

## POLLUTION CONTROL BOARD

## NOTICE OF PROPOSED AMENDMENTS

1) Heading of the Part: Primary Drinking Water Standards

2) Code Citation: 35 Ill. Adm. Code 611

<u>Section Numbers</u> :	<u>Proposed Actions</u> :
611.101	Amendment
611.107	Repealed
611.110	Amendment
611.115	Repealed
611.121	Amendment
611.161	Amendment
611.202	Amendment
611.231	Amendment
611.240	Amendment
611.241	Amendment
611.250	Amendment
611.261	Amendment
611.271	Repealed
611.272	Repealed
611.280	Amendment
611.290	Amendment
611.297	Repealed
611.300	Amendment
611.350	Amendment
611.351	Amendment
611.352	Amendment
611.353	Amendment
611.354	Amendment
611.355	Amendment
611.356	Amendment
611.358	Amendment
611.359	Amendment
611.360	Amendment
611.381	Amendment
611.480	Amendment
611.491	Repealed
611.500	Amendment
611.531	Amendment
611.532	Amendment

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AUG 10 2018

STATE OF ILLINOIS  
Pollution Control Board

## POLLUTION CONTROL BOARD

## NOTICE OF PROPOSED AMENDMENTS

611.533	Amendment
611.602	Amendment
611.603	Amendment
611.604	Amendment
611.605	Amendment
611.612	Amendment
611.646	Amendment
611.648	Amendment
611.731	Amendment
611.732	Amendment
611.733	Amendment
611.800	Amendment
611.801	Amendment
611.802	Amendment
611.803	Amendment
611.804	Amendment
611.831	Repealed
611.833	Repealed
611.840	Amendment
611.883	Amendment
611.885	Amendment
611.901	Amendment
611.902	Amendment
611.903	Amendment
611.904	Amendment
611.920	Amendment
611.922	Amendment
611.924	Amendment
611.953	Amendment
611.955	Amendment
611.970	Amendment
611.971	Amendment
611.972	Amendment
611.973	Amendment
611.979	Amendment
611.1001	Amendment
611.1002	Amendment
611.1003	Amendment
611.1004	Amendment

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611.1007	Amendment
611.1008	Amendment
611.1009	Amendment
611.1011	Amendment
611.1013	Amendment
611.1016	Amendment
611.1017	Amendment
611.1018	Amendment
611.1019	Amendment
611.1020	Amendment
611.1021	Amendment
611.1053	Amendment
611.1054	Amendment
611.1055	Amendment
611.1056	Amendment
611.1057	Amendment
611.1058	Amendment
611.1059	Amendment
611.Appendix G	Amendment
611.Table C	Amendment

- 4) Statutory Authority: Implementing Section 17 and authorized by Sections 27 and 28 of the Environmental Protection Act [415 ILCS 5/17, 27, 28].
- 5) A Complete Description of the Subjects and Issues Involved: The Illinois Environmental Protection Agency (IEPA) proposed that the Board adopt a new Part 604 entitled "Design, Operation and Maintenance Criteria." In Part 611, IEPA proposed revisions conforming to Part 604.
- 6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: In the Statement of Reasons filed with its proposed rules, IEPA stated that it "did not consult with a published study or research report when developing this proposal." IEPA added that it "did not perform any new studies, nor did the Agency contract with any outside entities to perform any studies for the development of this rulemaking proposal."
- 7) Will this rulemaking replace an 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? No
- 10) Are there any other rulemakings pending on this Part? No
- 11) Statement of Statewide Policy Objective: This proposed rulemaking does 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 proposed rulemaking: The Board will accept written public comments on this proposal for a period of at least 45 days after the date of publication in the *Illinois Register*. Public comments must be filed with the Clerk of the Board.

Public comments must be filed electronically through the Clerk's Office On-Line (COOL) on the Board's website at ([pcb.illinois.gov](http://pcb.illinois.gov)). Public comments should refer to docket R18-17. Comments may also be submitted to:

Clerk's Office  
Illinois Pollution Control Board  
James R. Thompson Center  
100 W. Randolph St., Suite 11-500  
Chicago IL 60601

Interested persons may obtain copies of the Board's opinion and order in R18-17 from the Board's website ([pcb.illinois.gov](http://pcb.illinois.gov)) and may also call the Clerk's office at 312/814-3620.

- 13) Initial Regulatory Flexibility Analysis:
- A) Types of small businesses, small municipalities and not-for-profit corporations affected: The proposal may affect any entity that owns, operates, or serves as official custodian for a community water supply.
- B) Reporting, bookkeeping or other procedures required for compliance: The amendments chiefly repeal provisions moved to other Parts and delete or correct outdated cross references, they are not expected to require procedures for compliance.
- C) Types of professional skills necessary for compliance: Equivalent to skills required to comply with current regulations.

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14) Regulatory Agenda on which this rulemaking was summarized: July 2017

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

10/12

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

PART 611  
PRIMARY DRINKING WATER STANDARDS

SUBPART A: GENERAL

- 10 Section
- 11 611.100 Purpose, Scope, and Applicability
- 12 611.101 Definitions
- 13 611.102 Incorporations by Reference
- 14 611.103 Severability
- 15 611.105 Electronic Reporting
- 16 611.107 Agency Inspection of PWS Facilities (Repealed)
- 17 611.108 Delegation to Local Government
- 18 611.109 Enforcement
- 19 611.110 Special Exception Permits
- 20 611.111 Relief Equivalent to SDWA Section 1415(a) Variances
- 21 611.112 Relief Equivalent to SDWA Section 1416 Exemptions
- 22 611.113 Alternative Treatment Techniques
- 23 611.114 Siting Requirements
- 24 611.115 Source Water Quantity (Repealed)
- 25 611.120 Effective Dates
- 26 611.121 Maximum Contaminant Levels and ~~Finished Water Quality~~
- 27 611.125 Fluoridation Requirement
- 28 611.126 Prohibition on Use of Lead
- 29 611.130 Special Requirements for Certain Variances and Adjusted Standards
- 30 611.131 Relief Equivalent to SDWA Section 1415(e) Small System Variance
- 31 611.160 Composite Correction Program
- 32 611.161 Case-by-Case Reduced Subpart Y Monitoring for Wholesale and Consecutive Systems

SUBPART B: FILTRATION AND DISINFECTION

- 37 Section
- 38 611.201 Requiring a Demonstration
- 39 611.202 Procedures for Agency Determinations
- 40 611.211 Filtration Required
- 41 611.212 Groundwater under Direct Influence of Surface Water
- 42 611.213 No Method of HPC Analysis
- 43 611.220 General Requirements

- 44 611.230 Filtration Effective Dates
- 45 611.231 Source Water Quality Conditions
- 46 611.232 Site-Specific Conditions
- 47 611.233 Treatment Technique Violations
- 48 611.240 Disinfection
- 49 611.241 Unfiltered PWSs
- 50 611.242 Filtered PWSs
- 51 611.250 Filtration
- 52 611.261 Unfiltered PWSs: Reporting and Recordkeeping
- 53 611.262 Filtered PWSs: Reporting and Recordkeeping
- 54 611.271 Protection during Repair Work (Repealed)
- 55 611.272 Disinfection Following Repair (Repealed)
- 56 611.276 Recycle Provisions

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58 SUBPART C: USE OF NON-CENTRALIZED TREATMENT DEVICES

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- 60 Section
- 61 611.280 Point-of-Entry Devices
- 62 611.290 Use of Point-of-Use Devices or Bottled Water

63

64 SUBPART D: TREATMENT TECHNIQUES

65

- 66 Section
- 67 611.295 General Requirements
- 68 611.296 Acrylamide and Epichlorohydrin
- 69 611.297 Corrosion Control (Repealed)

70

71 SUBPART F: MAXIMUM CONTAMINANT LEVELS (MCLs) AND

72 MAXIMUM RESIDUAL DISINFECTANT LEVELS (MRDLs)

73

- 74 Section
  - 75 611.300 Old MCLs for Inorganic Chemical Contaminants
  - 76 611.301 Revised MCLs for Inorganic Chemical Contaminants
  - 77 611.310 State-Only Maximum Contaminant Levels (MCLs) for Organic Chemical
  - 78 Contaminants
  - 79 611.311 Revised MCLs for Organic Chemical Contaminants
  - 80 611.312 Maximum Contaminant Levels (MCLs) for Disinfection Byproducts (DBPs)
  - 81 611.313 Maximum Residual Disinfectant Levels (MRDLs)
  - 82 611.320 Turbidity (Repealed)
  - 83 611.325 Microbiological Contaminants
  - 84 611.330 Maximum Contaminant Levels for Radionuclides
  - 85 611.331 Beta Particle and Photon Radioactivity (Repealed)
- 86

SUBPART G: LEAD AND COPPER

87		
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89	Section	
90	611.350	General Requirements
91	611.351	Applicability of Corrosion Control
92	611.352	Corrosion Control Treatment
93	611.353	Source Water Treatment
94	611.354	Lead Service Line Replacement
95	611.355	Public Education and Supplemental Monitoring
96	611.356	Tap Water Monitoring for Lead and Copper
97	611.357	Monitoring for Water Quality Parameters
98	611.358	Monitoring for Lead and Copper in Source Water
99	611.359	Analytical Methods
100	611.360	Reporting
101	611.361	Recordkeeping

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

102		
103		
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106	Section	
107	611.380	General Requirements
108	611.381	Analytical Requirements
109	611.382	Monitoring Requirements
110	611.383	Compliance Requirements
111	611.384	Reporting and Recordkeeping Requirements
112	611.385	Treatment Technique for Control of Disinfection Byproduct (DBP) Precursors

SUBPART K: GENERAL MONITORING AND ANALYTICAL REQUIREMENTS

113		
114		
115		
116	Section	
117	611.480	Alternative Analytical Techniques
118	611.490	Certified Laboratories
119	611.491	Laboratory Testing Equipment ( <u>Repealed</u> )
120	611.500	Consecutive PWSs
121	611.510	Special Monitoring for Unregulated Contaminants ( <u>Repealed</u> )

SUBPART L: MICROBIOLOGICAL MONITORING  
AND ANALYTICAL REQUIREMENTS

122		
123		
124		
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126	Section	
127	611.521	Routine Coliform Monitoring ( <u>Repealed</u> )
128	611.522	Repeat Coliform Monitoring ( <u>Repealed</u> )
129	611.523	Invalidation of Total Coliform Samples ( <u>Repealed</u> )

- 130 611.524 Sanitary Surveys (Repealed)
- 131 611.525 Fecal Coliform and E. Coli Testing (Repealed)
- 132 611.526 Analytical Methodology (Repealed)
- 133 611.527 Response to Violation (Repealed)
- 134 611.528 Transition from Subpart L to Subpart AA Requirements (Repealed)
- 135 611.531 Analytical Requirements
- 136 611.532 Unfiltered PWSs
- 137 611.533 Filtered PWSs

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139 SUBPART M: TURBIDITY MONITORING AND ANALYTICAL REQUIREMENTS

140

141 Section

- 142 611.560 Turbidity

143

144 SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

145

146 Section

- 147 611.591 Violation of a State MCL
- 148 611.592 Frequency of State Monitoring
- 149 611.600 Applicability
- 150 611.601 Monitoring Frequency
- 151 611.602 Asbestos Monitoring Frequency
- 152 611.603 Inorganic Monitoring Frequency
- 153 611.604 Nitrate Monitoring
- 154 611.605 Nitrite Monitoring
- 155 611.606 Confirmation Samples
- 156 611.607 More Frequent Monitoring and Confirmation Sampling
- 157 611.608 Additional Optional Monitoring
- 158 611.609 Determining Compliance
- 159 611.610 Inorganic Monitoring Times
- 160 611.611 Inorganic Analysis
- 161 611.612 Monitoring Requirements for Old Inorganic MCLs
- 162 611.630 Special Monitoring for Sodium
- 163 611.631 Special Monitoring for Inorganic Chemicals (Repealed)

164

165 SUBPART O: ORGANIC MONITORING AND ANALYTICAL REQUIREMENTS

166

167 Section

- 168 611.640 Definitions
- 169 611.641 Old MCLs
- 170 611.645 Analytical Methods for Organic Chemical Contaminants
- 171 611.646 Phase I, Phase II, and Phase V Volatile Organic Contaminants
- 172 611.647 Sampling for Phase I Volatile Organic Contaminants (Repealed)

- 173 611.648 Phase II, Phase IIB, and Phase V Synthetic Organic Contaminants
- 174 611.650 Monitoring for 36 Contaminants (Repealed)
- 175 611.657 Analytical Methods for 36 Contaminants (Repealed)
- 176 611.658 Special Monitoring for Organic Chemicals (Repealed)

177

178 SUBPART P: THM MONITORING AND ANALYTICAL REQUIREMENTS

179

180 Section

- 181 611.680 Sampling, Analytical, and other Requirements (Repealed)
- 182 611.683 Reduced Monitoring Frequency (Repealed)
- 183 611.684 Averaging (Repealed)
- 184 611.685 Analytical Methods (Repealed)
- 185 611.686 Modification to System (Repealed)
- 186 611.687 Sampling for THM Potential (Repealed)
- 187 611.688 Applicability Dates (Repealed)

188

189 SUBPART Q: RADIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

190

191 Section

- 192 611.720 Analytical Methods
- 193 611.731 Gross Alpha
- 194 611.732 Beta Particle and Photon Radioactivity
- 195 611.733 General Monitoring and Compliance Requirements

196

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

199

200 Section

- 201 611.740 General Requirements
- 202 611.741 Standards for Avoiding Filtration
- 203 611.742 Disinfection Profiling and Benchmarking
- 204 611.743 Filtration
- 205 611.744 Filtration Sampling Requirements
- 206 611.745 Reporting and Recordkeeping Requirements

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208 SUBPART S: GROUNDWATER RULE

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210 Section

- 211 611.800 General Requirements and Applicability
- 212 611.801 Sanitary Surveys for GWS Suppliers
- 213 611.802 Groundwater Source Microbial Monitoring and Analytical Methods
- 214 611.803 Treatment Technique Requirements for GWS Suppliers
- 215 611.804 Treatment Technique Violations for GWS Suppliers

216 611.805 Reporting and Recordkeeping for GWS Suppliers

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218 SUBPART T: REPORTING AND RECORDKEEPING

219

220 Section

221 611.830 Applicability

222 611.831 Monthly Operating Report (Repealed)

223 611.832 Notice by Agency (Repealed)

224 611.833 Cross Connection Reporting (Repealed)

225 611.840 Reporting

226 611.851 Reporting MCL, MRDL, and other Violations (Repealed)

227 611.852 Reporting other Violations (Repealed)

228 611.853 Notice to New Billing Units (Repealed)

229 611.854 General Content of Public Notice (Repealed)

230 611.855 Mandatory Health Effects Language (Repealed)

231 611.856 Fluoride Notice (Repealed)

232 611.858 Fluoride Secondary Standard (Repealed)

233 611.860 Record Maintenance

234 611.870 List of 36 Contaminants (Repealed)

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236 SUBPART U: CONSUMER CONFIDENCE REPORTS

237

238 Section

239 611.881 Purpose and Applicability

240 611.882 Compliance Dates

241 611.883 Content of the Reports

242 611.884 Required Additional Health Information

243 611.885 Report Delivery and Recordkeeping

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245 SUBPART V: PUBLIC NOTIFICATION OF DRINKING WATER VIOLATIONS

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247 Section

248 611.901 General Public Notification Requirements

249 611.902 Tier 1 Public Notice: Form, Manner, and Frequency of Notice

250 611.903 Tier 2 Public Notice: Form, Manner, and Frequency of Notice

251 611.904 Tier 3 Public Notice: Form, Manner, and Frequency of Notice

252 611.905 Content of the Public Notice

253 611.906 Notice to New Billing Units or New Customers

254 611.907 Special Notice of the Availability of Unregulated Contaminant Monitoring

255 Results

256 611.908 Special Notice for Exceedance of the Fluoride Secondary Standard

257 611.909 Special Notice for Nitrate Exceedances above the MCL by a Non-Community

258 Water System

259	611.910	Notice by the Agency on Behalf of a PWS
260	611.911	Special Notice for Cryptosporidium
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262		SUBPART W: INITIAL DISTRIBUTION SYSTEM EVALUATIONS
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265	611.920	General Requirements
266	611.921	Standard Monitoring
267	611.922	System-Specific Studies
268	611.923	40/30 Certification
269	611.924	Very Small System Waivers
270	611.925	Subpart Y Compliance Monitoring Location Recommendations
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272		SUBPART X: ENHANCED FILTRATION AND DISINFECTION –
273		SYSTEMS SERVING FEWER THAN 10,000 PEOPLE
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275	Section	
276	611.950	General Requirements
277	611.951	Finished Water Reservoirs
278	611.952	Additional Watershed Control Requirements for Unfiltered Systems
279	611.953	Disinfection Profile
280	611.954	Disinfection Benchmark
281	611.955	Combined Filter Effluent Turbidity Limits
282	611.956	Individual Filter Turbidity Requirements
283	611.957	Reporting and Recordkeeping Requirements
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285		SUBPART Y: STAGE 2 DISINFECTION BYPRODUCTS REQUIREMENTS
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287	Section	
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291	611.973	Reduced Monitoring
292	611.974	Additional Requirements for Consecutive Systems
293	611.975	Conditions Requiring Increased Monitoring
294	611.976	Operational Evaluation Levels
295	611.977	Requirements for Remaining on Reduced TTHM and HAA5 Monitoring Based
296		on Subpart I Results
297	611.978	Requirements for Remaining on Increased TTHM and HAA5 Monitoring Based
298		on Subpart I Results
299	611.979	Reporting and Recordkeeping Requirements
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301		SUBPART Z: ENHANCED TREATMENT FOR CRYPTOSPORIDIUM

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303 Section

304 611.1000 General Requirements

305 611.1001 Source Water Monitoring Requirements: Source Water Monitoring

306 611.1002 Source Water Monitoring Requirements: Sampling Schedules

307 611.1003 Source Water Monitoring Requirements: Sampling Locations

308 611.1004 Source Water Monitoring Requirements: Analytical Methods

309 611.1005 Source Water Monitoring Requirements: Approved Laboratories

310 611.1006 Source Water Monitoring Requirements: Reporting Source Water Monitoring

311 Results

312 611.1007 Source Water Monitoring Requirements: Grandfathering Previously Collected

313 Data

314 611.1008 Disinfection Profiling and Benchmarking Requirements: Requirements When

315 Making a Significant Change in Disinfection Practice

316 611.1009 Disinfection Profiling and Benchmarking Requirements: Developing the

317 Disinfection Profile and Benchmark

318 611.1010 Treatment Technique Requirements: Bin Classification for Filtered Systems

319 611.1011 Treatment Technique Requirements: Filtered System Additional

320 Cryptosporidium Treatment Requirements

321 611.1012 Treatment Technique Requirements: Unfiltered System Cryptosporidium

322 Treatment Requirements

323 611.1013 Treatment Technique Requirements: Schedule for Compliance with

324 Cryptosporidium Treatment Requirements

325 611.1014 Treatment Technique Requirements: Requirements for Uncovered Finished

326 Water Storage Facilities

327 611.1015 Requirements for Microbial Toolbox Components: Microbial Toolbox Options

328 for Meeting Cryptosporidium Treatment Requirements

329 611.1016 Requirements for Microbial Toolbox Components: Source Toolbox Components

330 611.1017 Requirements for Microbial Toolbox Components: Pre-Filtration Treatment

331 Toolbox Components

332 611.1018 Requirements for Microbial Toolbox Components: Treatment Performance

333 Toolbox Components

334 611.1019 Requirements for Microbial Toolbox Components: Additional Filtration Toolbox

335 Components

336 611.1020 Requirements for Microbial Toolbox Components: Inactivation Toolbox

337 Components

338 611.1021 Reporting and Recordkeeping Requirements: Reporting Requirements

339 611.1022 Reporting and Recordkeeping Requirements: Recordkeeping Requirements

340 611.1023 Requirements to Respond to Significant Deficiencies Identified in Sanitary

341 Surveys Performed by USEPA or the Agency

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343 SUBPART AA: REVISED TOTAL COLIFORM RULE

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345	Section	
346	611.1051	General
347	611.1052	Analytical Methods and Laboratory Certification
348	611.1053	General Monitoring Requirements for all PWSs
349	611.1054	Routine Monitoring Requirements for Non-CWSs That Serve 1,000 or Fewer
350		People Using Only Groundwater
351	611.1055	Routine Monitoring Requirements for CWSs That Serve 1,000 or Fewer People
352		Using Only Groundwater
353	611.1056	Routine Monitoring Requirements for Subpart B Systems That Serve 1,000 or
354		Fewer People
355	611.1057	Routine Monitoring Requirements for PWSs That Serve More Than 1,000 People
356	611.1058	Repeat Monitoring and E. coli Requirements
357	611.1059	Coliform Treatment Technique Triggers and Assessment Requirements for
358		Protection Against Potential Fecal Contamination
359	611.1060	Violations
360	611.1061	Reporting and Recordkeeping
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362	611.APPENDIX A	Regulated Contaminants
363	611.APPENDIX B	Percent Inactivation of G. Lamblia Cysts
364	611.APPENDIX C	Common Names of Organic Chemicals
365	611.APPENDIX D	Defined Substrate Method for the Simultaneous Detection of Total
366		Coliforms and Escherichia Coli from Drinking Water (Repealed)
367	611.APPENDIX E	Mandatory Lead Public Education Information for Community Water
368		Systems
369	611.APPENDIX F	Mandatory Lead Public Education Information for Non-Transient Non-
370		Community Water Systems
371	611.APPENDIX G	NPDWR Violations and Situations Requiring Public Notice
372	611.APPENDIX H	Standard Health Effects Language for Public Notification
373	611.APPENDIX I	Acronyms Used in Public Notification Regulation
374	611.TABLE A	Total Coliform Monitoring Frequency
375	611.TABLE B	Fecal or Total Coliform Density Measurements
376	611.TABLE C	Frequency of RDC Measurement
377	611.TABLE D	Number of Lead and Copper Monitoring Sites
378	611.TABLE E	Lead and Copper Monitoring Start Dates (Repealed)
379	611.TABLE F	Number of Water Quality Parameter Sampling Sites
380	611.TABLE G	Summary of Section 611.357 Monitoring Requirements for Water Quality
381		Parameters
382	611.TABLE H	CT Values (mg·min/ℓ) for Cryptosporidium Inactivation by Chlorine
383		Dioxide
384	611.TABLE I	CT Values (mg·min/ℓ) for Cryptosporidium Inactivation by Ozone
385	611.TABLE J	UV Dose Table for Cryptosporidium, Giardia lamblia, and Virus
386		Inactivation Credit
387	611.TABLE Z	Federal Effective Dates

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

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

SUBPART A: GENERAL

**Section 611.101 Definitions**

As used in this Part, the following terms have the given meanings:

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

"Agency" means the Illinois Environmental Protection Agency.

BOARD NOTE: The Department of Public Health (Public Health or DPH) regulates non-community water supplies ("non-CWSs", including non-transient,

431 non-community water supplies ("NTNCWSs") and transient non-community  
432 water supplies ("transient non-CWSs"). "Agency" will mean Public Health  
433 where implementation by Public Health occurs with regard to non-CWS suppliers.  
434

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

444 BOARD NOTE: Derived from 40 CFR 142.62(g)(2) and 21 CFR 129.3(a)  
445 (2016). The Board cannot compile an exhaustive listing of all federal, State, and  
446 local laws to which bottled water and bottling water may be subjected. However,  
447 the statutes and regulations of which the Board is aware are the following: the  
448 Illinois Food, Drug and Cosmetic Act [410 ILCS 620], the Bottled Water Act  
449 [815 ILCS 310], the DPH Water Well Construction Code (77 Ill. Adm. Code  
450 920), the DPH Water Well Pump Installation Code (77 Ill. Adm. Code 925), the  
451 federal bottled water quality standards (21 CFR 103.35), the federal drinking  
452 water processing and bottling standards (21 CFR 129), the federal Current Good  
453 Manufacturing Practice in Manufacturing, Packing, or Holding Human Food (21  
454 CFR 110), the federal Fair Packaging and Labeling Act (15 USC 1451 et seq.),  
455 and the federal Fair Packaging and Labeling regulations (21 CFR 201).  
456

457 "Bag filters" means pressure-driven separation devices that remove particulate  
458 matter larger than one micrometer using an engineered porous filtration media.  
459 They are typically constructed of a non-rigid, fabric filtration media housed in a  
460 pressure vessel in which the direction of flow is from the inside of the bag to  
461 outside.  
462

463 "Bank filtration" means a water treatment process that uses a well to recover  
464 surface water that has naturally infiltrated into groundwater through a river bed or  
465 banks. Infiltration is typically enhanced by the hydraulic gradient imposed by a  
466 nearby pumping water supply or other wells.  
467

468 "Best available technology" or "BAT" means the best technology, treatment  
469 techniques, or other means that USEPA has found are available for the  
470 contaminant in question. BAT is specified in Subpart F.  
471

472 "Bin classification" or "bin" means, for the purposes of Subpart Z, the appropriate  
473 of the four treatment categories (Bin 1, Bin 2, Bin 3, or Bin 4) that is assigned to a

474 filtered system supplier pursuant to Section 611.1010 based on the results of the  
475 source water Cryptosporidium monitoring described in the previous section. This  
476 bin classification determines the degree of additional Cryptosporidium treatment,  
477 if any, the filtered PWS must provide.

478 BOARD NOTE: Derived from 40 CFR 141.710 (2016) and the preamble  
479 discussion at 71 Fed. Reg. 654, 657 (Jan. 5, 2006).

480  
481 "Board" means the Illinois Pollution Control Board.

482  
483 "Cartridge filters" means pressure-driven separation devices that remove  
484 particulate matter larger than 1 micrometer using an engineered porous filtration  
485 media. They are typically constructed as rigid or semi-rigid, self-supporting filter  
486 elements housed in pressure vessels in which flow is from the outside of the  
487 cartridge to the inside.

488  
489 "CAS No." means "Chemical Abstracts Services Number".

490  
491 "Clean compliance history" means, for the purposes of Subpart A, a record of no  
492 MCL violations under Section 611.325; no monitoring violations under Subpart L  
493 or Subpart AA; and no coliform treatment technique trigger exceedances or  
494 treatment technique violations under Subpart AA.

495  
496 "Coagulation" means a process using coagulant chemicals and mixing by which  
497 colloidal and suspended materials are destabilized and agglomerated into flocs.

498  
499 "Combined distribution system" means the interconnected distribution system  
500 consisting of the distribution systems of wholesale systems and of the consecutive  
501 systems that receive finished water.

502  
503 "Community water system" or "CWS" means a public water system (PWS) that  
504 serves at least 15 service connections used by year-round residents or regularly  
505 serves at least 25 year-round residents.

506 BOARD NOTE: This definition differs slightly from that of Section 3.145 of the  
507 Act.

508  
509 "Compliance cycle" means the nine-year calendar year cycle during which public  
510 water systems (PWSs) must monitor. Each compliance cycle consists of three  
511 three-year compliance periods. The first calendar cycle began January 1, 1993,  
512 and ended December 31, 2001; the second began January 1, 2002, and ended  
513 December 31, 2010; the third began January 1, 2011, and ends December 31,  
514 2019.

515  
516 "Compliance period" means a three-year calendar year period within a

517 compliance cycle. Each compliance cycle has three three-year compliance  
518 periods. Within the first compliance cycle, the first compliance period ran from  
519 January 1, 1993 to December 31, 1995; the second ran from January 1, 1996 to  
520 December 31, 1998; and the third ran from January 1, 1999 to December 31,  
521 2001.

522  
523 "Comprehensive performance evaluation" or "CPE" is a thorough review and  
524 analysis of a treatment plant's performance-based capabilities and associated  
525 administrative, operation, and maintenance practices. It is conducted to identify  
526 factors that may be adversely impacting a plant's capability to achieve compliance  
527 and emphasizes approaches that can be implemented without significant capital  
528 improvements.

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

533  
534 "Confluent growth" means a continuous bacterial growth covering the entire  
535 filtration area of a membrane filter or a portion thereof, in which bacterial  
536 colonies are not discrete.

537  
538 "Consecutive system" means a public water system that receives some or all of its  
539 finished water from one or more wholesale systems. Delivery may be through a  
540 direct connection or through the distribution system of one or more consecutive  
541 systems.

542  
543 "Contaminant" means any physical, chemical, biological, or radiological  
544 substance or matter in water.

545  
546 "Conventional filtration treatment" means a series of processes including  
547 coagulation, flocculation, sedimentation, and filtration resulting in substantial  
548 "particulate removal."

549  
550 "CT" or "CT<sub>calc</sub>" is the product of residual disinfectant concentration (RDC or C)  
551 in mg/ℓ determined before or at the first customer, and the corresponding  
552 disinfectant contact time (T) in minutes. If a supplier applies disinfectants at  
553 more than one point prior to the first customer, it must determine the CT of each  
554 disinfectant sequence before or at the first customer to determine the total percent  
555 inactivation or "total inactivation ratio". In determining the total inactivation  
556 ratio, the supplier must determine the RDC of each disinfection sequence and  
557 corresponding contact time before any subsequent disinfection application points.  
558 (See the definition of "CT<sub>99.9</sub>".)  
559

560 "CT<sub>99.9</sub>" is the CT value required for 99.9 percent (3-log) inactivation of Giardia  
561 lamblia cysts. CT<sub>99.9</sub> values for a variety of disinfectants and conditions appear in  
562 Tables 1.1 through 1.6, 2.1 and 3.1 of Appendix B. (See the definition of  
563 "inactivation ratio".)

564 BOARD NOTE: Derived from the definition of "CT" in 40 CFR 141.2 (2016).

565

566 "Diatomaceous earth filtration" means a process resulting in substantial  
567 particulate removal in which the following occur:

568

569 A precoat cake of diatomaceous earth filter media is deposited on a  
570 support membrane (septum); and

571

572 While the water is filtered by passing through the cake on the septum,  
573 additional filter media known as body feed is continuously added to the  
574 feed water to maintain the permeability of the filter cake.

575

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

578

579 "Disinfectant" means any oxidant, including but not limited to chlorine, chlorine  
580 dioxide, chloramines, and ozone added to water in any part of the treatment or  
581 distribution process, that is intended to kill or inactivate pathogenic  
582 microorganisms.

583

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

587

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

591

592 Where more than one RDC is measured, T is as follows:

593

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

598

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

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

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

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

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

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

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

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

"Dose equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).

"Dual sample set" means a set of two samples collected at the same time and same location, with one sample analyzed for TTHM and the other sample analyzed for HAA5. Dual sample sets are collected for the purposes of conducting an IDSE under Subpart W and determining compliance with the TTHM and HAA5 MCLs under Subpart Y.

"E. coli" means Escherichia coli, a species of bacteria used as a specific indicator of fecal contamination and potential harmful pathogens.

645 BOARD NOTE: Derived from the discussion at 78 Fed. Reg. 10270, 10271 (Feb.  
646 13, 2013).

647  
648 "Enhanced coagulation" means the addition of sufficient coagulant for improved  
649 removal of disinfection byproduct (DBP) precursors by conventional filtration  
650 treatment.

651  
652 "Enhanced softening" means the improved removal of disinfection byproduct  
653 (DBP) precursors by precipitative softening.

654  
655 "Entry point" means a point just downstream of the final treatment operation, but  
656 upstream of the first user and upstream of any mixing with other water. If raw  
657 water is used without treatment, the "entry point" is the raw water source. If a  
658 PWS receives treated water from another PWS, the "entry point" is a point just  
659 downstream of the other PWS, but upstream of the first user on the receiving  
660 PWS, and upstream of any mixing with other water.

661  
662 "Filter profile" is a graphical representation of individual filter performance,  
663 based on continuous turbidity measurements or total particle counts versus time  
664 for an entire filter run, from startup to backwash inclusively, that includes an  
665 assessment of filter performance while another filter is being backwashed.

666  
667 "Filtration" means a process for removing particulate matter from water by  
668 passage through porous media.

669  
670 "Finished water" means water that is introduced into the distribution system of a  
671 public water system which is intended for distribution and consumption without  
672 further treatment, except that treatment which is necessary to maintain water  
673 quality in the distribution system (e.g., booster disinfection, addition of corrosion  
674 control chemicals, etc.).

675  
676 "Flocculation" means a process to enhance agglomeration or collection of smaller  
677 floc particles into larger, more easily settleable particles through gentle stirring by  
678 hydraulic or mechanical means.

679  
680 "Flowing stream" means a course of running water flowing in a definite channel.

681  
682 "40/30 certification" means the certification, submitted by the supplier to the  
683 Agency pursuant to Section 611.923, that the supplier had no TTHM or HAA5  
684 monitoring violations, and that no individual sample from its system exceeded  
685 0.040 mg/ℓ TTHM or 0.030 mg/ℓ HAA5 during eight consecutive calendar  
686 quarters.

687 BOARD NOTE: Derived from 40 CFR 141.603(a) (2016).

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

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

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

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

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

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

"Groundwater system" or "GWS" means a public water supply (PWS) that uses only groundwater sources, including a consecutive system that receives finished groundwater.

BOARD NOTE: Derived from 40 CFR 141.23(b)(2), 141.24(f)(2) note, and 40 CFR 141.400(b) (2016).

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

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

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

"HPC" means "heterotrophic plate count", measured as specified in Section

731 611.531(a)(2)(C).

732

733 "Hydrogeologic sensitivity assessment," for the purposes of Subpart S, means a  
 734 determination of whether a GWS supplier obtains water from a hydrogeologically  
 735 sensitive setting.

736 BOARD NOTE: Derived from 40 CFR 141.400(c)(5) (2016).

737

738 "Inactivation ratio" or "Ai" means as follows:

739

$$740 A_i = CT_{\text{calc}}/CT_{99.9}$$

741

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

745

$$746 B = \Sigma(A_i)$$

747

748 A total inactivation ratio equal to or greater than 1.0 is assumed to provide  
 749 a 3-log inactivation of Giardia lamblia cysts.

750

751 BOARD NOTE: Derived from the definition of "CT" in 40 CFR 141.2 (2016).

752

753 "Initial compliance period" means the three-year compliance period that began  
 754 January 1, 1993, except for the MCLs for dichloromethane, 1,2,4-  
 755 trichlorobenzene, 1,1,2-trichloroethane, benzo(a)pyrene, dalapon, di(2-  
 756 ethylhexyl)adipate, di(2-ethylhexyl)phthalate, dinoseb, diquat, endothall, endrin,  
 757 glyphosate, hexachlorobenzene, hexachlorocyclopentadiene, oxamyl, picloram,  
 758 simazine, 2,3,7,8-TCDD, antimony, beryllium, cyanide, nickel, and thallium, as  
 759 they apply to a supplier whose system has fewer than 150 service connections, for  
 760 which it means the three-year compliance period that began on January 1, 1996.

761

762 "Initial distribution system evaluation" or "IDSE" means the evaluation,  
 763 performed by the supplier pursuant to Section 611.921(c), to determine the  
 764 locations in a distribution system that are representative of high TTHM and  
 765 HAA5 concentrations throughout the distribution system. An IDSE is used in  
 766 conjunction with, but is distinct from, the compliance monitoring undertaken to  
 767 identify and select monitoring locations used to determine compliance with  
 768 Subpart I.

769 BOARD NOTE: Derived from 40 CFR 141.601(c) (2016).

770

771 "Inorganic contaminants" or "IOCs" refers to that group of contaminants  
 772 designated as such in United States Environmental Protection Agency (USEPA)  
 773 regulatory discussions and guidance documents. IOCs include antimony, arsenic,

774 asbestos, barium, beryllium, cadmium, chromium, cyanide, mercury, nickel,  
775 nitrate, nitrite, selenium, and thallium.

776 BOARD NOTE: The IOCs are derived from 40 CFR 141.23(a)(4) (2016).

777

778 "ℓ" means "liter".

779

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

783

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

786

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

802

803 "Level 2 assessment" means an evaluation to identify the possible presence of  
804 sanitary defects, defects in distribution system coliform monitoring practices, and  
805 (when possible) the likely reason that the system triggered the assessment. A  
806 Level 2 assessment provides a more detailed examination of the system (including  
807 the system's monitoring and operational practices) than does a Level 1 assessment  
808 through the use of more comprehensive investigation and review of available  
809 information, additional internal and external resources, and other relevant  
810 practices. A Level 2 assessment is conducted by a person approved by a SEP  
811 granted by the Agency pursuant to Section 611.130, and that person may include  
812 the system operator. Minimum elements include review and identification of  
813 atypical events that could affect distributed water quality or indicate that  
814 distributed water quality was impaired; changes in distribution system  
815 maintenance and operation that could affect distributed water quality (including  
816 water storage); source and treatment considerations that bear on distributed water

817 quality, where appropriate (e.g., whether a groundwater system is disinfected);  
 818 existing water quality monitoring data; and inadequacies in sample sites, sampling  
 819 protocol, and sample processing. The supplier must conduct the assessment  
 820 consistent with any Agency-imposed permit conditions that tailor specific  
 821 assessment elements with respect to the size and type of the system and the size,  
 822 type, and characteristics of the distribution system. The supplier must comply  
 823 with any expedited actions or additional actions required by a SEP granted by the  
 824 Agency pursuant to Section 611.130 in the instance of an E. coli MCL violation.  
 825

826 "Locational running annual average" or "LRAA" means the average of sample  
 827 analytical results for samples taken at a particular monitoring location during the  
 828 previous four calendar quarters.  
 829

830 "Man-made beta particle and photon emitters" means all radionuclides emitting  
 831 beta particles or photons listed in NBS Handbook 69, incorporated by reference in  
 832 Section 611.102, except the daughter products of thorium-232, uranium-235 and  
 833 uranium-238.  
 834

835 "Maximum contaminant level" or "MCL" means the maximum permissible level  
 836 of a contaminant in water that is delivered to any user of a public water system.  
 837 (See Section 611.121.)  
 838

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

843 BOARD NOTE: The Board has not routinely adopted the regulations relating to  
 844 the federal MCLGs because they are outside the scope of the Board's identical-in-  
 845 substance mandate under Section 17.5 of the Act.  
 846

847 "Maximum residual disinfectant level" or "MRDL" means the maximum  
 848 permissible level of a disinfectant added for water treatment that may not be  
 849 exceeded at the consumer's tap without an unacceptable possibility of adverse  
 850 health effects. MRDLs are enforceable in the same manner as are MCLs. (See  
 851 Section 611.313 and Section 611.383.)  
 852

853 "Maximum residual disinfectant level goal" or "MRDLG" means the maximum  
 854 level of a disinfectant added for water treatment at which no known or anticipated  
 855 adverse effect on the health of persons would occur, and which allows an  
 856 adequate margin of safety. MRDLGs are nonenforceable health goals and do not  
 857 reflect the benefit of the addition of the chemical for control of waterborne  
 858 microbial contaminants.  
 859

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

864  
865 "Membrane filtration" means a pressure or vacuum driven separation process in  
866 which particulate matter larger than one micrometer is rejected by an engineered  
867 barrier, primarily through a size exclusion mechanism, and which has a  
868 measurable removal efficiency of a target organism that can be verified through  
869 the application of a direct integrity test. This definition includes the common  
870 membrane technologies of microfiltration, ultrafiltration, nanofiltration, and  
871 reverse osmosis.

872  
873 "MFL" means millions of fibers per liter larger than 10 micrometers.  
874 BOARD NOTE: Derived from 40 CFR 141.23(a)(4)(i) (2016).

875  
876 "mg" means milligrams (1/1000 of a gram).

877  
878 "mg/ℓ " means milligrams per liter.

879  
880 "Mixed system" means a PWS that uses both groundwater and surface water  
881 sources.  
882 BOARD NOTE: Derived from 40 CFR 141.23(b)(2) and 141.24(f)(2) note  
883 (2016).

884  
885 "MUG" means 4-methyl-umbelliferyl-beta-d-glucuronide.

886  
887 "Near the first service connection" means at one of the 20 percent of all service  
888 connections in the entire system that are nearest the public water system (PWS)  
889 treatment facility, as measured by water transport time within the distribution  
890 system.

891  
892 "nm" means nanometer (1/1,000,000,000 of a meter).

893  
894 "Non-community water system" or "NCWS" or "non-CWS" means a public water  
895 system (PWS) that is not a community water system (CWS). A non-community  
896 water system is either a "transient non-community water system (TWS)" or a  
897 "non-transient non-community water system (NTNCWS)".

898  
899 "Non-transient, non-community water system" or "non-transient, non-CWS" or  
900 "NTNCWS" means a public water system (PWS) that is not a community water  
901 system (CWS) and that regularly serves at least 25 of the same persons over six  
902 months per year.

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

"NTU" means "nephelometric turbidity units".

"Old MCL" means one of the inorganic maximum contaminant levels (MCLs), codified at Section 611.300, or organic MCLs, codified at Section 611.310, including any marked as "additional State requirements".

BOARD NOTE: Old MCLs are those derived prior to the implementation of the USEPA "Phase II" regulations. The Section 611.640 definition of this term, which applies only to Subpart O, differs from this definition in that the definition does not include the Section 611.300 inorganic MCLs.

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

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

"Performance evaluation sample" or "PE sample" means a reference sample provided to a laboratory for the purpose of demonstrating that the laboratory can successfully analyze the sample within limits of performance specified by the Agency; or, for bacteriological laboratories, Public Health; or, for radiological laboratories, the Illinois Department of Nuclear Safety. The true value of the concentration of the reference material is unknown to the laboratory at the time of the analysis.

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

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

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

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

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

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

948  
949 "Plant intake" means the works or structures at the head of a conduit through  
950 which water is diverted from a source (e.g., a river or lake) into the treatment  
951 plant.

952  
953 "Point of disinfectant application" is the point at which the disinfectant is applied  
954 and downstream of which water is not subject to recontamination by surface water  
955 runoff.

956  
957 "Point-of-entry treatment device" or "POE" is a treatment device applied to the  
958 drinking water entering a house or building for the purpose of reducing  
959 contaminants in the drinking water distributed throughout the house or building.

960  
961 "Point-of-use treatment device" or "POU" is a treatment device applied to a single  
962 tap used for the purpose of reducing contaminants in drinking water at that one  
963 tap.

964  
965 "Presedimentation" means a preliminary treatment process used to remove gravel,  
966 sand, and other particulate material from the source water through settling before  
967 the water enters the primary clarification and filtration processes in a treatment  
968 plant.

969  
970 "Public Health" or "DPH" means the Illinois Department of Public Health.  
971 BOARD NOTE: See the definition of "Agency" in this Section.

972  
973 "Public water system" or "PWS" means a system for the provision to the public of  
974 water for human consumption through pipes or other constructed conveyances, if  
975 such system has at least 15 service connections or regularly serves an average of  
976 at least 25 individuals daily at least 60 days out of the year. A PWS is either a  
977 community water system (CWS) or a non-community water system (non-CWS).  
978 A PWS does not include any facility defined as "special irrigation district". Such  
979 term includes the following:

980  
981 Any collection, treatment, storage, and distribution facilities under control  
982 of the operator of such system and used primarily in connection with such  
983 system; and

984  
985 Any collection or pretreatment storage facilities not under such control  
986 that are used primarily in connection with such system.

987 BOARD NOTE: Where used in Subpart F, "public water supply" means the same  
988 as "public water system".

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"Radioactive contaminants" refers to that group of contaminants designated "radioactive contaminants" in USEPA regulatory discussions and guidance documents. "Radioactive contaminants" include tritium, strontium-89, strontium-90, iodine-131, cesium-134, gross beta emitters, and other nuclides.  
 BOARD NOTE: Derived from 40 CFR 141.25(c) Table B (2016). These radioactive contaminants must be reported in Consumer Confidence Reports under Subpart U when they are detected above the levels indicated in Section 611.720(c)(3).

"Reliably and consistently" below a specified level for a contaminant means an Agency determination based on analytical results following the initial detection of a contaminant to determine the qualitative condition of water from an individual sampling point or source. The Agency must base this determination on the consistency of analytical results, the degree below the MCL, the susceptibility of source water to variation, and other vulnerability factors pertinent to the contaminant detected that may influence the quality of water.  
 BOARD NOTE: Derived from 40 CFR 141.23(b)(9), 141.24(f)(11)(ii), and 141.24(f)(11)(iii) (2016).

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

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

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

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

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

"Sanitary defect" means a defect that could provide a pathway of entry for microbial contamination into the distribution system or which is indicative of a failure or imminent failure in a barrier to microbial contamination that is already in place.

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"Sanitary survey" means an onsite review of the delineated WHPAs (identifying sources of contamination within the WHPAs and evaluations or the hydrogeologic sensitivity of the delineated WHPAs conducted under source water assessments or utilizing other relevant information where available), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system (PWS) to evaluate the adequacy of the system, its sources, and operations for the production and distribution of safe drinking water.

BOARD NOTE: Derived from 40 CFR 141.2 and 40 CFR 142.16(o)(2) (2016).

"Seasonal system" means a non-CWS that is not operated as a PWS on a year-round basis and which starts up and shuts down at the beginning and end of each operating season.

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

"SEP" means special exception permit issued under 35 Ill. Adm. Code 602.200(~~Section 611.110~~).

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

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

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

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

BOARD NOTE: See sections 1401(4)(B)(i)(II) and (4)(B)(i)(III) of SDWA (42 USC 300f(4)(B)(i)(II) and (4)(B)(i)(III) (2015)).

"Significant deficiency" means a deficiency identified by the Agency in a groundwater system pursuant to Section 611.803. A significant deficiency might include, but is not limited to, a defect in system design, operation, or maintenance

1075 or a failure or malfunction of the sources, treatment, storage, or distribution  
1076 system that the Agency determines to be causing or have potential for causing the  
1077 introduction of contamination into the water delivered to consumers.  
1078 BOARD NOTE: Derived from 40 CFR 142.16(o)(2)(iv) (2016). The Agency  
1079 must submit to USEPA a definition and description of at least one significant  
1080 deficiency in each of the eight sanitary survey elements listed in Section  
1081 611.801(c) as part of the federal primacy requirements. The Board added the  
1082 general description of what a significant deficiency might include in non-limiting  
1083 terms, in order to provide this important definition within the body of the Illinois  
1084 rules. No Agency submission to USEPA can provide definition within the  
1085 context of Board regulations.  
1086

1087 "Slow sand filtration" means a process involving passage of raw water through a  
1088 bed of sand at low velocity (generally less than 0.4 meters per hour (m/h))  
1089 resulting in substantial particulate removal by physical and biological  
1090 mechanisms.  
1091

1092 "SOC" or "Synthetic organic chemical contaminant" refers to that group of  
1093 contaminants designated as "SOCs", or "synthetic organic chemicals" or  
1094 "synthetic organic contaminants", in USEPA regulatory discussions and guidance  
1095 documents. "SOCs" include alachlor, aldicarb, aldicarb sulfone, aldicarb  
1096 sulfoxide, atrazine, benzo(a)pyrene, carbofuran, chlordane, dalapon,  
1097 dibromoethylene (ethylene dibromide or EDB), dibromochloropropane (DBCP),  
1098 di(2-ethylhexyl)adipate, di(2-ethylhexyl)phthalate, dinoseb, diquat, endothall,  
1099 endrin, glyphosate, heptachlor, heptachlor epoxide, hexachlorobenzene,  
1100 hexachlorocyclopentadiene, lindane, methoxychlor, oxamyl, pentachlorophenol,  
1101 picloram, simazine, toxaphene, polychlorinated biphenyls (PCBs), 2,4-D, 2,3,7,8-  
1102 TCDD, and 2,4,5-TP.

1103 BOARD NOTE: See the Board note appended to Section 611.311 for  
1104 information relating to implementation of requirements relating to aldicarb,  
1105 aldicarb sulfone, and aldicarb sulfoxide.  
1106

1107 "Source" means a well, reservoir, or other source of raw water.  
1108

1109 "Special irrigation district" means an irrigation district in existence prior to May  
1110 18, 1994 that provides primarily agricultural service through a piped water system  
1111 with only incidental residential use or similar use, where the system or the  
1112 residential users or similar users of the system comply with either of the following  
1113 exclusion conditions:  
1114

1115 The Agency determines by issuing a SEP that alternative water is  
1116 provided for residential use or similar uses for drinking or cooking to  
1117 achieve the equivalent level of public health protection provided by the

1118 applicable national primary drinking water regulations; or

1119

1120 The Agency determines by issuing a SEP that the water provided for  
1121 residential use or similar uses for drinking, cooking, and bathing is  
1122 centrally treated or treated at the point of entry by the provider, a pass-  
1123 through entity, or the user to achieve the equivalent level of protection  
1124 provided by the applicable national primary drinking water regulations.

1125 BOARD NOTE: Derived from 40 CFR 141.2 (2016) and sections  
1126 1401(4)(B)(i)(II) and (4)(B)(i)(III) of SDWA (42 USC 300f(4)(B)(i)(II) and  
1127 (4)(B)(i)(III) (2015)).

1128

1129 "Standard monitoring" means the monitoring, performed by the supplier pursuant  
1130 to Section 611.921(a) and (b), at various specified locations in a distribution  
1131 system including near entry points, at points that represent the average residence  
1132 time in the distribution system, and at points in the distribution system that are  
1133 representative of high TTHM and HAA5 concentrations throughout the  
1134 distribution system.

1135 BOARD NOTE: Derived from 40 CFR 141.601(a) and (b) (2016).

1136

1137 "Standard sample" means the aliquot of finished drinking water that is examined  
1138 for the presence of coliform bacteria.

1139

1140 "Subpart B system" means a public water system that uses surface water or  
1141 groundwater under the direct influence of surface water as a source and which is  
1142 subject to the requirements of Subpart B and the analytical and monitoring  
1143 requirements of Sections 611.531, 611.532, 611.533, Appendix B, and Appendix  
1144 C.

1145

1146 "Subpart I compliance monitoring" means monitoring required to demonstrate  
1147 compliance with disinfectant residuals, disinfection byproducts, and disinfection  
1148 byproduct precursors requirements of Subpart I.

1149

1150 "Subpart I system" means a public water system that uses surface water or  
1151 groundwater as a source and which is subject to the disinfectant residuals,  
1152 disinfection byproducts, and disinfection byproduct precursors requirements of  
1153 Subpart I.

1154

1155 "Subpart Y compliance monitoring" means monitoring required to demonstrate  
1156 compliance with Stage 2 disinfection byproducts requirements of Subpart Y.

1157

1158 "Supplier of water" or "supplier" means any person who owns or operates a public  
1159 water system (PWS). This term includes the "official custodian".

1160

1161 "Surface water" means all water that is open to the atmosphere and subject to  
1162 surface runoff.

1163  
1164 "SUVA" means specific ultraviolet absorption at 254 nanometers (nm), which is  
1165 an indicator of the humic content of water. It is a calculated parameter obtained  
1166 by dividing a sample's ultraviolet absorption at a wavelength of 254 nm ( $UV_{254}$ )  
1167 (in  $m^{-1}$ ) by its concentration of dissolved organic carbon (in  $mg/\ell$ ).

1168  
1169 "SWS" means "surface water system", a public water supply (PWS) that uses only  
1170 surface water sources, including "groundwater under the direct influence of  
1171 surface water".

1172 BOARD NOTE: Derived from 40 CFR 141.23(b)(2) and 141.24(f)(2) note  
1173 (2016).

1174  
1175 "System-specific study plan" means the plan, submitted by the supplier to the  
1176 Agency pursuant to Section 611.922, for studying the occurrence of TTHM and  
1177 HAA5 in a supplier's distribution system based on either monitoring results or  
1178 modelling of the system.

1179 BOARD NOTE: Derived from 40 CFR 141.602 (2016).

1180  
1181 "System with a single service connection" means a system that supplies drinking  
1182 water to consumers via a single service line.

1183  
1184 "Too numerous to count" means that the total number of bacterial colonies  
1185 exceeds 200 on a 47-mm diameter membrane filter used for coliform detection.

1186  
1187 "Total organic carbon" or "TOC" means total organic carbon (in  $mg/\ell$ ) measured  
1188 using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of  
1189 these oxidants that convert organic carbon to carbon dioxide, rounded to two  
1190 significant figures.

1191  
1192 "Total trihalomethanes" or "TTHM" means the sum of the concentration of  
1193 trihalomethanes (THMs), in milligrams per liter ( $mg/\ell$ ), rounded to two  
1194 significant figures.

1195 BOARD NOTE: See the definition of "trihalomethanes" for a listing of the four  
1196 compounds that USEPA considers TTHMs to comprise.

1197  
1198 "Transient, non-community water system" or "transient non-CWS" means a non-  
1199 CWS that does not regularly serve at least 25 of the same persons over six months  
1200 of the year.

1201 BOARD NOTE: The federal regulations apply to all "public water systems",  
1202 which are defined as all systems that have at least 15 service connections or which  
1203 regularly serve water to at least 25 persons. (See 42 USC 300f(4).) The Act

1204 mandates that the Board and the Agency regulate "public water supplies", which  
1205 it defines as having at least 15 service connections or regularly serving 25 persons  
1206 daily at least 60 days per year. (See Section 3.365 of the Act.) The Department  
1207 of Public Health regulates transient, non-community water systems.  
1208

1209 "Treatment" means any process that changes the physical, chemical,  
1210 microbiological, or radiological properties of water, is under the control of the  
1211 supplier, and is not a point-of-use treatment device or a point-of-entry treatment  
1212 device as defined in this Section. Treatment includes, but is not limited to,  
1213 aeration, coagulation, sedimentation, filtration, activated carbon treatment,  
1214 disinfection, and fluoridation.  
1215

1216 "Trihalomethane" or "THM" means one of the family of organic compounds,  
1217 named as derivatives of methane, in which three of the four hydrogen atoms in  
1218 methane are each substituted by a halogen atom in the molecular structure. The  
1219 THMs are the following compounds:  
1220

1221 Trichloromethane (chloroform),  
1222 Dibromochloromethane,  
1223 Bromodichloromethane, and  
1224 Tribromomethane (bromoform)  
1225

1226 "Two-stage lime softening" means a process in which chemical addition and  
1227 hardness precipitation occur in each of two distinct unit clarification processes in  
1228 series prior to filtration.  
1229

1230 "µg" means micrograms (1/1,000,000 of a gram).  
1231

1232 "USEPA" means the U.S. Environmental Protection Agency.  
1233

1234 "Uncovered finished water storage facility" is a tank, reservoir, or other facility  
1235 that is used to store water which will undergo no further treatment to reduce  
1236 microbial pathogens except residual disinfection and which is directly open to the  
1237 atmosphere.  
1238

1239 "Very small system waiver" means the conditional waiver from the requirements  
1240 of Subpart W applicable to a supplier that serves fewer than 500 persons and  
1241 which has taken TTHM and HAA5 samples pursuant to Subpart I.  
1242 BOARD NOTE: Derived from 40 CFR 141.604 (2016).  
1243

1244 "Virus" means a virus of fecal origin that is infectious to humans by waterborne  
1245 transmission.  
1246

1247 "VOC" or "volatile organic chemical contaminant" refers to that group of  
 1248 contaminants designated as "VOCs", "volatile organic chemicals", or "volatile  
 1249 organic contaminants", in USEPA regulatory discussions and guidance  
 1250 documents. "VOCs" include benzene, dichloromethane, tetrachloromethane  
 1251 (carbon tetrachloride), trichloroethylene, vinyl chloride, 1,1,1-trichloroethane  
 1252 (methyl chloroform), 1,1-dichloroethylene, 1,2-dichloroethane, cis-1,2-  
 1253 dichloroethylene, ethylbenzene, monochlorobenzene, o-dichlorobenzene, styrene,  
 1254 1,2,4-trichlorobenzene, 1,1,2-trichloroethane, tetrachloroethylene, toluene, trans-  
 1255 1,2-dichloroethylene, xylene, and 1,2-dichloropropane.

1256  
 1257 "Waterborne disease outbreak" means the significant occurrence of acute  
 1258 infectious illness, epidemiologically associated with the ingestion of water from a  
 1259 public water system (PWS) that is deficient in treatment, as determined by the  
 1260 appropriate local or State agency.

1261  
 1262 "Wellhead protection area" or "WHPA" means the surface and subsurface  
 1263 recharge area surrounding a community water supply well or well field,  
 1264 delineated outside of any applicable setback zones (pursuant to Section  
 1265 17.1 of the Act) pursuant to Illinois' Wellhead Protection Program,  
 1266 through which contaminants are reasonably likely to move toward such  
 1267 well or well field.

1268 BOARD NOTE: The Agency uses two guidance documents for  
 1269 identification of WHPAs:

1270  
 1271 "Guidance Document for Groundwater Protection Needs Assessments",  
 1272 Illinois Environmental Protection Agency, Illinois State Water Survey,  
 1273 and Illinois State Geologic Survey joint report, January 1995; and

1274  
 1275 "The Illinois Wellhead Protection Program Pursuant to Section 1428 of  
 1276 the Federal Safe Drinking Water Act", Illinois Environmental Protection  
 1277 Agency, No. 22480, October 1992.

1278  
 1279 "Wellhead protection program" means the wellhead protection program for the  
 1280 State of Illinois, approved by USEPA under section 1428 of the SDWA, 42 USC  
 1281 300h-7.

1282 BOARD NOTE: Derived from 40 CFR 141.71(b) (2013). The wellhead  
 1283 protection program includes the "groundwater protection needs assessment" under  
 1284 Section 17.1 of the Act and 35 Ill. Adm. Code 615-617.

1285  
 1286 "Wholesale system" means a public water system that treats source water as  
 1287 necessary to produce finished water, which then delivers some or all of that  
 1288 finished water to another public water system. Delivery by a wholesale system

1289 may be through a direct connection or through the distribution system of one or  
1290 more consecutive systems.

1291 BOARD NOTE: Derived from 40 CFR 141.2 (2016).

1292

1293 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
1294

1295 **Section 611.107 Agency Inspection of PWS Facilities (Repealed)**

1296

1297 a) ~~The Agency shall have authority to conduct a program of continuing surveillance~~  
1298 ~~and of regular or periodic inspection of public water supplies. (Section 4(c) of the~~  
1299 ~~Act [415 ILCS 5/4(e)].)~~

1300

1301 b) ~~In accordance with constitutional limitations, the Agency shall have authority to~~  
1302 ~~enter at all reasonable times upon any private or public property for the purpose~~  
1303 ~~of inspecting and investigating to ascertain possible violations of the Act of~~  
1304 ~~regulations thereunder, or of permits or conditions thereof. (Section 4(d) of the~~  
1305 ~~Act [415 ILCS 5/4(d)].)~~

1306

1307 BOARD NOTE: In setting forth this provision to make clear the Agency's  
1308 statutory authority to conduct inspections, the Board does not intend to either  
1309 broaden or circumscribe that authority or to modify it in any way. Rather, the  
1310 Board sets this provision forth to make that authority clear for the benefit of the  
1311 regulated community.

1312

1313 (Source: Repealed at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
1314

1315 **Section 611.110 Special Exception Permits**

1316

1317 a) ~~Unless otherwise specified, each Agency determination in this Part is to be made~~  
1318 ~~by way of a written permit pursuant to Section 39(a) of the Act. Such permit is~~  
1319 ~~titled a "special exception" permit ("SEP").~~

1320

1321 b) ~~No person may cause or allow the violation of any condition of a SEP.~~

1322

1323 e) ~~The supplier may appeal the denial of or the conditions of a SEP to the Board~~  
1324 ~~pursuant to Section 40 of the Act.~~

1325

1326 d) ~~A SEP may be initiated in either of the following ways:~~

1327

1328 1) ~~By an application filed by the supplier; or~~

1329

1330 2) ~~By the Agency, when authorized by Board regulations.~~

1331

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

a)e) The Agency must evaluate a request for a SEP from the monitoring requirements of Section 611.601, 611.602, or 611.603 (IOCs, excluding the Section 611.603 monitoring frequency requirements for cyanide); Section 611.646(e) and (f) (Phase I, Phase II, and Phase V VOCs); Section 611.646(d), only as to initial monitoring for 1,2,4-trichlorobenzene; or Section 611.648(d) (for Phase II, Phase IIB, and Phase V SOCs) on the basis of knowledge of previous use (including transport, storage, or disposal) of the contaminant in the watershed or zone of influence of the system, as determined ~~underpursuant to~~ 35 Ill. Adm. Code 671.

BOARD NOTE: The Agency must grant a SEP from the Section 611.603 monitoring frequency requirements for cyanide only on the basis of subsection (cg), not on the basis of this subsection (ae).

- 1) If the Agency determines that there was no prior use of the contaminant, it must grant the SEP; or
- 2) If the contaminant was previously used or the previous use was unknown, the Agency must consider the following factors:
  - A) Previous analytical results;
  - B) The proximity of the system to any possible point source of contamination (including spills or leaks at or near a water treatment facility; at manufacturing, distribution, or storage facilities; from hazardous and municipal waste land fills; or from waste handling or treatment facilities) or non-point source of contamination (including the use of pesticides and other land application uses of the contaminant);
  - C) The environmental persistence and transport of the contaminant;
  - D) How well the water source is protected against contamination, including whether it is a SWS or a GWS.
    - i) A GWS must consider well depth, soil type, well casing integrity, and wellhead protection; and

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ii) A SWS must consider watershed protection;

E) For Phase II, Phase IIB, and Phase V SOCs, as follows:

i) Elevated nitrate levels at the water source; and

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

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

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

~~c)§~~ The Agency must grant a supplier a SEP that allows it to discontinue monitoring for cyanide if it determines that the supplier's water is not vulnerable due to a lack of any industrial source of cyanide.

BOARD NOTE: Subsection (~~ae~~) is derived from 40 CFR 141.24(f)(8) and (h)(6) (2016). Subsection (~~b¶~~) is derived from 40 CFR 141.82(d)(2), and 141.83(b)(2) (2016). Subsection (~~c§~~) is derived from 40 CFR 141.23(c)(2) (2016). USEPA has reserved the discretion, at 40 CFR 142.18 (2016), to review and nullify Agency determinations of the types made ~~under~~pursuant to Sections 611.602, 611.603, 611.646, and 611.648 and the discretion, at 40 CFR 141.82(i), 141.83(b)(7), and 142.19 (2016), to establish federal standards for any supplier, superseding any Agency determination made ~~under~~pursuant to Sections 611.352(d), 611.352(f), 611.353(b)(2), and 611.353(b)(4).

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

**Section 611.115 Source Water Quantity (Repealed)**

~~a) Surface Supply. The quantity of surface water at the source must be adequate to supply the total water demand of that CWS, as well as a reasonable surplus for anticipated growth.~~

~~b) Groundwater supply. The quantity of groundwater from the source of supply must be adequate to supply the total water demand of that CWS, as well as a reasonable surplus for anticipated growth, without excessive depletion of the~~

1418 aquifer.

1419

1420 e) ~~In determining the adequacy of supply for compliance with this Section, each~~  
1421 ~~individual CWS must be considered in relation to the percentage of the total~~  
1422 ~~requirements it is expected to provide.~~

1423

1424 BOARD NOTE: ~~This is an additional State requirement.~~

1425

1426 (Source: Repealed at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

1427

1428 **Section 611.121 Maximum Contaminant Levels and Finished Water Quality**

1429

1430 a) Maximum Contaminant Levels: No person may cause or allow water that is  
1431 delivered to any user to exceed the MCL for any contaminant.

1432

1433 b) ~~Finished Water Quality.~~

1434

1435 1) ~~The finished water delivered to any user at any point in the distribution~~  
1436 ~~system must contain no impurity at a concentration that may be hazardous~~  
1437 ~~to the health of the consumer or that would be excessively corrosive or~~  
1438 ~~otherwise deleterious to the water supply. Drinking water delivered to any~~  
1439 ~~user at any point in the distribution system must contain no impurity that~~  
1440 ~~could reasonably be expected to cause offense to the sense of sight, taste,~~  
1441 ~~or smell.~~

1442

1443 2) ~~No substance used in treatment should remain in the water at a~~  
1444 ~~concentration greater than that required by good practice. A substance~~  
1445 ~~that may have a deleterious physiological effect, or one for which~~  
1446 ~~physiological effects are not known, must not be used in a manner that~~  
1447 ~~would permit it to reach the consumer.~~

1448

1449 b)e) An MCL for a particular contaminant applies in lieu of any finished water quality  
1450 of narrative standard.

1451

1452 BOARD NOTE: Derived from the definition of "MCL" in 40 CFR 141.2 (2002) and  
1453 former 35 Ill. Adm. Code 604.201, repealed in R88-26, at 14 Ill. Reg. 16435, effective  
1454 September 20, 1990.

1455

1456 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

1457

1458 **Section 611.161 Case-by-Case Reduced Subpart Y Monitoring for Wholesale and**  
1459 **Consecutive Systems**

1460

1461 The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, reduce the monitoring  
1462 requirements of Subpart Y ~~of this Part~~ as they apply to a wholesale system or a consecutive  
1463 system, otherwise than by use of the provisions of Section 611.500 subject to the following  
1464 limitations:

- 1465
- 1466 a) The Agency must consider the following system-specific knowledge in making its  
1467 determination:
- 1468
- 1469 1) The amount and percentage of finished water provided;
- 1470
- 1471 2) Whether finished water is provided seasonally, intermittently, or full-time;
- 1472
- 1473 3) Improved DBP occurrence information based on IDSE results;
- 1474
- 1475 4) Significant changes in the supplier's raw water quality, treatment, or  
1476 distribution system after completion of the IDSE; and
- 1477
- 1478 5) Such other considerations as would bear on the occurrence of DBP in the  
1479 distribution system and the ability of the reduced monitoring to detect  
1480 DBP in the supplier's distribution system.
- 1481
- 1482 b) Any reduced monitoring allowed ~~under~~ pursuant to this Section must require a  
1483 minimum of one compliance monitoring location for each supplier.
- 1484
- 1485 c) The supplier must report any changes in its raw water quality, treatment, or  
1486 distribution system or any other factors that come to its attention after the  
1487 issuance of a SEP that allows reduced monitoring ~~under~~ pursuant to this Section  
1488 that would bear on the occurrence of DBP in the distribution system and the  
1489 ability of the reduced monitoring to detect DBP in the supplier's distribution  
1490 system.
- 1491
- 1492 d) The Agency may allow the reduced monitoring provided by this Section only  
1493 after USEPA has approved the State program revisions involving Subparts W and  
1494 Y ~~of this Part~~.

1495

1496 BOARD NOTE: Derived from 40 CFR 142.16(m) and the preamble discussion at 71 Fed. Reg.  
1497 388, 430-31 (Jan. 4, 2006). USEPA stated that it will allow the State to elect to authorize  
1498 reduced monitoring according to a procedure devised by the State. The Board borrowed from  
1499 the special primacy requirements applicable to the Subpart Y provisions and the accompanying  
1500 preamble discussion to derive the procedure set forth in this Section.

1501

1502 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

1503

SUBPART B: FILTRATION AND DISINFECTION

Section 611.202 Procedures for Agency Determinations

The determinations in this Subpart B are by a SEP issued pursuant to Section 611.110.

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

Section 611.231 Source Water Quality Conditions

The Agency must consider the following source water quality conditions in determining whether to require filtration underpursuant to Section 611.211:

- a) The fecal coliform concentration must be equal to or less than 20/100 ml, or the total coliform concentration must be equal to or less than 100/100 ml (measured as specified in Section 611.531(a) or (b) and 611.532(a)) in representative samples of the source water immediately prior to the first or only point of disinfectant application in at least 90 percent of the measurements made for the 6 previous months that the system served water to the public on an ongoing basis. If a system measures both fecal and total coliforms, the fecal coliform criterion, but not the total coliform criterion, in this subsection, must be met.
- b) The turbidity level cannot exceed 5 NTU (measured as specified in Section 611.531(a) and 611.532(b) in representative samples of the source water immediately prior to the first or only point of disinfectant application unless the following are true:
  - 1) The Agency determines that any such event was caused by circumstances that were unusual and unpredictable; and
  - 2) As a result of any such event there have not been more than two events in the past 12 months the system served water to the public, or more than five events in the past 120 months the system served water to the public, in which the turbidity level exceeded 5 NTU. An "event" is a series of consecutive days during which at least one turbidity measurement each day exceeds 5 NTU.

BOARD NOTE: Derived from 40 CFR 141.71(a) (2003).

- e) ~~Each CWS must take its raw water from the best available source that is economically reasonable and technically possible.~~

~~BOARD NOTE: This is an additional State requirement.~~

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c)d) Use of recycled sewage treatment plant effluent by a CWS on a routine basis must not be permitted.

BOARD NOTE: This is an additional State requirement.

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

**Section 611.240 Disinfection**

- a) A supplier that uses a surface water source and does not provide filtration treatment must provide the disinfection treatment specified in Section 611.241.
- b) A supplier that uses a groundwater source under the influence of surface water and does not provide filtration treatment must provide disinfection treatment specified in Section 611.241 beginning 18 months after the Agency determines that the groundwater source is under the influence of surface water, unless the Agency has determined that filtration is required.
- c) If the Agency determines that filtration is required, the Agency may, by a SEP issued pursuant to Section 611.110, require the supplier to comply with interim disinfection requirements before filtration is installed.
- d) A system that uses a surface water source that provides filtration treatment must provide the disinfection treatment specified in Section 611.242 when filtration is installed.
- e) A system that uses a groundwater source under the direct influence of surface water and provides filtration treatment must have provided disinfection treatment as specified in Section 611.242 beginning when filtration is installed.
- f) Failure to meet any requirement of the following Sections after the applicable date specified in this Section is a treatment technique violation.

BOARD NOTE: Derived from 40 CFR 141.72 preamble (2016).

~~g) CWS suppliers using groundwater that is not under the direct influence of surface water must chlorinate the water before it enters the distribution system, unless the Agency has granted the supplier an exemption pursuant to Section 17(b) of the Act.~~

~~h) All GWS supplies that are required to chlorinate pursuant to this Section must maintain residuals of free or combined chlorine at levels sufficient to~~

1590 ~~provide adequate protection of human health and the ability of the~~  
1591 ~~distribution system to continue to deliver potable water that complies with~~  
1592 ~~the requirements of this Part.~~

1593  
1594 2) ~~The Agency may establish procedures and levels for chlorination~~  
1595 ~~applicable to a GWS using groundwater that is not under the direct~~  
1596 ~~influence of surface water by a SEP pursuant to Section 610.110.~~

1597  
1598 3) ~~Those supplies having hand pumped wells and no distribution system are~~  
1599 ~~exempted from the requirements of this Section.~~

1600  
1601 ~~BOARD NOTE: This is an additional State requirement originally codified at 35 Ill.~~  
1602 ~~Adm. Code 604.401.~~

1603  
1604 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

1605  
1606 **Section 611.241 Unfiltered PWSs**

1607  
1608 Each supplier that does not provide filtration treatment must provide disinfection treatment as  
1609 follows:

1610  
1611 a) The disinfection treatment must be sufficient to ensure at least 99.9 percent (3-  
1612 log) inactivation of Giardia lamblia cysts and 99.99 percent (4-log) inactivation of  
1613 viruses, every day the system serves water to the public, except any one day each  
1614 month. Each day a system serves water to the public, the supplier must calculate  
1615 the CT<sub>99.9</sub> value from the system's treatment parameters using the procedure  
1616 specified in Section 611.532(c) and determine whether this value is sufficient to  
1617 achieve the specified inactivation rates for Giardia lamblia cysts and viruses.

1618  
1619 1) If a system uses a disinfectant other than chlorine, the system may  
1620 demonstrate to the Agency, through the use of an Agency-approved  
1621 protocol for on-site disinfection challenge studies or other information,  
1622 that CT<sub>99.9</sub> values other than those specified in Appendix B of this Part,  
1623 Tables 2.1 and 3.1 or other operational parameters are adequate to  
1624 demonstrate that the system is achieving minimum inactivation rates  
1625 required by this subsection.

1626  
1627 2) The demonstration must be made by way of a SEP application pursuant to  
1628 Section 611.110.

1629  
1630 b) The disinfection system must have either of the following:

1631 1) Redundant components, including an auxiliary power supply with  
1632

1633 automatic start-up and alarm to ensure that disinfectant application is  
 1634 maintained continuously while water is being delivered to the distribution  
 1635 system; or  
 1636

1637 2) Automatic shut-off of delivery of water to the distribution system  
 1638 whenever there is less than 0.2 mg/l of RDC in the water. If the Agency  
 1639 determines, by a SEP issued pursuant to ~~Section 611.110~~, that automatic  
 1640 shut-off would cause unreasonable risk to health or interfere with fire  
 1641 protection, the system must comply with subsection (b)(1).  
 1642

1643 c) The RDC in the water entering the distribution system, measured as specified in  
 1644 Sections 611.531(b) and 611.532(e), cannot be less than 0.2 mg/l for more than 4  
 1645 hours.  
 1646

1647 d) RDC in the distribution system.  
 1648

1649 1) The RDC in the distribution system, measured as total chlorine, combined  
 1650 chlorine or chlorine dioxide, as specified in Sections 611.531(b) and  
 1651 611.532(f), cannot be undetectable in more than 5 percent of the samples  
 1652 each month for any two consecutive months that the system serves water  
 1653 to the public. Water in the distribution system with HPC less than or  
 1654 equal to 500/ml, measured as specified in Section 611.531(a), is deemed to  
 1655 have a detectable RDC for purposes of determining compliance with this  
 1656 requirement. Thus, the value "V" in the following formula cannot exceed  
 1657 5 percent in one month, for any two consecutive months.  
 1658

$$V = \frac{100 (c + d + e)}{(a + b)}$$

1659 where the terms mean the following:  
 1660

1661 a = Number of instances where the RDC is measured;  
 1662

1663 b = Number of instances where the RDC is not measured, but HPC  
 1664 is measured;  
 1665

1666 c = Number of instances where the RDC is measured but not  
 1667 detected and no HPC is measured;  
 1668

1669 d = Number of instances where the RDC is measured but not  
 1670 detected, and where the HPC is greater than 500/ml; and  
 1671

1672 e = Number of instances where the RDC is not measured and HPC  
 1673

1674 is greater than 500/ml.

1675

1676 2) Subsection (d)(1) does not apply if the Agency determines, ~~under~~ pursuant  
 1677 to Section 611.213, that a supplier has no means for having a sample  
 1678 analyzed for HPC by a certified laboratory under the requisite time and  
 1679 temperature conditions specified by Section 611.531(a) and that the  
 1680 supplier is providing adequate disinfection in the distribution system.

1681

1682 BOARD NOTE: Derived from 40 CFR 141.72(a) (2003).

1683

1684 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

1685

1686 **Section 611.250 Filtration**

1687

1688 A supplier that uses a surface water source or a groundwater source under the direct influence of  
 1689 surface water, and does not meet all of the criteria in Sections 611.231 and 611.232 for avoiding  
 1690 filtration, must provide treatment consisting of both disinfection, as specified in Section 611.242,  
 1691 and filtration treatment that complies with the requirements of subsection (a), (b), (c), (d), or (e)  
 1692 within 18 months after the failure to meet any one of the criteria for avoiding filtration in  
 1693 Sections 611.231 and 611.232. Failure to meet any requirement after the date specified in this  
 1694 introductory paragraph is a treatment technique violation.

1695

1696 a) Conventional filtration treatment or direct filtration.

1697

1698 1) For a system using conventional filtration or direct filtration, the turbidity  
 1699 level of representative samples of the system's filtered water must be less  
 1700 than or equal to 0.5 NTU in at least 95 percent of the measurements taken  
 1701 each month, measured as specified in Section 611.531(a) and 611.533(a),  
 1702 except that if the Agency determines, by a SEP-issued pursuant to Section  
 1703 ~~611.110~~, that the system is capable of achieving at least 99.9 percent  
 1704 removal or inactivation of Giardia lamblia cysts at some turbidity level  
 1705 higher than 0.5 NTU in at least 95 percent of the measurements taken each  
 1706 month, the Agency must substitute this higher turbidity limit for that  
 1707 system. However, in no case may the Agency approve a turbidity limit that  
 1708 allows more than 1 NTU in more than five percent of the samples taken  
 1709 each month, measured as specified in Section 611.531(a) and 611.533(a).

1710

1711 2) The turbidity level of representative samples of a system's filtered water  
 1712 must at no time exceed 5 NTU.

1713

1714 3) A supplier serving at least 10,000 or more persons must meet the turbidity  
 1715 requirements of Section 611.743(a).

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- 4) A supplier that serves fewer than 10,000 people must meet the turbidity requirements in Section 611.955.
  
- b) Slow sand filtration.
  - 1) For a system using slow sand filtration, the turbidity level of representative samples of the system's filtered water must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month, measured as specified in Section 611.531(a) and 611.533(a), except that if the Agency determines, by a SEP issued pursuant to Section ~~611.110~~, that there is no significant interference with disinfection at a higher level, the Agency must substitute the higher turbidity limit for that system.
  - 2) The turbidity level of representative samples of a system's filtered water must at no time exceed 5 NTU, measured as specified in Section 611.531(a) and 611.533(a).
  
- c) Diatomaceous earth filtration.
  - 1) For a system using diatomaceous earth filtration, the turbidity level of representative samples of the system's filtered water must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month, measured as specified in Section 611.531(a) and 611.533(a).
  - 2) The turbidity level of representative samples of a system's filtered water must at no time exceed 5 NTU, measured as specified in Section 611.531(a) and 611.533(a).
  
- d) Other filtration technologies. A supplier may use a filtration technology not listed in subsections (a) through (c) if it demonstrates, by a SEP application pursuant to ~~Section 611.110~~, to the Agency, using pilot plant studies or other means, that the alternative filtration technology, in combination with disinfection treatment that meets the requirements of Section 611.242, consistently achieves 99.9 percent removal or inactivation of Giardia lamblia cysts and 99.99 percent removal or inactivation of viruses. For a supplier that makes this demonstration, the requirements of subsection (b) apply. A supplier serving 10,000 or more persons must meet the requirements for other filtration technologies in Section 611.743(b). A supplier that serves fewer than 10,000 people must meet the requirements for other filtration technologies in Section 611.955.

BOARD NOTE: Derived from 40 CFR 141.73 (2016).

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

**Section 611.261 Unfiltered PWSs: Reporting and Recordkeeping**

A supplier that uses a surface water source and does not provide filtration treatment must report monthly to the Agency the information specified in this Section, unless the Agency has determined that filtration is required, in which case the Agency must, by a SEP-issued pursuant to ~~Section 611.110~~, specify alternative reporting requirements, as appropriate, until filtration is in place. A supplier that uses a groundwater source under the direct influence of surface water and does not provide filtration treatment must report monthly to the Agency the information specified in this Section six months after the Agency determines that the groundwater source is under the direct influence of surface water, unless the Agency has determined that filtration is required, in which case the Agency must, by a SEP-issued pursuant to ~~Section 611.110~~, specify alternative reporting requirements, as appropriate, until filtration is in place.

- a) Source water quality information must be reported to the Agency within ten days after the end of each month the system serves water to the public. Information that must be reported includes the following:
  - 1) The cumulative number of months for which results are reported.
  - 2) The number of fecal or total coliform samples, whichever are analyzed during the month (if a system monitors for both, only fecal coliforms must be reported), the dates of sample collection, and the dates when the turbidity level exceeded 1 NTU.
  - 3) The number of samples during the month that had equal to or fewer than 20/100 ml fecal coliforms or equal to or fewer than 100/100 ml total coliforms, whichever are analyzed.
  - 4) The cumulative number of fecal or total coliform samples, whichever are analyzed, during the previous six months the system served water to the public.
  - 5) The cumulative number of samples that had equal to or fewer than 20/100 ml fecal coliforms or equal to or fewer than 100/100 ml total coliforms, whichever are analyzed, during the previous six months the system served water to the public.
  - 6) The percentage of samples that had equal to or fewer than 20/100 ml fecal coliforms or equal to or fewer than 100/100 ml total coliforms, whichever are analyzed, during the previous six months the system served water to the public.

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- 7) The maximum turbidity level measured during the month, the dates of occurrence for any measurements that exceeded 5 NTU and the dates the occurrences were reported to the Agency.
  - 8) For the first 12 months of recordkeeping, the dates and cumulative number of events during which the turbidity exceeded 5 NTU, and after one year of recordkeeping for turbidity measurements, the dates and cumulative number of events during which the turbidity exceeded 5 NTU in the previous 12 months the system served water to the public.
  - 9) For the first 120 months of recordkeeping, the dates and cumulative number of events during which the turbidity exceeded 5 NTU, and after ten years of recordkeeping for turbidity measurements, the dates and cumulative number of events during which the turbidity exceeded 5 NTU in the previous 120 months the system served water to the public.
- b) Disinfection information specified in Section 611.532 must be reported to the Agency within ten days after the end of each month the system serves water to the public. Information that must be reported includes the following:
- 1) For each day, the lowest measurement of RDC in mg/ℓ in water entering the distribution system.
  - 2) The date and duration of each period when the RDC in water entering the distribution system fell below 0.2 mg/ℓ and when the Agency was notified of the occurrence.
  - 3) The daily RDCs (in mg/ℓ) and disinfectant contact times (in minutes) used for calculating the CT values.
  - 4) If chlorine is used, the daily measurements of pH of disinfected water following each point of chlorine disinfection.
  - 5) The daily measurements of water temperature in degrees C following each point of disinfection.
  - 6) The daily  $CT_{calc}$  and  $A_i$  values for each disinfectant measurement or sequence and the sum of all  $A_i$  values (B) before or at the first customer.
  - 7) The daily determination of whether disinfection achieves adequate Giardia cyst and virus inactivation, i.e., whether  $A_i$  is at least 1.0 or, where disinfectants other than chlorine are used, other indicator conditions that

1846 the Agency, ~~underpursuant to~~ Section 611.241(a)(1), determines are  
 1847 appropriate, are met.

1848  
 1849 8) The following information on the samples taken in the distribution system  
 1850 in conjunction with total coliform monitoring pursuant to Section 611.240  
 1851 through 611.242:

- 1852
- 1853 A) Number of instances where the RDC is measured;
- 1854
- 1855 B) Number of instances where the RDC is not measured but HPC is
- 1856 measured;
- 1857
- 1858 C) Number of instances where the RDC is measured but not detected
- 1859 and no HPC is measured;
- 1860
- 1861 D) Number of instances where no RDC is detected and where HPC is
- 1862 greater than 500/ml;
- 1863
- 1864 E) Number of instances where the RDC is not measured and HPC is
- 1865 greater than 500/ml;
- 1866
- 1867 F) For the current and previous month the system served water to the
- 1868 public, the value of "V" in the following formula:
- 1869

$$V = \frac{100 (c + d + e)}{(a + b)}$$

1870  
 1871 where the terms mean the following:

- 1872
- a = Value in subsection (b)(8)(A);
- b = Value in subsection (b)(8)(B);
- c = Value in subsection (b)(8)(C);
- d = Value in subsection (b)(8)(D); and
- e = Value in subsection (b)(8)(E).

1873  
 1874 G) The requirements of subsections (b)(8)(A) through (b)(8)(F) do not  
 1875 apply if the Agency determines, ~~underpursuant to~~ Section 611.213,  
 1876 that a system has no means for having a sample analyzed for HPC  
 1877 by a certified laboratory under the requisite time and temperature  
 1878 conditions specified by Section 611.531(a) and that the supplier is  
 1879 providing adequate disinfection in the distribution system.

1880  
 1881 9) A system need not report the data listed in subsections (b)(1) and (b)(3)

through (b)(6), if all data listed in subsections (b)(1) through (b)(8) remain on file at the system, and the Agency determines, by a SEP-issued pursuant to Section 611.110, that the following is true:

A) The system has submitted to the Agency all the information required by subsections (b)(1) through (b)(8) for at least 12 months; and

B) The Agency has determined that the system is not required to provide filtration treatment.

c) By October 10 of each year, each system must provide to the Agency a report that summarizes its compliance with all watershed control program requirements specified in Section 611.232(b).

d) By October 10 of each year, each system must provide to the Agency a report on the on-site inspection conducted during that year ~~underpursuant to~~ Section 611.232(c), unless the on-site inspection was conducted by the Agency. If the inspection was conducted by the Agency, the Agency must provide a copy of its report to the supplier.

e) Reporting health threats.

1) Each system, upon discovering that a waterborne disease outbreak potentially attributable to that water system has occurred, must report that occurrence to the Agency as soon as possible, but no later than by the end of the next business day.

2) If at any time the turbidity exceeds 5 NTU, the system must consult with the Agency as soon as practical, but no later than 24 hours after the exceedance is known, in accordance with the public notification requirements under Section 611.903(b)(3).

3) If at any time the RDC falls below 0.2 mg/l in the water entering the distribution system, the system must notify the Agency as soon as possible, but no later than by the end of the next business day. The system also must notify the Agency by the end of the next business day whether or not the RDC was restored to at least 0.2 mg/l within four hours.

BOARD NOTE: Derived from 40 CFR 141.75(a) (2016).

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

1925 **Section 611.271 Protection during Repair Work (Repealed)**

1926

1927 ~~The supplier must prevent contamination of water at the source or in the CWS during repair,~~  
1928 ~~reconstruction, or alteration.~~

1929

1930 ~~BOARD NOTE: This is an additional State requirement.~~

1931

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

1933

1934 **Section 611.272 Disinfection Following Repair (Repealed)**

1935

1936 a) ~~After any portion of the CWS has been repaired, reconstructed, or altered, the~~  
1937 ~~supplier must disinfect that portion before putting it into operation.~~

1938

1939 b) ~~The disinfection procedure must be approved by a SEP issued pursuant to Section~~  
1940 ~~611.110.~~

1941

~~BOARD NOTE: This is an additional State requirement.~~

1942

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

1945

1946 **SUBPART C: USE OF NON-CENTRALIZED TREATMENT DEVICES**

1947

1948 **Section 611.280 Point-of-Entry Devices**

1949

1950 a) Suppliers may use point-of-entry devices to comply with MCLs only if they meet  
1951 the requirements of this Section.

1952

1953 b) It is the responsibility of the supplier to operate and maintain the point-of entry  
1954 treatment system.

1955

1956 c) The supplier must develop a monitoring plan before point-of-entry devices are  
1957 installed for compliance.

1958

1959 1) Point-of-entry devices must provide health protection equivalent to central  
1960 water treatment. "Equivalent" means that the water would meet all  
1961 NPDWR and would be of acceptable quality similar to water distributed  
1962 by a well-operated central treatment plant.

1963

1964 2) In addition to the VOCs, monitoring must include physical measurements  
1965 and observations such as total flow treated and mechanical condition of  
1966 the treatment equipment.

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- 3) Use of point-of-entry devices must be approved by a SEP granted by the Agency pursuant to Section 611.110.
- d) Effective technology must be properly applied under a plan approved by the Agency and the microbiological safety of the water must be maintained.
  - 1) The Agency must require adequate certification of performance, field testing, and, if not included in the certification process, a rigorous engineering design review of the point-of-entry devices.
  - 2) The design and application of the point-of-entry devices must consider the tendency for increase in heterotrophic bacteria concentrations in water treated with activated carbon. The Agency may require, by a SEP issued pursuant to Section 611.110, frequent backwashing, post-contactor disinfection and HPC monitoring to ensure that the microbiological safety of the water is not compromised.
- e) All consumers must be protected. Every building connected to the system must have a point-of-entry device installed, maintained and adequately monitored. The Agency must be assured that every building is subject to treatment and monitoring, and that the rights and responsibilities of the PWS customer convey with title upon sale of property.
- f) Use of any point-of-entry device must not cause increased corrosion of lead and copper bearing materials located between the device and the tap that could increase contaminant levels at the tap.

BOARD NOTE: Derived from 40 CFR 141.100 and 142.62(h)(7) (2002).

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

**Section 611.290 Use of Point-of-Use Devices or Bottled Water**

- a) Suppliers must not use bottled water to achieve compliance with an MCL.
- b) Bottled water or point-of-use devices may be used on a temporary basis to avoid an unreasonable risk to health pursuant to a SEP granted by the Agency under Section 611.110.
- c) Any use of bottled water must comply with the substantive requirements of Section 611.130(d), except that the supplier must submit its quality control plan for Agency review as part of its SEP request, rather than for Board review.

2011 BOARD NOTE: Derived from 40 CFR 141.101 (2003).

2012

2013 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

2014

2015 SUBPART D: TREATMENT TECHNIQUES

2016

2017 **Section 611.297 Corrosion Control (Repealed)**

2018

2019 ~~A supplier may be required to install and maintain optimal corrosion control pursuant to Section~~  
2020 ~~611.352.~~

2021

2022 (Source: Repealed at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

2023

2024 SUBPART F: MAXIMUM CONTAMINANT LEVELS (MCLs)  
2025 AND MAXIMUM RESIDUAL DISINFECTANT LEVELS (MRDLs)

2026

2027 **Section 611.300 Old MCLs for Inorganic Chemical Contaminants**

2028

2029 a) The old MCLs listed in subsection (b) for inorganic chemical contaminants  
2030 (IOCs) apply only to CWS suppliers. Compliance with old MCLs for inorganic  
2031 chemicals is calculated ~~underpursuant to~~ pursuant to Section 611.612.

2032

2033 BOARD NOTE: Formerly derived from 40 CFR 141.11(a), this subsection (a)  
2034 has become an additional State requirement.

2035

2036 b) The following are the old MCLs for IOCs:

2037

Contaminant	Level, mg/l	Additional State Requirement (*)
Iron	1.0	*
Manganese	0.15	*
Zinc	5.	*

2038

2039 BOARD NOTE: Formerly derived from 40 CFR 141.11(b), this subsection (b)  
2040 has become an additional State requirement.

2041

2042 c) This subsection corresponds with 40 CFR 141.11(c), marked as reserved by  
2043 USEPA. This statement maintains structural parity with the federal rules.

2044

2045 d) Nitrate.  
2046 Non-CWSs may exceed the MCL for nitrate under the following circumstances:

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2048 1) The nitrate level must not exceed 20 mg/l;

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- 2) The water must not be available to children under six months of age;
- 3) The NCWS supplier is meeting the public notification requirements under Section 611.909, including continuous posting of the fact that the nitrate level exceeds 10 mg/ℓ together with the potential health effects of exposure;
- 4) The supplier will annually notify local public health authorities and the Department of Public Health of the nitrate levels that exceed 10 mg/ℓ, and
- 5) No adverse public health effects result.

BOARD NOTE: Derived from 40 CFR 141.11(d) (2012). The Department of Public Health regulations may impose a nitrate limitation requirement. Those regulations are at 77 Ill. Adm. Code 900.50.

- e) The following supplementary condition applies to the MCLs listed in subsection (b) for iron and manganese:
  - 1) CWS suppliers that serve a population of 1000 or fewer, or 300 service connections or fewer, are exempt from the standards for iron and manganese.
  - 2) The Agency may, by a SEP issued pursuant to Section 611.110, allow iron and manganese in excess of the MCL if sequestration tried on an experimental basis proves to be effective. If sequestration is not effective, positive iron or manganese reduction treatment as applicable must be provided. Experimental use of a sequestering agent may be tried only if approved by a SEP issued pursuant to Section 611.110.

BOARD NOTE: This subsection (e) is an additional State requirement.

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

SUBPART G: LEAD AND COPPER

**Section 611.350 General Requirements**

- a) Applicability and Scope.
  - 1) Applicability. The requirements of this Subpart G constitute national primary drinking water regulations for lead and copper. This Subpart G

2092 applies to all community water systems (CWSs) and non-transient, non-  
2093 community water systems (NTNCWSs).

2094  
2095 2) Scope. This Subpart G establishes a treatment technique that includes  
2096 requirements for corrosion control treatment, source water treatment, lead  
2097 service line replacement, and public education. These requirements are  
2098 triggered, in some cases, by lead and copper action levels measured in  
2099 samples collected at consumers' taps.

2100  
2101 b) Definitions. For the purposes of only this Subpart G, the following terms have the  
2102 following meanings:

2103  
2104 "Action level" means that concentration of lead or copper in water  
2105 computed ~~underpursuant to~~ subsection (c) that determines, in some cases,  
2106 the treatment requirements of this Subpart G that a supplier must  
2107 complete. The action level for lead is 0.015 mg/l. The action level for  
2108 copper is 1.3 mg/l.

2109  
2110 "Corrosion inhibitor" means a substance capable of reducing the  
2111 corrosivity of water toward metal plumbing materials, especially lead and  
2112 copper, by forming a protective film on the interior surface of those  
2113 materials.

2114  
2115 "Effective corrosion inhibitor residual" means a concentration of inhibitor  
2116 in the drinking water sufficient to form a passivating film on the interior  
2117 walls of a pipe.

2118  
2119 "Exceed", as this term is applied to either the lead or the copper action  
2120 level, means that the 90th percentile level of the supplier's samples  
2121 collected during a six-month monitoring period is greater than the action  
2122 level for that contaminant.

2123  
2124 "First draw sample" means a one-liter sample of tap water, collected in  
2125 accordance with Section 611.356(b)(2), that has been standing in  
2126 plumbing pipes for at least six hours and which is collected without  
2127 flushing the tap.

2128  
2129 "Large system" means a water system that regularly serves water to more  
2130 than 50,000 persons.

2131  
2132 "Lead service line" means a service line made of lead that connects the  
2133 water main to the building inlet, including any lead pigtail, gooseneck, or  
2134 other fitting that is connected to such lead line.

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"Maximum permissible concentration" or "MPC" means that concentration of lead or copper for finished water entering the supplier's distribution system, designated by the Agency by a SEP ~~pursuant to Sections 611.110 and 611.353(b)~~ that reflects the contaminant removal capability of the treatment properly operated and maintained.  
BOARD NOTE: Derived from 40 CFR 141.83(b)(4) (2016). (See Section 611.353(b)(4)(B).)

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

"Meet", as this term is applied to either the lead or the copper action level, means that the 90<sup>th</sup> percentile level of the supplier's samples collected during a six-month monitoring period is less than or equal to the action level for that contaminant.

"Method detection limit" or "MDL" is as defined at Section 611.646(a). The MDL for lead is 0.001 mg/ℓ. The MDL for copper is 0.001 mg/ℓ, or 0.020 mg/ℓ by atomic absorption direct aspiration method.  
BOARD NOTE: Derived from 40 CFR 141.89(a)(1)(iii) (2016).

"Monitoring period" means any of the six-month periods of time during which a supplier must complete a cycle of monitoring under this Subpart G.  
BOARD NOTE: USEPA refers to these as "monitoring periods". The Board uses "six-month monitoring period" to avoid confusion with "compliance period", as used elsewhere in this Part and defined at Section 611.101.

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

"90<sup>th</sup> percentile level" means that concentration of lead or copper contaminant exceeded by ten percent or fewer of all samples collected during a six-month monitoring period ~~underpursuant to~~ Section 611.356 (i.e., that concentration of contaminant greater than or equal to the results obtained from 90 percent of the samples). The 90<sup>th</sup> percentile levels for copper and lead must be determined ~~underpursuant to~~ subsection (c)(3).  
BOARD NOTE: Derived from 40 CFR 141.80(c) (2016).

"Optimal corrosion control treatment" means the corrosion control

2178 treatment that minimizes the lead and copper concentrations at users' taps  
2179 while ensuring that the treatment does not cause the water system to  
2180 violate any national primary drinking water regulations.  
2181

2182 "Practical quantitation limit" or "PQL" means the lowest concentration of  
2183 a contaminant that a well-operated laboratory can reliably achieve within  
2184 specified limits of precision and accuracy during routine laboratory  
2185 operating conditions. The PQL for lead is 0.005 mg/ℓ. The PQL for  
2186 copper is 0.050 mg/ℓ.

2187 BOARD NOTE: Derived from 40 CFR 141.89(a)(1)(ii) and (a)(1)(iv)  
2188 (2016).  
2189

2190 "Service line sample" means a one-liter sample of water, collected in  
2191 accordance with Section 611.356(b)(3), that has been standing for at least  
2192 six hours in a service line.  
2193

2194 "Single-family structure" means a building that was constructed as a  
2195 single-family residence and which is currently used as either a residence  
2196 or a place of business.  
2197

2198 "Small system" means a water system that regularly serves water to 3,300  
2199 or fewer persons.  
2200

2201 BOARD NOTE: Derived from 40 CFR 141.2 (2016).  
2202

2203 c) Lead and Copper Action Levels.  
2204

2205 1) The lead action level is exceeded if the 90<sup>th</sup> percentile lead level is greater  
2206 than 0.015 mg/ℓ.  
2207

2208 2) The copper action level is exceeded if the 90<sup>th</sup> percentile copper level is  
2209 greater than 1.3 mg/ℓ.  
2210

2211 3) Suppliers must compute the 90<sup>th</sup> percentile lead and copper levels as  
2212 follows:  
2213

2214 A) List the results of all lead or copper samples taken during a six-  
2215 month monitoring period in ascending order, ranging from the  
2216 sample with the lowest concentration first to the sample with the  
2217 highest concentration last. Assign each sampling result a number,  
2218 ascending by single integers beginning with the number 1 for the  
2219 sample with the lowest contaminant level. The number assigned to  
2220 the sample with the highest contaminant level must be equal to the

- 2221 total number of samples taken.  
2222  
2223 B) Determine the number for the 90<sup>th</sup> percentile sample by  
2224 multiplying the total number of samples taken during the six-  
2225 month monitoring period by 0.9.  
2226  
2227 C) The contaminant concentration in the sample with the number  
2228 yielded by the calculation in subsection (c)(3)(B) is the 90<sup>th</sup>  
2229 percentile contaminant level.  
2230  
2231 D) For suppliers that collect five samples per six-month monitoring  
2232 period, the 90<sup>th</sup> percentile is computed by taking the average of the  
2233 highest and second highest concentrations.  
2234  
2235 E) For a supplier that has been allowed by the Agency to collect fewer  
2236 than five samples in accordance with Section 611.356(c), the  
2237 sample result with the highest concentration is considered the 90<sup>th</sup>  
2238 percentile value.  
2239
- 2240 d) Corrosion Control Treatment Requirements.  
2241  
2242 1) All suppliers must install and operate optimal corrosion control treatment.  
2243  
2244 2) Any supplier that complies with the applicable corrosion control treatment  
2245 requirements specified by the Agency ~~underpursuant to~~ Sections 611.351  
2246 and 611.352 is deemed in compliance with the treatment requirement of  
2247 subsection (d)(1).  
2248
- 2249 e) Source Water Treatment Requirements. Any supplier whose system exceeds the  
2250 lead or copper action level must implement all applicable source water treatment  
2251 requirements specified by the Agency ~~underpursuant to~~ Section 611.353.  
2252
- 2253 f) Lead Service Line Replacement Requirements. Any supplier whose system  
2254 exceeds the lead action level after implementation of applicable corrosion control  
2255 and source water treatment requirements must complete the lead service line  
2256 replacement requirements contained in Section 611.354.  
2257
- 2258 g) Public Education Requirements. ~~UnderPursuant to~~ Section 611.355, the supplier  
2259 must provide a consumer notice of the lead tap water monitoring results to the  
2260 persons served at each site (tap) that is tested. Any supplier whose system  
2261 exceeds the lead action level must implement the public education requirements.  
2262
- 2263 h) Monitoring and Analytical Requirements. Suppliers must complete all tap water

2264 monitoring for lead and copper, monitoring for water quality parameters, source  
2265 water monitoring for lead and copper, and analyses of the monitoring results  
2266 under this Subpart G in compliance with Sections 611.356, 611.357, 611.358, and  
2267 611.359.  
2268

- 2269 i) Reporting Requirements. Suppliers must report to the Agency any information  
2270 required by the treatment provisions of this Subpart G and Section 611.360.  
2271  
2272 j) Recordkeeping Requirements. Suppliers must maintain records in accordance  
2273 with Section 611.361.  
2274  
2275 k) Violation of National Primary Drinking Water Regulations. Failure to comply  
2276 with the applicable requirements of this Subpart G, including conditions imposed  
2277 by the Agency by SEP ~~pursuant to these provisions and Section 611.110~~, will  
2278 constitute a violation of the national primary drinking water regulations for lead  
2279 or copper.  
2280

2281 BOARD NOTE: Derived from 40 CFR 141.80 (2016).  
2282

2283 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
2284

2285 **Section 611.351 Applicability of Corrosion Control**  
2286

- 2287 a) Corrosion control required. Suppliers must complete the applicable corrosion  
2288 control treatment requirements described in Section 611.352 on or before the  
2289 deadlines set forth in this Section.  
2290  
2291 1) Large systems. Each large system supplier (one regularly serving more  
2292 than 50,000 persons) must complete the corrosion control treatment steps  
2293 specified in subsection (d), unless it is deemed to have optimized  
2294 corrosion control under subsection (b)(2) or (b)(3).  
2295  
2296 2) Medium-sized and small systems. Each small system supplier (one  
2297 regularly serving 3,300 or fewer persons) and each medium-sized system  
2298 (one regularly serving more than 3,300 up to 50,000 persons) must  
2299 complete the corrosion control treatment steps specified in subsection (e),  
2300 unless it is deemed to have optimized corrosion control under one of  
2301 subsections (b)(1), (b)(2), or (b)(3).  
2302  
2303 b) Suppliers deemed to have optimized corrosion control. A supplier is deemed to  
2304 have optimized corrosion control, and is not required to complete the applicable  
2305 corrosion control treatment steps identified in this Section, if the supplier satisfies  
2306 one of the criteria specified in subsections (b)(1) through (b)(3). Any such system

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deemed to have optimized corrosion control under this subsection, and which has treatment in place, must continue to operate and maintain optimal corrosion control treatment and meet any requirements that the Agency determines are appropriate to ensure optimal corrosion control treatment is maintained.

- 1) Small- or medium-sized system meeting action levels. A small system or medium-sized system supplier is deemed to have optimized corrosion control if the system meets the lead and copper action levels during each of two consecutive six-month monitoring periods with monitoring conducted in accordance with Section 611.356.
- 2) SEP for equivalent activities to corrosion control. The Agency must, by a SEP issued pursuant to Section 611.110, deem any supplier to have optimized corrosion control treatment if it determines that the supplier has conducted activities equivalent to the corrosion control steps applicable under this Section. In making this determination, the Agency must specify the water quality control parameters representing optimal corrosion control in accordance with Section 611.352(f). A water supplier that is deemed to have optimized corrosion control under this subsection (b)(2) must operate in compliance with the Agency-designated optimal water quality control parameters in accordance with Section 611.352(g) and must continue to conduct lead and copper tap and water quality parameter sampling in accordance with Sections 611.356(d)(3) and 611.357(d), respectively. A supplier must provide the Agency with the following information in order to support an Agency SEP determination under this subsection (b)(2):
  - A) The results of all test samples collected for each of the water quality parameters in Section 611.352(c)(3);
  - B) A report explaining the test methods the supplier used to evaluate the corrosion control treatments listed in Section 611.352(c)(1), the results of all tests conducted, and the basis for the supplier's selection of optimal corrosion control treatment;
  - C) A report explaining how the supplier has installed corrosion control and how the supplier maintains it to insure minimal lead and copper concentrations at consumer's taps; and
  - D) The results of tap water samples collected in accordance with Section 611.356 at least once every six months for one year after corrosion control has been installed.

- 2350 3) Results less than practical quantitation level (PQL) for lead. Any supplier  
 2351 is deemed to have optimized corrosion control if it submits results of tap  
 2352 water monitoring conducted in accordance with Section 611.356 and  
 2353 source water monitoring conducted in accordance with Section 611.358  
 2354 that demonstrate that for two consecutive six-month monitoring periods  
 2355 the difference between the 90th percentile tap water lead level, computed  
 2356 ~~underpursuant to~~ Section 611.350(c)(3), and the highest source water lead  
 2357 concentration is less than the practical quantitation level for lead specified  
 2358 in Section 611.359(a)(1)(B)(i).  
 2359
- 2360 A) Those systems whose highest source water lead level is below the  
 2361 method detection limit (MDL) may also be deemed to have  
 2362 optimized corrosion control under this subsection (b) if the 90th  
 2363 percentile tap water lead level is less than or equal to the PQL for  
 2364 lead for two consecutive six-month monitoring periods.  
 2365
- 2366 B) Any water system deemed to have optimized corrosion control in  
 2367 accordance with this subsection (b) must continue monitoring for  
 2368 lead and copper at the tap no less frequently than once every three  
 2369 calendar years using the reduced number of sites specified in  
 2370 Section 611.356(c) and collecting the samples at times and  
 2371 locations specified in Section 611.356(d)(4)(D).  
 2372
- 2373 C) Any water system deemed to have optimized corrosion control  
 2374 ~~underpursuant to~~ this subsection (b) must notify the Agency in  
 2375 writing ~~underpursuant to~~ Section 611.360(a)(3) of any upcoming  
 2376 long-term change in treatment or the addition of a new source, as  
 2377 described in that Section. The Agency must review and approve  
 2378 the addition of a new source or any long-term change in water  
 2379 treatment before the addition or long-term change is implemented  
 2380 by the water system.  
 2381
- 2382 D) A supplier is not deemed to have optimized corrosion control  
 2383 under this subsection (b), and must implement corrosion control  
 2384 treatment ~~underpursuant to~~ subsection (b)(3)(E), unless it meets the  
 2385 copper action level.  
 2386
- 2387 E) Any supplier triggered into corrosion control because it is no  
 2388 longer deemed to have optimized corrosion control under this  
 2389 subsection must implement corrosion control treatment in  
 2390 accordance with the deadlines in subsection (e). Any such large  
 2391 system supplier must adhere to the schedule specified in that  
 2392 subsection (e) for a medium-sized system supplier, with the time

2393 periods for completing each step being triggered by the date the  
 2394 supplier is no longer deemed to have optimized corrosion control  
 2395 under this subsection (b).  
 2396

2397 c) Suppliers not required to complete corrosion control steps for having met both  
 2398 action levels.  
 2399

2400 1) Any small system or medium-sized system supplier, otherwise required to  
 2401 complete the corrosion control steps due to its exceedance of the lead or  
 2402 copper action level, may cease completing the treatment steps after the  
 2403 supplier has fulfilled both of the following conditions:  
 2404

2405 A) It has met both the copper action level and the lead action level  
 2406 during each of two consecutive six-month monitoring periods  
 2407 conducted ~~underpursuant to~~ Section 611.356; and  
 2408

2409 B) The supplier has submitted the results for those two consecutive  
 2410 six-month monitoring periods to the Agency.  
 2411

2412 2) A supplier that has ceased completing the corrosion control steps  
 2413 ~~underpursuant to~~ subsection (c)(1) (or the Agency, if appropriate) must  
 2414 resume completion of the applicable treatment steps, beginning with the  
 2415 first treatment step that the supplier previously did not complete in its  
 2416 entirety, if the supplier thereafter exceeds the lead or copper action level  
 2417 during any monitoring period.  
 2418

2419 3) The Agency may, by SEP, require a supplier to repeat treatment steps  
 2420 previously completed by the supplier where it determines that this is  
 2421 necessary to properly implement the treatment requirements of this  
 2422 Section. Any such SEP must explain the basis for this decision.  
 2423

2424 4) The requirement for any small- or medium-sized system supplier to  
 2425 implement corrosion control treatment steps in accordance with subsection  
 2426 (e) (including systems deemed to have optimized corrosion control under  
 2427 subsection (b)(1)) is triggered whenever any small- or medium-sized  
 2428 system supplier exceeds the lead or copper action level.  
 2429

2430 d) Treatment steps for large systems. Except as provided in subsections (b)(2) and  
 2431 (b)(3), large system suppliers must have completed the following corrosion  
 2432 control treatment steps (described in the referenced portions of Sections 611.352,  
 2433 611.356, and 611.357).  
 2434

2435 1) Step 1: Initial monitoring (Sections 611.356(d)(1) and 611.357(b)) during

- 2436 two consecutive six-month monitoring periods.  
 2437  
 2438 2) Step 2: Corrosion control studies (Section 611.352(c)).  
 2439  
 2440 3) Step 3: Agency approval of optimal corrosion control treatment (Section  
 2441 611.352(d)) by a SEP ~~issued pursuant to Section 611.110~~.  
 2442  
 2443 4) Step 4: Installing optimal corrosion control treatment (Section  
 2444 611.352(e)).  
 2445  
 2446 5) Step 5: Completing follow-up sampling (Sections 611.356(d)(2) and  
 2447 611.357(c)).  
 2448  
 2449 6) Step 6: Agency review of installation of treatment and approval of  
 2450 optimal water quality control parameters (Section 611.352(f)).  
 2451  
 2452 7) Step 7: Operating in compliance with the Agency-specified optimal water  
 2453 quality control parameters (Section 611.352(g)) and continue to conduct  
 2454 tap sampling (Sections 611.356(d)(3) and 611.357(d)).  
 2455  
 2456 e) Treatment steps and deadlines for small- and medium-sized system suppliers.  
 2457 Except as provided in subsection (b), small- and medium-sized system suppliers  
 2458 must complete the following corrosion control treatment steps (described in the  
 2459 referenced portions of Sections 611.352, 611.356, and 611.357) by the indicated  
 2460 time periods.  
 2461  
 2462 1) Step 1: The supplier must conduct initial tap sampling (Sections  
 2463 611.356(d)(1) and 611.357(b)) until the supplier either exceeds the lead  
 2464 action level or the copper action level or it becomes eligible for reduced  
 2465 monitoring under Section 611.356(d)(4). A supplier exceeding the lead  
 2466 action level or the copper action level must recommend optimal corrosion  
 2467 control treatment (Section 611.352(a)) within six months after the end of  
 2468 the monitoring period during which it exceeds one of the action levels.  
 2469  
 2470 2) Step 2: Within 12 months after the end of the monitoring period during  
 2471 which a supplier exceeds the lead action level or the copper action level,  
 2472 the Agency may require the supplier to perform corrosion control studies  
 2473 (Section 611.352(b)). If the Agency does not require the supplier to  
 2474 perform such studies, the Agency must, by a SEP ~~issued pursuant to~~  
 2475 ~~Section 611.110~~, specify optimal corrosion control treatment (Section  
 2476 611.352(d)) within the appropriate of the following timeframes:  
 2477  
 2478 A) For medium-sized systems, within 18 months after the end of the

- 2479 monitoring period during which such supplier exceeds the lead  
2480 action level or the copper action level; or  
2481  
2482 B) For small systems, within 24 months after the end of the  
2483 monitoring period during which such supplier exceeds the lead  
2484 action level or the copper action level.  
2485  
2486 3) Step 3: If the Agency requires a supplier to perform corrosion control  
2487 studies under step 2 (subsection (e)(2)), the supplier must complete the  
2488 studies (Section 611.352(c)) within 18 months after the Agency requires  
2489 that such studies be conducted.  
2490  
2491 4) Step 4: If the supplier has performed corrosion control studies under step  
2492 2 (subsection (e)(2)), the Agency must, by a SEP-issued pursuant to  
2493 ~~Section 611.110~~, approve optimal corrosion control treatment (Section  
2494 611.352(d)) within six months after completion of step 3 (subsection  
2495 (e)(3)).  
2496  
2497 5) Step 5: The supplier must install optimal corrosion control treatment  
2498 (Section 611.352(e)) within 24 months after the Agency approves that  
2499 treatment.  
2500  
2501 6) Step 6: The supplier must complete follow-up sampling (Sections  
2502 611.356(d)(2) and 611.357(c)) within 36 months after the Agency  
2503 approves optimal corrosion control treatment.  
2504  
2505 7) Step 7: The Agency must review the supplier's installation of treatment  
2506 and, by a SEP-issued pursuant to ~~Section 611.110~~, approve optimal water  
2507 quality control parameters (Section 611.352(f)) within six months after  
2508 completion of step 6 (subsection (e)(6)).  
2509  
2510 8) Step 8: The supplier must operate in compliance with the Agency-  
2511 approved optimal water quality control parameters (Section 611.352(g))  
2512 and continue to conduct tap sampling (Sections 611.356(d)(3) and  
2513 611.357(d)).  
2514

2515 BOARD NOTE: Derived from 40 CFR 141.81 (2016).

2516 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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2518  
2519 **Section 611.352 Corrosion Control Treatment**

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2521 Each supplier must complete the corrosion control treatment requirements described below that

2522 are applicable to such supplier under Section 611.351.

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- a) System recommendation regarding corrosion control treatment.
  - 1) Based on the results of lead and copper tap monitoring and water quality parameter monitoring, small- and medium-sized system suppliers exceeding the lead action level or the copper action level must recommend to the Agency installation of one or more of the corrosion control treatments listed in subsection (c)(1) that the supplier believes constitutes optimal corrosion control for its system.
  - 2) The Agency may, by a SEP issued pursuant to Section 611.110, require the supplier to conduct additional water quality parameter monitoring in accordance with Section 611.357(b) to assist it in reviewing the supplier's recommendation.
- b) Agency-required studies of corrosion control treatment. The Agency may, by a SEP issued pursuant to Section 611.110, require any small- or medium-sized system supplier that exceeds the lead action level or the copper action level to perform corrosion control studies under subsection (c) to identify optimal corrosion control treatment for its system.
- c) Performance of studies.
  - 1) Any supplier performing corrosion control studies must evaluate the effectiveness of each of the following treatments, and, if appropriate, combinations of the following treatments, to identify the optimal corrosion control treatment for its system:
    - A) Alkalinity and pH adjustment;
    - B) Calcium hardness adjustment; and
    - C) The addition of a phosphate- or silicate-based corrosion inhibitor at a concentration sufficient to maintain an effective residual concentration in all test tap samples.
  - 2) The supplier must evaluate each of the corrosion control treatments using pipe rig/loop tests; metal coupon tests; partial-system tests; or analyses based on documented analogous treatments in other systems of similar size, water chemistry, and distribution system configuration.
  - 3) The supplier must measure the following water quality parameters in any

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tests conducted under this subsection (c) before and after evaluating the corrosion control treatments listed above:

- A) Lead;
- B) Copper;
- C) pH;
- D) Alkalinity;
- E) Calcium;
- F) Conductivity;
- G) Orthophosphate (when an inhibitor containing a phosphate compound is used);
- H) Silicate (when an inhibitor containing a silicate compound is used); and
- I) Water temperature.

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

- A) Data and documentation showing that a particular corrosion control treatment has adversely affected other water treatment processes when used by another supplier with comparable water quality characteristics; or
- B) Data and documentation demonstrating that the supplier has previously attempted to evaluate a particular corrosion control treatment, finding either that the treatment is ineffective or that it adversely affects other water quality treatment processes.

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

6) On the basis of an analysis of the data generated during each evaluation, the supplier must recommend to the Agency, in writing, that treatment option the corrosion control studies indicate constitutes optimal corrosion

2608 control treatment for its system. The supplier must provide a rationale for  
 2609 its recommendation, along with all supporting documentation specified in  
 2610 subsections (c)(1) through (c)(5).  
 2611

2612 d) Agency approval of treatment.  
 2613

2614 1) Based on consideration of available information including, where  
 2615 applicable, studies performed under subsection (c) and a supplier's  
 2616 recommended treatment alternative, the Agency must, by a SEP issued  
 2617 pursuant to Section 611.110, either approve the corrosion control  
 2618 treatment option recommended by the supplier, or deny and require  
 2619 investigation and recommendation of alternative corrosion control  
 2620 treatments from among those listed in subsection (c)(1). When approving  
 2621 optimal treatment, the Agency must consider the effects that additional  
 2622 corrosion control treatment will have on water quality parameters and on  
 2623 other water quality treatment processes.  
 2624

2625 2) The Agency must, in any SEP issued under subsection (d)(1), notify the  
 2626 supplier of the basis for this determination.  
 2627

2628 e) Installation of optimal corrosion control. Each supplier must properly install and  
 2629 operate, throughout its distribution system, that optimal corrosion control  
 2630 treatment approved by the Agency ~~under~~pursuant to subsection (d).  
 2631

2632 f) Agency review of treatment and specification of optimal water quality control  
 2633 parameters. The Agency must evaluate the results of all lead and copper tap  
 2634 samples and water quality parameter samples submitted by the supplier and  
 2635 determine whether it has properly installed and operated the optimal corrosion  
 2636 control treatment approved pursuant to subsection (d).  
 2637

2638 1) Upon reviewing the results of tap water and water quality parameter  
 2639 monitoring by the supplier, both before and after the installation of  
 2640 optimal corrosion control treatment, the Agency must, by a SEP issued  
 2641 pursuant to Section 611.110, specify the following:  
 2642

2643 A) A minimum value or a range of values for pH measured at each  
 2644 entry point to the distribution system;  
 2645

2646 B) A minimum pH value, measured in all tap samples. Such value  
 2647 must be equal to or greater than 7.0, unless the Agency determines  
 2648 that meeting a pH level of 7.0 is not technologically feasible or is  
 2649 not necessary for the supplier to optimize corrosion control;  
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- C) If a corrosion inhibitor is used, a minimum concentration or a range of concentrations for the inhibitor, measured at each entry point to the distribution system and in all tap samples, that the Agency determines is necessary to form a passivating film on the interior walls of the pipes of the distribution system;
  - D) If alkalinity is adjusted as part of optimal corrosion control treatment, a minimum concentration or a range of concentrations for alkalinity, measured at each entry point to the distribution system and in all tap samples;
  - E) If calcium carbonate stabilization is used as part of corrosion control, a minimum concentration or a range of concentrations for calcium, measured in all tap samples.
- 2) The values for the applicable water quality control parameters listed in subsection (f)(1) must be those that the Agency determines reflect optimal corrosion control treatment for the supplier.
  - 3) The Agency may, by a SEP issued pursuant to Section 611.110, approve values for additional water quality control parameters determined by the Agency to reflect optimal corrosion control for the supplier's system.
  - 4) The Agency must, in issuing a SEP, explain these determinations to the supplier, along with the basis for its decisions.
- g) Continued Operation and Monitoring. All suppliers optimizing corrosion control must continue to operate and maintain optimal corrosion control treatment, including maintaining water quality parameter values at or above minimum values or within ranges approved by the Agency under subsection (f), in accordance with this subsection (g) for all samples collected under Section 611.357(d) through (f). Compliance with the requirements of this subsection (g) must be determined every six months, as specified under Section 611.357(d). A water system is out of compliance with the requirements of this subsection for a six-month period if it has excursions for any Agency-specified parameter on more than nine days during the period. An excursion occurs whenever the daily value for one or more of the water quality parameters measured at a sampling location is below the minimum value or outside the range designated by the Agency. Daily values are calculated as provided in subsections (g)(1) through (g)(3). The Agency must delete results that it determines are obvious sampling errors from this calculation.
- 1) On days when more than one measurement for the water quality parameter is collected at the sampling location, the daily value must be the average

2694 of all results collected during the day regardless of whether the samples  
2695 are collected through continuous monitoring, grab sampling, or a  
2696 combination of both.  
2697

2698 BOARD NOTE: Corresponding 40 CFR 141.82(g)(1) further provides as  
2699 follows: If USEPA approves an alternative formula under 40 CFR 142.16  
2700 in the State's application for a program revision submitted pursuant to 40  
2701 CFR 142.12, the State's formula must be used to aggregate multiple  
2702 measurements taken at a sampling point for the water quality parameter in  
2703 lieu of the formula in this subsection (g).  
2704

- 2705 2) On days when only one measurement for the water quality parameter is  
2706 collected at the sampling location, the daily value must be the result of that  
2707 measurement.  
2708
- 2709 3) On days when no measurement is collected for the water quality parameter  
2710 at the sampling location, the daily value must be the daily value calculated  
2711 on the most recent day on which the water quality parameter was  
2712 measured at the sample site.  
2713

2714 h) Modification of Agency treatment decisions.  
2715

- 2716 1) On its own initiative, or in response to a request by a supplier, the Agency  
2717 may, by a SEP ~~issued pursuant to this subsection and Section 611.110,~~  
2718 modify its determination of the optimal corrosion control treatment under  
2719 subsection (d) or of the optimal water quality control parameters under  
2720 subsection (f).  
2721
- 2722 2) A request for modification must be in writing, explain why the  
2723 modification is appropriate, and provide supporting documentation.  
2724
- 2725 3) The Agency may modify its determination where it determines that such  
2726 change is necessary to ensure that the supplier continues to optimize  
2727 corrosion control treatment. A revised determination must set forth the  
2728 new treatment requirements, explain the basis for the Agency's decision,  
2729 and provide an implementation schedule for completing the treatment  
2730 modifications.  
2731
- 2732 4) Any interested person may submit information to the Agency bearing on  
2733 whether the Agency should, within its discretion, issue a SEP to modify its  
2734 determination ~~underpursuant to~~ subsection (h)(1). An Agency  
2735 determination not to act on a submission of such information by an  
2736 interested person is not an Agency determination for the purposes of

2737 Sections 39 and 40 of the Act.

2738

2739

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

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

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

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

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2755 BOARD NOTE: Derived from 40 CFR 141.82 (2016).

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

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2759 **Section 611.353 Source Water Treatment**

2760

2761 Suppliers must complete the applicable source water monitoring and treatment requirements (described in the referenced portions of subsection (b), and in Sections 611.356 and 611.358) by the following deadlines.

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a) Deadlines for completing source water treatment steps.

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1) Step 1: A supplier exceeding the lead action level or the copper action level must complete lead and copper and source water monitoring (Section 611.358(b)) and make a treatment recommendation to the Agency (subsection (b)(1)) within 180 days after the end of the monitoring period during which the supplier exceeded the pertinent action level.

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

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

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- 4) Step 4: The supplier must complete follow-up tap water monitoring (Section 611.356(d)(2)) and source water monitoring (Section 611.358(c)) within 36 months after completion of step 2.
  - 5) Step 5: The Agency must, by a SEP issued pursuant to Section 611.110, review the supplier's installation and operation of source water treatment and specify MPCs for lead and copper (subsection (b)(4)) within six months after completion of step 4.
  - 6) Step 6: The supplier must operate in compliance with the Agency-specified lead and copper MPCs (subsection (b)(4)) and continue source water monitoring (Section 611.358(d)).
- b) Description of Source Water Treatment Requirements.
- 1) System treatment recommendation. Any supplier that exceeds the lead action level or the copper action level must recommend in writing to the Agency the installation and operation of one of the source water treatments listed in subsection (b)(2). A supplier may recommend that no treatment be installed based on a demonstration that source water treatment is not necessary to minimize lead and copper levels at users' taps.
  - 2) Agency determination regarding source water treatment.
    - A) The Agency must complete an evaluation of the results of all source water samples submitted by the supplier to determine whether source water treatment is necessary to minimize lead or copper levels in water delivered to users' taps.
    - B) If the Agency determines that treatment is needed, the Agency must, by a SEP issued pursuant to Section 611.110, either require installation and operation of the source water treatment recommended by the supplier (if any) or require the installation and operation of another source water treatment from among the following:
      - i) ion exchange;
      - ii) reverse osmosis;
      - iii) lime softening; or

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- iv) coagulation/filtration.
- C) The Agency may request and the supplier must submit such additional information, on or before a certain date, as the Agency determines is necessary to aid in its review.
- D) The Agency must notify the supplier in writing of its determination and set forth the basis for its decision.
- 3) Installation of source water treatment. Each supplier must properly install and operate the source water treatment approved by the Agency under subsection (b)(2).
- 4) Agency review of source water treatment and specification of maximum permissible source water levels (MPCs).
  - A) The Agency must review the source water samples taken by the supplier both before and after the supplier installs source water treatment, and determine whether the supplier has properly installed and operated the approved source water treatment.
  - B) Based on its review, the Agency must, by a SEP ~~issued pursuant to Section 611.110~~, approve the lead and copper MPCs for finished water entering the supplier's distribution system. Such levels must reflect the contaminant removal capability of the treatment properly operated and maintained.
  - C) The Agency must explain the basis for its decision under subsection (b)(4)(B).
- 5) Continued operation and maintenance. Each supplier must maintain lead and copper levels below the MPCs approved by the Agency at each sampling point monitored in accordance with Section 611.358. The supplier is out of compliance with this subsection if the level of lead or copper at any sampling point is greater than the MPC approved by the Agency ~~underpursuant to~~ subsection (b)(4)(B).
- 6) Modification of Agency treatment decisions.
  - A) On its own initiative, or in response to a request by a supplier, the Agency may, by a SEP ~~issued pursuant to Section 611.110~~, modify its determination of the source water treatment under subsection

- 2866 (b)(2), or the lead and copper MPCs under subsection (b)(4).  
2867  
2868 B) A request for modification by a supplier must be in writing,  
2869 explain why the modification is appropriate, and provide  
2870 supporting documentation.  
2871  
2872 C) The Agency may, by a SEP ~~issued pursuant to Section 611.110,~~  
2873 modify its determination where it concludes that such change is  
2874 necessary to ensure that the supplier continues to minimize lead  
2875 and copper concentrations in source water.  
2876  
2877 D) A revised determination made ~~under~~ pursuant to subsection  
2878 (b)(6)(C) must set forth the new treatment requirements, explain  
2879 the basis for the Agency's decision, and provide an implementation  
2880 schedule for completing the treatment modifications.  
2881  
2882 E) Any interested person may submit information to the Agency, in  
2883 writing, that bears on whether the Agency should, within its  
2884 discretion, issue a SEP to modify its determination pursuant to  
2885 subsection (h)(1). An Agency determination not to act on a  
2886 submission of such information by an interested person is not an  
2887 Agency determination for the purposes of Sections 39 and 40 of  
2888 the Act.  
2889  
2890 7) Treatment decisions by USEPA. ~~Under~~ Pursuant to the procedures in 40  
2891 CFR 142.19, the USEPA Regional Administrator reserves the prerogative  
2892 to review treatment determinations made by the Agency under subsections  
2893 (b)(2), (b)(4), or (b)(6) and issue federal treatment determinations  
2894 consistent with the requirements of 40 CFR 141.83(b)(2), (b)(4), and  
2895 (b)(6), where the Administrator finds that the following is true:  
2896  
2897 A) the Agency has failed to issue a treatment determination by the  
2898 applicable deadline contained in subsection (a);  
2899  
2900 B) the Agency has abused its discretion in a substantial number of  
2901 cases or in cases affecting a substantial population; or  
2902  
2903 C) the technical aspects of the Agency's determination would be  
2904 indefensible in an expected federal enforcement action taken  
2905 against a supplier.  
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2907 BOARD NOTE: Derived from 40 CFR 141.83 (2016).  
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2909 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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2911 **Section 611.354 Lead Service Line Replacement**  
 2912

2913 a) Suppliers required to replace lead service lines.  
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2915 1) If the results from tap samples taken ~~underpursuant to~~ Section  
 2916 611.356(d)(2) exceed the lead action level after the supplier has installed  
 2917 corrosion control or source water treatment (whichever sampling occurs  
 2918 later), the supplier must recommence replacing lead service lines in  
 2919 accordance with the requirements of subsection (b).  
 2920

2921 2) If a supplier is in violation of Section 611.351 or Section 611.353 for  
 2922 failure to install source water or corrosion control treatment, the Agency  
 2923 may, by a SEP ~~issued pursuant to Section 611.110~~, require the supplier to  
 2924 commence lead service line replacement under this Section after the date  
 2925 by which the supplier was required to conduct monitoring under Section  
 2926 611.356(d)(2) has passed.  
 2927

2928 b) Annual replacement of lead service lines.  
 2929

2930 1) Initiation of a lead service line replacement program.  
 2931

2932 A) A supplier that is required to commence lead service line  
 2933 replacement ~~underpursuant to~~ subsection (a) must annually replace  
 2934 at least seven percent of the initial number of lead service lines in  
 2935 its distribution system.  
 2936

2937 B) The initial number of lead service lines is the number of lead lines  
 2938 in place at the time the replacement program begins.  
 2939

2940 C) The supplier must identify the initial number of lead service lines  
 2941 in its distribution system, including an identification of the portions  
 2942 of the system owned by the supplier, based on a materials  
 2943 evaluation, including the evaluation required under Section  
 2944 611.356(a) and relevant legal authorities (e.g., contracts, local  
 2945 ordinances) regarding the portion owned by the system.  
 2946

2947 D) The first year of lead service line replacement must begin on the  
 2948 first day following the end of the monitoring period in which the  
 2949 supplier exceeded the action level ~~underpursuant to~~ subsection (a).  
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- E) If monitoring is required annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs.
  - F) If the Agency has established an alternate monitoring period by a SEP ~~issued pursuant to Section 611.110~~, then the end of the monitoring period will be the last day of that period.
- 2) Resumption of a lead service line replacement program after cessation.
- A) A supplier that is resuming a program after cessation of its lead service line replacement program, as allowed ~~under~~ pursuant to subsection (f), must update its inventory of lead service lines to include those sites that it had previously determined did not require replacement ~~under~~ pursuant to the sampling provision of subsection (c).
  - B) The supplier will then divide the updated number of remaining lead service lines by the number of remaining years in the program to determine the number of lines that must be replaced per year (seven percent lead service line replacement is based on a 15-year replacement program, so that, for example, a supplier resuming lead service line replacement after previously conducting two years of replacement would divide the updated inventory by 13).
  - C) For a supplier that has completed a 15-year lead service line replacement program, the Agency must, by a SEP ~~issued pursuant to Section 611.110~~, determine a schedule for replacing or retesting lines that were previously tested out under the completed replacement program, whenever the supplier has re-exceeded the action level.
- c) Service lines not needing replacement. A supplier is not required to replace any individual lead service line for which the lead concentrations in all service line samples taken from that line ~~under~~ pursuant to Section 611.356(b)(3) are less than or equal to 0.015 mg/l.
  - d) A water supplier must replace that portion of the lead service line that it owns. In cases where the supplier does not own the entire lead service line, the supplier must notify the owner of the line, or the owner's authorized agent, that the supplier will replace the portion of the service line that it owns and must offer to replace the owner's portion of the line. A supplier is not required to bear the cost of replacing the privately-owned portion of the line, nor is it required to replace

2994 the privately-owned portion where the owner chooses not to pay the cost of  
2995 replacing the privately-owned portion of the line, or where replacing the  
2996 privately-owned portion would be precluded by State, local, or common law. A  
2997 water supplier that does not replace the entire length of the service line also must  
2998 complete the following tasks:  
2999

3000 1) Notice Prior to Commencement of Work.

3001  
3002 A) At least 45 days prior to commencing the partial replacement of a  
3003 lead service line, the water supplier must provide notice to the  
3004 residents of all buildings served by the line explaining that they  
3005 may experience a temporary increase of lead levels in their  
3006 drinking water, along with guidance on measures consumers can  
3007 take to minimize their exposure to lead.  
3008

3009 B) The Agency, by issuing an appropriate SEP, may allow the water  
3010 supplier to provide notice under the previous sentence less than 45  
3011 days prior to commencing partial lead service line replacement  
3012 where it determines that such replacement is in conjunction with  
3013 emergency repairs.  
3014

3015 C) In addition, the water supplier must inform the residents served by  
3016 the line that the supplier will, at the supplier's expense, collect a  
3017 sample from each partially-replaced lead service line that is  
3018 representative of the water in the service line for analysis of lead  
3019 content, as prescribed by Section 611.356(b)(3), within 72 hours  
3020 after the completion of the partial replacement of the service line.  
3021 The supplier must collect the sample and report the results of the  
3022 analysis to the owner and the residents served by the line within  
3023 three business days after receiving the results.  
3024

3025 D) Mailed notices post-marked within three business days after  
3026 receiving the results must be considered "on time".  
3027

3028 2) The water supplier must provide the information required by subsection  
3029 (d)(1) to the residents of individual dwellings by mail or by other methods  
3030 approved by the Agency by a SEP issued pursuant to Section 611.110. In  
3031 instances where multi-family dwellings are served by the service line, the  
3032 water supplier must have the option to post the information at a  
3033 conspicuous location.  
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3035 e) Agency determination of shorter replacement schedule.  
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- 1) The Agency must, by a SEP ~~issued pursuant to Section 611.110~~, require a supplier to replace lead service lines on a shorter schedule than that otherwise required by this Section if it determines, taking into account the number of lead service lines in the system, that such a shorter replacement schedule is feasible.
  - 2) The Agency must notify the supplier of its finding under~~pursuant to~~ subsection (e)(1) within six months after the supplier is triggered into lead service line replacement based on monitoring, as referenced in subsection (a).
- f) Cessation of service line replacement.
- 1) Any supplier may cease replacing lead service lines whenever it fulfills both of the following conditions:
    - A) First draw tap samples collected pursuant to Section 611.356(b)(2) meet the lead action level during each of two consecutive six-month monitoring periods; and
    - B) The supplier has submitted those results to the Agency.
  - 2) If any of the supplier's first draw tap samples thereafter exceed the lead action level, the supplier must recommence replacing lead service lines under~~pursuant to~~ subsection (b)(2).
- g) To demonstrate compliance with subsections (a) through (d), a supplier must report to the Agency the information specified in Section 611.360(e).

3066 BOARD NOTE: Derived from 40 CFR 141.84 (2016).

3067 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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3069  
3070 **Section 611.355 Public Education and Supplemental Monitoring**

3071  
3072 A supplier that exceeds the lead action level based on tap water samples collected in accordance  
3073 with Section 611.356 must deliver the public education materials required by subsection (a) in  
3074 accordance with the requirements of subsection (b). A supplier that exceeds the lead action level  
3075 must sample the tap water of any customer who requests it in accordance with subsection (c). A  
3076 supplier must deliver a consumer notice of lead tap water monitoring results to persons who are  
3077 served by the supplier at each site that the supplier has tested, as specified in subsection (d).

- 3078  
3079 a) Content of written public education materials.

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1) Community water systems and non-transient non-community water systems. A CWS or NTNCWS supplier must include the following elements in printed materials (e.g., brochures and pamphlets) in the same order as listed in subsections (a)(1)(A) through (a)(1)(F). In addition, the supplier must include the language set forth in subsections (a)(1)(A), (a)(1)(B), and (a)(1)(F) in the materials, exactly as written, except for the text in brackets in these subsections, for which the supplier must include system-specific information. Any additional information presented by a supplier must be consistent with the information set forth in subsections (a)(1)(A) through (a)(1)(F), and the supplier must present the additional information in plain language that can be understood by the general public. The supplier must submit all written public education materials to the Agency.

A) IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER. [INSERT NAME OF SUPPLIER] found elevated levels of lead in drinking water in some homes/buildings. Lead can cause serious health problems, especially for pregnant women and young children. Please read this information closely to see what you can do to reduce lead in your drinking water.

BOARD NOTE: The supplier must use the verbatim text set forth in this subsection (a)(1)(A), with the exception that the supplier must insert its name in place of the bracketed text.

B) Health effects of lead. Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

BOARD NOTE: The supplier must use the verbatim text set forth in this subsection (a)(1)(B).

C) Sources of Lead.

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- i) Explain what lead is.
- ii) Explain possible sources of lead in drinking water and how lead enters drinking water. Include information on home and building plumbing materials and service lines that may contain lead.
- iii) Discuss other important sources of lead exposure in addition to drinking water (e.g., paint).

BOARD NOTE: The supplier must use text that provides the information described in this subsection (a)(1)(C).

- D) Discuss the steps the consumer can take to reduce his or her exposure to lead in drinking water.
  - i) Encourage running the water to flush out the lead.
  - ii) Explain concerns with using hot water from the tap and specifically caution against the use of hot water for preparing baby formula.
  - iii) Explain that boiling water does not reduce lead levels.
  - iv) Discuss other options consumers can take to reduce exposure to lead in drinking water, such as alternative sources or treatment of water.
  - v) Suggest that parents have their child's blood tested for lead.

BOARD NOTE: The supplier must use text that provides the information described in this subsection (a)(1)(D).

- E) Explain why there are elevated levels of lead in the supplier's drinking water (if known) and what the supplier is doing to reduce the lead levels in homes and buildings in this area.

BOARD NOTE: The supplier must use text that provides the information described in this subsection (a)(1)(E).

- F) For more information, call us at [INSERT THE SUPPLIER'S NUMBER] [(IF APPLICABLE)], or visit our Web site at [INSERT

3166 THE SUPPLIER'S WEB SITE HERE]]. For more information on  
3167 reducing lead exposure around your home/building and the health  
3168 effects of lead, visit USEPA's Web site at <http://www.epa.gov/lead>  
3169 or contact your health care provider.  
3170

3171 BOARD NOTE: The supplier must use the verbatim text set forth  
3172 in this subsection (a)(1)(F), with the exception that the supplier  
3173 must insert its name in place of the first segment of bracketed text,  
3174 and it must add the second segment of bracketed text and substitute  
3175 its Web address for the internal bracketed text.  
3176

- 3177 2) Community water systems. In addition to including the elements specified  
3178 in subsection (a)(1), a CWS supplier must do both of the following:  
3179  
3180 A) It must tell consumers how to get their water tested; and  
3181  
3182 B) It must discuss lead in plumbing components and the difference  
3183 between low-lead and lead-free components.  
3184

3185 BOARD NOTE: At corresponding 40 CFR 141.85(a)(1) (2016), USEPA allowed  
3186 the State to require prior approval of written public information materials. Rather  
3187 than require prior Agency approval, the Board has chosen to allow the Agency to  
3188 raise any deficiencies that it may perceive using its existing procedure for review  
3189 of public education materials. The Agency has outlined its standard practice for  
3190 review of public information materials as follows: The Agency provides a  
3191 comprehensive public education packet to the supplier together with the notice  
3192 that the supplier has exceeded the lead action level. That packet includes  
3193 guidance and templates for the supplier to use in preparing and distributing its  
3194 public education materials. The supplier must send a copy of the public education  
3195 materials that it distributes to the Agency, and the Agency reviews the copy of the  
3196 materials after their distribution to the public. The Agency directly communicates  
3197 to the supplier any perceived defects in the materials. The Agency will request  
3198 correction when it perceives minor defects in future distributions of the public  
3199 education materials, or the Agency will request a redistribution of corrected  
3200 public education materials when it perceives major defects in the materials  
3201 already distributed.  
3202

3203 b) Delivery of public education materials.  
3204

- 3205 1) The public education materials of a supplier that serves a large proportion  
3206 of non-English-speaking consumers must contain information in the  
3207 appropriate languages regarding the importance of the notice, or it must  
3208 contain a telephone number or address where a person served may contact

3209 the supplier to obtain a translated copy of the public education materials or  
3210 to request assistance in the appropriate language.

3211  
3212 2) A CWS supplier that exceeds the lead action level on the basis of tap  
3213 water samples collected in accordance with Section 611.356 and which is  
3214 not already conducting public education tasks ~~underpursuant to this~~  
3215 Section must, within 60 days after the end of the monitoring period in  
3216 which the exceedance occurred, complete the public education tasks  
3217 according to the following requirements:

3218  
3219 A) The CWS supplier must deliver printed materials that meet the  
3220 content requirements of subsection (a) to all of its bill-paying  
3221 customers.

3222  
3223 B) Methods of delivery for a CWS supplier.

3224  
3225 i) The CWS supplier must contact customers who are most at  
3226 risk by delivering education materials that meet the content  
3227 requirements of subsection (a) to local public health  
3228 agencies, even if the agencies are not located within the  
3229 supplier's service area, along with an informational notice  
3230 that encourages distribution to all of the agencies'  
3231 potentially affected customers or the supplier's users. The  
3232 supplier must contact the local public health agencies  
3233 directly by phone or in person. The local public health  
3234 agencies may provide a specific list of additional  
3235 community-based organizations that serve the target  
3236 populations, which may include organizations outside the  
3237 service area of the supplier. If such lists are provided, the  
3238 supplier must deliver education materials that meet the  
3239 content requirements of subsection (a) to each of the  
3240 organizations on the provided lists.

3241  
3242 ii) The CWS supplier must contact customers who are most at  
3243 risk by delivering materials that meet the content  
3244 requirements of subsection (a) to the organizations listed in  
3245 subsections (b)(2)(H)(i) through (b)(2)(H)(vi) that are  
3246 located within the supplier's service area, along with an  
3247 informational notice that encourages distribution to all the  
3248 organization's potentially affected customers or supplier's  
3249 users.

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3251 BOARD NOTE: The Board found it necessary to move the  
3252 text of 40 CFR 141.85(b)(2)(ii)(B)(1) through  
3253 (b)(2)(ii)(B)(6) (2007), as added at 72 Fed. Reg. 57782  
3254 (Oct. 10, 2007), to appear as subsection (b)(2)(H)(i)  
3255 through subsection (b)(2)(H)(vi), in order to comport with  
3256 Illinois Administrative Code codification requirements  
3257 relating to allowed indent levels in rules.  
3258

3259 iii) The CWS supplier must make a good faith effort to locate  
3260 the organizations listed in subsections (b)(2)(I)(i) through  
3261 (b)(2)(I)(iii) that are located within the service area and  
3262 deliver materials that meet the content requirements of  
3263 subsection (a) to them, along with an informational notice  
3264 that encourages distribution to all potentially affected  
3265 customers or users. The good faith effort to contact at-risk  
3266 customers may include requesting a specific contact list of  
3267 these organizations from the local public health agencies,  
3268 even if the agencies are not located within the supplier's  
3269 service area.  
3270

3271 BOARD NOTE: The Board found it necessary to move the  
3272 text of 40 CFR 141.85(b)(2)(ii)(C)(1) through  
3273 (b)(2)(ii)(C)(3) (2007), as added at 72 Fed. Reg. 57782  
3274 (Oct. 10, 2007), to appear as subsection (b)(2)(I)(i) through  
3275 subsection (b)(2)(I)(iii), in order to comport with Illinois  
3276 Administrative Code codification requirements relating to  
3277 allowed indent levels in rules.  
3278

3279 C) No less often than quarterly, the CWS supplier must provide  
3280 information on or in each water bill as long as the system exceeds  
3281 the action level for lead. The message on the water bill must  
3282 include the following statement exactly as written, except for the  
3283 text in brackets for which the supplier must include system-  
3284 specific information:

3285  
3286 [INSERT NAME OF SUPPLIER] found high levels of lead  
3287 in drinking water in some homes. Lead can cause serious  
3288 health problems. For more information please call  
3289 [INSERT NAME OF SUPPLIER] [or visit (INSERT  
3290 SUPPLIER'S WEB SITE HERE)]. The message or  
3291 delivery mechanism can be modified in consultation with  
3292 the Illinois Environmental Protection Agency, Division of  
3293 Public Water Supply; specifically, the Agency may allow a

3294 separate mailing of public education materials to customers  
3295 if the water system cannot place the information on water  
3296 bills.  
3297

3298 D) The CWS supplier must post material meeting the content  
3299 requirements of subsection (a) on the supplier's Web site if the  
3300 CWS supplier serves a population greater than 100,000.  
3301

3302 E) The CWS supplier must submit a press release to newspaper,  
3303 television, and radio stations.  
3304

3305 F) In addition to subsections (b)(2)(A) through (b)(2)(E), the CWS  
3306 supplier must implement at least three activities from one or more  
3307 of the categories listed below. The educational content and  
3308 selection of these activities must be determined in consultation  
3309 with the Agency.  
3310

3311 i) Public Service Announcements.  
3312

3313 ii) Paid advertisements.  
3314

3315 iii) Public Area Information Displays.  
3316

3317 iv) E-mails to customers.  
3318

3319 v) Public Meetings.  
3320

3321 vi) Household Deliveries.  
3322

3323 vii) Targeted Individual Customer Contact.  
3324

3325 viii) Direct material distribution to all multi-family homes and  
3326 institutions.  
3327

3328 ix) Other methods approved by the State.  
3329

3330 G) For a CWS supplier that is required to conduct monitoring  
3331 annually or less frequently, the end of the monitoring period is  
3332 September 30 of the calendar year in which the sampling occurs,  
3333 or, if the Agency has established an alternate monitoring period, by  
3334 a SEP issued pursuant to Section 611.110, the last day of that  
3335 period.  
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H) Organizations that the CWS supplier must contact when required to do so ~~under~~pursuant to subsection (b)(2)(B)(ii).

- i) Public and private schools or school boards.
- ii) Women, Infants and Children (WIC) and Head Start programs.
- iii) Public and private hospitals and medical clinics.
- vi) Pediatricians.
- v) Family planning clinics.
- vi) Local welfare agencies.

BOARD NOTE: This subsection (b)(2)(H) corresponds with 40 CFR 141.85(b)(2)(ii)(B)(1) through (b)(2)(ii)(B)(6) (2016). The Board found it necessary to move the text of those federal provisions to comport with Illinois Administrative Code codification requirements relating to allowed indent levels in rules.

I) Organizations that the CWS supplier must contact when required to do so ~~under~~pursuant to subsection (b)(2)(B)(iii).

- i) Licensed childcare centers.
- ii) Public and private preschools.
- iii) Obstetricians-gynecologists and midwives.

BOARD NOTE: This subsection (b)(2)(H) corresponds with 40 CFR 141.85(b)(2)(ii)(C)(1) through (b)(2)(ii)(C)(3) (2007), as added at 72 Fed. Reg. 57782 (Oct. 10, 2007). The Board found it necessary to move the text of those federal provisions to comport with Illinois Administrative Code codification requirements relating to allowed indent levels in rules.

3) As long as a CWS supplier exceeds the action level, it must repeat the activities described in subsection (b)(2), as described in subsections (b)(3)(A) through (b)(3)(D).

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- A) A CWS supplier must repeat the tasks contained in subsections (b)(2)(A), (b)(2)(B), and (b)(2)(D) every 12 months.
  - B) A CWS supplier must repeat tasks contained in subsection (b)(2)(C) with each billing cycle.
  - C) A CWS supplier serving a population greater than 100,000 must post and retain material on a publicly accessible Web site underpursuant to subsection (b)(2)(D).
  - D) The CWS supplier must repeat the task in subsection (b)(2)(E) twice every 12 months on a schedule agreed upon with the Agency by a SEP ~~issued pursuant to Section 611.110~~. The Agency must, on a case-by-case basis, by a SEP ~~issued pursuant to Section 611.110~~, extend the time for the supplier to complete the public education tasks set forth in subsection (b)(2) beyond the 60-day limit if it determines that the extended time is needed for implementation purposes; however, the Agency must issue the SEP granting any extension prior to expiration of the 60-day deadline.
- 4) Within 60 days after the end of the monitoring period in which a NTNCWS supplier exceeds the lead action level (unless it already is repeating public education tasks underpursuant to subsection (b)(5)), it must deliver the public education materials specified by subsection (a).
- A) The public education materials must be delivered as follows:
    - i) The NTNCWS supplier must post informational posters on lead in drinking water in a public place or common area in each of the buildings served by the supplier; and
    - ii) The NTNCWS supplier must distribute informational pamphlets or brochures on lead in drinking water to each person served by the NTNCWS supplier. The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, allow the system to utilize electronic transmission in lieu of or combined with printed materials as long as it achieves at least the same coverage.
  - B) For a NTNCWS supplier that is required to conduct monitoring annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs,

- 3422 or, if the Agency has established an alternate monitoring period, by  
 3423 a SEP issued pursuant to Section 611.110, the last day of that  
 3424 period.  
 3425
- 3426 5) A NTNCWS supplier must repeat the tasks set forth in subsection (b)(4) at  
 3427 least once during each calendar year in which the supplier exceeds the lead  
 3428 action level. The Agency must, on a case-by-case basis, by a SEP issued  
 3429 pursuant to Section 611.110, extend the time for the supplier to complete  
 3430 the public education tasks set forth in subsection (b)(2) beyond the 60-day  
 3431 limit if it determines that the extended time is needed for implementation  
 3432 purposes; however, the Agency must issue the SEP granting any extension  
 3433 prior to expiration of the 60-day deadline.  
 3434
- 3435 6) A supplier may discontinue delivery of public education materials after it  
 3436 has met the lead action level during the most recent six-month monitoring  
 3437 period conducted underpursuant to Section 611.356. Such a supplier must  
 3438 begin public education anew in accordance with this Section if it  
 3439 subsequently exceeds the lead action level during any six-month  
 3440 monitoring period.  
 3441
- 3442 7) A CWS supplier may apply to the Agency, in writing, to use only the text  
 3443 specified in subsection (a)(1) in lieu of the text in subsections (a)(1) and  
 3444 (a)(2) and to perform the tasks listed in subsections (b)(4) and (b)(5) in  
 3445 lieu of the tasks in subsections (b)(2) and (b)(3) if the following are true:  
 3446
- 3447 A) The supplier is a facility, such as a prison or a hospital, where the  
 3448 population served is not capable of or is prevented from making  
 3449 improvements to plumbing or installing point of use treatment  
 3450 devices; and  
 3451
- 3452 B) The system provides water as part of the cost of services provided,  
 3453 and it does not separately charge for water consumption.  
 3454
- 3455 8) A CWS supplier that serves 3,300 or fewer people may limit certain  
 3456 aspects of its public education programs as follows:  
 3457
- 3458 A) With respect to the requirements of subsection (b)(2)(F), a supplier  
 3459 that serves 3,300 or fewer people must implement at least one of  
 3460 the activities listed in that subsection.  
 3461
- 3462 B) With respect to the requirements of subsection (b)(2)(B), a supplier  
 3463 that serves 3,300 or fewer people may limit the distribution of the  
 3464 public education materials required under that subsection to

3465 facilities and organizations that it serves which are most likely to  
3466 be visited regularly by pregnant women and children.

3467  
3468 C) With respect to the requirements of subsection (b)(2)(E), the  
3469 Agency may, by a SEP-issued pursuant to ~~Section 611.110~~, waive  
3470 this requirement for a supplier that serves 3,300 or fewer persons,  
3471 as long as the supplier distributes notices to every household that it  
3472 serves.  
3473

3474 c) Supplemental monitoring and notification of results. A supplier that fails to meet  
3475 the lead action level on the basis of tap samples collected in accordance with  
3476 Section 611.356 must offer to sample the tap water of any customer who requests  
3477 it. The supplier is not required to pay for collecting or analyzing the sample, nor  
3478 is the supplier required to collect and analyze the sample itself.  
3479

3480 d) Requirement for consumer notice of tap water monitoring results.

3481 1) Consumer notice requirement. A supplier must provide a notice of the  
3482 individual tap results from lead tap water monitoring carried out under the  
3483 requirements of Section 611.356 to the persons served by the water system  
3484 at the specific sampling site from which the sample was taken (e.g., the  
3485 occupants of the residence where the tap was tested).  
3486

3487 2) Timing of consumer notice. The supplier must provide the consumer  
3488 notice as soon as practical, but no later than 30 days after it learns of the  
3489 tap monitoring results.  
3490

3491 3) Content of consumer notice. The consumer notice must include the results  
3492 of lead tap water monitoring for the tap that was tested, an explanation of  
3493 the health effects of lead, a list of steps that consumers can take to reduce  
3494 exposure to lead in drinking water, and contact information for the water  
3495 utility. The notice must also provide the maximum contaminant level goal  
3496 and the action level for lead and the definitions for these two terms from  
3497 Section 611.883(c).  
3498

3499 4) Delivery of consumer notice. The consumer notice must be provided to  
3500 persons served at the tap that was tested, either by mail or by another  
3501 method approved by the Agency, by a SEP-issued pursuant to ~~Section~~  
3502 ~~611.110~~. For example, upon approval by the Agency, a NTNCWS  
3503 supplier could post the results on a bulletin board in the facility to allow  
3504 users to review the information. The supplier must provide the notice to  
3505 customers at sample taps tested, including consumers who do not receive  
3506 water bills.  
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BOARD NOTE: Derived from 40 CFR 141.85 (2016).

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

**Section 611.356 Tap Water Monitoring for Lead and Copper**

- a) Sampling site location.
  - 1) Selecting a pool of targeted sampling sites.
    - A) By the applicable date for commencement of monitoring under subsection (d)(1), each supplier must complete a materials evaluation of its distribution system in order to identify a pool of targeted sampling sites that meets the requirements of this Section.
    - B) The pool of targeted sampling sites must be sufficiently large to ensure that the supplier can collect the number of lead and copper tap samples required by subsection (c).
    - C) The supplier must select the sites for collection of first draw samples from this pool of targeted sampling sites.
    - D) The supplier must not select as sampling sites any faucets that have point-of-use or point-of-entry treatment devices designed to remove or capable of removing inorganic contaminants.
  - 2) Materials evaluation.
    - A) A supplier must use the information on lead, copper, and galvanized steel collected ~~underpursuant to~~ 40 CFR 141.42(d) (special monitoring for corrosivity characteristics) when conducting a materials evaluation.
    - B) When an evaluation of the information collected ~~underpursuant to~~ 40 CFR 141.42(d) is insufficient to locate the requisite number of lead and copper sampling sites that meet the targeting criteria in subsection (a), the supplier must review the following sources of information in order to identify a sufficient number of sampling sites:
      - i) All plumbing codes, permits, and records in the files of the building departments that indicate the plumbing materials

- 3551 that are installed within publicly- and privately-owned  
3552 structures connected to the distribution system;  
3553  
3554 ii) All inspections and records of the distribution system that  
3555 indicate the material composition of the service  
3556 connections which connect a structure to the distribution  
3557 system;  
3558  
3559 iii) All existing water quality information, which includes the  
3560 results of all prior analyses of the system or individual  
3561 structures connected to the system, indicating locations that  
3562 may be particularly susceptible to high lead or copper  
3563 concentrations; and  
3564  
3565 iv) The supplier must seek to collect such information where  
3566 possible in the course of its normal operations (e.g.,  
3567 checking service line materials when reading water meters  
3568 or performing maintenance activities).  
3569

3570 3) Tiers of sampling sites. Suppliers must categorize the sampling sites  
3571 within their pool according to the following tiers:  
3572

- 3573 A) CWS Tier 1 sampling sites. "CWS Tier 1 sampling sites" must  
3574 include the following single-family structures:  
3575  
3576 i) Those that contain copper pipes with lead solder installed  
3577 after 1982 or which contain lead pipes; or  
3578  
3579 ii) Those that are served by a lead service line.  
3580

3581 BOARD NOTE: Subsection (a)(3)(A) was derived from segments  
3582 of 40 CFR 141.86(a)(3) (2016). This allows the pool of CWS tier 1  
3583 sampling sites to consist exclusively of structures served by lead  
3584 service lines.  
3585

- 3586 B) CWS Tier 2 sampling sites. "CWS Tier 2 sampling sites" must  
3587 include the following buildings, including multiple-family  
3588 structures:  
3589  
3590 i) Those that contain copper pipes with lead solder installed  
3591 after 1982 or which contain lead pipes; or  
3592  
3593 ii) Those that are served by a lead service line.

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BOARD NOTE: Subsection (a)(3)(B) was derived from segments of 40 CFR 141.86(a)(4) (2016). This allows the pool of CWS tier 2 sampling sites to consist exclusively of structures served by lead service lines.

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

BOARD NOTE: Subsection (a)(3)(C) was derived from segments of 40 CFR 141.86(a)(5) (2016).

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

- i) Those that contain copper pipes with lead solder installed after 1982 or which contain lead pipes; or
- ii) Those that are served by a lead service line.

BOARD NOTE: Subsection (a)(3)(D) was derived from segments of 40 CFR 141.86(a)(6) (2016). This allows the pool of NTNCWS tier 1 sampling sites to consist exclusively of buildings served by lead service lines.

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

BOARD NOTE: Subsection (a)(3)(E) was derived from segments of 40 CFR 141.86(a)(7) (2016).

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

- A) CWS Suppliers. CWS suppliers must use CWS tier 1 sampling sites, except that the supplier may include CWS tier 2 or CWS tier 3 sampling sites in its sampling pool as follows:

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

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BOARD NOTE: Subsection (a)(4)(A)(i) was derived from a segment of 40 CFR 141.86(a)(3)(ii) (2016).

- ii) If the CWS supplier has an insufficient number of CWS tier 1 sampling sites on its distribution system, the supplier may use CWS tier 2 sampling sites in its sampling pool; or

BOARD NOTE: Subsection (a)(4)(A)(ii) was derived from a segment of 40 CFR 141.86(a)(4) (2016).

- iii) If the CWS supplier has an insufficient number of CWS tier 1 and CWS tier 2 sampling sites on its distribution system, the supplier may complete its sampling pool with CWS tier 3 sampling sites.

BOARD NOTE: Subsection (a)(4)(A)(iii) was derived from a segment of 40 CFR 141.86(a)(5) (2016).

- iv) If the CWS supplier has an insufficient number of CWS tier 1 sampling sites, CWS tier 2 sampling sites, and CWS tier 3 sampling sites, the supplier must use those CWS tier 1 sampling sites, CWS tier 2 sampling sites, and CWS tier 3 sampling sites that it has and complete its sampling pool with representative sites throughout its distribution system for the balance of its sampling sites. For the purpose of this subsection (a)(4)(A)(iv), a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the water system.

BOARD NOTE: Subsection (a)(4)(A)(iv) was derived from segments of 40 CFR 141.86(a)(5) (2016).

B) NTNCWS suppliers.

- i) An NTNCWS supplier must select NTNCWS tier 1 sampling sites for its sampling pool.

BOARD NOTE: Subsection (a)(4)(B)(i) was derived from segments of 40 CFR 141.86(a)(6) (2016).

- ii) If the NTNCWS supplier has an insufficient number of NTNCWS tier 1 sampling sites, the supplier may complete

3680 its sampling pool with alternative NTNCWS sampling  
3681 sites.

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3683 BOARD NOTE: Subsection (a)(4)(B)(ii) was derived from  
3684 segments of 40 CFR 141.86(a)(7) (2016).

3685  
3686 iii) If the NTNCWS supplier has an insufficient number of  
3687 NTNCWS tier 1 sampling sites and NTNCWS alternative  
3688 sampling sites, the supplier must use representative sites  
3689 throughout its distribution system. For the purpose of this  
3690 subsection (a)(4)(B)(ii), a representative site is a site in  
3691 which the plumbing materials used at that site would be  
3692 commonly found at other sites served by the water system.

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3694 BOARD NOTE: Subsection (a)(4)(B)(iii) was derived  
3695 from segments of 40 CFR 141.86(a)(7) (2016).

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3697 C) Suppliers with lead service lines. Any supplier whose distribution  
3698 system contains lead service lines must draw samples during each  
3699 six-month monitoring period from sampling sites as follows:

3700  
3701 i) 50 percent of the samples from sampling sites that contain  
3702 lead pipes or from sampling sites that have copper pipes  
3703 with lead solder; and

3704  
3705 ii) 50 percent of those samples from sites served by a lead  
3706 service line.

3707  
3708 iii) A supplier that cannot identify a sufficient number of  
3709 sampling sites served by a lead service line must collect  
3710 first-draw samples from all of the sites identified as being  
3711 served by such lines.

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3713 BOARD NOTE: Subsection (a)(4)(C) was derived from segments  
3714 of 40 CFR 141.86(a)(8) (2016). This allows the pool of sampling  
3715 sites to consist exclusively of structures or buildings served by  
3716 lead service lines.

3717  
3718 b) Sample collection methods.

3719  
3720 1) All tap samples for lead and copper collected in accordance with this  
3721 Subpart G, with the exception of lead service line samples collected under  
3722 Section 611.354(c) and samples collected under subsection (b)(5), must be

- 3723 first-draw samples.  
 3724  
 3725 2) First-draw tap samples.  
 3726  
 3727 A) Each first-draw tap sample for lead and copper must be one liter in  
 3728 volume and have stood motionless in the plumbing system of each  
 3729 sampling site for at least six hours.  
 3730  
 3731 B) First-draw samples from residential housing must be collected  
 3732 from the cold water kitchen tap or bathroom sink tap.  
 3733  
 3734 C) First-draw samples from a non-residential building must be one  
 3735 liter in volume and must be collected at an interior tap from which  
 3736 water is typically drawn for consumption.  
 3737  
 3738 D) Non-first-draw samples collected in lieu of first-draw samples  
 3739 underpursuant to subsection (b)(5) must be one liter in volume and  
 3740 must be collected at an interior tap from which water is typically  
 3741 drawn for consumption.  
 3742  
 3743 E) First-draw samples may be collected by the supplier or the supplier  
 3744 may allow residents to collect first-draw samples after instructing  
 3745 the residents of the sampling procedures specified in this  
 3746 subsection (b).  
 3747  
 3748 i) To avoid problems of residents handling nitric acid,  
 3749 acidification of first-draw samples may be done up to 14  
 3750 days after the sample is collected.  
 3751  
 3752 ii) After acidification to resolubilize the metals, the sample  
 3753 must stand in the original container for the time specified in  
 3754 the approved USEPA method before the sample can be  
 3755 analyzed.  
 3756  
 3757 F) If a supplier allows residents to perform sampling under subsection  
 3758 (b)(2)(D), the supplier may not challenge the accuracy of sampling  
 3759 results based on alleged errors in sample collection.  
 3760  
 3761 3) Service line samples.  
 3762  
 3763 A) Each service line sample must be one liter in volume and have  
 3764 stood motionless in the lead service line for at least six hours.  
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- B) Lead service line samples must be collected in one of the following three ways:
    - i) At the tap after flushing that volume of water calculated as being between the tap and the lead service line based on the interior diameter and length of the pipe between the tap and the lead service line;
    - ii) Tapping directly into the lead service line; or
    - iii) If the sampling site is a single-family structure, allowing the water to run until there is a significant change in temperature that would be indicative of water that has been standing in the lead service line.
  
  - 4) Follow-up first-draw tap samples.
    - A) A supplier must collect each follow-up first-draw tap sample from the same sampling site from which it collected the previous samples.
    - B) If, for any reason, the supplier cannot gain entry to a sampling site in order to collect a follow-up tap sample, the supplier may collect the follow-up tap sample from another sampling site in its sampling pool, as long as the new site meets the same targeting criteria and is within reasonable proximity of the original site.
  
  - 5) Substitute non-first-draw samples.
    - A) A NTNCWS supplier or a CWS supplier that meets the criteria of Sections 611.355(b)(7)(A) and (b)(7)(B), that does not have enough taps that can supply first-draw samples, as defined in Section 611.102, may apply to the Agency in writing to substitute non-first-draw samples by a SEP ~~granted under Section 611.110~~.
    - B) A supplier approved to substitute non-first-draw samples must collect as many first-draw samples from appropriate taps as possible and identify sampling times and locations that would likely result in the longest standing time for the remaining sites.
    - C) The Agency may grant a SEP that waives the requirement for prior Agency approval of non-first-draw sampling sites selected by the system.

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c) Number of samples.

- 1) Suppliers must collect at least one sample from the number of sites listed in the first column of Table D of this Part (labelled "standard monitoring") during each six-month monitoring period specified in subsection (d).
- 2) A supplier conducting reduced monitoring ~~underpursuant to~~ subsection (d)(4) must collect one sample from the number of sites specified in the second column of Table D of this Part (labelled "reduced monitoring") during each reduced monitoring period specified in subsection (d)(4). Such reduced monitoring sites must be representative of the sites required for standard monitoring. A supplier whose system has fewer than five drinking water taps that can be used for human consumption and which can meet the sampling site criteria of subsection (a) to reach the required number of sampling sites listed in this subsection (c) must collect multiple samples from individual taps. To accomplish this, the supplier must collect at least one sample from each tap, then it must collect additional samples from those same taps on different days during the monitoring period, in order to collect a total number of samples that meets the required number of sampling sites. Alternatively, the Agency must, by a SEP ~~issued pursuant to Section 611.110~~, allow a supplier whose system has fewer than five drinking water taps to collect a number of samples that is fewer than the number of sites specified in this subsection (c) if it determines that 100 percent of all taps that can be used for human consumption are sampled and that the reduced number of samples will produce the same results as would the collection of multiple samples from some taps. Any Agency approval of a reduction of the minimum number of samples must be based on a request from the supplier or on on-site verification by the Agency. The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, specify sampling locations when a system is conducting reduced monitoring.

d) Timing of monitoring.

- 1) Six-Month Sampling Periods. Six-month sampling periods begin on January 1 and July 1 of each year.
  - A) All large system suppliers must monitor during each consecutive six-month period, except as provided in subsection (d)(4)(B).
  - B) All small- and medium-sized system suppliers must monitor during each consecutive six-month monitoring period until the following is true:

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- i) The supplier exceeds the lead action level or the copper action level and is therefore required to implement the corrosion control treatment requirements under Section 611.351, in which case the supplier must continue monitoring in accordance with subsection (d)(2); or
  - ii) The supplier meets the lead action level and the copper action level during each of two consecutive six-month monitoring periods, in which case the supplier may reduce monitoring in accordance with subsection (d)(4).
  
- 2) Monitoring after installation of corrosion control and source water treatment.
  - A) Any large system supplier that installs optimal corrosion control treatment ~~underpursuant to~~ Section 611.351(d)(4) must monitor during two consecutive six-month monitoring periods.
  - B) Any small- or medium-sized system supplier that installs optimal corrosion control treatment ~~underpursuant to~~ Section 611.351(e)(5) must monitor during two consecutive six-month monitoring periods before 36 months after the Agency approves optimal corrosion control treatment, as specified in Section 611.351(e)(6).
  - C) Any supplier that installs source water treatment ~~underpursuant to~~ Section 611.353(a)(3) must monitor during two consecutive six-month monitoring periods before 36 months after completion of step 2, as specified in Section 611.353(a)(4).
  
- 3) Monitoring after the Agency specification of water quality parameter values for optimal corrosion control. After the Agency specifies the values for water quality control parameters ~~underpursuant to~~ Section 611.352(f), the supplier must monitor during each subsequent six-month monitoring period, with the first six-month monitoring period to begin on the date the Agency specifies the optimal values.
  
- 4) Reduced monitoring.
  - A) Reduction to annual for small- and medium-sized system suppliers meeting the lead and copper action levels. A small- or medium-sized system supplier that meets the lead and copper action levels during each of two consecutive six-month monitoring periods may

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reduce the number of samples in accordance with subsection (c), and reduce the frequency of sampling to once per year. A small- or medium-sized system supplier that collects fewer than five samples as specified in subsection (c) and which meets the lead and copper action levels during each of two consecutive six-month monitoring periods may reduce its frequency of sampling to once per year. In no case can the supplier reduce the number of samples required below the minimum of one sample per available tap. This reduced sampling may only begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.

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

i) Any supplier that meets the lead action level and which maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the Agency under Section 611.352(f) during each of two consecutive six-month monitoring periods may reduce the frequency of monitoring to once per year and the number of lead and copper samples to that specified by subsection (c) if it receives written approval from the Agency in the form of a SEP ~~issued pursuant to Section 611.110~~. This reduced sampling may only begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.

ii) The Agency must review monitoring, treatment, and other relevant information submitted by the water system in accordance with Section 611.360, and must notify the system in writing by a SEP ~~issued pursuant to Sections 611.110~~ when it determines the system is eligible to reduce its monitoring frequency to once every three years underpursuant to this subsection (d)(4).

iii) The Agency must review, and where appropriate, revise its determination under subsection (d)(4)(B)(i) when the supplier submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available to the Agency.

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

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suppliers.

- i) Small- and medium-sized system suppliers meeting lead and copper action levels. A small- or medium-sized system supplier that meets the lead action level and which meets the lead and copper action levels during three consecutive years of monitoring may reduce the frequency of monitoring for lead and copper from annually to once every three years.
  - ii) SEP for suppliers meeting optimal corrosion control treatment. Any supplier that maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the Agency under Section 611.352(f) during three consecutive years of monitoring may reduce its monitoring frequency from annual to once every three years if it receives written approval from the Agency in the form of a SEP issued pursuant to Section 611.110. Samples collected once every three years must be collected no later than every third calendar year.
  - iii) The Agency must review, and where appropriate, revise its determination under subsection (d)(4)(C)(ii) when the supplier submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available to the Agency.
- D) Sampling at a reduced frequency. A supplier that reduces the number and frequency of sampling must collect these samples from representative sites included in the pool of targeted sampling sites identified in subsection (a), preferentially selecting those sampling sites from the highest tier first. Suppliers sampling annually or less frequently must conduct the lead and copper tap sampling during the months of June, July, August, or September, unless the Agency has approved a different sampling period in accordance with subsection (d)(4)(D)(i).
- i) The Agency may grant a SEP pursuant to Section 611.110 that approves a different period for conducting the lead and copper tap sampling for systems collecting a reduced number of samples. Such a period must be no longer than four consecutive months and must represent a time of

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normal operation where the highest levels of lead are most likely to occur. For a NTNCWS supplier that does not operate during the months of June through September and for which the period of normal operation where the highest levels of lead are most likely to occur is not known, the Agency must designate a period that represents a time of normal operation for the system. This reduced sampling may only begin during the period approved or designated by the Agency in the calendar year immediately following the end of the second consecutive six-month monitoring period for systems initiating annual monitoring and during the three-year period following the end of the third consecutive calendar year of annual monitoring for a supplier initiating triennial monitoring.

ii) A supplier monitoring annually that has been collecting samples during the months of June through September and which receives Agency approval to alter its sample collection period under subsection (d)(4)(D)(i) must collect its next round of samples during a time period that ends no later than 21 months after the previous round of sampling. A supplier monitoring once every three years that has been collecting samples during the months of June through September and which receives Agency approval to alter the sampling collection period as provided in subsection (d)(4)(D)(i) must collect its next round of samples during a time period that ends no later than 45 months after the previous round of sampling. Subsequent rounds of sampling must be collected annually or once every three years, as required by this Section. A small system supplier with a waiver granted underpursuant to subsection (g) that has been collecting samples during the months of June through September and which receives Agency approval to alter its sample collection period under subsection (d)(4)(D)(i) must collect its next round of samples before the end of the nine-year compliance cycle (as that term is defined in Section 611.101).

E) Any water system that demonstrates for two consecutive six-month monitoring periods that the tap water lead level computed under Section 611.350(c)(3) is less than or equal to 0.005 mg/ℓ and that the tap water copper level computed under Section 611.350(c)(3) is less than or equal to 0.65 mg/ℓ may reduce the number of samples

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in accordance with subsection (c) and reduce the frequency of sampling to once every three calendar years.

- F) Resumption of standard monitoring.
  - i) Small- or medium-sized suppliers exceeding lead or copper action level. A small- or medium-sized system supplier subject to reduced monitoring that exceeds the lead action level or the copper action level must resume sampling in accordance subsection (d)(3) and collect the number of samples specified for standard monitoring under subsection (c). Such a supplier must also conduct water quality parameter monitoring in accordance with Section 611.357(b), (c), or (d) (as appropriate) during the six-month monitoring period in which it exceeded the action level. Any such supplier may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in subsection (c) after it has completed two subsequent consecutive six-month rounds of monitoring that meet the criteria of subsection (d)(4)(A). Any such supplier may resume monitoring once every three years for lead and copper at the reduced number of sites after it demonstrates through subsequent rounds of monitoring that it meets the criteria of either subsection (d)(4)(C) or (d)(4)(E).
  - ii) Suppliers failing to operate within water quality control parameters. Any supplier subject to reduced monitoring frequency that fails to meet the lead action level during any four-month monitoring period or that fails to operate within the range of values for the water quality control parameters specified ~~underpursuant to~~ pursuant to Section 611.352(f) for more than nine days in any six-month period specified in Section 611.357(d) must conduct tap water sampling for lead and copper at the frequency specified in subsection (d)(3), must collect the number of samples specified for standard monitoring under subsection (c), and must resume monitoring for water quality parameters within the distribution system in accordance with Section 611.357(d). This standard tap water sampling must begin no later than the six-month period beginning January 1 of the calendar year following the lead action level exceedance or water quality parameter excursion. A supplier may resume

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reduced monitoring for lead and copper at the tap and for water quality parameters within the distribution system only if it fulfills the conditions set forth in subsection (d)(4)(H).

BOARD NOTE: The Board moved the material from the last sentence of 40 CFR 141.86(d)(4)(vi)(B) and 40 CFR 141.86(d)(4)(vi)(B)(1) through (d)(4)(vi)(B)(3) (2007) to subsections (d)(4)(H) and (d)(4)(H)(i) through (d)(4)(H)(iii), since Illinois Administrative Code codification requirements allow subsections only to four indent levels.

- G) Any water supplier subject to a reduced monitoring frequency under subsection (d)(4) must notify the Agency in writing in accordance with Section 611.360(a)(3) of any upcoming long-term change in treatment or addition of a new source as described in that Section. The Agency must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the supplier. The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, require the system to resume sampling in accordance with subsection (d)(3) and collect the number of samples specified for standard monitoring under subsection (c) or take other appropriate steps such as increased water quality parameter monitoring or re-evaluation of its corrosion control treatment given the potentially different water quality considerations.
  
- H) A supplier required under subsection (d)(4)(F) to resume monitoring in accordance with Section 611.357(d) may resume reduced monitoring for lead and copper at the tap and for water quality parameters within the distribution system under the following conditions:
  - i) The supplier may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in subsection (c) after it has completed two subsequent six-month rounds of monitoring that meet the criteria of subsection (d)(4)(B) and the supplier has received written approval from the Agency by a SEP ~~pursuant to Section 611.110~~ that it is appropriate to resume reduced monitoring on an annual frequency. This sampling must begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.

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- ii) The supplier may resume monitoring for lead and copper once every three years at the tap at the reduced number of sites after it demonstrates through subsequent rounds of monitoring that it meets the criteria of either subsection (d)(4)(C) or (d)(4)(E) and the system has received a SEP ~~under Section 611.110~~ from the Agency that it is appropriate to resume monitoring once every three years.
  
- iii) The supplier may reduce the number of water quality parameter tap water samples required in accordance with Section 611.357(e)(1) and the frequency with which it collects such samples in accordance with Section 611.357(e)(2). Such a system may not resume monitoring once every three years for water quality parameters at the tap until it demonstrates, in accordance with the requirements of Section 611.357(e)(2), that it has re-qualified for monitoring once every three years.

BOARD NOTE: Subsections (d)(4)(H) and (d)(4)(H)(i) through (d)(4)(H)(iii) are derived from the last sentence of 40 CFR 141.86(d)(4)(vi)(B) and 40 CFR 141.86 (d)(4)(vi)(B)(1) through (d)(4)(vi)(B)(3) (2016), since Illinois Administrative Code codification requirements allow only four indent levels of subsections.

- e) Additional monitoring. The results of any monitoring conducted in addition to the minimum requirements of this Section must be considered by the supplier and the Agency in making any determinations (i.e., calculating the 90<sup>th</sup> percentile lead action level or the copper level) under this Subpart G.
  
- f) Invalidation of lead or copper tap water samples. A sample invalidated under this subsection does not count toward determining lead or copper 90<sup>th</sup> percentile levels under Section 611.350(c)(3) or toward meeting the minimum monitoring requirements of subsection (c).
  - 1) The Agency must invalidate a lead or copper tap water sample if it determines that one of the following conditions exists:
    - A) The laboratory establishes that improper sample analysis caused erroneous results;
  
    - B) The sample was taken from a site that did not meet the site selection criteria of this Section;

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- C) The sample container was damaged in transit; or
  - D) There is substantial reason to believe that the sample was subject to tampering.
- 2) The supplier must report the results of all samples to the Agency and all supporting documentation for samples the supplier believes should be invalidated.
  - 3) To invalidate a sample under subsection (f)(1), the decision and the rationale for the decision must be documented in writing. The Agency may not invalidate a sample solely on the grounds that a follow-up sample result is higher or lower than that of the original sample.
  - 4) The water supplier must collect replacement samples for any samples invalidated under this Section if, after the invalidation of one or more samples, the supplier has too few samples to meet the minimum requirements of subsection (c). Any such replacement samples must be taken as soon as possible, but no later than 20 days after the date the Agency invalidates the sample or by the end of the applicable monitoring period, whichever occurs later. Replacement samples taken after the end of the applicable monitoring period must not also be used to meet the monitoring requirements of a subsequent monitoring period. The replacement samples must be taken at the same locations as the invalidated samples or, if that is not possible, at locations other than those already used for sampling during the monitoring period.
- g) Monitoring waivers for small system suppliers. Any small system supplier that meets the criteria of this subsection (g) may apply to the Agency to reduce the frequency of monitoring for lead and copper under this Section to once every nine years (i.e., a "full waiver") if it meets all of the materials criteria specified in subsection (g)(1) and all of the monitoring criteria specified in subsection (g)(2). Any small system supplier that meets the criteria in subsections (g)(1) and (g)(2) only for lead, or only for copper, may apply to the State for a waiver to reduce the frequency of tap water monitoring to once every nine years for that contaminant only (i.e., a "partial waiver").
- 1) Materials criteria. The supplier must demonstrate that its distribution system and service lines and all drinking water supply plumbing, including plumbing conveying drinking water within all residences and buildings connected to the system, are free of lead-containing materials or copper-containing materials, as those terms are defined in this subsection

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(g)(1), as follows:

A) Lead. To qualify for a full waiver, or a waiver of the tap water monitoring requirements for lead (i.e., a "lead waiver"), the water supplier must provide certification and supporting documentation to the Agency that the system is free of all lead-containing materials, as follows:

- i) It contains no plastic pipes that contain lead plasticizers, or plastic service lines that contain lead plasticizers; and
- ii) It is free of lead service lines, lead pipes, lead soldered pipe joints, and leaded brass or bronze alloy fittings and fixtures, unless such fittings and fixtures meet the specifications of NSF Standard 61, section 9, incorporated by reference in Section 611.102.

BOARD NOTE: Corresponding 40 CFR 141.86(g)(1)(i)(B) specifies "any standard established pursuant to 42 USC 300g-6(e) (SDWA section 1417(e))". USEPA has stated that the NSF standard is that standard. See 62 Fed. Reg. 44684 (Aug. 22, 1997).

B) Copper. To qualify for a full waiver, or a waiver of the tap water monitoring requirements for copper (i.e., a "copper waiver"), the water supplier must provide certification and supporting documentation to the Agency that the system contains no copper pipes or copper service lines.

2) Monitoring criteria for waiver issuance. The supplier must have completed at least one six-month round of standard tap water monitoring for lead and copper at sites approved by the Agency and from the number of sites required by subsection (c) and demonstrate that the 90<sup>th</sup> percentile levels for any and all rounds of monitoring conducted since the system became free of all lead-containing or copper-containing materials, as appropriate, meet the following criteria:

A) Lead levels. To qualify for a full waiver, or a lead waiver, the supplier must demonstrate that the 90<sup>th</sup> percentile lead level does not exceed 0.005 mg/ℓ.

B) Copper levels. To qualify for a full waiver, or a copper waiver, the supplier must demonstrate that the 90<sup>th</sup> percentile copper level does

4239 not exceed 0.65 mg/ℓ.

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- 3) State approval of waiver application. The Agency must notify the supplier of its waiver determination by a SEP ~~issued pursuant to Section 611.110~~, in writing, setting forth the basis of its decision and any condition of the waiver. As a condition of the waiver, the Agency may require the supplier to perform specific activities (e.g., limited monitoring, periodic outreach to customers to remind them to avoid installation of materials that might void the waiver) to avoid the risk of lead or copper concentration of concern in tap water. The small system supplier must continue monitoring for lead and copper at the tap as required by subsections (d)(1) through (d)(4), as appropriate, until it receives written notification from the Agency that the waiver has been approved.
- 4) Monitoring frequency for suppliers with waivers.
  - A) A supplier with a full waiver must conduct tap water monitoring for lead and copper in accordance with subsection (d)(4)(D) at the reduced number of sampling sites identified in subsection (c) at least once every nine years and provide the materials certification specified in subsection (g)(1) for both lead and copper to the Agency along with the monitoring results. Samples collected every nine years must be collected no later than every ninth calendar year.
  - B) A supplier with a partial waiver must conduct tap water monitoring for the waived contaminant in accordance with subsection (d)(4)(D) at the reduced number of sampling sites specified in subsection (c) at least once every nine years and provide the materials certification specified in subsection (g)(1) pertaining to the waived contaminant along with the monitoring results. Such a supplier also must continue to monitor for the non-waived contaminant in accordance with requirements of subsections (d)(1) through (d)(4), as appropriate.
  - C) Any supplier with a full or partial waiver must notify the Agency in writing in accordance with Section 611.360(a)(3) of any upcoming long-term change in treatment or addition of a new source, as described in that Section. The Agency must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the supplier. The Agency has the authority to require the supplier to add or modify waiver conditions (e.g., require recertification that the supplier's system is

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free of lead-containing or copper-containing materials, require additional rounds of monitoring), if it deems such modifications are necessary to address treatment or source water changes at the system.

D) If a supplier with a full or partial waiver becomes aware that it is no longer free of lead-containing or copper-containing materials, as appropriate (e.g., as a result of new construction or repairs), the supplier must notify the Agency in writing no later than 60 days after becoming aware of such a change.

5) Continued eligibility. If the supplier continues to satisfy the requirements of subsection (g)(4), the waiver will be renewed automatically, unless any of the conditions listed in subsections (g)(5)(A) through (g)(5)(C) occur. A supplier whose waiver has been revoked may re-apply for a waiver at such time as it again meets the appropriate materials and monitoring criteria of subsections (g)(1) and (g)(2).

A) A supplier with a full waiver or a lead waiver no longer satisfies the materials criteria of subsection (g)(1)(A) or has a 90<sup>th</sup> percentile lead level greater than 0.005 mg/l.

B) A supplier with a full waiver or a copper waiver no longer satisfies the materials criteria of subsection (g)(1)(B) or has a 90<sup>th</sup> percentile copper level greater than 0.65 mg/l.

C) The State notifies the supplier, in writing, that the waiver has been revoked, setting forth the basis of its decision.

6) Requirements following waiver revocation. A supplier whose full or partial waiver has been revoked by the Agency is subject to the corrosion control treatment and lead and copper tap water monitoring requirements, as follows:

A) If the supplier exceeds the lead or copper action level, the supplier must implement corrosion control treatment in accordance with the deadlines specified in Section 611.351(e), and any other applicable requirements of this Subpart G.

B) If the supplier meets both the lead and the copper action level, the supplier must monitor for lead and copper at the tap no less frequently than once every three years using the reduced number of sampling sites specified in subsection (c).

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- 7) Pre-existing waivers. Small system supplier waivers approved by the Agency in writing prior to April 11, 2000 must remain in effect under the following conditions:
  - A) If the supplier has demonstrated that it is both free of lead-containing and copper-containing materials, as required by subsection (g)(1) and that its 90<sup>th</sup> percentile lead levels and 90th percentile copper levels meet the criteria of subsection (g)(2), the waiver remains in effect so long as the supplier continues to meet the waiver eligibility criteria of subsection (g)(5). The first round of tap water monitoring conducted ~~underpursuant to~~ subsection (g)(4) must be completed no later than nine years after the last time the supplier monitored for lead and copper at the tap.
  - B) If the supplier has met the materials criteria of subsection (g)(1) but has not met the monitoring criteria of subsection (g)(2), the supplier must conduct a round of monitoring for lead and copper at the tap demonstrating that it met the criteria of subsection (g)(2). Thereafter, the waiver must remain in effect as long as the supplier meets the continued eligibility criteria of subsection (g)(5). The first round of tap water monitoring conducted ~~underpursuant to~~ subsection (g)(4) must be completed no later than nine years after the round of monitoring conducted ~~underpursuant to~~ subsection (g)(2).

BOARD NOTE: Derived from 40 CFR 141.86 (2016).

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

**Section 611.358 Monitoring for Lead and Copper in Source Water**

- a) Sample location, collection methods, and number of samples.
  - 1) A supplier that fails to meet the lead action level or the copper action level on the basis of tap samples collected in accordance with Section 611.356 must collect lead and copper source water samples in accordance with the following requirements regarding sample location, number of samples, and collection methods:
    - A) A groundwater supplier must take a minimum of one sample at every entry point to the distribution system that is representative of each well after treatment (hereafter called a sampling point). The

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supplier must take one sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

- B) A surface water supplier must take a minimum of one sample at every entry point to the distribution system after any application of treatment or in the distribution system at a point that is representative of each source after treatment (hereafter called a sampling point). The system must take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

BOARD NOTE: For the purposes of this subsection (a)(1)(B), surface water systems include systems with a combination of surface and ground sources.

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

- D) The Agency may, by a SEP issued pursuant to Section 611.110, reduce the total number of samples that must be analyzed by allowing the use of compositing. Compositing of samples must be done by certified laboratory personnel. Composite samples from a maximum of five samples are allowed, provided that if the lead concentration in the composite sample is greater than or equal to 0.001 mg/l or the copper concentration is greater than or equal to 0.160 mg/l, then the supplier must do either of the following:

- i) The supplier must take and analyze a follow-up sample within 14 days at each sampling point included in the composite; or
- ii) If duplicates of or sufficient quantities from the original samples from each sampling point used in the composite are available, the supplier may use these instead of resampling.

- 2) SEP requiring an additional sample.

- A) When the Agency determines that the results of sampling indicate

- 4411 an exceedance of the lead or copper MPC established under  
 4412 Section 611.353(b)(4), it must, by a SEP-issued pursuant to Section  
 4413 ~~611.110~~, require the supplier to collect one additional sample as  
 4414 soon as possible after the initial sample at the same sampling point,  
 4415 but no later than two weeks after the supplier took the initial  
 4416 sample.  
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- 4418 B) If a supplier takes an Agency-required confirmation sample for  
 4419 lead or copper, the supplier must average the results obtained from  
 4420 the initial sample with the results obtained from the confirmation  
 4421 sample in determining compliance with the Agency-specified lead  
 4422 and copper MPCs.  
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- 4424 i) Any analytical result below the MDL must be considered  
 4425 as zero for the purposes of averaging.  
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- 4427 ii) Any value above the MDL but below the PQL must either  
 4428 be considered as the measured value or be considered one-  
 4429 half the PQL.  
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- 4431 b) Monitoring frequency after system exceeds tap water action level. A supplier that  
 4432 exceeds the lead action level or the copper action level in tap sampling must  
 4433 collect one source water sample from each entry point to the distribution system  
 4434 no later than six months after the end of the monitoring period during which the  
 4435 lead or copper action level was exceeded. For monitoring periods that are annual  
 4436 or less frequent, the end of the monitoring period is September 30 of the calendar  
 4437 year in which the sampling occurs, or if the Agency has established an alternate  
 4438 monitoring period by a SEP-issued pursuant to Section ~~611.110~~, the last day of  
 4439 that period.  
 4440
- 4441 c) Monitoring frequency after installation of source water treatment. A supplier that  
 4442 installs source water treatment under~~pursuant to~~ Section 611.353(a)(3) must  
 4443 collect an additional source water sample from each entry point to the distribution  
 4444 system during each of two consecutive six-month monitoring periods on or before  
 4445 36 months after completion of step 2, as specified in Section 611.353(a)(4).  
 4446
- 4447 d) Monitoring frequency after the Agency has specified the lead and copper MPCs  
 4448 or has determined that source water treatment is not needed.  
 4449
- 4450 1) A supplier must monitor at the frequency specified by subsection  
 4451 (d)(1)(A) or (d)(1)(B) where the Agency has specified the MPCs  
 4452 under~~pursuant to~~ Section 611.353(b)(4) or has determined that the supplier  
 4453 is not required to install source water treatment pursuant to Section

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611.353(b)(2).

- A) GWS suppliers.
  - i) A GWS supplier required to sample by subsection (d)(1) must collect samples once during the three-year compliance period (as that term is defined in Section 611.101) during which the Agency makes its determination ~~underpursuant~~ to Section 611.353(b)(4) or 611.353(b)(2).
  - ii) A GWS supplier required to sample by subsection (d)(1) must collect samples once during each subsequent compliance period.
  - iii) Triennial samples must be collected every third calendar year.
- B) A SWS or mixed system supplier must collect samples once during each calendar year, the first annual monitoring period to begin during the year in which the Agency makes its determination ~~underpursuant~~ to Section 611.353(b)(4) or 611.353(b)(2).
- 2) A supplier is not required to conduct source water sampling for lead or copper if the supplier meets the action level for the specific contaminant in all tap water samples collected during the entire source water sampling period applicable under subsection (d)(1)(A) or (d)(1)(B).
- e) Reduced monitoring frequency.
  - 1) A GWS supplier may reduce the monitoring frequency for lead and copper in source water to once during each nine-year compliance cycle (as that term is defined in Section 611.101), provided that the samples are collected no later than every ninth calendar year, and only if the supplier meets one of the following criteria:
    - A) The supplier demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the State in Section 611.353(b)(4) during at least three consecutive compliance periods under subsection (d)(1); or
    - B) The Agency has determined, by a SEP ~~issued pursuant to Section 611.110~~, that source water treatment is not needed and the system

4497 demonstrates that, during at least three consecutive compliance  
4498 periods in which sampling was conducted under subsection (d)(1),  
4499 the concentration of lead in source water was less than or equal to  
4500 0.005 mg/ℓ and the concentration of copper in source water was  
4501 less than or equal to 0.65 mg/ℓ.  
4502

4503 2) A SWS or mixed system supplier may reduce the monitoring frequency in  
4504 subsection (d)(1) to once during each nine-year compliance cycle (as that  
4505 term is defined in Section 611.101), provided that the samples are  
4506 collected no later than every ninth calendar year, and only if the supplier  
4507 meets one of the following criteria:  
4508

4509 A) The supplier demonstrates that finished drinking water entering the  
4510 distribution system has been maintained below the maximum  
4511 permissible lead and copper concentrations specified by the  
4512 Agency under Section 611.353(b)(4) for at least three consecutive  
4513 years; or  
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4515 B) The Agency has determined, by a SEP issued pursuant to Section  
4516 ~~611.110~~, that source water treatment is not needed and the supplier  
4517 demonstrates that, during at least three consecutive years, the  
4518 concentration of lead in source water was less than or equal to  
4519 0.005 mg/ℓ and the concentration of copper in source water was  
4520 less than or equal to 0.65 mg/ℓ.  
4521

4522 3) A supplier that uses a new source of water is not eligible for reduced  
4523 monitoring for lead or copper until it demonstrates by samples collected  
4524 from the new source during three consecutive monitoring periods, of the  
4525 appropriate duration provided by subsection (d)(1), that lead or copper  
4526 concentrations are below the MPC as specified by the Agency  
4527 underpursuant to Section 611.353(a)(4).  
4528

4529 BOARD NOTE: Derived from 40 CFR 141.88 (2016).

4530 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
4531

4532  
4533 **Section 611.359 Analytical Methods**  
4534

4535 Analyses for lead, copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and  
4536 temperature must be conducted using the methods set forth in Section 611.611(a).  
4537

4538 a) Analyses for lead and copper performed for the purposes of compliance with this  
4539 Subpart G must only be conducted by a certified laboratory in one of the

4540 categories listed in Section 611.490(a). To obtain certification to conduct  
 4541 analyses for lead and copper, laboratories must do the following:

- 4542
- 4543 1) Analyze performance evaluation samples that include lead and copper  
 4544 provided by USEPA Environmental Monitoring and Support Laboratory  
 4545 or equivalent samples provided by the Agency;
- 4546
- 4547 2) Achieve quantitative acceptance limits as follows:
- 4548
- 4549 A) For lead:  $\pm 30$  percent of the actual amount in the performance  
 4550 evaluation sample when the actual amount is greater than or equal  
 4551 to 0.005 mg/l (the PQL for lead is 0.005 mg/l);
- 4552
- 4553 B) For copper:  $\pm 10$  percent of the actual amount in the performance  
 4554 evaluation sample when the actual amount is greater than or equal  
 4555 to 0.050 mg/l (the PQL for copper is 0.050 mg/l);
- 4556
- 4557 3) Achieve the method detection limit (MDL) for lead (0.001 mg/l, as  
 4558 defined in Section 611.350(a)) according to the procedures in 35 Ill. Adm.  
 4559 Code 186 and appendix B to 40 CFR 136: "Definition and Procedure for  
 4560 the Determination of the Method Detection Limit – Revision 1.11",  
 4561 incorporated by reference in Section 611.102(c). This need only be  
 4562 accomplished if the laboratory will be processing source water composite  
 4563 samples under Section 611.358(a)(1)(D); and
- 4564
- 4565 4) Be currently certified to perform analyses to the specifications described  
 4566 in subsection (a)(1).

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4568 BOARD NOTE: Subsection (a) is derived from 40 CFR 141.89(a) and (a)(1)  
 4569 (2016).

- 4570
- 4571 b) ~~The Agency must, by a SEP issued pursuant to Section 611.110, allow a supplier~~  
 4572 ~~to use previously collected monitoring data for the purposes of monitoring under~~  
 4573 ~~this Subpart G if the data were collected and analyzed in accordance with the~~  
 4574 ~~requirements of this Subpart G.~~

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4576 BOARD NOTE: Subsection (b) is derived from 40 CFR 141.89(a)(2) (2016).

- 4577
- 4578 c) Reporting lead and copper levels.
- 4579
- 4580 1) All lead and copper levels greater than or equal to the lead and copper  
 4581 PQL ( $Pb \geq 0.005$  mg/l and  $Cu \geq 0.050$  mg/l) must be reported as  
 4582 measured.

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

4593 BOARD NOTE: Subsection (c) is derived from 40 CFR 141.89(a)(3) and (a)(4)  
4594 (2016).

4595  
4596 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
4597

4598 **Section 611.360 Reporting**  
4599

4600 A supplier must report all of the following information to the Agency in accordance with this  
4601 Section.

- 4602  
4603 a) Reporting for tap, lead, and copper, and water quality parameter monitoring.  
4604  
4605 1) Except as provided in subsection (a)(1)(H), a supplier must report the  
4606 following information for all samples specified in Section 611.356 and for  
4607 all water quality parameter samples specified in Section 611.357 within  
4608 ten days after the end of each applicable sampling period specified in  
4609 Sections 611.356 and 611.357 (i.e., every six months, annually, every  
4610 three years, or every nine years). For a monitoring period with a duration  
4611 less than six months, the end of the monitoring period is the last date on  
4612 which samples can be collected during that period, as specified in Sections  
4613 611.356 and 611.357.  
4614  
4615 A) The results of all tap samples for lead and copper, including the  
4616 location of each site and the criteria under Section 611.356(a)(3)  
4617 through (a)(7) under which the site was selected for the supplier's  
4618 sampling pool;  
4619  
4620 B) Documentation for each tap water lead or copper sample for which  
4621 the water supplier requests invalidation under pursuant to Section  
4622 611.356(f)(2);  
4623  
4624 C) This subsection (a)(1)(C) corresponds with 40 CFR  
4625 141.90(a)(1)(iii), a provision that USEPA removed and marked

- 4626 "reserved". This statement preserves structural parity with the  
4627 federal rules;  
4628
- 4629 D) The 90<sup>th</sup> percentile lead and copper concentrations measured from  
4630 among all lead and copper tap samples collected during each  
4631 sampling period (calculated in accordance with Section  
4632 611.350(c)(3)), unless the Agency calculates the system's 90<sup>th</sup>  
4633 percentile lead and copper levels under subsection (h);  
4634
- 4635 E) With the exception of initial tap sampling conducted ~~underpursuant~~  
4636 ~~to~~ Section 611.356(d)(1), the supplier must designate any site that  
4637 was not sampled during previous sampling periods, and include an  
4638 explanation of why sampling sites have changed;  
4639
- 4640 F) The results of all tap samples for pH, and where applicable,  
4641 alkalinity, calcium, conductivity, temperature, and orthophosphate  
4642 or silica collected ~~underpursuant to~~ Section 611.357(b) through (e);  
4643
- 4644 G) The results of all samples collected at entry points for applicable  
4645 water quality parameters ~~underpursuant to~~ Section 611.357(b)  
4646 through (e); and  
4647
- 4648 H) A water supplier must report the results of all water quality  
4649 parameter samples collected under Section 611.357(c) through (f)  
4650 during each six-month monitoring period specified in Section  
4651 611.357(d) within the first 10 days following the end of the  
4652 monitoring period, unless the Agency has specified, by a SEP  
4653 issued ~~pursuant to Section 611.110~~, a more frequent reporting  
4654 requirement.  
4655
- 4656 2) For a NTNCWS supplier, or a CWS supplier meeting the criteria of  
4657 Sections 611.355(b)(7)(A) and (b)(7)(B), that does not have enough taps  
4658 which can provide first-draw samples, the supplier must do either of the  
4659 following:  
4660
- 4661 A) Provide written documentation to the Agency that identifies  
4662 standing times and locations for enough non-first-draw samples to  
4663 make up its sampling pool under Section 611.356(b)(5), unless the  
4664 Agency has waived prior Agency approval of non-first-draw  
4665 sampling sites selected by the supplier pursuant to Section  
4666 611.356(b)(5); or  
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- 4668 B) If the Agency has waived prior approval of non-first-draw

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sampling sites selected by the supplier, identify, in writing, each site that did not meet the six-hour minimum standing time and the length of standing time for that particular substitute sample collected ~~underpursuant to~~ Section 611.356(b)(5) and include this information with the lead and copper tap sample results required to be submitted ~~underpursuant to~~ subsection (a)(1)(A).

- 3) At a time specified by the Agency, by a SEP ~~issued pursuant to Section 611.110~~, or if no specific time is designated by the Agency, then as early as possible prior to the addition of a new source or any change in water treatment, a water supplier deemed to have optimized corrosion control under Section 611.351(b)(3), a water supplier subject to reduced monitoring ~~underpursuant to~~ Section 611.356(d)(4), or a water supplier subject to a monitoring waiver ~~underpursuant to~~ Section 611.356(g), must submit written documentation to the Agency describing the change or addition.
- 4) Any small system supplier applying for a monitoring waiver under Section 611.356(g), or subject to a waiver granted ~~underpursuant to~~ Section 611.356(g)(3), must provide the following information to the Agency in writing by the specified deadline:
  - A) By the start of the first applicable monitoring period in Section 611.356(d), any small water system supplier applying for a monitoring waiver must provide the documentation required to demonstrate that it meets the waiver criteria of Sections 611.356(g)(1) and (g)(2).
  - B) No later than nine years after the monitoring previously conducted ~~underpursuant to~~ Section 611.356(g)(2) or Section 611.356(g)(4)(A), each small system supplier desiring to maintain its monitoring waiver must provide the information required by Sections 611.356(g)(4)(A) and (g)(4)(B).
  - C) No later than 60 days after it becomes aware that it is no longer free of lead-containing or copper-containing material, as appropriate, each small system supplier with a monitoring waiver must provide written notification to the Agency, setting forth the circumstances resulting in the lead-containing or copper-containing materials being introduced into the system and what corrective action, if any, the supplier plans to remove these materials.
  - D) Any small system supplier with a waiver granted prior to April 11,

4712 2000 and that had not previously met the requirements of Section  
 4713 611.356(g)(2) must have provided the information required by that  
 4714 Section.  
 4715

4716 5) Each GWS supplier that limits water quality parameter monitoring to a  
 4717 subset of entry points under Section 611.357(c)(3) must provide, by the  
 4718 commencement of such monitoring, written correspondence to the Agency  
 4719 that identifies the selected entry points and includes information sufficient  
 4720 to demonstrate that the sites are representative of water quality and  
 4721 treatment conditions throughout the system.  
 4722

4723 b) Reporting for source water monitoring.  
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4725 1) A supplier must report the sampling results for all source water samples  
 4726 collected in accordance with Section 611.358 within ten days after the end  
 4727 of each source water sampling period (i.e., annually, per compliance  
 4728 period, per compliance cycle) specified in Section 611.358.  
 4729

4730 2) With the exception of the first round of source water sampling conducted  
 4731 ~~underpursuant to~~ Section 611.358(b), a supplier must specify any site that  
 4732 was not sampled during previous sampling periods, and include an  
 4733 explanation of why the sampling point has changed.  
 4734

4735 c) Reporting for corrosion control treatment. By the applicable dates under Section  
 4736 611.351, a supplier must report the following information:  
 4737

4738 1) For a supplier demonstrating that it has already optimized corrosion  
 4739 control, the information required by Section 611.352(b)(2) or (b)(3).  
 4740

4741 2) For a supplier required to optimize corrosion control, its recommendation  
 4742 regarding optimal corrosion control treatment ~~underpursuant to~~ Section  
 4743 611.352(a).  
 4744

4745 3) For a supplier required to evaluate the effectiveness of corrosion control  
 4746 treatments ~~underpursuant to~~ Section 611.352(c), the information required  
 4747 by Section 611.352(c).  
 4748

4749 4) For a supplier required to install optimal corrosion control approved by the  
 4750 Agency ~~underpursuant to~~ Section 611.352(d), a copy of the Agency permit  
 4751 letter, which acts as certification that the supplier has completed installing  
 4752 the permitted treatment.  
 4753

4754 d) Reporting for source water treatment. On or before the applicable dates in

4755 Section 611.353, a supplier must provide the following information to the  
4756 Agency:

- 4757
- 4758 1) If required by Section 611.353(b)(1), its recommendation regarding source  
4759 water treatment; or
  - 4760
  - 4761 2) For suppliers required to install source water treatment ~~underpursuant to~~  
4762 Section 611.353(b)(2), a copy of the Agency permit letter, which acts as  
4763 certification that the supplier has completed installing the treatment  
4764 approved by the Agency within 24 months after the Agency approved the  
4765 treatment.  
4766

4767 e) Reporting for lead service line replacement. A supplier must report the following  
4768 information to the Agency to demonstrate compliance with the requirements of  
4769 Section 611.354:  
4770

- 4771 1) No later than 12 months after the end of a monitoring period in which a  
4772 supplier exceeds the lead action level in sampling referred to in Section  
4773 611.354(a), the supplier must submit each of the following to the Agency  
4774 in writing:
  - 4775
  - 4776 A) The material evaluation conducted as required by Section  
4777 611.356(a);
  - 4778
  - 4779 B) Identify the initial number of lead service lines in its distribution  
4780 system at the time the supplier exceeds the lead action level; and
  - 4781
  - 4782 C) Provide the Agency with the supplier's schedule for annually  
4783 replacing at least seven percent of the initial number of lead  
4784 service lines in its distribution system.  
4785
- 4786 2) No later than 12 months after the end of a monitoring period in which a  
4787 supplier exceeds the lead action level in sampling referred to in Section  
4788 611.354(a), and every 12 months thereafter, the supplier must demonstrate  
4789 to the Agency in writing that the supplier has done either of the following:  
4790
  - 4791 A) That the supplier has replaced, in the previous 12 months, at least  
4792 seven percent of the initial number of lead service lines in its  
4793 distribution system (or any greater number of lines specified by the  
4794 Agency ~~underpursuant to~~ Section 611.354(e)); or  
4795
  - 4796 B) That the supplier has conducted sampling that demonstrates that  
4797 the lead concentration in all service line samples from individual

4798 lines, taken ~~underpursuant to~~ Section 611.356(b)(3), is less than or  
4799 equal to 0.015 mg/l. This demonstration requires that the total  
4800 number of lines that the supplier has replaced, combined with the  
4801 total number that meet the criteria of Section 611.354(c), must  
4802 equal at least seven percent of the initial number of lead lines  
4803 identified pursuant to subsection (e)(1) (or the percentage specified  
4804 by the Agency ~~underpursuant to~~ Section 611.354(e)).  
4805

4806 3) The annual letter submitted to the Agency ~~underpursuant to~~ subsection  
4807 (e)(2) must contain the following information:  
4808

4809 A) The number of lead service lines originally scheduled to be  
4810 replaced during the previous year of the supplier's replacement  
4811 schedule;  
4812

4813 B) The number and location of each lead service line actually replaced  
4814 during the previous year of the supplier's replacement schedule;  
4815 and  
4816

4817 C) If measured, the water lead concentration from each lead service  
4818 line sampled ~~underpursuant to~~ Section 611.356(b)(3) and the  
4819 location of each lead service line sampled, the sampling method  
4820 used, and the date of sampling.  
4821

4822 4) Any supplier that collects lead service line samples following partial lead  
4823 service line replacement required by Section 611.354 must report the  
4824 results to the Agency within the first ten days after the month following  
4825 the month in which the supplier receives the laboratory results, or as  
4826 specified by the Agency. The Agency may, by a SEP issued pursuant to  
4827 ~~Section 611.110~~, eliminate this requirement to report these monitoring  
4828 results. A supplier must also report any additional information as  
4829 specified by the Agency, and in a time and manner prescribed by the  
4830 Agency, to verify that all partial lead service line replacement activities  
4831 have taken place.  
4832

4833 f) Reporting for public education program.  
4834

4835 1) Any water supplier that is subject to the public education requirements in  
4836 Section 611.355 must, within ten days after the end of each period in  
4837 which the supplier is required to perform public education in accordance  
4838 with Section 611.355(b), send written documentation to the Agency that  
4839 contains the following:  
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- A) A demonstration that the supplier has delivered the public education materials that meet the content requirements in Sections 611.355(a) and the delivery requirements in Section 611.355(b); and
  - B) A list of all the newspapers, radio stations, television stations, and facilities and organizations to which the supplier delivered public education materials during the period in which the supplier was required to perform public education tasks.
- 2) Unless required by the Agency, by a SEP ~~issued pursuant to Section 611.110~~, a supplier that previously has submitted the information required by subsection (f)(1)(B) need not resubmit the information required by subsection (f)(1)(B), as long as there have been no changes in the distribution list and the supplier certifies that the public education materials were distributed to the same list submitted previously.
  - 3) No later than three months following the end of the monitoring period, each supplier must mail a sample copy of the consumer notification of tap results to the Agency, along with a certification that the notification has been distributed in a manner consistent with the requirements of Section 611.355(d).
- g) Reporting of additional monitoring data. Any supplier that collects sampling data in addition to that required by this Subpart G must report the results of that sampling to the Agency within the first ten days following the end of the applicable sampling periods specified by Sections 611.356 through 611.358 during which the samples are collected.
  - h) Reporting of 90<sup>th</sup> percentile lead and copper concentrations where the Agency calculates a system's 90th percentile concentrations. A water supplier is not required to report the 90th percentile lead and copper concentrations measured from among all lead and copper tap water samples collected during each monitoring period, as required by subsection (a)(1)(D) if the following is true:
    - 1) The Agency has previously notified the water supplier that it will calculate the water system's 90<sup>th</sup> percentile lead and copper concentrations, based on the lead and copper tap results submitted ~~under~~pursuant to subsection (h)(2)(A), and has specified a date before the end of the applicable monitoring period by which the supplier must provide the results of lead and copper tap water samples;
    - 2) The supplier has provided the following information to the Agency by the

4884 date specified in subsection (h)(1):

4885

4886 A) The results of all tap samples for lead and copper including the  
4887 location of each site and the criteria under Section 611.356(a)(3),  
4888 (a)(4), (a)(5), (a)(6), or (a)(7) under which the site was selected for  
4889 the system's sampling pool, underpursuant to subsection (a)(1)(A);  
4890 and

4891

4892 B) An identification of sampling sites utilized during the current  
4893 monitoring period that were not sampled during previous  
4894 monitoring periods, and an explanation why sampling sites have  
4895 changed; and

4896

4897 3) The Agency has provided the results of the 90<sup>th</sup> percentile lead and copper  
4898 calculations, in writing, to the water supplier before the end of the  
4899 monitoring period.

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4901 BOARD NOTE: Derived from 40 CFR 141.90 (2016).

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4903 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

4904

4905 SUBPART I: DISINFECTANT RESIDUALS, DISINFECTION  
4906 BYPRODUCTS, AND DISINFECTION BYPRODUCT PRECURSORS

4907

4908 **Section 611.381 Analytical Requirements**

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4910 a) A supplier must use only the analytical methods specified in this Section, each of  
4911 which is incorporated by reference in Section 611.102, or alternative methods  
4912 approved by the Agency underpursuant to Section 611.480 to demonstrate  
4913 compliance with the requirements of this Subpart I and with the requirements of  
4914 Subparts W and Y.

4915

4916 b) Disinfection byproducts (DBPs).

4917

4918 1) A supplier must measure disinfection byproducts (DBPs) by the appropriate  
4919 of the following methods:

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4921 A) TTHM:

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4923 i) By purge and trap, gas chromatography, electrolytic  
4924 conductivity detector, and photoionization detector:  
4925 USEPA Organic Methods, Method 502.2 (rev. 2.1). If

4926 TTHMs are the only analytes being measured in the  
4927 sample, then a photoionization detector is not required.

4928  
4929 ii) By purge and trap, gas chromatography-mass spectrometer:  
4930 USEPA Organic Methods, Method 524.2 (rev. 4.1).

4931  
4932 iii) By liquid-liquid extraction, gas chromatography, electron  
4933 capture detector: USEPA Organic Methods, Method 551.1  
4934 (rev. 1.0).

4935  
4936 iv) By purge and trap, gas chromatography-mass spectrometry:  
4937 USEPA OGWDW Methods, Method 524.3 (rev. 1.0) and  
4938 524.4.

4939  
4940 BOARD NOTE: USEPA added USEPA OGWDW Methods,  
4941 Method 524.3 (rev. 1.0) as an approved alternative method on  
4942 August 3, 2009 (at 74 Fed. Reg. 38348). USEPA added USEPA  
4943 OGWDW Methods, Method 524.4 as approved alternative  
4944 methods on May 31, 2013 (at 78 Fed. Reg. 32558).

4945  
4946 B) HAA5:

4947  
4948 i) By liquid-liquid extraction (diazomethane), gas  
4949 chromatography, electron capture detector: Standard  
4950 Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 6251 B.

4951  
4952 ii) By solid phase extractor (acidic methanol), gas  
4953 chromatography, electron capture detector: USEPA  
4954 Organic Methods, Method 552.1 (rev. 1.0).

4955  
4956 iii) By liquid-liquid extraction (acidic methanol), gas  
4957 chromatography, electron capture detector: USEPA  
4958 Organic Methods, Method 552.2 (rev. 1.0) or USEPA  
4959 OGWDW Methods, Method 552.3 (rev. 1.0).

4960  
4961 iv) By ion chromatography, electrospray ionization, tandem  
4962 mass spectrometry: USEPA OGWDW Methods, Method  
4963 557.

4964  
4965 v) Two-dimensional ion chromatography (IC) with suppressed  
4966 conductivity detection: Thermo-Fisher Method 557.1.

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4968 BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> ed.,  
4969 Method 6251 B as an approved alternative method on June 3, 2008

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(at 73 Fed. Reg. 31616). USEPA added USEPA OGWDW Methods, Method 557 as an approved alternative method on November 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods, 22<sup>nd</sup> 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, 22<sup>nd</sup> 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.

BOARD NOTE: Ion chromatography and post column reaction or inductively coupled plasma-mass spectrometry must be used for

5013 monitoring of bromate for purposes of demonstrating eligibility of  
5014 reduced monitoring, as prescribed in Section 611.382(b)(3)(B).  
5015 For inductively coupled plasma-mass spectrometry, samples must  
5016 be preserved at the time of sampling with 50 mg ethylenediamine  
5017 (EDA) per liter of sample, and the samples must be analyzed  
5018 within 28 days.

5019  
5020 BOARD NOTE: USEPA added USEPA OGWDW Methods,  
5021 Methods 302.0 and 557 and ASTM Methods D6581-08 A and B as  
5022 approved alternative methods on November 10, 2009 (at 74 Fed.  
5023 Reg. 57908).

5024  
5025 D) Chlorite:

- 5026  
5027 i) By amperometric titration for daily monitoring  
5028 ~~underpursuant to~~ Section 611.382(b)(2)(A)(i): Standard  
5029 Methods, 19<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-ClO<sub>2</sub> E.  
5030  
5031 ii) By amperometric sensor for daily monitoring  
5032 ~~underpursuant to~~ Section 611.382(b)(2)(A)(i): ChlordioX  
5033 Plus Test.  
5034  
5035 iii) By spectrophotometry: USEPA OGWDW Methods,  
5036 Method 327.0 (rev. 1.1).  
5037  
5038 iv) By ion chromatography: USEPA Environmental Inorganic  
5039 Methods, Method 300.0 (rev. 2.1); USEPA Organic and  
5040 Inorganic Methods, Method 300.1 (rev. 1.0); USEPA  
5041 OGWDW Methods, Method 317.0 (rev. 2.0), or 326.0 (rev.  
5042 1.0); or ASTM Method D6581-00.  
5043  
5044 v) By chemically suppressed chromatography: ASTM  
5045 Method D6581-08 A.  
5046  
5047 vi) By electrolytically suppressed chromatography: ASTM  
5048 Method D6581-08 B.  
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5050 BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> ed.,  
5051 Method 4500-ClO<sub>2</sub> E as an approved alternative method on June 3,  
5052 2008 (at 73 Fed. Reg. 31616). USEPA added ASTM Methods  
5053 D6581-08 A and B as approved alternative methods on November  
5054 10, 2009 (at 74 Fed. Reg. 57908). USEPA added Standard  
5055 Methods, 22<sup>nd</sup> ed., Method 4500-ClO<sub>2</sub> E as an approved alternative

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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):
    - 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;

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- 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:
- 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;

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- 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 ±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 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

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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, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl F;
- iii) DPD colorimetric: Standard Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl G or Hach Method 10260;
- iv) Syringaldazine (FACTS): Standard Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl H;
- v) Test strips: ITS Method D99-003 if approved by the Agency ~~underpursuant to~~ subsection (c)(2);
- vi) Amperometric sensor: Palintest ChloroSense;
- vii) On-line chlorine analyzer: USEPA OGWDW Methods, Method 334.0; or
- viii) Indenophenol colorimetric: Hach Method 10241.

BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> ed., Methods 4500-Cl 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, 22<sup>nd</sup> ed., Methods 4500-Cl 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:

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- i) Amperometric titration: Standard Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl F; or
- iii) DPD colorimetric: Standard Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl G or Hach Method 10260.

BOARD NOTE: USEPA added Standard Methods, Methods 4500-Cl 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, 22<sup>nd</sup> ed., Methods 4500-Cl D, F, and G 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).

C) Total Chlorine:

- i) Amperometric titration: Standard Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl E;
- iii) DPD ferrous titration: Standard Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl F;
- iv) DPD colorimetric: Standard Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl G or Hach Method 10260;
- v) Iodometric electrode: Standard Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl I;
- vi) Amperometric sensor: Palintest ChloroSense; or



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- 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.
    - 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:

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- i) Standard Methods, 19<sup>th</sup> (Supplement), 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 5310 B; or
  - ii) USEPA NERL Method 415.3 (rev. 1.1) or USEPA NERL Method 415.3 (rev. 1.2).
- B) Persulfate-ultraviolet or heated-persulfate oxidation:
- i) Standard Methods, 19<sup>th</sup> (Supplement), 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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, 19<sup>th</sup> (Supplement), 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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, 21<sup>st</sup> 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, 22<sup>nd</sup> 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<sub>254</sub>) (measured in m<sup>-1</sup>) divided by the dissolved

5400 organic carbon (DOC) concentration (measured as mg/ℓ). In order to  
 5401 determine SUVA, it is necessary to separately measure UV<sub>254</sub> and DOC.  
 5402 When determining SUVA, a supplier must use the methods stipulated in  
 5403 subsection (d)(4)(A) to measure DOC and the method stipulated in  
 5404 subsection (d)(4)(B) to measure UV<sub>254</sub>. SUVA must be determined on  
 5405 water prior to the addition of disinfectants/oxidants by the supplier. DOC  
 5406 and UV<sub>254</sub> samples used to determine a SUVA value must be taken at the  
 5407 same time and at the same location.  
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5409 A) Dissolved Organic Carbon (DOC). Prior to analysis, DOC samples  
 5410 must be filtered through the 0.45 µm pore-diameter filter as soon as  
 5411 practical after sampling, not to exceed 48 hours. After filtration,  
 5412 DOC samples must be acidified to achieve pH less than or equal to  
 5413 2 with minimal addition of the acid specified in the method or by  
 5414 the instrument manufacturer. Acidified DOC samples must be  
 5415 analyzed within 28 days after sample collection. Inorganic carbon  
 5416 must be removed from the samples prior to analysis. Water passed  
 5417 through the filter prior to filtration of the sample must serve as the  
 5418 filtered blank. This filtered blank must be analyzed using  
 5419 procedures identical to those used for analysis of the samples and  
 5420 must meet the following standards: DOC less than 0.5 mg/ℓ.  
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5422 i) High-Temperature Combustion Method: Standard  
 5423 Methods, 19<sup>th</sup> (Supplement), 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method  
 5424 5310 B or USEPA NERL Methods 415.3 (rev. 1.1) or  
 5425 415.3 (rev. 1.2).  
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5427 ii) Persulfate-Ultraviolet or Heated-Persulfate Oxidation  
 5428 Method, Standard Methods, 19<sup>th</sup> (Supplement), 20<sup>th</sup>, 21<sup>st</sup>, or  
 5429 22<sup>nd</sup> ed., Method 5310 C or USEPA NERL Methods 415.3  
 5430 (rev. 1.1) or 415.3 (rev. 1.2).  
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5432 iii) Wet-Oxidation Method: Standard Methods, 19<sup>th</sup>  
 5433 (Supplement), 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 5310 D or  
 5434 USEPA NERL Methods 415.3 (rev. 1.1) or 415.3 (rev. 1.2).  
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5436 BOARD NOTE: USEPA added Standard Methods, Methods 5310  
 5437 B, C, and D as approved alternative methods on June 3, 2008 (at  
 5438 73 Fed. Reg. 31616). USEPA added USEPA NERL Method 415.3  
 5439 (rev. 1.2) as an approved alternative method on November 10,  
 5440 2009 (at 74 Fed. Reg. 57908). USEPA added Standard Methods,  
 5441 22<sup>nd</sup> ed., Methods 5310 B, C, and D as approved alternative  
 5442 methods on June 21, 2013 (at 78 Fed. Reg. 37463).

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- B) Ultraviolet Absorption at 254 nm (UV<sub>254</sub>) by spectrometry: Standard Methods, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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, UV<sub>254</sub> samples must be filtered through a 0.45 µm pore-diameter filter. The pH of UV<sub>254</sub> 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, 21<sup>st</sup> 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, 22<sup>nd</sup> 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, 22<sup>nd</sup> 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).

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

SUBPART K: GENERAL MONITORING AND ANALYTICAL REQUIREMENTS

**Section 611.480 Alternative Analytical Techniques**

The Agency must approve, by a SEP ~~issued pursuant to Section 611.110~~, an alternative analytical technique if it determines that USEPA has approved the method as an alternative method by adding it to 40CFR 141 and the Board has not incorporated the federal approval into this Part 611. The Agency must not approve an alternative analytical technique without the concurrence of USEPA. The use of the alternative analytical technique must not decrease the frequency of monitoring required by this Part.

5487 BOARD NOTE: Derived from 40 CFR 141.27 (2007).

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5489 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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5491 **Section 611.491 Laboratory Testing Equipment (Repealed)**

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5493 a) ~~Each CWS supplier must have adequate laboratory equipment and capability to~~  
5494 ~~perform operational tests (except bacteriological) appropriate to the parameters to~~  
5495 ~~be tested and the type of treatment employed. Such equipment must be in good~~  
5496 ~~operating condition, and the operator on duty must be familiar with the procedure~~  
5497 ~~for performing the tests.~~

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5499 b) ~~Nothing in this Subpart K may be construed to prevent a CWS supplier from~~  
5500 ~~running control laboratory tests in an uncertified laboratory. These results are not~~  
5501 ~~to be included in the required monitoring results.~~

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5503 BOARD NOTE: ~~This is an additional State requirement.~~

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5505 (Source: Repealed at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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5507 **Section 611.500 Consecutive PWSs**

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5509 When a PWS supplies water to one or more other PWSs, the Agency must modify the  
5510 monitoring requirements imposed by this Part to the extent that the interconnection of the PWSs  
5511 justifies treating them as a single PWS for monitoring purposes. Any modified monitoring must  
5512 be conducted ~~underpursuant to~~ a schedule specified by a SEP issued pursuant to Section 611.110.  
5513 The Agency must not approve such modified monitoring without the concurrence of USEPA.

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5515 BOARD NOTE: Derived from 40 CFR 141.29 (2002).

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5517 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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5519 SUBPART L: MICROBIOLOGICAL MONITORING  
5520 AND ANALYTICAL REQUIREMENTS

5521

5522 **Section 611.531 Analytical Requirements**

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5524 The analytical methods specified in this Section, or alternative methods approved by the Agency  
5525 ~~underpursuant to~~ Section 611.480, must be used to demonstrate compliance with the  
5526 requirements of only 611.Subpart B. Measurements for pH, temperature, turbidity, and RDCs  
5527 must be conducted under the supervision of a certified operator. Measurements for total  
5528 coliforms, fecal coliforms and HPC must be conducted by a certified laboratory in one of the  
5529 categories listed in Section 611.490(a). The following procedures must be performed by the

5530 following methods, incorporated by reference in Section 611.102:

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- 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, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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 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, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 9222 A, B, and C.
      - iii) ONPG-MUG test (also known as the Colilert® Test): Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, or 21<sup>st</sup> ed., Method 9223 or Standard Methods, 21<sup>st</sup> or 22<sup>nd</sup> ed., Method 9223B.

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BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> 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, 22<sup>nd</sup> 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 21<sup>st</sup> ed., Method 9223 B. The Board lists both Standard Methods, Methods 9223 and 9223 B. Because Standard Methods, 22<sup>nd</sup> 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.

- i) Fecal coliform procedure: Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 9222 D.

BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> ed., Methods 9221 E and 9222 D as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22<sup>nd</sup> 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

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9222 D-06 as approved alternative methods on June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22<sup>nd</sup> 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, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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, 21<sup>st</sup> ed., Method 9215 B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22<sup>nd</sup> 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 June 19, 2014 (at 79 Fed. Reg. 35081). Because Standard Methods, 22<sup>nd</sup> 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, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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.

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- 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 (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, 22<sup>nd</sup> 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, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl D.

- 5702 ii) ASTM Method D1253-03, D1253-08, or D1253-14.
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- 5704 B) DPD Ferrous Titrimetric: Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>,
- 5705 or 22<sup>nd</sup> ed., Method 4500-CI F.
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- 5707 C) DPD Colimetric:
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- 5709 i) Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method
- 5710 4500-CI G; or
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- 5712 ii) Hach Method 10260.
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- 5714 D) Syringaldazine (FACTS): Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>,
- 5715 or 22<sup>nd</sup> ed., Method 4500-CI H.
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- 5717 E) On-line chlorine analyzer: USEPA OGWDW Methods, Method
- 5718 334.0.
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- 5720 F) Amperometric sensor: Palintest ChloroSense.
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- 5722 G) Indophenol colorimetric: Hach Method 10241.
- 5723

BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> ed., Methods 4500-CI D, F, G, and H; Method 4500-CIO<sub>2</sub> 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, 22<sup>nd</sup> ed., Methods 4500-CI 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).

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- 5737 2) Total chlorine.
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- 5739 A) Amperometric Titration:
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- 5741 i) Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method
- 5742 4500-CI D.
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- 5744 ii) ASTM Method D1253-03, D1253-08, or D1253-14.

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- B) Amperometric Titration (low level measurement): Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl E.
- C) DPD Ferrous Titrimetric: Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl F.
- D) DPD Colimetric:
  - i) Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-Cl G; or
  - ii) Hach Method 10260.
- E) Iodometric Electrode: Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> 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, 21<sup>st</sup> 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, 22<sup>nd</sup> 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, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-ClO<sub>2</sub> C or E; or
    - ii) ChlordioX Plus Test.

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B) DPD Method: Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, or 20<sup>th</sup> ed., Method 4500-ClO<sub>2</sub> D.

C) Spectrophotometric: USEPA OGWDW Methods, Method 327.0 (rev. 1.1).

BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> ed., Method 4500-ClO<sub>2</sub> C, D, and E and Method 4500-O<sub>3</sub> B as approved alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22<sup>nd</sup> ed., Methods 4500-ClO<sub>2</sub> 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, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 4500-O<sub>3</sub> B.

BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> ed., Method 4500-O<sub>3</sub> B as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 22<sup>nd</sup> ed., Method 4500-O<sub>3</sub> 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).

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

**Section 611.532 Unfiltered PWSs**

A supplier that uses a surface water source and does not provide filtration treatment must monitor, unless the Agency has determined, underpursuant to Section 611.211, that filtration is required. If the Agency determines that filtration is required, it must specify alternative monitoring requirements, as appropriate, until filtration is in place. A supplier that uses a groundwater source under the direct influence of surface water and which does not provide filtration treatment must monitor within six months after the Agency has determined, underpursuant to Section 611.212, that the groundwater source is under the direct influence of surface water unless the Agency has determined that filtration is required, in which case the Agency must specify alternative monitoring requirements, as appropriate, until filtration is in place.

- a) Fecal coliform or total coliform density measurements as required by Section 611.231(a) must be performed on representative source water samples immediately prior to the first or only point of disinfectant application. The supplier must sample for fecal or total coliforms at the minimum frequency specified in Table B of this Part each week the supplier serves water to the public. Also, one fecal or total coliform density measurement must be made every day the supplier serves water to the public and the turbidity of the source water exceeds 1 NTU (these samples count towards the weekly coliform sampling requirement) unless the Agency determines that the supplier, for logistical reasons outside the supplier's control cannot have the sample analyzed within 30 hours after collection.
- b) Turbidity measurements as required by Section 611.231(b) must be performed on representative grab samples of source water immediately prior to the first or only point of disinfectant application every four hours (or more frequently) that the supplier serves water to the public. A supplier may substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a protocol approved by a SEP issued pursuant to Section 611.110.
- c) The total inactivation ratio for each day that the supplier is in operation must be determined based on the CT<sub>99.9</sub> values in Appendix B, as appropriate. The parameters necessary to determine the total inactivation ratio must be monitored as follows:
  - 1) The temperature of the disinfected water must be measured at least once per day at each RDC sampling point.

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- 2) If the supplier uses chlorine, the pH of the disinfected water must be measured at least once per day at each chlorine RDC sampling point.
  - 3) The disinfectant contact times ("T") must be determined for each day during peak hourly flow.
  - 4) The RDCs ("C") of the water before or at the first customer must be measured each day during peak hourly flow.
  - 5) If a supplier uses a disinfectant other than chlorine, the supplier may monitor by other methods approved underpursuant to Section 611.241(a)(1) and (a)(2).
- d) The total inactivation ratio must be calculated as follows:
- 1) If the supplier uses only one point of disinfectant application, the supplier may determine the total inactivation ratio based on either of the following two methods:
    - A) One inactivation ratio ( $A_i = CT_{\text{calc}}/CT_{99.9}$ ) is determined before or at the first customer during peak hourly flow and, if the  $A_i$  is greater than 1.0, the 99.9 percent Giardia lamblia inactivation requirement has been achieved; or
    - B) Successive  $A_i$  values, representing sequential inactivation ratios, are determined between the point of disinfectant application and a point before or at the first customer during peak hourly flow. Under this alternative, the following method must be used to calculate the total inactivation ratio:
      - i) Determine the following, for each sequence:
 
$$A_i = CT_{\text{calc}}/CT_{99.9}$$
      - ii) Add the  $A_i$  values together, as follows:
 
$$B = \sum(A_i)$$
      - iii) If B is greater than 1.0, the 99.9 percent Giardia lamblia inactivation requirement has been achieved.
  - 2) If the supplier uses more than one point of disinfectant application before

5918 or at the first customer, the supplier must determine the CT value of each  
 5919 disinfection sequence immediately prior to the next point of disinfectant  
 5920 application during peak hourly flow. The Ai value of each sequence and  
 5921 B must be calculated using the method in subsection (d)(1)(B) to  
 5922 determine if the supplier is in compliance with Section 611.241.  
 5923

- 5924 3) Although not required, the total percent inactivation (PI) for a supplier  
 5925 with one or more points of RDC monitoring may be calculated as follows:  
 5926

$$PI = 100 - \frac{100}{10^{3B}}$$

5927  
 5928 e) The RDC of the water entering the distribution system must be monitored  
 5929 continuously, and the lowest value must be recorded each day, except that if there  
 5930 is a failure in the continuous monitoring equipment, grab sampling every four  
 5931 hours may be conducted in lieu of continuous monitoring, but for no more than  
 5932 five working days following the failure of the equipment, and suppliers serving  
 5933 3,300 or fewer persons may take grab samples in lieu of providing continuous  
 5934 monitoring on an ongoing basis at the frequencies prescribed in Table C of this  
 5935 Part. If at any time the RDC falls below 0.2 mg/l in a system using grab sampling  
 5936 in lieu of continuous monitoring, the supplier must take a grab sample every four  
 5937 hours until the RDC is equal to or greater than 0.2 mg/l.  
 5938

5939 f) Points of measurement.

- 5940  
 5941 1) The RDC must be measured at least at the same points in the distribution  
 5942 system and at the same time as total coliforms are sampled, as specified in  
 5943 Sections 611.1054 through 611.1058. The Agency must allow a supplier  
 5944 that uses both a surface water source or a groundwater source under direct  
 5945 influence of surface water, and a groundwater source to take disinfectant  
 5946 residual samples at points other than the total coliform sampling points if  
 5947 the Agency determines, by a SEP issued pursuant to Section 611.110, that  
 5948 such points are more representative of treated (disinfected) water quality  
 5949 within the distribution system. HPC may be measured in lieu of RDC.  
 5950  
 5951 2) If the Agency determines, pursuant to Section 611.213, that a supplier has  
 5952 no means for having a sample analyzed for HPC, measured as specified in  
 5953 subsection (a), the requirements of subsection (f)(1) do not apply to that  
 5954 supplier.  
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5956 BOARD NOTE: Derived from 40 CFR 141.74(b) (2016).

5957 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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**Section 611.533 Filtered PWSs**

A supplier that uses a surface water source or a groundwater source under the influence of surface water and provides filtration treatment must monitor in accordance with this Section.

- a) Turbidity measurements as required by Section 611.250 must be performed on representative samples of the PWS's filtered water every four hours (or more frequently) that the supplier serves water to the public. A supplier may substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a protocol approved by a SEP ~~issued pursuant to Section 611.110~~. For any suppliers using slow sand filtration or filtration treatment other than conventional treatment, direct filtration, or diatomaceous earth filtration, the Agency ~~must~~ shall, by special exception permit condition, reduce the sampling frequency to once per day if it determines that less frequent monitoring is sufficient to indicate effective filtration performance. For suppliers serving 500 or fewer persons, the Agency ~~must~~ shall, by a SEP ~~issued pursuant to Section 611.110~~, reduce the turbidity sampling frequency to once per day, regardless of the type of filtration treatment used, if the Agency determines that less frequent monitoring is sufficient to indicate effective filtration performance.
- b) RDC entering distribution system.
  - 1) Suppliers serving more than 3300 persons. The RDC of the water entering the distribution system must be monitored continuously, and the lowest value must be recorded each day, except that, if there is a failure in the continuous monitoring equipment, grab sampling every four hours may be conducted in lieu of continuous monitoring, but for no more than five working days following the failure of the equipment.
  - 2) Suppliers serving 3,300 or fewer persons may take grab samples in lieu of providing continuous monitoring on an ongoing basis at the frequencies each day prescribed in Table C. If at any time the RDC falls below 0.2 mg/l in a system using grab sampling in lieu of continuous monitoring, the supplier must take a grab sample every four hours until RDC is equal to or greater than 0.2 mg/l.
- c) Points of measurement.
  - 1) The RDC must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in Sections 611.1054 through 611.1058. The Agency must allow a supplier

6002 that uses both a surface water source, or a groundwater source under direct  
6003 influence of surface water, and a groundwater source to take RDC samples  
6004 at points other than the total coliform sampling points if the Agency  
6005 determines that such points are more representative of treated (disinfected)  
6006 water quality within the distribution system. HPC, measured as specified  
6007 in Section 611.531(a), may be measured in lieu of RDC.  
6008

6009 2) Subsection (c)(1) does not apply if the Agency determines, ~~under~~<sup>pursuant</sup>  
6010 ~~to~~ Section 611.213(c), that a system has no means for having a sample  
6011 analyzed for HPC by a certified laboratory under the requisite time and  
6012 temperature conditions specified by Section 611.531(a) and that the  
6013 supplier is providing adequate disinfection in the distribution system.  
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6015 BOARD NOTE: Derived from 40 CFR 141.74(c) (2016).

6016 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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6019 **SUBPART N: INORGANIC MONITORING AND ANALYTICAL REQUIREMENTS**  
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6021 **Section 611.602 Asbestos Monitoring Frequency**  
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6023 The frequency of monitoring conducted to determine compliance with the MCL for asbestos in  
6024 Section 611.301 is as follows:

- 6025
- 6026 a) Unless the Agency has determined under subsection (c) that the PWS is not  
6027 vulnerable, each CWS and NTNCWS supplier must monitor for asbestos during  
6028 the first compliance period of each compliance cycle.  
6029
  - 6030 b) CWS suppliers may apply to the Agency, by way of an application for a SEP  
6031 ~~under Section 611.110~~, for a determination that the CWS is not vulnerable based  
6032 on consideration of the criteria listed in subsection (c).  
6033
  - 6034 c) The Agency must determine that the CWS is "not vulnerable" if the CWS is not  
6035 vulnerable to contamination either from asbestos in its source water, from  
6036 corrosion of asbestos-cement pipe, or from both, based on a consideration of the  
6037 following factors:  
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    - 6039 1) Potential asbestos contamination of the water source; and
    - 6040
    - 6041 2) The use of asbestos-cement pipe for finished water distribution and the  
6042 corrosive nature of the water.
    - 6043
  - 6044 d) A SEP based on a determination that a CWS is not vulnerable to asbestos

- 6045                   contamination expires at the end of the compliance cycle for which it was issued.  
6046
- 6047           e)    A supplier of a PWS vulnerable to asbestos contamination due solely to corrosion  
6048           of asbestos-cement pipe must take one sample at a tap served by asbestos-cement  
6049           pipe and under conditions where asbestos contamination is most likely to occur.  
6050
- 6051           f)    A supplier of a PWS vulnerable to asbestos contamination due solely to source  
6052           water must monitor in accordance with Section 611.601.  
6053
- 6054           g)    A supplier of a PWS vulnerable to asbestos contamination due both to its source  
6055           water supply and corrosion of asbestos-cement pipe must take one sample at a tap  
6056           served by asbestos-cement pipe and under conditions where asbestos  
6057           contamination is most likely to occur.  
6058
- 6059           h)    A supplier that exceeds the MCL, as determined in Section 611.609, must monitor  
6060           quarterly beginning in the next quarter after the violation occurred.  
6061
- 6062           i)    Reduction of quarterly monitoring.
- 6063
- 6064                   1)    The Agency must issue a SEP ~~pursuant to Section 611.110~~ that reduces  
6065                   the monitoring frequency to that specified by subsection (a) if it  
6066                   determines that the sampling point is reliably and consistently below the  
6067                   MCL.  
6068
- 6069                   2)    The request must, at a minimum, include the following information:
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- 6071                           A)    For a GWS: two quarterly samples.  
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- 6073                           B)    For an SWS or mixed system: four quarterly samples.  
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- 6075                   3)    In issuing a SEP, the Agency must specify the level of the contaminant  
6076                   upon which the "reliably and consistently" determination was based. All  
6077                   SEPs that allow less frequent monitoring based on an Agency "reliably  
6078                   and consistently" determination must include a condition requiring the  
6079                   supplier to resume quarterly monitoring under~~pursuant to~~ subsection (h) if  
6080                   it violates the MCL specified by Section 611.609.  
6081
- 6082           j)    This subsection (j) corresponds with 40 CFR 141.23(b)(10), which pertains to a  
6083           compliance period long since expired. This statement maintains structural  
6084           consistency with the federal regulations.  
6085

6086 BOARD NOTE: Derived from 40 CFR 141.23(b) (2016).  
6087

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

**Section 611.603 Inorganic Monitoring Frequency**

The frequency of monitoring conducted to determine compliance with the revised MCLs in Section 611.301 for antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, and thallium is as follows:

- a) Suppliers must take samples at each sampling point, beginning in the initial compliance period, as follows:
  - 1) For a GWS supplier: at least one sample during each compliance period;
  - 2) For an SWS or a mixed system supplier: at least one sample each year.

BOARD NOTE: Derived from 40 CFR 141.23(c)(1) (2016).

- b) SEP Application.
  - 1) The supplier may apply to the Agency for a SEP that allows reduction from the monitoring frequencies specified in subsection (a) ~~underpursuant to~~ subsections (d) through (f) and 35 Ill. Adm. Code 602.200Section 611.110.
  - 2) The supplier may apply to the Agency for a SEP that relieves it of the requirement for monitoring cyanide ~~underpursuant to~~ subsections (d) through (f) and 35 Ill. Adm. Code 602.200Section 611.110 if it can demonstrate that its system is not vulnerable due to a lack of any industrial source of cyanide.

BOARD NOTE: Derived from 40 CFR 141.23(c)(2) and (c)(6) (2016).

- c) SEP Procedures. The Agency must review the request ~~underpursuant to~~ the SEP procedures of 35 Ill. Adm. Code 602.200Section 611.110 based on consideration of the factors in subsection (e).

BOARD NOTE: Derived from 40 CFR 141.23(c)(6) (2016).

- d) Standard for SEP reduction in monitoring. The Agency must grant a SEP that allows a reduction in the monitoring frequency if the supplier demonstrates that all previous analytical results were less than the MCL, provided the supplier meets the following minimum data requirements:

- 6131 1) For GWS suppliers: a minimum of three rounds of monitoring.
- 6132
- 6133 2) For an SWS or mixed system supplier: annual monitoring for at least
- 6134 three years.
- 6135
- 6136 3) A supplier that uses a new water source is not eligible for a SEP until it
- 6137 completes three rounds of monitoring from the new source.
- 6138

6139 BOARD NOTE: Derived from 40 CFR 141.23(c)(4) (2016).

- 6140
- 6141 e) Standard for SEP monitoring conditions. As a condition of any SEP, the Agency
- 6142 must require that the supplier take a minimum of one sample during the term of
- 6143 the SEP. In determining the appropriate reduced monitoring frequency, the
- 6144 Agency must consider the following:
- 6145
- 6146 1) Reported concentrations from all previous monitoring;
- 6147
- 6148 2) The degree of variation in reported concentrations; and
- 6149
- 6150 3) Other factors that may affect contaminant concentrations, such as changes
- 6151 in groundwater pumping rates, changes in the CWS's configuration, the
- 6152 CWS's operating procedures, or changes in stream flows or characteristics.
- 6153

6154 BOARD NOTE: Derived from 40 CFR 141.23(c)(3) and (c)(5) (2016).

- 6155
- 6156 f) SEP Conditions and Revision.
- 6157
- 6158 1) A SEP will expire at the end of the compliance cycle for which it was
- 6159 issued.
- 6160
- 6161 BOARD NOTE: Derived from 40 CFR 141.23(c)(3) (2016).
- 6162
- 6163 2) In issuing a SEP, the Agency must specify the level of the contaminant
- 6164 upon which the "reliably and consistently" determination was based. A
- 6165 SEP must provide that the Agency will review and, where appropriate,
- 6166 revise its determination of the appropriate monitoring frequency when the
- 6167 supplier submits new monitoring data or when other data relevant to the
- 6168 supplier's appropriate monitoring frequency become available.
- 6169

6170 BOARD NOTE: Derived from 40 CFR 141.23(c)(6) (2016).

- 6171
- 6172 g) A supplier that exceeds the MCL as determined in Section 611.609, must monitor
- 6173 quarterly for that contaminant, beginning in the next quarter after the violation

6174 occurred.

6175

6176 BOARD NOTE: Derived from 40 CFR 141.23(c)(7) (2016).

6177

6178 h) Reduction of quarterly monitoring.

6179

6180 1) The Agency must grant a SEP ~~pursuant to Section 611.110~~ that reduces  
6181 the monitoring frequency to that specified by subsection (a) if it  
6182 determines that the sampling point is reliably and consistently below the  
6183 MCL.

6184

6185 2) A request for a SEP must include the following minimal information:

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6187 A) For a GWS: two quarterly samples.

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6189 B) For an SWS or mixed system supplier: four quarterly samples.

6190

6191 3) In issuing the SEP, the Agency must specify the level of the contaminant  
6192 upon which the "reliably and consistently" determination was based. Any  
6193 SEP that allows less frequent monitoring based on an Agency "reliably  
6194 and consistently" determination must include a condition requiring the  
6195 supplier to resume quarterly monitoring for any contaminant  
6196 underpursuant to subsection (g) if it violates the MCL specified by Section  
6197 611.609 for that contaminant.

6198

6199 BOARD NOTE: Derived from 40 CFR 141.23(c)(8) (2016).

6200

6201 i) A new system supplier or a supplier whose system uses a new source of water  
6202 must demonstrate compliance with the MCL within a period of time specified by  
6203 a permit issued the Agency. The supplier must also comply with the initial  
6204 sampling frequencies specified by the Agency to ensure a system can demonstrate  
6205 compliance with the MCL. Routine and increased monitoring frequencies must  
6206 be conducted in accordance with the requirements in this Section.

6207

6208 BOARD NOTE: Derived from 40 CFR 141.23(c)(9) (2016).

6209

6210 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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6212 **Section 611.604 Nitrate Monitoring**

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6214 Each supplier must monitor to determine compliance with the MCL for nitrate in Section  
6215 611.301.

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- a) Suppliers must monitor at the following frequencies:
  - 1) CWSs and NTNCWSs.
    - A) GWSs: annually;
    - B) SWSs and mixed systems: quarterly.

BOARD NOTE: Derived from 40 CFR 141.23(d)(1) (2016).
  - 2) Transient non-CWSs: annually.

BOARD NOTE: Derived from 40 CFR 141.23(d)(4) (2016).
- b) Quarterly monitoring for GWSs.
  - 1) A CWS or NTNCWS supplier that is a GWS must initiate quarterly monitoring in the quarter following any one sample that has a nitrate concentration equal to or greater than 50 percent of the MCL.
  - 2) The Agency must grant a SEP ~~pursuant to Section 611.110~~ that reduces the monitoring frequency to annual after the supplier has completed quarterly sampling for at least four quarters if it determines that the sampling point is reliably and consistently below the MCL.
    - A) The request must include the following minimal information: the results from four consecutive quarterly samples.
    - B) In issuing the SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. All SEPs that allow less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring pursuant to subsection (b)(1) if it violates the MCL specified by Section 611.301 for nitrate.

BOARD NOTE: Derived from 40 CFR 141.23(d)(2) (2016).
- c) Reduction of monitoring frequency for SWSs and mixed systems.
  - 1) The Agency must grant a SEP ~~pursuant to Section 611.110~~ that allows a CWS or NTNCWS supplier that is a SWS or mixed system to reduce its monitoring frequency to annually if it determines that all analytical results

6260 from four consecutive quarters are less than 50 percent of the MCL.

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6262 2) As a condition of the SEP, the Agency must require the supplier to initiate  
6263 quarterly monitoring, beginning the next quarter, if any one sample is  
6264 greater than or equal to 50 percent of the MCL.  
6265

6266 BOARD NOTE: Derived from 40 CFR 141.23(d)(3) (2016).  
6267

6268 d) This subsection corresponds with 40 CFR 141.23(d)(4), which the Board has  
6269 codified at subsection (a)(2). This statement maintains structural consistency with  
6270 USEPA rules.  
6271

6272 e) After completion of four consecutive quarters of monitoring, each CWS or  
6273 NTNCWS supplier monitoring annually must take samples during the quarters  
6274 that resulted in the highest analytical result.  
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6276 BOARD NOTE: Derived from 40 CFR 141.23(d)(5) (2016).  
6277

6278 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
6279

6280 **Section 611.605 Nitrite Monitoring**  
6281

6282 Each supplier must monitor to determine compliance with the MCL for nitrite in Section  
6283 611.301.  
6284

6285 a) This subsection (a) corresponds with 40 CFR 141.23(e)(1), which was applicable  
6286 only until a date now past. This statement maintains consistency with USEPA  
6287 rules.  
6288

6289 b) This subsection corresponds with 40 CFR 141.23(e)(2), a provision by which  
6290 USEPA refers to state requirements that do not exist in Illinois. This statement  
6291 maintains structural consistency with USEPA rules.  
6292

6293 c) Monitoring frequency.  
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6295 1) Quarterly monitoring.  
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6297 A) A supplier that has any one sample in which the concentration is  
6298 equal to or greater than 50 percent of the MCL must initiate  
6299 quarterly monitoring during the next quarter.  
6300

6301 B) A supplier required to begin quarterly monitoring ~~underpursuant to~~  
6302 subsection (c)(1)(A) must continue on a quarterly basis for a

6303 minimum of one year following any one sample exceeding the 50  
6304 percent of the MCL, after which the supplier may discontinue  
6305 quarterly monitoring pursuant to subsection (c)(2).  
6306

6307 2) The Agency must grant a SEP pursuant to Section 611.110 that allows a  
6308 supplier to reduce its monitoring frequency to annually if it determines  
6309 that the sampling point is reliably and consistently below the MCL.  
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6311 A) A request for a SEP must include the following minimal  
6312 information: the results from four quarterly samples.  
6313

6314 B) In issuing the SEP, the Agency must specify the level of the  
6315 contaminant upon which the "reliably and consistently"  
6316 determination was based. All SEPs that allow less frequent  
6317 monitoring based on an Agency "reliably and consistently"  
6318 determination must include a condition requiring the supplier to  
6319 resume quarterly monitoring for nitrite ~~underpursuant to~~ subsection  
6320 (c)(1) if it equals or exceeds 50 percent of the MCL specified by  
6321 Section 611.301 for nitrite.  
6322

6323 d) A supplier that is monitoring annually must take samples during the quarters that  
6324 previously resulted in the highest analytical result.  
6325

6326 BOARD NOTE: Derived from 40 CFR 141.23(e) (2016).  
6327

6328 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
6329

6330 **Section 611.612 Monitoring Requirements for Old Inorganic MCLs**  
6331

6332 a) Analyses for the purpose of determining compliance with the old inorganic MCLs  
6333 of Section 611.300 are required as follows:  
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6335 1) Analyses for all CWSs utilizing surface water sources must be repeated at  
6336 yearly intervals.  
6337

6338 2) Analyses for all CWSs utilizing only groundwater sources must be  
6339 repeated at three-year intervals.  
6340

6341 3) This subsection (a)(3) corresponds with 40 CFR 141.23(1)(3), which  
6342 requires monitoring for the repealed old MCL for nitrate at a frequency  
6343 specified by the state. The Board has followed the USEPA lead and  
6344 repealed that old MCL. This statement maintains structural consistency  
6345 with USEPA rules.

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- 4) This subsection (a)(4) corresponds with 40 CFR 141.23(1)(4), which authorizes the state to determine compliance and initiate enforcement action. This statement maintains structural consistency with USEPA rules.
- b) If the result of an analysis made under subsection (a) indicates that the level of any contaminant listed in Section 611.300 exceeds the old MCL, the supplier must report to the Agency within seven days and initiate three additional analyses at the same sampling point within one month.
- c) When the average of four analyses made ~~underpursuant to~~ subsection (b), rounded to the same number of significant figures as the old MCL for the substance in question, exceeds the old MCL, the supplier must notify the Agency and give notice to the public ~~underpursuant to~~ Subpart V. Monitoring after public notification must be at a frequency designated by the Agency by a SEP ~~issued pursuant to Section 611.110~~ and must continue until the old MCL has not been exceeded in two successive samples or until a different monitoring schedule becomes effective as a condition to a variance, an adjusted standard, a site specific rule, an enforcement action, or another SEP ~~issued pursuant to Section 611.110~~.
- d) This subsection (d) corresponds with 40 CFR 141.23(o), which pertains to monitoring for the repealed old MCL for nitrate. This statement maintains structural consistency with USEPA rules.
- e) This subsection (e) corresponds with 40 CFR 141.23(p), which pertains to the use of existing data up until a date long since expired. This statement maintains structural consistency with USEPA rules.
- f) Analyses conducted to determine compliance with the old MCLs of Section 611.300 must be made in accordance with the following methods, incorporated by reference in Section 611.102, or alternative methods approved by the Agency ~~underpursuant to~~ Section 611.480.
  - 1) Fluoride: The methods specified in Section 611.611(c) must apply for the purposes of this Section.
  - 2) Iron.
    - A) Standard Methods.
      - i) Method 3111 B, 18<sup>th</sup>, 19<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed.;

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- ii) Method 3113 B, 18<sup>th</sup>, 19<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed.; or
- iii) Method 3120 B, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed.
- B) Standard Methods Online, Method 3113 B-04.
- C) USEPA Environmental Metals Methods.
  - i) Method 200.7 (rev. 4.4); or
  - ii) Method 200.9 (rev. 2.2).
- D) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added USEPA NERL Method 200.5 as an approved alternative method on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA added Standard Methods, 21<sup>st</sup> 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, 22<sup>nd</sup> ed., Methods 3111 D, 3113 B, and 3120 B as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). 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, 22<sup>nd</sup> 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.

- 3) Manganese.
  - A) Standard Methods.
    - i) Method 3111 B, 18<sup>th</sup>, 19<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed.;
    - ii) Method 3113 B, 18<sup>th</sup>, 19<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed.; or
    - iii) Method 3120 B, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed.
  - B) Standard Methods Online, Method 3113 B-04.

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C) USEPA Environmental Metals Methods.

- i) Method 200.7 (rev. 4.4);
- ii) Method 200.8 (rev. 5.3); or
- iii) Method 200.9 (rev. 2.2).

D) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> 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, 22<sup>nd</sup> ed., Methods 3111 D, 3113 B, and 3120 B as approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463). 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, 22<sup>nd</sup> 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) Zinc.

A) Standard Methods.

- i) Method 3111 B, 18<sup>th</sup>, 19<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed.; or
- ii) Method 3120 B, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed.

B) USEPA Environmental Metals Methods.

- i) Method 200.7 (rev. 4.4); or
- ii) Method 200.8 (rev. 5.3).

C) Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES): USEPA NERL Method 200.5.

BOARD NOTE: USEPA added Standard Methods, 21<sup>st</sup> ed.; Methods 3111 B and 3120 B and USEPA NERL Method 200.5 as approved

6475 alternative methods on June 3, 2008 (at 73 Fed. Reg. 31616). USEPA  
6476 added Standard Methods, 22<sup>nd</sup> ed., Methods 3111 B and 3120 B as  
6477 approved alternative methods on June 21, 2013 (at 78 Fed. Reg. 37463).  
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6479 BOARD NOTE: The provisions of subsections (a) through (e) derive from 40 CFR  
6480 141.23(l) through (p) (2016). Subsections (f)(2) through (f)(4) relate exclusively to  
6481 additional State requirements. The Board retained subsection (f) to set forth methods for  
6482 the inorganic contaminants for which there is a State-only MCL. The methods specified  
6483 are those set forth in 40 CFR 143.4(b) and appendix A to subpart C of 40 CFR 141  
6484 (2016), for secondary MCLs.

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6486 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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6488 **SUBPART O: ORGANIC MONITORING AND ANALYTICAL REQUIREMENTS**  
6489

6490 **Section 611.646 Phase I, Phase II, and Phase V Volatile Organic Contaminants**  
6491

6492 Monitoring of the Phase I, Phase II, and Phase V VOCs for the purpose of determining  
6493 compliance with the MCL must be conducted as follows:  
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6495 a) Definitions. As used in this Section the following have the given meanings:  
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6497 "Detect" and "detection" mean that the contaminant of interest is present at  
6498 a level greater than or equal to the "detection limit".  
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6500 "Detection limit" means 0.0005 mg/ℓ.  
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6502 BOARD NOTE: Derived from 40 CFR 141.24(f)(7), (f)(11), (f)(14)(i),  
6503 and (f)(20) (2016). This is a "trigger level" for Phase I, Phase II, and  
6504 Phase V VOCs inasmuch as it prompts further action. The use of the term  
6505 "detect" in this Section is not intended to include any analytical capability  
6506 of quantifying lower levels of any contaminant, or the "method detection  
6507 limit". Note, however, that certain language at the end of federal  
6508 paragraph (f)(20) is capable of meaning that the "method detection limit"  
6509 is used to derive the "detection limit". The Board has chosen to disregard  
6510 that language at the end of paragraph (f)(20) in favor of the more direct  
6511 language of paragraphs (f)(7) and (f)(11).  
6512

6513 "Method detection limit", as used in subsections (q) and (t) means the  
6514 minimum concentration of a substance that can be measured and reported  
6515 with 99 percent confidence that the analyte concentration is greater than  
6516 zero and is determined from analysis of a sample in a given matrix  
6517 containing the analyte.

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BOARD NOTE: Derived from appendix B to 40 CFR 136 (2016). The method detection limit is determined by the procedure set forth in appendix B to 40 CFR 136, incorporated by reference in Section 611.102(c). See subsection (t).

- b) Required sampling. Each supplier must take a minimum of one sample at each sampling point at the times required in subsection (u).
- c) Sampling points.
  - 1) Sampling points for a GWS. Unless otherwise provided by a SEP granted by the Agency pursuant to Section 611.110, a GWS supplier must take at least one sample from each of the following points: each entry point that is representative of each well after treatment.
  - 2) Sampling points for an SWS or mixed system supplier. Unless otherwise provided by a SEP granted by the Agency pursuant to Section 611.110, an SWS or mixed system supplier must sample from each of the following points:
    - A) Each entry point after treatment; or
    - B) Points in the distribution system that are representative of each source.
  - 3) The supplier must take each sample at the same sampling point unless the Agency has granted a SEP pursuant to Section 611.110 that designates another location as more representative of each source, treatment plant, or within the distribution system.
  - 4) If a system draws water from more than one source, and the sources are combined before distribution, the supplier must sample at an entry point during periods of normal operating conditions when water is representative of all sources being used.

BOARD NOTE: Subsections (b) and (c) derived from 40 CFR 141.24(f)(1) through (f)(3) (2016).

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

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- e) This subsection (e) corresponds with 40 CFR 141.24(f)(5), which no longer has operative effect. This statement maintains structural consistency with the federal regulations.
  - f) GWS reduction to triennial monitoring frequency. After a minimum of three years of annual sampling, GWS suppliers that have not previously detected any of the Phase I VOCs, including vinyl chloride; Phase II VOCs; or Phase V VOCs must take one sample during each three-year compliance period.
  - g) A CWS or NTNCWS supplier that has completed the initial round of monitoring required by subsection (d) and which did not detect any of the Phase I VOCs, including vinyl chloride; Phase II VOCs; and Phase V VOCs may apply to the Agency for a SEP ~~pursuant to Section 611.110~~ that releases it from the requirements of subsection (e) or (f). A supplier that serves fewer than 3300 service connections may apply to the Agency for a SEP that releases it from the requirements of subsection (d) as to 1,2,4-trichlorobenzene.  
  
BOARD NOTE: Derived from 40 CFR 141.24(f)(7) and (f)(10) (2016), and the discussion at 57 Fed. Reg. 31825 (July 17, 1992). Provisions concerning the term of the waiver appear in subsections (i) and (j). The definition of "detect", parenthetically added to the federal counterpart paragraph, is in subsection (a).
  - h) Vulnerability assessment. The Agency must consider the factors of Section ~~611.110(a)~~~~611.110(e)~~ in granting a SEP from the requirements of subsection (d), (e), or (f) sought pursuant to subsection (g).
  - i) A SEP issued to a GWS ~~under~~~~pursuant to~~ subsection (g) is for a maximum of six years, except that a SEP as to the subsection (d) monitoring for 1,2,4-trichlorobenzene must apply only to the initial round of monitoring. As a condition of a SEP, except as to a SEP from the initial round of subsection (d) monitoring for 1,2,4-trichlorobenzene, the supplier shall, within 30 months after the beginning of the period for which the waiver was issued, reconfirm its vulnerability assessment required by subsection (h) and submitted pursuant to subsection (g), by taking one sample at each sampling point and reapplying for a SEP ~~under~~~~pursuant to~~ subsection (g). Based on this application, the Agency must do either of the following:
    - 1) If it determines that the PWS meets the standard of Section 611.610(e), issue a SEP that reconfirms the prior SEP for the remaining three-year compliance period of the six-year maximum term; or
    - 2) Issue a new SEP requiring the supplier to sample annually.

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

- j) Special considerations for a SEP for an SWS or mixed-system supplier.
  - 1) The Agency must determine that an SWS is not vulnerable before issuing a SEP pursuant to Section 611.110 to an SWS supplier. A SEP issued to an SWS or mixed system supplier pursuant to subsection (g) is for a maximum of one compliance period; and
  - 2) The Agency may require, as a condition to a SEP issued to an SWS or mixed supplier, that the supplier take such samples for Phase I, Phase II, and Phase V VOCs at such a frequency as the Agency determines are necessary, based on the vulnerability assessment.

BOARD NOTE: There is a great degree of similarity between 40 CFR 141.24(f)(7) (2016), the provision applicable to GWSs, and 40 CFR 141.24(f)(10) (2016), the provision for SWSs. The Board has consolidated the common requirements of both paragraphs into subsection (g). Subsection (j) represents the elements unique to an SWSs or mixed system, and subsection (i) relates to a GWS supplier. Although 40 CFR 141.24(f)(7) and (f)(10) are silent as to a mixed system supplier, the Board has included a mixed system supplier with an SWS supplier because this best follows the federal scheme for all other contaminants.

- k) If one of the Phase I VOCs, excluding vinyl chloride; a Phase II VOC; or a Phase V VOC is detected in any sample, then the following must occur:
  - 1) The supplier must monitor quarterly for that contaminant at each sampling point that resulted in a detection.
  - 2) Annual monitoring.
    - A) The Agency must grant a SEP pursuant to Section 611.110 that allows a supplier to reduce the monitoring frequency to annual at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.
    - B) A request for a SEP must include the following minimal information:
      - i) For a GWS, two quarterly samples.

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- ii) For an SWS or mixed system supplier, four quarterly samples.
- C) In issuing a SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. Any SEP that allows less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring ~~underpursuant to~~ subsection (k)(1) if it violates the MCL specified by Section 611.311.
- 3) Suppliers that monitor annually must monitor during the quarters that previously yielded the highest analytical result.
- 4) Suppliers that do not detect a contaminant at a sampling point in three consecutive annual samples may apply to the Agency for a SEP ~~pursuant to Section 611.110~~ that allows it to discontinue monitoring for that contaminant at that point, as specified in subsection (g).
- 5) A GWS supplier that has detected one or more of the two-carbon contaminants listed in subsection (k)(5)(A) must monitor quarterly for vinyl chloride as described in subsection (k)(5)(B), subject to the limitation of subsection (k)(5)(C).
  - A) "Two-carbon contaminants" (Phase I or II VOC) are the following:
    - 1,2-Dichloroethane (Phase I)
    - 1,1-Dichloroethylene (Phase I)
    - cis-1,2-Dichloroethylene (Phase II)
    - trans-1,2-Dichloroethylene (Phase II)
    - Tetrachloroethylene (Phase II)
    - 1,1,1-Trichloroethylene (Phase I)
    - Trichloroethylene (Phase I)
  - B) The supplier must sample quarterly for vinyl chloride at each sampling point at which it detected one or more of the two-carbon contaminants listed in subsection (k)(5)(A).

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- C) The Agency must grant a SEP ~~pursuant to Section 611.110~~ that allows the supplier to reduce the monitoring frequency for vinyl chloride at any sampling point to once in each three-year compliance period if it determines that the supplier has not detected vinyl chloride in the first sample required by subsection (k)(5)(B).
  
- l) Quarterly monitoring following MCL violations.
  - 1) Suppliers that violate an MCL for one of the Phase I VOCs, including vinyl chloride; Phase II VOCs; or Phase V VOCs, as determined by subsection (o), must monitor quarterly for that contaminant, at the sampling point where the violation occurred, beginning the next quarter after the violation.
  - 2) Annual monitoring.
    - A) The Agency must grant a SEP ~~pursuant to Section 611.110~~ that allows a supplier to reduce the monitoring frequency to annually if it determines that the sampling point is reliably and consistently below the MCL.
    - B) A request for a SEP must include the following minimal information: four quarterly samples.
    - C) In issuing a SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. Any SEP that allows less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring ~~underpursuant to~~ subsection (l)(1) if it violates the MCL specified by Section 611.311.
    - D) The supplier must monitor during the quarters that previously yielded the highest analytical result.
  
- m) Confirmation samples. The Agency may issue a SEP ~~pursuant to Section 610.110~~ to require a supplier to use a confirmation sample for results that it finds dubious for whatever reason. The Agency must state its reasons for issuing the SEP if the SEP is Agency-initiated.
  - 1) If a supplier detects any of the Phase I, Phase II, or Phase V VOCs in a

- 6733 sample, the supplier must take a confirmation sample as soon as possible,  
6734 but no later than 14 days after the supplier receives notice of the detection.  
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- 6736 2) Averaging is as specified in subsection (o).  
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- 6738 3) The Agency must delete the original or confirmation sample if it  
6739 determines that a sampling error occurred, in which case the confirmation  
6740 sample will replace the original or confirmation sample.  
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- 6742 n) This subsection (n) corresponds with 40 CFR 141.24(f)(14), an optional USEPA  
6743 provision relating to compositing of samples that USEPA does not require for  
6744 state programs. This statement maintains structural consistency with USEPA  
6745 rules.  
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- 6747 o) Compliance with the MCLs for the Phase I, Phase II, and Phase V VOCs must be  
6748 determined based on the analytical results obtained at each sampling point. If one  
6749 sampling point is in violation of an MCL, the system is in violation of the MCL.  
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- 6751 1) For a supplier that monitors more than once per year, compliance with the  
6752 MCL is determined by a running annual average at each sampling point.  
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- 6754 2) A supplier that monitors annually or less frequently whose sample result  
6755 exceeds the MCL must begin quarterly sampling. The system will not be  
6756 considered in violation of the MCL until it has completed one year of  
6757 quarterly sampling.  
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- 6759 3) If any sample result will cause the running annual average to exceed the  
6760 MCL at any sampling point, the supplier is out of compliance with the  
6761 MCL immediately.  
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- 6763 4) If a supplier fails to collect the required number of samples, compliance  
6764 will be based on the total number of samples collected.  
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- 6766 5) If a sample result is less than the detection limit, zero will be used to  
6767 calculate the annual average.  
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- 6769 p) This subsection (p) corresponds with 40 CFR 141.24(f)(16), which USEPA  
6770 removed and reserved. This statement maintains structural consistency with the  
6771 federal regulations.  
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- 6773 q) Analysis under this Section must only be conducted by a laboratory in one of the  
6774 categories listed in Section 611.490(a) that has been certified according to the  
6775 following conditions:

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- 1) To receive certification to conduct analyses for the Phase I VOCs, excluding vinyl chloride; Phase II VOCs; and Phase V VOCs, the laboratory must do the following:
  - A) It must analyze performance evaluation (PE) samples that include these substances provided by the Agency ~~underpursuant to~~ 35 Ill. Adm. Code 186.170;
  - B) It must achieve the quantitative acceptance limits under subsections (q)(1)(C) and (q)(1)(D) for at least 80 percent of the regulated organic contaminants in the PE sample;
  - C) It must achieve quantitative results on the analyses performed under subsection (q)(1)(A) that are within  $\pm 20$  percent of the actual amount of the substances in the PE sample when the actual amount is greater than or equal to 0.010 mg/l;
  - D) It must achieve quantitative results on the analyses performed under subsection (q)(1)(A) that are within  $\pm 40$  percent of the actual amount of the substances in the PE sample when the actual amount is less than 0.010 mg/l; and
  - E) It must achieve a method detection limit of 0.0005 mg/l, according to the procedures in appendix B to 40 CFR 136, incorporated by reference in Section 611.102.
  
- 2) To receive certification to conduct analyses for vinyl chloride the laboratory must do the following:
  - A) It must analyze PE samples provided by the Agency ~~underpursuant to~~ 35 Ill. Adm. Code 186.170;
  - B) It must achieve quantitative results on the analyses performed under subsection (q)(2)(A) that are within  $\pm 40$  percent of the actual amount of vinyl chloride in the PE sample;
  - C) It must achieve a method detection limit of 0.0005 mg/l, according to the procedures in appendix B to 40 CFR 136, incorporated by reference in Section 611.102; and
  - D) It must obtain certification ~~underpursuant to~~ subsection (q)(1) for Phase I VOCs, excluding vinyl chloride; Phase II VOCs; and Phase V VOCs.

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- r) This subsection (r) corresponds with 40 CFR 141.24(f)(18), an obsolete provision that relates to the initial compliance period from 1993 through 1995. This statement maintains consistency with the federal regulations.
- s) The Agency ~~must~~ shall, by a SEP ~~issued pursuant to Section 611.110~~, increase the number of sampling points or the frequency of monitoring if it determines that it is necessary to detect variations within the PWS.
- t) Each laboratory certified for the analysis of Phase I, Phase II, or Phase V VOCs ~~under~~ pursuant to subsection (q)(1) or (q)(2) ~~must~~ shall do the following:
  - 1) Determine the method detection limit (MDL), as defined in appendix B to 40 CFR 136, incorporated by reference in Section 611.102, at which it is capable of detecting the Phase I, Phase II, and Phase V VOCs; and,
  - 2) Achieve an MDL for each Phase I, Phase II, and Phase V VOC that is less than or equal to 0.0005 mg/l.
- u) Each supplier must monitor, within each compliance period, at the time designated by the Agency by SEP ~~pursuant to Section 611.110~~.
- v) A new system supplier or a supplier that uses a new source of water must demonstrate compliance with the MCL within a period of time specified by a permit issued by the Agency. The supplier must also comply with the initial sampling frequencies specified by the Agency to ensure the supplier can demonstrate compliance with the MCL. Routine and increased monitoring frequencies must be conducted in accordance with the requirements in this Section.

BOARD NOTE: Derived from 40 CFR 141.24(f) (2016).

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

**Section 611.648 Phase II, Phase IIB, and Phase V Synthetic Organic Contaminants**

Analysis of the Phase II, Phase IIB, and Phase V SOCs for the purposes of determining compliance with the MCL must be conducted as follows:

- a) Definitions. As used in this Section, the following terms will have the following meanings:
  - "Detect" or "detection" means that the contaminant of interest is present at

6862 a level greater than or equal to the "detection limit".

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"Detection limit" means the level of the contaminant of interest that is specified in subsection (r).

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BOARD NOTE: This is a "trigger level" for Phase II, Phase IIB, and Phase V SOCs inasmuch as it prompts further action. The use of the term "detect" or "detection" in this Section is not intended to include any analytical capability of quantifying lower levels of any contaminant, or the "method detection limit".

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

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BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

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- c) Sampling points.

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

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- 2) Sampling points for an SWS or mixed system supplier. Unless otherwise provided by SEP, an SWS or mixed system supplier must sample from each of the following points:

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A) Each entry point after treatment; or

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

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

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

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6905 BOARD NOTE: Subsections (b) and (c) derived from 40 CFR 141.24(h)(1)  
 6906 through (h)(3) (2013).

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- 6908 d) Monitoring frequency.
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- 6910 1) Each CWS and NTNCWS supplier must take four consecutive quarterly
- 6911 samples for each of the Phase II, Phase IIB, and Phase V SOCs during
- 6912 each compliance period, beginning in the three-year compliance period
- 6913 starting in the initial compliance period.
- 6914
- 6915 2) Suppliers serving more than 3,300 persons that do not detect a
- 6916 contaminant in the initial compliance period must take a minimum of two
- 6917 quarterly samples in one year of each subsequent three-year compliance
- 6918 period.
- 6919
- 6920 3) Suppliers serving fewer than or equal to 3,300 persons that do not detect a
- 6921 contaminant in the initial compliance period must take a minimum of one
- 6922 sample during each subsequent three-year compliance period.
- 6923

6924 e) Reduction to annual monitoring frequency. A CWS or NTNCWS supplier may

6925 apply to the Agency for a SEP that releases it from the requirements of subsection

6926 (d). A SEP from the requirement of subsection (d) must last for only a single

6927 three-year compliance period.

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6929 f) Vulnerability assessment. The Agency must grant a SEP from the requirements

6930 of subsection (d) based on consideration of the factors set forth at Section

6931 611.110(a)~~611.110(e)~~.

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6933 g) If one of the Phase II, Phase IIB, or Phase V SOCs is detected in any sample, then

6934 the following must occur:

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- 6936 1) The supplier must monitor quarterly for the contaminant at each sampling
- 6937 point that resulted in a detection.
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- 6939 2) Annual monitoring.
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- 6941 A) A supplier may request that the Agency grant a SEP pursuant to
- 6942 ~~Section 610.110~~ that reduces the monitoring frequency to annual.
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- 6944 B) A request for a SEP must include the following minimal
- 6945 information:
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- 6947 i) For a GWS, two quarterly samples.

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- ii) For an SWS or mixed system supplier, four quarterly samples.
  - C) The Agency must grant a SEP that allows annual monitoring at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.
  - D) In issuing the SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. Any SEP that allows less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring ~~underpursuant to~~ subsection (g)(1) if it detects any Phase II SOC.
  - 3) Suppliers that monitor annually must monitor during the quarters that previously yielded the highest analytical result.
  - 4) Suppliers that have three consecutive annual samples with no detection of a contaminant at a sampling point may apply to the Agency for a SEP with respect to that point, as specified in subsections (e) and (f).
  - 5) Monitoring for related contaminants.
    - A) If monitoring results in detection of one or more of the related contaminants listed in subsection (g)(5)(B), subsequent monitoring must analyze for all the related compounds in the respective group.
    - B) Related contaminants.
      - i) First group.
        - aldicarb
        - aldicarb sulfone
        - aldicarb sulfoxide
- BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

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- ii) Second group.
  - heptachlor
  - heptachlor epoxide.
- h) Quarterly monitoring following MCL violations.
  - 1) Suppliers that violate an MCL for one of the Phase II, Phase IIB, or Phase V SOCs, as determined by subsection (k), must monitor quarterly for that contaminant at the sampling point where the violation occurred, beginning the next quarter after the violation.
  - 2) Annual monitoring.
    - A) A supplier may request that the Agency grant a SEP pursuant to ~~Section 611.110~~ that reduces the monitoring frequency to annual.
    - B) A request for a SEP must include, at a minimum, the results from four quarterly samples.
    - C) The Agency must grant a SEP that allows annual monitoring at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.
    - D) In issuing the SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently" determination was based. Any SEP that allows less frequent monitoring based on an Agency "reliably and consistently" determination must include a condition requiring the supplier to resume quarterly monitoring ~~underpursuant to~~ subsection (h)(1) if it detects any Phase II SOC.
    - E) The supplier must monitor during the quarters that previously yielded the highest analytical result.
- i) Confirmation samples.
  - 1) If any of the Phase II, Phase IIB, or Phase V SOCs are detected in a sample, the supplier must take a confirmation sample as soon as possible, but no later than 14 days after the supplier receives notice of the detection.

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- 2) Averaging is as specified in subsection (k).
  - 3) The Agency must delete the original or confirmation sample if it determines that a sampling error occurred, in which case the confirmation sample will replace the original or confirmation sample.
  - j) This subsection (j) corresponds with 40 CFR 141.24(h)(10), an optional USEPA provision relating to compositing of samples that USEPA does not require for state programs. This statement maintains structural consistency with USEPA rules.
  - k) Compliance with the MCLs for the Phase II, Phase IIB, and Phase V SOCs must be determined based on the analytical results obtained at each sampling point. If one sampling point is in violation of an MCL, the supplier is in violation of the MCL.
    - 1) For a supplier that monitors more than once per year, compliance with the MCL is determined by a running annual average at each sampling point.
    - 2) A supplier that monitors annually or less frequently whose sample result exceeds the regulatory detection level as defined by subsection (r) must begin quarterly sampling. The system will not be considered in violation of the MCL until it has completed one year of quarterly sampling.
    - 3) If any sample result will cause the running annual average to exceed the MCL at any sampling point, the supplier is out of compliance with the MCL immediately.
    - 4) If a supplier fails to collect the required number of samples, compliance will be based on the total number of samples collected.
    - 5) If a sample result is less than the detection limit, zero will be used to calculate the annual average.
  - l) This subsection (l) corresponds with 40 CFR 141.24(h)(12), which USEPA removed and reserved. This statement maintains structural consistency with the federal regulations.
  - m) Analysis for PCBs must be conducted as follows using the methods in Section 611.645:
    - 1) Each supplier that monitors for PCBs must analyze each sample using either USEPA Organic Methods, Method 505 or Method 508.

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- 2) If PCBs are detected in any sample analyzed using USEPA Organic Methods, Method 505 or 508, the supplier must reanalyze the sample using Method 508A to quantitate the individual Aroclors (as decachlorobiphenyl).
- 3) Compliance with the PCB MCL must be determined based upon the quantitative results of analyses using USEPA Organic Methods, Method 508A.

- n) This subsection (n) corresponds with 40 CFR 141.24(h)(14), an obsolete provision that relates to the initial compliance period from 1993 through 1995. This statement maintains consistency with the federal regulations.
- o) The Agency must issue a SEP that increases the number of sampling points or the frequency of monitoring if it determines that this is necessary to detect variations within the PWS due to such factors as fluctuations in contaminant concentration due to seasonal use or changes in the water source.

BOARD NOTE: At 40 CFR 141.24(h)(15), USEPA uses the stated factors as non-limiting examples of circumstances that make additional monitoring necessary.

- p) This subsection (p) corresponds with 40 CFR 141.24(h)(16), a USEPA provision relating to reserving enforcement authority to the State that would serve no useful function as part of the State's rules. This statement maintains structural consistency with USEPA rules.
- q) Each supplier must monitor, within each compliance period, at the time designated by the Agency by SEP pursuant to Section 611.110.
- r) "Detection" means greater than or equal to the following concentrations for each contaminant:

- 1) for PCBs (Aroclors), the following:

Aroclor	Detection Limit (mg/ℓ)
1016	0.00008
1221	0.02
1232	0.0005
1242	0.0003
1248	0.0001

1254 0.0001  
 1260 0.0002

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2) for other Phase II, Phase IIB, and Phase V SOCs, the following:

Contaminant	Detection Limit (mg/ℓ)
Alachlor	0.0002
Aldicarb	0.0005
Aldicarb sulfoxide	0.0005
Aldicarb sulfone	0.0008
Atrazine	0.0001
Benzo(a)pyrene	0.00002
Carbofuran	0.0009
Chlordane	0.0002
2,4-D	0.0001
Dalapon	0.001
1,2-Dibromo-3-chloropropane (DBCP)	0.00002
Di(2-ethylhexyl)adipate	0.0006
Di(2-ethylhexyl)phthalate	0.0006
Dinoseb	0.0002
Diquat	0.0004
Endothall	0.009
Endrin	0.00001
Ethylene dibromide (EDB)	0.00001
Glyphosate	0.006
Heptachlor	0.00004
Heptachlor epoxide	0.00002
Hexachlorobenzene	0.0001
Hexachlorocyclopentadiene	0.0001
Lindane	0.00002
Methoxychlor	0.0001
Oxamyl	0.002
Picloram	0.0001
Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl)	0.0001
Pentachlorophenol	0.00004
Simazine	0.00007
Toxaphene	0.001
2,3,7,8-TCDD (dioxin)	0.000000005
2,4,5-TP (silvex)	0.0002

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BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

s) Laboratory certification.

- 1) Analyses under this Section must only be conducted by a laboratory in one of the categories listed in Section 611.490(a) that has been certified according to the conditions of subsection (s)(2).
- 2) To receive certification to conduct analyses for the Phase II, Phase IIB, and Phase V SOCs, the laboratory must do the following:
  - A) Analyze PE samples provided by the Agency ~~underpursuant to~~ 35 Ill. Adm. Code 183.125(c) that include these substances; and
  - B) Achieve quantitative results on the analyses performed under subsection (s)(2)(A) that are within the following acceptance limits:

SOC	Acceptance Limits
Alachlor	± 45%
Aldicarb	2 standard deviations
Aldicarb sulfone	2 standard deviations
Aldicarb sulfoxide	2 standard deviations
Atrazine	± 45%
Benzo(a)pyrene	2 standard deviations
Carbofuran	± 45%
Chlordane	± 45%
Dalapon	2 standard deviations
Di(2-ethylhexyl)adipate	2 standard deviations
Di(2-ethylhexyl)phthalate	2 standard deviations
Dinoseb	2 standard deviations
Diquat	2 standard deviations
Endothall	2 standard deviations
Endrin	± 30%
Glyphosate	2 standard deviations
Dibromochloropropane (DBCP)	± 40%
Ethylene dibromide (EDB)	± 40%
Heptachlor	± 45%
Heptachlor epoxide	± 45%
Hexachlorobenzene	2 standard deviations

Hexachlorocyclopentadiene	2 standard deviations
Lindane	± 45%
Methoxychlor	± 45%
Oxamyl	2 standard deviations
PCBs (as decachlorobiphenyl)	0-200%
Pentachlorophenol	± 50%
Picloram	2 standard deviations
Simazine	2 standard deviations
Toxaphene	± 45%
2,4-D	± 50%
2,3,7,8-TCDD (dioxin)	2 standard deviations
2,4,5-TP (silvex)	± 50%

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BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

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

BOARD NOTE: Derived from 40 CFR 141.24(h) (2016).

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

SUBPART Q: RADIOLOGICAL MONITORING AND ANALYTICAL REQUIREMENTS

**Section 611.731 Gross Alpha**

Monitoring requirements for gross alpha particle activity, radium-226, radium-228, and uranium are as follows:

- a) A community water system (CWS) supplier must conduct initial monitoring to determine compliance with Section 611.330(b), (c), and (e). For the purposes of monitoring for gross alpha particle activity, radium-226, radium-228, uranium, and beta particle and photon radioactivity in drinking water, "detection limit" is defined as in Section 611.720(c).

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- 1) Applicability and sampling location for an existing CWS supplier. An existing CWS supplier using groundwater, surface water, or both groundwater and surface water (for the purpose of this Section hereafter referred to as a supplier) must sample at every entry point to the distribution system that is representative of all sources being used (hereafter called a sampling point) under normal operating conditions. The supplier must take each sample at the same sampling point, unless conditions make another sampling point more representative of each source or the Agency has designated a distribution system location, in accordance with subsection (b)(2)(C).
  - 2) Applicability and sampling location for a new CWS supplier. A new CWS supplier or a CWS supplier that uses a new source of water must begin to conduct initial monitoring for the new source within the first quarter after initiating use of the source. A CWS supplier must conduct more frequent monitoring when ordered by the Agency in the event of possible contamination or when changes in the distribution system or treatment processes occur that may increase the concentration of radioactivity in finished water.
- b) Initial monitoring: A CWS supplier must conduct initial monitoring for gross alpha particle activity, radium-226, radium-228, and uranium as follows:
- 1) A CWS supplier without acceptable historical data, as defined in subsection (b)(2) ~~of this Section~~, is required to have collected four consecutive quarterly samples at all sampling points before December 31, 2007.
  - 2) Grandfathering of data: A CWS supplier may use historical monitoring data collected at a sampling point to satisfy the initial monitoring requirements for that sampling point, under the following situations.
    - A) To satisfy initial monitoring requirements, a CWS supplier having only one entry point to the distribution system may use the monitoring data from the last compliance monitoring period that began between June 2000 and December 8, 2003.
    - B) To satisfy initial monitoring requirements, a CWS supplier with multiple entry points and having appropriate historical monitoring data for each entry point to the distribution system may use the monitoring data from the last compliance monitoring period that began between June 2000 and December 8, 2003.

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C) To satisfy initial monitoring requirements, a CWS supplier with appropriate historical data for a representative point in the distribution system may use the monitoring data from the last compliance monitoring period that began between June 2000 and December 8, 2003, provided that the Agency finds that the historical data satisfactorily demonstrate that each entry point to the distribution system is expected to be in compliance based upon the historical data and reasonable assumptions about the variability of contaminant levels between entry points. The Agency must make its finding in writing, by a SEP issued pursuant to Section 611.110, indicating how the data conforms to the requirements of this subsection (b)(2).

- 3) For gross alpha particle activity, uranium, radium-226, and radium-228 monitoring, the Agency may, by a SEP issued pursuant to Section 611.110, waive the final two quarters of initial monitoring for a sampling point if the results of the samples from the previous two quarters are below the detection limit.
- 4) If the average of the initial monitoring results for a sampling point is above the MCL, the supplier must collect and analyze quarterly samples at that sampling point until the system has results from four consecutive quarters that are at or below the MCL, unless the supplier enters into another schedule as part of a formal compliance agreement with the Agency.

c) Reduced monitoring: The Agency may allow a CWS supplier to reduce the future frequency of monitoring from once every three years to once every six or nine years at each sampling point, based on the following criteria:

- 1) If the average of the initial monitoring results for each contaminant (i.e., gross alpha particle activity, uranium, radium-226, or radium-228) is below the detection limit specified in the table at Section 611.720(c)(1), the supplier must collect and analyze for that contaminant using at least one sample at that sampling point every nine years.
- 2) For gross alpha particle activity and uranium, if the average of the initial monitoring results for each contaminant is at or above the detection limit but at or below one-half the MCL, the supplier must collect and analyze for that contaminant using at least one sample at that sampling point every six years. For combined radium-226 and radium-228, the analytical results must be combined. If the average of the combined initial monitoring results for radium-226 and radium-228 is at or above the

- 7254 detection limit but at or below one-half the MCL, the supplier must collect  
 7255 and analyze for that contaminant using at least one sample at that sampling  
 7256 point every six years.  
 7257
- 7258 3) For gross alpha particle activity and uranium, if the average of the initial  
 7259 monitoring results for each contaminant is above one-half the MCL but at  
 7260 or below the MCL, the supplier must collect and analyze at least one  
 7261 sample at that sampling point every three years. For combined radium-  
 7262 226 and radium-228, the analytical results must be combined. If the  
 7263 average of the combined initial monitoring results for radium-226 and  
 7264 radium-228 is above one-half the MCL but at or below the MCL, the  
 7265 supplier must collect and analyze at least one sample at that sampling  
 7266 point every three years.  
 7267
- 7268 4) A supplier must use the samples collected during the reduced monitoring  
 7269 period to determine the monitoring frequency for subsequent monitoring  
 7270 periods (e.g., if a supplier's sampling point is on a nine year monitoring  
 7271 period, and the sample result is above one-half the MCL, then the next  
 7272 monitoring period for that sampling point is three years).  
 7273
- 7274 5) If a supplier has a monitoring result that exceeds the MCL while on  
 7275 reduced monitoring, the supplier must collect and analyze quarterly  
 7276 samples at that sampling point until the supplier has results from four  
 7277 consecutive quarters that are below the MCL, unless the supplier enters  
 7278 into another schedule as part of a formal compliance agreement with the  
 7279 Agency.  
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- 7281 d) Compositing: To fulfill quarterly monitoring requirements for gross alpha  
 7282 particle activity, radium-226, radium-228, or uranium, a supplier may composite  
 7283 up to four consecutive quarterly samples from a single entry point if analysis is  
 7284 done within a year after the first sample. The analytical results from the  
 7285 composited sample must be treated as the average analytical result to determine  
 7286 compliance with the MCLs and the future monitoring frequency. If the analytical  
 7287 result from the composited sample is greater than one-half the MCL, the Agency  
 7288 may, by a SEP issued pursuant to Section 611.110, direct the supplier to take  
 7289 additional quarterly samples before allowing the supplier to sample under a  
 7290 reduced monitoring schedule.  
 7291
- 7292 e) A gross alpha particle activity measurement may be substituted for the required  
 7293 radium-226 measurement, provided that the measured gross alpha particle activity  
 7294 does not exceed 5 pCi/l. A gross alpha particle activity measurement may be  
 7295 substituted for the required uranium measurement provided that the measured  
 7296 gross alpha particle activity does not exceed 15 pCi/l.

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- 1) The gross alpha measurement must have a confidence interval of 95% ( $1.65\sigma$ , where  $\sigma$  is the standard deviation of the net counting rate of the sample) for radium-226 and uranium.
- 2) When a supplier uses a gross alpha particle activity measurement in lieu of a radium-226 or uranium measurement, the gross alpha particle activity analytical result will be used to determine the future monitoring frequency for radium-226 or uranium.
- 3) If the gross alpha particle activity result is less than detection, one-half the detection limit will be used to determine compliance and the future monitoring frequency.

BOARD NOTE: Subsections (a) through (e) derive from 40 CFR 141.26(a) (2016).

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

**Section 611.732 Beta Particle and Photon Radioactivity**

Monitoring and compliance requirements for manmade radioactivity. To determine compliance with the maximum contaminant levels in Section 611.330(d) for beta particle and photon radioactivity, a supplier must monitor at a frequency as follows:

- a) A CWS supplier (either a surface water or groundwater supplier) designated by the Agency, by a SEP ~~issued pursuant to Section 611.110~~, as vulnerable must sample for beta particle and photon radioactivity. A supplier must collect quarterly samples for beta emitters and annual samples for tritium and strontium-90 at each entry point to the distribution system (hereafter called a sampling point), beginning within one quarter after being notified by the Agency. A supplier already designated by the Agency must continue to sample until the Agency reviews and either reaffirms or removes the designation, by a SEP ~~issued pursuant to Section 611.110~~.
  - 1) If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity at a sampling point has a running annual average (computed quarterly) less than or equal to 50 pCi/l (screening level), the Agency may reduce the frequency of monitoring at that sampling point to once every three years. A supplier must collect all samples required in subsection (a) during the reduced monitoring period.
  - 2) For a supplier in the vicinity of a nuclear facility, the Agency may allow the CWS supplier to utilize environmental surveillance data collected by

7340 the nuclear facility in lieu of monitoring at the supplier's entry points,  
 7341 where the Agency determines if such data is applicable to a particular  
 7342 water system, by a SEP ~~issued pursuant to Section 611.110~~. In the event  
 7343 that there is a release from a nuclear facility, a supplier that is using  
 7344 surveillance data must begin monitoring at the community water supplier's  
 7345 entry points in accordance with subsection (b)(1).  
 7346

7347 b) A CWS supplier (either a surface water or groundwater supplier) designated by  
 7348 the Agency, by a SEP ~~issued pursuant to Section 611.110~~, as utilizing waters  
 7349 contaminated by effluents from nuclear facilities must sample for beta particle  
 7350 and photon radioactivity. A supplier must collect quarterly samples for beta  
 7351 emitters and iodine-131 and annual samples for tritium and strontium-90 at each  
 7352 entry point to the distribution system (hereafter called a sampling point),  
 7353 beginning within one quarter after being notified by the Agency. A supplier  
 7354 already designated by the Agency as a supplier using waters contaminated by  
 7355 effluents from nuclear facilities must continue to sample until the Agency reviews  
 7356 and either reaffirms or removes the designation, by a SEP ~~issued pursuant to~~  
 7357 ~~Section 611.110~~.  
 7358

7359 1) Quarterly monitoring for gross beta particle activity must be based on the  
 7360 analysis of monthly samples or the analysis of a composite of three  
 7361 monthly samples.  
 7362

7363 BOARD NOTE: In corresponding 40 CFR 141.26(b)(2)(i), USEPA  
 7364 recommends the use of a composite of three monthly samples.  
 7365

7366 2) For iodine-131, a composite of five consecutive daily samples must be  
 7367 analyzed once each quarter. The Agency must require, by a SEP ~~issued~~  
 7368 ~~pursuant to Section 611.110~~, more frequent monitoring for iodine-131  
 7369 where iodine-131 is identified in the finished water.  
 7370

7371 3) Annual monitoring for strontium-90 and tritium must be conducted by  
 7372 means of the analysis of a composite of four consecutive quarterly  
 7373 samples or analysis of four quarterly samples.  
 7374

7375 BOARD NOTE: In corresponding 40 CFR 141.26(b)(2)(iii), USEPA  
 7376 recommends the analysis of four consecutive quarterly samples.  
 7377

7378 4) If the gross beta particle activity minus the naturally occurring potassium-  
 7379 40 beta particle activity at a sampling point has a running annual average  
 7380 (computed quarterly) less than or equal to 15 pCi/ℓ, the Agency may, by a  
 7381 SEP ~~issued pursuant to Section 611.110~~, reduce the frequency of  
 7382 monitoring at that sampling point to once every three years. The supplier

7383 must collect the same type of samples required in subsection (b) during the  
 7384 reduced monitoring period.

7385  
 7386 5) For a supplier in the vicinity of a nuclear facility, the Agency may allow  
 7387 the CWS to utilize environmental surveillance data collected by the  
 7388 nuclear facility in lieu of monitoring at the system's entry points, where  
 7389 the Agency determines, by a SEP issued pursuant to Section 611.110, that  
 7390 such data is applicable to the particular water system. In the event that  
 7391 there is a release from a nuclear facility, a supplier that uses such  
 7392 surveillance data must begin monitoring at the CWS's entry points in  
 7393 accordance with subsection (b).  
 7394

7395 c) A CWS supplier designated by the Agency to monitor for beta particle and photon  
 7396 radioactivity ~~cannot~~ not apply to the Agency for a waiver from the monitoring  
 7397 frequencies specified in subsection (a) or (b).  
 7398

7399 d) A CWS supplier may analyze for naturally occurring potassium-40 beta particle  
 7400 activity from the same or equivalent sample used for the gross beta particle  
 7401 activity analysis. A supplier is allowed to subtract the potassium-40 beta particle  
 7402 activity value from the total gross beta particle activity value to determine if the  
 7403 screening level is exceeded. The potassium-40 beta particle activity must be  
 7404 calculated by multiplying elemental potassium concentrations (in mg/l) by a  
 7405 factor of 0.82.  
 7406

7407 e) If the gross beta particle activity minus the naturally occurring potassium-40 beta  
 7408 particle activity exceeds the appropriate screening level, an analysis of the sample  
 7409 must be performed to identify the major radioactive constituents present in the  
 7410 sample and the appropriate doses must be calculated and summed to determine  
 7411 compliance with Section 611.330(d)(1), using the formula in Section  
 7412 611.330(d)(2). Doses must also be calculated and combined for measured levels  
 7413 of tritium and strontium to determine compliance.  
 7414

7415 f) A supplier must monitor monthly at the sampling points that exceeds the  
 7416 maximum contaminant level in Section 611.330(d) beginning the month after the  
 7417 exceedance occurs. A supplier must continue monthly monitoring until the  
 7418 supplier has established, by a rolling average of three monthly samples, that the  
 7419 MCL is being met. A supplier that establishes that the MCL is being met must  
 7420 return to quarterly monitoring until it meets the requirements set forth in  
 7421 subsection (a)(1) or (b)(4).  
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7423 BOARD NOTE: Derived from 40 CFR 141.26(b) (2016).

7424 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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**Section 611.733 General Monitoring and Compliance Requirements**

- a) The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, require more frequent monitoring than specified in Sections 611.731 and 611.732 or may require confirmation samples. The results of the initial and confirmation samples will be averaged for use in a compliance determination.
- b) Each PWS supplier must monitor at the time designated by the Agency during each compliance period.
- c) Compliance: compliance with Section 611.330(b) through (e) must be determined based on the analytical results obtained at each sampling point. If one sampling point is in violation of an MCL, the supplier is in violation of the MCL.
  - 1) For a supplier monitoring more than once per year, compliance with the MCL is determined by a running annual average at each sampling point. If the average of any sampling point is greater than the MCL, then the supplier is out of compliance with the MCL.
  - 2) For a supplier monitoring more than once per year, if any sample result would cause the running average to exceed the MCL at any single sampling point, the supplier is immediately out of compliance with the MCL.
  - 3) a supplier must include all samples taken and analyzed under the provisions of this Section and Sections 611.731 and 611.732 in determining compliance, even if that number is greater than the minimum required.
  - 4) If a supplier does not collect all required samples when compliance is based on a running annual average of quarterly samples, compliance will be based on the running average of the samples collected.
  - 5) If a sample result is less than the detection limit, zero will be used to calculate the annual average, unless a gross alpha particle activity is being used in lieu of radium-226 or uranium. If the gross alpha particle activity result is less than detection, one-half the detection limit will be used to calculate the annual average.
- d) The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, allow the supplier to delete results of obvious sampling or analytic errors.

- 7469 e) If the MCL for radioactivity set forth in Section 611.330(b) through (e) is
- 7470 exceeded, the operator of a CWS must give notice to the Agency ~~underpursuant to~~
- 7471 Section 611.840 and to the public, as required by Subpart V.

7472 BOARD NOTE: Derived from 40 CFR 141.26(c) (2016).

7473 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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7476  
7477 SUBPART S: GROUNDWATER RULE

7478  
7479 **Section 611.800 General Requirements and Applicability**

- 7480 a) Scope of this Subpart S. The requirements of this Subpart S constitute NPDWRs.
- 7481
- 7482 b) Applicability. This Subpart S applies to all PWS suppliers that use groundwater,
- 7483 except that it does not apply to public water systems that combine all of their
- 7484 groundwater with surface water or with groundwater under the direct influence of
- 7485 surface water prior to treatment ~~underpursuant to~~ Subpart B. For the purposes of
- 7486 this Subpart S, "GWS" is defined as any PWS that meets this applicability
- 7487 statement, including a consecutive system receiving finished groundwater.
- 7488
- 7489 c) General requirements. A supplier subject to this Subpart S must comply with the
- 7490 following requirements:
- 7491
- 7492 1) Sanitary survey information requirements for all GWS suppliers, as
- 7493 described in Section 611.801.
- 7494
- 7495 2) Microbial source water monitoring requirements for GWS suppliers that
- 7496 do not treat all of their groundwater to at least 99.99 percent (4-log)
- 7497 treatment of viruses (using inactivation, removal, or an Agency-approved
- 7498 combination of 4-log virus inactivation and removal) before or at the first
- 7499 customer, as described in Section 611.802.
- 7500
- 7501 3) Treatment technique requirements, described in Section 611.803, that
- 7502 apply to GWS suppliers that have fecally contaminated source waters, as
- 7503 determined by source water monitoring conducted ~~underpursuant to~~
- 7504 Section 611.802, or which have significant deficiencies that are identified
- 7505 by the Agency, by a SEP ~~issued pursuant to Section 611.110~~, or which are
- 7506 identified by USEPA ~~underpursuant to~~ SDWA section 1445 (42 USC
- 7507 300j-4). A GWS supplier with fecally contaminated source water or with
- 7508 significant deficiencies subject to the treatment technique requirements of
- 7509 this Subpart S must implement one or more of the following corrective
- 7510 action options: correct all significant deficiencies; provide an alternate
- 7511

7512 source of water; eliminate the source of contamination; or provide  
7513 treatment that reliably achieves at least 4-log treatment of viruses (using  
7514 inactivation, removal, or an Agency-approved combination of 4-log virus  
7515 inactivation and removal) before or at the first customer.  
7516

7517 4) A GWS supplier that provides at least 4-log treatment of viruses (using  
7518 inactivation, removal, or an Agency-approved combination of 4-log virus  
7519 inactivation and removal) before or at the first customer is required to  
7520 conduct compliance monitoring to demonstrate treatment effectiveness, as  
7521 described in Section 611.803(b).  
7522

7523 5) If requested by the Agency, a GWS supplier must provide the Agency  
7524 with any existing information that will enable the Agency to perform a  
7525 hydrogeologic sensitivity assessment.  
7526

7527 BOARD NOTE: The Board moved the definition of "hydrogeologic  
7528 sensitivity assessment" to the definitions provision of this Part: Section  
7529 611.101.  
7530

7531 d) This subsection (d) corresponds with 40 CFR 141.400(d), which recites past  
7532 effective dates. This statement maintains structural consistency with the  
7533 corresponding federal provision.  
7534

7535 BOARD NOTE: Derived from 40 CFR 141.400 (2016).  
7536

7537 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
7538

7539 **Section 611.801 Sanitary Surveys for GWS Suppliers**  
7540

7541 a) A GWS supplier must provide the Agency, at the Agency's request, any existing  
7542 information that will enable the Agency to conduct a sanitary survey.  
7543

7544 b) For the purposes of this Subpart S, a "sanitary survey", as conducted by the  
7545 Agency, includes but is not limited to, an onsite review of the delineated WHPAs  
7546 (identifying sources of contamination within the WHPAs and evaluations of the  
7547 hydrogeologic sensitivity of the delineated WHPAs conducted under source water  
7548 assessments or utilizing other relevant information where available), facilities,  
7549 equipment, operation, maintenance, and monitoring compliance of a public water  
7550 system to evaluate the adequacy of the system, its sources and operations and the  
7551 distribution of safe drinking water.  
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7553 c) The sanitary survey must include an evaluation of the applicable components  
7554 listed in subsections (c)(1) through (c)(8):

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- 1) Source;
  - 2) Treatment;
  - 3) Distribution system;
  - 4) Finished water storage;
  - 5) Pumps, pump facilities, and controls;
  - 6) Monitoring, reporting, and data verification;
  - 7) System management and operation; and
  - 8) Operator compliance with Agency requirements.
- d) The Agency must repeat the sanitary survey as follows:
- 1) The Agency must conduct a sanitary survey that addresses the eight sanitary survey components listed in subsection (c) no less frequently than every three years for a CWS supplier, except as provided in subsection (d)(3), and every five years for a non-CWS supplier. The Agency may conduct more frequent sanitary surveys for any supplier. The sanitary survey must include an evaluation of each of the elements set forth in subsection (c), as applicable.
  - 2) The Agency may use a phased review process to meet the requirements of subsection (d)(1) if all the applicable elements of subsection (c) are evaluated within the required interval.
  - 3) The Agency may conduct sanitary surveys once every five years for community water systems under any of the following circumstances:
    - A) If the system either provides at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log inactivation and removal) before or at the first customer for all its groundwater sources; or
    - B) If the supplier has an outstanding performance record, as determined by the Agency and documented in previous sanitary surveys, and the supplier had no history of total coliform MCL or

7597 monitoring violations under former Sections 611.521 through  
 7598 611.527 since the last sanitary survey.

7599  
 7600 4) This subsection (d)(4) corresponds with 40 CFR 142.16(o)(2)(iv), which  
 7601 imposes requirements for describing the elements of the State's regulatory  
 7602 system. This statement maintains structural consistency with the  
 7603 corresponding federal provision.

7604  
 7605 5) The Agency must provide a GWS supplier with written notice by a SEP  
 7606 ~~issued pursuant to Section 611.110~~ that describes any significant  
 7607 deficiency which it has found no later than 30 days after the Agency has  
 7608 identified the significant deficiency. The notice may specify corrective  
 7609 actions and deadlines for completion of corrective actions. The Agency  
 7610 may provide the written notice at the time of the sanitary survey.

7611  
 7612 BOARD NOTE: Subsections (a) through (c) are derived from 40 CFR 141.401 (2016).  
 7613 Subsection (d) is derived from 40 CFR 142.16(o)(2) (2016).

7614  
 7615 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
 7616

7617 **Section 611.802 Groundwater Source Microbial Monitoring and Analytical Methods**

- 7618  
 7619 a) Triggered source water monitoring.  
 7620  
 7621 1) General requirements. A GWS supplier must conduct triggered source  
 7622 water monitoring if the following conditions exist.  
 7623  
 7624 A) The supplier does not provide at least 4-log treatment of viruses  
 7625 (using inactivation, removal, or an Agency-approved combination  
 7626 of 4-log virus inactivation and removal) before or at the first  
 7627 customer for each groundwater source.  
 7628  
 7629 B) This subsection (a)(1)(B) corresponds with 40 CFR  
 7630 141.802(a)(1)(ii), which has no operative effect after a past  
 7631 implementation date. This statement maintains structural  
 7632 consistency with the federal regulations.  
 7633  
 7634 C) The system is notified that a sample collected under Sections  
 7635 611.1054 through 611.1057 is total coliform-positive and the  
 7636 sample is not invalidated under Section 611.1053(c).  
 7637  
 7638 2) Sampling requirements. A GWS supplier must collect, within 24 hours  
 7639 after notification of the total coliform-positive sample, at least one  
 7640 groundwater source sample from each groundwater source in use at the

- 7641 time the total coliform-positive sample was collected pursuant to Sections  
 7642 611.1054 through 611.1057, except as provided in subsection (a)(2)(B).  
 7643  
 7644 A) The Agency may, by a SEP-issued pursuant to ~~Section 611.110~~,  
 7645 extend the 24-hour time limit on a case-by-case basis if it  
 7646 determines that the supplier cannot collect the groundwater source  
 7647 water sample within 24 hours due to circumstances beyond the  
 7648 supplier's control. In the case of an extension, the Agency must  
 7649 specify how much time the supplier has to collect the sample.  
 7650  
 7651 B) If approved by the Agency, a supplier with more than one  
 7652 groundwater source may meet the requirements of this subsection  
 7653 (a)(2) by sampling a representative groundwater source or sources.  
 7654 If directed by the Agency by a SEP-issued pursuant to ~~Section~~  
 7655 ~~611.110~~, the supplier must submit for Agency approval a triggered  
 7656 source water monitoring plan that identifies one or more  
 7657 groundwater sources that are representative of each monitoring site  
 7658 in the system's sample siting plan underpursuant to Section  
 7659 611.521 and that the system intends to use for representative  
 7660 sampling pursuant to this subsection (a).  
 7661  
 7662 C) This subsection (a)(2)(C) corresponds with 40 CFR  
 7663 141.802(a)(1)(ii), a now-obsolete implementing provision. This  
 7664 statement maintains structural consistency with the federal  
 7665 regulations.  
 7666  
 7667 D) A GWS supplier that serves 1,000 or fewer people may use a  
 7668 repeat sample collected from a groundwater source to meet both  
 7669 the requirements of Subpart AA and to satisfy the monitoring  
 7670 requirements of subsection (a)(2) for that groundwater source only  
 7671 if the Agency, by a SEP-issued pursuant to ~~Section 611.110~~,  
 7672 approves the use of E. coli as a fecal indicator for source water  
 7673 monitoring underpursuant to this subsection (a) and approves the  
 7674 use of a single sample for meeting both the triggered source water  
 7675 monitoring requirements in this subsection (a) and the repeat  
 7676 monitoring requirements in Section 611.1058. If the repeat sample  
 7677 collected from the groundwater source is E. coli-positive, the  
 7678 system must comply with subsection (a)(3).  
 7679  
 7680 3) Additional requirements. If the Agency does not require corrective action  
 7681 underpursuant to Section 611.803(a)(2) for a fecal indicator-positive  
 7682 source water sample collected underpursuant to subsection (a)(2) that is  
 7683 not invalidated underpursuant to subsection (d), the system must collect

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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 ~~underpursuant 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 ~~underpursuant 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 ~~underpursuant to~~ subsection (a)(2) and analyze it for a fecal indicator ~~underpursuant to~~ subsection (c).
    - ii) If the sample collected ~~underpursuant 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 ~~underpursuant to~~ Sections 611.1054 through 611.1057, is caused by a distribution system deficiency; or
  - B) The total coliform-positive sample collected ~~underpursuant to~~ Sections 611.1054 through 611.1057, is collected at a location that

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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 underpursuant 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;
- 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.

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2) A GWS supplier must analyze all groundwater source samples collected ~~underpursuant 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 ~~underpursuant 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<sup>®</sup> Test: Standard Methods, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 9223 B.
- ii) Colisure<sup>™</sup> Test: Standard Methods, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 9223 B.
- iii) Membrane Filter Method with MI Agar: USEPA Method 1604.
- iv) m-ColiBlue24 Test.
- v) E\*Colite Test.
- vi) EC-MUG: Standard Methods, 20<sup>th</sup> or 22<sup>nd</sup> ed., Method 9221 F.
- vii) NA-MUG: Standard Methods, 20<sup>th</sup> ed., Method 9222 G.
- viii) Colilert<sup>®</sup>-18 Test: Standard Methods, 20<sup>th</sup>, 21<sup>st</sup>, or 22<sup>nd</sup> ed., Method 9223 B.
- ix) ReadyCult<sup>®</sup> 2007.
- x) Modified Colitag<sup>™</sup> Test.
- xi) Chromocult<sup>®</sup> 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, 20<sup>th</sup> ed., Method 9221 B, 9221 D,

7812 9222 B, or 9222 C. USEPA added Standard Methods, 21<sup>st</sup> ed.,  
 7813 Method 9223 B as an approved alternative method on June 3, 2008  
 7814 (at 73 Fed. Reg. 31616). USEPA added ReadyCult® 2007,  
 7815 Modified Colitag™ Test, and Chromocult® Method as approved  
 7816 alternative methods on June 8, 2010 (at 75 Fed. Reg. 32295).  
 7817 USEPA added Standard Methods, 22<sup>nd</sup> ed., Methods 9221 F and  
 7818 9223 B as approved alternative methods on May 31, 2013 (at 78  
 7819 Fed. Reg. 32558). USEPA added Standard Methods Online,  
 7820 Method 9221 F-06 and 9223 B-04 and Tecta EC/TC P-A Test, ver.  
 7821 1.0 as approved alternative methods on June 19, 2014 (at 79 Fed.  
 7822 Reg. 35081). USEPA added Tecta EC/TC P-A Test, ver. 2.0 as  
 7823 an approved alternative method on July 27, 2017 (at 82 Fed. Reg.  
 7824 34861). Because Standard Methods, 22<sup>nd</sup> ed., Methods 9223 B and  
 7825 9221 F are the same versions as Standard Methods Online,  
 7826 Methods 9223 B-04 and 9221 F-06, the Board has not listed the  
 7827 Standard Methods Online versions separately.

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 7829 B) Enterococci:

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 7831 i) Multiple-Tube Technique: Standard Methods, 20<sup>th</sup> ed.,  
 7832 Method 9230 B or Standard Methods Online, Method 9230  
 7833 B-04.

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 7835 ii) Membrane Filter Technique: Standard Methods, 20<sup>th</sup> ed.,  
 7836 Method 9230 C, and USEPA Method 1600.

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 7838 BOARD NOTE: The holding time and temperature for  
 7839 groundwater samples are specified in subsection (c)(2)(D),  
 7840 rather than as specified in Section 8 of USEPA Method  
 7841 1600.

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 7843 iii) Enterolert.

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 7845 BOARD NOTE: Medium is available through IDEXX  
 7846 Laboratories, Inc., at the address set forth in Section  
 7847 611.102(b). Preparation and use of the medium must be as  
 7848 set forth in the article that embodies the method as  
 7849 incorporated by reference in Section 611.102(b).

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 7851 BOARD NOTE: USEPA added Standard Methods Online,  
 7852 Method 9230 B-04 as an approved alternative method on June 3,  
 7853 2008 (at 73 Fed. Reg. 31616).  
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- C) Coliphage:
    - i) Two-Step Enrichment Presence-Absence Procedure: USEPA Method 1601 or Charm Fast Phage.
    - ii) Single Agar Layer Procedure: USEPA Method 1602.
  - 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 ~~underpursuant 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 ~~underpursuant 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 ~~underpursuant 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.

- 7897 2) If the supplier's system configuration does not allow for sampling at the
- 7898 well itself, it may collect a sample at an Agency-approved location to meet
- 7899 the requirements of subsection (a) if the sample is representative of the
- 7900 water quality of that well.
- 7901
- 7902 f) New sources. If directed by the Agency by a SEP issued pursuant to Section
- 7903 ~~611.110~~, a GWS supplier that places a new groundwater source into service must
- 7904 conduct assessment source water monitoring pursuant to subsection (b). If
- 7905 directed by the SEP, the system must begin monitoring before the groundwater
- 7906 source is used to provide water to the public.
- 7907
- 7908 g) Public Notification. A GWS supplier with a groundwater source sample collected
- 7909 underpursuant to subsection (a) or (b) that is fecal indicator-positive and which is
- 7910 not invalidated underpursuant to subsection (d), including a consecutive system
- 7911 supplier served by the groundwater source, must conduct public notification
- 7912 pursuant to Section 611.902.
- 7913
- 7914 h) Monitoring Violations. A failure to meet the requirements of subsections (a)
- 7915 through (f) is a monitoring violation that requires the GWS supplier to provide
- 7916 public notification underpursuant to Section 611.904.
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7918 BOARD NOTE: Derived from 40 CFR 141.402 and appendix A to subpart C of 40 CFR

7919 141 (2017).

7920 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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7923 **Section 611.803 Treatment Technique Requirements for GWS Suppliers**

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- 7925 a) GWS suppliers with significant deficiencies or source water fecal contamination.
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- 7927 1) The treatment technique requirements of this Section must be met by
- 7928 GWS suppliers when a significant deficiency is identified or when a
- 7929 groundwater source sample collected underpursuant to Section
- 7930 611.802(a)(3) is fecal indicator-positive.
- 7931
- 7932 2) If directed by the Agency by a SEP issued pursuant to ~~Section 611.110~~, a
- 7933 GWS supplier with a groundwater source sample collected underpursuant
- 7934 ~~to~~ Section 611.802(a)(2), (a)(4), or (b) that is fecal indicator-positive must
- 7935 comply with the treatment technique requirements of this Section.
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- 7937 3) When a significant deficiency is identified at a Subpart B PWS that uses
- 7938 both groundwater and surface water or groundwater under the direct
- 7939 influence of surface water, the system must comply with provisions of this

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subsection (a) except in cases where the Agency determines that the significant deficiency is in a portion of the distribution system that is served solely by surface water or groundwater under the direct influence of surface water.

- 4) Unless the Agency, by a SEP ~~issued pursuant to Section 611.110~~, directs the GWS supplier to implement a specific corrective action, the GWS supplier must consult with the Agency regarding the appropriate corrective action within 30 days after receiving written notice from the Agency of a significant deficiency, written notice from a laboratory that a groundwater source sample collected ~~underpursuant to~~ Section 611.802(a)(3) was found to be fecal indicator-positive, or direction from the Agency that a fecal indicator-positive collected ~~underpursuant to~~ Section 611.802(a)(2), (a)(4), or (b) requires corrective action. For the purposes of this Subpart S, significant deficiencies include, but are not limited to, defects in design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that the Agency determines to be causing, or have potential for causing, the introduction of contamination into the water delivered to consumers.
  
- 5) Within 120 days (or earlier if directed by the Agency) after receiving written notification from the Agency of a significant deficiency, written notice from a laboratory that a groundwater source sample collected ~~underpursuant to~~ Section 611.802(a)(3) was found to be fecal indicator-positive, or written notice from the Agency that a fecal indicator-positive sample collected ~~underpursuant to~~ Section 611.802(a)(2), (a)(4), or (b) requires corrective action, the GWS supplier must do either of the following:
  - A) It must have completed corrective action in accordance with any applicable plan review processes adopted by the Agency or with any SEP issued by the Agency, if any, including Agency-specified interim measures; or
  - B) It must be in compliance with an Agency-approved corrective action plan and schedule, subject to the following conditions:
    - i) Any subsequent modifications to an Agency-approved corrective action plan and schedule must also be approved by the Agency; and
    - ii) If the Agency specifies interim measures for protection of the public health pending Agency approval of the

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corrective action plan and schedule or pending completion of the corrective action plan, the supplier must comply with those interim measures, as well as with any schedule specified by the Agency.

- 6) Corrective action alternatives. A GWS supplier that meets the conditions of subsection (a)(1) or (a)(2) must implement one or more of the following corrective action alternatives:
  - A) It must correct all significant deficiencies;
  - B) It must provide an alternate source of water;
  - C) It must eliminate the source of contamination; or
  - D) It must provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for the groundwater source.
  
- 7) Special notice to the public of significant deficiencies or source water fecal contamination.
  - A) In addition to the applicable public notification requirements of Section 611.902, a community GWS supplier that receives notice from the Agency of a significant deficiency or notification of a fecal indicator-positive groundwater source sample that is not invalidated by the Agency ~~underpursuant to~~ Section 611.802(d) must inform the public served by the water system ~~underpursuant to~~ Section 611.883(h)(6) of the fecal indicator-positive source sample or of any significant deficiency that has not been corrected. The supplier must continue to inform the public annually until the significant deficiency is corrected or the fecal contamination in the groundwater source is determined by the Agency to be corrected ~~underpursuant to~~ subsection (a)(5).
  - B) In addition to the applicable public notification requirements of Section 611.902, a non-community GWS supplier that receives notice from the Agency of a significant deficiency must inform the public served by the water system in a manner approved by the Agency of any significant deficiency that has not been corrected within 12 months after being notified by the Agency, or earlier if directed by the Agency. The supplier must continue to inform the

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public annually until the significant deficiency is corrected. The information must include the following information:

- i) The nature of the significant deficiency and the date the significant deficiency was identified by the Agency;
- ii) The Agency-approved plan and schedule for correction of the significant deficiency, including interim measures, progress to date, and any interim measures completed; and
- iii) For a supplier with a large proportion of non-English speaking consumers, as determined by the Agency, information in the appropriate languages regarding the importance of the notice or a telephone number or address where consumers may contact the system to obtain a translated copy of the notice or assistance in the appropriate language.

C) If directed by the Agency, a non-CWS supplier with significant deficiencies that have been corrected must inform its customers of the significant deficiencies, how the deficiencies were corrected, and the dates of correction underpursuant to subsection (a)(7)(B).

b) Compliance monitoring.

- 1) Existing groundwater sources. A GWS supplier that is not required by Section 611.802(a)(1) to meet the source water monitoring requirements of this Subpart S for any groundwater source must notify the Agency in writing that it provides at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for the specified groundwater source and begin compliance monitoring in accordance with subsection (b)(3). Notification to the Agency must include engineering, operational, or other information that the Agency requests to evaluate the submission. If the supplier subsequently discontinues 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for a groundwater source, the supplier must conduct groundwater source monitoring, as required underpursuant to Section 611.802.
- 2) New groundwater sources. A GWS supplier that places a groundwater source in service which is not required by Section 611.802(a)(1) to meet

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the source water monitoring requirements of this Subpart S must comply with the requirements of subsections (b)(2)(A), (b)(2)(B), and (b)(2)(C).

- A) The supplier must notify the Agency in writing that it provides at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for the groundwater source. Notification to the Agency must include engineering, operational, or other information that the Agency requests by a SEP issued pursuant to Section 611.110 to evaluate the submission.
- B) The supplier must conduct compliance monitoring, as required ~~underpursuant to~~ Section 611.803(b)(3), within 30 days after placing the source in service.
- C) The supplier must conduct groundwater source monitoring ~~underpursuant to~~ Section 611.802 if it subsequently discontinues 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for the groundwater source.

3) Monitoring requirements. A GWS supplier subject to the requirements of subsection (a), (b)(1), or (b)(2) must monitor the effectiveness and reliability of treatment for that groundwater source before or at the first customer as follows:

- A) Chemical disinfection.
  - i) GWS suppliers serving more than 3,300 people. A GWS supplier that serves more than 3,300 people must continuously monitor the residual disinfectant concentration using analytical methods specified in Section 611.531(b) at a location approved by the Agency and must record the lowest residual disinfectant concentration each day that water from the groundwater source is served to the public. The GWS supplier must maintain the Agency-approved residual disinfectant concentration every day it serves water from the groundwater source to the public. If there is a failure in the continuous monitoring equipment, the GWS supplier must conduct grab sampling every four hours until the continuous monitoring equipment is

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returned to service. The supplier must resume continuous residual disinfectant monitoring within 14 days.

- ii) GWS suppliers serving 3,300 or fewer people. A GWS supplier that serves 3,300 or fewer people must monitor the residual disinfectant concentration using analytical methods specified in Section 611.531(b) at a location approved by the Agency and record the residual disinfection concentration each day that water from the groundwater source is served to the public. The GWS supplier must determine and maintain the Agency-approved residual disinfectant concentration every day that it serves water from the groundwater source to the public. The GWS supplier must take a daily grab sample during the hour of peak flow or at another time specified by the Agency. If any daily grab sample measurement falls below the Agency-approved residual disinfectant concentration, the GWS supplier must take follow-up samples every four hours until the residual disinfectant concentration is restored to the Agency-approved level. Alternatively, a GWS supplier that serves 3,300 or fewer people may monitor continuously and meet the requirements of subsection (b)(3)(A)(i).

B) Membrane filtration. A GWS supplier that uses membrane filtration to meet the requirements of this Subpart S must monitor the membrane filtration process in accordance with all Agency-specified monitoring requirements and must operate the membrane filtration in accordance with all Agency-specified compliance requirements. A GWS supplier that uses membrane filtration is in compliance with the requirement to achieve at least 4-log removal of viruses when it fulfills the following conditions:

- i) The membrane has an absolute molecular weight cut-off, or an alternative parameter that describes the exclusion characteristics of the membrane, that can reliably achieve at least 4-log removal of viruses;
- ii) The membrane process is operated in accordance with Agency-specified compliance requirements; and
- iii) The integrity of the membrane is intact.

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- C) Alternative treatment. A GWS supplier that uses an Agency-approved alternative treatment to meet the requirements of this Subpart S by providing at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer must do both of the following:
  - i) It must monitor the alternative treatment in accordance with all Agency-specified monitoring requirements; and
  - ii) It must operate the alternative treatment in accordance with all operational requirements determined by the supplier that the Agency has approved as necessary to achieve at least 4-log treatment of viruses.
- c) Discontinuing treatment. A GWS supplier may discontinue 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for a groundwater source if the supplier determines and documents and the Agency approves in writing that 4-log treatment of viruses is no longer necessary for that groundwater source. A system that discontinues 4-log treatment of viruses is subject to the source water monitoring and analytical methods requirements of Section 611.802 of this Subpart S.
- d) A failure to meet the monitoring requirements of subsection (b) is a monitoring violation and requires the GWS supplier to provide public notification underpursuant to Section 611.904.

BOARD NOTE: Derived from 40 CFR 141.403 (2016).

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

**Section 611.804 Treatment Technique Violations for GWS Suppliers**

- a) A GWS supplier with a significant deficiency is in violation of the treatment technique requirement if, within 120 days (or earlier if directed by the Agency by a SEP issued pursuant to Section 611.110) after receiving written notice from the Agency of the significant deficiency, the system does not do either of the following:
  - 1) It does not complete corrective action in accordance with any applicable Agency plan review processes or other Agency guidance and direction, including Agency specified interim actions and measures; or

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- 2) It is not in compliance with an Agency-approved corrective action plan and schedule.
- b) Unless the Agency invalidates a fecal indicator-positive groundwater source sample ~~underpursuant to~~ Section 611.802(d), a GWS supplier is in violation of the treatment technique requirement if, within 120 days (or earlier if directed by the Agency) after meeting the conditions of Section 611.803(a)(1) or (a)(2), the supplier does not do either of the following:
  - 1) It does not complete corrective action in accordance with any applicable Agency plan review processes or other Agency guidance and direction, including Agency-specified interim measures; or
  - 2) It is not in compliance with an Agency-approved corrective action plan and schedule.
- c) A GWS supplier subject to the requirements of Section 611.803(b)(3) that fails to maintain at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer for a groundwater source is in violation of the treatment technique requirement if the failure is not corrected within four hours after determining the supplier is not maintaining at least 4-log treatment of viruses before or at the first customer.
- d) A GWS supplier must give public notification ~~underpursuant to~~ Section 611.903 for the treatment technique violations specified in subsections (a), (b), and (c).

BOARD NOTE: Derived from 40 CFR 141.404 (2016).

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

SUBPART T: REPORTING AND RECORDKEEPING

**Section 611.831 Monthly Operating Report (Repealed)**

~~Within 30 days following the last day of the month, each CWS supplier must submit a monthly operating report to the Agency on forms provided or approved by the Agency.~~

~~BOARD NOTE: This is an additional State requirement.~~

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

**Section 611.833 Cross Connection Reporting (Repealed)**

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~~Each CWS supplier exempted pursuant to Section 17(b) of the Act [415 ILCS 5/17(b)] from the disinfection requirement must report monthly to the Agency its activity to educate and inform its customers about preventing contamination into the distribution system.~~

~~BOARD NOTE: This is an additional State requirement.~~

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

**Section 611.840 Reporting**

- a) Except where a shorter period is specified in this Part, a supplier must report to the Agency the results of any test measurement or analysis required by this Part within the following times, whichever is shortest:
  - 1) The first ten days following the month in which the result is received; or
  - 2) The first ten days following the end of the required monitoring period, as specified by a SEP issued pursuant to Section 611.110.
- b) Except where a different reporting period is specified in this Part, the supplier must report to the Agency within 48 hours any failure to comply with any provision (including failure to comply with monitoring requirements) of this Part.
- c) The supplier is not required to report analytical results to the Agency in cases where an Agency laboratory performs the analysis.
- d) The supplier, within ten days after completing the public notification requirements under Subpart V of this Part for the initial public notice and any repeat notices, must submit to the Agency a certification that it has fully complied with the public notification regulations. The PWS must include with this certification a representative copy of each type of notice distributed, published, posted or made available to the persons served by the supplier or to the media.
- e) The supplier must submit to the Agency within the time stated in the request copies of any records required to be maintained under Section 611.860 or copies of any documents then in existence that the Agency is entitled to inspect underpursuant to the authority of Section 4 of the Act [415 ILCS 5/4].

BOARD NOTE: Derived from 40 CFR 141.31 (2002).

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

**SUBPART U: CONSUMER CONFIDENCE REPORTS**

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**Section 611.883 Content of the Reports**

- a) Each CWS must provide to its customers an annual report that contains the information specified in this Section and Section 611.884.
- b) Information on the source of the water delivered.
  - 1) Each report must identify the sources of the water delivered by the CWS by providing information on the following:
    - A) The type of the water (e.g., surface water, groundwater); and
    - B) The commonly used name (if any) and location of the body (or bodies) of water.
  - 2) If a source water assessment has been completed, the report must notify consumers of the availability of this information and the means to obtain it. In addition, systems are encouraged to highlight in the report significant sources of contamination in the source water area if they have readily available information. Where a system has received a source water assessment from the Agency, the report must include a brief summary of the system's susceptibility to potential sources of contamination, using language provided by the Agency or written by the supplier .
- c) Definitions.
  - 1) Each report must include the following definitions:
    - A) Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.  
  
 BOARD NOTE: Although an MCLG is not an NPDWR that the Board must include in the Illinois SDWA regulations, the use of this definition is mandatory where the term "MCLG" is defined.
    - B) Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
  - 2) A report for a CWS operating under relief from an NPDWR issued under Section 611.111, 611.112, 611.130, or 611.131 must include the following

8326 definition: "Variances, Adjusted Standards, and Site-specific Rules: State  
8327 permission not to meet an MCL or a treatment technique under certain  
8328 conditions."  
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8330 3) A report that contains data on contaminants that USEPA regulates using  
8331 any of the following terms must include the applicable definitions:  
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8333 A) Treatment technique: A required process intended to reduce the  
8334 level of a contaminant in drinking water.  
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8336 B) Action level: The concentration of a contaminant that, if exceeded,  
8337 triggers treatment or other requirements that a water system must  
8338 follow.  
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8340 C) Maximum residual disinfectant level goal or MRDLG: The level  
8341 of a drinking water disinfectant below which there is no known or  
8342 expected risk to health. MRDLGs do not reflect the benefits of the  
8343 use of disinfectants to control microbial contaminants.  
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8345 BOARD NOTE: Although an MRDLG is not an NPDWR that the  
8346 Board must include in the Illinois SDWA regulations, the use of  
8347 this definition is mandatory where the term "MRDLG" is defined.  
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8349 D) Maximum residual disinfectant level or MRDL: The highest level  
8350 of a disinfectant allowed in drinking water. There is convincing  
8351 evidence that addition of a disinfectant is necessary for control of  
8352 microbial contaminants.  
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8354 4) A report that contains information regarding a Level 1 or Level 2  
8355 assessment required under Subpart AA must include the applicable of the  
8356 following definitions:  
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8358 A) "Level 1 assessment: A Level 1 assessment is a study of the water  
8359 system to identify potential problems and determine (if possible)  
8360 why total coliform bacteria have been found in our water system."  
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8362 B) "Level 2 assessment: A Level 2 assessment is a very detailed  
8363 study of the water system to identify potential problems and  
8364 determine (if possible) why an E. coli MCL violation has occurred  
8365 or why total coliform bacteria have been found in our water system  
8366 on multiple occasions."  
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8368 d) Information on detected contaminants.

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- 1) This subsection (d) specifies the requirements for information to be included in each report for contaminants subject to mandatory monitoring (except *Cryptosporidium*). It applies to the following:
  - A) Contaminants subject to an MCL, action level, MRDL, or treatment technique (regulated contaminants);
  - B) Contaminants for which monitoring is required by USEPA underpursuant to 40 CFR 141.40 (unregulated contaminants); and
  - C) Disinfection byproducts or microbial contaminants for which monitoring is required by Section 611.382 and Subpart L, except as provided under subsection (e)(1), and which are detected in the finished water.
- 2) The data relating to these contaminants must be displayed in one table or in several adjacent tables. Any additional monitoring results that a CWS chooses to include in its report must be displayed separately.
- 3) The data must have been derived from data collected to comply with monitoring and analytical requirements during calendar year 1998 for the first report and must be derived from the data collected in subsequent calendar years , except that the following requirements also apply:
  - A) Where a system is allowed to monitor for regulated contaminants less often than once a year, the tables must include the date and results of the most recent sampling, and the report must include a brief statement indicating that the data presented in the report is from the most recent testing done in accordance with the regulations. No data older than five years need be included.
  - B) Results of monitoring in compliance with Section 611.382 and Subpart L need only be included for five years from the date of last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first.
- 4) For detected regulated contaminants (listed in Appendix A), the tables must contain the following:
  - A) The MCL for that contaminant expressed as a number equal to or greater than 1.0 (as provided in Appendix A);

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- B) The federal Maximum Contaminant Level Goal (MCLG) for that contaminant expressed in the same units as the MCL;
- C) If there is no MCL for a detected contaminant, the table must indicate that there is a treatment technique, or specify the action level, applicable to that contaminant, and the report must include the definitions for treatment technique or action level, as appropriate, specified in subsection (c)(3);
- D) For contaminants subject to an MCL, except turbidity, total coliforms, fecal coliforms, and E. coli, the highest contaminant level used to determine compliance with an NPDWR, and the range of detected levels, as follows:
  - i) When compliance with the MCL is determined annually or less frequently: the highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.
  - ii) When compliance with the MCL is determined by calculating a running annual average of all samples taken at a monitoring location: the highest average of any of the monitoring locations and the range of all monitoring locations expressed in the same units as the MCL. For the MCLs for TTHM and HAA5 in Section 611.312(b)(2), the supplier must include the highest locational running annual average for TTHM and HAA5 and the range of individual sample results for all monitoring locations expressed in the same units as the MCL. If results from more than one location exceed the TTHM or HAA5 MCL, the supplier must include the locational running annual average for each location whose results exceed the MCL.
  - iii) When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all monitoring locations: the average and range of detection expressed in the same units as the MCL. The supplier is required to include individual sample results for the IDSE conducted under Subpart W when determining the range of TTHM and HAA5 results to be reported in the annual consumer confidence report for the calendar year that the IDSE samples were taken.

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BOARD NOTE to subsection (d)(4)(D): When rounding of results to determine compliance with the MCL is allowed by the regulations, rounding should be done prior to multiplying the results by the factor listed in Appendix A; derived from 40 CFR 153 (2016).

- E) For turbidity the following:
  - i) When it is reported ~~underpursuant to~~ Section 611.560: the highest average monthly value.
  - ii) When it is reported ~~underpursuant to~~ the requirements of Section 611.211(b): the highest monthly value. The report must include an explanation of the reasons for measuring turbidity.
  - iii) When it is reported ~~underpursuant to~~ Section 611.250, 611.743, or 611.955(b): the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in Section 611.250, 611.743, or 611.955(b) for the filtration technology being used. The report must include an explanation of the reasons for measuring turbidity;
  
- F) For lead and copper the following: the 90<sup>th</sup> percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level;
  
- G) This subsection (d)(4)(G) corresponds with 40 CFR 141.153(d)(4)(vii), which has no operative effect after a past implementation date. This statement maintains structural consistency with the federal regulations.
  
- H) This subsection (d)(4)(H) corresponds with 40 CFR 141.153(d)(4)(viii), a now-obsolete implementing provision. This statement maintains structural consistency with the federal regulations.
  
- I) The likely sources of detected contaminants to the best of the supplier's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments, and must be used when available to the

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supplier. If the supplier lacks specific information on the likely source, the report must include one or more of the typical sources for that contaminant listed in Appendix G that are most applicable to the CWS; and

- J) For E. coli analytical results under Subpart AA, the total number of positive samples.
- 5) If a CWS distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, the table must contain a separate column for each service area and the report must identify each separate distribution system. Alternatively, a CWS may produce separate reports tailored to include data for each service area.
- 6) The tables must clearly identify any data indicating violations of MCLs, MRDLs, or treatment techniques, and the report must contain a clear and readily understandable explanation of the violation including the following: the length of the violation, the potential adverse health effects, and actions taken by the CWS to address the violation. To describe the potential health effects, the CWS must use the relevant language of Appendix A.
- 7) For detected unregulated contaminants for which monitoring is required by USEPA ~~underpursuant to~~ 40 CFR 141.40 (except Cryptosporidium), the tables must contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.
- e) Information on Cryptosporidium, radon, and other contaminants as follows:
  - 1) If the CWS has performed any monitoring for Cryptosporidium, including monitoring performed to satisfy the requirements of Subpart L, that indicates that Cryptosporidium may be present in the source water or the finished water, the report must include the following:
    - A) A summary of the results of the monitoring; and
    - B) An explanation of the significance of the results.
  - 2) If the CWS has performed any monitoring for radon that indicates that radon may be present in the finished water, the report must include the following:

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- A) The results of the monitoring; and
  - B) An explanation of the significance of the results.
- 3) If the CWS has performed additional monitoring that indicates the presence of other contaminants in the finished water, the report must include the following:
- A) The results of the monitoring; and
  - B) An explanation of the significance of the results noting the existence of any health advisory or proposed regulation.
- f) Compliance with an NPDWR. In addition to the requirements of subsection (d)(6), the report must note any violation that occurred during the year covered by the report of a requirement listed below, and include a clear and readily understandable explanation of the violation, any potential adverse health effects, and the steps the CWS has taken to correct the violation.
- 1) Monitoring and reporting of compliance data.
  - 2) Filtration and disinfection prescribed by Subpart B. For CWSs that have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes that constitutes a violation, the report must include the following language as part of the explanation of potential adverse health effects: Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
  - 3) Lead and copper control requirements prescribed by Subpart G. For systems that fail to take one or more actions prescribed by Section 611.350(d), 611.351, 611.352, 611.353, or 611.354, the report must include the applicable language of Appendix A for lead, copper, or both.
  - 4) Treatment techniques for acrylamide and epichlorohydrin prescribed by Section 611.296. For systems that violate the requirements of Section 611.296, the report must include the relevant language from Appendix A.
  - 5) Recordkeeping of compliance data.
  - 6) Special monitoring requirements prescribed by Section 611.630.

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- 7) Violation of the terms of a variance, adjusted standard, site-specific rule, or administrative or judicial order.
  
- g) Variances, adjusted standards, and site-specific rules. If a system is operating under the terms of a variance, adjusted standard, or site-specific rule issued under Section 611.111, 611.112, or 611.131, the report must contain the following:
  - 1) An explanation of the reasons for the variance, adjusted standard, or site-specific rule;
  - 2) The date on which the variance, adjusted standard, or site-specific rule was issued;
  - 3) A brief status report on the steps the CWS is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance, adjusted standard, or site-specific rule; and
  - 4) A notice of any opportunity for public input in the review, or renewal, of the variance, adjusted standard, or site-specific rule.
  
- h) Additional information.
  - 1) The report must contain a brief explanation regarding contaminants that may reasonably be expected to be found in drinking water, including bottled water. This explanation may include the language of subsections (h)(1)(A) through (h)(1)(C) or CWSs may use their own comparable language. The report also must include the language of subsection (h)(1)(D).
    - A) The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.
    - B) Contaminants that may be present in source water include the following:
      - i) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

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- ii) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;
- iii) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;
- iv) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and
- v) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

C) In order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. United States Food and Drug Administration (USFDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

D) Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA Safe Drinking Water Hotline (800-426-4791).

- 2) The report must include the telephone number of the owner, operator, or designee of the CWS as a source of additional information concerning the report.
- 3) In communities with a large proportion of non-English speaking residents, as determined by the Agency, the report must contain information in the appropriate languages regarding the importance of the report or contain a telephone number or address where such residents may contact the system to obtain a translated copy of the report or assistance in the appropriate

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- 4) The report must include information about opportunities for public participation in decisions that may affect the quality of the water.
- 5) The CWS may include such additional information as it deems necessary for public education consistent with, and not detracting from, the purpose of the report.
- 6) Suppliers required to comply with Subpart S.
  - A) Any GWS supplier that receives written notice from the Agency of a significant deficiency or which receives notice from a laboratory of a fecal indicator-positive groundwater source sample that is not invalidated by the Agency ~~underpursuant to~~ Section 611.802(d) must inform its customers of any significant deficiency that is uncorrected at the time of the next report or of any fecal indicator-positive groundwater source sample in the next report. The supplier must continue to inform the public annually until the Agency, by a SEP ~~issued pursuant to Section 611.110~~, determines that particular significant deficiency is corrected or the fecal contamination in the groundwater source is addressed ~~underpursuant to~~ Section 611.803(a). Each report must include the following information:
    - i) The nature of the particular significant deficiency or the source of the fecal contamination (if the source is known) and the date the significant deficiency was identified by the Agency or the dates of the fecal indicator-positive groundwater source samples;
    - ii) Whether or not the fecal contamination in the groundwater source has been addressed ~~underpursuant to~~ Section 611.803(a) and the date of such action;
    - iii) For each significant deficiency or fecal contamination in the groundwater source that has not been addressed ~~underpursuant to~~ Section 611.803(a), the Agency-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed; and

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- iv) If the system receives notice of a fecal indicator-positive groundwater source sample that is not invalidated by the Agency ~~under~~pursuant to Section 611.802(d), the potential health effects using the health effects language of Appendix A.
  
  - B) If directed by the Agency by a SEP-issued ~~pursuant to Section 611.110~~, a supplier with significant deficiencies that have been corrected before the next report is issued must inform its customers of the significant deficiency, how the deficiency was corrected, and the date of correction ~~under~~pursuant to subsection (h)(6)(A).
  
  - 7) Suppliers required to comply with Subpart AA.
    - A) Any supplier required to comply with the Level 1 assessment requirement or a Level 2 assessment requirement that is not due to an E. coli MCL violation must include in the report the text found in subsections (h)(7)(A)(i) and (h)(7)(A)(ii) or (h)(7)(A)(i) and (h)(7)(A)(iii), as appropriate, filling in the blanks accordingly and the text found in subsection (h)(7)(A)(iv), if appropriate.
      - i) "Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments."
  
      - ii) "During the past year we were required to conduct [insert number of Level 1 assessments] Level 1 assessment(s). [insert number of Level 1 assessments] Level 1 assessment(s) were completed. In addition, we were required to take [insert number of corrective actions] corrective actions and we completed [insert number of corrective actions] of these actions."
  
      - iii) "During the past year [insert number of Level 2 assessments] Level 2 assessments were required to be completed for our water system. [insert number of Level 2

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assessments] Level 2 assessments were completed. In addition, we were required to take [insert number of corrective actions] corrective actions and we completed [insert number of corrective actions] of these actions."

iv) Any supplier that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate: "During the past year we failed to conduct all of the required assessment(s)." or "During the past year we failed to correct all identified defects that were found during the assessment."

B) Any supplier required to conduct a Level 2 assessment due to an E. coli MCL violation must include in the report the text found in subsections (h)(7)(B)(i) and (h)(7)(B)(ii), filling in the blanks accordingly and the appropriate alternative text found in subsection (h)(7)(B)(ii), if appropriate.

i) "E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found *E. coli* bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments."

ii) "We were required to complete a Level 2 assessment because we found E. coli in our water system. In addition, we were required to take [insert number of corrective actions] corrective actions and we completed [insert number of corrective actions] of these actions."

iii) Any supplier that has failed to complete the required assessment or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as

8798 appropriate: "We failed to conduct the required  
8799 assessment." or "We failed to correct all sanitary defects  
8800 that were identified during the assessment that we  
8801 conducted."  
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8803 C) If a supplier detects E. coli and has violated the E. coli MCL, in  
8804 addition to completing the table, as required in subsection (d)(4),  
8805 the supplier must include one or more of the following statements  
8806 to describe any noncompliance, as applicable:  
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8808 i) "We had an E. coli-positive repeat sample following a total  
8809 coliform-positive routine sample."  
8810

8811 ii) "We had a total coliform-positive repeat sample following  
8812 an E. coli-positive routine sample."  
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8814 iii) "We failed to take all required repeat samples following an  
8815 E. coli-positive routine sample."  
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8817 iv) "We failed to test for E. coli when any repeat sample tested  
8818 positive for total coliform."  
8819

8820 D) If a supplier detects E. coli and has not violated the E. coli MCL,  
8821 in addition to completing the table as required in subsection (d)(4),  
8822 the supplier may include a statement that explains that although it  
8823 has detected E. coli, the supplier is not in violation of the E. coli  
8824 MCL.  
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8826 BOARD NOTE: Derived from 40 CFR 141.153 (2016).

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8828 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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8830 **Section 611.885 Report Delivery and Recordkeeping**  
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8832 a) Except as provided in subsection (g), each CWS must mail or otherwise directly  
8833 deliver one copy of the report to each customer.  
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8835 b) The CWS must make a good faith effort to reach consumers who do not get water  
8836 bills, using a means approved by the Agency by a SEP issued pursuant to Section  
8837 611.110. A good faith effort to reach consumers includes, but is not limited to,  
8838 methods such as the following: posting the reports on the Internet, advertising the  
8839 availability of the report in the news media, publication in a local newspaper, or  
8840 delivery to community organizations.

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- c) No later than the date the CWS is required to distribute the report to its customers, each CWS must mail a copy of the report to the Agency, followed within three months by a certification that the report has been distributed to customers, and that the information is correct and consistent with the compliance monitoring data previously submitted to the Agency.
- d) No later than the date the CWS is required to distribute the report to its customers, each CWS must deliver the report to any other agency or clearinghouse identified by the Agency.
- e) Each CWS must make its reports available to the public upon request.
- f) Each CWS serving 100,000 or more persons must post its current year's report to a publicly-accessible site on the Internet.
- g) The Governor or his designee may waive the requirement of subsection (a) for a CWS serving fewer than 10,000 persons.
  - 1) Such a CWS must do the following:
    - A) The CWS must publish the report in one or more local newspapers serving the county in which the CWS is located;
    - B) The CWS must inform the customers that the report will not be mailed, either in the newspapers in which the report is published or by other means approved by the Agency; and
    - C) The CWS must make the report available to the public upon request.
  - 2) Systems serving fewer than 500 persons may forgo the requirements of subsections (g)(1)(A) and (g)(1)(B) if they provide notice at least once per year to their customers by mail, by door-to-door delivery, or by posting in a location approved by the Agency that the report is available upon request.
- h) Any system subject to this Subpart U must retain copies of its consumer confidence report for no less than three years.

BOARD NOTE: Derived from 40 CFR 141.155 (2016).

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

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SUBPART V: PUBLIC NOTIFICATION OF DRINKING WATER VIOLATIONS

**Section 611.901 General Public Notification Requirements**

The requirements of this Subpart V replace former notice requirements.

- a) Who must give public notice. Each owner or operator of a public water system (a CWS, an NTNCWS, or a transient non-CWS) must give notice for all violations of an NPDWR and for other situations, as listed in this subsection (a). The term "NPDWR violation" is used in this Subpart V to include violations of an MCL, an MRDL, a treatment technique, monitoring requirements, or a testing procedure set forth in this Part. Appendix G identifies the tier assignment for each specific violation or situation requiring a public notice.
  - 1) NPDWR violations.
    - A) A failure to comply with an applicable MCL or MRDL.
    - B) A failure to comply with a prescribed treatment technique.
    - C) A failure to perform water quality monitoring, as required by this Part.
    - D) A failure to comply with testing procedures as prescribed by this Part.
  - 2) Relief equivalent to a variance and exemptions under sections 1415 and 1416 of SDWA.
    - A) Operation under relief equivalent to a SDWA section 1415 variance, under Section 611.111, or a SDWA section 1416 exemption, under Section 611.112.
    - B) A failure to comply with the requirements of any schedule that has been set under relief equivalent to a SDWA section 1415 variance, under Section 611.111, or a SDWA section 1415 exemption, under Section 611.112.
  - 3) Special public notices.
    - A) The occurrence of a waterborne disease outbreak or other waterborne emergency.

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- B) An exceedance of the nitrate MCL by a non-CWS, where granted permission by the Agency under Section 611.300(d).
  - C) The notice required by Section 611.908 for an exceedance of 2 mg/l fluoride (the federal secondary MCL for fluoride (see 40 CFR 143.3)).  

BOARD NOTE: See the Board Note appended to Section 611.908 for explanation.
  - D) The availability of unregulated contaminant monitoring data collected as required by USEPA ~~under~~pursuant to 40 CFR 141.40.
  - E) Other violations and situations determined by the Agency by a SEP ~~issued pursuant to Section 611.110~~ to require a public notice under this Subpart V, not already listed in Appendix G.
- b) The type of public notice required for each violation or situation. The public notice requirements of this Subpart V are divided into three tiers, to take into account the seriousness of the violation or situation and of any potential adverse health effects that may be involved. The public notice requirements for each violation or situation listed in subsection (a) are determined by the tier to which it is assigned. This subsection (b) provides the definition of each tier. Appendix G identifies the tier assignment for each specific violation or situation.
- 1) Tier 1 public notice: required for NPDWR violations and situations with significant potential to have serious adverse effects on human health as a result of short-term exposure.
  - 2) Tier 2 public notice: required for all other NPDWR violations and situations with potential to have serious adverse effects on human health.
  - 3) Tier 3 public notice: required for all other NPDWR violations and situations not included in Tier 1 and Tier 2.
- c) Who must receive notice.
- 1) Each PWS supplier must provide public notice to persons served by the water supplier, in accordance with this Subpart V. A PWS supplier that sells or otherwise provides drinking water to another PWS supplier (i.e., to a consecutive system) is required to give public notice to the owner or operator of the consecutive system; the consecutive system supplier is

8970 responsible for providing public notice to the persons it serves.

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8972 2) If a PWS supplier has a violation in a portion of the distribution system  
8973 that is physically or hydraulically isolated from other parts of the  
8974 distribution system, the Agency may allow the system to limit distribution  
8975 of the public notice to only persons served by that portion of the system  
8976 that is out of compliance. Permission by the Agency for limiting  
8977 distribution of the notice must be granted in writing, by a SEP issued  
8978 pursuant to Section 611.110.

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8980 3) A copy of the notice must also be sent to the Agency, in accordance with  
8981 the requirements under Section 611.840(d).

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8983 BOARD NOTE: Derived from 40 CFR 141.201 (2016).

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8985 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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8987 **Section 611.902 Tier 1 Public Notice: Form, Manner, and Frequency of Notice**

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8989 a) Violations or situations that require a Tier 1 public notice. This subsection (a)  
8990 lists the violation categories and other situations requiring a Tier 1 public notice.  
8991 Appendix G identifies the tier assignment for each specific violation or situation.  
8992 The violation categories include:

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8994 1) Violation of the MCL for E. coli (as specified in Section 611.325(c)).

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8996 2) Violation of the MCL for nitrate, nitrite, or total nitrate and nitrite, as  
8997 defined in Section 611.301, or when the water supplier fails to take a  
8998 confirmation sample within 24 hours after the supplier's receipt of the  
8999 results from the first sample showing an exceedance of the nitrate or nitrite  
9000 MCL, as specified in Section 611.606(b).

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9002 3) Exceedance of the nitrate MCL by a non-CWS supplier, where permitted  
9003 to exceed the MCL by the Agency under Section 611.300(d), as required  
9004 under Section 611.909.

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9006 4) Violation of the MRDL for chlorine dioxide, as defined in Section  
9007 611.313(a), when one or more samples taken in the distribution system the  
9008 day following an exceedance of the MRDL at the entrance of the  
9009 distribution system exceed the MRDL, or when the water supplier does  
9010 not take the required samples in the distribution system, as specified in  
9011 Section 611.383(c)(2)(A).

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- 5) This subsection (a)(5) refers to a violation of the former turbidity standard of Section 611.320, which the Board repealed because it applied to no suppliers in Illinois. This statement maintains structural consistency with the federal regulations.
  - 6) Violation of the Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR), or Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit (as identified in Appendix G), where the Agency determines after consultation that a Tier 1 notice is required or where consultation does not take place within 24 hours after the supplier learns of the violation.
  - 7) Occurrence of a waterborne disease outbreak, as defined in Section 611.101, or other waterborne emergency (such as a failure or significant interruption in key water treatment processes, a natural disaster that disrupts the water supply or distribution system, or a chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water contamination).
  - 8) Detection of E. coli, enterococci, or coliphage in source water samples, as specified in Section 611.802(a) and (b).
  - 9) Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the Agency by a SEP issued pursuant to Section 611.110.
- b) When the Tier 1 public notice is to be provided. Additional steps required. A PWS supplier must do the following:
- 1) It must provide a public notice as soon as practical but no later than 24 hours after the supplier learns of the violation;
  - 2) It must initiate consultation with the Agency as soon as practical, but no later than 24 hours after the PWS supplier learns of the violation or situation, to determine additional public notice requirements; and
  - 3) It must comply with any additional public notification requirements (including any repeat notices or direction on the duration of the posted notices) that are established as a result of the consultation with the Agency. Such requirements may include the timing, form, manner, frequency, and content of repeat notices (if any) and other actions

9056 designed to reach all persons served.

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c) The form and manner of the public notice. A PWS supplier must provide the notice within 24 hours in a form and manner reasonably calculated to reach all persons served. The form and manner used by the PWS supplier are to fit the specific situation, but must be designed to reach residential, transient, and non-transient users of the water system. In order to reach all persons served, a water supplier is to use, at a minimum, one or more of the following forms of delivery:

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1) Appropriate broadcast media (such as radio and television);

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2) Posting of the notice in conspicuous locations throughout the area served by the water supplier;

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3) Hand delivery of the notice to persons served by the water supplier; or

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4) Another delivery method approved in writing by the Agency by a SEP issued pursuant to Section 611.110.

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BOARD NOTE: Derived from 40 CFR 141.202 (2016).

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

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

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a) Violations or situations that require a Tier 2 public notice. This subsection (a) lists the violation categories and other situations requiring a Tier 2 public notice. Appendix G identifies the tier assignment for each specific violation or situation.

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1) All violations of the MCL, MRDL, and treatment technique requirements, except where a Tier 1 notice is required under Section 611.902(a) or where the Agency determines by a SEP issued pursuant to Section 611.110 that a Tier 1 notice is required.

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2) Violations of the monitoring and testing procedure requirements, where the Agency determines by a SEP issued pursuant to Section 611.110 that a Tier 2 rather than a Tier 3 public notice is required, taking into account potential health impacts and persistence of the violation.

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3) Failure to comply with the terms and conditions of any relief equivalent to a SDWA section 1415 variance or a SDWA section 1416 exemption in place.

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- 4) Failure to take corrective action or failure to maintain at least 4-log treatment of viruses (using inactivation, removal, or an Agency-approved combination of 4-log virus inactivation and removal) before or at the first customer ~~underpursuant to~~ Section 611.803(a).
- b) When Tier 2 public notice is to be provided.
- 1) A PWS supplier must provide the public notice as soon as practical, but no later than 30 days after the supplier learns of the violation. If the public notice is posted, the notice must remain in place for as long as the violation or situation persists, but in no case for less than seven days, even if the violation or situation is resolved. The Agency may, in appropriate circumstances, by a SEP ~~issued pursuant to Section 611.110~~, allow additional time for the initial notice of up to three months from the date the supplier learns of the violation. It is not appropriate for the Agency to grant an extension to the 30-day deadline for any unresolved violation or to allow across-the-board extensions by rule or policy for other violations or situations requiring a Tier 2 public notice. Extensions granted by the Agency must be in writing.
  - 2) The PWS supplier must repeat the notice every three months as long as the violation or situation persists, unless the Agency determines that appropriate circumstances warrant a different repeat notice frequency. In no circumstance may the repeat notice be given less frequently than once per year. It is not appropriate for the Agency to allow less frequent repeat notice for an MCL or treatment technique violation under the Total Coliform Rule or Subpart AA or a treatment technique violation under the Surface Water Treatment Rule or Interim Enhanced Surface Water Treatment Rule. It is also not appropriate for the Agency to allow across-the-board reductions in the repeat notice frequency for other ongoing violations requiring a Tier 2 repeat notice. An Agency determination allowing repeat notices to be given less frequently than once every three months must be in writing.
  - 3) For the turbidity violations specified in this subsection (b)(3), a PWS supplier must consult with the Agency as soon as practical but no later than 24 hours after the supplier learns of the violation, to determine whether a Tier 1 public notice under Section 611.902(a) is required to protect public health. When consultation does not take place within the 24-hour period, the water system must distribute a Tier 1 notice of the violation within the next 24 hours (i.e., no later than 48 hours after the supplier learns of the violation), following the requirements under Section 611.902(b) and (c). Consultation with the Agency is required for the

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following:

- A) Violation of the turbidity MCL under Section 611.320(b); or
  - B) Violation of the SWTR, IESWTR, or treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit.
- c) The form and manner of Tier 2 public notice. A PWS supplier must provide the initial public notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it must at a minimum meet the following requirements:
- 1) Unless directed otherwise by the Agency in writing, by a SEP-issued pursuant to ~~Section 611.110~~, a CWS supplier must provide notice by the following:
    - A) Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the PWS supplier; and
    - B) Any other method reasonably calculated to reach other persons regularly served by the supplier, if they would not normally be reached by the notice required in subsection (c)(1)(A). Such persons may include those who do not pay water bills or do not have service connection addresses (e.g., house renters, apartment dwellers, university students, nursing home patients, prison inmates, etc.). Other methods may include: Publication in a local newspaper; delivery of multiple copies for distribution by customers that provide their drinking water to others (e.g., apartment building owners or large private employers); posting in public places served by the supplier or on the Internet; or delivery to community organizations.
  - 2) Unless directed otherwise by the Agency in writing, by a SEP-issued pursuant to ~~Section 611.110~~, a non-CWS supplier must provide notice by the following means:
    - A) Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the supplier, or by mail or direct delivery to each customer and service connection (where known); and

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- B) Any other method reasonably calculated to reach other persons served by the system if they would not normally be reached by the notice required in subsection (c)(2)(A). Such persons may include those served who may not see a posted notice because the posted notice is not in a location they routinely pass by. Other methods may include the following: Publication in a local newspaper or newsletter distributed to customers; use of E-mail to notify employees or students; or delivery of multiple copies in central locations (e.g., community centers).

BOARD NOTE: Derived from 40 CFR 141.203 (2016).

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

**Section 611.904 Tier 3 Public Notice: Form, Manner, and Frequency of Notice**

- a) Violations or situations that require a Tier 3 public notice. This subsection (a) lists the violation categories and other situations requiring a Tier 3 public notice. Appendix G identifies the tier assignment for each specific violation or situation.
  - 1) Monitoring violations under this Part, except where a Tier 1 notice is required under Section 611.902(a) or where the Agency determines by a SEP issued pursuant to Section 611.110 that a Tier 2 notice is required;
  - 2) Failure to comply with a testing procedure established in this Part, except where a Tier 1 notice is required under Section 611.902(a) or where the Agency determines by a SEP issued pursuant to Section 611.110 that a Tier 2 notice is required;
  - 3) Operation under relief equivalent to a SDWA section 1415 variance granted under Section 611.111 or relief equivalent to a SDWA section 1416 exemption granted under Section 611.112;
  - 4) Availability of unregulated contaminant monitoring results, as required under Section 611.907;
  - 5) The notice for an exceedance of 2 mg/l fluoride (the federal secondary MCL for fluoride (see 40 CFR 143.3)), as required under Section 611.908; and

BOARD NOTE: See the Board Note appended to Section 611.908 for explanation.

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- 6) Reporting and recordkeeping violations under Subpart AA.
- b) When the Tier 3 public notice is to be provided.
  - 1) A PWS supplier must provide the public notice not later than one year after the supplier learns of the violation or situation or begins operating under relief equivalent to a SDWA section 1415 variance or section 1416 exemption. Following the initial notice, the supplier must repeat the notice annually for as long as the violation, relief equivalent to a SDWA section 1415 variance or section 1416 exemption, or other situation persists. If the public notice is posted, the notice must remain in place for as long as the violation, relief equivalent to a SDWA section 1415 variance or section 1416 exemption, or other situation persists, but in no case less than seven days (even if the violation or situation is resolved).
  - 2) Instead of individual Tier 3 public notices, a PWS supplier may use an annual report detailing all violations and situations that occurred during the previous twelve months, as long as the timing requirements of subsection (b)(1) are met.
- c) The form and manner of the Tier 3 public notice. A PWS supplier must provide the initial notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it must at a minimum meet the following requirements:
  - 1) Unless directed otherwise by the Agency by a SEP issued pursuant to ~~Section 611.110~~ in writing, a CWS supplier must provide notice by the following:
    - A) Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the supplier; and
    - B) Any other method reasonably calculated to reach other persons regularly served by the supplier, if they would not normally be reached by the notice required in subsection (c)(1)(A). Such persons may include those who do not pay water bills or do not have service connection addresses (e.g., house renters, apartment dwellers, university students, nursing home patients, prison inmates, etc.). Other methods may include the following: publication in a local newspaper; delivery of multiple copies for

9271 distribution by customers that provide their drinking water to  
9272 others (e.g., apartment building owners or large private  
9273 employers); posting in public places or on the Internet; or delivery  
9274 to community organizations.  
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9276 2) Unless directed otherwise by the Agency by a SEP issued pursuant to  
9277 ~~Section 611.110~~ in writing, a non-CWS supplier must provide notice by  
9278 the following:  
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9280 A) Posting the notice in conspicuous locations throughout the  
9281 distribution system frequented by persons served by the supplier,  
9282 or by mail or direct delivery to each customer and service  
9283 connection (where known); and  
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9285 B) Any other method reasonably calculated to reach other persons  
9286 served by the supplier, if they would not normally be reached by  
9287 the notice required in subsection (c)(2)(A). Such persons may  
9288 include those who may not see a posted notice because the notice  
9289 is not in a location they routinely pass by. Other methods may  
9290 include the following: publication in a local newspaper or  
9291 newsletter distributed to customers; use of E-mail to notify  
9292 employees or students; or delivery of multiple copies in central  
9293 locations (e.g., community centers).  
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9295 d) When the Consumer Confidence Report may be used to meet the Tier 3 public  
9296 notice requirements. For a CWS supplier, the Consumer Confidence Report  
9297 (CCR) required under Subpart U may be used as a vehicle for the initial Tier 3  
9298 public notice and all required repeat notices, as long as the following is true:  
9299

9300 1) The CCR is provided to persons served no later than 12 months after the  
9301 supplier learns of the violation or situation as required under Section  
9302 611.904(b);  
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9304 2) The Tier 3 notice contained in the CCR follows the content requirements  
9305 under Section 611.905; and  
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9307 3) The CCR is distributed following the delivery requirements under Section  
9308 611.904(c).  
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9310 BOARD NOTE: Derived from 40 CFR 141.204 (2016).

9311 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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SUBPART W: INITIAL DISTRIBUTION SYSTEM EVALUATIONS

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**Section 611.920 General Requirements**

- a) USEPA has designated that the requirements of this Subpart W constitute National Primary Drinking Water Regulations. The regulations in this Subpart W establish monitoring and other requirements for identifying Subpart Y compliance monitoring locations for determining compliance with maximum contaminant levels for TTHMs and HAA5. The supplier must use an initial distribution system evaluation (IDSE) to determine the locations in its distribution system that are representative of high TTHM and HAA5 concentrations throughout the supplier's distribution system. An IDSE is used in conjunction with, but separate from, Subpart I compliance monitoring, to identify and select Subpart Y compliance monitoring locations.
  
- b) Applicability. A supplier is subject to the requirements of this Subpart W if it fulfills any of the following conditions:
  - 1) The supplier owns or operates a community water system that uses a primary or residual disinfectant other than ultraviolet light;
  - 2) The supplier delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light; or
  - 3) The supplier owns or operates a non-transient non-community water system that serves at least 10,000 people, and it either uses a primary or residual disinfectant other than ultraviolet light, or it delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light.
  
- c) ~~The Agency may determine, by a SEP issued pursuant to Section 611.110, that a combined distribution system does not include certain consecutive systems based on such factors as the delivery of water to a consecutive system only on an emergency basis or the receiving only a small percentage and small volume of water from a wholesale system. The Agency may also determine, by a SEP issued pursuant to Section 611.110, that a combined distribution system does not include certain wholesale systems based on such factors as the delivery of water to a consecutive system only on an emergency basis or the delivery of only a small percentage and small volume of water to a consecutive system.~~  
 BOARD NOTE: Implementation of this Subpart W occurred in stages during October 1, 2006 through October 1, 2014, depending on population served and other factors. See 40 CFR 141.600(c). The Board removed the now-obsolete implementation dates.

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- d) A supplier must do one of the following: it must conduct standard monitoring that meets the requirements in Section 611.921; it must conduct a system-specific study that meets the requirements in Section 611.922; it must certify to the Agency that it meets the 40/30 certification criteria under Section 611.923; or it must qualify for a very small system waiver under Section 611.924.
  - 1) The supplier must have taken the full complement of routine TTHM and HAA5 compliance samples required of a system that serves the appropriate population and which uses the appropriate source water under Subpart I (or the supplier must have taken the full complement of reduced TTHM and HAA5 compliance samples required of a system with the supplier's population and source water under Subpart I if the supplier meets reduced monitoring criteria under Subpart I) during the period specified in Section 611.923(a) to meet the 40/30 certification criteria in Section 611.923. The supplier must have taken TTHM and HAA5 samples under Sections 611.381 and 611.382 to be eligible for the very small system waiver in Section 611.924.
  - 2) If the supplier has not taken the required samples, the supplier must conduct standard monitoring that meets the requirements in Section 611.921, or a system-specific study that meets the requirements in Section 611.922.
- e) The supplier must use only the analytical methods specified in Section 611.381, or otherwise approved by the Agency for monitoring under this Subpart W, to demonstrate compliance with the requirements of this Subpart W.
- f) IDSE results will not be used for the purpose of determining compliance with MCLs in Section 611.312.

BOARD NOTE: Derived from 40 CFR 141.600 (2016).

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

**Section 611.922 System-Specific Studies**

- a) System-specific study plan. A supplier's system-specific study plan must be based on either existing monitoring results, as required under subsection (a)(1), or modeling, as required under subsection (a)(2). The supplier must prepare and submit the supplier's system-specific study plan to the Agency according to the schedule in Section 611.920(c).

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- 1) Existing monitoring results. A supplier may comply by submitting monitoring results collected before it is required to begin monitoring underpursuant to Section 611.920(c). The monitoring results and analysis must meet the criteria in subsections (a)(1)(A) and (a)(1)(B).
  - A) Minimum requirements.
    - i) TTHM and HAA5 results must be based on samples collected and analyzed in accordance with Section 611.381. Samples must be collected no earlier than five years prior to the study plan submission date.
    - ii) The monitoring locations and frequency must meet the conditions identified in the applicable of subsections (a)(1)(A)(iii) through (a)(1)(A)(xv). Each location must be sampled once during the peak historical month for TTHM levels or HAA5 levels or the month of warmest water temperature for every 12 months of data submitted for that location. Monitoring results must include all Subpart I compliance monitoring results, plus additional monitoring results as necessary to meet minimum sample requirements.
    - iii) A Subpart B system supplier that serves fewer than 500 persons must collect samples from three monitoring locations: three samples for TTHM and three samples for HAA5.
    - iv) A Subpart B system supplier that serves 500 to 3,300 persons must collect samples from three monitoring locations: nine samples for TTHM and nine samples for HAA5.
    - v) A Subpart B system supplier that serves 3,301 to 9,999 persons must collect samples from six monitoring locations: 36 samples for TTHM and 36 samples for HAA5.
    - vi) A Subpart B system supplier that serves 10,000 to 49,999 persons must collect samples from each of 12 monitoring locations: 72 samples for TTHM and 72 samples for HAA5.

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- vii) A Subpart B system supplier that serves 50,000 to 249,999 persons must collect samples from 24 monitoring locations: 144 samples for TTHM and 144 samples for HAA5.
  - viii) A Subpart B system supplier that serves 250,000 to 999,999 persons must collect samples from 36 monitoring locations: 216 samples for TTHM and 216 samples for HAA5.
  - ix) A Subpart B system supplier that serves 1,000,000 to 4,999,999 persons must collect samples from 48 monitoring locations: 288 samples for TTHM and 288 samples for HAA5.
  - x) A Subpart B system supplier that serves 5,000,000 or more persons must collect samples from 60 monitoring locations: 360 samples for TTHM and 360 samples for HAA5.
  - xi) A groundwater system supplier that serves fewer than 500 persons must collect samples from three monitoring locations: three samples for TTHM and three samples for HAA5.
  - xii) A groundwater system supplier that serves 500 to 9,999 persons must collect samples from three monitoring locations: nine samples for TTHM and nine samples for HAA5.
  - xiii) A groundwater system supplier that serves 10,000 to 99,999 persons must collect samples from 12 monitoring locations: 48 samples for TTHM and 48 samples for HAA5.
  - xiv) A groundwater system supplier that serves 100,000 to 499,999 persons must collect samples from 18 monitoring locations: 72 samples for TTHM and 72 samples for HAA5.
  - xv) A groundwater system supplier that serves 500,000 or more persons must collect samples from 24 monitoring locations: 96 samples for TTHM and 96 samples for HAA5.

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- B) Reporting monitoring results. A supplier must report the following information:
- i) The supplier must report previously collected monitoring results and certify that the reported monitoring results include all compliance and noncompliance results generated during the time period that began with the first reported result and which ended with the most recent Subpart I results;
  - ii) The supplier must certify that the samples were representative of the entire distribution system and treatment and that the distribution system and treatment have not changed significantly since the samples were collected;
  - iii) The supplier's study monitoring plan must include a schematic of its distribution system (including distribution system entry points and their sources and storage facilities in the system), with notes indicating the locations and dates of all completed or planned system-specific study monitoring;
  - iv) The supplier's system-specific study plan must specify the population served and its system type (i.e., that it is a Subpart B or groundwater system);
  - v) The supplier must retain a complete copy of its system-specific study plan submitted under this subsection (a)(1), including any Agency modification of the supplier's system-specific study plan, for as long as the supplier is required to retain its IDSE report under subsection (b)(5); and
  - vi) If the supplier submits previously collected data that fully meet the number of samples required under subsection (a)(1)(A)(ii), and the Agency rejects some of the data in writing, by a SEP issued pursuant to Section 611.110, the supplier must either conduct additional monitoring to replace rejected data on a schedule approved by the Agency in the SEP, or it must conduct standard monitoring under Section 611.921.

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- 2) Modeling. A supplier may comply through analysis of an extended-period simulation hydraulic model. The extended-period simulation hydraulic model and analysis must meet the following criteria:
- A) Minimum extended-period hydraulic model requirements.
- i) The extended-period hydraulic model must simulate 24-hour variation in demand and show a consistently repeating 24-hour pattern of residence time.
  - ii) The extended-period hydraulic model must represent the criteria listed in subsection (a)(2)(D).  
  
BOARD NOTE: This subsection (a)(2)(A)(ii) is derived from 40 CFR 141.602(a)(2)(i)(B), as added at 71 Fed. Reg. 388 (Jan. 4, 2006). The Board has codified 40 CFR 141.602(a)(2)(i)(B)(1) through (a)(2)(i)(B)(9) as subsections (a)(2)(D)(i) through (a)(2)(D)(ix) to comport with Illinois Administrative Code codification requirements.
  - iii) The extended-period hydraulic model must be calibrated or have calibration plans for the current configuration of the distribution system during the period of high TTHM formation potential. All storage facilities in the system must be evaluated as part of the calibration process. All required calibration must be completed no later than 12 months after the supplier has submitted the plan.
- B) Reporting modeling. The supplier's system-specific study plan must include the information described in subsections (a)(2)(B)(i) through (a)(2)(B)(vii), subject to the requirements of subsection (a)(2)(B)(vii).
- i) Tabular or spreadsheet data demonstrating that the model meets requirements in subsections (a)(2)(A)(ii) and (a)(2)(D).
  - ii) A description of all calibration activities undertaken and, if calibration is complete, a graph of predicted tank levels versus measured tank levels for the system storage facility with the highest residence time in each pressure zone, and a time-series graph of the residence time at the longest

- 9571 residence time storage facility in the distribution system  
 9572 showing the predictions for the entire simulation period  
 9573 (i.e., from time zero until the time it takes for the model to  
 9574 reach a consistently repeating pattern of residence time).  
 9575  
 9576 iii) Model output showing preliminary 24-hour average  
 9577 residence time predictions throughout the distribution  
 9578 system.  
 9579  
 9580 iv) The timing and the number of samples representative of the  
 9581 distribution system planned for at least one monitoring  
 9582 period of TTHM and HAA5 dual-sample monitoring at a  
 9583 number of locations no fewer than would be required for  
 9584 the system under standard monitoring in Section 611.921  
 9585 during the historical month of high TTHM. These samples  
 9586 must be taken at locations other than existing Subpart I  
 9587 compliance monitoring locations.  
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 9589 v) A description of how all requirements will be completed no  
 9590 later than 12 months after the supplier submits the  
 9591 supplier's system-specific study plan.  
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 9593 vi) A schematic of the supplier's distribution system (including  
 9594 distribution system entry points and their sources and  
 9595 system storage facilities), with notes indicating the  
 9596 locations and dates of all completed system-specific study  
 9597 monitoring (if calibration is complete) and all Subpart I  
 9598 compliance monitoring.  
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 9600 vii) The population served and system type (i.e., that it is a  
 9601 Subpart B or groundwater system).  
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 9603 viii) The supplier must retain a complete copy of the supplier's  
 9604 system-specific study plan submitted under this subsection  
 9605 (a)(2), including any Agency modification of the supplier's  
 9606 system-specific study plan, for as long as the supplier is  
 9607 required to retain the supplier's IDSE report under  
 9608 subsection (b)(7).  
 9609  
 9610 C) If the supplier submits a model that does not fully meet the  
 9611 requirements under subsection (a)(2), the supplier must correct the  
 9612 Agency-cited deficiencies and respond to Agency inquiries  
 9613 concerning the model. If the supplier fails to correct deficiencies

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or respond to inquiries to the Agency's satisfaction, the supplier must conduct standard monitoring under Section 611.921.

D) The extended-period hydraulic model must represent the following criteria:

- i) 75 percent of pipe volume;
- ii) 50 percent of pipe length;
- iii) All pressure zones;
- iv) All 12-inch diameter and larger pipes;
- v) All eight-inch and larger pipes that connect pressure zones, influence zones from different sources, storage facilities, major demand areas, pumps, and control valves or which are known or expected to be significant conveyors of water;
- vi) All six-inch and larger pipes that connect remote areas of a distribution system to the main portion of the system;
- vii) All storage facilities with standard operations represented in the model;
- viii) All active pump stations with controls represented in the model; and
- ix) All active control valves.

BOARD NOTE: This subsection (a)(2)(D) is derived from 40 CFR 141.602(a)(2)(i)(B), as added at 71 Fed. Reg. 388 (Jan. 4, 2006). The Board has codified 40 CFR 141.602(a)(2)(i)(B)(1) through (a)(2)(i)(B)(9) as subsections (a)(2)(D)(i) through (a)(2)(D)(ix) to comport with Illinois Administrative Code codification requirements.

b) IDSE report. The supplier's IDSE report must include the elements required in subsections (b)(1) through (b)(6). The supplier must submit its IDSE report according to the applicable of the schedules in Section 611.920(c).

- 1) The supplier's IDSE report must include all TTHM and HAA5 analytical results from Subpart I compliance monitoring and all system-specific

- 9657 study monitoring conducted during the period of the system-specific study  
9658 presented in a tabular or spreadsheet format acceptable to the Agency. If  
9659 changed from the supplier's system-specific study plan submitted under  
9660 subsection (a), the supplier's IDSE report must also include a schematic of  
9661 its distribution system, the population served, and system type (i.e., that it  
9662 is a Subpart B or groundwater system).  
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- 9664 2) If the supplier used the modeling provision under subsection (a)(2), it must  
9665 include final information for the elements described in subsection  
9666 (a)(2)(B), and a 24-hour time-series graph of residence time for each  
9667 Subpart Y compliance monitoring location selected.  
9668
- 9669 3) The supplier must recommend and justify Subpart Y compliance  
9670 monitoring locations and timing based on the protocol in Section 611.925.  
9671
- 9672 4) The supplier's IDSE report must include an explanation of any deviations  
9673 from its approved system-specific study plan.  
9674
- 9675 5) The supplier's IDSE report must include the basis (analytical and  
9676 modeling results) and justification that it used to select the recommended  
9677 Subpart Y monitoring locations.  
9678
- 9679 6) The supplier may submit its IDSE report in lieu of its system-specific  
9680 study plan on the schedule identified in Section 611.920(c) for submission  
9681 of the system-specific study plan if the supplier believes that it has the  
9682 necessary information before the time that the system-specific study plan  
9683 is due. If the supplier elects this approach, its IDSE report must also  
9684 include all information required under subsection (a).  
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- 9686 7) The supplier must retain a complete copy of its IDSE report submitted  
9687 under this Section for 10 years after the date that the supplier submitted its  
9688 IDSE report. If the Agency modifies the Subpart Y monitoring  
9689 requirements that the supplier recommended in the supplier's IDSE report  
9690 or if the Agency approves alternative monitoring locations, the supplier  
9691 must keep a copy of the Agency's notification on file for 10 years after the  
9692 date of the Agency's notification. The supplier must make the IDSE report  
9693 and any Agency notification available for review by the Agency or the  
9694 public.  
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9696 BOARD NOTE: Derived from 40 CFR 141.602 (2016).

9697  
9698 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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9700 **Section 611.924 Very Small System Waivers**

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- a) If the supplier serves fewer than 500 people and it has taken TTHM and HAA5 samples ~~underpursuant to Subpart I of this Part~~, the supplier is not required to comply with this Subpart W unless the Agency notifies the supplier, by a SEP ~~issued pursuant to Section 611.110~~, that it must conduct standard monitoring pursuant to Section 611.921 or a system-specific study ~~underpursuant to Section 611.922~~.
  
- b) If the supplier has not taken TTHM and HAA5 samples ~~underpursuant to Subpart I of this Part~~ or if the Agency notifies the supplier, by a SEP ~~issued pursuant to Section 611.110~~, that it must comply with this Subpart W, the supplier must conduct standard monitoring ~~underpursuant to Section 611.921~~ or a system-specific study ~~underpursuant to Section 611.922~~.

BOARD NOTE: Derived from 40 CFR 141.604 (2006).

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

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

**Section 611.953 Disinfection Profile**

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

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- c) Development of a disinfection profile. A disinfection profile consists of the following three steps:
    - 1) First, the supplier must collect data for several parameters from the plant, as discussed in subsection (d), over the course of 12 months;
    - 2) Second, the supplier must use this data to calculate weekly log inactivation as discussed in subsections (e) and (f); and
    - 3) Third, the supplier must use these weekly log inactivations to develop a disinfection profile as specified in subsection (g).
  
  - d) Data required for a disinfection profile. A supplier must monitor the following parameters to determine the total log inactivation using the analytical methods in Section 611.531, once per week on the same calendar day, over 12 consecutive months:
    - 1) The temperature of the disinfected water at each residual disinfectant concentration sampling point during peak hourly flow;
    - 2) If a supplier uses chlorine, the pH of the disinfected water at each residual disinfectant concentration sampling point during peak hourly flow;
    - 3) The disinfectant contact times ("T") during peak hourly flow; and
    - 4) The residual disinfectant concentrations ("C") of the water before or at the first customer and prior to each additional point of disinfection during peak hourly flow.
  
  - e) Calculations based on the data collected. The tables in Appendix B must be used to determine the appropriate  $CT_{99.9}$  value. The supplier must calculate the total inactivation ratio as follows, and multiply the value by 3.0 to determine log inactivation of *Giardia lamblia*:
    - 1) If the supplier uses only one point of disinfectant application, it must determine either of the following:
      - A) One inactivation ratio ( $CT_{calc}/CT_{99.9}$ ) before or at the first customer during peak hourly flow; or
      - B) Successive  $CT_{calc}/CT_{99.9}$  values, representing sequential inactivation ratios, between the point of disinfectant application and a point before or at the first customer during peak hourly flow.

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Under this alternative, the supplier must calculate the total inactivation ratio by determining  $CT_{calc}/CT_{99.9}$  for each sequence and then adding the  $CT_{calc}/CT_{99.9}$  values together to determine  $\Sigma CT_{calc}/CT_{99.9}$ .

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

BOARD NOTE: Derived from 40 CFR 141.530 through 141.536 (2016).

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

**Section 611.955 Combined Filter Effluent Turbidity Limits**

- a) Applicability. A Subpart B system supplier that serves fewer than 10,000 persons, which is required to filter, and which utilizes filtration other than slow sand filtration or diatomaceous earth filtration must meet the combined filter effluent turbidity requirements of subsections (b) through (d). If the supplier uses slow sand or diatomaceous earth filtration the supplier is not required to meet the combined filter effluent turbidity limits of this Subpart X, but the supplier must continue to meet the combined filter effluent turbidity limits in Section 611.250.
- b) Combined filter effluent turbidity limits. A supplier must meet two strengthened combined filter effluent turbidity limits.

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- 1) The first combined filter effluent turbidity limit is a "95<sup>th</sup> percentile" turbidity limit that a supplier must meet in at least 95 percent of the turbidity measurements taken each month. Measurements must continue to be taken as described in Sections 611.531 and 611.533. Monthly reporting must be completed according to Section 611.957(a). The following are the required limits for specific filtration technologies:
  - A) For a system with conventional filtration or direct filtration, the 95<sup>th</sup> percentile turbidity value is 0.3 NTU.
  - B) For a system with any other alternative filter technology, the 95<sup>th</sup> percentile turbidity value is a value (not to exceed 1 NTU) to be determined by the Agency, by a SEP-issued pursuant to Section ~~611.110~~, based on the demonstration described in subsection (c).
- 2) The second combined filter effluent turbidity limit is a "maximum" turbidity limit that a supplier may at no time exceed during the month. Measurements must continue to be taken as described in Sections 611.531 and 611.533. Monthly reporting must be completed according to Section 611.957(a). The following are the required limits for specific filtration technologies:
  - A) For a system with conventional filtration or direct filtration, the maximum turbidity value is 1 NTU.
  - B) For a system with any other alternative filter technology, the maximum turbidity value is a value (not to exceed 5 NTU) to be determined by the Agency, by a SEP-issued pursuant to Section ~~611.110~~, based on the demonstration described in subsection (c).
- c) Requirements for an alternative filtration system.
  - 1) If a supplier's system consists of alternative filtration (filtration other than slow sand filtration, diatomaceous earth filtration, conventional filtration, or direct filtration) the supplier is required to conduct a demonstration (see tables in subsection (b)). The supplier must demonstrate to the Agency, using pilot plant studies or other means, that its system's filtration, in combination with disinfection treatment, consistently achieves the following:
    - A) 99 percent removal of *Cryptosporidium* oocysts;

- 9872 B) 99.9 percent removal or inactivation of Giardia lamblia cysts; and
- 9873
- 9874 C) 99.99 percent removal or inactivation of viruses.
- 9875
- 9876 2) This subsection (c)(2) corresponds with 40 CFR 141.552(b), which
- 9877 USEPA has designated as "reserved". This statement maintains structural
- 9878 correspondence with the corresponding federal regulation.
- 9879
- 9880 d) Requirements for a lime-softening system. If a supplier practices lime softening,
- 9881 the supplier may acidify representative combined filter effluent turbidity samples
- 9882 prior to analysis using a protocol approved by the Agency.
- 9883

9884 BOARD NOTE: Derived from 40 CFR 141.550 through 141.553 (2016).

9885 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

9886

9887 **SUBPART Y: STAGE 2 DISINFECTION BYPRODUCTS REQUIREMENTS**

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9889

9890 **Section 611.970 General Requirements**

9891

- 9892 a) General. The requirements of this Subpart Y constitute NPDWRs. The
- 9893 regulations in this Subpart Y establish monitoring and other requirements for
- 9894 achieving compliance with MCLs based on LRAAs for TTHM and HAA5, and
- 9895 for achieving compliance with MRDLs for chlorine and chloramine for certain
- 9896 consecutive systems.
- 9897
- 9898 b) Applicability. A supplier is subject to these requirements if its system is a CWS
- 9899 or a NTNCWS that uses a primary or residual disinfectant other than ultraviolet
- 9900 light or which delivers water that has been treated with a primary or residual
- 9901 disinfectant other than ultraviolet light.
- 9902
- 9903 c) A supplier must comply with the requirements in this Subpart Y as follows:
- 9904
- 9905 1) The supplier's monitoring frequency is specified in Section 611.971(a)(2).
- 9906
- 9907 A) If a supplier is required to conduct quarterly monitoring, it must
- 9908 begin monitoring in the first full calendar quarter that includes the
- 9909 applicable compliance date set forth in this subsection (c).
- 9910
- 9911 B) If a supplier is required to conduct monitoring less frequently than
- 9912 quarterly, it must begin monitoring in the calendar month
- 9913 recommended in the IDSE report prepared pursuant to Section
- 9914 611.921 or Section 611.922 or in the calendar month identified in

9915 the Subpart Y monitoring plan developed pursuant to Section  
9916 611.972, but in no instance later than 12 months after the  
9917 applicable compliance date set forth in this subsection (c).  
9918

9919 2) If a supplier is required to conduct quarterly monitoring, it must make  
9920 compliance calculations at the end of the fourth calendar quarter that  
9921 follows the compliance date and at the end of each subsequent quarter (or  
9922 earlier if the LRAA calculated based on fewer than four quarters of data  
9923 would cause the MCL to be exceeded regardless of the monitoring results  
9924 of subsequent quarters). If a supplier is required to conduct monitoring  
9925 less frequently than quarterly, it must make compliance calculations  
9926 beginning with the first compliance sample taken after the compliance  
9927 date.  
9928

9929 3) The Agency may, by a SEP issued pursuant to Section 611.110,  
9930 determine that the combined distribution system does not include certain  
9931 consecutive systems based on factors such as receipt of water from a  
9932 wholesale system only on an emergency basis or receipt of only a small  
9933 percentage and small volume of water from a wholesale system. The  
9934 Agency may also determine that the combined distribution system does  
9935 not include certain wholesale systems based on factors such as delivery of  
9936 water to a consecutive system only on an emergency basis or delivery of  
9937 only a small percentage and small volume of water to a consecutive  
9938 system.  
9939

9940 BOARD NOTE: Implementation of this Subpart Y occurred in stages during  
9941 October 1, 2012 through October 1, 2014, depending on population served. See  
9942 40 CFR 141.620(c)(1) through (c)(5). The Board removed the now-obsolete  
9943 implementation dates.  
9944

9945 d) Monitoring and compliance.  
9946

9947 1) Suppliers required to monitor quarterly. To comply with Subpart Y MCLs  
9948 in Section 611.312(b)(2), the supplier must calculate LRAAs for TTHM  
9949 and HAA5 using monitoring results collected under this Subpart Y, and it  
9950 must determine that each LRAA does not exceed the MCL. If the supplier  
9951 fails to complete four consecutive quarters of monitoring, it must calculate  
9952 compliance with the MCL based on the average of the available data from  
9953 the most recent four quarters. If the supplier takes more than one sample  
9954 per quarter at a monitoring location, it must average all samples taken in  
9955 the quarter at that location to determine a quarterly average to be used in  
9956 the LRAA calculation.  
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2) Suppliers required to monitor yearly or less frequently. To determine compliance with Subpart Y MCLs in Section 611.312(b)(2), the supplier must determine that each sample taken is less than the MCL. If any sample exceeds the MCL, the supplier must comply with the requirements of Section 611.975. If no sample exceeds the MCL, the sample result for each monitoring location is considered the LRAA for that monitoring location.

e) Violation for failure to monitor. A supplier is in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if the supplier fails to monitor.

BOARD NOTE: Derived from 40 CFR 141.620 (2016).

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

**Section 611.971 Routine Monitoring**

a) Monitoring.

1) If a supplier submitted an IDSE report, it must begin monitoring at the locations and during the months that the supplier has recommended in its IDSE report submitted ~~underpursuant to~~ Section 611.925, following the schedule set forth in Section 611.970(c), unless the Agency, by a SEP ~~issued pursuant to Section 611.110~~, requires other locations or additional locations after its review. If the supplier submitted a 40/30 certification ~~underpursuant to~~ Section 611.923, it qualified for a very small system waiver ~~underpursuant to~~ Section 611.924, or it is a NTNCWS that serves fewer than 10,000 persons, the supplier must monitor at the locations and on the dates identified in its monitoring plan as described in Section 611.382(f), updated as required by Section 611.972.

2) The supplier must monitor at no fewer than the number of locations identified in the applicable of subsections (a)(2)(A) through (a)(2)(M), subject to the limitations of subsections (a)(2)(N) and (a)(2)(O).

A) A Subpart B system supplier that serves fewer than 500 persons must monitor annually at two distribution system monitoring locations during each monitoring period.

B) A Subpart B system supplier that serves 500 to 3,300 persons must monitor quarterly at two distribution system monitoring locations during each monitoring period.

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- C) A Subpart B system supplier that serves 3,301 to 9,999 persons must monitor quarterly at two distribution system monitoring locations during each monitoring period.
  - D) A Subpart B system supplier that serves 10,000 to 49,999 persons must monitor quarterly at four distribution system monitoring locations during each monitoring period.
  - E) A Subpart B system supplier that serves 50,000 to 249,999 persons must monitor quarterly at eight distribution system monitoring locations during each monitoring period.
  - F) A Subpart B system supplier that serves 250,000 to 999,999 persons must monitor quarterly at 12 distribution system monitoring locations during each monitoring period.
  - G) A Subpart B system supplier that serves 1,000,000 to 4,999,999 persons must monitor quarterly at 16 distribution system monitoring locations during each monitoring period.
  - H) A Subpart B system supplier that serves 5,000,000 or more persons must monitor quarterly at 20 distribution system monitoring locations during each monitoring period.
  - I) A groundwater system supplier that serves fewer than 500 persons must monitor annually at two distribution system monitoring locations during each monitoring period.
  - J) A groundwater system supplier that serves 500 to 9,999 persons must monitor annually at two distribution system monitoring locations during each monitoring period.
  - K) A groundwater system supplier that serves 10,000 to 99,999 persons must monitor quarterly at four distribution system monitoring locations during each monitoring period.
  - L) A groundwater system supplier that serves 100,000 to 499,999 persons must monitor quarterly at six distribution system monitoring locations during each monitoring period.

- 10042 M) A groundwater system supplier that serves 500,000 or more
- 10043 persons must monitor quarterly at eight distribution system
- 10044 monitoring locations during each monitoring period.
- 10045
- 10046 N) The supplier must monitor during month of highest DBP
- 10047 concentrations.
- 10048
- 10049 O) A supplier on quarterly monitoring must take dual sample sets
- 10050 every 90 days at each monitoring location, except for a Subpart B
- 10051 system supplier that serves 500 to 3,300. A groundwater system
- 10052 supplier that serves 500 to 9,999 persons which is on annual
- 10053 monitoring must take dual sample sets at each monitoring location.
- 10054 Any other supplier that is on annual monitoring or which is a
- 10055 Subpart B system supplier that serves 500 to 3,300 is required to
- 10056 take individual TTHM and HAA5 samples (instead of a dual
- 10057 sample set) at the locations with the highest TTHM and HAA5
- 10058 concentrations, respectively. For a supplier that serves fewer than
- 10059 500 people, only one location with a dual sample set per
- 10060 monitoring period is needed if the highest TTHM and HAA5
- 10061 concentrations occur at the same location and month.
- 10062
- 10063 3) If a supplier is an undisinfected system that begins using a disinfectant
- 10064 other than UV light after the dates set forth in Subpart W for complying
- 10065 with the IDSE requirements, the supplier must consult with the Agency to
- 10066 identify compliance monitoring locations for this Subpart Y. The supplier
- 10067 must then develop a monitoring plan ~~underpursuant to~~ Section 611.972
- 10068 that includes those monitoring locations.
- 10069
- 10070 b) Analytical methods. A supplier must use an approved method listed in Section
- 10071 611.381 for TTHM and HAA5 analyses in this Subpart Y. Analyses must be
- 10072 conducted by laboratories that have received certification as specified in Section
- 10073 611.381.
- 10074

BOARD NOTE: Derived from 40 CFR 141.621 (2016).

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

**Section 611.972 Subpart Y Monitoring Plan**

- 10081 a) Development of a monitoring plan.
- 10082
- 10083 1) A supplier must develop and implement a monitoring plan that it must
- 10084 keep on file for Agency and public review. The monitoring plan must

- 10085 contain the following elements, and it must be complete no later than the  
 10086 date when the supplier conducts its initial monitoring ~~underpursuant to this~~  
 10087 Subpart Y:  
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- 10089 A) The monitoring locations;
  - 10090
  - 10091 B) The monitoring dates;
  - 10092
  - 10093 C) The compliance calculation procedures; and
  - 10094
  - 10095 D) The monitoring plans for any other systems in the combined
  - 10096 distribution system if the Agency has reduced monitoring
  - 10097 requirements ~~underpursuant to~~ Section 611.161.
  - 10098
- 10099 2) If the supplier was not required to submit an IDSE report ~~underpursuant to~~  
 10100 either Section 611.921 or Section 611.922, and it does not have sufficient  
 10101 Subpart I monitoring locations to identify the required number of Subpart  
 10102 Y compliance monitoring locations indicated in Section 611.925(b), the  
 10103 supplier must identify additional locations by alternating selection of  
 10104 locations representing high TTHM levels and high HAA5 levels until the  
 10105 required number of compliance monitoring locations have been identified.  
 10106 The supplier must also provide the rationale for identifying the locations  
 10107 as having high levels of TTHM or HAA5. If the supplier has more  
 10108 Subpart I monitoring locations than required for Subpart Y compliance  
 10109 monitoring in Section 611.925(b), it must identify which locations it will  
 10110 use for Subpart Y compliance monitoring by alternating selection of  
 10111 locations representing high TTHM levels and high HAA5 levels until the  
 10112 required number of Subpart Y compliance monitoring locations have been  
 10113 identified.  
 10114
- 10115 b) A Subpart B system supplier that serves more than 3,300 people must submit a
  - 10116 copy of its monitoring plan to the Agency prior to the date it conducts its initial
  - 10117 monitoring ~~underpursuant to this Subpart Y~~, unless the supplier's IDSE report
  - 10118 submitted ~~underpursuant to Subpart W of this Part~~ contains all the information
  - 10119 required by this Section.
  - 10120
  - 10121 c) After consultation with the Agency regarding the need for and appropriateness of
  - 10122 changes and issuance of a SEP ~~pursuant to Section 611.110~~ that provides for the
  - 10123 changes, a supplier may revise its monitoring plan to reflect changes in treatment,
  - 10124 distribution system operations and layout (including new service areas), or other
  - 10125 factors that may affect TTHM or HAA5 formation, or for Agency-approved
  - 10126 reasons. If the supplier changes monitoring locations, the supplier must replace
  - 10127 existing compliance monitoring locations with the lowest LRAA with new
  - 10128 locations that reflect the current distribution system locations with expected high

10129 TTHM or HAA5 levels. The Agency may, by a SEP issued pursuant to Section  
10130 611.110, also require modifications in the supplier's monitoring plan. If a supplier  
10131 is a Subpart B system supplier that serves more than 3,300 people, it must submit  
10132 a copy of its modified monitoring plan to the Agency prior to the date when it is  
10133 required to comply with the revised monitoring plan.  
10134

10135 BOARD NOTE: Derived from 40 CFR 141.622 (2006).

10136  
10137 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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10139 **Section 611.973 Reduced Monitoring**  
10140

- 10141 a) A supplier may reduce monitoring to the level specified in the applicable of  
10142 subsections (a)(1) through (a)(13), subject to the limitation of subsection (a)(14),  
10143 any time the LRAA is 0.040 mg/l or less for TTHM and 0.030 mg/l or less for  
10144 HAA5 at all monitoring locations. The supplier may only use data collected  
10145 underpursuant to the provisions of this Subpart Y or pursuant to Subpart I of this  
10146 ~~Part~~ to qualify for reduced monitoring. In addition, the source water annual  
10147 average TOC level, before any treatment, must be 4.0 mg/l or less at each  
10148 treatment plant treating surface water or groundwater under the direct influence of  
10149 surface water, based on monitoring conducted underpursuant to either Section  
10150 611.382(b)(1)(C) or Section 611.382(d).  
10151
- 10152 1) A Subpart B system supplier that serves fewer than 500 persons may not  
10153 qualify for reduced monitoring.  
10154
- 10155 2) A Subpart B system supplier that serves 500 to 3,300 persons qualifies for  
10156 reduced monitoring to a minimum of one TTHM sample collected  
10157 annually from the location and during the quarter with the highest single  
10158 TTHM measurement and one HAA5 sample collected annually from the  
10159 location and during the quarter with the highest single HAA5  
10160 measurement, with the two samples collected as one dual sample set if the  
10161 highest TTHM and HAA5 measurements occurred at the same location  
10162 and during the same quarter.  
10163
- 10164 3) A Subpart B system supplier that serves 3,301 to 9,999 persons qualifies  
10165 for reduced monitoring to a minimum of one dual sample set collected  
10166 annually for TTHM from the location and during the quarter with the  
10167 highest single TTHM measurement and one dual sample set collected  
10168 annually for HAA5 from the location and during the quarter with the  
10169 highest single HAA5 measurement.  
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- 10171 4) A Subpart B system supplier that serves 10,000 to 49,999 persons  
10172 qualifies for reduced monitoring to a minimum of two dual sample sets  
10173 collected quarterly from the locations with the highest TTHM and HAA5  
10174 LRAAs.  
10175
- 10176 5) A Subpart B system supplier that serves 50,000 to 249,999 persons  
10177 qualifies for reduced monitoring to a minimum of four dual sample sets  
10178 collected quarterly from the locations with the two highest TTHM and two  
10179 HAA5 LRAAs.  
10180
- 10181 6) A Subpart B system supplier that serves 250,000 to 999,999 persons  
10182 qualifies for reduced monitoring to a minimum of six dual sample sets  
10183 collected quarterly from the locations with the three highest TTHM and  
10184 three HAA5 LRAAs.  
10185
- 10186 7) A Subpart B system supplier that serves 1,000,000 to 4,999,999 persons  
10187 qualifies for reduced monitoring to a minimum of eight dual sample sets  
10188 collected quarterly from the locations with the four highest TTHM and  
10189 four HAA5 LRAAs.  
10190
- 10191 8) A Subpart B system supplier that serves more than 5,000,000 persons  
10192 qualifies for reduced monitoring to a minimum of 10 dual sample sets  
10193 collected quarterly from the locations with the five highest TTHM and  
10194 five HAA5 LRAAs.  
10195
- 10196 9) A groundwater system supplier that serves fewer than 500 persons  
10197 qualifies for reduced monitoring to a minimum of one TTHM sample  
10198 collected triennially from the location and during the quarter with the  
10199 highest single TTHM measurement and one HAA5 sample collected  
10200 annually from the location and during the quarter with the highest single  
10201 HAA5 measurement, with the two samples collected as one dual sample  
10202 set if the highest TTHM and HAA5 measurements occurred at the same  
10203 location and during the same quarter.  
10204
- 10205 10) A groundwater system supplier that serves 500 to 9,999 persons qualifies  
10206 for reduced monitoring to a minimum of one TTHM sample collected  
10207 annually from the location and during the quarter with the highest single  
10208 TTHM measurement and one HAA5 sample collected annually from the  
10209 location and during the quarter with the highest single HAA5  
10210 measurement, with the two samples collected as one dual sample set if the  
10211 highest TTHM and HAA5 measurements occurred at the same location  
10212 and during the same quarter.  
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- 11) A groundwater system supplier that serves 10,000 to 99,999 persons qualifies for reduced monitoring to a minimum of one TTHM dual sample set collected annually from the location and during the quarter with the highest single TTHM measurement and one HAA5 dual sample set collected annually from the location and during the quarter with the highest single HAA5 measurement.
  - 12) A groundwater system supplier that serves 100,000 to 499,999 persons qualifies for reduced monitoring to a minimum of two dual sample sets collected quarterly from the locations with the highest TTHM and highest HAA5 LRAAs.
  - 13) A groundwater system supplier that serves more than 500,000 persons qualifies for reduced monitoring to a minimum of four dual sample sets collected quarterly from the two locations with the highest TTHM and two highest HAA5 LRAAs.
  - 14) A supplier on quarterly monitoring must take dual sample sets every 90 days.
- b) The supplier may remain on reduced monitoring as long as the TTHM LRAA does not exceed 0.040 mg/l and the HAA5 LRAA does not exceed 0.030 mg/l at each monitoring location (for a supplier with quarterly reduced monitoring) or each TTHM sample does not exceed 0.060 mg/l and each HAA5 sample does not exceed 0.045 mg/l (for a supplier with annual or less frequent monitoring). In addition, the source water annual average TOC level, before any treatment, must not exceed 4.0 mg/l at each treatment plant treating surface water or groundwater under the direct influence of surface water, based on monitoring conducted underpursuant to either Section 611.382(b)(1)(C) or (d).
  - c) If the LRAA based on quarterly monitoring at any monitoring location exceeds either 0.040 mg/l for TTHM or 0.030 mg/l for HAA5, if the annual (or less frequent) sample at any location exceeds either 0.060 mg/l for TTHM or 0.045 mg/l for HAA5, or if the source water annual average TOC level, before any treatment, exceeds 4.0 mg/l at any treatment plant treating surface water or groundwater under the direct influence of surface water, the supplier must resume routine monitoring underpursuant to Section 611.971 or begin increased monitoring if Section 611.975 applies.
  - d) The Agency may return a supplier to routine monitoring by a SEP-issued pursuant to Section 611.110.

BOARD NOTE: Derived from 40 CFR 141.623 (2016).

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

**Section 611.979 Reporting and Recordkeeping Requirements**

- a) Reporting.
  - 1) A supplier must report the following information to the Agency within 10 days after the end of any quarter in which monitoring is required for each monitoring location:
    - A) The number of samples taken during the last quarter;
    - B) The date and results of each sample taken during the last quarter;
    - C) The arithmetic average of quarterly results for the last four quarters for each monitoring location (LRAA), beginning at the end of the fourth calendar quarter that follows the compliance date and at the end of each subsequent quarter. If the LRAA calculated based on fewer than four quarters of data would cause the MCL to be exceeded regardless of the monitoring results of subsequent quarters, the supplier must report this information to the Agency as part of the first report due following the compliance date or anytime thereafter that this determination is made. If the supplier is required to conduct monitoring at a frequency that is less than quarterly, it must make compliance calculations beginning with the first compliance sample taken after the compliance date, unless the supplier is required to conduct increased monitoring pursuant to Section 611.975;
    - D) A statement whether, based on Section 611.312(b)(2) and this Subpart Y, the MCL was violated at any monitoring location; and
    - E) Any operational evaluation levels that were exceeded during the quarter and, if so, the location and date, and the calculated TTHM and HAA5 levels.
  - 2) If a supplier is a Subpart B system supplier that seeks to qualify for or remain on reduced TTHM and HAA5 monitoring, it must report the following source water TOC information for each treatment plant that treats surface water or groundwater under the direct influence of surface water to the Agency within 10 days after the end of any quarter in which monitoring is required:

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- A) The number of source water TOC samples taken each month during last quarter;
  - B) The date and result of each sample taken during last quarter;
  - C) The arithmetic average of monthly samples taken during the last quarter or the result of the quarterly sample;
  - D) The running annual average (RAA) of quarterly averages from the past four quarters; and
  - E) Whether the RAA exceeded 4.0 mg/ℓ.
- 3) The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, choose to perform calculations and determine whether the MCL was exceeded or the system is eligible for reduced monitoring in lieu of having the system report that information ~~underpursuant to this Section~~.
- b) Recordkeeping. A supplier must retain any Subpart Y monitoring plans and the supplier's Subpart Y monitoring results as required by Section 611.860.

BOARD NOTE: Derived from 40 CFR 141.629 (2006).

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

SUBPART Z: ENHANCED TREATMENT FOR CRYPTOSPORIDIUM

**Section 611.1001 Source Water Monitoring Requirements: Source Water Monitoring**

- a) Initial round of source water monitoring. A supplier must conduct the following monitoring on the schedule in subsection (c), unless it meets the monitoring exemption criteria in subsection (d).
  - 1) A filtered system supplier that serves 10,000 or more people must sample its source water for Cryptosporidium, E. coli, and turbidity at least monthly for 24 months.
  - 2) An unfiltered system supplier that serves 10,000 or more people must sample its source water for Cryptosporidium at least monthly for 24 months.
  - 3) Smaller system suppliers monitoring for E. coli.

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- A) A filtered system supplier that serves fewer than 10,000 people must sample its source water for E. coli at least once every two weeks for 12 months.
- B) A filtered system supplier that serves fewer than 10,000 people may avoid E. coli monitoring if the system notifies the Agency that it will monitor for Cryptosporidium as described in subsection (a)(4). The system must notify the Agency no later than three months prior to the date before which the system is otherwise required to start E. coli monitoring pursuant to Section 611.1001(c).
- 4) Smaller system suppliers monitoring for Cryptosporidium. A filtered system supplier that serves fewer than 10,000 people must sample its source water for Cryptosporidium at least twice per month for 12 months or at least monthly for 24 months if it meets any of the conditions set forth in subsections (a)(4)(A) through (a)(4)(C), subject to the limitations of subsection (a)(4)(D), based on monitoring conducted ~~underpursuant to~~ subsection (a)(3).
  - A) For a supplier that uses a lake or reservoir source, the annual mean E. coli concentration is greater than 10 E. coli/100 mL.
  - B) For a supplier that uses a flowing stream source, the annual mean E. coli concentration is greater than 50 E. coli/100 mL.
  - C) The supplier does not conduct E. coli monitoring as described in subsection (a)(3).
  - D) A supplier that uses groundwater under the direct influence of surface water must comply with the requirements of subsection (a)(4) based on the E. coli level that applies to the nearest surface water body. If no surface water body is nearby, the system must comply based on the requirements that apply to a supplier that uses a lake or reservoir source.
- 5) For a filtered system supplier that serves fewer than 10,000 people, the Agency may, by a SEP ~~issued pursuant to Section 611.110~~, approve monitoring for an indicator other than E. coli pursuant to subsection (a)(3). The Agency may also, by a SEP ~~issued pursuant to Section 611.110~~, approve an alternative to the E. coli concentration in subsection (a)(4)(A), (a)(4)(B), or (a)(4)(D) to trigger Cryptosporidium monitoring. This

10386 approval by the Agency must be provided to the supplier in writing, and it  
10387 must include the basis for the Agency's determination that the alternative  
10388 indicator or trigger level will provide a more accurate identification of  
10389 whether a system will exceed the Bin 1 Cryptosporidium level set forth in  
10390 Section 611.1010.

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10392 6) An unfiltered system supplier that serves fewer than 10,000 people must  
10393 sample its source water for Cryptosporidium at least twice per month for  
10394 12 months or at least monthly for 24 months.

10395  
10396 7) A supplier may sample more frequently than required by this Section if the  
10397 sampling frequency is evenly spaced throughout the monitoring period.  
10398

10399 b) Second round of source water monitoring. A supplier must conduct a second  
10400 round of source water monitoring that meets the requirements for monitoring  
10401 parameters, frequency, and duration described in subsection (a), unless it meets  
10402 the monitoring exemption criteria in subsection (d). The supplier must conduct  
10403 this monitoring on the schedule set forth in subsection (c).  
10404

10405 c) Monitoring schedule. A supplier must perform the monitoring required in  
10406 subsections (a) and (b), except that a supplier serving fewer than 10,000 persons  
10407 must begin ~~monitoring~~ ~~monitoring~~ no later than the month beginning with the  
10408 applicable date listed in subsections (c)(1) and (c)(2).  
10409

10410 1) A supplier that serves fewer than 10,000 persons, that is a filtered system  
10411 supplier, and which monitors for E. coli is required to begin the second  
10412 round of source water monitoring no later than the month beginning  
10413 October 1, 2017.  
10414

10415 2) A supplier that serves fewer than 10,000 persons, that is an unfiltered  
10416 system supplier, or that is a filtered system supplier which meets the  
10417 conditions of subsection (a)(4), and which monitors for Cryptosporidium,  
10418 is required to begin the second round of source water monitoring no later  
10419 than the month beginning April 1, 2019.  
10420

10421 BOARD NOTE: Implementation of the first round of monitoring for this Subpart  
10422 Z occurred in stages during October 1, 2006 through October 1, 2014, depending  
10423 on population served. Implementation of the second round of monitoring  
10424 occurred between April 15, 2015 and April 1, 2019. See 40 CFR 141.701(c).  
10425 Subsections (c)(1) and (c)(2) correspond with 40 CFR 141.701(c)(4) and (c)(5).  
10426 The Board removed the past implementation dates.  
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10428 d) Monitoring avoidance.

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- 1) A filtered system supplier is not required to conduct source water monitoring ~~underpursuant to~~ this Subpart Z if the system will provide a total of at least 5.5-log of treatment for Cryptosporidium, equivalent to meeting the treatment requirements of Bin 4 in Section 611.1011.
  - 2) An unfiltered system supplier is not required to conduct source water monitoring ~~underpursuant to~~ this Subpart Z if the system will provide a total of at least 3-log Cryptosporidium inactivation, equivalent to meeting the treatment requirements for an unfiltered system supplier with a mean Cryptosporidium concentration of greater than 0.01 oocysts/ℓ in Section 611.1012.
  - 3) If a supplier chooses to provide the level of treatment set forth in subsection (d)(1) or (d)(2), as applicable, rather than start source water monitoring, it must notify the Agency in writing no later than the date on which the system is otherwise required to submit a sampling schedule for monitoring ~~underpursuant to~~ Section 611.1002. Alternatively, a supplier may choose to stop sampling at any point after it has initiated monitoring if it notifies the Agency in writing that it will provide this level of treatment. The supplier must install and operate technologies to provide this level of treatment before the applicable treatment compliance date set forth in Section 611.1013.
- e) Plants operating only part of the year. A supplier that has a Subpart B plant that operates for only part of the year must conduct source water monitoring in accordance with this Subpart Z, but with the following modifications:
- 1) The supplier must sample its source water only during the months that the plant operates, unless the Agency, by a SEP-issued ~~pursuant to Section 611.110~~, specifies another monitoring period based on plant operating practices.
  - 2) A supplier with plants that operate less than six months per year and which monitors for Cryptosporidium must collect at least six Cryptosporidium samples per year during each of two years of monitoring. Samples must be evenly spaced throughout the period during which the plant operates.
- f) New sources and new systems.
- 1) New sources. A supplier that begins using a new source of surface water or groundwater under the direct influence of surface water after the

10472 supplier is required to begin monitoring ~~underpursuant to~~ subsection (c)  
 10473 must monitor the new source on a schedule that the Agency has approved  
 10474 by a SEP ~~issued pursuant to Section 611.110~~. Source water monitoring  
 10475 must meet the requirements of this Subpart Z. The supplier must also  
 10476 meet the bin classification and Cryptosporidium treatment requirements of  
 10477 Sections 611.1010 and 611.1011 or Section 611.1012, as applicable, for  
 10478 the new source on a schedule that the Agency has approved by a SEP  
 10479 issued pursuant to Section 611.110.

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 10481 2) The requirements of Section 611.1001(f) apply to a Subpart B system  
 10482 supplier that begins operation after the applicable monitoring start date set  
 10483 forth in subsection (c).

10484  
 10485 3) The supplier must begin a second round of source water monitoring no  
 10486 later than six years following initial bin classification ~~underpursuant to~~  
 10487 Section 611.1010 or determination of the mean Cryptosporidium level  
 10488 ~~underpursuant to~~ Section 611.1012.

10489  
 10490 g) Failure to collect any source water sample required under this Section in  
 10491 accordance with the sampling schedule, sampling location, analytical method,  
 10492 approved laboratory, and reporting requirements of Sections 611.1002 through  
 10493 611.1006 is a monitoring violation.

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 10495 h) Grandfathering monitoring data. A supplier may use (grandfather) monitoring  
 10496 data collected prior to the applicable monitoring start date in subsection (c) to  
 10497 meet the initial source water monitoring requirements in subsection (a).  
 10498 Grandfathered data may substitute for an equivalent number of months at the end  
 10499 of the monitoring period. All data submitted ~~underpursuant to~~ this subsection  
 10500 must meet the requirements set forth in Section 611.1007.

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 10502 BOARD NOTE: Derived from 40 CFR 141.701 (2016).

10503  
 10504 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

10505  
 10506 **Section 611.1002 Source Water Monitoring Requirements: Sampling Schedules**

10507  
 10508 a) A supplier required to conduct source water monitoring pursuant to Section  
 10509 611.1001 must submit a sampling schedule that specifies the calendar dates on  
 10510 which it will collect each required sample.

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 10512 1) The supplier must submit sampling schedules no later than three months  
 10513 prior to the applicable date listed in Section 611.1001(c) for each round of  
 10514 required monitoring.

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- 2) Submission of the sampling schedule to USEPA.
    - A) A supplier that serves 10,000 or more people must submit its sampling schedule for the initial round of source water monitoring ~~underpursuant to~~ Section 611.1001(a) to USEPA electronically at <https://intranet.epa.gov/lt2/>.
    - B) If a supplier is unable to submit the sampling schedule electronically, the supplier may use an alternative approach for submitting the sampling schedule that USEPA approves.
  - 3) A supplier that serves fewer than 10,000 people must submit to the Agency its sampling schedules for the initial round of source water monitoring Section 611.1001(a).
  - 4) A supplier must submit to the Agency sampling schedules for the second round of source water monitoring required by Section 611.1001(b).
  - 5) If USEPA or the Agency does not respond to a supplier regarding its sampling schedule, the supplier must sample at the reported schedule.
- b) A supplier must collect samples within two days before or two days after the dates indicated in its sampling schedule (i.e., within a five-day period around the schedule date) unless one of the conditions of subsection (b)(1) or (b)(2) applies.
- 1) If an extreme condition or situation exists that may pose danger to the sample collector, or one that cannot be avoided and which causes the supplier to be unable to sample in the scheduled five-day period, the supplier must sample as close to the scheduled date as is feasible, unless the Agency approves an alternative sampling date by a SEP ~~issued pursuant to Section 611.110~~. The supplier must submit an explanation for the delayed sampling date to the Agency concurrent with the shipment of the sample to the laboratory.
  - 2) Replacement samples.
    - A) If a supplier is unable to report a valid analytical result for a scheduled sampling date due to equipment failure; loss of or damage to the sample; failure to comply with the analytical method requirements, including the quality control requirements in Section 611.1004; or the failure of an approved laboratory to analyze the sample, then the supplier must collect a replacement sample.

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- B) The supplier must collect the replacement sample not later than 21 days after receiving information that an analytical result cannot be reported for the scheduled date, unless the supplier demonstrates that collecting a replacement sample within this time frame is not feasible or the Agency approves an alternative resampling date by a SEP issued pursuant to Section 611.110. The supplier must submit an explanation for the delayed sampling date to the Agency concurrent with the shipment of the sample to the laboratory.
- c) A supplier that fails to meet the criteria of subsection (b) for any source water sample required ~~underpursuant to~~ Section 611.1001 must revise its sampling schedule to add dates for collecting all missed samples. A supplier must submit the revised schedule to the Agency for approval prior to collecting the missed samples.

BOARD NOTE: Derived from 40 CFR 141.702 (2016).

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

**Section 611.1003 Source Water Monitoring Requirements: Sampling Locations**

- a) A supplier required to conduct source water monitoring pursuant to Section 611.1001 must collect samples for each plant that treats a surface water or groundwater under the direct influence of surface water source. Where multiple plants draw water from the same influent, such as the same pipe or intake, the Agency may, by a SEP issued pursuant to Section 611.110, approve one set of monitoring results to be used to satisfy the requirements of Section 611.1001 for all of the plants.
- b) Source water sampling.
  - 1) A supplier must collect source water samples prior to chemical treatment, such as coagulants, oxidants, and disinfectants, unless the supplier meets the condition of subsection (b)(2).
  - 2) The Agency may, by a SEP issued pursuant to Section 611.110, approve a supplier to collect a source water sample after chemical treatment. To grant this approval, the Agency must determine that collecting a sample prior to chemical treatment is not feasible for the supplier and that the chemical treatment is unlikely to have a significant adverse effect on the analysis of the sample.

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- c) A supplier that recycles filter backwash water must collect source water samples prior to the point of filter backwash water addition.
  - d) Bank filtration.
    - 1) A supplier that receives Cryptosporidium treatment credit for bank filtration ~~underpursuant to~~ Section 611.743(b) or Section 611.955(c)(1), as applicable, must collect source water samples in the surface water prior to bank filtration.
    - 2) A supplier that uses bank filtration as pretreatment to a filtration plant must collect source water samples from the well (i.e., after bank filtration). The use of bank filtration during monitoring must be consistent with routine operational practice. A supplier collecting samples after a bank filtration process may not receive treatment credit for the bank filtration ~~underpursuant to~~ Section 611.1017(c).
  - e) Multiple sources. A supplier with plants that use multiple water sources, including multiple surface water sources and blended surface water and groundwater sources, must collect samples as specified in subsection (e)(1) or (e)(2). The use of multiple sources during monitoring must be consistent with routine operational practice.
    - 1) If a sampling tap is available where the sources are combined prior to treatment, the supplier must collect samples from the tap.
    - 2) If a sampling tap where the sources are combined prior to treatment is not available, the supplier must collect samples at each source near the intake on the same day, and it must follow either of the following procedures for sample analysis:
      - A) The supplier may composite samples from each source into one sample prior to analysis. The volume of sample from each source must be weighted according to the proportion of the source in the total plant flow at the time the sample is collected; or
      - B) The supplier may analyze samples from each source separately and calculate a weighted average of the analysis results for each sampling date. The weighted average must be calculated by multiplying the analysis result for each source by the fraction the source contributed to total plant flow at the time the sample was collected and then summing these values.

- 10644 f) Additional Requirements. A supplier must submit a description of its sampling  
10645 locations to the Agency at the same time as the sampling schedule required  
10646 ~~underpursuant to~~ Section 611.1002. This description must address the position of  
10647 the sampling location in relation to the supplier's water sources and treatment  
10648 processes, including pretreatment, points of chemical treatment, and filter  
10649 backwash recycle. If the Agency does not respond to a supplier regarding  
10650 sampling locations, the supplier must sample at the reported locations.  
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10652 BOARD NOTE: Derived from 40 CFR 141.703 (2016).

10653 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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10656 **Section 611.1004 Source Water Monitoring Requirements: Analytical Methods**  
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- 10658 a) Cryptosporidium. A supplier must analyze for Cryptosporidium using USEPA  
10659 OGWDW Methods, Method 1623 (05), 1623.1, or 1622 (05), each incorporated  
10660 by reference in Section 611.102, or alternative methods approved by the Agency  
10661 ~~underpursuant to~~ Section 611.480.  
10662
- 10663 1) The supplier must analyze at least a 10 ℓ sample or a packed pellet volume  
10664 of at least 2 mℓ as generated by the methods listed in subsection (a). A  
10665 supplier unable to process a 10 ℓ sample must analyze as much sample  
10666 volume as can be filtered by two filters approved by USEPA for the  
10667 methods listed in subsection (a), up to a packed pellet volume of at least 2  
10668 mℓ.  
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- 10670 2) Matrix spike (MS) samples.  
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- 10672 A) MS samples, as required by the methods in subsection (a), must be  
10673 spiked and filtered by a laboratory approved for Cryptosporidium  
10674 analysis ~~underpursuant to~~ Section 611.1005.  
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- 10676 B) If the volume of the MS sample is greater than 10 ℓ, the supplier  
10677 may filter all but 10 ℓ of the MS sample in the field, and ship the  
10678 filtered sample and the remaining 10 ℓ of source water to the  
10679 laboratory. In this case, the laboratory must spike the remaining  
10680 10 ℓ of water and filter it through the filter used to collect the  
10681 balance of the sample in the field.  
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- 10683 3) Flow cytometer-counted spiking suspensions must be used for MS  
10684 samples and ongoing precision and recovery samples.  
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- b) E. coli. A supplier must use methods for enumeration of E. coli in source water approved in 40 CFR 136.3(a), incorporated by reference in Section 611.102, or alternative methods approved by the Agency ~~under~~pursuant to Section 611.480.
  - 1) The time from sample collection to initiation of analysis may not exceed 30 hours, unless the supplier meets the condition of subsection (b)(2).
  - 2) The Agency may, by a SEP-issued ~~pursuant to Section 611.110~~, approve on a case-by-case basis the holding of an E. coli sample for up to 48 hours between sample collection and initiation of analysis if it determines that analyzing an E. coli sample within 30 hours is not feasible. E. coli samples held between 30 to 48 hours must be analyzed by the Colilert® Test reagent version of Standard Methods, 18<sup>th</sup>, 19<sup>th</sup>, or 20<sup>th</sup> ed., Method 9223 B incorporated by reference in Section 611.102.
  - 3) A supplier must maintain the temperature of its samples between 0°C and 10°C during storage and transit to the laboratory.
  - 4) The supplier may use the membrane filtration, two-step procedure described in Standard Methods, 20<sup>th</sup> ed., Method 9222 D and G, incorporated by reference in Section 611.102.

BOARD NOTE: USEPA added Standard Methods, 20<sup>th</sup> ed., Method 9222 D and G on June 3, 2008 (at 73 Fed. Reg. 31616).

- c) Turbidity. A supplier must use methods for turbidity measurement approved in Section 611.531(a).

BOARD NOTE: Derived from 40 CFR 141.704 and appendix A to subpart C of 40 CFR 141 (2016).

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

**Section 611.1007 Source Water Monitoring Requirements: Grandfathering Previously Collected Data**

- a) Initial source monitoring and Cryptosporidium samples.
  - 1) A supplier may comply with the initial source water monitoring requirements of Section 611.1001(a) by grandfathering sample results collected before the supplier is required to begin monitoring (i.e., previously collected data). To be grandfathered, the sample results and

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analysis must meet the criteria in this Section and the Agency must approve the use of the data by a SEP-issued ~~pursuant to Section 611.110.~~

- 2) A filtered system supplier may grandfather Cryptosporidium samples to meet the requirements of Section 611.1001(a) when the supplier does not have corresponding E. coli and turbidity samples. A supplier that grandfathers Cryptosporidium samples without E. coli and turbidity samples is not required to collect E. coli and turbidity samples when it completes the requirements for Cryptosporidium monitoring underpursuant to Section 611.1001(a).
- b) E. coli sample analysis. The analysis of E. coli samples must meet the analytical method and approved laboratory requirements of Sections 611.1004 and 611.1005.
- c) Cryptosporidium sample analysis. The analysis of Cryptosporidium samples must meet the criteria in this subsection (c).
  - 1) Laboratories must analyze Cryptosporidium samples using one of the following analytical methods, incorporated by reference in Section 611.102, or alternative methods approved by the Agency underpursuant to Section 611.480:
    - A) USEPA OGWDW Methods, Method 1623 (05);
    - B) USEPA OGWDW Methods, Method 1622 (05);
    - C) USEPA OGWDW Methods, Method 1623 (01);
    - D) USEPA OGWDW Methods, Method 1622 (01);
    - E) USEPA OGWDW Methods, Method 1623 (99); or
    - F) USEPA OGWDW Methods, Method 1622 (99).
  - 2) For each Cryptosporidium sample, the laboratory analyzed at least 10 ℓ of sample or at least 2 ml of packed pellet or as much volume as could be filtered by two filters that USEPA approved for the methods listed in subsection (c)(1).
- d) Sampling location. The sampling location must meet the conditions in Section 611.1003.

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- e) Sampling frequency. Cryptosporidium samples were collected no less frequently than each calendar month on a regular schedule, beginning no earlier than January 1999. Sample collection intervals may vary for the conditions specified in Section 611.1002(b)(1) and (b)(2) if the supplier provides documentation of the condition when reporting monitoring results.
  - 1) The Agency may, by a SEP issued pursuant to Section 611.110, approve grandfathering of previously collected data where there are time gaps in the sampling frequency if the supplier conducts additional monitoring that the Agency has specified by a SEP issued pursuant to Section 611.110 to ensure that the data used to comply with the initial source water monitoring requirements of Section 611.1001(a) are seasonally representative and unbiased.
  - 2) A supplier may grandfather previously collected data where the sampling frequency within each month varied. If the Cryptosporidium sampling frequency varied, the supplier must follow the monthly averaging procedure in Section 611.1010(b)(5) or Section 611.1012(a)(3), as applicable, when calculating the bin classification for a filtered system supplier or the mean Cryptosporidium concentration for an unfiltered system supplier.
  
- f) Reporting monitoring results for grandfathering. A supplier that requests to grandfather previously collected monitoring results must report the following information by the applicable dates listed in this subsection. A supplier must report this information to the Agency.
  - 1) A supplier must report that it intends to submit previously collected monitoring results for grandfathering. This report must specify the number of previously collected results the supplier will submit, the dates of the first and last sample, and whether a supplier will conduct additional source water monitoring to meet the requirements of Section 611.1001(a). The supplier must report this information no later than the applicable date set forth in Section 611.1002.
  - 2) A supplier must report previously collected monitoring results for grandfathering, along with the associated documentation listed in subsections (f)(2)(A) through (f)(2)(D), no later than two months after the applicable date listed in Section 611.1001(c).
    - A) For each sample result, a supplier must report the applicable data elements in Section 611.1006.

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- B) A supplier must certify that the reported monitoring results include all results that it generated during the time period beginning with the first reported result and ending with the final reported result. This applies to samples that were collected from the sampling location specified for source water monitoring ~~underpursuant to~~ this Subpart Z, which were not spiked, and which were analyzed using the laboratory's routine process for the analytical methods listed in this Section.
  
- C) The supplier must certify that the samples were representative of a plant's source waters and the source waters have not changed. It must report a description of the sampling locations, which must address the position of the sampling location in relation to its water sources and treatment processes, including points of chemical addition and filter backwash recycle.
  
- D) For Cryptosporidium samples, the laboratory or laboratories that analyzed the samples must provide a letter certifying that the quality control criteria specified in the methods listed in subsection (c)(1) were met for each sample batch associated with the reported results. Alternatively, the laboratory may provide bench sheets and sample examination report forms for each field, matrix spike, initial precision and recovery, ongoing precision and recovery, and method blank sample associated with the reported results.
  
- g) If the Agency determines that a previously collected data set submitted for grandfathering was generated during source water conditions that were not normal for the supplier, such as a drought, the Agency may, by a SEP ~~issued pursuant to Section 611.110~~, disapprove the data. Alternatively, the Agency may, by a SEP ~~issued pursuant to Section 611.110~~, approve the previously collected data if the supplier reports additional source water monitoring data, as determined by the Agency, to ensure that the data set used ~~underpursuant to~~ Section 611.1010 or Section 611.1012 represents average source water conditions for the supplier.
  
- h) If a supplier submits previously collected data that fully meet the number of samples required for initial source water monitoring ~~underpursuant to~~ Section 611.1001(a), and some of the data are rejected due to not meeting the requirements of this Section, the supplier must conduct additional monitoring to replace rejected data on a schedule that the Agency has approved by a SEP ~~issued pursuant to Section 611.110~~. A supplier is not required to begin this additional monitoring until two months after notification that data have been rejected and additional monitoring is necessary.

10857 BOARD NOTE: Derived from 40 CFR 141.707 (2016).

10858

10859 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

10860

10861 **Section 611.1008 Disinfection Profiling and Benchmarking Requirements: Requirements**  
10862 **When Making a Significant Change in Disinfection Practice**

10863

10864 a) Following the completion of initial source water monitoring ~~underpursuant to~~  
10865 Section 611.1001(a), a supplier that plans to make a significant change to its  
10866 disinfection practice, as defined in subsection (b), must develop disinfection  
10867 profiles and calculate disinfection benchmarks for Giardia lamblia and viruses, as  
10868 described in Section 611.1009. Prior to changing the disinfection practice, the  
10869 supplier must notify the Agency, and it must include in this notice the following  
10870 information:

10871

10872 1) A completed disinfection profile and disinfection benchmark for Giardia  
10873 lamblia and viruses, as described in Section 611.1009;

10874

10875 2) A description of the proposed change in disinfection practice; and

10876

10877 3) An analysis of how the proposed change will affect the current level of  
10878 disinfection.

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10880 b) Significant changes to disinfection practice are defined as any of the following:

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10882 1) Changes to the point of disinfection;

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10884 2) Changes to the disinfectants used in the treatment plant;

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10886 3) Changes to the disinfection process; or

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10888 4) Any other modification identified by the Agency, by a SEP ~~issued~~  
10889 ~~pursuant to Section 611.110~~, as a significant change to disinfection  
10890 practice.

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10892 BOARD NOTE: Derived from 40 CFR 141.708 (2016).

10893

10894 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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10896 **Section 611.1009 Disinfection Profiling and Benchmarking Requirements: Developing the**  
10897 **Disinfection Profile and Benchmark**

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- a) A supplier required to develop disinfection profiles ~~underpursuant to~~ Section 611.1008 must follow the requirements of this Section. The supplier must monitor at least weekly for a period of 12 consecutive months to determine the total log inactivation for *Giardia lamblia* and viruses. If the supplier monitors more frequently than weekly, the monitoring frequency must be evenly spaced. A supplier that operates for fewer than 12 months per year must monitor weekly during the period of operation. A supplier must determine log inactivation for *Giardia lamblia* through the entire plant, based on the applicable CT<sub>99.9</sub> values in Appendix B. A supplier must determine log inactivation for viruses through the entire treatment plant based on a protocol approved by the Agency by a SEP issued pursuant to Section 611.110.
  - b) A supplier with a single point of disinfectant application prior to the entrance to the distribution system must conduct the monitoring in subsections (b)(1) through (b)(4). A supplier with more than one point of disinfectant application must conduct the monitoring in subsections (b)(1) through (b)(4) for each disinfection segment. A supplier must monitor the parameters necessary to determine the total inactivation ratio, using analytical methods in Section 611.531.
    - 1) For a supplier using a disinfectant other than UV, the temperature of the disinfected water must be measured at each residual disinfectant concentration sampling point during peak hourly flow or at an alternative location approved by the Agency by a SEP issued pursuant to Section 611.110.
    - 2) For a supplier using chlorine, the pH of the disinfected water must be measured at each chlorine residual disinfectant concentration sampling point during peak hourly flow or at an alternative location approved by the Agency by a SEP issued pursuant to Section 611.110.
    - 3) The disinfectant contact times (t) must be determined during peak hourly flow.
    - 4) The residual disinfectant concentrations (C) of the water before or at the first customer and prior to each additional point of disinfectant application must be measured during peak hourly flow.
  - c) In lieu of conducting new monitoring ~~underpursuant to~~ subsection (b), a supplier may elect to meet the following requirements:
    - 1) A supplier that has at least one year of existing data that are substantially equivalent to data collected ~~underpursuant to~~ the provisions of subsection (b) may use these data to develop disinfection profiles as specified in this

- 10942 Section if the supplier has neither made a significant change to its  
 10943 treatment practice nor changed sources since the data were collected. The  
 10944 supplier may develop disinfection profiles using up to three years of  
 10945 existing data.  
 10946
- 10947 2) A supplier may use disinfection profiles developed ~~underpursuant to~~  
 10948 Section 611.742 or Section 611.953 in lieu of developing a new profile if  
 10949 the supplier has neither made a significant change to its treatment practice  
 10950 nor changed sources since the profile was developed. A supplier that has  
 10951 not developed a virus profile ~~underpursuant to~~ Section 611.742 or Section  
 10952 611.953 must develop a virus profile using the same monitoring data on  
 10953 which the Giardia lamblia profile is based.  
 10954
- 10955 d) A supplier must calculate the total inactivation ratio for Giardia lamblia, as  
 10956 specified in subsections (d)(1) through (d)(3).  
 10957
- 10958 1) A supplier using only one point of disinfectant application may determine  
 10959 the total inactivation ratio for the disinfection segment based on either of  
 10960 the following methods:  
 10961
- 10962 A) It may determine one inactivation ratio ( $A_i$ ) before or at the first  
 10963 customer during peak hourly flow; or  
 10964
- 10965 B) It may determine successive  $A_i$  values, representing sequential  
 10966 inactivation ratios, between the point of disinfectant application  
 10967 and a point before or at the first customer during peak hourly flow.  
 10968 The supplier must calculate the total inactivation ratio by  
 10969 determining  $A_i$  for each sequence and then adding the  $A_i$  values  
 10970 together to determine the total inactivation ratio ( $\Sigma A_i$ ).  
 10971
- 10972 2) A supplier using more than one point of disinfectant application before the  
 10973 first customer must determine the CT value of each disinfection segment  
 10974 immediately prior to the next point of disinfectant application, or for the  
 10975 final segment, before or at the first customer, during peak hourly flow.  
 10976 The  $A_i$  value of each segment and  $\Sigma A_i$  must be calculated using the  
 10977 method in subsection (d)(1)(B).  
 10978
- 10979 3) The supplier must determine the total logs of inactivation by multiplying  
 10980 the value calculated in subsection (d)(1) or (d)(2) by 3.0.  
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- 10982 4) The supplier must calculate the log of inactivation for viruses using a  
 10983 protocol approved by the Agency by regulation or by a SEP issued  
 10984 pursuant to Section 611.110.

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- e) A supplier must use the following procedures to calculate a disinfection benchmark:
  - 1) For each year of profiling data collected and calculated ~~underpursuant to~~ subsections (a) through (d), the supplier must determine the lowest mean monthly level of both Giardia lamblia and virus inactivation. A supplier must determine the mean Giardia lamblia and virus inactivation for each calendar month for each year of profiling data by dividing the sum of daily or weekly Giardia lamblia and virus log inactivation by the number of values calculated for that month.
  - 2) The disinfection benchmark is the lowest monthly mean value (for a supplier with one year of profiling data) or the mean of the lowest monthly mean values (for a supplier with more than one year of profiling data) of Giardia lamblia and virus log inactivation in each year of profiling data.

BOARD NOTE: Derived from 40 CFR 141.709 (2016).

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

**Section 611.1011 Treatment Technique Requirements: Filtered System Additional Cryptosporidium Treatment Requirements**

- a) A filtered system supplier must provide the level of additional treatment for Cryptosporidium specified in subsections (a)(1) through (a)(4) based on its bin classification, as determined ~~underpursuant to~~ Section 611.1010, and according to the applicable schedule set forth in Section 611.1013.
  - 1) If the supplier's bin classification is Bin 1, and the supplier uses conventional filtration treatment (including softening) in full compliance with the applicable provisions of Subparts B, R, and X ~~of this Part~~, no additional treatment is required.
  - 2) If the supplier's bin classification is Bin 2, and the supplier uses conventional filtration treatment (including softening) in full compliance with the applicable provisions of Subparts B, R, and X ~~of this Part~~, then the additional Cryptosporidium treatment requirements are a 1-log treatment.
  - 3) If the supplier's bin classification is Bin 2, and the supplier uses direct filtration in full compliance with the applicable provisions of Subparts B,

- 11027 R, and X ~~of this Part~~, then the additional Cryptosporidium treatment  
 11028 requirements are a 1.5-log treatment.  
 11029
- 11030 4) If the supplier's bin classification is Bin 2, and the supplier uses slow sand  
 11031 or diatomaceous earth filtration in full compliance with the applicable  
 11032 provisions of Subparts B, R, and X ~~of this Part~~, then the additional  
 11033 Cryptosporidium treatment requirements are a 1-log treatment.  
 11034
- 11035 5) If the supplier's bin classification is Bin 2, and the supplier uses alternative  
 11036 filtration technologies in full compliance with the applicable provisions of  
 11037 Subparts B, R, and X ~~of this Part~~, then the additional Cryptosporidium  
 11038 treatment requirements are as determined by the Agency, by a SEP ~~issued~~  
 11039 ~~pursuant to Section 611.110~~, such that the total Cryptosporidium removal  
 11040 and inactivation is at least 4.0-log.  
 11041
- 11042 6) If the supplier's bin classification is Bin 3, and the supplier uses  
 11043 conventional filtration treatment (including softening) in full compliance  
 11044 with the applicable provisions of Subparts B, R, and X ~~of this Part~~, then  
 11045 the additional Cryptosporidium treatment requirements are a 2-log  
 11046 treatment.  
 11047
- 11048 7) If the supplier's bin classification is Bin 3, and the supplier uses direct  
 11049 filtration in full compliance with the applicable provisions of Subparts B,  
 11050 R, and X ~~of this Part~~, then the additional Cryptosporidium treatment  
 11051 requirements are a 2.5-log treatment.  
 11052
- 11053 8) If the supplier's bin classification is Bin 3, and the supplier uses slow sand  
 11054 or diatomaceous earth filtration in full compliance with the applicable  
 11055 provisions of Subparts B, R, and X ~~of this Part~~, then the additional  
 11056 Cryptosporidium treatment requirements are a 2-log treatment.  
 11057
- 11058 9) If the supplier's bin classification is Bin 3, and the supplier uses alternative  
 11059 filtration technologies in full compliance with the applicable provisions of  
 11060 Subparts B, R, and X ~~of this Part~~, then the additional Cryptosporidium  
 11061 treatment requirements are as determined by the Agency, by a SEP ~~issued~~  
 11062 ~~pursuant to Section 611.110~~, such that the total Cryptosporidium removal  
 11063 and inactivation is at least 5.0-log.  
 11064
- 11065 10) If the supplier's bin classification is Bin 4, and the supplier uses  
 11066 conventional filtration treatment (including softening) in full compliance  
 11067 with the applicable provisions of Subparts B, R, and X ~~of this Part~~, then  
 11068 the additional Cryptosporidium treatment requirements are a 2.5-log  
 11069 treatment.

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- 11) If the supplier's bin classification is Bin 4, and the supplier uses direct filtration in full compliance with the applicable provisions of Subparts B, R, and X ~~of this Part~~, then the additional Cryptosporidium treatment requirements are a 3-log treatment.
  - 12) If the supplier's bin classification is Bin 4, and the supplier uses slow sand or diatomaceous earth filtration in full compliance with the applicable provisions of Subparts B, R, and X ~~of this Part~~, then the additional Cryptosporidium treatment requirements are a 2.5-log treatment.
  - 13) If the supplier's bin classification is Bin 4, and the supplier uses alternative filtration technologies in full compliance with the applicable provisions of Subparts B, R, and X ~~of this Part~~, then the additional Cryptosporidium treatment requirements are as determined by the Agency, by a SEP ~~issued pursuant to Section 611.110~~, such that the total Cryptosporidium removal and inactivation is at least 5.5-log.
- b) Required treatment.
- 1) A filtered system supplier must use one or more of the treatment and management options listed in Section 611.1015, termed the microbial toolbox, to comply with the additional Cryptosporidium treatment required in subsection (a).
  - 2) A supplier classified in Bin 3 or Bin 4 must achieve at least 1-log of the additional Cryptosporidium treatment required ~~under~~ pursuant to subsection (a) using either one or a combination of the following: bag filters, bank filtration, cartridge filters, chlorine dioxide, membranes, ozone, or UV, as described in Sections 611.1016 through 611.1020.
- c) A failure by a supplier in any month to achieve treatment credit by meeting criteria in Sections 611.1016 through 611.1020 for microbial toolbox options that is at least equal to the level of treatment required in subsection (a) is a violation of the treatment technique requirement.
- d) If the Agency determines, by a SEP ~~issued pursuant to Section 611.110~~, during a sanitary survey or an equivalent source water assessment that after a supplier completed the monitoring conducted ~~under~~ pursuant to Section 611.1001(a) or 611.1001(b), significant changes occurred in the supplier's watershed that could lead to increased contamination of the source water by Cryptosporidium, the supplier must take actions specified by the Agency in the SEP to address the

11112 contamination. These actions may include additional source water monitoring or  
11113 implementing microbial toolbox options listed in Section 611.1015.

11114  
11115 BOARD NOTE: Derived from 40 CFR 141.711 (2016).

11116  
11117 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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11119 **Section 611.1013 Treatment Technique Requirements: Schedule for Compliance with**  
11120 **Cryptosporidium Treatment Requirements**

- 11121
- 11122 a) Following initial bin classification ~~underpursuant to~~ Section 611.1010(c), a  
11123 filtered system supplier must provide the level of treatment for Cryptosporidium  
11124 required by Section 611.1011 according to the applicable schedule set forth in  
11125 subsection (c).
  - 11126
  - 11127 b) Following initial determination of the mean Cryptosporidium level ~~underpursuant~~  
11128 ~~to~~ Section 611.1012(a)(1), an unfiltered system supplier must provide the level of  
11129 treatment for Cryptosporidium required by Section 611.1012 according to the  
11130 applicable schedule set forth in subsection (c).
  - 11131
  - 11132 c) Cryptosporidium treatment compliance dates.
  - 11133
  - 11134 1) A supplier that serves 100,000 or more persons is required to have  
11135 complied with Cryptosporidium treatment requirements before April 1,  
11136 2012.
  - 11137
  - 11138 2) A supplier that serves 50,000 to 99,999 persons is required to have  
11139 complied with Cryptosporidium treatment requirements before October 1,  
11140 2012.
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  - 11142 3) A supplier that serves 10,000 to 49,999 persons must comply with  
11143 Cryptosporidium treatment requirements before October 1, 2013.
  - 11144
  - 11145 4) A supplier that serves fewer than 10,000 persons must comply with  
11146 Cryptosporidium treatment requirements before October 1, 2014.
  - 11147
  - 11148 5) The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, allow up  
11149 to an additional two years from the applicable date set forth in this  
11150 subsection (c) for complying with the treatment requirement if it  
11151 determines that the additional time is necessary for the supplier to make  
11152 capital improvements to implement the treatment.
  - 11153

- 11154 d) If the bin classification for a filtered system supplier changes following the  
11155 second round of source water monitoring, as determined ~~underpursuant to~~ Section  
11156 611.1010(d), the supplier must provide the level of treatment for Cryptosporidium  
11157 required by Section 611.1011 on a schedule approved by the Agency by a SEP  
11158 ~~issued pursuant to Section 611.110.~~  
11159
- 11160 e) If the mean Cryptosporidium level for an unfiltered system supplier changes  
11161 following the second round of monitoring, as determined ~~underpursuant to~~  
11162 Section 611.1012(a)(2), and if the supplier must provide a different level of  
11163 Cryptosporidium treatment ~~underpursuant to~~ Section 611.1012 due to this change,  
11164 the supplier must meet this treatment requirement on a schedule approved by the  
11165 Agency by a SEP ~~issued pursuant to Section 611.110.~~  
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11167 BOARD NOTE: Derived from 40 CFR 141.713 (2016).

11168 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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11171 **Section 611.1016 Requirements for Microbial Toolbox Components: Source Toolbox**  
11172 **Components**  
11173

- 11174 a) Watershed control program. A supplier receives 0.5-log Cryptosporidium  
11175 treatment credit for implementing a watershed control program that meets the  
11176 requirements of this Section.  
11177
- 11178 1) A supplier that intends to apply for the watershed control program credit  
11179 must notify the Agency of its intent no later than two years prior to the  
11180 treatment compliance date applicable to the supplier in Section 611.1013.  
11181
- 11182 2) A supplier must submit to the Agency a proposed watershed control plan  
11183 no later than one year before the applicable treatment compliance date in  
11184 Section 611.1013. The Agency must approve the watershed control plan  
11185 for the supplier to receive watershed control program treatment credit.  
11186 The watershed control plan must include the following elements:  
11187
- 11188 A) Identification of an "area of influence" outside of which the  
11189 likelihood of Cryptosporidium or fecal contamination affecting the  
11190 treatment plant intake is not significant. This is the area to be  
11191 evaluated in future watershed surveys ~~underpursuant to~~ subsection  
11192 (a)(5)(B);  
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- 11194 B) Identification of both potential and actual sources of  
11195 Cryptosporidium contamination and an assessment of the relative  
11196 impact of these sources on the supplier's source water quality;

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- C) An analysis of the effectiveness and feasibility of control measures that could reduce Cryptosporidium loading from sources of contamination to the supplier's source water; and
  - D) A statement of goals and specific actions the supplier will undertake to reduce source water Cryptosporidium levels. The plan must explain how the actions are expected to contribute to specific goals, identify watershed partners and their roles, identify resource requirements and commitments, and include a schedule for plan implementation with deadlines for completing specific actions identified in the plan.
- 3) A supplier with an existing watershed control program (i.e., a program in place on January 5, 2006) is eligible to seek this credit. Its watershed control plans must meet the criteria in subsection (a)(2) and must specify ongoing and future actions that will reduce source water Cryptosporidium levels.
- 4) If the Agency does not respond to a supplier regarding approval of a watershed control plan submitted ~~underpursuant to~~ this Section and the supplier meets the other requirements of this Section, the watershed control program will be considered approved and 0.5 log Cryptosporidium treatment credit will be awarded, unless and until the Agency subsequently withdraws such approval by a SEP ~~issued pursuant to Section 611.110.~~
- 5) A supplier must complete each of the following actions to maintain the 0.5-log credit.
- A) It must submit an annual watershed control program status report to the Agency. The annual watershed control program status report must describe the supplier's implementation of the approved plan and assess the adequacy of the plan to meet its goals. The report must explain how the supplier is addressing any shortcomings in plan implementation, including those previously identified by the Agency or as the result of the watershed survey conducted ~~underpursuant to~~ subsection (a)(5)(B). The report must also describe any significant changes that have occurred in the watershed since the last watershed sanitary survey. If a supplier determines during implementation that making a significant change to its approved watershed control program is necessary, the supplier must notify the Agency prior to making any such changes.

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If any change is likely to reduce the level of source water protection, the supplier must also list in its notification the actions the supplier will take to mitigate this effect;

B) The supplier must undergo a watershed sanitary survey every three years for a CWS supplier and every five years for a non-CWS supplier and submit the survey report to the Agency. The survey must be conducted according to Agency guidelines and by persons that the Agency approves.

i) The watershed sanitary survey must meet the following criteria: it must encompass the region identified in the Agency-approved watershed control plan as the area of influence; assess the implementation of actions to reduce source water *Cryptosporidium* levels; and identify any significant new sources of *Cryptosporidium*.

ii) If the Agency determines that significant changes may have occurred in the watershed since the previous watershed sanitary survey, the supplier must undergo another watershed sanitary survey before a date the Agency requires by a SEP issued pursuant to Section 611.110, which may be earlier than the regular date in subsection (a)(5)(B); and

C) The supplier must make the watershed control plan, annual status reports, and watershed sanitary survey reports available to the public upon request. These documents must be in a plain language style and include criteria by which to evaluate the success of the program in achieving plan goals. The Agency may, by a SEP issued pursuant to Section 611.110, approve that a supplier withhold from the public portions of the annual status report, watershed control plan, and watershed sanitary survey based on water supply security considerations.

6) If the Agency determines that a supplier is not carrying out the approved watershed control plan, the Agency may, by a SEP issued pursuant to Section 611.110, withdraw the watershed control program treatment credit.

b) Alternative source.

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- 1) A supplier may conduct source water monitoring that reflects a different intake location (either in the same source or for an alternate source) or a different procedure for the timing or level of withdrawal from the source (alternative source monitoring). If the Agency approves by a SEP-issued pursuant to Section 611.110, a supplier may determine its bin classification ~~underpursuant to~~ Section 611.1010 based on the alternative source monitoring results.
- 2) If a supplier conducts alternative source monitoring ~~underpursuant to~~ subsection (b)(1), it must also monitor their current plant intake concurrently as described in Section 611.1001.
- 3) Alternative source monitoring ~~underpursuant to~~ subsection (b)(1) must meet the requirements for source monitoring to determine bin classification, as described in Sections 611.1001 through 611.1006. A supplier must report the alternative source monitoring results to the Agency, along with supporting information documenting the operating conditions under which the samples were collected.
- 4) If a supplier determines its bin classification ~~underpursuant to~~ Section 611.1010 using alternative source monitoring results that reflect a different intake location or a different procedure for managing the timing or level of withdrawal from the source, the supplier must relocate the intake or permanently adopt the withdrawal procedure, as applicable, no later than the applicable treatment compliance date in Section 611.1013.

BOARD NOTE: Derived from 40 CFR 141.716 (2016).

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

**Section 611.1017 Requirements for Microbial Toolbox Components: Pre-Filtration Treatment Toolbox Components**

- a) Presedimentation. A supplier receives 0.5-log Cryptosporidium treatment credit for a presedimentation basin during any month the process meets the criteria in this subsection (a).
  - 1) The presedimentation basin must be in continuous operation and must treat the entire plant flow taken from a surface water or groundwater under the direct influent of surface water source.
  - 2) The supplier must continuously add a coagulant to the presedimentation basin.

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- 3) The presedimentation basin must achieve both of the following performance criteria:
  - A) It demonstrates at least 0.5-log mean reduction of influent turbidity. This reduction must be determined using daily turbidity measurements in the presedimentation process influent and effluent, and it must be calculated as follows:  $\log_{10}$  (monthly mean of daily influent turbidity) -  $\log_{10}$  (monthly mean of daily effluent turbidity); and
  - B) It complies with Agency-approved performance criteria that demonstrate at least 0.5-log mean removal of micronized particulate material through the presedimentation process.
- b) Two-stage lime softening. A supplier receives an additional 0.5-log Cryptosporidium treatment credit for a two-stage lime softening plant if chemical addition and hardness precipitation occur in two separate and sequential softening stages prior to filtration. Both softening stages must treat the entire plant flow taken from a surface water or groundwater under the direct influent of surface water source.
- c) Bank filtration. A supplier receives Cryptosporidium treatment credit for bank filtration that serves as pretreatment to a filtration plant by meeting the criteria in this subsection (c). A supplier using bank filtration when it begins source water monitoring ~~underpursuant to~~ Section 611.1001(a) must collect samples as described in Section 611.1003(d), and it is not eligible for this credit.
  - 1) A well with a groundwater flow path of at least 25 feet receives 0.5-log treatment credit, or a well with a groundwater flow path of at least 50 feet receives 1.0-log treatment credit. The groundwater flow path must be determined as specified in subsection (c)(4).
  - 2) Only a well in granular aquifers is eligible for treatment credit. A granular aquifer is one comprised of sand, clay, silt, rock fragments, pebbles or larger particles, and minor cement. A supplier must characterize the aquifer at the well site to determine aquifer properties. A supplier must extract a core from the aquifer and demonstrate that in at least 90 percent of the core length, grains less than 1.0 mm in diameter constitute at least 10 percent of the core material.
  - 3) Only a horizontal or vertical well is eligible for treatment credit.

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- 4) For a vertical well, the groundwater flow path is the measured distance from the edge of the surface water body under high flow conditions (determined by the 100 year floodplain elevation boundary or by the floodway, as defined in Federal Emergency Management Agency flood hazard maps) to the well screen. For a horizontal well, the groundwater flow path is the measured distance from the bed of the river under normal flow conditions to the closest horizontal well lateral screen.
  - 5) The supplier must monitor each wellhead for turbidity at least once every four hours while the bank filtration process is in operation. If monthly average turbidity levels, based on daily maximum values in the well, exceed 1 NTU, the supplier must report this result to the Agency and conduct an assessment within 30 days to determine the cause of the high turbidity levels in the well. If the Agency determines that microbial removal has been compromised, it may, by a SEP ~~issued pursuant to Section 611.110~~, revoke treatment credit until the supplier implements corrective actions approved by the Agency to remediate the problem.
  - 6) Springs and infiltration galleries are not eligible for treatment credit ~~underpursuant to~~ this Section, but are eligible for credit underpursuant to Section 611.1018(c).
  - 7) Bank filtration demonstration of performance. The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, approve Cryptosporidium treatment credit for bank filtration based on a demonstration of performance study that meets the criteria in this subsection. This treatment credit may be greater than 1.0-log and may be awarded to bank filtration that does not meet the criteria in subsections (c)(1) through (c)(5).
    - A) The study must follow an Agency-approved protocol and must involve the collection of data on the removal of Cryptosporidium or a surrogate for Cryptosporidium and related hydrogeologic and water quality parameters during the full range of operating conditions.
    - B) The study must include sampling both from the production wells and from monitoring wells that are screened and located along the shortest flow path between the surface water source and the production wells.

11409 BOARD NOTE: Derived from 40 CFR 141.717 (2016).  
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11411 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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11413 **Section 611.1018 Requirements for Microbial Toolbox Components: Treatment**  
 11414 **Performance Toolbox Components**  
 11415

11416 a) Combined filter performance. A supplier that uses conventional filtration  
 11417 treatment or direct filtration treatment receives an additional 0.5-log  
 11418 Cryptosporidium treatment credit during any month it meets the criteria in this  
 11419 subsection (a). Its combined filter effluent (CFE) turbidity must be less than or  
 11420 equal to 0.15 NTU in at least 95 percent of the measurements. Turbidity must be  
 11421 measured as described in Sections 611.531 and 611.533.  
 11422

11423 b) Individual filter performance. A supplier that uses conventional filtration  
 11424 treatment or direct filtration treatment receives 0.5-log Cryptosporidium treatment  
 11425 credit, which can be in addition to the 0.5-log credit ~~underpursuant to~~ subsection  
 11426 (a), during any month it meets the criteria in this subsection (b). Compliance with  
 11427 these criteria must be based on individual filter turbidity monitoring as described  
 11428 in Section 611.744 or 611.956(a), as applicable.  
 11429

11430 1) The filtered water turbidity for each individual filter must be less than or  
 11431 equal to 0.15 NTU in at least 95 percent of the measurements recorded  
 11432 each month.  
 11433

11434 2) No individual filter may have a measured turbidity greater than 0.3 NTU  
 11435 in two consecutive measurements taken 15 minutes apart.  
 11436

11437 3) Any supplier that has received treatment credit for individual filter  
 11438 performance and fails to meet the requirements of subsection (b)(1) or  
 11439 (b)(2) during any month does not receive a treatment technique violation  
 11440 ~~underpursuant to~~ Section 611.1011(c) if the Agency determines the  
 11441 following:  
 11442

11443 A) The failure was due to unusual and short-term circumstances that  
 11444 could not reasonably be prevented through optimizing treatment  
 11445 plant design, operation, and maintenance; and  
 11446

11447 B) The supplier has experienced no more than two such failures in  
 11448 any calendar year.  
 11449

11450 c) Demonstration of performance. The Agency may, by a SEP ~~issued pursuant to~~  
 11451 ~~Section 611.110~~, approve Cryptosporidium treatment credit for drinking water  
 11452 treatment processes based on a demonstration of performance study that meets the  
 11453 criteria in this subsection (c). This treatment credit may be greater than or less

11454 than the prescribed treatment credits in Section 611.1011 or Sections 611.1017  
11455 through 611.1020 and may be awarded to treatment processes that do not meet the  
11456 criteria for the prescribed credits.

- 11457
- 11458 1) The supplier cannot receive the prescribed treatment credit for any toolbox  
11459 option in Sections 611.1017 through 611.1020 if that toolbox option is  
11460 included in a demonstration of performance study for which treatment  
11461 credit is awarded ~~underpursuant to~~ this subsection (b).
  - 11462
  - 11463 2) The demonstration of performance study must follow an Agency-approved  
11464 protocol and must demonstrate the level of Cryptosporidium reduction the  
11465 treatment process will achieve under the full range of expected operating  
11466 conditions for the supplier.
  - 11467
  - 11468 3) Approval by the Agency must be in writing and may include monitoring  
11469 and treatment performance criteria that the supplier must demonstrate and  
11470 report on an ongoing basis to remain eligible for the treatment credit. The  
11471 Agency may, by a SEP ~~issued pursuant to Section 611.110~~, designate such  
11472 criteria where necessary to verify that the conditions under which the  
11473 demonstration of performance credit was approved are maintained during  
11474 routine operation.
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11476 BOARD NOTE: Derived from 40 CFR 141.718 (2016).

11477  
11478 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

11479  
11480 **Section 611.1019 Requirements for Microbial Toolbox Components: Additional Filtration**  
11481 **Toolbox Components**

- 11482
- 11483 a) Bag and cartridge filters. A supplier receives Cryptosporidium treatment credit of  
11484 up to 2.0-log for individual bag or cartridge filters and up to 2.5-log for bag or  
11485 cartridge filters operated in series by meeting the criteria set forth in subsections  
11486 (a)(1) through (a)(10). To be eligible for this credit, the supplier must report the  
11487 results of challenge testing that meets the requirements of subsections (a)(2)  
11488 through (a)(9) to the Agency. The filters must treat the entire plant flow taken  
11489 from a Subpart B source.
  - 11490
  - 11491 1) The Cryptosporidium treatment credit awarded to bag or cartridge filters  
11492 must be based on the removal efficiency demonstrated during challenge  
11493 testing that is conducted according to the criteria set forth in subsections  
11494 (a)(2) through (a)(9). A factor of safety equal to 1-log for individual bag  
11495 or cartridge filters and 0.5-log for bag or cartridge filters in series must be  
11496 applied to challenge testing results to determine removal credit. A

11497 supplier may use results from challenge testing conducted prior to January  
 11498 5, 2006 if the prior testing was consistent with the criteria specified in  
 11499 subsections (a)(2) through (a)(9).  
 11500

11501 2) Challenge testing must be performed on full-scale bag or cartridge filters,  
 11502 and the associated filter housing or pressure vessel, that are identical in  
 11503 material and construction to the filters and housings the supplier will use  
 11504 for removal of Cryptosporidium. Bag or cartridge filters must be  
 11505 challenge tested in the same configuration that the supplier will use, either  
 11506 as individual filters or as a series configuration of filters.  
 11507

11508 3) Challenge testing must be conducted using Cryptosporidium or a surrogate  
 11509 that is removed no more efficiently than Cryptosporidium. The  
 11510 microorganism or surrogate used during challenge testing is referred to as  
 11511 the challenge particulate. The concentration of the challenge particulate  
 11512 must be determined using a method capable of discreetly quantifying the  
 11513 specific microorganism or surrogate used in the test; gross measurements  
 11514 such as turbidity may not be used.  
 11515

11516 4) The maximum feed water concentration that can be used during a  
 11517 challenge test must be based on the detection limit of the challenge  
 11518 particulate in the filtrate (i.e., filtrate detection limit) and must be  
 11519 calculated using the following equation:  
 11520

$$11521 \text{Maximum Feed Concentration} = 1 \times 10^4 \times (\text{Filtrate Detection Limit})$$

11522  
 11523 5) Challenge testing must be conducted at the maximum design flow rate for  
 11524 the filter as specified by the manufacturer.  
 11525

11526 6) Each filter evaluated must be tested for a duration sufficient to reach 100  
 11527 percent of the terminal pressure drop, which establishes the maximum  
 11528 pressure drop under which the filter may be used to comply with the  
 11529 requirements of this Subpart Z.  
 11530

11531 7) Removal efficiency of a filter must be determined from the results of the  
 11532 challenge test and expressed in terms of log removal values using the  
 11533 following equation:  
 11534

$$11535 \text{LRV} = \text{Log}_{10} (C_f) - \text{Log}_{10} (C_p)$$

11536  
 11537 Where:

11538 LRV = log removal value demonstrated during challenge testing

$C_f$  = the feed concentration measured during the challenge test  
 $C_p$  = the filtrate concentration measured during the challenge test. In applying this equation, the same units must be used for the feed and filtrate concentrations. If the challenge particulate is not detected in the filtrate, then the term  $C_p$  must be set equal to the detection limit.

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- 8) Each filter tested must be challenged with the challenge particulate during three periods over the filtration cycle: within two hours after start-up of a new filter; when the pressure drop is between 45 and 55 percent of the terminal pressure drop; and at the end of the cycle after the pressure drop has reached 100 percent of the terminal pressure drop. An LRV must be calculated for each of these challenge periods for each filter tested. The LRV for the filter ( $LRV_{filter}$ ) must be assigned the value of the minimum LRV observed during the three challenge periods for that filter.
- 9) If fewer than 20 filters are tested, the overall removal efficiency for the filter product line must be set equal to the lowest  $LRV_{filter}$  among the filters tested. If 20 or more filters are tested, the overall removal efficiency for the filter product line must be set equal to the 10<sup>th</sup> percentile of the set of  $LRV_{filter}$  values for the various filters tested. The percentile is defined by  $(i/(n+1))$  where  $i$  is the rank of  $n$  individual data points ordered lowest to highest. If necessary, the 10<sup>th</sup> percentile may be calculated using linear interpolation.
- 10) If a previously tested filter is modified in a manner that could change the removal efficiency of the filter product line, challenge testing to demonstrate the removal efficiency of the modified filter must be conducted and submitted in writing to the Agency.

b) Membrane filtration.

- 1) A supplier receives Cryptosporidium treatment credit for membrane filtration that meets the criteria of this subsection (b). Membrane cartridge filters that meet the definition of membrane filtration in Section 611.102 are eligible for this credit. The level of treatment credit a supplier receives is equal to the lower of the following values:
  - A) The removal efficiency demonstrated during challenge testing conducted ~~underpursuant to~~ the conditions in subsection (b)(2); or

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- B) The maximum removal efficiency that can be verified through direct integrity testing used with the membrane filtration process underpursuant to the conditions in subsection (b)(3).
  
- 2) Challenge testing. The membrane used by the supplier must undergo challenge testing to evaluate removal efficiency, and the supplier must report the results of challenge testing to the Agency. Challenge testing must be conducted according to the criteria set forth in subsections (b)(2)(A) through (b)(2)(G). A supplier may use data from challenge testing conducted prior to January 5, 2006 if the prior testing was consistent with the criteria set forth in subsections (b)(2)(A) through (b)(2)(G).
  - A) Challenge testing must be conducted on either a full-scale membrane module, identical in material and construction to the membrane modules used in the supplier's treatment facility, or a smaller-scale membrane module, identical in material and similar in construction to the full-scale module. A module is defined as the smallest component of a membrane unit in which a specific membrane surface area is housed in a device with a filtrate outlet structure.
  
  - B) Challenge testing must be conducted using *Cryptosporidium* oocysts or a surrogate that is removed no more efficiently than *Cryptosporidium* oocysts. The organism or surrogate used during challenge testing is referred to as the challenge particulate. The concentration of the challenge particulate, in both the feed and filtrate water, must be determined using a method capable of discretely quantifying the specific challenge particulate used in the test; gross measurements such as turbidity may not be used.
  
  - C) The maximum feed water concentration that can be used during a challenge test is based on the detection limit of the challenge particulate in the filtrate and must be determined according to the following equation:
 
$$\text{Maximum Feed Concentration} = 3.16 \times 10^6 \times (\text{Filtrate Detection Limit})$$
  
  - D) Challenge testing must be conducted under representative hydraulic conditions at the maximum design flux and maximum design process recovery specified by the manufacturer for the membrane module. Flux is defined as the throughput of a pressure

11615 driven membrane process expressed as flow per unit of membrane  
 11616 area. Recovery is defined as the volumetric percent of feed water  
 11617 that is converted to filtrate over the course of an operating cycle  
 11618 uninterrupted by events such as chemical cleaning or a solids  
 11619 removal process (i.e., backwashing).  
 11620

- 11621 E) Removal efficiency of a membrane module must be calculated  
 11622 from the challenge test results and expressed as a log removal  
 11623 value according to the following equation:  
 11624

$$\text{LRV} = \text{Log}_{10} (C_f) - \text{Log}_{10} (C_p)$$

11625 Where:  
 11626  
 11627  
 11628

LRV = log removal value demonstrated during the challenge test

C<sub>f</sub> = the feed concentration measured during the challenge test

C<sub>p</sub> = the filtrate concentration measured during the challenge test. Equivalent units must be used for the feed and filtrate concentrations. If the challenge particulate is not detected in the filtrate, the term C<sub>p</sub> is set equal to the detection limit for the purpose of calculating the LRV. An LRV must be calculated for each membrane module evaluated during the challenge test.

- 11629  
 11630 F) The removal efficiency of a membrane filtration process  
 11631 demonstrated during challenge testing must be expressed as a log  
 11632 removal value (LRV<sub>C-Test</sub>). If fewer than 20 modules are tested,  
 11633 then LRV<sub>C-Test</sub> is equal to the lowest of the representative LRVs  
 11634 among the modules tested. If 20 or more modules are tested, then  
 11635 LRV<sub>C-Test</sub> is equal to the 10<sup>th</sup> percentile of the representative LRVs  
 11636 among the modules tested. The percentile is defined by (i/(n+1))  
 11637 where i is the rank of n individual data points ordered lowest to  
 11638 highest. If necessary, the 10<sup>th</sup> percentile may be calculated using  
 11639 linear interpolation.  
 11640

- 11641 G) The challenge test must establish a quality control release value  
 11642 (QCRV) for a non-destructive performance test that demonstrates  
 11643 the Cryptosporidium removal capability of the membrane filtration  
 11644 module. This performance test must be applied to each production  
 11645 membrane module used by the supplier that was not directly  
 11646 challenge tested in order to verify Cryptosporidium removal

- 11647 capability. Production modules that do not meet the established  
11648 QCRV are not eligible for the treatment credit demonstrated during  
11649 the challenge test.  
11650
- 11651 H) If a previously tested membrane is modified in a manner that could  
11652 change the removal efficiency of the membrane or the applicability  
11653 of the non-destructive performance test and associated QCRV,  
11654 additional challenge testing to demonstrate the removal efficiency  
11655 of, and determine a new QCRV for, the modified membrane must  
11656 be conducted and submitted to the Agency.  
11657
- 11658 3) Direct integrity testing. A supplier must conduct direct integrity testing in  
11659 a manner that demonstrates a removal efficiency equal to or greater than  
11660 the removal credit awarded to the membrane filtration process and meets  
11661 the requirements described in subsections (b)(3)(A) through (b)(3)(F). A  
11662 "direct integrity test" is defined as a physical test applied to a membrane  
11663 unit in order to identify and isolate integrity breaches (i.e., one or more  
11664 leaks that could result in contamination of the filtrate).  
11665
- 11666 A) The direct integrity test must be independently applied to each  
11667 membrane unit in service. A membrane unit is defined as a group  
11668 of membrane modules that share common valving that allows the  
11669 unit to be isolated from the rest of the treatment system for the  
11670 purpose of integrity testing or other maintenance.  
11671
- 11672 B) The direct integrity method must have a resolution of three  
11673 micrometers or less, where resolution is defined as the size of the  
11674 smallest integrity breach that contributes to a response from the  
11675 direct integrity test.  
11676
- 11677 C) The direct integrity test must have a sensitivity sufficient to verify  
11678 the log treatment credit awarded to the membrane filtration process  
11679 by the Agency, where sensitivity is defined as the maximum log  
11680 removal value that can be reliably verified by a direct integrity test.  
11681 Sensitivity must be determined using the appropriate of the  
11682 following approaches, considering the type of direct integrity test  
11683 the supplier uses:  
11684
- 11685 i) For a direct integrity test that uses an applied pressure or  
11686 vacuum, the direct integrity test sensitivity must be  
11687 calculated according to the following equation:  
11688

$$LRV_{DIT} = \text{Log}_{10} \left( \frac{Q_p}{VCF \times Q_{breach}} \right)$$

Where:

- LRV<sub>DIT</sub> = the sensitivity of the direct integrity test
- Q<sub>p</sub> = total design filtrate flow from the membrane unit
- Q<sub>breach</sub> = flow of water from an integrity breach associated with the smallest integrity test response that can be reliably measured
- VCF = volumetric concentration factor. The volumetric concentration factor is the ratio of the suspended solids concentration on the high pressure side of the membrane relative to that in the feed water; or

- ii) For a direct integrity test that uses a particulate or molecular marker, the direct integrity test sensitivity must be calculated according to the following equation:

$$LRV_{DIT} = \text{Log}_{10} (C_f) - \text{Log}_{10} (C_p)$$

Where:

- LRV<sub>DIT</sub> = the sensitivity of the direct integrity test
- C<sub>f</sub> = the typical feed concentration of the marker used in the test
- C<sub>p</sub> = the filtrate concentration of the marker from an integral membrane unit

- D) A supplier must establish a control limit within the sensitivity limits of the direct integrity test that is indicative of an integral membrane unit capable of meeting the removal credit awarded by the Agency.

- E) If the result of a direct integrity test exceeds the control limit established ~~under~~ pursuant to subsection (b)(3)(D), the supplier must remove the membrane unit from service. The supplier must conduct a direct integrity test to verify any repairs, and it may return the membrane unit to service only if the direct integrity test is within the established control limit.

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F) A supplier must conduct direct integrity testing on each membrane unit at a frequency of not less than once each day that the membrane unit is in operation. The Agency may, by a SEP issued pursuant to Section 611.110, approve less frequent testing, based on demonstrated process reliability, the use of multiple barriers effective for Cryptosporidium, or reliable process safeguards.

4) Indirect integrity monitoring. A supplier must conduct continuous indirect integrity monitoring on each membrane unit according to the criteria in subsections (b)(4)(A) through (b)(4)(E). "Indirect integrity monitoring" is defined as monitoring some aspect of filtrate water quality that is indicative of the removal of particulate matter. A supplier that implements continuous direct integrity testing of membrane units in accordance with the criteria in subsections (b)(3)(A) through (b)(3)(E) is not subject to the requirements for continuous indirect integrity monitoring. The supplier must submit a monthly report to the Agency summarizing all continuous indirect integrity monitoring results triggering direct integrity testing and the corrective action that was taken in each case.

A) Unless the Agency approves an alternative parameter by a SEP issued pursuant to Section 611.110, continuous indirect integrity monitoring must include continuous filtrate turbidity monitoring.

B) Continuous indirect integrity monitoring must be conducted at a frequency of no less than once every 15 minutes.

C) Continuous indirect integrity monitoring must be separately conducted on each membrane unit.

D) If continuous indirect integrity monitoring includes turbidity and if the filtrate turbidity readings are above 0.15 NTU for a period greater than 15 minutes (i.e., two consecutive 15-minute readings above 0.15 NTU), direct integrity testing must immediately be performed on the associated membrane unit, as specified in subsections (b)(3)(A) through (b)(3)(E).

E) If indirect integrity monitoring includes an Agency-approved alternative parameter and if the alternative parameter exceeds an Agency-approved control limit for a period greater than 15 minutes, direct integrity testing must immediately be performed on the associated membrane units, as specified in subsections (b)(3)(A) through (b)(3)(E).

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- c) Second stage filtration. A supplier receives 0.5-log *Cryptosporidium* treatment credit for a separate second stage of filtration that consists of sand, dual media, GAC, or other fine grain media following granular media filtration if the Agency approves by a SEP issued pursuant to Section 611.110. To be eligible for this credit, the first stage of filtration must be preceded by a coagulation step and both filtration stages must treat the entire plant flow taken from a surface water or groundwater under the direct influence of surface water source. A cap, such as GAC, on a single stage of filtration is not eligible for this credit. The Agency must approve the treatment credit based on an assessment of the design characteristics of the filtration process.
- d) Slow sand filtration (as secondary filter). A supplier is eligible to receive 2.5-log *Cryptosporidium* treatment credit by a SEP issued pursuant to Section 611.110 for a slow sand filtration process that follows a separate stage of filtration if both filtration stages treat entire plant flow taken from a surface water or groundwater under the direct influence of surface water source and no disinfectant residual is present in the influent water to the slow sand filtration process. The Agency must approve the treatment credit based on an assessment of the design characteristics of the filtration process. This subsection (d) does not apply to treatment credit awarded to slow sand filtration used as a primary filtration process.

BOARD NOTE: Derived from 40 CFR 141.719 (2016).

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

**Section 611.1020 Requirements for Microbial Toolbox Components: Inactivation Toolbox Components**

- a) Calculation of CT values.
  - 1) CT is the product of the disinfectant contact time (T, in minutes) and disinfectant concentration (C, in milligrams per liter). A supplier with treatment credit for chlorine dioxide or ozone ~~under~~pursuant to subsection (b) or (c) must calculate CT at least once each day, with both C and T measured during peak hourly flow, as specified in Sections 611.531 and 611.532.
  - 2) A supplier with several disinfection segments in sequence may calculate CT for each segment, where a disinfection segment is defined as a treatment unit process with a measurable disinfectant residual level and a liquid volume. Under this approach, the supplier must add the

- 11799 Cryptosporidium CT values in each segment to determine the total CT for  
 11800 the treatment plant.  
 11801  
 11802 b) CT values for chlorine dioxide and ozone.  
 11803  
 11804 1) A supplier receives the Cryptosporidium treatment credit listed in Table H  
 11805 to this Part by meeting the corresponding chlorine dioxide CT value for  
 11806 the applicable water temperature, as described in subsection (a).  
 11807  
 11808 2) A supplier receives the Cryptosporidium treatment credit listed in Table I  
 11809 to this Part by meeting the corresponding ozone CT values for the  
 11810 applicable water temperature, as described in subsection (a).  
 11811  
 11812 c) Site-specific study. The Agency may, by a SEP issued pursuant to Section  
 11813 ~~611.110~~, approve alternative chlorine dioxide or ozone CT values to those listed  
 11814 in Tables H and I to this Part on a site-specific basis. The Agency must base this  
 11815 approval on a site-specific study conducted by the supplier according to an  
 11816 Agency-approved protocol.  
 11817  
 11818 d) Ultraviolet light. A supplier receives Cryptosporidium, Giardia lamblia, and virus  
 11819 treatment credits for ultraviolet (UV) light reactors by achieving the  
 11820 corresponding UV dose values shown in Table J to this Part. The supplier must  
 11821 validate and monitor UV reactors, as described in subsections (d)(2) and (d)(3), to  
 11822 demonstrate that they are achieving a particular UV dose value for treatment  
 11823 credit.  
 11824  
 11825 1) UV dose table. The treatment credits listed in Table J to this Part are for  
 11826 UV light at a wavelength of 254 nm as produced by a low-pressure  
 11827 mercury vapor lamp. To receive treatment credit for other lamp types, a  
 11828 supplier must demonstrate an equivalent germicidal dose through reactor  
 11829 validation testing, as described in subsection (d)(2). The UV dose values  
 11830 in this table are applicable only to post-filter applications of UV in a  
 11831 filtered system supplier and to an unfiltered system supplier.  
 11832  
 11833 2) Reactor validation testing. A supplier must use UV reactors that have  
 11834 undergone validation testing to determine the operating conditions under  
 11835 which the reactor delivers the UV dose required in subsection (d)(1) (i.e.,  
 11836 validated operating conditions). These operating conditions must include  
 11837 flow rate; UV intensity, as measured by a UV sensor; and UV lamp status.  
 11838  
 11839 A) When determining validated operating conditions, a supplier must  
 11840 account for the following factors: UV absorbance of the water;  
 11841 lamp fouling and aging; measurement uncertainty of on-line

11842 sensors; UV dose distributions arising from the velocity profiles  
11843 through the reactor; failure of UV lamps or other critical treatment  
11844 system components; and inlet and outlet piping or channel  
11845 configurations of the UV reactor.

11846  
11847 B) Validation testing must include the following: Full scale testing of  
11848 a reactor that conforms uniformly to the UV reactors used by the  
11849 supplier and inactivation of a test microorganism whose dose  
11850 response characteristics have been quantified with a low pressure  
11851 mercury vapor lamp.

11852  
11853 C) The Agency may, by a SEP issued pursuant to Section 611.110,  
11854 approve an alternative approach to validation testing.

11855  
11856 3) Reactor monitoring.

11857  
11858 A) A supplier must monitor its UV reactors to determine if the  
11859 reactors are operating within validated conditions, as determined  
11860 underpursuant to subsection (d)(2). This monitoring must include  
11861 UV intensity, as measured by a UV sensor; flow rate; lamp status;  
11862 and other parameters that the Agency has designated by a SEP  
11863 issued pursuant to Section 611.110 based on UV reactor operation.  
11864 A supplier must verify the calibration of UV sensors and must  
11865 recalibrate sensors in accordance with a protocol that the Agency  
11866 has approved by the SEP issued pursuant to Section 611.110.

11867  
11868 B) To receive treatment credit for UV light, a supplier must treat at  
11869 least 95 percent of the water delivered to the public during each  
11870 month by UV reactors operating within validated conditions for the  
11871 required UV dose, as described in subsections (d)(1) and (d)(2).  
11872 The supplier must demonstrate compliance with this condition by  
11873 the monitoring required underpursuant to subsection (d)(3)(A).

11874  
11875 BOARD NOTE: Derived from 40 CFR 141.720 (2016).

11876  
11877 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

11878  
11879 **Section 611.1021 Reporting and Recordkeeping Requirements: Reporting Requirements**

11880  
11881 a) A supplier must report sampling schedules underpursuant to Section 611.1002  
11882 and source water monitoring results underpursuant to Section 611.1006 unless it  
11883 notifies the Agency that it will not conduct source water monitoring because the  
11884 supplier meets the criteria of Section 611.1001(d).

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- b) A supplier must report the use of uncovered finished water storage facilities to the Agency, as described in Section 611.1014.
- c) A filtered system supplier must report its Cryptosporidium bin classification, as described in Section 611.1010.
- d) An unfiltered system supplier must report its mean source water Cryptosporidium level, as described in Section 611.1012.
- e) A supplier must report disinfection profiles and benchmarks to the Agency, as described in Sections 611.1008 and 611.1009, prior to making a significant change in disinfection practice.
- f) A supplier must report to the Agency in accordance with subsections (f)(1) through (f)(15) for any microbial toolbox options used to comply with treatment requirements ~~underpursuant to~~ Section 611.1011 or Section 611.1012. Alternatively, the Agency may, by a SEP-issued ~~pursuant to Section 611.110~~, approve a supplier to certify operation within required parameters for treatment credit rather than reporting monthly operational data for toolbox options.
  - 1) A supplier that uses the watershed control program toolbox option must submit the following information on the indicated schedule:
    - A) A notice of intention to develop a new or continue an existing watershed control program no later than two years before the applicable treatment compliance date in Section 611.1013;
    - B) A watershed control plan no later than one year before the applicable treatment compliance date in Section 611.1013;
    - C) An annual watershed control program status report every 12 months, beginning one year after the applicable treatment compliance date in Section 611.1013; and
    - D) A watershed sanitary survey report: for a CWS supplier, every three years beginning three years after the applicable treatment compliance date in Section 611.1013 or, for a non-CWS supplier, every five years beginning five years after the applicable treatment compliance date in Section 611.1013.
  - 2) A supplier that uses the alternative source or intake management toolbox option must submit verification that it has relocated the intake or adopted

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the intake withdrawal procedure reflected in monitoring results no later than the applicable treatment compliance date in Section 611.1013.

- 3) A supplier that uses the presedimentation toolbox option must submit monthly verification of the information set forth in each of subsections (f)(3)(A) through (f)(3)(D), subject to the limitations of subsection (f)(3)(E).
  - A) Continuous basin operation;
  - B) Treatment of 100% of the flow;
  - C) Continuous addition of a coagulant; and
  - D) At least 0.5-log mean reduction of influent turbidity or compliance with alternative Agency-approved performance criteria.
  - E) Monthly reporting must occur within 10 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.
  
- 4) A supplier that uses the two-stage lime softening toolbox option must submit monthly verification of the information set forth in each of subsections (f)(4)(A) and (f)(4)(B), subject to the limitations of subsection (f)(4)(C).
  - A) That chemical addition and hardness precipitation occurred in two separate and sequential softening stages prior to filtration; and
  - B) That both stages treated 100% of the plant flow.
  - C) Monthly reporting must occur within 10 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.
  
- 5) A supplier that uses the bank filtration toolbox option must submit the following information on the indicated schedule:
  - A) An initial demonstration of the following no later than the applicable treatment compliance date in Section 611.1013:
    - i) The existence of unconsolidated, predominantly sandy aquifer; and

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- ii) A setback distance of at least 25 ft. (0.5-log credit) or 50 ft. (1.0-log credit).
  
- B) If the monthly average of daily maximum turbidity is greater than 1 NTU, then the supplier must report that result and submit an assessment of the cause within 30 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.
  
- 6) A supplier that uses the combined filter performance toolbox option must submit monthly verification of combined filter effluent (CFE) turbidity levels less than or equal to 0.15 NTU in at least 95 percent of the four-hour CFE measurements taken each month. Monthly reporting must occur within 10 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.
  
- 7) A supplier that uses the individual filter performance toolbox option must submit monthly verification of the information set forth in each of subsections (f)(7)(A) and (f)(7)(B), subject to the limitations of subsection (f)(7)(C).
  - A) That individual filter effluent (IFE) turbidity levels were less than or equal to 0.15 NTU in at least 95 percent of samples each month in each filter; and
  - B) That no individual filter measured greater than 0.3 NTU in two consecutive readings 15 minutes apart.
  - C) Monthly reporting must occur within 10 days following the month in which the monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.
  
- 8) A supplier that uses the demonstration of performance toolbox option must submit the information set forth in each of subsections (f)(8)(A) and (f)(8)(B) on the indicated schedule:
  - A) Results from testing following an Agency-approved protocol no later than the applicable treatment compliance date in Section 611.1013; and

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- B) As required by the Agency, monthly verification of operation within conditions of Agency approval for demonstration of performance credit within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013.
  
- 9) A supplier that uses the bag filters and cartridge filters toolbox option must submit the information set forth in each of subsections (f)(9)(A) and (f)(9)(B) on the indicated schedule:
  - A) A demonstration, no later than the applicable treatment compliance date in Section 611.1013, that the following criteria are met:
    - i) It must demonstrate that the process meets the definition of bag or cartridge filtration; and
    - ii) It must demonstrate that the removal efficiency established through challenge testing that meets criteria in this Subpart Z; and
  
  - B) Monthly verification, within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, that 100% of plant flow was filtered.
  
- 10) A supplier that uses the membrane filtration toolbox option must submit the following information on the indicated schedule:
  - A) Results of verification testing no later than the applicable treatment compliance date in Section 611.1013 that demonstrate the following:
    - i) It must demonstrate that the removal efficiency established through challenge testing that meets criteria set forth in this Subpart Z; and
    - ii) It must demonstrate the integrity test method and parameters, including resolution, sensitivity, test frequency, control limits, and associated baseline; and
  
  - B) A monthly report within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment

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compliance date in Section 611.1013, that summarizes the following:

- i) It must summarize all direct integrity tests above the control limit; and
- ii) If applicable, it must summarize any turbidity or alternative Agency-approved indirect integrity monitoring results triggering direct integrity testing and the corrective action that was taken.

- 11) A supplier that uses the second stage filtration toolbox option must submit monthly verification within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, that 100% of flow was filtered through both stages and that first stage was preceded by coagulation step.
- 12) A supplier that uses the slow sand filtration (as secondary filter) toolbox option must submit monthly verification within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, that both a slow sand filter and a preceding separate stage of filtration treated 100% of flow from Subpart B sources.
- 13) A supplier that uses the chlorine dioxide toolbox option must submit a monthly summary of CT values for each day within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, as described in Section 611.1020.
- 14) A supplier that uses the ozone toolbox option must submit a monthly summary of CT values for each day within 10 days following the month in which monitoring was conducted, beginning on the applicable treatment compliance date in Section 611.1013, as described in Section 611.1020.
- 15) A supplier that uses the UV toolbox option must submit the following information on the indicated schedule:
  - A) Validation test results no later than the applicable treatment compliance date in Section 611.1013, that demonstrate operating conditions that achieve required UV dose.

- 12097 B) A monthly report summarizing the percentage of water entering  
12098 the distribution system that was not treated by UV reactors  
12099 operating within validated conditions for the required dose within  
12100 10 days following the month in which monitoring was conducted,  
12101 beginning on the applicable treatment compliance date in Section  
12102 611.1013, as specified in Section 611.1020(d).  
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12104 BOARD NOTE: Derived from 40 CFR 141.721 (2016).

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12106 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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12108 SUBPART AA: REVISED TOTAL COLIFORM RULE  
12109

12110 **Section 611.1053 General Monitoring Requirements for all PWSs**  
12111

- 12112 a) Sample siting plans.  
12113
- 12114 1) A supplier must develop a written sample siting plan that identifies  
12115 sampling sites and a sample collection schedule that are representative of  
12116 water throughout the distribution system. These plans are subject to  
12117 Agency review and revision. The supplier must collect total coliform  
12118 samples according to the written sample siting plan. Monitoring required  
12119 by Sections 611.1054 through 611.1058 may take place at a customer's  
12120 premises, a dedicated sampling station, or another designated compliance  
12121 sampling location. Routine and repeat sample sites and any sampling  
12122 points necessary to meet the requirements of Subpart S must be reflected  
12123 in the sampling plan.  
12124
  - 12125 2) A supplier must collect samples at regular time intervals throughout the  
12126 month, except that systems that use only ground water and serve 4,900 or  
12127 fewer people may collect all required samples on a single day if they are  
12128 taken from different sites.  
12129
  - 12130 3) A supplier must take at least the minimum number of required samples  
12131 even if the system has had an E. coli MCL violation or has exceeded the  
12132 coliform treatment technique triggers in Section 611.1059(a).  
12133
  - 12134 4) A supplier may conduct more compliance monitoring than is required by  
12135 this Subpart AA to investigate potential problems in the distribution  
12136 system and use monitoring as a tool to assist in uncovering problems. A  
12137 supplier may take more than the minimum number of required routine  
12138 samples and must include the results in calculating whether the coliform  
12139 treatment technique trigger in Section 611.1059(a)(1)(A) and (a)(1)(B) has

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been exceeded only if the samples are taken in accordance with the existing sample siting plan and are representative of water throughout the distribution system.

- 5) A supplier must identify repeat monitoring locations in the sample siting plan. Unless the provisions of subsection (a)(5)(A) or (a)(5)(B) are met, the supplier must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one service connection away from the end of the distribution system, the supplier must still take all required repeat samples. However, the Agency may grant a SEP ~~pursuant to Section 611.110~~ that allows an alternative sampling location in lieu of the requirement to collect at least one repeat sample upstream or downstream of the original sampling site. Except as provided for in subsection (a)(5)(B), a supplier required to conduct triggered source water monitoring ~~underpursuant to Section 611.802(a)~~ must take ground water source samples in addition to repeat samples required under this Subpart AA.
  - A) A supplier may propose repeat monitoring locations to the Agency that the supplier believes to be representative of a pathway for contamination of the distribution system. A supplier may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan. The supplier must design its SOP to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations. The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, modify the SOP or require alternative monitoring locations as the Agency determines is necessary.
  - B) A GWS supplier that serves 1,000 or fewer people may propose repeat sampling locations to the Agency that differentiate potential source water and distribution system contamination (e.g., by sampling at entry points to the distribution system). A GWS supplier that has a single well and which is required to conduct triggered source water monitoring may, as allowed by a SEP ~~issued pursuant to Section 611.110~~, take one of its repeat samples at the monitoring location required for triggered source water

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monitoring ~~under~~ pursuant to Section 611.802(a). The supplier must justify an Agency determination that the sample siting plan remains representative of water quality in the distribution system. If approved by a SEP ~~issued pursuant to Section 611.110~~, the supplier may use that sample result to meet the monitoring requirements in both Section 611.802(a) and this Section.

- i) If a repeat sample taken at the monitoring location required for triggered source water monitoring is E. coli-positive, the supplier has violated the E. coli MCL and must also comply with Section 611.802(a)(3). If a supplier takes more than one repeat sample at the monitoring location required for triggered source water monitoring, the supplier may reduce the number of additional source water samples required under Section 611.802(a)(3) by the number of repeat samples taken at that location that were not E. coli-positive.
- ii) If a supplier takes more than one repeat sample at the monitoring location required for triggered source water monitoring under Section 611.802(a), and more than one repeat sample is E. coli-positive, the supplier has violated the E. coli MCL and must also comply with Section 611.803(a)(1).
- iii) If all repeat samples taken at the monitoring location required for triggered source water monitoring are E. coli-negative and a repeat sample taken at a monitoring location other than the one required for triggered source water monitoring is E. coli-positive, the supplier has violated the E. coli MCL, but is not required to comply with Section 611.802(a)(3).

- 6) The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, review, revise, and approve, as appropriate, repeat sampling proposed by a supplier ~~under~~ pursuant to subsections (a)(5)(A) and (a)(5)(B). The supplier must justify an Agency determination that the sample siting plan remains representative of the water quality in the distribution system. The Agency may determine that monitoring at the entry point to the distribution system (especially for undisinfected ground water systems) is effective to differentiate between potential source water and distribution system problems.

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- b) Special purpose samples. Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, must not be used to determine whether the coliform treatment technique trigger has been exceeded. Repeat samples taken underpursuant to Section 611.1058 are not considered special purpose samples, and must be used to determine whether the coliform treatment technique trigger has been exceeded.
  
- c) Invalidation of total coliform samples. A total coliform-positive sample invalidated under this subsection (c) does not count toward meeting the minimum monitoring requirements of this Subpart AA.
  - 1) The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, invalidate a total coliform-positive sample only if the conditions of subsection (c)(1)(A), (c)(1)(B), or (c)(1)(C) are met.
    - A) The laboratory establishes that improper sample analysis caused the total coliform-positive result.
    - B) The Agency, on the basis of the results of repeat samples collected as required under Section 611.1058(a), determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. The Agency cannot invalidate a sample on the basis of repeat sample results unless all repeat samples collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected at a location other than the original tap are total coliform-negative (e.g., a Agency cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the system has only one service connection).
    - C) The Agency has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. In this case, the system must still collect all repeat samples required under Section 611.1058(a), and use them to determine whether a coliform treatment technique trigger in Section 611.1059 has been exceeded. To invalidate a total coliform-positive sample under this subsection (c)(1), the decision and supporting rationale must be documented in writing and approved and signed by the Agency, as a SEP ~~issued pursuant to Section 611.110~~. The Agency must make this document available to USEPA and the public. The written

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documentation must state the specific cause of the total coliform-positive sample, and what action the supplier has taken, or will take, to correct this problem. The Agency may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.

- 2) A laboratory must invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the multiple-tube fermentation technique), produces a turbid culture in the absence of an acid reaction in the presence-absence (P-A) coliform test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., membrane filter technique). If a laboratory invalidates a sample because of such interference, the supplier must collect another sample from the same location as the original sample within 24 hours after being notified of the interference problem, and have it analyzed for the presence of total coliforms. The supplier must continue to re-sample within 24 hours and have the samples analyzed until it obtains a valid result. The Agency may, by a SEP issued pursuant to Section 611.110, waive the 24-hour time limit on a case-by-case basis. Alternatively, the Agency or any interested person may file a petition for rulemaking, underpursuant to Sections 27 and 28 of the Act [415 ILCS 5/27 and 28], to establish criteria for waiving the 24-hour sampling time limit to use in lieu of case-by-case extensions.

BOARD NOTE: Derived from 40 CFR 141.853 (2016).

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

**Section 611.1054 Routine Monitoring Requirements for Non-CWSs That Serve 1,000 or Fewer People Using Only Groundwater**

- a) General.
  - 1) This Section applies to non-CWS suppliers that use only groundwater (except groundwater under the direct influence of surface water, as defined in Section 611.102) and which serve 1,000 or fewer people.
  - 2) Following any total coliform-positive sample taken underpursuant to this Section, a supplier must comply with the repeat monitoring requirements and E. coli analytical requirements in Section 611.1058.

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- 3) Once all monitoring required by this Section and Section 611.1058 for a calendar month has been completed, a supplier must determine whether any coliform treatment technique triggers specified in Section 611.1059 have been exceeded. If any trigger has been exceeded, the supplier must complete assessments as required by Section 611.1059.
  
- 4) For the purpose of determining eligibility for remaining on or qualifying for quarterly monitoring under the provisions of subsections (f)(4) and (g)(2), respectively, for transient non-CWS suppliers, the Agency may elect to not count monitoring violations under Section 611.1060(c)(1) if the missed sample is collected no later than the end of the monitoring period following the monitoring period in which the sample was missed. The supplier must collect the make-up sample in a different week than the routine sample for that monitoring period and should collect the sample as soon as possible during the monitoring period. The Agency may not use this provision under subsection (h). This authority does not affect the provisions of Sections 611.1060(c)(1) and 611.1061(a)(4) ~~of this Part.~~
  
- b) Monitoring frequency for total coliforms. A supplier must monitor each calendar quarter that the supplier provides water to the public, except for a seasonal system supplier or as provided under subsections (c) through (h) and (j). A seasonal system supplier must meet the monitoring requirements of subsection (i).
  
- c) Transition to this Subpart AA. The Agency must perform a special monitoring evaluation during each sanitary survey to review the status of the supplier's system, including the distribution system, to determine whether the supplier is on an appropriate monitoring schedule. After the Agency has performed the special monitoring evaluation during each sanitary survey, the Agency may modify the supplier's monitoring schedule, as the Agency determines is necessary, or the Agency may allow the supplier to stay on its existing monitoring schedule, consistent with the provisions of this Section. The Agency may not allow a supplier to begin less frequent monitoring under the special monitoring evaluation unless the supplier has already met the applicable criteria for less frequent monitoring in this Section. For a seasonal system supplier on quarterly or annual monitoring, this evaluation must include review of the approved sample siting plan, which must designate the time periods for monitoring based on site-specific considerations (e.g., during periods of highest demand or highest vulnerability to contamination). The seasonal system supplier must collect compliance samples during these time periods.
  
- d) Annual site visits. A supplier on annual monitoring, including a seasonal system supplier, must have an initial and recurring annual site visit by the Agency that is equivalent to a Level 2 assessment or an annual voluntary Level 2 assessment that

12355 meets the criteria in Section 611.1059(b) to remain on annual monitoring. The  
 12356 periodic required sanitary survey may be used to meet the requirement for an  
 12357 annual site visit for the year in which the sanitary survey was completed.  
 12358

12359 e) Criteria for annual monitoring. The Agency may, by a SEP issued pursuant to  
 12360 ~~Section 611.110~~, reduce the monitoring frequency for a well-operated GWS  
 12361 supplier from quarterly routine monitoring to no less than annual monitoring, if  
 12362 the supplier demonstrates that it meets the criteria for reduced monitoring in  
 12363 subsections (e)(1) through (e)(3), except for a supplier that has been on increased  
 12364 monitoring under the provisions of subsection (f). A supplier on increased  
 12365 monitoring under subsection (f) must meet the provisions of subsection (g) to go  
 12366 to quarterly monitoring and must meet the provisions of subsection (h) to go to  
 12367 annual monitoring.  
 12368

- 12369 1) The supplier's system has a clean compliance history for a minimum of 12  
 12370 months;
- 12371 2) The most recent sanitary survey shows that the supplier's system is free of  
 12372 sanitary defects or has corrected all identified sanitary defects, has a  
 12373 protected water source, and meets Agency-approved construction  
 12374 standards; and  
 12375  
 12376 3) The Agency has conducted an annual site visit within the last 12 months,  
 12377 and the supplier has corrected all identified sanitary defects. The supplier  
 12378 may substitute a Level 2 assessment that meets the criteria in Section  
 12379 611.1059(b) for the Agency annual site visit.  
 12380

12381 f) Increased monitoring requirements for suppliers on quarterly or annual  
 12382 monitoring. A supplier on quarterly or annual monitoring that experiences any of  
 12383 the events identified in subsections (f)(1) through (f)(4) must begin monthly  
 12384 monitoring the month following the event. A supplier on annual monitoring that  
 12385 experiences the event identified in subsections (f)(5) must begin quarterly  
 12386 monitoring the quarter following the event. The supplier must continue monthly  
 12387 or quarterly monitoring until the requirements in subsection (g) for quarterly  
 12388 monitoring or subsection (h) for annual monitoring are met. A supplier on  
 12389 monthly monitoring for reasons other than those identified in subsections (f)(1)  
 12390 through (f)(4) is not considered to be on increased monitoring for the purposes of  
 12391 subsections (g) and (h).  
 12392

- 12393 1) The supplier's system triggers a Level 2 assessment or two Level 1  
 12394 assessments under the provisions of Section 611.1059 in a rolling 12-  
 12395 month period.  
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- 2) The supplier's system has an E. coli MCL violation.
  - 3) The supplier's system has a coliform treatment technique violation.
  - 4) The supplier's system has two Subpart AA monitoring violations or one Subpart AA monitoring violation and one Level 1 assessment under the provisions of Section 611.1059 in a rolling 12-month period for a system on quarterly monitoring.
  - 5) The supplier's system has one Subpart AA monitoring violation for a system on annual monitoring.
- g) Requirements for returning to quarterly monitoring. The Agency may, by a SEP issued pursuant to Section 611.110, reduce the monitoring frequency for a supplier on monthly monitoring triggered under subsection (f) to quarterly monitoring if the supplier's system meets the criteria in subsections (g)(1) and (g)(2).
- 1) Within the last 12 months, the supplier must have a completed sanitary survey or a site visit of its system by the Agency or a voluntary Level 2 assessment of its system by a party approved by the Agency, the supplier's system must be free of sanitary defects, and the supplier's system must have a protected water source; and
  - 2) The supplier's system must have a clean compliance history for a minimum of 12 months.
- h) Requirements for a supplier on increased monitoring to qualify for annual monitoring. The Agency may, by a SEP issued pursuant to Section 611.110, reduce the monitoring frequency for a supplier on increased monitoring under subsection (f) if the supplier's system meets the criteria in subsection (g) and the criteria in subsections (h)(1) and (h)(2).
- 1) An annual site visit by the Agency and correction of all identified sanitary defects. The supplier may substitute a voluntary Level 2 assessment by a party approved by the Agency for the Agency annual site visit in any given year.
  - 2) The supplier must have in place or adopt one or more of the following additional enhancements to the water system barriers to contamination:
    - A) Cross connection control, as approved by the Agency.

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- B) An operator certified by an appropriate Agency certification program or regular visits by a circuit rider certified by an appropriate Agency certification program.
  - C) Continuous disinfection entering the distribution system and a residual in the distribution system in accordance with criteria specified by the Agency.
  - D) Demonstration of maintenance of at least a four-log removal or inactivation of viruses as provided for under Section 141.403(b)(3).
  - E) Other equivalent enhancements to water system barriers as approved by the State.
- i) Seasonal systems.
- 1) All seasonal system suppliers must demonstrate completion of an Agency-approved start-up procedure, which may include a requirement for startup sampling prior to serving water to the public.
  - 2) A seasonal system supplier must monitor every month that it is in operation unless it meets the criteria in subsections (i)(2)(i) through (iii) to be eligible for monitoring less frequently than monthly, except as provided under subsection (c).
    - A) Seasonal a system supplier monitoring less frequently than monthly must have an approved sample siting plan that designates the time period for monitoring based on site-specific considerations (e.g., during periods of highest demand or highest vulnerability to contamination). A seasonal system supplier must collect compliance samples during this time period.
    - B) To be eligible for quarterly monitoring, the supplier must meet the criteria in subsection (g).
    - C) To be eligible for annual monitoring, the supplier must meet the criteria under subsection (h).
  - 3) The Agency may, by a SEP issued pursuant to Section 611.110, exempt any seasonal system supplier from some or all of the requirements for seasonal system suppliers if the entire distribution system remains pressurized during the entire period that the supplier's system is not

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operating, except that a supplier that monitors less frequently than monthly must still monitor during the vulnerable period designated by the Agency.

- j) Additional routine monitoring the month following a total coliform-positive sample. A supplier that collects samples on a quarterly or annual frequency must conduct additional routine monitoring the month following one or more total coliform-positive samples (with or without a Level 1 treatment technique trigger). The supplier must collect at least three routine samples during the next month, except that the Agency may, by a SEP-issued pursuant to Section 611.110, waive this requirement if the conditions of subsection (j)(1), (j)(2), or (j)(3) are met. The supplier may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. The supplier must use the results of additional routine samples in coliform treatment technique trigger calculations under Section 611.1059(a).
  - 1) The Agency may, by a SEP-issued pursuant to Section 611.110, waive the requirement to collect three routine samples the next month in which the supplier provides water to the public if the Agency, or an agent approved by the Agency, performs a site visit before the end of the next month in which the supplier's system provides water to the public. Although a sanitary survey need not be performed, the site visit must be sufficiently detailed to allow the Agency to determine whether additional monitoring or any corrective action is needed. The Agency cannot approve an employee of the supplier to perform this site visit, even if the employee is an agent approved by the Agency to perform sanitary surveys.
  - 2) The Agency may, by a SEP-issued pursuant to Section 611.110, waive the requirement to collect three routine samples the next month in which the supplier provides water to the public if the Agency has determined why the sample was total coliform-positive and has established that the supplier has corrected the problem or will correct the problem before the end of the next month in which the supplier's system serves water to the public. In this case, the Agency must document this decision to waive the following month's additional monitoring requirement in writing, have it approved and signed by the supervisor of the Agency official who recommends such a decision, and make this document available to USEPA and public. The written documentation must describe the specific cause of the total coliform-positive sample and what action the supplier has taken or will take to correct this problem.

- 12526 3) The Agency may not waive the requirement to collect three additional  
12527 routine samples the next month in which the supplier's system provides  
12528 water to the public solely on the grounds that all repeat samples are total  
12529 coliform-negative. If the Agency determines that the supplier has  
12530 corrected the contamination problem before the supplier takes the set of  
12531 repeat samples required in Section 611.1058, and all repeat samples were  
12532 total coliform-negative, the Agency may, by a SEP issued pursuant to  
12533 ~~Section 611.110~~, waive the requirement for additional routine monitoring  
12534 the next month.  
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12536 BOARD NOTE: Derived from 40 CFR 141.854 (2016).

12537 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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12540 **Section 611.1055 Routine Monitoring Requirements for CWSs That Serve 1,000 or Fewer**  
12541 **People Using Only Groundwater**  
12542

12543 a) General.  
12544

- 12545 1) This Section applies to CWS suppliers that use only ground water (except  
12546 ground water under the direct influence of surface water, as defined in  
12547 Section 611.102) and which serve 1,000 or fewer people.  
12548  
12549 2) Following any total coliform-positive sample taken under the provisions  
12550 of this Section, the supplier must comply with the repeat monitoring  
12551 requirements and E. coli analytical requirements in Section 611.1058.  
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12553 3) Once all monitoring required by this Section and Section 611.1058 for a  
12554 calendar month has been completed, the supplier must determine whether  
12555 any coliform treatment technique triggers specified in Section 611.1059  
12556 have been exceeded. If any trigger has been exceeded, the supplier must  
12557 complete assessments as required by Section 611.1059.  
12558

12559 b) Monitoring frequency for total coliforms. The monitoring frequency for total  
12560 coliforms is one sample per month, except as provided for under subsections (c)  
12561 through (f).  
12562

12563 c) Transition to Subpart AA. The Agency must perform a special monitoring  
12564 evaluation during each sanitary survey to review the status of the supplier's  
12565 system, including the distribution system, to determine whether the system is on  
12566 an appropriate monitoring schedule. After the Agency has performed the special  
12567 monitoring evaluation during each sanitary survey, the Agency may, by a SEP  
12568 issued pursuant to Section 611.110, modify the supplier's monitoring schedule, as

12569 necessary. Alternatively, the Agency may allow the supplier to stay on its  
 12570 existing monitoring schedule, consistent with the provisions of this Section. The  
 12571 Agency may not allow a supplier to begin less frequent monitoring under the  
 12572 special monitoring evaluation unless the supplier has already met the applicable  
 12573 criteria for less frequent monitoring in this Section.  
 12574

12575 d) Criteria for reduced monitoring.  
 12576

12577 1) The Agency may, by a SEP issued pursuant to ~~Section 611.110~~, reduce the  
 12578 monitoring frequency from monthly monitoring to no less than quarterly  
 12579 monitoring if the supplier is in compliance with Agency-certified operator  
 12580 provisions and demonstrates that it meets the criteria in subsections  
 12581 (d)(1)(A) through (d)(1)(C). A supplier that loses its certified operator  
 12582 must return to monthly monitoring the month following that loss.  
 12583

12584 A) The supplier has a clean compliance history for a minimum of 12  
 12585 months.  
 12586

12587 B) The most recent sanitary survey shows the supplier is free of  
 12588 sanitary defects (or has an approved plan and schedule to correct  
 12589 them and is in compliance with the plan and the schedule), has a  
 12590 protected water source, and meets Agency-approved construction  
 12591 standards.  
 12592

12593 C) The supplier meets at least one of the following criteria:  
 12594

12595 i) An annual site visit by the Agency that is equivalent to a  
 12596 Level 2 assessment or an annual Level 2 assessment by a  
 12597 party approved by the Agency and correction of all  
 12598 identified sanitary defects (or an approved plan and  
 12599 schedule to correct them and is in compliance with the plan  
 12600 and schedule).  
 12601

12602 ii) Cross connection control, as approved by the Agency.  
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12604 iii) Continuous disinfection entering the distribution system  
 12605 and a residual in the distribution system in accordance with  
 12606 criteria specified by the Agency.  
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12608 iv) Demonstration of maintenance of at least a 4-log removal  
 12609 or inactivation of viruses as provided for under Section  
 12610 611.803(b)(3).  
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- v) Other equivalent enhancements to water system barriers as approved by the Agency.
- 2) This subsection (d)(2) corresponds with 40 CFR 141.855(d)(2), which USEPA has marked "reserved". This statement maintains structural consistency with the corresponding federal provision.
- e) Return to routine monthly monitoring requirements. A supplier on quarterly monitoring that experience any of the events in subsections (e)(1) through (e)(4) must begin monthly monitoring the month following the event. The supplier must continue monthly monitoring until it meets the reduced monitoring requirements in subsection (d).
  - 1) The supplier triggers a Level 2 assessment or two Level 1 assessments in a rolling 12-month period.
  - 2) The supplier has an E. coli MCL violation.
  - 3) The supplier has a coliform treatment technique violation.
  - 4) The supplier has two Subpart AA monitoring violations in a rolling 12-month period.
- f) Additional routine monitoring the month following a total coliform-positive sample. A supplier collecting samples on a quarterly frequency must conduct additional routine monitoring the month following one or more total coliform-positive samples (with or without a Level 1 treatment technique trigger). A supplier must collect at least three routine samples during the next month, except that the Agency may, by a SEP issued ~~underpursuant to~~ pursuant to Section 611.110, waive this requirement if the conditions of subsection (f)(1), (f)(2), or (f)(3) are met. A supplier may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. A supplier must use the results of additional routine samples in coliform treatment technique trigger calculations.
  - 1) ~~The Agency may, by a SEP issued pursuant to Section 611.110, waive the requirement to collect three routine samples the next month in which the supplier's system provides water to the public if the Agency, or an agent approved by the Agency, performs a site visit before the end of the next month in which the supplier's system provides water to the public. Although a sanitary survey need not be performed, the site visit must be sufficiently detailed to allow the Agency to determine whether additional monitoring or any corrective action is needed. The Agency cannot~~

12655 approve an employee of the supplier to perform this site visit, even if the  
 12656 employee is an agent approved by the Agency to perform sanitary surveys.  
 12657

12658 2) The Agency may, by a SEP-issued pursuant to ~~Section 611.110~~, waive the  
 12659 requirement to collect three routine samples the next month in which the  
 12660 supplier's system provides water to the public if the Agency has  
 12661 determined why the sample was total coliform-positive and has  
 12662 established that the supplier has corrected the problem or will correct the  
 12663 problem before the end of the next month in which the supplier's system  
 12664 serves water to the public. In this case, the Agency must document this  
 12665 decision to waive the following month's additional monitoring  
 12666 requirement in writing, have it approved and signed by the supervisor of  
 12667 the Agency official who recommends such a decision, and make this  
 12668 document available to USEPA and the public. The written documentation  
 12669 must describe the specific cause of the total coliform-positive sample and  
 12670 what action the supplier has taken or will take to correct this problem.  
 12671

12672 3) The Agency may not waive the requirement to collect three additional  
 12673 routine samples the next month in which the supplier's system provides  
 12674 water to the public solely on the grounds that all repeat samples are total  
 12675 coliform-negative. If the Agency determines that the supplier has  
 12676 corrected the contamination problem before the supplier takes the set of  
 12677 repeat samples required in Section 611.1058, and all repeat samples were  
 12678 total coliform-negative, the Agency may, by a SEP-issued pursuant to  
 12679 ~~Section 611.110~~, waive the requirement for additional routine monitoring  
 12680 the next month.  
 12681

12682 BOARD NOTE: Derived from 40 CFR 141.855 (2016).

12683 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
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12686 **Section 611.1056 Routine Monitoring Requirements for Subpart B Systems That Serve**  
 12687 **1,000 or Fewer People**  
 12688

12689 a) General.

12690  
 12691 1) The provisions of this Section apply to a Subpart B system supplier that  
 12692 serves 1,000 or fewer people.  
 12693

12694 2) Following any total coliform-positive sample taken under the provisions  
 12695 of this Section, a supplier must comply with the repeat monitoring  
 12696 requirements and E. coli analytical requirements in Section 611.1058.  
 12697

- 12698 3) Once all monitoring required by this Section and Section 611.1058 for a  
12699 calendar month has been completed, a supplier must determine whether  
12700 any coliform treatment technique triggers specified in Section 611.1059  
12701 have been exceeded. If any trigger has been exceeded, the supplier must  
12702 complete assessments as required by Section 611.1059.  
12703
- 12704 4) Seasonal system suppliers.
- 12705
- 12706 A) All seasonal system suppliers must demonstrate completion of an  
12707 Agency-approved start-up procedure, which may include a  
12708 requirement for start-up sampling prior to serving water to the  
12709 public.  
12710
- 12711 B) The Agency may, by a SEP issued pursuant to Section 611.110,  
12712 exempt any seasonal system supplier from some or all of the  
12713 requirements for seasonal system suppliers if the supplier's entire  
12714 distribution system remains pressurized during the entire period  
12715 that the supplier's system is not operating.  
12716
- 12717 b) Routine monitoring frequency for total coliforms. A Subpart B system supplier  
12718 (including a consecutive system supplier) must monitor monthly. A supplier may  
12719 not reduce monitoring.  
12720
- 12721 c) Unfiltered Subpart B system suppliers. A Subpart B system supplier that does not  
12722 practice filtration in compliance with Subparts B, R, X, and Z of this Part must  
12723 collect at least one total coliform sample near the first service connection each  
12724 day that the turbidity level of the source water, measured as specified in Section  
12725 611.532(b), exceeds 1 NTU. When one or more turbidity measurements in any  
12726 day exceed 1 NTU, the supplier must collect this coliform sample within 24 hours  
12727 after the first exceedance, unless the Agency determines that the supplier, for  
12728 logistical reasons outside the supplier's control, cannot have the sample analyzed  
12729 within 30 hours after collection, and the Agency identifies an alternative sample  
12730 collection schedule. Sample results from the coliform monitoring required by this  
12731 subsection (c) must be included in determining whether the coliform treatment  
12732 technique trigger in Section 611.1059 has been exceeded.  
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12734 BOARD NOTE: Derived from 40 CFR 141.856 (2016).

12735 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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12738 **Section 611.1057 Routine Monitoring Requirements for PWSs That Serve More Than**  
12739 **1,000 People**  
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- a) General.
  - 1) The provisions of this Section apply to public water systems serving more than 1,000 persons.
  - 2) Following any total coliform-positive sample taken under the provisions of this Section, the supplier must comply with the repeat monitoring requirements and E. coli analytical requirements in Section 611.1058.
  - 3) Once all monitoring required by this Section and Section 611.1058 for a calendar month has been completed, a supplier must determine whether any coliform treatment technique triggers specified in Section 611.1059 have been exceeded. If any trigger has been exceeded, the supplier must complete assessments as required by Section 611.1059.
  - 4) Seasonal systems.
    - A) A seasonal system supplier must demonstrate completion of an Agency-approved start-up procedure, which may include a requirement for start-up sampling prior to serving water to the public.
    - B) The Agency may, by a SEP ~~issued pursuant to Section 611.110~~, exempt any seasonal system supplier from some or all of the requirements for seasonal system suppliers if the supplier's entire distribution system remains pressurized during the entire period that the supplier's system is not operating.
- b) Monitoring frequency for total coliforms. The monitoring frequency for total coliforms is based on the population served by the supplier's system, as follows:

TOTAL COLIFORM MONITORING FREQUENCY FOR PUBLIC WATER SYSTEMS SERVING MORE THAN 1,000 PEOPLE

Population served	Minimum number of samples per month
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4

4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270

970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

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- c) Unfiltered Subpart B systems. A Subpart B system supplier that does not practice filtration in compliance with Subparts B, R, X, and Z of this Part must collect at least one total coliform sample near the first service connection each day that the turbidity level of the source water, measured as specified in Section 611.532(b), exceeds 1 NTU. When one or more turbidity measurements in any day exceed 1 NTU, the supplier must collect this coliform sample within 24 hours after the first exceedance, unless the Agency determines that the supplier, for logistical reasons outside the supplier's control, cannot have the sample analyzed within 30 hours after collection, and the Agency identifies an alternative sample collection schedule. Sample results from this coliform monitoring must be included in determining whether the coliform treatment technique trigger in Section 611.1059 has been exceeded.
- d) Reduced monitoring. A supplier may not reduce monitoring, except for a non-CWS supplier that uses only ground water (and not ground water under the direct influence of surface water) and which serves 1,000 or fewer people in some months and more than 1,000 persons in other months. In months when more than 1,000 persons are served, the supplier must monitor at the frequency specified in subsection (a). In months when the supplier serves 1,000 or fewer people, the Agency may, by a SEP issued pursuant to Section 611.110, reduce the monitoring frequency, in writing, to a frequency allowed under Section 611.1054 for a similarly situated supplier that always serves 1,000 or fewer people, taking into account the provisions in Section 611.1054(e) through (g).

BOARD NOTE: Derived from 40 CFR 141.857 (2016).

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

**Section 611.1058 Repeat Monitoring and E. coli Requirements**

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- a) Repeat monitoring.
- 1) If a sample taken under Sections 611.1054 through 611.1057 is total coliform-positive, the supplier must collect a set of repeat samples within 24 hours after being notified of the positive result. The supplier must collect no fewer than three repeat samples for each total coliform-positive sample found. The Agency may, by a SEP-issued pursuant to Section ~~611.110~~, extend the 24-hour limit on a case-by-case basis if the supplier has a logistical problem in collecting the repeat samples within 24 hours that is beyond its control. Alternatively, the Agency may implement criteria for the supplier to use in lieu of case-by-case extensions. In the case of an extension, the Agency must specify how much time the supplier has to collect the repeat samples. The Agency cannot waive the requirement for a supplier to collect repeat samples in subsections (a)(1) through (a)(3).
  - 2) The supplier must collect all repeat samples on the same day, except that the Agency may, by a SEP-issued pursuant to Section ~~611.110~~, allow a supplier with a single service connection to collect the required set of repeat samples over a three-day period or to collect a larger volume repeat samples in one or more sample containers of any size, as long as the total volume collected is at least 300 mL.
  - 3) The supplier must collect an additional set of repeat samples in the manner specified in subsections (a)(1) through (a)(3) if one or more repeat samples in the current set of repeat samples is total coliform-positive. The supplier must collect the additional set of repeat samples within 24 hours after being notified of the positive result, unless the Agency extends the limit as provided in subsection (a)(1). The supplier must continue to collect additional sets of repeat samples until either total coliforms are not detected in one complete set of repeat samples or the supplier determines that a coliform treatment technique trigger specified in Section 611.1059(a) has been exceeded as a result of a repeat sample being total coliform-positive and notifies the Agency. If a trigger identified in Section 611.1059 is exceeded as a result of a routine sample being total coliform-positive, the supplier is required to conduct only one round of repeat monitoring for each total coliform-positive routine sample.
  - 4) After a supplier collects a routine sample and before it learns the results of the analysis of that sample, if the supplier collects another routine sample from within five adjacent service connections of the initial sample, and the initial sample, after analysis, is found to contain total coliforms, then the

12848 system may count the subsequent sample as a repeat sample instead of as a  
12849 routine sample.

12850

12851 5) Results of all routine and repeat samples taken under Sections 611.1054  
12852 through 611.1058 not invalidated by the Agency must be used to  
12853 determine whether a coliform treatment technique trigger specified in  
12854 Section 611.1059 has been exceeded.

12855

12856 b) Escherichia coli (E. coli) testing.

12857

12858 1) If any routine or repeat sample is total coliform-positive, the supplier must  
12859 analyze that total coliform-positive culture medium to determine if E. coli  
12860 are present. If E. coli are present, the supplier must notify the Agency by  
12861 the end of the day when the supplier is notified of the test result, unless the  
12862 supplier is notified of the result after the Agency office is closed and the  
12863 Agency does not have either an after-hours phone line or an alternative  
12864 notification procedure, in which case the supplier must notify the Agency  
12865 before the end of the next business day.

12866

12867 2) The Agency has the discretion to allow a supplier, on a case-by-case basis,  
12868 to forego E. coli testing on a total coliform-positive sample if that supplier  
12869 assumes that the total coliform-positive sample is E. coli-positive.  
12870 Accordingly, the supplier must notify the Agency as specified in  
12871 subsection (b)(1) and the provisions of Section 141.63(c) apply.

12872

12873 BOARD NOTE: Derived from 40 CFR 141.858 (2016).

12874

12875 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

12876

12877 **Section 611.1059 Coliform Treatment Technique Triggers and Assessment Requirements**  
12878 **for Protection Against Potential Fecal Contamination**

12879

12880 a) Treatment technique triggers. A supplier must conduct assessments in accordance  
12881 with subsection (b) after exceeding treatment technique triggers in subsections  
12882 (a)(1) and (a)(2).

12883

12884 1) Level 1 treatment technique triggers.

12885

12886 A) For a supplier taking 40 or more samples per month, the supplier  
12887 exceeds 5.0% total coliform-positive samples for the month.

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- B) For a supplier taking fewer than 40 samples per month, the supplier has two or more total coliform-positive samples in the same month.
- C) The supplier fails to take every required repeat sample after any single total coliform-positive sample.
- 2) Level 2 treatment technique triggers.
  - A) An E. coli MCL violation, as specified in Section 611.1060(a).
  - B) A second Level 1 trigger as defined in subsection (a)(1), within a rolling 12-month period, unless the Agency, by a SEP issued pursuant to Section 611.110, has determined a likely reason that the samples that caused the first Level 1 treatment technique trigger were total coliform-positive and has established that the supplier has corrected the problem.
  - C) For a supplier with approved annual monitoring, a Level 1 trigger in two consecutive years.
- b) Requirements for assessments.
  - 1) A supplier must ensure that Level 1 and Level 2 assessments are conducted in order to identify the possible presence of sanitary defects and defects in distribution system coliform monitoring practices. Level 2 assessments must be conducted by parties approved by the Agency.
  - 2) When conducting assessments, the supplier must ensure that the assessor evaluates minimum elements that include review and identification of inadequacies in sample sites; sampling protocol; sample processing; atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., small ground water systems); and existing water quality monitoring data. The supplier must conduct the assessment consistent with any Agency directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system.

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- 3) Level 1 assessments. A supplier must conduct a Level 1 assessment consistent with Agency requirements if the supplier exceeds one of the treatment technique triggers in subsection (a)(1).
  - A) The supplier must complete a Level 1 assessment as soon as practical after any trigger in subsection (a)(1). In the completed assessment form, the supplier must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective actions not already completed. The assessment form may also note that no sanitary defects were identified. The supplier must submit the completed Level 1 assessment form to the Agency within 30 days after the supplier learns that it has exceeded a trigger.
  - B) If the Agency reviews the completed Level 1 assessment and determines that the assessment is not sufficient (including any proposed timetable for any corrective actions not already completed), the Agency must consult with the supplier. If the Agency, by a SEP issued pursuant to Section 611.110, requires revisions after consultation, the supplier must submit a revised assessment form to the Agency on an agreed-upon schedule not to exceed 30 days from the date of the consultation.
  - C) Upon completion and submission of the assessment form by the supplier, the Agency must determine if the supplier has identified a likely cause for the Level 1 trigger and, if so, establish that the supplier has corrected the problem, or has included a schedule acceptable to the Agency for correcting the problem.
- 4) Level 2 assessments. A supplier must ensure that a Level 2 assessment consistent with Agency requirements is conducted if the supplier exceeds one of the treatment technique triggers in subsection (a)(2). The supplier must comply with any expedited actions or additional actions required by the Agency, by a SEP issued pursuant to Section 611.110, in the case of an E. coli MCL violation.
  - A) The supplier must ensure that a Level 2 assessment is completed by the Agency or by a party approved by the Agency as soon as practical after any trigger in subsection (a)(2). The supplier must submit a completed Level 2 assessment form to the Agency within 30 days after the supplier learns that it has exceeded a trigger. The assessment form must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective

12973 actions not already completed. The assessment form may also note  
12974 that no sanitary defects were identified.

12975  
12976 B) The supplier may conduct Level 2 assessments if the supplier has  
12977 staff or management with the certification or qualifications  
12978 specified by the Agency unless otherwise directed by the Agency,  
12979 by a SEP issued pursuant to Section 611.110.

12980  
12981 C) If the Agency reviews the completed Level 2 assessment and  
12982 determines that the assessment is not sufficient (including any  
12983 proposed timetable for any corrective actions not already  
12984 completed), the Agency must consult with the system. If the  
12985 Agency requires revisions after consultation, the supplier must  
12986 submit a revised assessment form to the Agency on an agreed-upon  
12987 schedule not to exceed 30 days.

12988  
12989 D) Upon completion and submission of the assessment form by the  
12990 supplier, the Agency must determine if the system has identified a  
12991 likely cause for the Level 2 trigger and determine whether the  
12992 supplier has corrected the problem, or has included a schedule  
12993 acceptable to the Agency for correcting the problem.

12994  
12995 c) Corrective action. A supplier must correct sanitary defects found through either  
12996 Level 1 or 2 assessments conducted under subsection (b). For corrections not  
12997 completed by the time of submission of the assessment form, the supplier must  
12998 complete the corrective actions in compliance with a timetable approved by the  
12999 Agency, by a SEP issued pursuant to Section 611.110, in consultation with the  
13000 supplier. The supplier must notify the Agency when each scheduled corrective  
13001 action is completed.

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13003 d) Consultation. At any time during the assessment or corrective action phase, either  
13004 the water supplier or the Agency may request a consultation with the other party  
13005 to determine the appropriate actions to be taken. The supplier may consult with  
13006 the Agency on all relevant information that may impact on its ability to comply  
13007 with a requirement of this Subpart AA, including the method of accomplishment,  
13008 an appropriate timeframe, and other relevant information.

13009  
13010 BOARD NOTE: Derived from 40 CFR 141.859 (2016).

13011  
13012 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

13013

13014 **Section 611.APPENDIX G NPDWR Violations and Situations Requiring Public Notice**

13015

13016 See note 1 at the end of this Appendix G for an explanation of the Agency's authority to alter the  
 13017 magnitude of a violation from that set forth in the following table.  
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Contaminant	MCL/MRDL/TT violations <sup>2</sup>		Monitoring and testing procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation

13019

13020 I. Violations of National Primary Drinking Water Regulations (NPDWR):<sup>3</sup>

13021

13022 A. Microbiological Contaminants

1a. Corresponding row 1a in appendix A to subpart Q to 40 CFR 141 no longer applies by its own terms. This statement maintains structural consistency with the federal regulations.				
1b. Total coliform (TT violations resulting from failure to perform assessments or corrective actions, monitoring violations, and reporting violations)	2	611.1060(b)(1)	3	611.1060(c)(1) 611.1060(d)(1)
1c. Seasonal system failure to follow State-approved start-up plan prior to serving water to the public or failure to provide certification to the Agency	2	611.1060(b)(2)	3	611.1060(d)(3)
2a. Corresponding row 2a in appendix A to subpart Q to 40 CFR 141 no longer applies by its own terms. This statement maintains structural consistency with the federal regulations.				

2b. E. coli (MCL, monitoring, and reporting violations)	1	611.1060(a)	3	611.1060(c) 611.1060(d)(2)
2c. E. coli (TT violations resulting from failure to perform Level 2 assessments or corrective action)	2	611.1060(b)(1)		
3. Turbidity MCL	2	611.320(a)	3	611.560
4. Turbidity MCL (average of two days' samples greater than 5 NTU)	<sup>5</sup> 2, 1	611.320(b)	3	611.560
5. Turbidity (for TT violations resulting from a single exceedance of maximum allowable turbidity level)	<sup>6</sup> 2, 1	611.231(b), 611.233(b)(1), 611.250(a)(2), 611.250(b)(2), 611.250(c)(2), 611.250(d), 611.743(a)(2), 611.743(b), 611.955(b)(2)	3	611.531(a), 611.532(b), 611.533(a), 611.744, 611.956(a)(1)- (a)(3), 611.956(b)
6. Surface Water Treatment Rule violations, other than violations resulting from single exceedance of max. allowable turbidity level (TT)	2	611.211, 611.213, 611.220, 611.230- 611.233, 611.240- 611.242, 611.250	3	611.531- 611.533
7. Interim Enhanced Surface Water Treatment Rule violations, other than violations resulting from single exceedance of max. turbidity level (TT)	2	<sup>7</sup> 611.740- 611.743, 611.950- 611.955	3	611.742, 611.744, 611.953, 611.954, 611.956
8. Filter Backwash Recycling Rule violations	2	611.276(c)	3	611.276(b), (d)
9. Long Term 1 Enhanced Surface Water Treatment Rule violations	2	611.950- 611.955	3	611.953, 611.954, 611.956

10. LT2ESWTR violations	2	611.1010-611.1020	<sup>19</sup> 2, 3	611.1001-611.1005 and 611.1008-611.1009
11. Groundwater Rule violations	2	611.804	3	611.802(h)

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B. Inorganic Chemicals (IOCs)

1. Antimony	2	611.301(b)	3	611.600, 611.601, 611.603
2. Arsenic	2	611.301(b)	3	611.601, 611.603
3. Asbestos (fibers greater than 10 µm)	2	611.301(b)	3	611.600, 611.601, 611.602
4. Barium	2	611.301(b)	3	611.600, 611.601, 611.603
5. Beryllium	2	611.301(b)	3	611.600, 611.601, 611.603
6. Cadmium	2	611.301(b)	3	611.600, 611.601, 611.603
7. Chromium (total)	2	611.301(b)	3	611.600, 611.601, 611.603
8. Cyanide	2	611.301(b)	3	611.600, 611.601, 611.603
9. Fluoride	2	611.301(b)	3	611.600, 611.601, 611.603
10. Mercury (inorganic)	2	611.301(b)	3	611.600, 611.601, 611.603
11. Nitrate	1	611.301(b)	<sup>8</sup> 1, 3	611.600, 611.601, 611.604, 611.606

12. Nitrite	1	611.301(b)	<sup>8</sup> 1, 3	611.600, 611.601, 611.605, 611.606
13. Total Nitrate and Nitrite	1	611.301(b)	3	611.600, 611.601
14. Selenium	2	611.301(b)	3	611.600, 611.601, 611.603
15. Thallium	2	611.301(b)	3	611.600, 611.601, 611.603

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C. Lead and Copper Rule (Action Level for lead is 0.015 mg/ℓ, for copper is 1.3 mg/ℓ)

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

1. 2,4-D	2	611.311(c)	3	611.648
2. 2,4,5-TP (silvex)	2	611.311(c)	3	611.648
3. Alachlor	2	611.311(c)	3	611.648
4. Atrazine	2	611.311(c)	3	611.648
5. Benzo(a)pyrene (PAHs)	2	611.311(c)	3	611.648
6. Carbofuran	2	611.311(c)	3	611.648
7. Chlordane	2	611.311(c)	3	611.648
8. Dalapon	2	611.311(c)	3	611.648
9. Di(2-ethylhexyl)adipate	2	611.311(c)	3	611.648
10. Di(2-ethylhexyl)phthalate	2	611.311(c)	3	611.648
11. Dibromochloropropane (DBCP)	2	611.311(c)	3	611.648
12. Dinoseb	2	611.311(c)	3	611.648
13. Dioxin (2,3,7,8-TCDD)	2	611.311(c)	3	611.648
14. Diquat	2	611.311(c)	3	611.648
15. Endothall	2	611.311(c)	3	611.648
16. Endrin	2	611.311(c)	3	611.648
17. Ethylene dibromide	2	611.311(c)	3	611.648
18. Glyphosate	2	611.311(c)	3	611.648
19. Heptachlor	2	611.311(c)	3	611.648
20. Heptachlor epoxide	2	611.311(c)	3	611.648
21. Hexachlorobenzene	2	611.311(c)	3	611.648
22. Hexachlorocyclopentadiene	2	611.311(c)	3	611.648
23. Lindane	2	611.311(c)	3	611.648

24. Methoxychlor	2	611.311(c)	3	611.648
25. Oxamyl (Vydate)	2	611.311(c)	3	611.648
26. Pentachlorophenol	2	611.311(c)	3	611.648
27. Picloram	2	611.311(c)	3	611.648
28. Polychlorinated biphenyls (PCBs)	2	611.311(c)	3	611.648
29. Simazine	2	611.311(c)	3	611.648
30. Toxaphene	2	611.311(c)	3	611.648

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E. Volatile Organic Chemicals (VOCs)

1. Benzene	2	611.311(a)	3	611.646
2. Carbon tetrachloride	2	611.311(a)	3	611.646
3. Chlorobenzene (monochlorobenzene)	2	611.311(a)	3	611.646
4. o-Dichlorobenzene	2	611.311(a)	3	611.646
5. p-Dichlorobenzene	2	611.311(a)	3	611.646
6. 1,2-Dichloroethane	2	611.311(a)	3	611.646
7. 1,1-Dichloroethylene	2	611.311(a)	3	611.646
8. cis-1,2-Dichloroethylene	2	611.311(a)	3	611.646
9. trans-1,2-Dichloroethylene	2	611.311(a)	3	611.646
10. Dichloromethane	2	611.311(a)	3	611.646
11. 1,2-Dichloropropane	2	611.311(a)	3	611.646
12. Ethylbenzene	2	611.311(a)	3	611.646
13. Styrene	2	611.311(a)	3	611.646
14. Tetrachloroethylene	2	611.311(a)	3	611.646
15. Toluene	2	611.311(a)	3	611.646
16. 1,2,4-Trichlorobenzene	2	611.311(a)	3	611.646
17. 1,1,1-Trichloroethane	2	611.311(a)	3	611.646
18. 1,1,2-Trichloroethane	2	611.311(a)	3	611.646
19. Trichloroethylene	2	611.311(a)	3	611.646
20. Vinyl chloride	2	611.311(a)	3	611.646
21. Xylenes (total)	2	611.311(a)	3	611.646

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F. Radioactive Contaminants

1. Beta/photon emitters	2	611.330(d)	3	611.720(a), 611.732
2. Alpha emitters	2	611.330(c)	3	611.720(a), 611.731
3. Combined radium (226 and 228)	2	611.330(b)	3	611.720(a), 611.731
4. Uranium	2	611.330(e)	3	611.720(a), 611.731

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

1. Total trihalomethanes (TTHMs)	2	<sup>11</sup> 611.312(b)	3	Subparts W and Y
2. Haloacetic Acids (HAA5)	2	611.312(b)	3	Subpart Y
3. Bromate	2	611.312(a)	3	611.382(a)-(b)
4. Chlorite	2	611.312(a)	3	611.382(a)-(b)
5. Chlorine (MRDL)	2	611.313(a)	3	611.382(a), (c)
6. Chloramine (MRDL)	2	611.313(a)	3	611.382(a), (c)
7. Chlorine dioxide (MRDL), where any two consecutive daily samples at entrance to distribution system only are above MRDL	2	611.313(a), 611.383(c)(3)	2 <sup>12</sup> , 3	611.382(a), (c), 611.383(c)(2)
8. Chlorine dioxide (MRDL), where samples in distribution system the next day are also above MRDL	<sup>13</sup> 1	611.313(a), 611.383(c)(3)	1	611.382(a), (c), 611.383(c)(2)
9. Control of DBP precursors – TOC (TT)	2	611.385(a)-(b)	3	611.382(a), (d)
10. Benchmarking and disinfection profiling	N/A	N/A	3	611.742, 611.953, 611.954
11. Development of monitoring plan	N/A	N/A	3	611.382(f)

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H. Other Treatment Techniques

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

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II. Unregulated Contaminant Monitoring:<sup>14</sup>

A. Unregulated contaminants	N/A	N/A	3	as required by USEPA pursuant to 40 CFR 141.40
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B. Nickel	N/A	N/A	3	611.603, 611.611
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III. Public Notification for Relief Equivalent to a SDWA section 1415 Variance or a section 1416 Exemption.

A. Operation under relief equivalent to a SDWA section 1415 variance or a section 1416 exemption	3	<sup>15</sup> 1415, 1416	N/A	N/A
B. Violation of conditions of relief equivalent to a SDWA section 1415 variance or a section 1416 exemption	2	1415, 1416, <sup>16</sup> 611.111, 611.112	N/A	N/A

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IV. Other Situations Requiring Public Notification.

A. Fluoride secondary maximum contaminant level (SMCL) exceedance	3	611.858	N/A	N/A
B. Exceedance of nitrate MCL for a non-CWS supplier, as allowed by the Agency	1	611.300(d)	N/A	N/A
C. Availability of unregulated contaminant monitoring data	3	as required by USEPA pursuant to 40 CFR 141.40	N/A	N/A
D. Waterborne disease outbreak	1	611.101, 611.233(b)(2)	N/A	N/A
E. Other waterborne emergency <sup>17</sup>	1	N/A	N/A	N/A
F. Source water sample positive for Groundwater Rule fecal indicators: E. coli, enterococci, or coliphage	1	611.802(g)	N/A	N/A
G. Other situations as determined by the Agency by a SEP issued pursuant to Section 611.110	<sup>18</sup> 1, 2, 3	N/A	N/A	N/A

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Appendix G – Endnotes

1. Violations and other situations not listed in this table (e.g., failure to prepare Consumer

- 13052 Confidence Reports) do not require notice, unless otherwise determined by the Agency  
 13053 by a SEP issued pursuant to Section 611.110. The Agency may, by a SEP issued  
 13054 pursuant to Section 611.110, further require a more stringent public notice tier (e.g., Tier  
 13055 1 instead of Tier 2 or Tier 2 instead of Tier 3) for specific violations and situations listed  
 13056 in this Appendix, as authorized under Sections 611.902(a) and 611.903(a).  
 13057
- 13058 2. Definition of the abbreviations used: "MCL" means maximum contaminant level,  
 13059 "MRDL" means maximum residual disinfectant level, and "TT" means treatment  
 13060 technique.  
 13061
  - 13062 3. The term "violations of National Primary Drinking Water Regulations (NPDWR)" is  
 13063 used here to include violations of MCL, MRDL, treatment technique, monitoring, and  
 13064 testing procedure requirements.  
 13065
  - 13066 4. Failure to test for fecal coliform or E. coli is a Tier 1 violation if testing is not done after  
 13067 any repeat sample tests positive for coliform. All other total coliform monitoring and  
 13068 testing procedure violations are Tier 3 violations.  
 13069
  - 13070 5. A supplier that violates the turbidity MCL of 5 NTU based on an average of  
 13071 measurements over two consecutive days must consult with the Agency within 24 hours  
 13072 after learning of the violation. Based on this consultation, the Agency may subsequently  
 13073 decide to issue a SEP pursuant to Section 611.110 that elevates the violation to a Tier 1  
 13074 violation. If a supplier is unable to make contact with the Agency in the 24-hour period,  
 13075 the violation is automatically elevated to a Tier 1 violation.  
 13076
  - 13077 6. A supplier with a treatment technique violation involving a single exceedance of a  
 13078 maximum turbidity limit under the Surface Water Treatment Rule (SWTR), the Interim  
 13079 Enhanced Surface Water Treatment Rule (IESWTR), or the Long Term 1 Enhanced  
 13080 Surface Water Treatment Rule are required to consult with the Agency within 24 hours  
 13081 after learning of the violation. Based on this consultation, the Agency may subsequently  
 13082 decide to issue a SEP pursuant to Section 611.110 that elevates the violation to a Tier 1  
 13083 violation. If a supplier is unable to make contact with the Agency in the 24-hour period,  
 13084 the violation is automatically elevated to a Tier 1 violation.  
 13085
  - 13086 7. The Surface Water Treatment Rule (SWTR) remains in effect for a supplier that serves at  
 13087 least 10,000 persons; the Interim Enhanced Surface Water Treatment Rule adds  
 13088 additional requirements and does not in many cases supersede the SWTR.  
 13089
  - 13090 8. Failure to take a confirmation sample within 24 hours for nitrate or nitrite after an initial  
 13091 sample exceeds the MCL is a Tier 1 violation. Other monitoring violations for nitrate are  
 13092 Tier 3.  
 13093
  - 13094 9. Failure to take a confirmation sample within 24 hours for nitrate or nitrite after an initial

13095 sample exceeds the MCL is a Tier 1 violation. Other monitoring violations for nitrate are  
13096 Tier 3.

13097  
13098 10. A Subpart B community or non-transient non-community system supplier must comply  
13099 with new DBP MCLs, disinfectant MRDLs, and related monitoring requirements. A  
13100 Subpart B transient non-community system supplier that serves 10,000 or more persons  
13101 that uses chlorine dioxide as a disinfectant or oxidant or a Subpart B transient non-  
13102 community system supplier that serves fewer than 10,000 persons, which uses only  
13103 groundwater not under the direct influence of surface water, and which uses chlorine  
13104 dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL.  
13105

13106 11. Sections 611.312(b)(1) and 611.382(a) and (b) apply until Subpart Y takes effect under  
13107 the schedule set forth in Section 611.970(c).  
13108

13109 12. Failure to monitor for chlorine dioxide at the entrance to the distribution system the day  
13110 after exceeding the MRDL at the entrance to the distribution system is a Tier 2 violation.  
13111

13112 13. If any daily sample taken at the entrance to the distribution system exceeds the MRDL  
13113 for chlorine dioxide and one or more samples taken in the distribution system the next  
13114 day exceed the MRDL, Tier 1 notification is required. A failure to take the required  
13115 samples in the distribution system after the MRDL is exceeded at the entry point also  
13116 triggers Tier 1 notification.  
13117

13118 14. Some water suppliers must monitor for certain unregulated contaminants as required by  
13119 USEPA under pursuant to 40 CFR 141.40.  
13120

13121 15. This citation refers to sections 1415 and 1416 of the federal Safe Drinking Water Act.  
13122 sections 1415 and 1416 require that "a schedule prescribed...for a public water system  
13123 granted relief equivalent to a SDWA section 1415 variance or a section 1416 exemption  
13124 must require compliance by the system...."  
13125

13126 16. In addition to sections 1415 and 1416 of the federal Safe Drinking Water Act, 40 CFR  
13127 142.307 specifies the items and schedule milestones that must be included in relief  
13128 equivalent to a SDWA section 1415 small system variance. In granting any form of relief  
13129 from an NPDWR, the Board will consider all applicable federal requirements for and  
13130 limitations on the State's ability to grant relief consistent with federal law.  
13131

13132 17. Other waterborne emergencies require a Tier 1 public notice under Section 611.902(a) for  
13133 situations that do not meet the definition of a waterborne disease outbreak given in  
13134 Section 611.101, but which still have the potential to have serious adverse effects on  
13135 health as a result of short-term exposure. These could include outbreaks not related to  
13136 treatment deficiencies, as well as situations that have the potential to cause outbreaks,  
13137 such as failures or significant interruption in water treatment processes, natural disasters

13138 that disrupt the water supply or distribution system, chemical spills, or unexpected  
13139 loading of possible pathogens into the source water.

13140  
13141 18. The Agency may place any other situation in any tier it deems appropriate in writing,  
13142 based on the prospective threat which it determines that the situation poses to public  
13143 health, and subject to Board review ~~underpursuant to~~ Section 40 of the Act.

13144  
13145 19. A failure to collect three or more samples for Cryptosporidium analysis is a Tier 2  
13146 violation requiring special notice, as specified in Section 611.911. All other monitoring  
13147 and testing procedure violations are Tier 3.

13148  
13149 BOARD NOTE: Derived from appendix A to subpart Q of 40 CFR 141 (2016).

13150  
13151 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)  
13152

13153 **Section 611.TABLE C Frequency of RDC Measurement**  
13154

System Size (Persons Served)			Samples per Day
500	or	fewer	1
501	to	<u>1,000</u> <del>1000</del>	2
1001	to	2,500	3
2501	to	3,300	4

13155  
13156 The day's samples cannot be taken at the same time. The sampling intervals are subject to  
13157 Agency review and approval by a SEP issued pursuant to Section 611.110.

13158  
13159 BOARD NOTE: Derived from 40 CFR 141.74(b)(5) and (c)(2) (2012).

13160  
13161 (Source: Amended at 42 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)