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DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
CHAPTER 61

Statutory Authority: 1976 Code Sections 44-55-10 et seq.

61-58. State Primary Drinking Water Regulations

Synopsis:

This amendment applies to all public water systems that use ground water except for systems that also use surface water or ground water under the direct influence of surface water. The regulation requires source water monitoring, treatment technique requirements, and new reporting requirements. Water systems must comply with these requirements beginning December 1, 2009. These revisions will amend the State Primary Drinking Water Regulations to comply with requirements of 40 CFR Parts 141 and 142. The final Ground Water Rule was published in the November 8, 2006 Federal Register.

To maintain consistency with federal regulations, the Department has also revised the State Primary Drinking Water Regulations to reinsert inadvertently-deleted language, to update outdated references, to delete requirements that no longer apply, and make other minor additions and revisions. These corrections are being made to conform R.61-58 to federally mandated regulations promulgated from the period June 29, 1989 to November 8, 2006 pursuant to 40 CFR 141.

These amendments were promulgated to comply with federal law and are exempt from legislative review. A fiscal impact statement or a preliminary assessment report are not applicable.

Section-by-Section Discussion of Revisions

SECTION	CHANGE
R.61-58.5.C(9)(h)	Revised to correct citation.
R.61-58.5.D(1)	Revised to correct citation.
R.61-58.5.G(2)(e)(ii)	Revised to correct citation.
R.61-58.5.G(4)(c)	Added to clarify sanitary survey requirements consistent with the federal regulations.
R.61-58.5.G(6)(c)	Revised to remove outdated language, correct citations, and add language consistent with the federal regulations.
R.61-58.5.G(6)(d)	Revised to remove outdated language, correct citations, and add language consistent with the federal regulations.
R.61-58.5.G(6)(e)	Added to include monitoring requirements for E. coli
R.61-58.5.I(3)(f)	Revised to correct citations.
R.61-58.5.I(4)(a)	Revised to correct citations.
R.61-58.5.O(2)(e)	Revised to correct citations.
R.61-58.5.O(2)(i)	Revised to correct citations.

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R.61-58.5.O(2)(l)	Revised to correct citations.
R.61-58.5.O(2)(m)	Revised to correct citations.
R.61-58.5.O(2)(r)	Revised to correct citations.
R.61-58.5.R(5)	Revised to correct citation.
R.61-58.5.BB	Revised to correct citation.
R.61-58.6.B(6)	Added for consistency with federal regulations.
R.61-58.6.E(1)(a)	Revised to correct citations.
R.61-58.6.E(1)(b)	Revised to correct citations.
R.61-58.6.E(1)(c)(iii)	Revised to correct citations.
R.61-58.6.E(2)(a)	Revised to correct citations. Added to establish a new category for a tier 1 public notice
R.61-58.6.E(3)(a)	Revised to correct citations. Added to establish a new category for a tier 2 public notice.
R.61-58.6.E(3)(c)(i)(B)	Revised to correct citations.
R.61-58.6.E(3)(c)(ii)(B)	Revised to correct citations.
R.61-58.6.E(4)(a)	Revised to correct citations.
R.61-58.6.E(5)(d)(i)	Revised to correct citations.
R.61-58.6.E(5)(d)(ii)	Revised to correct citations.
Appendix A to R.61-58.6	Revised to add ground water rule violations, source water sampling violations, and change numerous footnotes and citations for consistency with federal regulations.
Endnotes to Appendix A to R.61-58.6	Revised to correct citations.
Appendix B to R.61-58.6	Revised to add health effects language for fecal indicators under the ground water rule.
Appendix C to R.61-58.6	Revised to add an acronym for the ground water rule.
R.61-58.10.C(2)(e)	Revised to correct citations.
R.61-58.10.C(2)(f)	Removed a date and language that no longer applies.
R.61-58.10.F(1)	Revised to update analytical techniques, remove language that no longer applies, and correct citations.
R.61-58.10.F(2)(f)(i)	Revised to correct citation.

R.61-58.10.H	Revised introductory title to clarify section title consistent with federal regulations.
R.61-58.10.I	Revised introductory title to clarify section title consistent with federal regulations.
R.61-58.10.J	Revised introductory title to clarify section title consistent with federal regulations.
R.61-58.12.C(4)(d)(i)	Revised to correct citation.
R.61-58.12.C(4)(d)(v)(C)	Revised to correct citation.
R.61-58.12.C(9)(c)	Revised to correct citation.
R.61-58.12.C(11)(f)	Added to establish reporting criteria for significant deficiencies and fecal indicator positive source water sampling for systems that have to comply with the ground water rule.
Appendix D to R.61-58.12	Revised to add health effects language for fecal indicators under the ground water rule.
R.61-58.13	Revised introductory title to clarify section title consistent with federal regulations.
R.61-58.13.A	Revised incorrect language.
R.61-58.13.B(1)	Revised incorrect language.
R.61-58.13.B(4)	Revised to correct citations.
R.61-58.13.C(2)(b)	Revised to reinsert inadvertently deleted language covering chlorite.
R.61-58.13.C(2)(c)	Revised to reinsert inadvertently deleted language covering bromate.
R.61-58.13.C(2)(c)(i)	Revised to reinsert inadvertently deleted language covering bromate.
R.61-58.13.C(2)(c)(ii)	Revised to correct citation.
R.61-58.13.D(4)	Revised to correct citation.
R.61-58.13.E(4)(b)(v)	Revised to correct citations.
R.61-58.13.E(4)(b)(vi)	Revised to correct citations.
R.61-58.13.E(4)(b)(vii)	Revised to correct citations.
R.61-58.13.E(4)(b)(viii)	Revised to correct citations.
R.61-58.13.F(2)(d)(i)	Revised to correct citation.
R.61-58.13.F(3)(a)	Revised to correct citation.

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R.61-58.13.F(3)(b)(iii)	Revised to correct citation.
R.61-58.13.F(3)(b)(iv)	Revised to correct citation.
R.61-58.13.F(3)(d)	Deleted codification [R.61-58.13.F(3)(d)] and renumbered it to R.61-58.13.F(4) to form new section for consistency with federal regulations.
R.61-58.14.B(2)(a)(v)	Revised to correct citations.
R.61-58.14.B(2)(b)(v)	Revised to correct citations.
R.61-58.14.B(2)(c)(v)	Revised to correct citations.
R.61-58.14.B(2)(d)(v)	Revised to correct citations.
R.61-58.14.B(2)(e)(v)	Revised to correct citations.
R.61-58.14.F(2)	Revised to correct citations.
R.61-58.14.G(2)	Revised to correct table consistent with the federal regulations.
R.61-58.16	Added to establish requirements of the Ground Water Rule.

Instructions: Amend R.61-58 pursuant to each individual instruction provided below with the text of the amendments.

Text:

Replace R.61-58.5.C(9)(h) to read:

(h) The Department may decrease the quarterly monitoring requirement to the frequencies specified in paragraphs (9)(a) and (9)(c) of this section provided it has determined that the system is reliably and consistently below the maximum contaminant level. In no case can the Department make this determination unless a groundwater system takes a minimum of two quarterly samples and a surface water system takes a minimum of four quarterly samples.

Replace R.61-58.5.D(1) to read:

(1) The following are the maximum contaminant levels for organic chemicals. The MCLs specified in R.61-58.5(D)(2) below, apply to all public water systems. The maximum contaminant level for total trihalomethanes is pursuant to Section P below.

Replace R.61-58.5.G(2)(e)(ii) to read:

(ii) The Department may waive the requirement to collect five routine samples the next month the system provides water to the public if the Department has determined why the sample was total coliform-positive and establishes that the system has corrected the problem or will correct the problem before the end of the next month the system serves water to the public. In this case, the Department shall document this decision to waive the following month's additional monitoring requirement in writing, have it approved and signed by the supervisor of the Department official who recommends such a decision, and make this document available to the EPA and public. The written documentation shall describe the specific cause of the total coliform-positive sample and what action the system has taken and/or will take to correct this problem. The Department cannot waive the requirement to collect five routine samples the next month the system provides water to the public

solely on the grounds that all repeat samples are total coliform-negative. Under this paragraph, a system shall still take at least one routine sample before the end of the next month it serves water to the public and use it to determine compliance with the MCL for total coliforms in R.61-58.5.F, unless the Department has determined that the system has corrected the contamination problem before the system took the set of repeat samples required in paragraphs (2)(a) through (d) of this section, and all repeat samples were total coliform-negative.

Add R.61-58.5.G(4)(c) to read:

(c) Sanitary surveys conducted by the Department under the provisions of 40 CFR 142.16(o)(2) may be used to meet the sanitary survey requirements of R.61-58.5.G(4).

Replace R.61-58.5.G(6)(c) to read:

(c) Analytical methods used to comply with R.61-58.5.G shall be in accordance with EPA-approved methods listed in 40 CFR 141 (11-8-06 edition).

Replace R.61-58.5.G(6)(d) to read:

(d) Water systems must conduct fecal coliform analysis in accordance with the procedure outlined in 40 CFR 141.21(f)(5) (11-8-06 edition).

Add R.61-58.5.G(6)(e) to read:

(e) Water systems must conduct *Escherichia coli* analysis in accordance with the analytical methods outlined in 40 CFR 141.21(f)(6) (11-8-06 edition).

Replace R.61-58.5.I(3)(f) to read:

(f) Systems must monitor monthly at the sampling point(s) which exceed the maximum contaminant level in R.61-58.5.H(4)(a), beginning the month after the exceedance occurs. Systems must continue monthly monitoring until the system has established, by a rolling average of three (3) monthly samples, that the MCL is being met. Systems who establish that the MCL is being met must return to quarterly monitoring until they meet the requirements set forth in paragraphs (3)(a)(i) or (3)(b)(iv) of this section.

Replace R.61-58.5.I(4)(a) to read:

(a) The Department may require more frequent monitoring than specified R.61-58.5.I(1) or (2), or may require confirmation samples at its discretion. The results of the initial and confirmation samples will be averaged for use in compliance determinations.

Replace R.61-58.5.O(2)(e) to read:

(e) If the initial monitoring for contaminants listed in Section N(2)(a) through (h) and the monitoring for the contaminants listed in Section N(2)(i) through (u) as allowed in paragraph (2)(r) of this section, has been completed by December 31, 1992, and the system did not detect any contaminant listed in Section N(2) above, then each ground and surface water system shall take one (1) sample annually beginning with the initial compliance period.

Replace R.61-58.5.O(2)(i) to read:

(i) As a condition of the waiver a groundwater system must take one (1) sample at each sampling point during the time the waiver is effective (i.e., one sample during two compliance periods or six years) and update its vulnerability assessment considering the factors listed in paragraph (2)(h) of this section. Based on

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this vulnerability assessment the Department must reconfirm that the system is non-vulnerable. If the Department does not make this reconfirmation within three (3) years of the initial determination, then the waiver is invalidated and the system is required to sample annually as specified in paragraph (e) of this section.

Replace R.61-58.5.O(2)(l) to read:

(l) Systems which violate the requirements of Section N(2) above, as determined by paragraph (2)(o) of this section must monitor quarterly. After a minimum of four (4) consecutive quarterly samples which shows the system is in compliance as specified in paragraph (2)(o) of this section, the system and the Department determines that the system is reliably and consistently below the maximum contaminant level, the system may monitor at the frequency and time specified in paragraph (4)(k)(iii) of this section.

Replace R.61-58.5.O(2)(m) to read:

(m) The Department may require a confirmation sample for positive or negative results. If a confirmation sample is required by the Department, the result must be averaged with the first sampling result and the average is used for the compliance determination as specified by paragraph (2)(o) of this section. The Department has the discretion to delete results of obvious sampling errors from this calculation.

Replace R.61-58.5.O(2)(r) to read:

(r) The Department may allow the use of monitoring data collected after January 1, 1988, for purposes of initial monitoring compliance. If the data are generally consistent with the other requirements in this section, the Department may use those data (i.e., a single sample rather than four quarterly samples) to satisfy the initial monitoring requirement of paragraph (2)(d) of this section. Systems which use grandfathered samples and did not detect any contaminant listed in Section N(2)(b) through (u) above shall begin monitoring annually in accordance with paragraph (2)(e) of this section beginning with the initial compliance period.

Replace R.61-58.5.R(5) to read:

(5) The public notice that shall be used by systems which exceed the secondary MCL for fluoride shall contain the specific language outlined in R.61-58.6.E(8), and no additional language except as necessary to complete the notice.

Replace R.61-58.5.BB to read:

BB. Approved Laboratories.

For the purpose of determining compliance with R.61-58.5.B through R.61-58.5.V, R.61-58.5.CC, R.61-58.10.F, R.61-58.11.D, and R.61-58.16.E, samples may be considered only if they have been analyzed by a laboratory approved by the Department, except that measurements for turbidity may be performed by a properly certified water treatment plant operator.

Add R.61-58.6.B(6) to read:

(6) The public water system shall submit to the Department, when requested, within the time stated in the request, copies of any records required to be maintained under R.61-58.6.D or copies of any documents then in existence which the Department or the EPA Administrator is entitled to inspect pursuant to the authority of section 1445 of the Safe Drinking Water Act or the equivalent provisions of State law.

Replace R.61-58.6.E(1)(a) to read:

(a) Who must give public notice? Each owner or operator of a public water system (community water systems, non-transient non-community water systems, and transient non community water systems) must give notice for all violations of State Primary Drinking Water Regulations (SPDWR) and for other situations, as listed in Table 1. The term "SPDWR violations" is used in this regulation to include violations of the maximum contaminant level (MCL), maximum residual disinfection level (MRDL), treatment technique (TT), monitoring requirements, and testing procedures in this regulation. Appendix A to this regulation identifies the tier assignment for each specific violation or situation requiring a public notice.

TABLE 1: VIOLATION CATEGORIES AND OTHER SITUATIONS REQUIRING A PUBLIC NOTICE

<p>(1) SPDWR violations:</p> <ul style="list-style-type: none"> (i) Failure to comply with an applicable maximum contaminant level(MCL) or maximum residual disinfectant level (MRDL). (ii) Failure to comply with a prescribed treatment technique (TT). (iii) Failure to perform water quality monitoring, as required by the drinking water regulations. (iv) Failure to comply with testing procedures as prescribed by a drinking water regulation. <p>(2) Variance and exemptions under R.61-58.9:</p> <ul style="list-style-type: none"> (i) Operation under a variance or an exemption. (ii) Failure to comply with the requirements of any schedule that has been set under a variance or exemption. <p>(3) Special public notices:</p> <ul style="list-style-type: none"> (i) Occurrence of a waterborne disease outbreak or other waterborne emergency. (ii) Exceedance of the nitrate MCL by non-community water systems (NCWS), where granted permission by the Department under R.61-58.5.B(3). (iii) Exceedance of the secondary maximum contaminant level (SMCL) for fluoride. (iv) Availability of unregulated contaminant monitoring data. (v) Other violations and situations determined by the Department to require a public notice under this regulation, not already listed in Appendix A to this regulation.

Replace R.61-58.6.E(1)(b) to read:

(b) What type of public notice is required for each violation or situation? Public notice requirements are divided into three (3) 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 Table 1 of this section are determined by the tier to which it is assigned. Table 2 of this section provides the definition of each tier. Appendix A to this regulation identifies the tier assignment for each specific violation or situation.

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TABLE 2: DEFINITION OF PUBLIC NOTICE TIERS

- (1) Tier 1 public notice -- required for SPDWR 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 SPDWR violations and situations with potential to have serious adverse effects on human health.
- (3) Tier 3 public notice -- required for all other SPDWR violations and situations not included in Tier 1 and Tier 2.

Replace R.61-58.6.E(1)(c)(iii) to read:

(iii) A copy of the notice must also be sent to the Department, in accordance with the requirements of R.61-58.6.B(5).

Replace R.61-58.6.E(2)(a) to read:

(a) Which violations or situations require a Tier 1 public notice? Table 1 of this section lists the violation categories and other situations requiring a Tier 1 public notice. Appendix A to this regulation identifies the tier assignment for each specific violation or situation.

TABLE 1: VIOLATION CATEGORIES AND OTHER SITUATIONS REQUIRING A TIER 1 PUBLIC NOTICE

- (1) Violation of the MCL for total coliforms when fecal coliform or E. coli are present in the water distribution system (as specified in R.61-58.5.F(2)), or when the water system fails to test for fecal coliforms or E. coli when any repeat sample tests positive for coliform (as specified in R.61-58.5.G(5));
- (2) Violation of the MCL for nitrate, nitrite, or total nitrate and nitrite, as defined in R.61-58.5.B, or when the water system fails to take a confirmation sample within 24 hours of the system's receipt of the first sample showing an exceedance of the nitrate or nitrite MCL, as specified in R.61-58.5.C(12)(b);
- (3) Exceedance of the nitrate MCL by non-community water systems, where permitted to exceed the MCL by the Department under R.61-58.5.B(3), as required under paragraph (9) of this section;
- (4) Violation of the MRDL for chlorine dioxide, as defined in R.61-58.5.Q(1), when one or more samples taken in the distribution system the day following an exceedance of the MRDL at the entrance of the distribution system exceed the MRDL, or when the water system does not take the required samples in the distribution system, as specified in R.61-58.13.D(3)(b)(i);
- (5) Violation of the turbidity MCL under R.61-58.10(C), (E), (H), or (I), where the Department determines after consultation that a Tier 1 notice is required or where consultation does not take place within 24 hours after the system learns of the violation;

- (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 (LT1EWSTR) treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit (as identified in Appendix A to this regulation), where the Department determines after consultation that a Tier 1 notice is required or where consultation does not take place within twenty-four (24) hours after the system learns of the violation;
- (7) Occurrence of a waterborne disease outbreak, as defined in R.61-58(B)(174), 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 R.61-58.16.E(1) or R.61-58.16.E(2).
- (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 Department either in its regulations or on a case-by-case basis.

Replace R.61-58.6.E(3)(a) to read:

(a) Which violations or situations require a Tier 2 public notice? Table 1 of this section lists the violation categories and other situations requiring a Tier 2 public notice. Appendix A to this regulation identifies the tier assignment for each specific violation or situation.

TABLE 1: VIOLATION CATEGORIES AND OTHER SITUATIONS REQUIRING A TIER 2 PUBLIC NOTICE

- (1) All violations of the MCL, MRDL, and treatment technique requirements, except where a Tier 1 notice is required under paragraph (2)(a) of this section or where the Department determines that a Tier 1 notice is required;
- (2) Violations of the monitoring and testing procedure requirements, where the Department determines that a Tier 2 rather than a Tier 3 public notice is required, taking into account potential health impacts and persistence of the violation;
- (3) Failure to comply with the terms and conditions of any variance or exemption in place; and
- (4) Failure to take corrective action or failure to maintain at least 4-log treatment of viruses (using inactivation, removal, or a Department approved combination of 4-log virus inactivation and removal) before or at the first customer under R.61-58.16.F(1).

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Replace R.61-58.6.E(3)(c)(i)(B) to read:

(B) Any other method reasonably calculated to reach other persons regularly served by the system, if they would not normally be reached by the notice required in R.61-58.6.E(3)(c)(i)(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 system or on the Internet; or delivery to community organizations.

Replace R.61-58.6.E(3)(c)(ii)(B) to read:

(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 R.61-58.6.E(3)(c)(ii)(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: 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).

Replace R.61-58.6.E(4)(a) to read:

(a) Which violations or situations require a Tier 3 public notice? Table 1 of this section lists the violation categories and other situations requiring a Tier 3 public notice. Appendix A to this regulation identifies the tier assignment for each specific violation or situation.

TABLE 1: VIOLATION CATEGORIES AND OTHER SITUATIONS REQUIRING A TIER 3 PUBLIC NOTICE

- (1) Monitoring violations under R.61-58.5, except where a Tier 1 notice is required under paragraph (2)(a) of this section or where the Department determines that a Tier 2 notice is required;
- (2) Failure to comply with a testing procedure established in R.61-58.5, except where a Tier 1 notice is required under paragraph (2)(a) of this section or where the Department determines that a Tier 2 notice is required;
- (3) Operation under a variance or an exemption granted under R.61-58.9;
- (4) Availability of unregulated contaminant monitoring results, as required under paragraph (7) of this section; and
- (5) Exceedance of the fluoride secondary maximum contaminant level (SMCL), as required under paragraph (8) of this section.

Replace R.61-58.6.E(5)(d)(i) to read:

(i) Standard health effects language for MCL or MRDL violations, treatment technique violations, and violations of the condition of a variance or exemption. Public water systems must include in each public notice the health effects language specified in Appendix B to this regulation corresponding to each MCL, MRDL, and treatment technique violation listed in Appendix A to this regulation, and for each violation of a condition of a variance or exemption.

Replace R.61-58.6.E(5)(d)(ii) to read:

(ii) Standard language for monitoring and testing procedure violations. Public water systems must include the following language in their notice, including the language necessary to fill in the blanks, for all monitoring and testing procedure violations listed in Appendix A to this regulation:

"We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During [compliance period], we "did not monitor or test" or "did not complete all monitoring or testing" for [contaminant(s)], and therefore cannot be sure of the quality of your drinking water during that time."

Replace R.61-58.10.C(2)(e) to read:

(e) The public water system shall comply with the maximum contaminant level (MCL) for total coliforms in R.61-58.5.F at least 11 months of the 12 previous months that the system served water to the public, on an ongoing basis, unless the Department determines that failure to meet this requirement was not caused by a deficiency in treatment of the source water.

Replace R.61-58.10.C(2)(f) to read:

(f) The public water system must comply with the requirements for trihalomethanes in R.61-58.13.

Replace R.61-58.10.F(1) to read:

(1) Analytical requirements.

Only the analytical method(s) specified in this paragraph, or otherwise approved by EPA, may be used to demonstrate compliance with the requirements of R.61-58.10.C, R.61-58.10.D, and R.61-58.10.E. Measurements for pH, temperature, turbidity and residual disinfectant concentrations shall be conducted by a party approved by the Department. Measurements for total coliforms, fecal coliforms, and HPC shall be conducted by a laboratory certified by the Department or EPA to do such analysis. Until laboratory certification criteria are developed for the analysis of HPC and fecal coliforms, any laboratory certified for total coliform analysis by EPA is deemed certified for HPC and fecal coliform analysis. All procedures shall be performed in accordance with EPA-approved methods outlined in 40 CFR 141 (11-8-06 edition).

Replace R.61-58.10.F(2)(f)(i) to read:

(i) The residual disinfectant concentration shall 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 R.61-58.5.G, except that the Department may allow a public water system which uses both a surface water source or a ground water source under the direct influence of surface water, and a ground water source, to take disinfectant residual samples at points other than the total coliform sampling points if the Department determines that such points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in paragraph (1)(c) of this section, may be measured in lieu of residual disinfectant concentration.

Replace introductory title to R.61-58.10.H; subitems H(1) through H(6) remain unchanged:

H. Enhanced Filtration and Disinfection - Systems Serving 10,000 or More People (Interim Enhanced Surface Water Treatment Rule).

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Replace introductory title to R.61-58.10.I; subitems I(1) through I(8) remain unchanged:

I. Enhanced Filtration and Disinfection - Systems Serving Fewer Than 10,000 People (Long Term 1 Enhanced Surface Water Treatment Rule).

Replace introductory title to R.61-58.10.J; subitems J(1) through J(4) remain unchanged:

J. Recycle Provisions (Filter Backwash Recycling Rule).

Replace R.61-58.12.C(4)(d)(i) to read:

(i) The MCL for that contaminant expressed as a number equal to or greater than 1.0 (as provided in Appendix D to this regulation);

Replace R.61-58.12.C(4)(d)(v)(C) to read:

(C) When it is reported pursuant to R.61-58.10.E or R.61-58.10.H(4) or R.61-58.10.I(6): the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in R.61-58.10.E or R.61-58.10.H(4) or R.61-58.10.I(6) for the filtration technology being used. The report should include an explanation of the reasons for measuring turbidity.

Replace R.61-58.12.C(9)(c) to read:

(c) Lead and copper control requirements prescribed by R.61-58.11, Lead and Copper. For systems which fail to take one or more actions prescribed by R.61-58.11.B(2) [Corrosion Control Treatment Requirements], R.61-58.11.C [Applicability of Corrosion Control Treatment Steps to Small, Medium-Size and Large Water Systems], R.61-58.11(D) [Description of Corrosion Control Treatment Requirements], R.61-58.11.E [Source Water Treatment Requirements], R.61-58.11.F [Lead Service Line Replacement Requirements], the report shall include the applicable language of Appendix D to this regulation for lead, copper, or both;

Add R.61-58.12.C(11)(f) to read:

(f) Systems required to comply with R.61-58.16.

(i) Any ground water system that receives notice from the Department of a significant deficiency or notice from a laboratory of a fecal indicator positive ground water source sample that is not invalidated by the Department must inform its customers in the next report. The report must contain information on any significant deficiency that is uncorrected or any fecal indicator positive ground water source sample. The system must continue to inform the public annually until the Department determines that particular significant deficiency is corrected or the fecal contamination in the ground water source is addressed under R.61-58.16.F(1). Each report must include the following elements.

(A) 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 Department or the dates of the fecal indicator-positive ground water source samples.

(B) If the fecal contamination in the ground water source has been addressed under R.61-58.16.F(1) and the date of such action.

(C) For each significant deficiency or fecal contamination in the ground water source that has not been addressed under R.61-58.16.F(1), the Department approved plan and schedule for correction, including any interim measures completed.

(D) If the system receives notice of a fecal indicator positive ground water source sample that is not invalidated by the Department, the potential health effects using the health effects language of Appendix D of R.61-58.12.

(ii) If directed by the Department, a system 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.

Replace introductory title to R.61-58.13:

61-58.13 Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors (Stage 1 Disinfectants and Disinfection Byproducts Rule).

Replace R.61-58.13.A to read:

A. Applicability.

This regulation establishes criteria and requirements for the control of disinfectants, disinfection byproducts and disinfection byproduct precursors for community water systems (CWSs) and non-transient, non-community water systems (NTNCWSs) which add a chemical disinfectant to the water in any part of the drinking water treatment process. In addition, this regulation establishes criteria and requirements for the control of chlorine dioxide for non-community water systems (NCWSs) that use chlorine dioxide as a disinfectant or oxidant in any part of the drinking water treatment process.

Replace R.61-58.13.B(1) to read:

(1) The requirements of this regulation constitute national primary drinking water regulations. This regulation establishes criteria under which community water systems (CWSs) and non-transient, non-community water systems (NTNCWSs) which add a chemical disinfectant to the water in any part of the drinking water treatment process must modify their practices to meet MCLs and MRDLs in R.61-58.5.P and R.61-58.5.Q, respectively, and must meet the treatment technique requirements for disinfection byproduct precursors in Section F of this regulation.

In addition, this regulation establishes criteria under which transient non-community water systems (NCWSs) that use chlorine dioxide as a disinfectant or oxidant must modify their practices to meet the MRDL for chlorine dioxide in R.61-58.5.Q.

Replace R.61-58.13.B(4) to read:

(4) Control of Disinfectant Residuals - Notwithstanding the MRDLs in R.61-58.5.Q, systems may increase residual disinfectant levels in the distribution system of chlorine or chloramines (but not chlorine dioxide) to a level and for a time necessary to protect public health, to address specific microbiological contamination problems caused by circumstances such as, but not limited to, distribution line breaks, storm run-off events, source water contamination events, or cross-connection events.

Add R.61-58.13.C(2)(b) to read:

(b) Chlorite. Community and non-transient, non-community water systems using chlorine dioxide, for disinfection or oxidation, must conduct monitoring for chlorite.

(i) Routine Monitoring.

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(A) Daily monitoring. Systems must take daily samples at the entrance to the distribution system. For any daily sample that exceeds the chlorite MCL, the system must take additional samples in the distribution system the following day at the locations required by R.61-58.13.C(2)(b)(ii) in addition to the sample required at the entrance to the distribution system.

(B) Monthly monitoring. Systems must take a three-sample set each month in the distribution system. The system must take one sample at each of the following locations: near the first customer, at a location representative of average residence time, and at a location reflecting the maximum residence time in the distribution system. Any additional routine sampling must be conducted in the same manner (as three-sample sets, at the specified locations). The system may use the results of additional monitoring conducted under R.61-58.13.C(2)(b)(ii) to meet the requirement for this monitoring.

(ii) Additional monitoring. On each day following a routine sample monitoring result that exceeds the chlorite MCL at the entrance to the distribution system, the system is required to take three chlorite distribution system samples at the following locations: as close to the first customer as possible, in a location representative of average residence time, and as close to the end of the distribution system as possible (reflecting maximum residence time in the distribution system).

(iii) Reduced monitoring.

(A) Chlorite monitoring at the entrance to the distribution system required by R.61-58.13.C(2)(b)(i)(A) may not be reduced.

(B) Chlorite monitoring in the distribution system required by R.61-58.13.C(2)(b)(i)(B) may be reduced to one three-sample set per quarter after one year of monitoring where no individual chlorite sample taken in the distribution system under R.61-58.13.C(2)(b)(i)(B) has exceeded the chlorite MCL and the system has not been required to conduct monitoring under R.61-58.13.C(2)(b)(ii). The system may remain on the reduced monitoring schedule until either of the three individual chlorite samples taken quarterly in the distribution system under R.61-58.13.C(2)(b)(i)(B) exceeds the chlorite MCL or the system is required to conduct monitoring under R.61-58.13.C(2)(b)(ii), at which time, the system must revert to routine monitoring.

Revise R.61-58.13.C(2)(c), currently reserved, to read:

(c) Bromate

Revise R.61-58.13.C(2)(c)(i), currently reserved, to read:

(i) Routine monitoring. Community and non-transient, non-community systems using ozone, for disinfection or oxidation, must take one sample per month for each treatment plant in the system using ozone. Systems must take samples monthly at the entrance to the distribution system while the ozonation system is operating under normal conditions.

Replace R.61-58.13.C(2)(c)(ii) to read:

(ii) Reduced Monitoring

(A) Until March 31, 2009, Systems required to analyze for bromate may reduce monitoring from monthly to once per quarter, if the system demonstrates that the average source water bromide concentration is less than 0.05 mg/L based upon representative monthly bromide measurements for one year. The system may remain on reduced bromate monitoring until the running annual average source water bromide concentration, computed quarterly, is equal to or greater than 0.05 mg/L based upon representative monthly measurements. If the running annual average source water bromide concentration is greater than or equal to 0.05 mg/L, the system must resume routine monitoring required by R.61-58.13.C(2)(c)(i).

(B) Beginning April 1, 2009, systems may no longer use the provisions of R.61-58.C(2)(c)(ii)(A) to qualify for reduced monitoring. A system required to analyze for bromate may reduce monitoring from monthly to quarterly, if the system's running annual average bromate concentration is less than or equal to 0.0025 mg/L based on monthly bromate measurements under R.61-58.13.C(2)(c)(i) for the most recent four quarters, with samples analyzed using analytical methods identified in 40 CFR 141.132 (b)(3)(ii)(B) (1-04-06 edition). If a system has qualified for reduced bromate monitoring under R.61-58.13.C(2)(c)(ii)(A), that system may remain on reduced monitoring as long as the running annual average of quarterly bromate samples is less than or equal to 0.0025 mg/L based on samples analyzed using analytical methods identified in 40 CFR 141.132 (b)(3)(ii)(B) (1-04-06 edition). If the running annual average bromate concentration is greater than 0.0025 mg/L, the system must resume routine monitoring required by R.61-58.13.C(2)(c)(i).

Replace R.61-58.13.D(4) to read:

(4) Disinfection Byproduct Precursors - Compliance must be determined as specified by Section F(3) below. Systems may begin monitoring to determine whether Step 1 TOC removals can be met twelve (12) months prior to the compliance date for the system. This monitoring is not required and failure to monitor during this period is not a violation. However, any system that does not monitor during this period, and then determines in the first twelve (12) months after the compliance date that it is not able to meet the Step 1 requirements in Section F(2)(b) below and must therefore apply for alternate minimum TOC removal (Step 2) requirements, is not eligible for retroactive approval of alternate minimum TOC removal (Step 2) requirements as allowed pursuant to Section F(2)(c) below and is in violation. Systems may apply for alternate minimum TOC removal (Step 2) requirements any time after the compliance date. For systems required to meet Step 1 TOC removals, if the value calculated under Section F(3)(a)(iv) below, is less than 1.00, the system is in violation of the treatment technique requirements and must notify the public pursuant to R.61-58.6.E, in addition to reporting to the Department pursuant to R.61-58.13.E(4).

Replace R.61-58.13.E(4)(b)(v) to read:

(v) The running annual arithmetic average based on monthly averages (or quarterly samples) of source water SUVA for systems meeting the criterion in R.61-58.13.F(1)(a)(v) or of treated water SUVA for systems meeting the criterion in R.61-58.13.F(1)(a)(vi).

Replace R.61-58.13.E(4)(b)(vi) to read:

(vi) The running annual average of source water alkalinity for systems meeting the criterion in R.61-58.13.F(1)(a)(iii) and of treated water alkalinity for systems meeting the criterion in R.61-58.13.F(1)(b)(i).

Replace R.61-58.13.E(4)(b)(vii) to read:

(vii) The running annual average for both TTHM and HAA5 for systems meeting the criterion in R.61-58.13.F(1)(a)(iii) or (iv).

Replace R.61-58.13.E(4)(b)(viii) to read:

(viii) The running annual average of the amount of magnesium hardness removal (as CaCO₃, in mg/L) for systems meeting the criterion in R.61-58.13.F(1)(b)(ii).

Replace R.61-58.13.F(2)(d)(i) to read:

(i) Alternate enhanced coagulation level is defined as: Coagulation at a coagulant dose and pH as determined by the method described in paragraphs (2)(d)(i) through (v) of this section such that an incremental addition of 10 mg/L of alum (or equivalent amount of ferric salt) results in a TOC removal of greater than or equal to 0.3 mg/L. The percent removal of TOC at this point on the "TOC removal versus coagulant dose"

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curve is then defined as the minimum TOC removal required for the system. Once approved by the Department, this minimum requirement supersedes the minimum TOC removal required by the table in paragraph (2)(b) of this section. This requirement will be effective until such time as the Department approves a new value based on the results of a new bench- or pilot-scale test. Failure to achieve Department-set alternative minimum TOC removal levels is a violation of National Primary Drinking Water Regulations.

Replace introductory paragraph to R.61-58.13.F(3)(a); subitems (a)(i) through (a)(v) remain unchanged:

(a) Systems using surface water or a ground water under the influence of surface water other than those identified in paragraph (1)(a) or (1)(b) of this section must comply with requirements contained in R.61-58.13.F(2)(b) or (c). Systems must calculate compliance quarterly, beginning after the system has collected 12 months of data, by determining an annual average using the following method:

Replace R.61-58.13.F(3)(b)(iii) to read:

(iii) In any month that the system's source water SUVA, prior to any treatment and measured according to EPA approved methods specified in 40 CFR 141.131(d)(4), is less than or equal to 2.0 L/mg-m, the system may assign a monthly value of 1.0 (in lieu of the value calculated in paragraph (3)(a)(iii) of this section) when calculating compliance under the provisions of paragraph (3)(a) of this section.

Replace R.61-58.13.F(3)(b)(iv) to read:

(iv) In any month that the system's finished water SUVA, measured according to EPA approved methods specified in 40 CFR 141.131(d)(4) (11-8-2006 edition), is less than or equal to 2.0 L/mg-m, the system may assign a monthly value of 1.0 (in lieu of the value calculated in paragraph (3)(a)(iii) of this section) when calculating compliance under the provisions of paragraph (3)(a) of this section.

Renumber R.61-58.13.F(3)(d) to R.61-58.13.F(4) to read:

(4) Treatment Technique Requirements for DBP Precursors. The Administrator identifies the following as treatment techniques to control the level of disinfection byproduct precursors in drinking water treatment and distribution systems: For Systems using surface water or a ground water under the influence of surface water which utilize conventional treatment, enhanced coagulation or enhanced softening.

Replace R.61-58.14.B(2)(a)(v) to read:

(v) If, within 3 months after the date identified in R.61-58.14.(2)(a)(iii), the Department does not approve the submitted IDSE report or notify the system that it has not yet completed its review, the submitted report may be considered approved and the system must implement the IDSE recommended monitoring in accordance with R.61-58.15.

Replace R.61-58.14.B(2)(b)(v) to read:

(v) If, within 3 months after the date identified in R.61-58.14.B(2)(b)(iii), the Department does not approve the submitted IDSE report or notify the system that it has not yet completed its review, the submitted report may be considered approved and the system must implement the IDSE recommended monitoring in accordance with R.61-58.15.

Replace R.61-58.14.B(2)(c)(v) to read:

(v) If, within 9 months after the date identified in R.61-58.14.B(2)(c)(iii), the Department does not approve the submitted IDSE report or notify the system that it has not yet completed its review, the submitted report may be considered approved and the system must implement the IDSE recommended monitoring in accordance with R.61-58.15.

Replace R.61-58.14.B(2)(d)(v) to read:

(v) If, within 3 months after the date identified in R.61-58.14.B(2)(d)(iii), the Department does not approve the submitted IDSE report or notify the system that it has not yet completed its review, the submitted report may be considered approved and the system must implement the IDSE recommended monitoring in accordance with R.61-58.15.

Replace R.61-58.14.B(2)(e)(v) to read:

(v) If, within 3 months after the date identified in R.61-58.14.B(2)(e)(iii), the Department does not approve the submitted IDSE report or notify the system that it has not yet completed its review, the submitted report may be considered approved and the system must implement the IDSE recommended monitoring in accordance with R.61-58.15.

Replace R.61-58.14.F(2) to read:

(2) If a system has not taken TTHM and HAA5 samples under R.61-58.13 or if the Department notifies the system that they must comply with the part R.61-58.14, the system must conduct standard monitoring under R.61-58.14.C or a system specific study under R.61-58.14.D.

Replace R.61-58.14.G(2) to read:

(2) Systems must select the number of monitoring locations specified in the table in this paragraph (2). These recommended locations will be used as R.61-58.15 (Stage 2 Disinfection Byproducts Requirements) routine compliance monitoring locations, unless the Department requires different or additional locations. Monitoring locations should be distributed throughout the distribution system to the extent possible.

Source Water Type	Population size category	Monitoring frequency	Total monitoring locations per monitoring period	Highest TTHM monitoring locations	Highest HAA5 monitoring locations	Existing R.61-58.13 compliance monitoring locations
Subpart H	Less than 500	per year	2	1	1	-
Subpart H	500 – 3,300	per quarter	2	1	1	-
Subpart H	3,301 – 9,999	per quarter	2	1	1	-
Subpart H	10,000 – 49,999	per quarter	4	2	1	1
Subpart H	50,000 – 249,999	per quarter	8	3	3	2
Subpart H	250,000 – 999,999	per quarter	12	5	4	3
Subpart H	1,000,000 – 4,999,999	per quarter	16	6	6	4
Subpart H	5,000,000 or greater	per quarter	20	8	7	5

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Ground Water	Less than 500	per year	2	1	1	-
Ground Water	500 – 9,999	per year	2	1	1	-
Ground Water	10,000 – 99,999	per quarter	4	2	1	1
Ground Water	100,000 – 499,999	per quarter	6	3	2	1
Ground Water	500,000 or greater	per quarter	8	3	3	2

(a) All systems must monitor during the month of highest disinfection byproduct (DBP) concentrations.

(b) Systems on quarterly monitoring must take dual sample sets every 90 days at each monitoring location, except for subpart H systems serving 500- 3,300. Systems on annual monitoring and subpart H systems serving 500-3,300 are required to take individual TTHM and HAA5 samples (instead of a dual sample set) at the locations with the highest TTHM and HAA5 concentrations, respectively. Only one location with a dual sample set per monitoring period is needed if highest TTHM and HAA5 concentrations occur at the same location, and month, if monitored annually.

Add new R.61-58.16 to read:

R.61-58.16 Ground Water Rule

A. Applicability.

This part R.61-58.16 applies to all public water systems that use ground water except that it does not apply to public water systems that combine all of their ground water with surface water or with ground water under the direct influence of surface water prior to treatment under 40 CFR 141, Subpart H. For the purposes of this part, "ground water system" is defined as any public water system meeting this applicability statement, including consecutive systems receiving finished ground water.

B. General Requirements.

The requirements of R.61-58.16 constitute national primary drinking water regulations. Systems subject to this part must comply with the following requirements:

(1) Sanitary survey information requirements for all ground water systems as described in R.61-58.16.D.

(2) Microbial source water monitoring requirements for ground water systems that do not treat all of their ground water to at least 99.99 percent (4-log) treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer as described in R.61-58.16.E.

(3) Treatment technique requirements, described in R.61-58.16.F, that apply to ground water systems that have fecally contaminated source waters, as determined by source water monitoring conducted under R.61-58.16.E, or that have significant deficiencies that are identified by the Department or that are identified by EPA under the Safe Drinking Water Act section 1445. A ground water system with fecally contaminated source water or with significant deficiencies subject to the treatment technique requirements of R.61-58.16.F must implement one or more of the following corrective action options: correct all significant deficiencies; provide an alternate source of water; eliminate the source of contamination; or provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer.

(4) Ground water systems that provide at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer are required to conduct compliance monitoring to demonstrate treatment effectiveness, as described in R.61-58.16.F(2).

(5) If requested by the Department, ground water systems must provide the Department with any existing information that will enable the Department to perform a hydrogeologic sensitivity assessment. For the purposes of this part R.61-58.16, "hydrogeologic sensitivity assessment" is a determination of whether ground water systems obtain water from hydrogeologically sensitive settings.

C. Compliance Date.

Ground water systems must comply, unless otherwise noted, with the requirements of R.61-58.16 beginning December 1, 2009.

D. Sanitary Surveys For Ground Water Systems.

(1) Ground water systems must provide the Department, at the Department's request, any existing information that will enable the Department to conduct a sanitary survey.

(2) For the purposes of R.61-58.16, a "sanitary survey," as conducted by the Department, includes but is not limited to, an onsite review of the water source(s) (identifying sources of contamination by using results of source water assessments or other relevant information where available), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water.

(3) The sanitary survey must include an evaluation of the applicable components listed in paragraphs R.61-58.16.D(3)(a) through (h).

- (a) Source.
- (b) Treatment.
- (c) Distribution system.
- (d) Finished water storage.
- (e) Pumps, pump facilities, and controls.
- (f) Monitoring, reporting, and data verification.
- (g) System management and operation.
- (h) Operator compliance with Department requirements.

E. Ground Water Source Microbial Monitoring and Analytical Methods.

(1) Triggered source water monitoring.

(a) A ground water system must conduct triggered source water monitoring if the conditions identified in paragraphs (1)(a)(i) and (1)(a)(ii) of this section apply.

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(i) the system does not provide at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for each ground water source; and

(ii) The system is notified that a sample collected under R.61-58.5.G(1) is total coliform positive and the sample is not invalidated under R.61-58.5.G(3).

(b) Sampling Requirements. A ground water system must collect, within 24 hours of notification of the total coliform positive sample, at least one ground water source sample from each ground water source in use at the time the total coliform positive sample was collected under R.61-58.5.G(1) except as provided in R.61-58.16.E(1)(b)(ii).

(i) The Department may extend the 24-hour time limit on a case-by-case basis if the system cannot collect the ground water source sample within 24 hours due to circumstances beyond its control. In the case of an extension, the Department must specify how much time the system has to collect the sample.

(ii) If approved by the Department, systems with more than one ground water source may meet the requirements of R.61-58.16.E(1)(b) by sampling a representative ground water source or sources. If directed by the Department, systems must submit a triggered source water monitoring plan for Department approval that identifies one or more ground water sources that are representative of each monitoring site in the system's sample siting plan under R.61-58.5.G(1) and that the system intends to use for representative sampling under this paragraph.

(iii) A ground water system serving 1,000 people or fewer may use a repeat sample collected from a ground water source to meet both the requirements of R.61-58.5.G(2) and to satisfy the monitoring requirements of R.61-58.16.E(1)(b) for that ground water source only if the Department approves the use of E.coli as a fecal indicator for source water monitoring. If the repeat sample collected from the ground water source is E.coli positive, the system must comply with R.61-58.16.E(1)(c).

(c) Additional Requirements. If the Department does not require corrective action under R.61-58.16.F(1)(b) for a fecal indicator positive source water sample collected under R.61-58.16.E(1)(b) that is not invalidated under R.61-58.16.E(4), the system must collect five additional source water samples from the same source within 24 hours of being notified of the fecal indicator positive sample.

(d) Consecutive and wholesale systems.

(i) In addition to the other requirements of R.61-58.16.E(1), a consecutive ground water system that has a total coliform positive sample collected under R.61-58.5.G(1) must notify the wholesale system(s) within 24 hours of being notified of the total coliform positive sample.

(ii) In addition to the other requirements of R.61-58.16.E(1), a wholesale ground water system must comply with R.61-58.16.E(1)(d)(ii)(A) and R.61-58.16.E(1)(d)(ii)(B).

(A) A wholesale ground water system that receives notice from a consecutive system it serves that a sample collected under R.61-58.5.G(1) is total coliform positive must, within 24 hours of being notified, collect a sample from its ground water source(s) under R.61-58.16.E(1)(b) and analyze it for a fecal indicator under R.61-58.16.E(3).

(B) If the sample collected under R.61-58.16.E(1)(d)(ii)(A) is fecal indicator positive, the wholesale ground water system must notify all consecutive systems served by that ground water source of the fecal indicator positive sample within 24 hours of being notified of the monitoring result and must meet the requirements of R.61-58.16.E(1)(c).

(e) Exceptions to the triggered source water monitoring requirements. A ground water system is not required to comply with the source water monitoring requirements of R.61-58.16.E(1) if either one of the following conditions exists:

(i) The Department determines, and documents in writing, that the total coliform positive sample collected under R.61-58.5(G)(1) is caused by a distribution system deficiency; or

(ii) The total coliform positive sample collected under R.61-58.5(G)(1) is collected at a location that meets Department criteria for distribution system conditions that will cause total coliform positive samples.

(2) Assessment source water monitoring. If directed by the Department, ground water systems must conduct assessment source water monitoring that meets Department-determined requirements for such monitoring. A ground water system conducting assessment source water monitoring may use a triggered source water sample collected under R.61-58.16.E(1)(b) to meet the requirements of R.61-58.16.E(2). Department-determined assessment source water monitoring may include, but not be limited to the following:

(a) Collection of a total of 12 ground water source samples that represent each month the system provides ground water to the public.

(b) Collection of samples from each well unless the system obtains written Department approval to conduct monitoring at one or more wells within the ground water system that are representative of multiple wells used by that system and that draw water from the same hydrogeologic setting.

(c) Collection of a standard sample volume of at least 100 mL for fecal indicator analysis regardless of the fecal indicator or analytical method used.

(d) Analysis of all ground water source samples using one of the analytical methods listed in R.61-58.16.E(3) for the presence of *E. coli*, enterococci, or coliphage.

(e) Collection of ground water source samples at a location prior to any treatment of the ground water source unless the Department approves a sampling location after treatment.

(f) Collection of ground water source samples at the well itself unless the system's configuration does not allow for sampling at the well itself and the Department approves an alternate sampling location that is representative of the water quality of that well.

(3) Analytical methods.

(a) A ground water system subject to the source water monitoring requirements of R.61-58.16.E(1) must collect a standard sample volume of at least 100 ml for fecal indicator analysis regardless of the fecal indicator or analytical method used.

(b) A ground water system must analyze all ground water source samples collected under R.61-58.16.E(1) for *E. coli*, enterococci, or coliphage using EPA-approved methods listed in 40 CFR 141.402(c)(2) (Federal Register 11-8-2006 edition).

(4) Invalidation of a fecal indicator positive ground water source sample.

(a) A ground water system may obtain Department invalidation of a fecal indicator positive ground water source sample collected under R.61-58.16.E(1) only under the conditions specified as follows:

(i) The system provides the Department with written notice from the laboratory that improper sample analysis occurred.

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(ii) The Department determines and documents in writing that there is substantial evidence that a fecal indicator positive ground water source sample is not related to source water quality.

(b) If the Department invalidates a fecal indicator positive ground water source sample, the ground water system must collect another source water sample under R.61-58.16.E(1) within 24 hours of being notified by the Department of its invalidation decision and have it analyzed for the same fecal indicator using the analytical methods listed in 40 CFR 141.402(c)(2) (Federal Register 11-8-2006 edition). The Department may extend the 24-hour time limit on a case-by-case basis if the system cannot collect the source water sample within 24 hours due to circumstances beyond its control. In the case of an extension, the Department will specify how much time the system has to collect the sample.

(5) Sampling location.

(a) Any ground water source sample required under R.61-58.16.E(1) must be collected at a location prior to any treatment of the groundwater source unless the Department approves a sampling location after treatment.

(b) If the system's configuration does not allow for sampling at the well itself, the system may collect a sample at a Department-approved location to meet the requirements under R.61-58.16.E(1) if the sample is representative of the water quality of that well.

(6) New sources. If directed by the Department, a ground water system that places a new ground water source into service after November 30, 2009, must conduct assessment source water monitoring under R.61-58.16.E(2). If directed by the Department, the system must begin monitoring before the ground water source is used to provide water to the public.

(7) Public notification. A ground water system with a ground water source sample collected under R.61-58.16.E(1) or (2) that is fecal indicator positive and that is not invalidated under R.61-58.16.E(4), including consecutive systems served by the ground water source, must conduct public notification under R.61-58.6.E(2).

(8) Monitoring violations. Failure to meet the requirements of R.61-58.16.E(1) through (6) is a monitoring violation and requires the ground water system to provide public notification under R.61-58.6.E(4).

F. Treatment Technique Requirements For Ground Water Systems.

(1) Ground water systems with significant deficiencies or source water fecal contamination.

(a) The treatment technique requirements of R.61-58.16.F must be met by ground water systems when a significant deficiency is identified or when a ground water source sample collected under R.61-58.16.E(1)(c) is fecal indicator positive.

(b) If directed by the Department, a ground water system with a ground water source sample collected under R.61-58.16.E(1)(b), R.61-58.16.E(1)(d), or R.61-58.16.E(2) that is fecal indicator positive must comply with the treatment technique requirements of R.61-58.16.F.

(c) When a significant deficiency is identified at a Subpart H public water system that uses both ground water and surface water or GWUDI, the system must comply with R.61-58.16.F except in cases where the Department determines that the significant deficiency is in a portion of the distribution system that is served solely by surface water or GWUDI.

(d) Unless the Department directs the ground water system to implement a specific corrective action, the ground water system must consult with the Department regarding the appropriate corrective action within 30 days of receiving written notice from the Department of a significant deficiency, written notice from a laboratory that a ground water source sample collected under R.61-58.16.E(1)(c) was found to be fecal indicator positive, or direction from the Department that a fecal indicator positive sample collected under R.61-58.16.E(1)(b), R.61-58.16.E(1)(d), or R.61-58.16.E(2) requires corrective action. For the purposes of R.61-58.16, 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 Department determines to be causing, or have the potential for causing, the introduction of contamination into the water delivered to consumers.

(e) Within 120 days, or earlier if directed by the Department, of receiving written notification from the Department of a significant deficiency, written notice from a laboratory that a ground water source sample collected under R.61-58.16.E(1)(c) was found to be fecal indicator positive, or direction from the Department that a fecal indicator positive sample collected under R.61-58.16.E(1)(b), R.61-58.16.E(1)(d), or R.61-58.16.E(2) requires corrective action, the ground water system must either:

(i) Have completed corrective action in accordance with applicable Department plan review processes or other Department guidance or direction, if any, including Department-specified interim measures; or

(ii) Be in compliance with a Department-approved corrective action plan and schedule subject to the following conditions:

(A) Any subsequent modifications to a Department-approved corrective action plan and schedule must also be approved by the Department.

(B) If the Department specifies interim measures for the protection of public health pending Department approval of the corrective action plan and schedule or pending completion of the corrective action plan, the system must comply with these interim measures as well as with any schedule specified by the Department.

(f) Corrective action alternatives. Ground water systems that meet the conditions of R.61-58.16.F(1)(a) or (b) must implement one or more of the following corrective action alternatives:

(i) Correct all significant deficiencies.

(ii) Provide an alternate source of water.

(iii) Eliminate the source of contamination.

(iv) Provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for the ground water source.

(g) Special notice to the public of significant deficiencies or source water fecal contamination.

(i) In addition to the applicable public notification requirements of R.61-58.6.E(2), a community ground water system that receives notice from the Department of a significant deficiency or notification of a fecal indicator positive ground water source sample that is not invalidated by the Department must inform the public served by the water system under R.61-58.12.C(11)(f) of the fecal indicator positive source sample or of any significant deficiency that has not been corrected. The system must continue to inform the public

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annually until the significant deficiency is corrected or the fecal contamination in the ground water source is determined by the Department to be corrected under R.61-58.16.F(1)(e).

(ii) In addition to the applicable public notification requirements of R.61-58.6.E(2), a non-community ground water system that receives notice from the Department of a significant deficiency must inform the public served by the water system in a manner approved by the Department of any significant deficiency that has not been corrected within 12 months of being notified by the Department, or earlier if directed by the Department. The system must continue to inform the public annually until the significant deficiency is corrected. The information must include:

(A) The nature of the significant deficiency and the date the significant deficiency was identified by the Department.

(B) The Department-approved plan and schedule for correction of the significant deficiency, including interim measures, progress to date, and any interim measures completed.

(C) For systems with a large proportion of non-English speaking consumers, as determined by the Department, information in the appropriate language(s) 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.

(iii) If directed by the Department, a non-community water system 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 under R.61-58.16.F(1)(g)(ii).

(2) Compliance monitoring.

(a) Existing ground water sources. A ground water system that is not required to meet the source water monitoring requirements of R.61-58.16 because it provides at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for any ground water source before December 1, 2009, must notify the Department in writing that it provides at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for the specified ground water source and begin compliance monitoring in accordance with R.61-58.16.F(2)(c) by December 1, 2009. Notification to the Department must include engineering, operational, or other information that the Department requests to evaluate the submission. If the system subsequently discontinues 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for a ground water source, the system must conduct ground water source monitoring as required under R.61-58.16.E.

(b) New ground water sources. A ground water system that places a ground water source in service after November 30, 2009, that is not required to meet the source water monitoring requirements of R.61-58.16 because the system provides at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for the ground water source must comply with all of the requirements of R.61-58.16.F(2)(b)(i) to (iii).

(i) The system must notify the Department in writing that it provides at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for the ground water source. Notification to the Department must include engineering, operational, or other information that the Department requests to evaluate the submission.

(ii) The system must conduct compliance monitoring under R.61-58.16.F(2)(c) within 30 days of placing the source in service.

(iii) The system must conduct ground water source monitoring under R.61-58.16.E if the system subsequently discontinues 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for the ground water source.

(c) Monitoring requirements. A ground water system subject to the requirements of R.61-58.16.F(1), R.61-58.16.F(2)(a), or R.61-58.16.F(2)(b) must monitor the effectiveness and reliability of treatment for that ground water source before or at the first customer as follows:

(i) Chemical disinfection.

(A) A ground water systems that serves greater than 3,300 people must continuously monitor the residual disinfectant concentration using analytical methods specified in 40 CFR 141.74(a)(2) at a location approved by the Department and must record the lowest residual disinfectant concentration each day that the water from the ground water source is served to the public. The ground water system must maintain the Department-determined residual disinfectant concentration every day the ground water system serves the water from the ground water source to the public. If there is a failure in the continuous monitoring equipment, the ground water system must conduct grab sampling every four hours until the continuous monitoring equipment is returned to service. The system must resume continuous residual disinfectant monitoring within 14 days.

(B) A ground water system that serves 3,300 or fewer people must monitor the residual disinfectant concentration using analytical methods specified in 40 CFR 141.74(a)(2) at a location approved by the Department and record the residual disinfection concentration each day that the water from the ground water source is served to the public. The ground water system must maintain the Department-determined residual disinfectant concentration every day the ground water system serves water from the ground water source to the public. The ground water system must take a daily grab sample during the hour of peak flow or at another time specified by the Department. If any daily grab sample measurement falls below the Department-determined residual disinfectant concentration, the ground water system must take follow up samples every four hours until the residual disinfectant concentration is restored to the Department-determined level. Alternatively, a ground water system that serves 3,300 or fewer people may monitor continuously and meet the requirements of R.61-58.16.F.(2)(c)(i)(A).

(ii) Membrane filtration. A ground water system that uses membrane filtration to meet the requirements of R.61-58.16 must monitor the membrane filtration process in accordance with all Department-specified monitoring requirements and must operate the membrane filtration in accordance with all Department-specified compliance requirements. A ground water system that uses membrane filtration is in compliance with the requirement to achieve at least 4-log removal of viruses when the following conditions are met:

(A) The membrane has an absolute molecular weight cut-off or an alternate parameter that describes the exclusion characteristics of the membrane that can reliably achieve at least 4-log removal of viruses.

(B) The membrane process is operated in accordance with Department-specified compliance requirements.

(C) The integrity of the membrane is intact.

(iii) Alternative treatment. A ground water system that uses a Department-approved alternative treatment to meet the requirements of R.61-58.16 by providing at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer must:

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(A) Monitor the alternative treatment in accordance with all Department-specified monitoring requirements.

(B) Operate the alternative treatment in accordance with all compliance requirements that the Department determines to be necessary to achieve at least 4-log treatment of viruses.

(3) A ground water system may discontinue 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for a ground water source if the Department determines and documents in writing that 4-log treatment of viruses is no longer necessary for that ground water source. A system that discontinues 4-log treatment of viruses is subject to the source water monitoring and analytical methods requirements of R.61-58.16.E.

(4) Failure to meet the monitoring requirements of R.61-58.16.F(2) is a monitoring violation and requires the ground water system to provide public notification under R.61-58.6.E(4).

G. Treatment Technique Violations For Ground Water Systems.

(1) A ground water system with a significant deficiency is in violation of the treatment technique requirement if, within 120 days (or earlier if directed by the Department) of receiving written notice from the Department of the significant deficiency, the system:

(a) Does not complete corrective action in accordance with any applicable Department plan review processes or other Department guidance and direction, including Department specified interim actions and measures; or

(b) Is not in compliance with a Department-approved corrective action plan and schedule.

(2) Unless the Department invalidates a fecal indicator positive ground water source sample under R.61-58.16.E(4), a ground water system is in violation of the treatment technique requirement if, within 120 days (or earlier if directed by the Department) of meeting the conditions of R.61-58.16.F(1)(a) or R.61-58.16.F(1)(b), the system:

(a) Does not complete corrective action in accordance with any applicable Department plan review processes or other Department guidance and direction, including Department-specified interim measures; or

(b) Is not in compliance with a Department-approved corrective action plan and schedule.

(3) A ground water system subject to the requirements of R.61-58.16.F(2)(c) that fails to maintain at least 4-log treatment of viruses (using inactivation, removal, or a Department-approved combination of 4-log virus inactivation and removal) before or at the first customer for a ground water source is in violation of the treatment technique requirement if the failure is not corrected within four hours of determining the system is not maintaining at least 4-log treatment of viruses before or at the first customer.

(4) Ground water systems must give public notification under R.61-58.6.E(3) for the treatment technique violations specified in R.61-58.16.G(1), G(2), and G(3).

H. Reporting and Recordkeeping For Ground Water Systems.

(1) Reporting. In addition to the requirements of R.61-58.6.B, a ground water system regulated under R.61-58.16 must provide the following information to the Department:

(a) A ground water system conducting compliance monitoring under R.61-58.16.F(2) must notify the Department any time the system fails to meet any Department-specified requirements including, but not limited to, minimum residual disinfectant concentration, membrane operating criteria or membrane integrity, and alternative treatment operating criteria, if operation in accordance with the criteria or requirements is not restored within four hours. The ground water system must notify the Department as soon as possible, but in no case later than the end of the next business day.

(b) After completing any corrective action under R.61-58.16.F(1), a ground water system must notify the Department within 30 days of completion of the corrective action.

(c) If a ground water system subject to the requirements of R.61-58.16.E(1) does not conduct source water monitoring under R.61-58.16.E(1)(e)(ii), the system must provide documentation to the Department within 30 days of the total coliform positive sample that it met the Department criteria.

(2) Recordkeeping. In addition to the requirements of R.61-58.6.D, a ground water system regulated under R.61-58.16 must maintain the following information in its records:

(a) Documentation of corrective actions shall be kept for a period of not less than ten years.

(b) Documentation of notice to the public as required under R.61-58.16.F(1)(g) shall be kept for a period of not less than three years.

(c) Records of decisions under R.61-58.16.E(1)(e)(ii) and records of invalidation of fecal indicator positive ground water source samples under R.61-58.16.E(4) shall be kept for a period of not less than five years.

(d) For consecutive systems, documentation of notification to the wholesale system(s) of total coliform positive samples that are not invalidated under R.61-58.5.G(3) shall be kept for a period of not less than five years.

(e) For systems, including wholesale systems, that are required to perform compliance monitoring under R.61-58.16.F(2):

(i) Records of the Department-specified minimum disinfectant residual shall be kept for a period of not less than ten years.

(ii) Records of the lowest daily residual disinfectant concentration and records of the date and duration of any failure to maintain the Department-specified minimum residual disinfectant concentration for a period of more than four hours shall be kept for a period of not less than five years.

(iii) Records of Department-specified compliance requirements for membrane filtration and of parameters specified by the Department for Department-approved alternative treatment and records of the date and duration of any failure to meet the membrane operating, membrane integrity, or alternative treatment operating requirements for more than four hours shall be kept for a period of not less than five years.

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Replace R.61-58 Appendix A to read:

APPENDIX A TO 61-58.6: VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE¹

CONTAMINANT	MCL/MRDL/TT/VIOLATIONS ²		MONITORING & TESTING PROCEDURE VIOLATIONS	
	TIER OF PUBLIC NOTICE REQUIRED	CITATION	TIER OF PUBLIC NOTICE REQUIRED	CITATION
I. Violations of the State Primary Drinking Water Regulations (SPDWR): ³				
A. Microbiological Contaminants				
1. Total coliform	2	61-58.5.F(1)	3	61-58.5.G(1) - (5)
2. Fecal coliform/E. coli	1	61-58.5.F(2)	⁴ 1, 3	61-58.5.G(5)
3. Turbidity MCL	2	61-58.10.E, H, & I	3	61-58.10.F
4. Turbidity MCL (average of 2 days samples greater than 5 NTU)	⁵ 2, 1	61-58.10.C, E, H & I	3	61-58.10.F
5. Turbidity (for TT violations resulting from a single exceedance of maximum allowable turbidity level)	⁶ 2, 1	61-58.10.C(i)(b) 61-58.10.C(3)(b) 61-58.10.F(2)(b), 61-58.10.E(1)(b), 61-58.10.E(2)(b), 61-58.10.E(3)(b), 61-58.10.E(4), 61-58.10.H(4)(a)(ii), 61-58.10.H(4)(b), 61-58.10.I(6)(b)	3	61-58.10.F 61-58.10.F(3) 61-58.10.H 61-58.10(I)(7)(a) (i)-(iii) & (b)
6. Surface Water Treatment Rule violations, other than violations resulting from single exceedance of max. allowable turbidity level (TT).	2	61-58.10.B - E		61-58.10
7. Interim Enhanced Surface Water Treatment Rule violations, other than violations resulting from single exceedance of max. turbidity level (TT)	⁷ 2	61-58.10.B - E 61-58.10.I(1)-(7)	3	61-58.10.H(3), (5) 61-58.10.I(4) & (5) 61-58.10.I(7)
8. Filter Backwash Recycling Rule violations	2	61-58.10.J(3)	3	61-58.10.J(2) & (4)

9. Long Term 1 Enhanced Surface Water Treatment Rule Violations.	2	61-58.10.I(1)-(7)	3	61-58.10.I(4) & (5) 61-58.10.I(7)
10. LT2ESWTR violations	2	61-58.10.K(11) – (21)	²² 2,3	61-58.10.K(2) – (6) & 61-58.10.K(9) – (10)
11. Ground Water Rule Violations	2	61-58.16.G	3	61-58.16.E(8) 61-58.16.F(4)

B. Inorganic Chemicals (IOCs)

1. Antimony	2	61-58.5.B(2)	3	61-58.5.C(7), (9)
2. Arsenic	2	⁸ 61-58.5.B(2)	3	⁹ 61-58.5.C(7)
3. Asbestos (fibers >10µm)	2	61-58.5.B(2)	3	61-58.5.C(7), (8)
4. Barium	2	61-58.5.B(2)	3	61-58.5.C(7), (9)
5. Beryllium	2	61-58.5.B(2)	3	61-58.5.C(7), (9)
6. Cadmium	2	61-58.5.B(2)	3	61-58.5.C(7), (9)
7. Chromium (total)	2	61-58.5.B(2)	3	61-58.5.C(7), (9)
8. Cyanide	2	61-58.5.B(2)	3	61-58.5.C(7), (9)
9. Fluoride	2	61-58.5.B(2)	3	61-58.5.C(7), (9)
10. Mercury (inorganic)	2	61-58.5.B(2)	3	61-58.5.C(7), (9)
11. Nitrate	1	61-58.5.B(2)	¹⁰ 1, 3	61-58.5.C(7), (10) 61-58.5.C(12)
12. Nitrite	1	61-58.5.B(2)	¹⁰ 1, 3	61-58.5.C (7), (10), 61-58.5.C(12)
13. Total Nitrate and Nitrite	1	61-58.5.B(2)	3	61-58.5.C(7)
14. Selenium	2	61-58.5.B(2)	3	61-58.5.C(7), (9)
15. Thallium	2	61-58.5.B(2)	3	61-58.5.C(7), (9)

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	61-58.11.B - G	3	61-58.11.H - K
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D. Synthetic Organic Chemicals (SOCs)

1. 2,4-D	2	61-58.5.D	3	61-58.5.E(7)
2. 2,4,5-TP (Silvex)	2	61-58.5.D	3	61-58.5.E(7)
3. Alachlor	2	61-58.5.D	3	61-58.5.E(7)
4. Atrazine	2	61-58.5.D	3	61-58.5.E(7)
5. Benzo(a)pyrene (PAHs)	2	61-58.5.D	3	61-58.5.E(7)

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6. Carbofuran	2	61-58.5.D	3	61-58.5.E(7)
7. Chlordane	2	61-58.5.D	3	61-58.5.E(7)
8. Dalapon	2	61-58.5.D	3	61-58.5.E(7)
9. Di (2-ethylhexyl) adipate	2	61-58.5.D	3	61-58.5.E(7)
10. Di (2-ethylhexyl) phthalate	2	61-58.5.D	3	61-58.5.E(7)
11. Dibromochloropropane	2	61-58.5.D	3	61-58.5.E(7)
12. Dinoseb	2	61-58.5.D	3	61-58.5.E(7)
13. Dioxin (2,3,7,8-TCDD)	2	61-58.5.D	3	61-58.5.E(7)
14. Diquat	2	61-58.5.D	3	61-58.5.E(7)
15. Endothall	2	61-58.5.D	3	61-58.5.E(7)
16. Endrin	2	61-58.5.D	3	61-58.5.E(7)
17. Ethylene dibromide	2	61-58.5.D	3	61-58.5.E(7)
18. Glyphosate	2	61-58.5.D	3	61-58.5.E(7)
19. Heptachlor	2	61-58.5.D	3	61-58.5.E(7)
20. Heptachlor epoxide	2	61-58.5.D	3	61-58.5.E(7)
21. Hexachlorobenzene	2	61-58.5.D	3	61-58.5.E(7)
22. Hexachlorocyclo-pentadiene	2	61-58.5.D	3	61-58.5.E(7)
23. Lindane	2	61-58.5.D	3	61-58.5.E(7)
24. Methoxychlor	2	61-58.5.D	3	61-58.5.E(7)
25. Oxamyl (Vydate)	2	61-58.5.D	3	61-58.5.E(7)
26. Pentachlorophenol	2	61-58.5.D	3	61-58.5.E(7)
27. Picloram	2	61-58.5.D	3	61-58.5.E(7)
28. Polychlorinated biphenyls (PCBs)	2	61-58.5.D	3	61-58.5.E(7)
29. Simazine	2	61-58.5.D	3	61-58.5.E(7)
30. Toxaphene	2	61-58.5.D	3	61-58.5.E(7)

E. Volatile Organic Chemicals (VOCs)

1. Benzene	2	61-58.5.N	3	61-58.5.O
2. Carbon tetrachloride	2	61-58.5.N	3	61-58.5.O
3. Chlorobenzene (monochlorobenzene)	2	61-58.5.N	3	61-58.5.O
4. o-Dichlorobenzene	2	61-58.5.N	3	61-58.5.O
5. p-Dichlorobenzene	2	61-58.5.N	3	61-58.5.O
6. 1,2-Dichloroethane	2	61-58.5.N	3	61-58.5.O
7. 1,1-Dichloroethylene	2	61-58.5.N	3	61-58.5.O
8. cis-1,2-Dichloroethylene	2	61-58.5.N	3	61-58.5.O
9. trans-1,2-Dichloroethylene	2	61-58.5.N	3	61-58.5.O
10. Dichloromethane	2	61-58.5.N	3	61-58.5.O

11. 1,2-Dichloropropane	2	61-58.5.N	3	61-58.5.O
12. Ethylbenzene	2	61-58.5.N	3	61-58.5.O
13. Styrene	2	61-58.5.N	3	61-58.5.O
14. Tetrachloroethylene	2	61-58.5.N	3	61-58.5.O
15. Toluene	2	61-58.5.N	3	61-58.5.O
16. 1,2,4-Trichlorobenzene	2	61-58.5.N	3	61-58.5.O
17. 1,1,1-Trichloroethane	2	61-58.5.N	3	61-58.5.O
18. 1,1,2-Trichloroethane	2	61-58.5.N	3	61-58.5.O
19. Trichloroethylene	2	61-58.5.N	3	61-58.5.O
20. Vinyl chloride	2	61-58.5.N	3	61-58.5.O
21. Xylenes (total)	2	61-58.5.N	3	61-58.5.O

F. Radioactive Contaminants

1. Beta/photon emitters	2	61-58.5.H(4)	3	61-58.5.K(1), 61-58.5.I(3)
2. Alpha emitters	2	61-58.5.H(3)	3	61-58.5.K(1), 61-58.5.I(2)
3. Combined radium (226 & 228)	2	61-58.5.H(2)	3	61-58.5.K(1), 61-58.5.I(2)
4. Uranium	¹¹ 2	61-58.5.H(5)	¹² 3	61-58.5.K(1), 61-58.5.I(2)

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). EPA sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes (THMs) and haloacetic acids (HAAs).¹³

1. Total trihalomethanes (TTHMs)	2	¹⁴ 61-58.5.L, 61-58.5.P	3	¹⁴ 61-58.5.M 61-58.13.C(1), (2) 61-58.14, 61-58.15
2. Haloacetic Acids (HAA5)	2	61-58.5.P	3	61-58.13.C(1), (2) 61-58.14, 61-58.15
3. Bromate	2	61-58.5.P	3	61-58.13.C(1), (2)
4. Chlorite	2	61-58.5.P	3	61-58.13.C(1), (2)
5. Chlorine (MRDL)	2	61-58.5.Q	3	61-58.13.C(1), (3)
6. Chloramine (MRDL)	2	61-58.5.Q	3	61-58.13.C(1), (3)
7. Chlorine dioxide (MRDL) where any 2 consecutive daily samples at entrance to	2	61-58.5.Q, 61-58.13.D	2 ¹⁵ , 3	61-58.13.C(1), (3), 61-58.13.C(3)(b)

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distribution system only are above MRDL

8. Chlorine dioxide (MRDL), where sample(s) in distribution system the next day are also above MRDL	¹⁶ 1	61-58.5.Q, 61-58.13.D(3)	1	61-58.13.C(1), (3), 61-58.13.D(3)(b)
9. Control of DBP precursors--TOC (TT)	2	61-58.13.F(1), (2)	3	61-58.13.C(1), (4)
10. Bench marking and disinfection profiling.	N/A	N/A	3	61-58.10.G(3) 61-58.10.H(3) 61-58.10.I(4) & (5)
11. Development of monitoring plan	N/A	N/A	3	61-58.13.C(6)

H. Other Treatment Techniques

1. Acrylamide (TT)	2	61-58.5.AA	N/A	N/A
2. Epichlorohydrin (TT)	2	61-58.5.AA	N/A	N/A

II. Unregulated Contaminant Monitoring:¹⁷

A. Unregulated contaminants	N/A	N/A	3	61-58.5.T
B. Nickel	N/A	N/A	3	61-58.5.C(9), (17)

III. Public Notification for Variances and Exemptions:

A. Operation under a variance or exemption	3	¹⁸ 61-58.9	N/A	N/A
B. Violation of conditions of a variance or exemption	2	¹⁹ 61-58.9	N/A	N/A

IV. Other Situations Requiring Public Notification:

A. Fluoride secondary maximum contaminant level (SMCL) exceedance	3	61-58.5.R	N/A	N/A
B. Exceedance of nitrate MCL for non-community systems, as allowed by Department	1	61-58.5.B(3)	N/A	N/A
C. Availability of unregulated contaminant monitoring data	3	61-58.5.T	N/A	N/A
D. Waterborne disease outbreak	1	61-58.B(156) 61-58.10.C(3)(b)(ii)	N/A	N/A
E. Other waterborne emergency ²⁰	1	N/A	N/A	N/A

F. Source water sample positive for Ground Water Rule fecal indicators: E. coli, enterococci, or coliphage	1	61-58.16.E(7)	N/A	N/A
G. Other situations as determined by the Department	²¹ 1, 2, 3	N/A	N/A	N/A

Appendix A to R.61-58.6 - Endnotes

¹ Violations and other situations not listed in this table (e.g., failure to prepare Consumer Confidence Reports), do not require notice, unless otherwise determined by the Department. The Department may, at its option, also require a more stringent public notice tier (e.g., Tier 1 instead of Tier 2 or Tier 2 instead of Tier 3) for specific violations and situations listed in this Appendix, as authorized under R.61-58.6.E(2)(a) and (3)(a).

² MCL--Maximum contaminant level, MRDL--Maximum residual disinfectant level, TT--Treatment technique

³ The term Violations of State Primary Drinking Water Regulations (SPDWR) is used here to include violations of MCL, MRDL, treatment technique, monitoring, and testing procedure requirements.

⁴ Failure to test for fecal coliform or E. coli is a Tier 1 violation if testing is not done after any repeat sample tests positive for coliform. All other total coliform monitoring and testing procedure violations are Tier 3.

⁵ Systems that violate the turbidity MCL of 5 NTU based on an average of measurements over two consecutive days must consult with the Department within 24 hours after learning of the violation. Based on this consultation, the Department may subsequently decide to elevate the violation to Tier 1. If a system is unable to make contact with the Department in the 24-hour period, the violation is automatically elevated to Tier 1.

⁶ Systems with treatment technique violations involving a single exceedance of a maximum turbidity limit under the Surface Water Treatment Rule (SWTR) Interim Enhanced Surface Water Treatment Rule (IESWTR), or the Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) are required to consult with the Department within 24 hours after learning of the violation. Based on this consultation, the Department may subsequently decide to elevate the violation to Tier 1. If a system is unable to make contact with the Department in the 24-hour period, the violation is automatically elevated to Tier 1.

⁷ Most of the requirements of the Interim Enhanced Surface Water Treatment Rule, R.61-58.10.B - C become effective January 1, 2002 for surface water systems and ground water systems under the direct influence of surface water serving at least 10,000 persons. However, R.61-58.10.H(3) has some requirements that become effective as early as April 16, 1999. The Surface Water Treatment Rule remains in effect for systems serving at least 10,000 persons even after 2002; the Interim Enhanced Surface Water Treatment Rule adds additional requirements and does not in many cases supercede the SWTR.

⁸ The arsenic MCL citations are effective January 23, 2006. Until then the citations are R.61-58.5(B)(2).

⁹ The arsenic Tier 3 violations MCL citations are effective January 23, 2006. Until then, the citations are R.61-58.C(7).

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

¹¹ The uranium MCL, Tier 2 violation citations are effective December 8, 2003 for all community water systems.

¹² The uranium Tier 3 violation citations are effective December 8, 2000 for all community water systems.

¹³ Community and non-transient non-community surface water systems and ground water systems under the direct influence of surface water serving 10,000 must comply with new DBP MCLs, disinfectant MRDLs, and related monitoring requirements beginning January 1, 2002. All other community and non-transient non-community systems must meet the MCLs and MRDLs beginning January 1, 2004. Transient non-community surface water systems and ground water systems under the direct influence of surface water serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2002. Transient non-community surface water systems and ground water systems under the

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direct influence of surface water serving fewer than 10,000 persons and using only ground water not under the direct influence of surface water and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2004.

¹⁴ R.61-58.5.L, and R.61-58.13.C(1) – (2) apply until R.61-58.14 and R.61-58.15 take effect under the schedule in R.61-58.14.

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

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

¹⁷ Some water systems must monitor for certain unregulated contaminants listed in R.61-58.5.T

¹⁸ This citation refers to the requirements of R.61-58.9 that "a schedule prescribed ...for a public water system granted a variance [or exemption] shall require compliance by the system . . ."

¹⁹ In addition to R.61-58.9 specifies the items and schedule milestones that must be included in a variance for small systems.

²⁰ Other waterborne emergencies require a Tier 1 public notice under R.61-58.6.E(2)(a) for situations that do not meet the definition of a waterborne disease outbreak given in R.61-58.B(174) but that still have the potential to have serious adverse effects on health as a result of short-term exposure. These could include outbreaks not related to treatment deficiencies, as well as situations that have the potential to cause outbreaks, such as failures or significant interruption in water treatment processes, natural disasters that disrupt the water supply or distribution system, chemical spills, or unexpected loading of possible pathogens into the source water.

²¹ The Department may place other situations in any tier they believe appropriate, based on threat to public health.

²² Failure to collect three or more samples for Cryptosporidium analysis is a Tier 2 violation requiring special notice as specified in R.61-58.6.E(11). All other monitoring and testing procedure violations are Tier 3.

Replace R.61-58 Appendix B to read:

APPENDIX B TO R.61-58.6: STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION

Contaminant	MCLG ¹ mg/L	MCL ² mg/L	Standard health effects language for public notification
State Primary Drinking Water Regulations (SPDWR):			
A. Microbiological Contaminants:			
1a. Total coliform	Zero	See footnote ³	Coliforms are bacteria that are naturally present in the and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
1b. Fecal coliform/E. coli	Zero	Zero	Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants young children, some of the elderly, and people with severely compromised immune systems.
1c. Fecal Indicators (Ground Water Rule)			Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
i. E. coli	Zero	TT	
ii. enterococci	None	TT	
iii. coliphage	None	TT	
1d. Ground Water Rule TT violations	None	TT	Inadequately treated or inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.
2a. Turbidity (MCL) ⁴	None	1 NTU ^{5/5} NTU	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial microbial growth. Turbidity may indicate presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.
2b. Turbidity (SWTR TT) ⁶	None	TT ⁷	Turbidity has no health effects. However, turbidity can interfere with

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

3. <i>Giardia lamblia</i> (SWTR/IESWTR/LT1ESWTR)	Zero	TT ¹⁰	<p>Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.</p>
4. Viruses (SWTR/IESWTR/LT1ESWTR) 5. Heterotrophic plate count (HPC) bacteria ⁹ (SWTR/IESWTR/LT1ESWTR).			
6. <i>Legionella</i> (SWTR/IESWTR/LT1ESWTR).			
7. <i>Cryptosporidium</i> (IESWTR/FBRR/LT1ESWTR).			

C. Inorganic Chemicals (IOCs):

8. Antimony	0.006	0.006	<p>Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.</p>
9. Arsenic ¹¹	Zero	0.010	<p>Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.</p>
10. Asbestos (10 µm)	7 MFL ¹²	7 MFL	<p>Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.</p>

11. Barium	2	2	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
12. Beryllium	0.004	0.004	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
13. Cadmium	0.005	0.005	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
14. Chromium (total)	0.1	0.1	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
15. Cyanide	0.2	0.2	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
16. Fluoride	4.0	4.0	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
17. Mercury (inorganic)	0.002	0.002	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
18. Nitrate	10	10	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
19. Nitrite	1	1	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
20. Total Nitrate and Nitrite	10	10	Infants below the age of six months who drink water containing nitrate and nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
21. Selenium	0.05	0.05	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

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22. Thallium	0.0005	0.002	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
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D. Lead and Copper Rule:

23. Lead	Zero	TT ¹³	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
24. Copper	1.3	TT ¹⁴	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

E. Synthetic Organic Chemicals (SOCs):

25. 2,4-D	0.07	0.07	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with kidneys, liver, or adrenal glands.
26. 2,4,5-TP (Silvex)	0.05	0.05	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
27. Alachlor	Zero	0.002	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
28. Atrazine	0.003	0.003	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
29. Benzo(a)pyrene (PAHs)	Zero	0.0002	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
30. Carbofuran	0.04	0.04	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.

31. Chlordane	Zero	0.002	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
32. Dalapon	0.2	0.2	Some people who drink water containing dalapon well in excess of the MCL over many years could minor kidney changes.
33. Di (2-ethylhexyl) adipate	0.4	0.4	Some people who drink water containing di(2-ethylhexyl) adipate well in excess of the MCL over many years could experience toxic effects such as weight loss, liver enlargement or possible reproductive difficulties.
34. Di (2-ethylhexyl) phthalate	Zero	0.006	Some people who drink water containing di(2-ethylhexyl) phthalate well in excess of the MCL many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
35. Dibromochloropropane (DBCP)	Zero	0.0002	Some people who drink water containing DBCP in of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
36. Dinoseb	0.007	0.007	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
37. Dioxin (2,3,7,8-TCDD).	Zero	3×10^{-8}	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
38. Diquat	0.02	0.02	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
39. Endothall	0.1	0.1	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
40. Endrin	0.002	0.002	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
41. Ethylene dibromide	Zero	0.00005	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
42. Glyphosate	0.7	0.7	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
43. Heptachlor	Zero	0.0004	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.

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44. Heptachlor epoxide	Zero	0.0002	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
45. Hexachlorobenzene	Zero	0.001	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.
46. Hexachlorocyclo pentadiene	0.05	0.05	Some people who drink water containing Hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
47. Lindane	0.0002	0.0002	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
48. Methoxychlor	0.04	0.04	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
49. Oxamyl (Vydate)	0.2	0.2	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.
50. Pentachlorophenol	Zero	0.001	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
51. Picloram	0.5	0.5	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
52. Polychlorinated biphenyls (PCBs).	Zero	0.0005	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
53. Simazine	0.004	0.004	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
54. Toxaphene	Zero	0.003	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.

F. Volatile Organic Chemicals (VOCs):

55. Benzene	Zero	0.005	Some people who drink water containing benzene in excess of the
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56. Carbon tetrachloride	Zero	0.005	MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer. Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
57. Chlorobenzene (monochlorobenzene)	0.1	0.1	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
58. o-Dichlorobenzene	0.6	0.6	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
59. p-Dichlorobenzene	0.075	0.075	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
60. 1,2-Dichloroethane	Zero	0.005	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
61. 1,1-Dichloroethylene	0.007	0.007	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
62. cis-1,2-Dichloroethylene	0.07	0.07	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
63. trans-1,2-Dichloroethylene	0.1	0.1	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
64. Dichloromethane	Zero	0.005	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
65. 1,2-Dichloropropane	Zero	0.005	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
66. Ethylbenzene	0.7	0.7	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
67. Styrene	0.1	0.1	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.

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68. Tetrachloroethylene	Zero	0.005	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
69. Toluene	1	1	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
70. 1,2,4-Trichlorobenzene	0.07	0.07	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
71. 1,1,1-Trichloroethane	0.2	0.2	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.
72. 1,1,2-Trichloroethane	0.003	0.005	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
73. Trichloroethylene	Zero	0.005	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
74. Vinyl chloride	Zero	0.002	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
75. Xylenes (total)	10	10	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

G. Radioactive Contaminants:

76. Beta/photon emitters	Zero	4 mrem/yr ¹⁵	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
77. Alpha emitters	Zero	15 pCi/L ¹⁶	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
78. Combined radium (226 & 228)	Zero	5 pCi/L	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

79. Uranium ¹⁷	Zero	30µg/L	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
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H. Disinfection Byproducts (DBPs), Byproduct Precursors, and Disinfectant Residuals: Where disinfection is used in the treatment of drinking water, disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBPs). EPA sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes (THMs) and haloacetic acids (HAAs):¹⁸

80. Total trihalomethanes (TTHMs)	N/A	0.08017 ^{19,20}	Some people who drink water containing trihalomethanes excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer.
81. Haloacetic Acids (HAA)	N/A	0.060 ²¹	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
82. Bromate	Zero	0.010	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
83. Chlorite	0.08	1.0	Some infants and young children who drinking water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
84. Chlorine	4 (MRDLG) ²²	4.0 (MRDL) ²³	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
85. Chloramines	4 (MRDLG)	4.0 (MRDL)	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
86a. Chlorine dioxide, where any 2 consecutive daily samples taken at the entrance to the distribution system are above the MRDL.	0.8 (MRDLG)	0.8 (MRDL)	Some infants and young children who drink water containing chlorine dioxide in excess of a the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine ioxide in excess of the MRDL. Some people may experience anemia. <i>Add for public notification only:</i> The chlorine dioxide violations reported today are the result of exceedances at the treatment facility only not within the distribution system which delivers water to

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86b. Chlorine dioxide, where one or more water distribution system are above the MRDL	0.8 (MRDLG)	0.8 (MRDL)	<p>consumers. Continued compliance with chlorine dioxide levels within the distribution system minimizes the potential risk of these violations to consumers.</p> <p>Some infants and young children who drink containing chlorine dioxide in excess of the MRDL could experience nervous effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.</p> <p><i>Add for public notification only:</i> The chlorine dioxide violations reported today include exceedances of the EPA standard within the distribution system which delivers water to consumers. Violations of the chlorine dioxide standard within the distribution system may harm human health based on short-term exposures. Certain groups, including fetuses, infants, and young children, may be especially susceptible to nervous system effects from excessive chlorine dioxide exposure.</p> <p>Total organic carbon (TOC) has no health effects However, total organic carbon provides a medium for the formation of disinfection by-products. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.</p>
87. Control of DBP precursors (DBP)	None	TT	
I. Other Treatment Techniques:			
88. Acrylamide	Zero	TT	<p>Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.</p> <p>Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.</p>
89. Epichlorohydrin	Zero	TT	

Appendix B to R.61-58.6 - endnotes

- 1. MCLG - Maximum contaminant level goal
- 2. MCL - Maximum contaminant level

- ³. For water systems analyzing at least 40 samples per month, no more than 5.0 percent of the monthly samples may be positive for total coliforms. For systems analyzing fewer than 40 samples per month, no more than one sample per month may be positive for total coliforms.
- ⁴. There are various regulations that set turbidity standards for different types of systems, including the 1989 Surface Water Treatment Rule, the 1998 Interim Enhanced Surface Water Treatment Rule, and the 2002 Long Term 1 Enhanced Surface Water Treatment Rule. The MCL for the monthly turbidity average is 1 NTU; the MCL for the 2-day average is 5 NTU for systems that are required to filter but have not yet installed filtration.
- ⁵. NTU - Nephelometric turbidity unit
- ⁶. There are various regulations that set turbidity standards for different types of systems, including the 1989 Surface Water Treatment Rule (SWTR), the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR), and the 2001 Long Term 1 Enhanced Surface Water Treatment Rule. Systems subject to the Surface Water Treatment Rule (both filtered and unfiltered) may not exceed 5 NTU. In addition, in filtered systems, 95 percent of samples each month must not exceed 0.5 NTU in systems using conventional or direct filtration and must not exceed 1 NTU in systems using slow sand or diatomaceous earth filtration or other filtration technologies approved by the Department.
- ⁷. TT - Treatment technique
- ⁸. There are various regulations that set turbidity standards for different types of systems, including the 1989 Surface Water Treatment Rule (SWTR), the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR), and the 2002 Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR). For systems subject to the IESWTR (systems serving at least 10,000 people, using surface water or ground water under the direct influence of surface water), that use conventional filtration or direct filtration, after January 1, 2002, the turbidity level of a system's combined filter effluent may not exceed 0.3 NTU in at least 95 percent of monthly measurements, and the turbidity level of a system's combined filter effluent must not exceed 1 NTU at any time. Systems subject to the IESWTR using technologies other than conventional, direct, slow sand, or diatomaceous earth filtration must meet turbidity limits set by the Department. For systems subject to the LT1ESWTR (systems serving fewer than 10,000 people, using surface water or ground water under the direct influence of surface water) that use conventional filtration or direct filtration, after January 1, 2005 the turbidity level of a system's combined filter effluent may not exceed 0.3 NTU in at least 95 percent of monthly measurements, and the turbidity level of a system's combined filter effluent must not exceed 1 NTU at any time. Systems subject to the LT1ESWTR using technologies other than conventional, direct, slow sand, or diatomaceous earth filtration must meet turbidity limits set by the Department.
- ⁹. The bacteria detected by heterotrophic plate count (HPC) are not necessarily harmful. HPC is simply an alternative method of determining disinfectant residual levels. The number of such bacteria is an indicator of whether there is enough disinfectant in the distribution system.
- ¹⁰. SWTR, IESWTR, and LT1ESWTR treatment technique violations that involve turbidity exceedances may use the health effects language for turbidity instead.
- ¹¹. These arsenic values are effective January 23, 2006. Until then, the MCL is 0.05 mg/L and there is no MCLG.
- ¹². Millions fibers per liter.
- ¹³. Action Level = 0.015 mg/L
- ¹⁴. Action Level = 1.3 mg/L
- ¹⁵. Millirems per years
- ¹⁶. Picocuries per liter
- ¹⁷. The uranium MCL is effective December 8, 2003 for all community water systems.
- ¹⁸. Surface water systems and ground water systems under the direct influence of surface water are regulated under R.61-58.10. Community and non-transient non-community systems serving greater than, or equal to 10,000 must comply with R.61-58.13 DBP MCLs and disinfectant maximum residual disinfectant levels (MRDLs) beginning January 1, 2002. All other community and non-transient non-community systems must comply with R.61.58.13 DBP MCLs and MRDLs beginning January 1, 2004. Transient non-community surface water systems and ground water systems under the direct influence of surface water

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serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2002. All other transient non-community systems that use chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning on January 1, 2004.

^{19.} Community and non-transient non-community systems that must comply with R.61-58.14 TTHM and HAA5 MCLs of 0.080 mg/L and 0.060 mg/L, respectively (with compliance calculated as a locational running annual average) on the schedule in R.61-58.15.

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

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

^{22.} MRDLG--Maximum residual disinfectant level goal.

^{23.} MRDL--Maximum residual disinfectant level.

Replace R.61-58 Appendix C to read:

APPENDIX C TO R.61-58.6 - LIST OF ACRONYMS USED IN PUBLIC NOTIFICATION REGULATION

CCR Consumer Confidence Report
CWS Community Water System
DBP Disinfection Byproduct
EPA Environmental Protection Agency
FBR Filter Backwash Recycle Rule
GWR Ground Water Rule
HPC Heterotrophic Plate Count
IESWTR Interim Enhanced Surface Water Treatment Rule
IOC Inorganic Chemical
LCR Lead and Copper Rule
LT1ESWTR Long Term 1 Enhanced Surface Water Treatment Rule
MCL Maximum Contaminant Level
MCLG Maximum Contaminant Level Goal
MRDL Maximum Residual Disinfectant Level
MRDLG Maximum Residual Disinfectant Level Goal
NCWS Non-Community Water System
NPDWR National Primary Drinking Water Regulation
NTNCWS Non-Transient Non-Community Water System
NTU Nephelometric Turbidity Unit
OGWDW Office of Ground Water and Drinking Water
OW Office of Water
PN Public Notification
PWS Public Water System
SDWA Safe Drinking Water Act
SMCL Secondary Maximum Contaminant Level
SOC Synthetic Organic Chemical
SPDWR State Primary Drinking Water Regulations
SWTR Surface Water Treatment Rule
TCR Total Coliform Rule
TT Treatment Technique
TWS Transient Non-Community Water System
VOC Volatile Organic Chemical

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Replace R.61-58 Appendix D to read:

APPENDIX D TO R.61-58.12: CONSUMER CONFIDENCE REPORTS: REGULATED CONTAMINANTS

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Microbiological contaminants:						
Total Coliform Bacteria	MCL: (systems that collect \geq 40 samples/month) 5% of monthly samples are positive; (systems that collect <40 samples/month) 1 positive monthly sample.		MCL: (systems that collect \geq 40 samples/month) 5% of monthly samples are positive; (systems that collect <40 samples/month) 1 positive monthly sample.	0	Naturally present in the environment	Coliforms are bacteria that are naturally present in the and are used as an indicator that other, potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
Fecal coliform and E. coli	0		0	0	Human and animal fecal waste	Fecal coliforms and E. Coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely-compromised immune systems.
Fecal Indicators (enterococci or coliphage).	TT		TT	N/A	Human and animal fecal waste.	Fecal indicators are microbes whose presence indicates that

Total organic carbon (ppm)	TT	TT	N/A	Naturally present	<p>the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.</p> <p>Total organic carbon (TOC) has no health effects. However, total in the environment organic carbon provides a medium for the formation of disinfection by-products. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.</p>
Turbidity (NTU)	TT	TT	N/A	Soil runoff	<p>Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include</p>

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bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Radioactive contaminants:

Beta/photon emitters (mrem/yr)	4 mrem/yr	4	N/A	Decay of natural and man-made deposits.	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon in excess of the MCL over many years may have an increased risk of getting cancer.
Alpha emitters (pCi/L)	15 pCi/L	15	N/A	Erosion of natural deposits.	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Combined radium (pCi/L)	5 pCi/L	5	N/A	Erosion of natural deposits.	Some people who drink water containing radium-226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium (pCi/L)	30 µg/L	30	0	Erosion of natural deposits.	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk getting cancer and kidney toxicity.

Inorganic contaminants:

Antimony (ppb)	.006	1000	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.	Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.
Arsenic (ppb)	¹ 0.010	1000	¹ 10.	¹ 0	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Asbestos (MFL)	7 MFL		7	7	Decay of asbestos cement water mains; production wastes; erosion of natural deposits.	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium (ppm)	2		2	2	Discharge of drilling; wastes; Discharge from metal refineries; Erosion of natural deposits.	Some people who drink water containing barium in of the MCL over many years could experience an increase in their blood pressure.
Beryllium (ppb)	.004	1000	4	4	Discharge from metal refineries and coal-burning factories; Discharge from	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions

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Bromate (ppb)	.010	1000	10	0	electrical, aerospace, and defense industries By-product of drinking water chlorination.	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
Cadmium (ppb)	.005	1000	5	5	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints.	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Chloramines (ppm)	MRDL = 4		MRDL = 4	MRDLG = 4	Water additive used to control microbes.	Some people who use water containing chloramines well in excess of the MRDL could experience irritating to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.

Chlorine (ppm)	MRDL = 4		MRDL = 4	MRDLG = 4	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chlorine dioxide (ppb)	MRDL = .8	1000	MRDL = 800	MRDLG = 800	Water additive used to control microbes	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
Chlorite (ppm)	1		1	0.8	By-product of drinking water chlorination.	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Chromium (ppb)	.1	1000	100	100	Discharge from steel and pulp mills; Erosion of Natural deposits.	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

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Copper (ppm)	AL=1.3		AL=1.3	1.3	Corrosion of household plumbing. Erosion of natural deposits.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Cyanide (ppb)	2	1000	200	200	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories.	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
Fluoride (ppm)	4		4	4	Erosion of natural deposits; Water additive which promotes strong teeth Discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

Lead (ppb)	AL=.015	1000	AL=15	0	Corrosion of household plumbing systems; Erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Mercury [inorganic] (ppb)	.002	1000	2	2	Erosion of natural deposits; discharge from refineries and factories; Runoff from landfills; Runoff from cropland.	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage
Nitrate (ppm)	10		10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Nitrite (ppm)	1		1	1	Runoff from fertilizer use; Leaching from septic tanks sewage; Erosion of natural deposits	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

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Selenium (ppb)	.05	1000	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation
Thallium (ppb)	.002	1000	2	0.5	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories.	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

Synthetic organic contaminants including pesticides and herbicides:

2,4-D (ppb)	.07	1000	70	70	Runoff from herbicide used on row crops.	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
2,4,5-TP [Silvex](ppb)	.05	1000	50	50	Residue of banned herbicide	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.

Acrylamide	TT		TT	0	Added to water during sewage/wastewater treatment.	Some people who drink water containing high levels of acrylamide over a long period of time could have an increased problems with their nervous system or blood, and may have risk of getting cancer.
Alachlor (ppb)	.002	1000	2	0	Runoff from herbicide used on row crops.	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
Atrazine (ppb)	.003	1000	3	3	Runoff from herbicide used on row crops.	Some people who drink water containing atrazine well in excess of the MCL over many years could experience on problems with their cardiovascular system or reproductive difficulties.
Benzo(a)pyrene [PAH] (nanograms/l).	.0002	1,000,000	200	0	Leaching from linings of water storage tanks distribution lines.	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Carbofuran (ppb)	.04	1000	40	40	Leaching of soil fumigant used on rice and alfalfa.	Some people who drink carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.

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Chlordane (ppb)	.002	1000	2	0	Residue of banned termiticide	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
Dalapon (ppb)	.2	1000	200	200	Runoff from herbicide used on rights of way.	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
Di(2-ethylhexyl) adipate (ppb).	.4	1000	400	400	Discharge from chemical factories.	Some people who drink water containing di(2-ethylhexyl) adipate well in excess of the MCL over many years could experience toxic effects such as weight loss, liver enlargement or possible reproductive difficulties.
Di(2-ethylhexyl) phthalate (ppb).	.006	1000	6	0	Discharge from rubber and chemical factories.	Some people who drink water containing di(2-ethylhexyl) phthalate well in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloropropane (ppt)	.0002	1,000,000	200	0	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.

Dinoseb (ppb)	.007	1000	7	7	Runoff from herbicide used on soybeans and vegetables.	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
Diquat (ppb)	.02	1000	20	20	Runoff from herbicide use.	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
Dioxin [2,3,7,8-TCDD] (ppq).	.00000003	1,000,000,000	30	0	Emissions from waste incineration and other combustion; Discharge from chemical factories.	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Endothall (ppb)	.1	1000	100	100	Runoff from herbicide use.	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin (ppb)	.002	1000	2	2	Residue of banned insecticide.	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Epichlorohydrin.	TT		TT	0	Discharge from industrial chemical factories; An impurity of some water treatment chemicals.	Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.

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Ethylene dibromide (ppt)	.00005	1,000,000	50	0	Discharge from petroleum refineries.	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
Glyphosate (ppb)	.7	1000	700	700	Runoff from herbicide use	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
Heptachlor (ppt)	.0004	1,000,000	400	0	Residue of banned pesticide.	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
Heptachlor epoxide (ppt)	.0002	1,000,000	200	0	Breakdown of heptachlor.	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene (ppb)	.001	1000	1	0	Discharge from metal refineries and agricultural chemical factories.	Some people who drink water containing Hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects and may have an increased risk of getting cancer

Hexachlorocyclopentadiene (ppb)	.05	1000	50	50	Discharge from chemical factories	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
Lindane (ppt)	.0002	1,000,000	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens.	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
Methoxychlor (ppb)	.04	1000	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock.	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties
Oxamyl [Vydate] (ppb)	.2	1000	200	200	Runoff/leaching from insecticide used on apples potatoes and tomatoes.	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.
PCBs [Polychlorinated biphenyls] (ppt).	.0005	1,000,000	500	0	Runoff from landfills Discharge of waste chemicals	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.

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Pentachlorophenol (ppb)	.001	1000	1	0	Discharge from wood preserving factories	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
Picloram (ppb)	.5	1000	500	500	Herbicide runoff	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
Simazine (ppb)	.004	1000	4	4	Herbicide runoff	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
Toxaphene (ppb)	.003	1000	3	0	Runoff/leaching from insecticide used on cotton and cattle.	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer

Volatile organic contaminants:

Benzene (ppb)	.005	1000	5	0	Discharge from factories; Leaching from gas storage tanks and landfills.	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
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Carbon tetrachloride (ppb)	.005	1000	5	0	Discharge from chemical plants and other industrial activities.	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with in their liver and may have an increased risk of getting cancer.
Chlorobenzene (ppb)	.1	1000	100	100	Discharge from chemical and agricultural chemical factories	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
o-Dichlorobenzene (ppb)	.6	1000	600	600	Discharge from industrial chemical	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over liver, kidneys, or circulatory systems.
p-Dichlorobenzene (ppb)	.075	1000	75	75	Discharge from industrial chemical factories	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
1,2-Dichloroethane (ppb)	.005	1000	5	0	Discharge from industrial chemical factories.	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer
1,1-Dichloroethylene (ppb)	.007	1000	7	7	Discharge from industrial chemical factories.	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.

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cis-1,2-Dichloroethylene (ppb)	.07	1000	70	70	Discharge from industrial chemical factories.	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
trans-1,2-Dichloroethylene (ppb).	.1	1000	100	10	Discharge from industrial chemical factories.	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
Dichloromethane (ppb)	.005	1000	5	0	Discharge from pharmaceutical and chemical factories	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increase risk of getting cancer.
1,2-Dichloropropane (ppb)	.005	1000	5	0	Discharge from industrial chemical factories.	Some people who drink water containing 1,2-Dichloropropane excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene (ppb)	.7	1000	700	700	Discharge from petroleum refineries.	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Haloacetic Acids (HAA) (ppb).	.060	1000	60	N/A	By-product of drinking water disinfection.	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Styrene (ppb)	.1	1000	100	100	Discharge from rubber and plastic factories and leaching from landfills.	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys or circulatory system.
Tetrachloroethylene (ppb)	.005	1000	5	0	Discharge from factories and dry cleaners.	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
1,2,4-Trichlorobenzene (ppb)	.07	1000	70	70	Discharge from textile-finishing factories.	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
1,1,1-Trichloroethane (ppb)	.2	1000	200	200	Discharge from metal degreasing sites and other factories.	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience liver, problems with their nervous system, or circulatory system.
1,1,2-Trichloroethane (ppb).	.005	1000	5	3	Discharge from industrial chemical factories.	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver; kidneys, or immune systems.

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Trichloroethylene (ppb)	.005	1000	5	0	Discharge from metal degreasing sites and other factories	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
TTHMs [Total trihalomethanes] (ppb)	0.10/.080	1000	100/80	N/A	By-product of drinking water disinfection.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Toluene (ppm)	1		1	1	Discharge from petroleum factories.	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
Vinyl Chloride (ppb)	.002	1000	2	0	Leaching from PVC piping; Discharge from from plastics factories.	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes (ppm)	10		10	10	Discharge from petroleum factories; Discharge from chemical factories.	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

Key:

AL=Action Level
MCLG=Maximum Contaminant Level Goal
MRDL=Maximum Residual Disinfectant Level

MCL=Maximum Contaminant Level
MFL=million fibers per liter
MRDLG=Maximum Residual Disinfectant Level Goal

mrem/year=millirems per year (a measure of radiation absorbed by the body)

N/A=Not Applicable

pCi/l=picocuries per liter (a measure of radioactivity)

ppb=parts per billion, or micrograms per liter ($\mu\text{g/l}$)

ppq=parts per quadrillion, or picograms per liter

NTU=Nephelometric Turbidity Units (a measure of water clarity)

ppm=parts per million, or milligrams per liter (mg/L)

ppt=parts per trillion, or nanograms per liter

TT=Treatment Technique

Appendix D to R.61-58.12 - endnotes

¹ These arsenic values are effective January 23, 2006. Until then, the MCL is 0.05 mg/L and there is no MCLG.

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Statement of Need and Reasonableness:

The Statement of Need and Reasonableness was determined by staff analysis pursuant to S.S. Code Section 1-23-115(C)(1)-(3) and (9)-(11):

DESCRIPTION OF REGULATION: Amendment of Regulation 61-58, State Primary Drinking Water Regulations

Purpose: The Department has adopted this amendment to R.61-58 in order to adopt federal regulations commonly referred to as the Ground Water Rule as well as make minor changes concerning Maximum Contaminant Levels, Public Notification, and Consumer Confidence Reports. This amendment will comply with Federal law and ensure consistency with the Safe Drinking Water Act and the National Primary Drinking Water Regulations and will enable the Department to retain primary enforcement responsibility for the public drinking water supervision program. This action is mandated by the 1996 amendments to the Federal Safe Drinking Water Act. The proposed regulations will comply with 40 CFR Parts 141 and 142. The final Ground Water Rule was published in the November 8, 2006 Federal Register.

Legal Authority: The State Primary Drinking Water Regulations are authorized by S.C. Code Ann. 44-55-10 et. seq., State Safe Drinking Water Act.

Plan for Implementation: These amendments would be incorporated within R.61-58 and will be implemented in the same manner in which the existing regulation is implemented.

DETERMINATION OF NEED AND REASONABLENESS OF THE REGULATION BASED ON ALL FACTORS HEREIN AND EXPECTED BENEFITS:

The adoption of these regulations will allow the Department to continue being the primacy agency for the implementation of the Safe Drinking Water Act and the National Primary Drinking Water Regulations in the state. This action is mandated by the 1996 amendments to the Federal Safe Drinking Water Act. The proposed regulations will comply with 40 CFR Parts 141 and 142.

DETERMINATION OF COSTS AND BENEFITS:

The Ground Water Rule may result in increased costs to public water systems for improved treatment to reduce public exposure to fecal contamination of ground water systems. This rule will apply to all public water systems that use ground water except that it does not apply to public water systems that combine all of their ground water with surface water or systems that have ground water under the influence of surface water. These later system types are regulated under Subpart H of the National Primary Drinking Water Regulations. This regulation also establishes monitoring requirements for systems that may be more susceptible to fecal contamination. EPA has estimated that the total national annualized cost for implementing the Ground Water Rule is \$437.8 million. This estimate includes annualized treatment costs to utilities (\$50 million), start-up and initial capital costs to utilities (\$346 million), one-time implementation costs to utilities (\$17 million), and state costs (\$11.8 annualized, \$13 million one-time start up costs). According to national EPA estimates, the mean annual household costs for systems range from less than \$1 to over \$16 (systems serving fewer households generally have higher average annual household costs due to economies of scale). In addition, if a system has to take corrective action because of this rule, the household costs range from less than \$1 to over \$52. EPA estimates that 8,465 viral illnesses and 0.15 deaths will be avoided under this rule in children, the elderly, and the immunocompromised.

Costs incurred by public water systems or the state due to minor changes in Maximum Contaminant Levels, Public Notification, and Consumer Confidence Reports will be minimal.

UNCERTAINTIES OF ESTIMATES:

Considerable

EFFECT ON ENVIRONMENT AND PUBLIC HEALTH:

There will be no effect on the environment. The amendments will promote public health through improved drinking water quality.

DETRIMENTAL EFFECT ON THE ENVIRONMENT AND PUBLIC HEALTH IF THE REGULATION IS NOT IMPLEMENTED:

There will be no detrimental effect on the environment if the amendments are not implemented. However, there could be an adverse impact on public health if the amendments are not implemented.



State Safe Drinking Water Act

BUREAU OF WATER

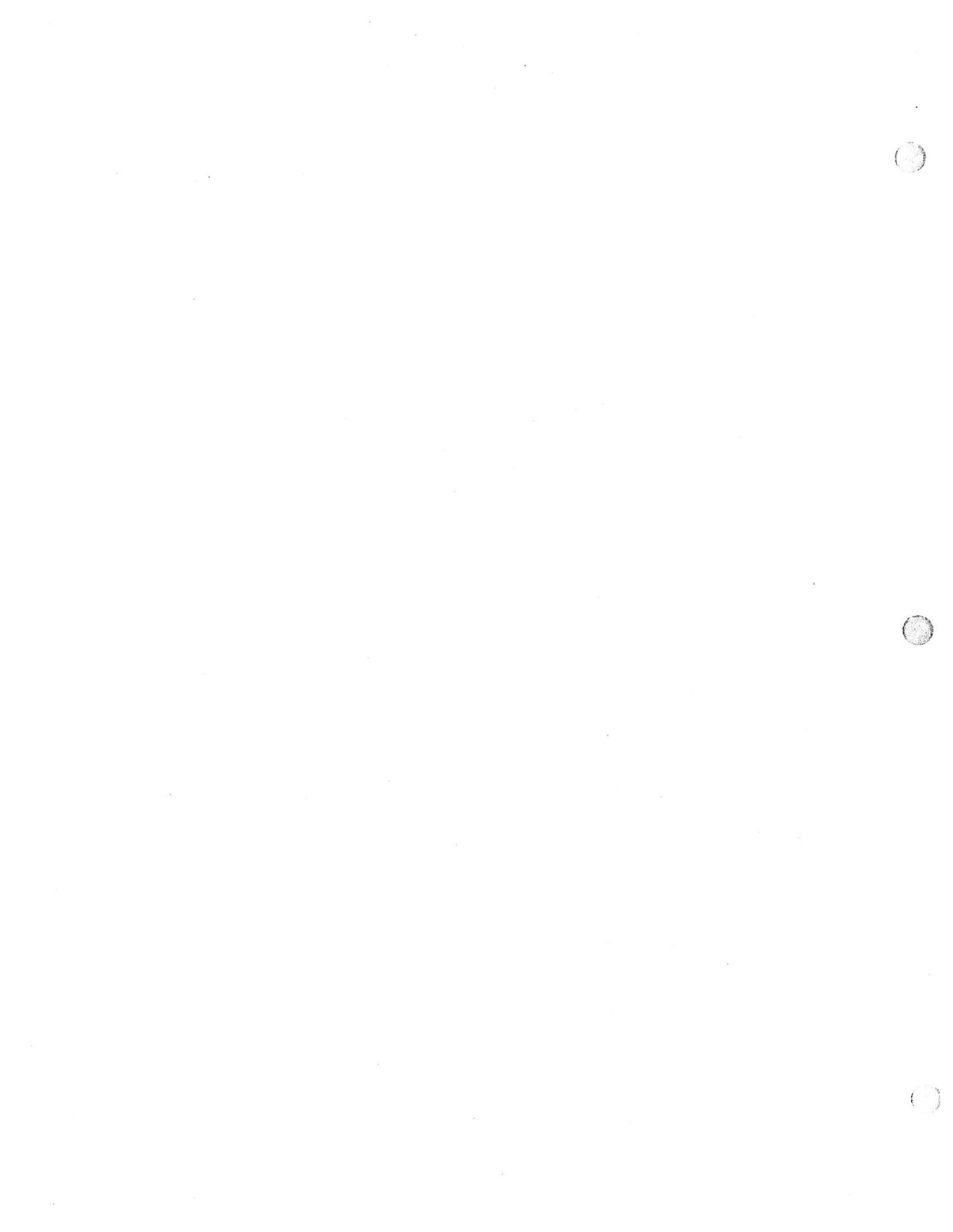
South Carolina Department of Health and Environmental Control



June 2000



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STATE SAFE DRINKING WATER ACT

SECTION 44-55-10. This article may be cited as the State Safe Drinking Water Act.

SECTION 44-55-20. Definitions.

- (1) 'Board' means the South Carolina Board of Health and Environmental Control which is charged with responsibility for implementation of the Safe Drinking Water Act.
- (2) 'Commissioner' means the commissioner of the department or his authorized agent.
- (3) 'Community water systems' means a public water system which serves at least fifteen service connections used by year-round residents or regularly serves at least twenty-five year-round residents. This may include, but is not limited to, subdivisions, municipalities, mobile home parks, and apartments.
- (4) 'Construction permit' means a permit issued by the department authorizing the construction of a new public water system or the expansion or modification of an existing public water system.
- (5) 'Contamination' means the adulteration or alteration of the quality of the water of a public water system by the addition or deletion of any substance, matter, or constituent except as authorized pursuant to this article.
- (6) 'Cross-connection' means any actual or potential connection or structural arrangement between a public water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas or substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or changeover devices, and other temporary or permanent devices through which or because of which backflow can or may occur are considered to be cross-connections.
- (7) 'Department' means the South Carolina Department of Health and Environmental Control, including personnel authorized and empowered to act on behalf of the department or board.
- (8) 'Human consumption' means water used for drinking, bathing, cooking, dish washing, and maintaining oral hygiene or other similar uses.
- (9) 'Noncommunity water system' means a public water system which serves at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days out of the year and does not meet the definition of a community water system.
- (10) 'Nontransient noncommunity water system' means a public water system that is not a community water system and that regularly serves at least twenty-five of the same persons over six months per year.

- (11) 'Operating permit' means a permit issued by the department that outlines the requirements and conditions under which a person must operate a public water system.
- (12) 'Person' means an individual, partnership, copartnership, cooperative, firm, company, public or private corporation, political subdivision, government agency, trust, estate, joint structure company, or any other legal entity or its legal representative, agent, or assigns.
- (13) 'Public water system' means:
- (a) any publicly or privately owned waterworks system which provides water, whether bottled, piped, or delivered through some other constructed conveyance for human consumption, including the source of supply whether the source of supply is of surface or subsurface origin;
 - (b) all structures and appurtenances used for the collection, treatment, storage, or distribution of water delivered to point of meter of consumer or owner connection;
 - (c) any part or portion of the system, including any water treatment facility, which in any way alters the physical, chemical, radiological, or bacteriological characteristics of the water; however, a public water system does not include a water system serving a single private residence or dwelling. A separately owned system with its source of supply from another waterworks system must be a separate public water system. A connection to a system that delivers water by a constructed conveyance other than a pipe must not be considered a connection if:
 - (i) the water is used exclusively for purposes other than residential uses consisting of drinking, bathing, and cooking or other similar uses;
 - (ii) the department determines that alternative water to achieve the equivalent level of public health protection provided by the applicable State Primary Drinking Water Regulations is provided for residential or similar uses for drinking and cooking; or
 - (iii) the department determines that the water provided for residential 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 State Primary Drinking Water Regulations.
- (14) 'State water system' means any water system that serves less than fifteen service connections or regularly serves an average of less than twenty-five individuals daily.
- (15) 'Transient noncommunity water system' means a noncommunity water system that does not regularly serve at least twenty-five of the same persons over six months a year.
- (16) 'Well' means a bored, drilled or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension, from which water is extracted or injected. This includes, but is not limited to, wells used for water supply for irrigation, industrial and manufacturing processes, or drinking water, wells used for underground injection of waste for disposal, storage, or drainage disposal, wells used in mineral or geothermal recovery, and any other special process wells.
- (17) 'Well driller' means an individual, corporation, partnership, association, political subdivision, or public agency of this State who is licensed with the South Carolina Department of Labor, Licensing and Regulation for constructing wells and is in immediate supervision of and responsible for the construction, development, drilling, testing, maintenance, repair, or abandonment of any well as

defined by this chapter. This term does include owners constructing or abandoning wells on their own property for their own personal use only, except that these owners are not required to be licensed by the Department of Labor, Licensing and Regulation for construction wells.

SECTION 44-55-30. In general, the design and construction of any public water system must be in accord with modern engineering practices for these installations. The board shall establish regulations, procedures, or standards as may be necessary to protect the health of the public and to ensure proper operation and function of public water systems. These regulations may prescribe minimum design criteria, the requirements for the issuance of construction and operation permits, operation and maintenance standards, and bacteriological, chemical, radiological, and physical standards for public water systems, and other appropriate regulations.

SECTION 44-55-40.

- (A) Before the construction, expansion, or modification of any public water system, application for a permit to construct must be made to, and a permit to construct obtained from, the department.
- (B) All applications for a permit to construct shall include such engineering, chemical, physical, radiological, or bacteriological data as may be required by the department and must be accompanied by engineering plans, drawings, and specifications prepared by or under the direct supervision of a person properly qualified to perform engineering work as provided in Chapter 22, Title 40 and must be signed or certified by a professional engineer as defined in Chapter 22, Title 40.
- (C) Upon the completion of construction, modification, or extension to a public water system, arrangements must be made for a final inspection and approval before operation as prescribed by regulation. No new facility may be operated prior to approval by the department.
- (D) Any public water system must be adequately protected and maintained so as to continuously provide safe and potable water in sufficient quantity and pressure and free from potential hazards to the health of the consumers. No person may install, permit to be installed, or maintain any unprotected cross-connection between a public water system and any other water system, sewer, or waste line or any piping system or container containing polluting substances. To facilitate the prevention and control of cross-connections, the department shall certify qualified individuals who are capable of testing cross-connection control devices to ensure their proper operation.
- (E) Hand dug and bored wells constructed with casing materials of rock, concrete, or ceramic must not be used as a source of water for a public water system.
- (F) In exercising its responsibility under this article, the department is authorized to investigate the public water system as often as the department considers necessary. Records of operation of public water systems must be kept on forms approved or furnished by the department, and this data must be submitted at such times and intervals as the department considers necessary. Samples of water must be collected and analyzed by the systems as required.
- (G) The department may authorize variances or exemptions from the regulations issued pursuant to this section under conditions and in such manner as the board considers necessary and desirable; however,

these variances or exemptions must be permitted under conditions and in a manner which is not less stringent than the conditions under, and the manner in which, variances and exemptions may be granted under the Federal Safe Drinking Water Act.

- (H) The department or its authorized representative has the authority to enter upon the premises of any public water system at any time for the purpose of carrying out the provisions of this article.
- (I) The department may issue, modify, or revoke any order to prevent any violation of this article after adequate notice and proper hearing as required by the Administrative Procedures Act.
- (J) The department may hold public hearings and compel the attendance of witnesses; conduct studies, investigations, surveillance of laboratories, including certification programs, and research with respect to the operation and maintenance of any public water system; adopt and implement plans for the provision of drinking water under emergency circumstances; and issue, deny, revoke, suspend, or modify permits under such conditions as it may prescribe for the operation of any public water system; however, no permit may be revoked without first providing an opportunity for a hearing.
- (K) The Commissioner of the Department of Health and Environmental Control shall classify all public water system treatment facilities giving due regard to the size, type, complexity, physical condition, source of supply, and treatment process employed by the public water system treatment facility and the skill, knowledge, and experience necessary for the operation of these facilities. Each treatment facility must be classified at the highest applicable level of the following classification system, with Group VII Treatment being the highest classification level:

Group I Treatment. A facility which provides disinfection treatment using a sodium hypochlorite or calcium hypochlorite solution as the disinfectant.

Group II Treatment. A facility which provides disinfection treatment using gaseous chlorine or chloramine disinfection or includes sequestering, fluoridation, or corrosion control treatment.

Group III Treatment. A facility treating a groundwater source which is not under the direct influence of surface water, utilizing aeration, coagulation, sedimentation, lime softening, filtration, chlorine dioxide, ozone, ultra-violet light disinfection, powdered activated carbon addition, granular activated carbon filtration or ion exchange, or membrane technology or that includes sludge storage or a sludge dewatering process.

Group IV Treatment. A facility treating a surface water source or a groundwater source which is under the direct influence of surface water, utilizing aeration, coagulation, clarification with a minimum detention time of two hours in the clarification unit, lime softening, rapid rate gravity filtration (up to four gallons per minute per square foot), slow sand filtration, chlorine dioxide, powdered activated carbon addition, or granular activated carbon filtration or ion exchange or that includes sludge storage or a sludge dewatering process. This classification also includes any treatment facility which does not provide filtration for a surface water source or a groundwater source which is under the direct influence of surface water.

Group V Treatment. A facility treating a surface water source or a groundwater source which is under the direct influence of surface water, utilizing high rate gravity filtration (greater than four gallons per minute per square foot), clarification with a detention time of less than two hours in the clarification unit, diatomaceous earth filtration, or ultraviolet light disinfection.

Group VI Treatment. A facility treating a surface water source or a groundwater source which is under the direct influence of surface water, utilizing direct filtration, membrane technology, or ozone.

Group VII Treatment. Drinking water dispensing stations and vending machines which utilize water from an approved public water system or bottled water plants which treat water from the distribution system of a public water system or from a groundwater source which is not under the direct influence of surface water.

- (L) The Commissioner of the Department of Health and Environmental Control shall classify all public water distribution systems giving due regard to the size, type, and complexity of the public water distribution system and the skill, knowledge, and experience necessary for the operation of these systems. The classification must be based on:

Group I Distribution. Distribution systems associated with state and transient noncommunity water systems.

Group II Distribution. Distribution systems associated with community and nontransient noncommunity public water systems which have a reliable production capacity not greater than six hundred thousand gallons a day and which do not provide fire protection.

Group III Distribution. Distribution systems associated with community and nontransient noncommunity water systems which have a reliable production capacity greater than six hundred thousand gallons a day but not greater than six million gallons a day (MGD) or have a reliable production capacity not greater than six hundred thousand gallons a day and provide fire protection.

Group IV Distribution. Distribution systems associated with community and nontransient noncommunity water systems which have a reliable production capacity than six MGD, but not greater than twenty MGD.

Group V Distribution. Distribution systems associated with community and nontransient noncommunity water systems which have a reliable production capacity greater than twenty MGD.

- (M) It is unlawful for a person to operate a public water treatment facility or distribution system classified in subsection (K) or (L) unless the operator-in-charge holds a valid certificate of registration issued by the South Carolina Environmental Certification Board in a grade corresponding to the classification of the public water treatment facility or distribution system supervised by the operator in charge. All public water treatment facilities classified in Group IV Treatment through Group VI Treatment of subsection (K) must have an operator of the appropriate grade certified by the South Carolina Environmental Certification Board on duty while the facility is in operation.

- (N) Effective July 1, 1983, it is unlawful for a person to engage in the business of well drilling or represent himself or herself to the public as a well driller without obtaining certification from the South Carolina Environmental Certification Board or employing well drillers which are certified by the South Carolina Environmental Certification Board. Persons constructing or abandoning wells on their own property for their own personal use only are not required to be licensed by the Department of Labor, Licensing and Regulation.
- (O) The board, to ensure that underground sources of drinking water are not contaminated by improper well construction and operation, may promulgate regulations as developed by the Advisory Committee established pursuant to Section 44-55-45, setting standards for the construction, maintenance, operation, and abandonment of any well except for wells where well construction, maintenance, and abandonment are regulated by the Groundwater Use Act of 1969, Sections 49-5-10 et seq.; the Oil and Gas Exploration, Drilling, Transportation, and Production Act, Sections 48-43-10 et seq.; or the Water Use Reporting and Coordination Act, Section 49-4-10 et seq. For these excepted wells, the board may promulgate regulations. The board shall further ensure that all wells are constructed in accordance with the standards. The board shall make available educational training on the standards to well drillers who desire this training.
- (P) The owner of a public water system must possess a valid operating permit to operate a public water system in this State.

SECTION 44-55-45. An advisory committee to the board must be appointed for the purpose of advising the board during development or subsequent amendment of regulatory standards for the construction, maintenance, operation, and abandonment of wells subject to the jurisdiction of the board. The Advisory Committee is composed of eight members appointed by the board. Five members must be active well drillers; one member must be a registered professional engineer with experience in well design and construction; one member must be a consulting hydrogeologist with experience in well design and construction; and one member must be engaged in farming and shall represent the public at large. Three ex officio members shall also serve on the Advisory Committee, one of whom must be an employee of the Department of Health and Environmental Control, and appointed by the commissioner; and two of whom must be employees of the South Carolina Department of Natural Resources and appointed by the director.

The term of office of members of the Advisory Committee is for four years and until their successors are appointed and qualify. No member may serve more than two consecutive terms. The initial terms of office must be staggered and any member may be removed for cause after proper notification and an opportunity to be heard.

SECTION 44-55-50.

- (A) In establishing regulations, procedures, and standards under Section 44-55-30 and in exercising supervisory powers under Section 44-55-40 the board or department must not prohibit or fail to include provisions for recreational activities including boating, water skiing, fishing, and swimming in any reservoir without first making and publishing specific findings that these recreational activities would be injurious to the public health and assigning with particularity the factual basis and reasons for these decisions.

- (B) If the board or department determines that these recreational activities would be injurious to the public health it shall cause to have published at least once a week for six consecutive weeks in a newspaper of general circulation in the county or area affected a summary of its findings. Any citizen of this State who objects to the findings of the board or department is entitled to request a public hearing, which the board or department shall conduct within thirty days after the request. The public hearing must be a formal evidentiary hearing where testimony must be recorded. After the hearing the board or department shall review its initial findings and shall within thirty days after the hearing affirm or reevaluate its findings in writing and give notice to known interested parties. The findings of the board or department may be appealed to the circuit court, which is empowered to modify or overrule the findings if the court determines the findings to be arbitrary or unsupported by the evidence. Notice of intention to appeal must be served on the board or department within fifteen days after it has affirmed or reevaluated its initial findings and copies also must be served on known interested parties.
- (C) A public water system utilizing a fully owned and protected watershed as its water supply is exempt from this section.

SECTION 44-55-60.

(A) An imminent hazard is considered to exist when in the judgment of the commissioner there is a condition which may result in a serious immediate risk to public health in a public water system.

(B) In order to eliminate an imminent hazard, the commissioner may, without notice or hearing, issue an emergency order requiring the water system to immediately take such action as is required under the circumstances to protect the public health. A copy of the emergency order must be served by certified mail or other appropriate means. An emergency order issued by the commissioner must be effected immediately and binding until the order is reviewed and modified by the board or modified or rescinded by a court of competent jurisdiction.

SECTION 44-55-70. A public water system shall, as soon as practicable, give public notice if it:

- (1) is not in compliance with the State Primary Drinking Water Regulations;
- (2) fails to perform required monitoring;
- (3) is granted a variance for an inability to meet a maximum contaminant level requirement;
- (4) is granted an exemption; or
- (5) fails to comply with the requirements prescribed by a variance or exemption.

The board shall prescribe procedures for the public notice, including procedures for notification by publication in a newspaper of general circulation, notification to be given in the water bills of the systems, as long as a condition of violation exists, and other notification as is considered appropriate by the board.

SECTION 44-55-80.

- (A) It is unlawful for a person to fail to comply with:
- (1) the provisions of this article or the regulations promulgated pursuant to this article;
 - (2) the conditions of any permit issued under this article; or
 - (3) any order of the department.
- (B) It is unlawful for a person to render a public water system, or part or portion of a public water system, inoperable or unusable by means of contamination, vandalism, sabotage, or assault upon or detention of employees of the system or to misrepresent any fact related to the operation of a public water system.

SECTION 44-55-90.

- (A) Any person wilfully violating the provisions of Section 44-55-80 is guilty of a misdemeanor and, upon conviction, must be fined not more than ten thousand dollars a day per violation or imprisoned for not more than one year, or both.
- (B) (1) A violation of Section 44-55-80 by a person renders the violator liable to the State for a civil penalty of not more than five thousand dollars a day per violation.
(2) The department may administer penalties as otherwise provided for violations of this article, including any order, permit, regulation, or standard or may request the Attorney General to commence an action under this subsection in an appropriate court of the State to secure this penalty.
- (C) The department may cause to be instituted a civil action in any court of applicable jurisdiction for injunctive relief to prevent violation of this article or any order issued pursuant to Sections 44-55-40, 44-55-60, and 44-55-70.

SECTION 44-55-100. To carry out the provisions and purposes of this article, the department may:

- (1) enter into agreements, contracts, or cooperative arrangements, under the terms and conditions as it considers appropriate, with other state, federal, or interstate agencies, municipalities, educational institutions, local health departments, or other organizations or individuals;
- (2) receive financial and technical assistance from the federal government and other public or private agencies;
- (3) participate in related programs of the federal government, other states, interstate agencies, or other public or private agencies or organizations and collect and file such reports, surveys, inventories, data, and information which may be required by the federal Safe Drinking Water Act;
- (4) establish and collect fees for collecting samples and conducting laboratory analyses as may be necessary.

SECTION 44-55-120.

- (A) In order to comply with the federal Safe Drinking Water Act, in addition to other fees authorized under this article, the department is authorized to collect an annual fee from each public water system. The schedule for the annual fee, established pursuant to this article, may not be increased except in accordance with the Administrative Procedures Act. Upon appropriation of additional state funds for

this specific purpose or state funds not otherwise allocated for specific purposes to implement the provisions of the federal Safe Drinking Water Act, the department shall adjust the fee schedule by an equivalent amount.

- (B) There is established in the treasurer's office an account entitled the Drinking Water Trust Fund which is separate and distinct from the Environmental Protection Fund established pursuant to Chapter 2, Title 48. The fees collected from the public water systems pursuant to this section must be deposited into the Drinking Water Trust Fund and must be provided to the department solely for purposes of implementing this chapter and the federal Safe Drinking Water Act. The fees must be established in accordance with fees which fund the Environmental Protection Fund pursuant to Chapter 2, Title 48.
- (C) There is established a Safe Drinking Water Advisory Committee for the purpose of advising and providing an annual review to the department and General Assembly on the fee schedule and the use of revenues deposited in the Drinking Water Trust Fund. The Governor shall appoint the advisory committee which must be composed of one member representing water systems with fifty thousand or more service connections, one member representing water systems with at least twenty-five thousand but fewer than fifty thousand service connections, one member representing water systems with at least ten thousand but fewer than twenty-five thousand water service connections, one member representing water systems with at least one thousand but fewer than ten thousand service connections, one member representing water systems with fewer than one thousand service connections, and the State Consumer Advocate and the Commissioner of the Department of Health and Environmental Control, or a designee.
- (D) The department may deny a construction permit to any new system which is unable to demonstrate viability to comply with the Safe Drinking Water Act or where connection to an existing, viable water system is feasible. The department also may revoke or deny renewal of an operating permit to any existing water system which is unable to demonstrate its ability to continue compliance with this act.
- (E) A water system may increase water rates to each service connection by an amount necessary to recover the cost of the safe drinking water fee without seeking approval of the public service commission. The total funds generated from rate increases to service connections for the purpose of paying the safe drinking water fee may not exceed the amount of the fee established pursuant to subsection (B)."

