings shall include the amount of a voluntary pay reduction taken in lieu of furlough on which employee contributions required under Section 15-157 of the Code are paid by the employee as provided under Section 15-113.12 of the Code.
 - 4) *Compensation for employment which is irregular, intermittent and temporary shall not be considered earnings, unless the participant is also receiving earnings from the employer as an employee under Section 15-107 of the Code. [40 ILCS 5/15-111(a)]*
- c) Tier 2 Member Earnings Limitation
- 1) *For a Tier 2 member, the annual earnings shall not exceed \$106,800; however, that amount shall annually thereafter be increased by the lesser of:*
 - A) *3% of that amount, including all previous adjustments; or*
 - B) *one-half the annual unadjusted percentage increase (but not less than zero) in the Consumer Price Index-U (CPI-U) for the 12 months ending with the September preceding each November 1, including all previous adjustments.*
 - 2) *For the purposes of this Section, CPI-U means the index published by the Bureau of Labor Statistics of the United States Department of Labor that measures the average change in prices of goods and services purchased by all urban consumers, United States city average, all items, 1982-84 = 100. The new amount resulting from each annual adjustment shall be determined by the Public Pension Division of the Department of Insurance and made available to the boards of the retirement systems and pension funds by November 1 of each year. [40 ILCS 5/15-111(b)]*
- d) Determination of the Purpose of the Payment

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- 1) If the payment is for services rendered, then the payment is earnings.
- 2) If the payment is for a reason other than services rendered, it is not earnings.
- 3) Other Payments
The following list does not limit SURS' authority to determine whether any payment of compensation constitutes earnings on a case-by-case basis.
 - A) Bonuses; Awards
 - i) Bonuses received by an employee that are related to services rendered for a specific period of time, not to exceed one academic year, shall be included in earnings subject to SURS withholding.
 - ii) Awards, such as longevity of service awards or outstanding employee awards, that are not associated with a particular time period are not subject to SURS withholding.
 - iii) Earnings and basic compensation for an employee who first becomes a participant on or after January 1, 2017 shall not include bonuses.
 - B) Severance Payments, Salary/Contract Continuation Payments, Retirement Payments or Incentives. Payments made to facilitate termination of employment or to induce someone to retire, or not to retire, are not for services rendered, but are made in conjunction with an employee's termination of employment or retirement and are not earnings. These payments are also not includable in the final rate of earnings under Section 15-112.
 - C) Group Fringe Benefits. Group fringe benefits provided by the employer are not earnings. However, employer paid premiums on employer-provided group term life insurance in excess of \$50,000 are earnings.

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- D) Housing Allowance. A housing allowance, whether in the form of a direct salary payment or as a residence in which the employee resides, is earnings. [Earnings and basic compensation for an employee who first becomes a participant on or after January 1, 2017 shall not include housing allowances.](#)
- E) Automobile Allowance. An automobile allowance in the form of a direct salary payment is earnings. However, neither business use nor personal use of an employer-provided automobile is earnings. [Earnings and basic compensation for an employee who first becomes a participant on or after January 1, 2017 shall not include vehicle allowances.](#)
- F) Non-Qualified Moving Expenses. Non-qualified moving expenses (see 26 USC 217) are not earnings as they are not furnished in lieu of salary.
- G) Unused Sick Leave Paid at Termination of Employment. These payments are not earnings, except for collectively bargained payments made in accordance with Section 15-112 of the Code.
- H) Overtime. Overtime is earnings.
- I) Miscellaneous Other Benefits. Fringe benefits that are provided in lieu of salary are earnings. Items that are not provided in lieu of salary (such as reimbursement for out-of-pocket travel expenses, relocation expenses, etc.) are not earnings. Items such as country club dues, tuition waivers, tickets to athletic and performing arts events for family members of employees, and other items that are reported as taxable income on the employee's Form W-2 are not earnings, unless those items are a negotiated fringe benefit in lieu of salary. [Earnings and basic compensation for an employee who first becomes a participant on or after January 1, 2017 shall not include social club dues or athletic club dues.](#)
- J) Military Differential Wage Payments and Salary Continuation Benefits. For payments made on or after January 1, 2009, differential wage payments, as defined under section 414(u)(12) of the IRC (26 USC 414(u)(12)), and payments to an individual who

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does not currently perform services for an employer by reason of qualified military service, as defined under section 414(u)(1) of the IRC (26 USC 414(u)(1)), to the extent those payments do not exceed the amounts the individual would have received if the individual had continued to perform services for the employer rather than entering qualified military service, shall be earnings and shall be compensation paid or made available during the limitation year for purposes of applying the limitations under section 415 of the IRC.

- K) Retroactive Pay Settlements, Court Settlements or Judgments, or Grievance Arbitration Settlements or Awards. The cash amount for back pay or retroactive pay under a settlement agreement, award or order issued by a court or arbitral body for a disputed termination of employment, suspension or demotion shall be earnings if the agreement, award or order:
- i) Excludes from back pay any non-wage or non-salary items, such as health insurance reimbursements, payments for medical costs, interest awards, attorneys' fees, or damage awards;
 - ii) Specifies the months to which the back pay is allocated and the amount is based on the basic compensation (or a portion thereof) the employee would have otherwise received during those months; and
 - iii) The back pay amounts are paid to the employee within one year after the issuance of the agreement, award or order.
- L) Payment for Unused Vacation Days. Pursuant to Section 15-112(h)(4)(iii) of the Code, payments for unused vacation of up to 56 work days paid upon termination of employment are earnings. Payments for unused vacation days that are paid during employment are not earnings.
- M) [Payments made under the Public Employee Disability Act \[5 ILCS 345\] are not earnings.](#)

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c) Earning History. Certain earnings may be excludable from the "final rate of earnings" determined under Section 15-112 of the Code. Earnings are always attributable to the period when earned, not when paid. SURS reserves the right to reallocate reported earnings to the period when earned, when this is necessary to accurately reflect the employee's earning history.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1600.270 Employer Contributions for Benefit Increases Resulting from Earnings Increases Exceeding 6%

Purpose. This Section implements Section 15-155(g), (h), (i), (j) and (k) of the Code. This Section shall not apply to benefits from other retirement systems or pension funds payable under the Retirement Systems Reciprocal Act (Article 20 of the Code).

- a) Calculation of the Employer Cost. This calculation is made when a monthly benefit is calculated from the participant's final rate of earnings (FRE). The "present value of the increase in benefits" described in Section 15-155(g), called the "Employer Cost", will be calculated as follows:
- 1) The earnings, as defined in Section 15-111 of the Code, for every academic year in the FRE period, as defined in Section 15-112 of the Code, are adjusted on a full-time equivalent basis.
 - A) 48 Month FREs and Partial Academic Years. When the final rate of earnings for a participant is the average annual earnings during the 48 consecutive calendar month period ending with the last day of final termination of employment, any partial academic year at the beginning of the final rate of earnings period will be disregarded.
 - B) Full-Time Equivalent (FTE) Basis
 - i) SURS will adjust earnings from an employer in a manner consistent with the percent time employed reported by the employer.

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- ii) The FTE earnings of an academic year shall equal the total earnings in the academic year divided by the average percent time of employment.
 - C) Earnings credited during periods of service purchased under Sections 15-113.1 through 15-113.7 of the Code shall be determined on a FTE basis.
 - D) For the purpose of Section 15-155(g), earnings do not include payments made under a collective bargaining agreement for unused sick leave or payments made for unused vacation.
 - E) For purposes of Section 15-155(g), earnings shall include earnings, to the extent not established by a participant under Section 15-113.11 or 15-113.12, that would have been paid to the participant had the participant not taken periods of voluntary or involuntary furlough occurring on or after July 1, 2015 and on or before June 30, 2017, or periods of voluntary pay reduction in lieu of furlough occurring on or after July 1, 2015 and on or before June 30, 2017. These earnings shall be reported by the employer in the format specified by the System for this purpose.
- 2) The FTE earnings of each academic year in the FRE period are limited to 106% of the previous academic year's FTE earnings to yield the "Capped FTE Earnings" of each academic year.
 - 3) The Capped FTE Earnings of each academic year are multiplied by their respective average percent times of employment to yield the "Capped Earnings" for each academic year. The Capped Earnings shall be used to determine the "Capped FRE".
 - 4) The "Benefit Increase" shall equal the difference between the FRE and the Capped FRE, multiplied by the number of years of service, and further multiplied by 2.2%.
 - 5) The Employer Cost equals the actuarial present value of the Benefit Increase. This actuarial present value calculation will be made by using actuarial tables provided by SURS' actuary from time to time. The actuarial table used will correspond with the type of monthly benefit that

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is provided to the participant. A single-life annuity table will be used when a traditional benefit package participant has no eligible survivor at the time of retirement. If the participant had employment with more than one employer during the final rate of earnings period, the Employer Cost is calculated for each employer using only the earnings with that employer. However, no Employer Cost will be assessed among multiple, concurrent employers if the increase in total earnings for the concurrent academic year in the FRE period does not exceed 6% over the total earnings of the previous academic year.

b) Employer Billing

- 1) *Billing. Whenever it determines that a payment is or may be required under Section 15-155(g), SURS will calculate the amount of the payment and bill the employer for the amount. The bill will specify the calculations used to determine the amount due.*
- 2) *Request for Recalculation. If the employer disputes the amount of the bill, it may, within 30 days after receipt of the bill, apply to SURS in writing for a recalculation. The application must specify the grounds of the dispute and, if the employer asserts the calculation is subject to Section 15-155(h) or (i), must include an affidavit setting forth and attesting to all facts within the employer's knowledge that are pertinent to the applicability of Section 15-155(h) or (i). Upon receiving a timely application for recalculation, SURS will review the application and, if appropriate, recalculate the amount due.*
- 3) *Payment. The employer contributions required under Section 15-155(g) may be paid in the form of a lump sum within 90 days after the receipt of the bill. If the employer contributions are not paid within 90 days after receipt of the bill, then interest will be charged at a rate equal to SURS' prescribed rate of interest compounded annually from the 91st day after the receipt of the bill. Payments must be concluded within 3 years after the employer's receipt of the bill. [40 ILCS 5/15-155(g)]*
- 4) *Appeals of the Recalculation. The employer may appeal a recalculation pursuant to Section 1600.510.*

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- c) Exclusions for Earnings Increases Paid on or after June 1, 2005, but before July 1, 2011, under Section 15-155(h)
- 1) Grandfathering. *When assessing payment for any amount due under Section 15-155(g), SURS will exclude earnings increases paid to participants required under contracts or collective bargaining agreements entered into, amended, or renewed before June 1, 2005. [40 ILCS 5/15-155(h)] These ~~Such~~ contracts are "grandfathered". For the purposes of Section 15-155(h):*
- A) A contract or collective bargaining agreement is "entered into, amended or renewed" on the earliest of the following:
- i) the date the governing body of the employer voted to accept the contract or collective bargaining agreement;
 - ii) the date the contract or collective bargaining agreement was executed in final form by the parties; or
 - iii) the date the parties to the contract or collective bargaining agreement reached a tentative agreement regarding the terms of the contract or collective bargaining agreement, provided that the tentative agreement is subsequently approved by the governing body of the employer on or after June 1, 2005, without any changes to the terms that have the effects described under subsection (c)(1)(B)(i) or (ii).
- B) A contract or collective bargaining agreement will not exclude earnings increases paid under the contract or agreement if the contract or agreement is amended or renegotiated after June 1, 2005 to have the effect of:
- i) increasing the earnings usable for the FRE (except when the increase is the result of a salary reopener provision that was part of the contract or collective bargaining agreement prior to June 1, 2005); or

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- ii) extending the expiration date of the contract (in which case the earnings will be excluded only through the original expiration date of the contract).
- C) Miscellaneous
- i) A contract exception made by an employer for an individual shall disqualify that individual's earnings increases from grandfathering but shall not invalidate the grandfathering for any other persons.
 - ii) A memorandum of understanding between the employer and the collective bargaining unit to increase the credit hours available shall not invalidate the contract, but any earnings increases because of the increased credit hours shall not be excluded from the calculation under subsection (a), unless Section 15-155(h) or (i) [of the Code](#) applies.
 - iii) When a member has given notice to the employer of intent to retire pursuant to the terms of a grandfathered contract or collective bargaining agreement, earnings provided under the contract or collective bargaining agreement shall be excluded so long as the earnings are provided to the member within four years after the expiration date of the contract or collective bargaining agreement.
 - iv) Notwithstanding the other provisions of this subsection (c)(1), earnings paid under a grandfathered contract on or after July 1, 2011 shall not be excluded from earnings under subsection (a).
- 2) *Earnings 10 Years Prior to Retirement Eligibility. When assessing payment for any amount due under Section 15-155(g) [of the Code](#), SURS will exclude earnings increases paid to a participant at a time when the participant is 10 or more years from retirement eligibility under Section 15-135 of the Code. [40 ILCS 5/15-155(h)] Earnings increases paid in academic years preceding and including the academic year during which the participant was 10 years from attaining earliest retirement eligibility shall be excluded.*

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- 3) Overloads and Overtime
- A) *Earnings increases resulting from overload work, including a contract for summer teaching, or overtime when the employer has certified to SURS, and SURS has approved the certification, that:*
- i) *in the case of overloads:*
- *the overload work is for the sole purpose of academic instruction in excess of the standard number of instruction hours for a full-time employee occurring during the academic year that the overload is paid; and*
 - *the earnings increases are equal to or less than the rate of pay for academic instruction computed using the participant's current salary rate and work schedule; and*
- ii) *in the case of overtime, the overtime was necessary for the educational mission. [40 ILCS 5/15-155(h)]*
- B) The certification shall be in the form adopted by SURS and be signed by a duly authorized representative of the employer. The certification must be accompanied by supporting documentation as required by the form.
- C) The standard number of instruction hours for a full-time employee shall be consistent with employer policy in force for the academic year in which the overload earnings were earned.
- 4) Promotions
- A) *When assessing payment for any amount due under Section 15-155(g) [of the Code](#), SURS will exclude earnings increases resulting from:*
- i) *a promotion for which the employee moves from one classification to a higher classification under the State Universities Civil Service System;*

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- ii) *a promotion in academic rank for a tenured or tenure-track faculty position; or*
 - iii) *a promotion that the Illinois Community College Board has recommended in accordance with Section 15-155(k).*
- B) *The earnings increases referenced in subsection (c)(4)(A) shall be excluded only if the promotion is to a position that has existed and been filled by a member for no less than one complete academic year and the earnings increase as a result of the promotion is an increase that results in an amount no greater than the average salary paid for other similar positions. [40 ILCS 5/15-155(h)]*
- C) The employer shall certify that the promotion is to a position that has existed and been filled by a member for no less than one complete academic year and the earnings increase as a result of the promotion is an increase that results in an amount no greater than the average salary paid for other similar positions. The certification shall be in the form adopted by SURS and be signed by a duly authorized representative of the employer. The certification must be accompanied by supporting documentation as required by the form.
- D) The phrase "an amount no greater than the average salary paid for other similar positions" shall mean the midpoint of the salary range for the position or similar positions as most recently approved by the Merit Board of the State Universities Civil Service System or the current average salary paid for tenured or tenure-track faculty positions in the same department, as the case may be.
- d) Exclusions for earnings increases described in Section 15-155(h) [of the Code](#) paid on or after July 1, 2011, but before July 1, 2014, under a contract or collective bargaining agreement entered into, amended, or renewed on or after June 1, 2005, but before July 1, 2011, under Section 15-155(i). For the purpose of Section 15-155(i), a contract or collective bargaining agreement is "entered into, amended or renewed" on the earliest of the following:

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- 1) the date the governing body of the employer voted to accept the contract or collective bargaining agreement;
 - 2) the date the contract or collective bargaining agreement was executed in final form by the parties; or
 - 3) the date the parties to the contract or collective bargaining agreement reached a tentative agreement regarding the terms of the contract or collective bargaining agreement, provided that the tentative agreement is subsequently approved by the governing body of the employer on or after July 1, 2011 without any changes to the terms that have the effect of extending the expiration date.
- e) The exclusions under subsections (c) and (d) shall not apply to earnings increases paid after June 30, 2014.

(Source: Amended at 42 Ill. Reg. _____, effective _____)

Section 1600.271 Employer Contributions for Earnings in Excess of the Governor's Salary

- a) Purpose and Applicability. This Section implements Section 15-155(j-5) of the Code. Section 15-155(j-5) and this Section shall not apply to any participant's earnings to the extent the employer pays the employer normal cost for those earnings. For purposes of Section 15-155(j-5), the terms stated in subsections (b) through (i) shall have the meanings ascribed in this Section.
- b) Measurement Year. "Academic year" and "school year" shall mean the 12-month period beginning on July 1 and shall be collectively referred to in this Section as the "measurement year".
- c) Governor's Salary. The "amount of the salary set for the Governor" shall be the salary for the Governor set by law by the General Assembly as of July 1 of the measurement year or, in its absence, the most recent salary for the Governor set by law by the General Assembly.
- d) FTE Earnings. "A participant's earnings for any school year, determined on a full-time equivalent basis" ("FTE earnings") shall equal the total earnings in the measurement year divided by the average of the percent times of employment reported by the employer during the measurement year.

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- 1) The employer shall report percent time with each submission of payroll information duly certified to be correct and in compliance with all applicable State and federal laws pursuant to Section 15-111(c) of the Code.
 - 2) The average percent time calculation shall only take into account periods during which services were actually rendered or periods during which the employee was on an approved leave of absence at a percentage of pay greater than 0% (as adjusted by any voluntary employee contributions made for those periods).
 - 3) Earnings do not include payments made under a collective bargaining agreement for unused sick leave or payments made for unused vacation.
- e) Excess Earnings. The "amount of earnings in excess of the amount of the salary set for the Governor" ("excess earnings") shall be equal to the difference between the FTE earnings and the Governor's salary as defined in subsection (c) and that difference multiplied by the average percent time described by subsection (d)(2).
- f) Employer Normal Cost. The "employer normal cost" shall mean the employer normal cost described in Section 15-155 of the Code, expressed as a total percentage of payroll, approved by the Board for the measurement year. *This amount shall be computed by the System on the basis of the actuarial assumptions and tables used in the most recent actuarial valuation of the System that is available at the time of the computation.* [40 ILCS 5/15-155(j-5)]
- g) Employer Contribution Amount. The employer contribution amount shall be equal to the excess earnings under subsection (e) multiplied by the employer normal cost percentage under subsection (f).
- h) Multiple or Concurrent Employers. In the event that an employee has been employed by two or more employers during a measurement year, earnings shall be measured and the employer contribution amount shall be calculated on an employer-by-employer basis.
- i) Employer Billing

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- 1) Billing. *Whenever it determines that a payment is or may be required under Section 15-155(j-5) of the Code, the System shall calculate the amount of the payment and bill the employer for that amount. The bill shall specify the calculations used to determine the amount due. [40 ILCS 5/15-155(j-5)] No bills shall be issued for de minimis employer contribution amounts that are \$25 or less. The System shall issue the bill during the September immediately following the end of the measurement year to which the bill relates.*
- 2) Request for Recalculation. *If the employer disputes the amount of the bill, it may, within 30 days after receipt of the bill, apply to the System in writing for a recalculation. The application must specify in detail the grounds of the dispute. Upon receiving a timely application for recalculation, the System shall review the application and, if appropriate, recalculate the amount due. An employer shall be deemed to have been in receipt of the bill on the date the bill is issued.*
- 3) Payment. *The employer contributions required under this subsection (i) may be paid in the form of a lump sum within 90 days after receipt of the bill. If the employer contributions are not paid within 90 days after receipt of the bill, then interest will be charged at a rate equal to the System's annual actuarially assumed rate of return on investment compounded annually from the 91st day after receipt of the bill. Payments must be concluded within 3 years after the employer's receipt of the bill. [40 ILCS 5/15-155(j-5)]*
- 4) Appeals of the Recalculation. *The employer may appeal a recalculation pursuant to Section 1600.510.*

(Source: Added at 42 Ill. Reg. _____, effective _____)

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- 1) Heading of the Part: Video Gaming (General)
- 2) Code Citation: 11 Ill. Adm. Code 1800
- 3) Section Number: 1800.810 Adopted Action:
Amendment
- 4) Statutory Authority: Authorized by the Video Gaming Act [230 ILCS 40], specifically Section 78 (a) (3) of that Act [230 ILCS 40/78 (a) (3)].
- 5) Effective Date of Rule: February 6, 2018
- 6) Does this rulemaking contain an automatic repeal date? No
- 7) Does this rulemaking contain an incorporation by reference? No
- 8) A copy of the adopted rulemaking, including any material incorporated by reference, is on file in the principal office and is available for public inspection.
- 9) Notice of Proposal published in *Illinois Register*: 41 Ill. Reg. 3088; March 17, 2017
- 10) Has JCAR issued a Statement of Objection to this rulemaking? No
- 11) Differences between Proposal and Final Version: The final version contains a new provision that the designated video gaming area may be separate from where the bar or other source of the alcoholic liquor is located. Minor clarifying corrections to language have also been added.
- 12) Have all the changes agreed upon by the Agency and JCAR been made as indicated in the agreement letter issued by JCAR? None
- 13) Will this rulemaking replace any emergency rule currently in effect? No
- 14) Are there any rulemakings pending on this part? Yes

<u>Section Numbers:</u>	<u>Proposed Actions:</u>	<u>Illinois Register Citations:</u>
1800.570	Amendment	41 Ill. Reg. 7409; June 30, 2017
1800.595	New Section	41 Ill. Reg. 7409; June 30, 2017
1800.615	Amendment	41 Ill. Reg. 7409; June 30, 2017

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1800.715	Amendment	41 Ill. Reg. 7409; June 30, 2017
1800.110	Amendment	41 Ill. Reg. 12670; October 13, 2017
1800.420	Amendment	41 Ill. Reg. 12670; October 13, 2017

- 15) Summary and Purpose of Rulemaking: The rulemaking adds a new subsection c) to Section 1800.810 (Location and Placement of Video Gaming Terminals). The new subsection provides that all video gaming terminals located in a licensed establishment, licensed fraternal establishment, or licensed veterans establishment shall be placed in an area where alcoholic liquor is drawn, poured, mixed, or otherwise served for consumption on the premises. The designated area shall have seating facilities for customers or members apart from seating at the video gaming terminals. The service of alcoholic liquor within the video gaming area shall be done by the licensee. The designated video gaming area may be separate from where the bar or other source of the alcohol is located.

Section 55 of the Video Gaming Act [230 ILCS 10/55] (Precondition for licensed location) establishes a nexus between video gaming location licenses and liquor licenses by requiring licensed establishments, licensed fraternal organizations, and licensed veterans organizations to hold valid licenses under the Liquor Control Act of 1934 [235 ILCS 5/1-1 et seq.]. Section 55 also restricts the operation of video gaming terminals to the same hours of operation generally permitted to holders of a liquor license within the unit of local government within which they are located. Section 5 of the Video Gaming Act [230 ILCS 10/5] (Definitions) defines a "licensed establishment" as any licensed retail establishment where alcoholic liquor is drawn, poured, mixed, or otherwise served for consumption on the premises, whether the establishment operates on a nonprofit or for profit basis. Given these close statutory ties between liquor licenses and video gaming location licenses, it is appropriate to limit video gaming play to those areas within a licensed video gaming location where alcoholic liquor is actually served.

Furthermore, because the definition of "licensed establishment" contained in Section 5 of the Video Gaming Act specifically refers to consumption of alcoholic liquor on the premises, it is appropriate to require the designated video gaming area to have separate seating facilities for the serving of alcoholic liquor, with service provided by the licensee.

- 16) Information and Questions regarding this adopted rule may be addressed to:

Agostino Lorenzini
General Counsel
Illinois Gaming Board

ILLINOIS GAMING BOARD

NOTICE OF ADOPTED AMENDMENT

160 North LaSalle Street
Chicago IL 60601

fax: 312/814-7253

The full text of the Adopted Amendment begins on the next page:

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NOTICE OF ADOPTED AMENDMENT

TITLE 11: ALCOHOL, HORSE RACING, LOTTERY, AND VIDEO GAMING
SUBTITLE D: VIDEO GAMING
CHAPTER I: ILLINOIS GAMING BOARD

PART 1800
VIDEO GAMING (GENERAL)

SUBPART A: GENERAL PROVISIONS

Section	
1800.110	Definitions
1800.115	Gender
1800.120	Inspection
1800.130	Board Meetings

SUBPART B: DUTIES OF LICENSEES

Section	
1800.210	General Duties of All Video Gaming Licensees
1800.220	Continuing Duty to Report Information
1800.230	Duties of Licensed Manufacturers
1800.240	Duties of Licensed Distributors
1800.250	Duties of Licensed Video Terminal Operators
1800.260	Duties of Licensed Technicians and Licensed Terminal Handlers
1800.270	Duties of Licensed Video Gaming Locations

SUBPART C: STANDARDS OF CONDUCT FOR LICENSEES

Section	
1800.310	Grounds for Disciplinary Actions
1800.320	Minimum Standards for Use Agreements
1800.330	Economic Disassociation

SUBPART D: LICENSING QUALIFICATIONS

Section	
1800.410	Coverage of Subpart
1800.420	Qualifications for Licensure
1800.430	Persons with Significant Influence or Control

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1800.440 Undue Economic Concentration

SUBPART E: LICENSING PROCEDURES

Section

1800.510 Coverage of Subpart
1800.520 Applications
1800.530 Submission of Application
1800.540 Application Fees
1800.550 Consideration of Applications by the Board
1800.555 Withdrawal of Applications and Surrender of Licenses
1800.560 Issuance of License
1800.570 Renewal of License
1800.580 Renewal Fees and Dates
1800.590 Death and Change of Ownership of Video Gaming Licensee

SUBPART F: DENIALS OF APPLICATIONS FOR LICENSURE

Section

1800.610 Coverage of Subpart
1800.615 Requests for Hearing
1800.620 Appearances
1800.625 Appointment of Administrative Law Judge
1800.630 Discovery
1800.635 Subpoenas
1800.640 Motions for Summary Judgment
1800.650 Proceedings
1800.660 Evidence
1800.670 Prohibition on Ex Parte Communication
1800.680 Sanctions and Penalties
1800.690 Transmittal of Record and Recommendation to the Board
1800.695 Status of Applicant for Licensure Upon Filing Request for Hearing

SUBPART G: DISCIPLINARY ACTIONS AGAINST LICENSEES

Section

1800.710 Coverage of Subpart
1800.715 Notice of Proposed Disciplinary Action Against Licensees
1800.720 Hearings in Disciplinary Actions

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1800.725	Appearances
1800.730	Appointment of Administrative Law Judge
1800.735	Discovery
1800.740	Subpoenas
1800.745	Motions for Summary Judgment
1800.750	Proceedings
1800.760	Evidence
1800.770	Prohibition on Ex Parte Communication
1800.780	Sanctions and Penalties
1800.790	Transmittal of Record and Recommendation to the Board
1800.795	Persons Subject to Proposed Orders of Economic Disassociation

SUBPART H: LOCATION OF VIDEO GAMING TERMINALS IN
LICENSED VIDEO GAMING LOCATIONS

Section

1800.810	Location and Placement of Video Gaming Terminals
1800.815	Licensed Video Gaming Locations Within Malls
1800.820	Measurement of Distances from Locations
1800.830	Waivers of Location Restrictions

SUBPART I: SECURITY INTERESTS

Section

1800.910	Approvals Required, Applicability, Scope of Approval
1800.920	Notice of Enforcement of a Security Interest
1800.930	Prior Registration

SUBPART J: TRANSPORTATION, REGISTRATION,
AND DISTRIBUTION OF VIDEO GAMING TERMINALS

Section

1800.1010	Restriction on Sale, Distribution, Transfer, Supply and Operation of Video Gaming Terminals
1800.1020	Transportation of Video Gaming Terminals into the State
1800.1030	Receipt of Video Gaming Terminals in the State
1800.1040	Transportation of Video Gaming Terminals Between Locations in the State
1800.1050	Approval to Transport Video Gaming Terminals Outside of the State
1800.1060	Placement of Video Gaming Terminals

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- 1800.1065 Registration of Video Gaming Terminals
- 1800.1070 Disposal of Video Gaming Terminals

SUBPART K: STATE-LOCAL RELATIONS

- Section
- 1800.1110 State-Local Relations

SUBPART L: FINGERPRINTING OF APPLICANTS

- Section
- 1800.1210 Definitions
- 1800.1220 Entities Authorized to Perform Fingerprinting
- 1800.1230 Qualification as a Livescan Vendor
- 1800.1240 Fingerprinting Requirements
- 1800.1250 Fees for Fingerprinting
- 1800.1260 Grounds for Revocation, Suspension and Denial of Contract

SUBPART M: PUBLIC ACCESS TO INFORMATION

- Section
- 1800.1310 Public Requests for Information

SUBPART N: PAYOUT DEVICES AND REQUIREMENTS

- Section
- 1800.1410 Ticket Payout Devices
- 1800.1420 Redemption of Tickets Following Removal or Unavailability of Ticket Payout Devices

SUBPART O: NON-PAYMENT OF TAXES

- Section
- 1800.1510 Non-Payment of Taxes

SUBPART P: CENTRAL COMMUNICATIONS SYSTEM

- Section
- 1800.1610 Use of Gaming Device or Individual Game Performance Data

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AUTHORITY: Implementing and authorized by the Video Gaming Act [230 ILCS 40].

SOURCE: Adopted by emergency rulemaking at 33 Ill. Reg. 14793, effective October 19, 2009, for a maximum of 150 days; adopted at 34 Ill. Reg. 2893, effective February 22, 2010; emergency amendment at 34 Ill. Reg. 8589, effective June 15, 2010, for a maximum of 150 days; emergency expired November 11, 2010; amended at 35 Ill. Reg. 1369, effective January 5, 2011; emergency amendment at 35 Ill. Reg. 13949, effective July 29, 2011, for a maximum of 150 days; emergency expired December 25, 2011; amended at 36 Ill. Reg. 840, effective January 6, 2012; amended by emergency rulemaking at 36 Ill. Reg. 4150, effective February 29, 2012, for a maximum of 150 days; amended at 36 Ill. Reg. 5455, effective March 21, 2012; amended at 36 Ill. Reg. 10029, effective June 28, 2012; emergency amendment at 36 Ill. Reg. 11492, effective July 6, 2012, for a maximum of 150 days; emergency expired December 2, 2012; emergency amendment at 36 Ill. Reg. 12895, effective July 24, 2012, for a maximum of 150 days; amended at 36 Ill. Reg. 13178, effective July 30, 2012; amended at 36 Ill. Reg. 15112, effective October 1, 2012; amended at 36 Ill. Reg. 17033, effective November 21, 2012; expedited correction at 39 Ill. Reg. 8183, effective November 21, 2012; amended at 36 Ill. Reg. 18550, effective December 14, 2012; amended at 37 Ill. Reg. 810, effective January 11, 2013; amended at 37 Ill. Reg. 4892, effective April 1, 2013; amended at 37 Ill. Reg. 7750, effective May 23, 2013; amended at 37 Ill. Reg. 18843, effective November 8, 2013; emergency amendment at 37 Ill. Reg. 19882, effective November 26, 2013, for a maximum of 150 days; emergency amendment suspended by the Joint Committee on Administrative Rules at 38 Ill. Reg. 3384, effective January 14, 2014; suspension withdrawn at 38 Ill. Reg. 5897; emergency repeal of emergency amendment at 38 Ill. Reg. 7337, effective March 12, 2014, for the remainder of the 150 days; amended at 38 Ill. Reg. 849, effective December 27, 2013; amended at 38 Ill. Reg. 14275, effective June 30, 2014; amended at 38 Ill. Reg. 19919, effective October 2, 2014; amended at 39 Ill. Reg. 5401, effective March 27, 2015; amended at 39 Ill. Reg. 5593, effective April 1, 2015; amended at 40 Ill. Reg. 2952, effective January 27, 2016; amended at 40 Ill. Reg. 8760, effective June 14, 2016; amended at 40 Ill. Reg. 12762, effective August 19, 2016; amended at 40 Ill. Reg. 15131, effective October 18, 2016; emergency amendment at 41 Ill. Reg. 2696, effective February 7, 2017, for a maximum of 150 days; amended at 41 Ill. Reg. 2939, effective February 24, 2017; amended at 41 Ill. Reg. 4499, effective April 14, 2017; amended at 41 Ill. Reg. 10300, effective July 13, 2017; amended at 42 Ill. Reg. 3735, effective February 6, 2018.

SUBPART H: LOCATION OF VIDEO GAMING TERMINALS IN
LICENSED VIDEO GAMING LOCATIONS

Section 1800.810 Location and Placement of Video Gaming Terminals

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- a) All licensed video gaming locations and terminal operators shall be responsible for the proper placement, installation, maintenance and oversight of video gaming terminals within a licensed video gaming location as prescribed by the Act and this Part.
- b) All video gaming terminals must be located in an area restricted to persons over 21 years of age. For all licensed video gaming locations that restrict admittance to patrons 21 years of age or older, a separate restricted area is not required. Any licensed video gaming location that allows minors to enter where video gaming terminals are located shall separate any video gaming terminals from the area accessible by minors. In those licensed video gaming locations where separation from minors under 21 is required, a physical barrier to the gaming area is required, which may consist of a short partition, gate or rope or other means of separation. No barrier shall visually obscure the entrance to the gaming area from an employee of the licensed video gaming location who is over the age of 21.
- c) All video gaming terminals located in a licensed establishment, licensed fraternal establishment, or licensed veterans establishment shall be placed in an area where alcoholic liquor is drawn, poured, mixed, or otherwise served for consumption on the premises. The designated video gaming area may be separate from where the bar or other source of the alcoholic liquor is located. The licensed establishment, licensed fraternal establishment, or licensed veterans establishment shall have seating facilities for customers or members apart from seating at the video gaming terminals. The drawing, pouring, mixing, or other service of alcoholic liquor within the video gaming area shall be done by the licensee of the licensed establishment, licensed fraternal establishment, or licensed veterans establishment.
- d) When two or more adjacent businesses appear to the Administrator to be a single business, or are operated by the same or commingled ownership, then the Administrator may limit those businesses to the maximum number of video gaming terminals. The maximum will be the number permitted under Illinois law for one business as the total number of video gaming terminals authorized for both or more such businesses, where the Administrator determines that the limitation would further the intent of the Act and the integrity of video gaming in the State of Illinois.
- 1) In the event the Administrator decides that two or more adjacent businesses shall be a single business for purposes of determining the

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maximum number of video gaming terminals to which they are entitled, the Administrator shall provide the affected businesses with written notice of this decision in accordance with the notice requirements of Section 1800.615.

- 2) An applicant that has been deemed to constitute a single business with one or more adjacent businesses for purposes of determining the maximum number of video gaming terminals to which it is entitled may submit a request for hearing to the Board. The hearing procedures shall be those set forth in Subpart F.

- ed) The owner, manager or employee of the licensed video gaming location who is over 21 years of age shall be present during all hours of operation, and the video gaming terminals or the entrance to the video gaming terminal area must be within the view of at least one owner, manager or employee.

(Source: Amended at 42 Ill. Reg. 3735, effective February 6, 2018)

DEPARTMENT OF HUMAN SERVICES

NOTICE OF ADOPTED AMENDMENTS

- 1) Heading of the Part: Child Care
- 2) Code Citation: 89 Ill. Adm. Code 50
- 3) Section Numbers: Adopted Actions:
50.230 Amendment
50.320 Amendment
- 4) Statutory Authority: Implementing Articles I through IXA and authorized by Section 12-13 of the Illinois Public Aid Code [305 ILCS 5/Arts. I through IXA and 12-13].
- 5) Effective Date of Rules: February 7, 2018
- 6) Does this rulemaking contain an automatic repeal date? No
- 7) Does this rulemaking contain incorporations by reference? No
- 8) A copy of the adopted rules, including any material incorporated, is on file in the Agency's principal office and is available for public inspection.
- 9) Notice of Proposal published in the *Illinois Register*: 41 Ill. Reg. 12759; October 13, 2017
- 10) Has JCAR issued a Statement of Objection to this rulemaking? No
- 11) Differences between Proposal and Final Version: One grammatical correction was made in Section 50.230(c)(6)(D).
- 12) Have all changes agreed upon by the Agency and JCAR been made as indicated in the agreements issued by JCAR? Yes
- 13) Will this rulemaking replace an emergency rule currently in effect? Yes
- 14) Are there any rulemakings pending on this Part? Yes

<u>Sections:</u>	<u>Proposed Actions:</u>	<u>Illinois Register Citation:</u>
50.105	Amendment	41 Ill. Reg. 14884; December 8, 2017
50.800	New Section	41 Ill. Reg. 14884; December 8, 2017
50.810	New Section	41 Ill. Reg. 14884; December 8, 2017

DEPARTMENT OF HUMAN SERVICES

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50.820	New Section	41 Ill. Reg. 14884; December 8, 2017
50.830	New Section	41 Ill. Reg. 14884; December 8, 2017

- 15) Summary and Purpose of Rulemaking: Pursuant to provisions of 305 ILCS 5/9A-11, this rulemaking indexes the child care income eligibility guidelines so that the threshold for child care benefits is no less than 185% of the most current federal poverty level for each family size effective July 1, 2017. This rulemaking also adjusts the amount of the parent co-payment fee for the Child Care Assistance Program. In accordance with PA 100-387 that became effective August 25, 2017, this rulemaking adds as an intake priority service group families that are not recipients of benefits under Temporary Assistance for Needy Families (TANF) program that need child care assistance to participate in education and training activities. Income must not exceed 185% of FPL for family size.
- 16) Information and questions regarding these adopted rules shall be directed to:

Tracie Drew, Chief
Bureau of Administrative Rules and Procedures
Department of Human Services
100 South Grand Avenue East
Harris Building, 3rd Floor
Springfield IL 62762

217/785-9772

The full text of the Adopted Amendments begins on the next page:

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TITLE 89: SOCIAL SERVICES
CHAPTER IV: DEPARTMENT OF HUMAN SERVICES
SUBCHAPTER a: GENERAL PROGRAM PROVISIONS

PART 50
CHILD CARE

SUBPART A: GENERAL PROVISIONS

Section	
50.101	Incorporation by Reference
50.105	Definitions
50.110	Participant Rights and Responsibilities
50.120	Notification of Available Services
50.130	Child Care Overpayments and Recoveries

SUBPART B: APPLICABILITY

Section	
50.210	Child Care
50.220	Method of Providing Child Care
50.230	Child Care Eligibility
50.235	Income Eligibility Criteria
50.240	Qualified Provider (Repealed)
50.250	Additional Service to Secure or Maintain Child Care
50.260	Job Search (Repealed)

SUBPART C: PAYMENT FEES

Section	
50.310	Fees for Child Care Services
50.320	Maximum Monthly Income and Parent Fee by Family Size, Income Level and Number of Children Receiving Full-time Care

SUBPART D: PROVIDER REQUIREMENTS

Section	
50.400	Purpose
50.410	Qualified Provider

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- 50.420 Provider Registration and Certification Requirements
- 50.430 Provider Background Checks
- 50.440 Payment for Child Care Services

SUBPART E: GREAT START PROGRAM

- Section
- 50.510 Great START Program
- 50.520 Method of Providing the Wage Supplement
- 50.530 Eligibility
- 50.540 Employer Responsibility
- 50.550 Notification of Eligibility
- 50.560 Phase-in of Wage Supplement Scale
- 50.570 Wage Supplement Scale
- 50.580 Evaluation

SUBPART F: CHILD CARE COLLABORATION PROGRAM

- Section
- 50.610 Child Care Collaboration Program
- 50.620 Approvable Models of Collaboration
- 50.630 Requirements for Approval in the Child Care Collaboration Program
- 50.640 Notification of Eligibility
- 50.650 Rules and Reporting for the Child Care Collaboration Program

SUBPART G: GATEWAYS TO OPPORTUNITY CREDENTIALS

- Section
- 50.710 Gateways to Opportunity, the Illinois Professional Development System
- 50.720 Gateways to Opportunity Credentials
- 50.730 Application for Credentials
- 50.740 Framework for Gateways to Opportunity Credentials
- 50.750 Professional Knowledge
- 50.760 Gateways to Opportunity Registry

AUTHORITY: Implementing Articles I through IXA and authorized by Section 12-13 of the Illinois Public Aid Code [305 ILCS 5/Arts. I through IXA and 12-13].

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SOURCE: Emergency rules adopted at 21 Ill. Reg. 9502, effective July 1, 1997, for a maximum of 150 days; adopted at 21 Ill. Reg. 14961, effective November 10, 1997; emergency amendment at 22 Ill. Reg. 12816, effective July 1, 1998, for a maximum of 150 days; amended at 22 Ill. Reg. 21037, effective November 27, 1998; emergency amendment at 23 Ill. Reg. 10875, effective August 20, 1999, for maximum of 150 days; amended at 24 Ill. Reg. 1058, effective January 10, 2000; emergency amendment at 24 Ill. Reg. 6604, effective April 5, 2000, for a maximum of 150 days; amended at 24 Ill. Reg. 13987, effective September 1, 2000; amended at 24 Ill. Reg. 15423, effective October 10, 2000; emergency amendment at 25 Ill. Reg. 2735, effective February 5, 2001, for a maximum of 150 days; amended at 25 Ill. Reg. 8176, effective June 23, 2001; emergency amendment at 25 Ill. Reg. 8443, effective July 1, 2001, for a maximum of 150 days; amended at 25 Ill. Reg. 14854, effective October 31, 2001; emergency amendment at 25 Ill. Reg. 16116, effective December 1, 2001, for a maximum of 150 days; amended at 26 Ill. Reg. 7113, effective April 25, 2002; amended at 27 Ill. Reg. 12090, effective July 14, 2003; amended at 27 Ill. Reg. 18411, effective November 24, 2003; amended at 28 Ill. Reg. 6895, effective April 23, 2004; emergency amendment at 28 Ill. Reg. 10121, effective July 1, 2004, for a maximum of 150 days; emergency expired November 27, 2004; amended at 29 Ill. Reg. 2687, effective February 4, 2005; emergency amendment at 29 Ill. Reg. 13253, effective August 11, 2005, for a maximum of 150 days; emergency expired January 7, 2006; amended at 30 Ill. Reg. 11190, effective June 6, 2006; amended at 31 Ill. Reg. 12584, effective August 20, 2007; emergency amendment at 31 Ill. Reg. 13350, effective September 10, 2007, for a maximum of 150 days; emergency expired February 6, 2008; amended at 32 Ill. Reg. 6048, effective March 31, 2008; emergency amendment at 32 Ill. Reg. 6652, effective April 1, 2008, for a maximum of 150 days; amended at 32 Ill. Reg. 9604, effective June 20, 2008; amended at 32 Ill. Reg. 14742, effective August 28, 2008; amended at 33 Ill. Reg. 8195, effective June 8, 2009; emergency amendment at 33 Ill. Reg. 15889, effective November 1, 2009, for a maximum of 150 days; emergency amendment at 33 Ill. Reg. 16517, effective November 1, 2009, for a maximum of 150 days; emergency expired March 30, 2010; amended at 34 Ill. Reg. 5275, effective March 29, 2010; emergency amendment at 34 Ill. Reg. 8619, effective June 16, 2010, for a maximum of 150 days; emergency expired on November 12, 2010; amended at 34 Ill. Reg. 10512, effective July 8, 2010; amended at 34 Ill. Reg. 19539, effective December 6, 2010; amendment at 35 Ill. Reg. 1397, effective January 6, 2011; amended at 35 Ill. Reg. 3993, effective February 25, 2011; emergency amendment at 35 Ill. Reg. 6583, effective April 1, 2011, for a maximum of 150 days; emergency expired August 28, 2011; amended at 35 Ill. Reg. 8878, effective May 25, 2011; amended at 36 Ill. Reg. 1564, effective January 17, 2012; amended at 36 Ill. Reg. 12104, effective July 10, 2012; amended at 36 Ill. Reg. 14513, effective September 12, 2012; amended at 36 Ill. Reg. 16085, effective October 29, 2012; amended at 38 Ill. Reg. 18490, effective August 22, 2014; amended at 38 Ill. Reg. 19513, effective September 17, 2014; emergency amendment at 39 Ill. Reg. 10072, effective July 1, 2015, for a maximum of 150 days; emergency rule modified in response to JCAR objection at 39 Ill. Reg. 15158, effective November 9, 2015,

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for the remainder of the 150 days; amended at 39 Ill. Reg. 15540, effective November 23, 2015; emergency amendment at 41 Ill. Reg. 12890, effective October 1, 2017, for a maximum of 150 days; amended at 42 Ill. Reg. 3745, effective February 7, 2018.

SUBPART B: APPLICABILITY

Section 50.230 Child Care Eligibility

- a) To the extent resources permit, it is the intent of the Department to provide child care services to all applicants that meet the eligibility requirements set forth in this Section. If it is necessary to limit participation to stay within the amounts appropriated or resources available to the Department for child care services, participation will be limited to the priority service groups specified in subsection (c)(6) and that limitation in participation shall remain until such time as sufficient resources are available to serve all eligible applicants.
- b) Child care services are restricted to children under age 13 and to children under age 19 who are under court supervision or have physical or mental incapacities as documented by a statement from a local health provider or other health professional.
- c) Parents and other relatives eligible to receive child care services include:
 - 1) Recipients of Temporary Assistance for Needy Families (TANF) under Article IV of the Public Aid Code participating in work and/or training-related activities as specified in their RSP (see 89 Ill. Adm. Code 112.74) as approved by the Department's TANF case worker.
 - 2) Working families, including teen parents enrolled full-time in elementary or high school or GED classes to obtain a high school degree or its equivalent, whose monthly incomes do not exceed the following amounts by family size:

Family Size	Gross Monthly Base Income
2	\$2,504 \$2,456
3	\$3,149 \$3,098
4	\$3,793 \$3,739

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5	<u>\$4,437</u>	\$4,380
6	<u>\$5,082</u>	\$5,022
7	<u>\$5,726</u>	\$5,663
8	<u>\$6,371</u>	\$6,304
9	<u>\$7,015</u>	\$6,946
10	<u>\$7,659</u>	\$7,587

The above income guidelines will be indexed annually so that the thresholds are no less than 185% of the most current federal poverty level for each family size.

- 3) Families who do not receive TANF and need child care services in order to attend school or training (up to and including the acquisition of the first Associate Degree and/or the first Bachelor's Degree) whose monthly income does not exceed the monthly income ceilings in subsection (c)(2). Child care services approved under this Part must be reasonably related to the education or training activity, including class hours and research, study, laboratory, library and transportation time, and unpaid educationally required work activities such as student teaching, an internship, a clinical, a practicum or an apprenticeship. Teen parents enrolled full-time in elementary or high school or GED classes will be eligible for full-time, full-year child care, including summers, when using a licensed child care provider, up to and including a three-month period after graduation, in order to secure employment or to prepare for higher education. If a parent is claimed as a dependent by another person for federal income tax purposes, that parent is only eligible if his or her income, when added to the income of the other person, does not exceed the monthly income ceiling in subsection (c)(2) for that family size. All education programs under this Part must be administered by an educational institution accredited under requirements of State law, including, but not limited to, the Barber, Cosmetology, Esthetics, Hair Braiding, and Nail Technology Act of 1985 [225 ILCS 410], the Real Estate Act of 2000 [225 ILCS 454], the Public Community College Act [110 ILCS 805], the University of Illinois Act [110 ILCS 305], the Chicago State University Law [110 ILCS 660], the Eastern Illinois University Law [110 ILCS 665], the Governors State University Law [110 ILCS 670], the Illinois State University Law [110 ILCS 675], the Northeastern Illinois University Law [110 ILCS 680], the Northern Illinois University Law [110 ILCS 685], the Western Illinois University Law [110

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ILCS 690], or the Department of Financial and Professional Regulation. Social service agencies that provide recognized English as a Second Language (ESL) and other adult education courses and programs are not required to hold or maintain any separate type of accreditation, as long as the program they offer is supported by an accredited institution.

A) Below Post-Secondary Education Eligibility and Participation Requirements

This category of education includes literacy and other adult basic education, English as a Second Language, and GED preparation programs. There is no work requirement for the first 24 non-consecutive months the client participates. From the 25th month on, the client must work at least 20 hours per week. Child care provided to a teen parent to obtain a high school diploma or its equivalent does not count against this 24-month limit. Individuals enrolled in below post-secondary education must maintain a "C" average if this measurement is used by the institution to determine satisfactory progress. The individual will be allowed one semester below a "C" average to bring the grades up to a "C" average. When grades are not used, progress will be determined by the written policy of the institution to establish a comparable grade level upon completion of the academic term. The determination of satisfactory progress must be reported upon completion of the academic term or twice a year if the program is continuous for 12 months.

B) Vocational Education Eligibility and Participation Requirements

Programs in this category of education may be offered by a public community college, public or private university, or private business/technical school. The program usually results in the receipt of a Certificate of Achievement or Completion and/or prepares the client for a specific job or to obtain a license required by some occupations. There is no work requirement for the first 24 non-consecutive months the client participates. From the 25th month on, the client must work at least 20 hours per week. Individuals enrolled in vocational education must maintain a "C" average if this measurement is used by the institution to determine satisfactory progress. The individual will be allowed one semester below a "C" average to bring the grades up to a "C" average.

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When grades are not used, progress will be determined by the written policy of the institution to establish a comparable grade level upon completion of the academic term. The determination of satisfactory progress must be reported upon completion of the academic term or twice a year if the program is continuous for 12 months.

C) Post-Secondary Education

i) This category of education includes all undergraduate college level courses that could result in an Associate or Bachelor's Degree. Families eligible to receive child care services while they attend an education or training program under this Section must:

- be enrolled in a program accredited under requirements of State law as stated in subsection (c)(3).
- not already have an Associate or Bachelor's Degree, if requesting child care to earn an Associate Degree. Child care will not be approved for attainment of a second Associate Degree.
- not already have a Bachelor's Degree, if requesting child care to earn a Bachelor's Degree. Child care will not be approved for attainment of a second Bachelor's Degree.
- not be in an advanced degree program (beyond a Bachelor's Degree). Child care will not be approved for education beyond the attainment of a Bachelor's Degree.

ii) There is no work requirement for the first 48 non-consecutive months the client participates. From the 49th month on, the client must work at least 20 hours per week. Clients who do not work and who need child care to attend college must maintain a 2.5 grade point average (GPA) (on

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a 4.0 scale) if this measurement is used by the institution to determine satisfactory progress. Clients who work 20 hours or more per week in paid employment while they attend college must maintain a 2.0 GPA (on a 4.0 scale). In the absence of a GPA, satisfactory progress will be determined by the written policy of the institution. The determination of satisfactory progress, including test/retest results or GPA, must be reported upon completion of the academic term or twice a year if the program is continuous for 12 months. If the client's GPA falls below 2.5 or 2.0 for those students who work or at any time the client does not maintain satisfactory progress, the client may continue to go to school for another semester. If the GPA is below 2.5 or 2.0 two semesters in a row, the client will be ineligible for child care until his or her GPA is at or above 2.5 or 2.0.

- D) For child care services received under education/training, a parent enrolled in web-based courses or correspondence learning from an accredited university or college is only eligible for child care assistance if both of the following are met:
- i) The class is offered only at a regularly scheduled time (i.e., 11:00 a.m. every Monday and Wednesday) or the parent must leave the home to have access to a computer.
 - ii) The child or children for whom care is requested must be under the age of six, except during the summer or school breaks. Care shall not be authorized during the hours the child is in school or is home schooled, or if the child is in a two-parent family when the other parent is available to care for the child.
- E) **Study Time**
Child care services may be granted for up to one hour of study time per week for each classroom hour or course credit. When possible, study periods should be arranged around regularly scheduled classes in order to provide a consistent and uninterrupted routine for children in care. Study time granted to

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add an extra day of care must be approved first by the Department's Bureau of Child Care and Development Policy Unit.

- 4) Relatives (other than parents) who receive child-only TANF benefits as a Representative Payee for children in need of care while they work.
- 5) Families with active CCAP cases in which all parents in the household are called into active military duty and the relative caregivers are employed or in an approved education/training activity.
- 6) In the event the Department must limit participation due to insufficient appropriations or available resources, applicants included in the priority service groups are:
 - A) Recipients of Temporary Assistance for Needy Families as described in subsection (c)(1);
 - B) Teen parents enrolled full-time in elementary school, high school or GED classes to obtain a high school degree or its equivalent;
 - C) Families with a special needs child;
 - D) Working families whose monthly incomes do not exceed ~~185+62%~~ of the most current Federal Poverty Level for their family size;
 - E) Families that are not recipients of TANF whose monthly incomes do not exceed 185% of the most current FPL for their family size that need child care assistance to participate in education and training.
- d) All families must be residents of Illinois.
- e) Payment for child care services to eligible parents may begin:
 - 1) if care was provided at the time and all eligibility factors are met, on either:
 - A) the date of the parent's signature; or

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- B) one week (seven calendar days) prior to the stamped date of receipt by the Department or its agents, whichever is later; or
- 2) on the date the child care provider actually begins providing child care services, if the application is received in advance of services being provided and all eligibility factors are met.
- f) Eligibility ceases 10 calendar days from the date of the termination notice sent to the parent by the Department or its agents following a determination of ineligibility. Care will be terminated immediately if it is determined the child is no longer enrolled with the approved provider.

(Source: Amended at 42 Ill. Reg. 3745, effective February 7, 2018)

SUBPART C: PAYMENT FEES

Section 50.320 Maximum Monthly Income and Parent Fee by Family Size and Income Level

Family Size 2		Family Size 3	
Monthly Income	Monthly Co-Pay	Monthly Income	Monthly Co-Pay

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\$ 0 - 542531	\$ 2.00	\$ 0 - 681670	\$ 2.00
543 - 677532 664	3.00	682 - 851671 838	3.00
678 - 812665 797	11.00	852 - 1,021839 1,005	14.00
813 - 948798 930	18.00 17.00	1,022 - 1,1921,006 1,172	22.00
949 - 1,083931 1,062	28.00 27.00	1,193 - 1,3621,173 1,340	35.00 34.00
1,084 - 1,2181,063 1,195	40.00 39.00	1,363 - 1,5321,341 1,507	50.00 49.00
1,219 - 1,3541,196 1,328	54.00 53.00	1,533 - 1,7021,508 1,675	68.00 67.00
1,355 - 1,4891,329 1,461	70.00 68.00	1,703 - 1,8721,676 1,842	88.00 86.00
1,490 - 1,6241,462 1,593	88.00 86.00	1,873 - 2,0421,843 2,009	110.00 108.00
1,625 - 1,7601,594 1,726	107.00 105.00	2,043 - 2,2132,010 2,177	135.00 133.00
1,761 - 1,8951,727 1,859	129.00 127.00	2,214 - 2,3832,178 2,344	162.00 160.00
1,896 - 2,0301,860 1,992	153.00 150.00	2,384 - 2,5532,345 2,512	192.00 189.00
2,031 - 2,1661,993 2,124	178.00 175.00	2,554 - 2,7232,513 2,679	224.00 221.00
2,167 - 2,3012,125 2,257	206.00 202.00	2,724 - 2,8932,680 2,847	259.00 255.00
2,302 - 2,4362,258 2,390	235.00 231.00	2,894 - 3,0632,848 3,014	296.00 291.00
2,437 - 2,5042,391 2,456	254.00 250.00	3,064 - 3,1493,015 3,098	320.00 315.00

Family Size 4	
Monthly Income	Monthly Co-Pay
\$ 0 - 820809	\$ 2.00
821 - 1,025810 1,011	3.00
1,026 - 1,2301,012 1,213	17.00
1,231 - 1,4351,214 1,415	27.00
1,436 - 1,6401,416 1,617	42.00
1,641 - 1,8451,618 1,819	60.00 59.00
1,846 - 2,0501,820 2,021	81.00 80.00
2,051 - 2,2552,022 2,223	105.00 104.00
2,256 - 2,4602,224 2,425	133.00 131.00
2,461 - 2,6652,426 2,628	162.00 160.00
2,666 - 2,8702,629 2,830	195.00 193.00
2,871 - 3,0752,831 3,032	231.00 228.00
3,076 - 3,2803,033 3,234	270.00 266.00
3,281 - 3,4853,235 3,436	312.00 308.00
3,486 - 3,6903,437 3,638	357.00 352.00

Family Size 5	
Monthly Income	Monthly Co-Pay
\$ 0 - 960947	\$ 2.00
961 - 1,200948 1,184	3.00
1,201 - 1,4391,185 1,421	20.00
1,440 - 1,6791,422 1,658	32.00 31.00
1,680 - 1,9191,659 1,894	49.00
1,920 - 2,1591,895 2,131	71.00 70.00
2,160 - 2,3992,132 2,368	95.00 94.00
2,400 - 2,6392,369 2,605	123.00 122.00
2,640 - 2,8782,606 2,841	155.00 153.00
2,879 - 3,1182,842 3,078	190.00 188.00
3,119 - 3,3583,079 3,315	229.00 226.00
3,359 - 3,5983,316 3,552	271.00 267.00
3,599 - 3,8383,553 3,788	316.00 312.00
3,839 - 4,0783,789 4,025	365.00 360.00
4,079 - 4,3174,026 4,262	417.00 412.00

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<u>3,691 - 3,793</u> 3,639 - 3,739	<u>385.00</u> 380.00	<u>4,318 - 4,437</u> 4,263 - 4,380	<u>451.00</u> 445.00
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Family Size 6	
Monthly Income	Monthly Co-Pay
\$ 0 - <u>1,099</u> 1,086	\$ 2.00
<u>1,100 - 1,374</u> 1,087 - 1,358	3.00
<u>1,375 - 1,648</u> 1,359 - 1,629	<u>23.00</u> 22.00
<u>1,649 - 1,923</u> 1,630 - 1,900	36.00
<u>1,924 - 2,198</u> 1,901 - 2,172	56.00
<u>2,199 - 2,472</u> 2,173 - 2,443	<u>81.00</u> 80.00
<u>2,473 - 2,747</u> 2,444 - 2,715	<u>109.00</u> 108.00
<u>2,748 - 3,022</u> 2,716 - 2,986	<u>141.00</u> 140.00
<u>3,023 - 3,296</u> 2,987 - 3,257	<u>178.00</u> 175.00
<u>3,297 - 3,571</u> 3,258 - 3,529	<u>218.00</u> 215.00
<u>3,572 - 3,846</u> 3,530 - 3,800	<u>262.00</u> 259.00
<u>3,847 - 4,120</u> 3,801 - 4,072	<u>310.00</u> 306.00
<u>4,121 - 4,395</u> 4,073 - 4,343	<u>362.00</u> 358.00
<u>4,396 - 4,670</u> 4,344 - 4,615	<u>418.00</u> 413.00
<u>4,671 - 4,944</u> 4,616 - 4,886	<u>478.00</u> 472.00
<u>4,945 - 5,082</u> 4,887 - 5,022	<u>516.00</u> 510.00

Family Size 7	
Monthly Income	Monthly Co-Pay
\$ 0 - <u>1,238</u> 1,225	\$ 2.00
<u>1,239 - 1,548</u> 1,226 - 1,531	3.00
<u>1,549 - 1,857</u> 1,532 - 1,837	<u>26.00</u> 25.00
<u>1,858 - 2,167</u> 1,838 - 2,143	<u>41.00</u> 40.00
<u>2,168 - 2,476</u> 2,144 - 2,449	<u>64.00</u> 63.00
<u>2,477 - 2,786</u> 2,450 - 2,755	<u>91.00</u> 90.00
<u>2,787 - 3,095</u> 2,756 - 3,061	<u>123.00</u> 122.00
<u>3,096 - 3,405</u> 3,062 - 3,367	<u>159.00</u> 158.00
<u>3,406 - 3,714</u> 3,368 - 3,673	<u>200.00</u> 198.00
<u>3,715 - 4,024</u> 3,674 - 3,980	<u>245.00</u> 243.00
<u>4,025 - 4,333</u> 3,981 - 4,286	<u>295.00</u> 292.00
<u>4,334 - 4,643</u> 4,287 - 4,592	<u>349.00</u> 345.00
<u>4,644 - 4,952</u> 4,593 - 4,898	<u>408.00</u> 403.00
<u>4,953 - 5,262</u> 4,899 - 5,204	<u>471.00</u> 466.00
<u>5,263 - 5,571</u> 5,205 - 5,510	<u>538.00</u> 533.00
<u>5,572 - 5,726</u> 5,511 - 5,663	<u>582.00</u> 575.00

Family Size 8	
Monthly Income	Monthly Co-Pay
\$ 0 - <u>1,378</u> 1,363	\$ 2.00
<u>1,379 - 1,722</u> 1,364 - 1,704	3.00
<u>1,723 - 2,066</u> 1,705 - 2,045	28.00
<u>2,067 - 2,411</u> 2,046 - 2,386	45.00
<u>2,412 - 2,755</u> 2,387 - 2,726	<u>71.00</u> 70.00
<u>2,756 - 3,099</u> 2,727 - 3,067	<u>101.00</u> 100.00
<u>3,100 - 3,443</u> 3,068 - 3,408	<u>137.00</u> 135.00

Family Size 9	
Monthly Income	Monthly Co-Pay
\$ 0 - <u>1,517</u> 1,502	\$ 2.00
<u>1,518 - 1,896</u> 1,503 - 1,878	3.00
<u>1,897 - 2,275</u> 1,879 - 2,253	31.00
<u>2,276 - 2,655</u> 2,254 - 2,628	<u>50.00</u> 49.00
<u>2,656 - 3,034</u> 2,629 - 3,004	<u>78.00</u> 77.00
<u>3,035 - 3,413</u> 3,005 - 3,379	<u>112.00</u> 110.00
<u>3,414 - 3,792</u> 3,380 - 3,755	<u>151.00</u> 149.00

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3,445 - 3,788 <u>3,409 - 3,749</u>	177.00 <u>175.00</u>	3,793 - 4,171 <u>3,756 - 4,130</u>	195.00 <u>193.00</u>
3,789 - 4,132 <u>3,750 - 4,089</u>	223.00 <u>220.00</u>	4,172 - 4,550 <u>4,131 - 4,505</u>	245.00 <u>243.00</u>
4,133 - 4,477 <u>4,090 - 4,430</u>	273.00 <u>270.00</u>	4,551 - 4,930 <u>4,506 - 4,881</u>	301.00 <u>298.00</u>
4,478 - 4,821 <u>4,431 - 4,771</u>	328.00 <u>325.00</u>	4,931 - 5,309 <u>4,882 - 5,256</u>	361.00 <u>358.00</u>
4,822 - 5,165 <u>4,772 - 5,112</u>	388.00 <u>384.00</u>	5,310 - 5,688 <u>5,257 - 5,632</u>	428.00 <u>424.00</u>
5,166 - 5,510 <u>5,113 - 5,452</u>	454.00 <u>449.00</u>	5,689 - 6,067 <u>5,633 - 6,007</u>	500.00 <u>495.00</u>
5,511 - 5,854 <u>5,453 - 5,793</u>	524.00 <u>518.00</u>	6,068 - 6,446 <u>6,008 - 6,383</u>	577.00 <u>571.00</u>
5,855 - 6,198 <u>5,794 - 6,134</u>	599.00 <u>593.00</u>	6,447 - 6,825 <u>6,384 - 6,758</u>	660.00 <u>653.00</u>
6,199 - 6,371 <u>6,135 - 6,304</u>	647.00 <u>641.00</u>	6,826 - 7,015 <u>6,759 - 6,946</u>	713.00 <u>706.00</u>

Family Size 10	
Monthly Income	Monthly Co-Pay
\$ 0 - 1,656 <u>1,641</u>	\$ 2.00
1,657 - 2,070 <u>1,642 - 2,051</u>	3.00
2,071 - 2,484 <u>2,052 - 2,461</u>	34.00
2,485 - 2,898 <u>2,462 - 2,871</u>	54.00
2,899 - 3,312 <u>2,872 - 3,281</u>	85.00 <u>84.00</u>
3,313 - 3,726 <u>3,282 - 3,691</u>	122.00 <u>121.00</u>
3,727 - 4,140 <u>3,692 - 4,101</u>	164.00 <u>163.00</u>
4,141 - 4,554 <u>4,102 - 4,511</u>	213.00 <u>211.00</u>
4,555 - 4,968 <u>4,512 - 4,921</u>	268.00 <u>265.00</u>
4,969 - 5,382 <u>4,922 - 5,332</u>	328.00 <u>325.00</u>
5,383 - 5,796 <u>5,333 - 5,742</u>	395.00 <u>391.00</u>
5,797 - 6,210 <u>5,743 - 6,152</u>	467.00 <u>463.00</u>
6,211 - 6,624 <u>6,153 - 6,562</u>	545.00 <u>540.00</u>
6,625 - 7,038 <u>6,563 - 6,972</u>	630.00 <u>624.00</u>
7,039 - 7,452 <u>6,973 - 7,382</u>	720.00 <u>713.00</u>
7,453 - 7,659 <u>7,383 - 7,587</u>	778.00 <u>771.00</u>

(Source: Amended at 42 Ill. Reg. 3745, effective February 7, 2018)

JOINT COMMITTEE ON ADMINISTRATIVE RULES
ILLINOIS GENERAL ASSEMBLY

SECOND NOTICES RECEIVED

The following second notices were received during the period of February 6, 2018 through February 13, 2018. These rulemakings are scheduled for review at the Committee's March 13, 2018 meeting. Other items not contained in this published list may also be considered. Members of the public wishing to express their views with respect to a rulemaking should submit written comments to the Committee at the following address: Joint Committee on Administrative Rules, 700 Stratton Bldg., Springfield IL 62706.

<u>Second Notice Expires</u>	<u>Agency and Rule</u>	<u>Start of First Notice</u>	<u>JCAR Meeting</u>
3/24/18	<u>Department of Revenue</u> , Income Tax (86 Ill. Adm. Code 100)	12/15/17 41 Ill. Reg. 15041	3/13/18
3/25/18	<u>Department of Revenue</u> , Property Tax Code (86 Ill. Adm. Code 110)	12/15/17 41 Ill. Reg. 15043	3/13/18

CHIEF PROCUREMENT OFFICER FOR GENERAL SERVICES

NOTICE OF PUBLIC INFORMATION

NOTICE OF CAMPAIGN CONTRIBUTION VIOLATION OF PROCUREMENT CODE

1. Statutory Authority: Section 50-37 of the Illinois Procurement Code, 30 ILCS 500/50-37, prohibits business entities with contracts and solicitations worth in excess of \$50,000.00 in combined annual value pending with a given officeholder responsible for awarding the contracts from making campaign contributions to campaign committees established to promote the candidacy of the officeholder or any other declared candidate for that office. The prohibition also extends to contributions made by various affiliated persons and businesses of a business entity that is subject to the prohibition. Section 50-37 requires that notice of violation of the prohibition and the penalty imposed is to be published in the *Illinois Register*.
2. Name of Contributor: Stephen Rivi, Past President/Current CEO, Aldridge Electric, Inc.
3. Date of Violation: October 9, 2014
4. Description of Violation: Stephen Rivi is listed as an "Executive Employee" and "President" of Aldridge Electric, Inc. on its registration with the Board of Elections. Mr. Rivi made a contribution of \$1000.00 to the Citizens for Rauner, Inc. political fund on October 9, 2014. At the time of the contribution, Bruce Rauner was the Republican candidate for Governor of the State of Illinois in the 2014 general election and is currently the elected Governor of the State of Illinois. As Mr. Rivi is an "executive employee", his October 9, 2014 contribution was prohibited.
5. Summary of Action Taken by the Agency: Section 50-37 provides that State contracts with a business entity that violates the campaign contribution prohibition are voidable at the discretion of the chief procurement officer. The Chief Procurement Officer for General Services has notified Aldridge Electric, Inc. of the apparent violation, reviewed responsive material provided by Aldridge Electric, Inc., and has considered the value, status, and necessity of the contracts. In addition, the Chief Procurement Officer has taken into consideration the recognition by Aldridge Electric, Inc. of the violation and its understanding of the necessity to avoid such situations in the future. The Chief Procurement Officer finds that voiding affected contracts, bids or proposals would not be in the best interest of the State.

As required by Section 50-37(e) of the Procurement Code, Citizens for Rauner, Inc., is required to pay to the State an amount equal to the value of the contribution within 30 days of the publication of this notice.

CHIEF PROCUREMENT OFFICER FOR PUBLIC INSTITUTIONS OF HIGHER
EDUCATION

NOTICE OF PUBLIC INFORMATION

NOTICE OF CAMPAIGN CONTRIBUTION VIOLATION OF PROCUREMENT CODE

1. Statutory Authority: Section 50-37 of the Illinois Procurement Code, 30 ILCS 500/50-37, prohibits business entities with contracts and solicitations worth in excess of \$50,000 in combined annual value pending with a given officeholder responsible for awarding the contracts from making campaign contributions to campaign committees established to promote the candidacy of the officeholder or any other declared candidate for that office. The prohibition also extends to contributions made by various affiliated persons and businesses of a business entity that is subject to the prohibition. Section 50-37 requires that notice of violation of the prohibition and the penalty imposed is to be published in the *Illinois Register*.
2. Name of Contributor: William Flesch
3. Date of Violation: April 24, 2014
4. Description of Violation: William Flesch made a contribution of \$500.00 to Citizens for Rauner, Inc., a political committee that was formed to support the election of Bruce Rauner to public office. At the time of the contribution, Bruce Rauner was a declared candidate for Governor. At the time that William Flesch made the contribution he was prohibited from doing so because he was an affiliated person of The Gordon Flesch Company, which holds State contracts totaling more than \$50,000 annually.
5. Summary of Action Taken by the Agency: Section 50-37 provides that State contracts with a business entity that violates the campaign contribution prohibition are voidable at the discretion of the chief procurement officer. The Chief Procurement Officer for Public Institutions of Higher Education has notified William Flesch of the apparent violation, reviewed responsive material provided by William Flesch, and has considered the value, status, and necessity of the contracts. In addition, the Chief Procurement Officer has taken into consideration the recognition by The Gordon Flesch Company (William Flesch) of the violation and their understanding of the necessity to avoid such situations in the future. We find that voiding affected contracts, bids or proposals would not be in the best interest of the State.

As required by Section 50-37(e) of the Procurement Code, Citizens for Rauner, Inc., is required to pay to the State an amount equal to the value of the contribution within 30 days of the publication of this notice.

POLLUTION CONTROL BOARD

NOTICE OF PUBLIC INFORMATION ON PROPOSED AMENDMENT

NOTICE OF PUBLIC HEARING AND COMMENT PERIOD
PURSUANT TO 415 ILCS 5/10(H) and 1 ILCS 100/5-70(b)Notice of Public Comment Period and Public Hearing
for State Implementation Plan (SIP) Submittals
for National Ambient Air Quality Standards (NAAQS)

The Pollution Control Board (Board) is accepting public comments and will conduct a public hearing on a prospective NAAQS SIP submittal to the U.S. Environmental Protection Agency (USEPA). The Board will accept written comments on the proposed rule that will form the basis for the SIP proposal until 45 days after the proposed amendment appears in the *Illinois Register*, presently anticipated in a March 2018 issue, and a public hearing will occur by videoconference between Chicago and Springfield on April 12, 2018. The Board presently anticipates adoption of amendments to the Illinois ambient air quality standards on April 26, 2018, or within a short time after that date.

Section 10(H) of the Environmental Protection Act (Act) [415 ILCS 5/10(H)] requires the Board to do as follows:

The Board shall adopt ambient air quality standards specifying the maximum permissible short-term and long-term concentrations of various contaminants in the atmosphere, those standards shall be identical in substance to the national ambient air quality standards promulgated by the Administrator of the United States Environmental Protection Agency in accordance with Section 109 of the Clean Air Act (42 USC 7409 (2015)).

The USEPA NAAQS are codified at 40 CFR 50. The Board is required to adopt those exemptions using the "identical in substance" rulemaking procedure of Section 7.2 of the Act [415 ILCS 5/7.2]. The Illinois listing of these compounds is codified at 35 Ill. Adm. Code 243.

On February 8, 2018, the Board adopted a proposal for public comment in docket R18-15 to initiate adoption of the latest USEPA amendments to and actions affecting the federal NAAQS during the second half of 2017.

- On September 25, 2017 (82 Fed. Reg. 44612), USEPA designated three new federal reference methods (FRMs) for particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), and coarse particulate matter (PM_{10-2.5}) in ambient air.

POLLUTION CONTROL BOARD

NOTICE OF PUBLIC INFORMATION ON PROPOSED AMENDMENT

- On October 2, 2017 (82 Fed. Reg. 45842), USEPA designated one new FRM for carbon monoxide (CO) in ambient air.
- On December 15, 2017, USEPA updated the *List of Designated Reference and Equivalent Methods*. This update included the FRMs that USEPA designated on September 25, 2017 and October 2, 2017.

A Notice of Proposed Amendment appears in the present *Illinois Register* relative to the docket R18-15 proposal.

The Board expects that the Illinois Environmental Protection Agency (Agency) will submit the present amendments to USEPA to be included in or to revise the Illinois SIP pertaining to one or more ambient air quality priority pollutants (carbon monoxide, lead nitrogen oxides, ozone, particulate matter, and sulfur dioxide) pursuant to section 110 of the federal Clean Air Act (42 USC 7410(a) (2015)) and the implementing USEPA regulations. See 40 CFR 51.102 and appendix V (2016).

As USEPA will require the State to have conducted a hearing on the amendments to the Illinois NAAQS rules involved in this proceeding pursuant to 42 USC 4210(a) and 40 CFR 51.102, the Board has scheduled a public hearing in this matter to occur by videoconference between two locations, as follows:

1:30 p.m., April 12, 2018

James R. Thompson Center
Illinois Pollution Control Board Hearing Room
100 West Randolph Street, Room 11-512
Chicago

and

Sangamo Building
Illinois Pollution Control Board Hearing Room
1021 North Grand Avenue
Springfield

The Board invites public comment on the proposed amendments. The Board will receive public comments until at least 45 days after a notice of these proposed amendments appears in the *Illinois Register*. Anyone may file a public comment with the Board addressed as follows:

POLLUTION CONTROL BOARD

NOTICE OF PUBLIC INFORMATION ON PROPOSED AMENDMENT

Office of the Clerk
Pollution Control Board
James R. Thompson Center
100 W. Randolph Street, Suite 11-500
Chicago IL 60601

All comments relating to this rulemaking should clearly refer to docket number R18-15.

The record in this docket will include all documents pertaining to this proceeding. All documents in the record are publicly available for inspection and copying as provided in 2 Ill. Adm. Code 2175 (2016) by contacting the Office of the Clerk. The documents are also freely available online at the Board's webpage: www.ipcb.state.il.us.

The record will not include a copy of the following documents, which are all otherwise publicly available:

- The September 25, 2017 and October 2, 2017 Federal Register notices that prompted this action (referenced in the Board's February 8, 2018 opinion and order proposing amendments);
- The December 15, 2017 update to the List of Designated Methods that prompted this action (referenced in the Board's February 8, 2018 opinion and order proposing amendments);
- Federal statutes and regulations referenced in the Board's February 8, 2018 opinion and order; and
- Illinois statutes and regulations referenced in the Board's February 8, 2018 opinion and order.

The Board requests that interested persons direct questions to the following person:

Michael J. McCambridge, Staff Attorney
Pollution Control Board
100 West Randolph Street, Room 11-500
Chicago IL 60601

312/814-6924

POLLUTION CONTROL BOARD

NOTICE OF PUBLIC INFORMATION ON PROPOSED AMENDMENT

michael.mccambridge@illinois.gov

The Board requests that interested persons request documents from or submit documents to the following person:

Don A. Brown, Clerk of the Board
Pollution Control Board
100 West Randolph Street, Room 11-500
Chicago IL 60601

312/814-3461
don.brown@illinois.gov

After the hearing and conclusion of the public comment period, the Board will promptly issue an opinion and order adopting final rule amendments. The Board presently anticipates voting to adopt the amendments on April 26, 2018 or shortly thereafter. The Board will then file the amendments with the Office of the Secretary of State, and a Notice of Adopted Amendments will appear in the *Illinois Register*. Any Agency submission of the associated SIP revision to USEPA will follow that Notice.

DEPARTMENT OF REVENUE

NOTICE OF PUBLIC INFORMATION

1. Statute requiring agency to publish information concerning Private Letter Rulings and General Information Letters in the *Illinois Register*:

Name of Act: Illinois Department of Revenue Sunshine Act

Citation: 20 ILCS 2515/1

2. Summary of information:

Index of Department of Revenue Income Tax Private Letter Rulings and General Information Letters issued for the Third and Fourth Quarters of 2017. Private letter rulings are issued by the Department in response to specific taxpayer inquiries concerning the application of a tax statute or rule to a particular fact situation. Private letter rulings are binding on the Department only as to the taxpayer who is the subject of the request for ruling. (See 2 Ill. Adm. Code 1200.110) General information letters are issued by the Department in response to written inquiries from taxpayers, taxpayer representatives, business, trade, industrial associations or similar groups. General information letters contain general discussions of tax principles or applications. General information letters are designed to provide general background information on topics of interest to taxpayers. General information letters do not constitute statements of agency policy that apply, interpret, or prescribe tax laws administered by the Department. *General information letters may not be relied upon by taxpayers in taking positions with reference to tax issues and create no rights for taxpayers under the Taxpayers' Bill of Rights Act.* (See 2 Ill. Adm. Code 1200.120)

The letters are listed numerically, are identified as either a General Information Letter or a Private Letter Ruling and are summarized with a brief synopsis under the following subjects:

Nexus

Residency/Non-residency

Subtraction Modifications

Refunds

Tax Changes

Copies of the ruling letters themselves are available for inspection and may be purchased for a minimum of \$1.00 per opinion plus 50¢ per page for each page over one. Copies of the ruling letters may be downloaded free of charge from the Department's World Wide Web site at www.tax.illinois.gov/.

DEPARTMENT OF REVENUE

NOTICE OF PUBLIC INFORMATION

The annual index of Sales and Excise Tax letter rulings (all four quarters) is available for \$3.00.

3. Name and address of person to contact concerning this information:

Beverly Langenfeld
Legal Services Office
101 West Jefferson Street
Springfield IL 62794

217/782-2844

DEPARTMENT OF REVENUE

NOTICE OF PUBLIC INFORMATION

NEXUS

IT 17-0010-GIL 10/02/2017 Determination of Nexus is Fact-Specific. (This is a GIL)

REFUNDS

IT 17-0009-GIL 08/14/2017 Regulation Section 100.9400(f) Prescribes Form and
Manner of Refund Claim (This is a GIL.)

RESIDENCY/NONRESIDENCY

IT 17-0013-GIL 12/27/2017 Sourcing self-employment income (This is a GIL.)

SUBTRACTION MODIFICATIONS

IT 17-0012-GIL 12/28/2017 Subtraction modification for military pay by ROTC
instructor (This is a GIL.)

TAX CHANGES

IT 17-0011-GIL 12/13/2017 P.A. 100-22 Illinois Income Tax Changes (This is a GIL.)

DEPARTMENT OF REVENUE

NOTICE OF PUBLIC INFORMATION

1. Statute requiring agency to publish information concerning Private Letter Rulings and General Information Letters in the *Illinois Register*:

Name of Act: Illinois Department of Revenue Sunshine Act

Citation: 20 ILCS 2515/1

2. Summary of information:

Index of Department of Revenue Income Tax Private Letter Rulings and General Information Letters issued for the year 2017. Private letter rulings are issued by the Department in response to specific taxpayer inquiries concerning the application of a tax statute or rule to a particular fact situation. Private letter rulings are binding on the Department only as to the taxpayer who is the subject of the request for ruling. (See 2 Ill. Adm. Code 1200.110). General information letters are issued by the Department in response to written inquiries from taxpayers, taxpayer representatives, business, trade, industrial associations or similar groups. General information letters contain general discussions of tax principles or applications. General information letters are designed to provide general background information on topics of interest to taxpayers. General information letters do not constitute statements of agency policy that apply, interpret, or prescribe tax laws administered by the Department. *General information letters may not be relied upon by taxpayers in taking positions with reference to tax issues and create no rights for taxpayers under the Taxpayers' Bill of Rights Act.* (See 2 Ill. Adm. Code 1200.120)

The letters are listed numerically, are identified as either a General Information Letter or a Private Letter Ruling and are summarized with a brief synopsis under the following subjects:

Alternative Apportionment	Refunds
Base Income-Disability Pay	Residency/Non-residency
Combined & Unitary Returns	Subtraction Modifications
Credits- Foreign	Subtraction Modifications -Pensions
Nexus	Tax Changes

Copies of the ruling letters themselves are available for inspection and may be purchased for a minimum of \$1.00 per opinion plus 50¢ per page for each page over one. Copies of the ruling letters may be downloaded free of charge from the Department's World Wide Web site at www.tax.illinois.gov/.

DEPARTMENT OF REVENUE

NOTICE OF PUBLIC INFORMATION

The annual index of Sales and Excise Tax letter rulings (all four quarters) is available for \$3.00.

3. Name and address of person to contact concerning this information:

Beverly Langenfeld
Legal Services Office
101 West Jefferson Street
Springfield IL 62794

217/782-2844

DEPARTMENT OF REVENUE

NOTICE OF PUBLIC INFORMATION

ALTERNATIVE APPORTIONMENT

IT 17-0003-GIL 03/01/2017 Section 304(f) Does Not Authorize Alternative Method of Apportionment under Section 305(a) (This is a GIL).

IT 17-0006-GIL 05/02/2017 Apportionment of separate businesses under regulation 100.3010(b) does not require petition for alternative apportionment. (This is a GIL.)

BASE INCOME – DISABILITY PAY

IT 17-0002-GIL 1/12/2017 Base income includes payments under Public Employee Disability Act only if included in Federal AGI. (This is a GIL).

COMBINED AND UNITARY RETURN – ILLINOIS NET LOSS

IT 17-0004-GIL 03/16/2017 Elimination of Circular Stock Basis Adjustments When There is No Excluded COD Income Provisions Do Not Limit Amount of Illinois Net Loss Carryovers of Member of Combined Group. (This is a GIL).

CREDITS - FOREIGN TAX

IT 17-0005-GIL 04/28/2017 Gambling income taxable in other state does not increase credit limitation under IITA section 601(b)(3). (This is a GIL.)

NEXUS

IT 17-0001-GIL 01/09/2017 Whether taxpayer has nexus with Illinois is extremely fact-specific. Department does not issue rulings regarding nexus with the State. (This is a GIL).

DEPARTMENT OF REVENUE

NOTICE OF PUBLIC INFORMATION

IT 17-0007-GIL 06/06/2017 Department does not issue rulings regarding nexus. (This is a GIL.)

IT 17-0010-GIL 10/02/2017 Determination of Nexus is Fact-Specific. (This is a GIL.)

REFUNDS

IT 17-0009-GIL 08/14/2017 Regulation Section 100.9400(f) Prescribes Form and Manner of Refund Claim (This is a GIL.)

RESIDENCY/NONRESIDENCY

IT 17-0013-GIL 12/27/2017 Sourcing self-employment income (This is a GIL.)

SUBTRACTION MODIFICATIONS

IT 17-0012-GIL 12/28/2017 Subtraction modification for military pay by ROTC instructor (This is a GIL.)

SUBTRACTION MODIFICATIONS (PENSIONS)

IT 17-0008-GIL 03/01/2017 Subtraction Not Applicable to Retirement Plan of a Private Employer in Foreign Country. (This is a PLR).

TAX CHANGES

IT 17-0011-GIL 12/13/2017 P.A. 100-22 Illinois Income Tax Changes (This is a GIL.)

ILLINOIS ADMINISTRATIVE CODE
Issue Index - With Effective Dates

Rules acted upon in Volume 42, Issue 8 are listed in the Issues Index by Title number, Part number, Volume and Issue. Inquiries about the Issue Index may be directed to the Administrative Code Division at (217) 782-7017/18.

PROPOSED RULES

68 - 1340	.....	3239
41 - 174	.....	3270
41 - 175	.....	3313
41 - 176	.....	3457
41 - 177	.....	3508
35 - 243	.....	3514
35 - 611	3524
80 - 1600	3715

ADOPTED RULES

11 - 1800	2/6/2018	3735
89 - 50	2/7/2018	3745

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