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FORM 2

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CLEARINGHOUSE REPORT TO AGENCY

[THIS REPORT HAS BEEN PREPARED PURSUANT TO S. 227.15, STATS. THIS IS A REPORT ON A RULE AS ORIGINALLY PROPOSED BY THE AGENCY; THE REPORT MAY NOT REFLECT THE FINAL CONTENT OF THE RULE IN FINAL DRAFT FORM AS IT WILL BE SUBMITTED TO THE LEGISLATURE. THIS REPORT CONSTITUTES A REVIEW OF, BUT NOT APPROVAL OR DISAPPROVAL OF, THE SUBSTANTIVE CONTENT AND TECHNICAL ACCURACY OF THE RULE.]

CLEARINGHOUSE RULE 00-162

AN ORDER to repeal NR 809.12 (9) (e) and (10) (e) and 809.561 (3), and Appendix B and C to subchapter VII of chapter NR 809 subchapter VII; to amend NR 809.11 (3) (b), 809.12 (6) (b), 809.80 (4) and (5) (e) 2., 809.833 (2) (c) (intro.), (3) (intro.), (c) 9. and (e) and (5) (c) and (d) and 809.837 (8); to repeal and recreate Appendix A to subchapter VII of chapter NR 809; and to create NR 809.561 (3) to (5), 809.81 (intro.) and (5) (dd), (ei), (ek), (ep) and (hy), 809.82 (6), 809.833 (2) (c) 3. and 4., 809.835 (5), subchapter IX of chapter NR 809, and Appendices A, B and C to subchapter IX of chapter NR 809, relating to public notification requirements for public water systems.

Submitted by **DEPARTMENT OF NATURAL RESOURCES**

11-08-00 RECEIVED BY LEGISLATIVE COUNCIL.

12-07-00 REPORT SENT TO AGENCY.

RNS:AS:jal;tlu

LEGISLATIVE COUNCIL RULES CLEARINGHOUSE REPORT

This rule has been reviewed by the Rules Clearinghouse. Based on that review, comments are reported as noted below:

1. STATUTORY AUTHORITY [s. 227.15 (2) (a)]

Comment Attached YES NO

2. FORM, STYLE AND PLACEMENT IN ADMINISTRATIVE CODE [s. 227.15 (2) (c)]

Comment Attached YES NO

3. CONFLICT WITH OR DUPLICATION OF EXISTING RULES [s. 227.15 (2) (d)]

Comment Attached YES NO

4. ADEQUACY OF REFERENCES TO RELATED STATUTES, RULES AND FORMS [s. 227.15 (2) (e)]

Comment Attached YES NO

5. CLARITY, GRAMMAR, PUNCTUATION AND USE OF PLAIN LANGUAGE [s. 227.15 (2) (f)]

Comment Attached YES NO

6. POTENTIAL CONFLICTS WITH, AND COMPARABILITY TO, RELATED FEDERAL REGULATIONS [s. 227.15 (2) (g)]

Comment Attached YES NO

7. COMPLIANCE WITH PERMIT ACTION DEADLINE REQUIREMENTS [s. 227.15 (2) (h)]

Comment Attached YES NO

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CLEARINGHOUSE RULE 00-162

Comments

[NOTE: All citations to "Manual" in the comments below are to the Administrative Rules Procedures Manual, prepared by the Revisor of Statutes Bureau and the Legislative Council Staff, dated September 1998.]

2. Form, Style and Placement in Administrative Code

- a. Throughout the rule, parenthetical abbreviations are inappropriately used. [See s. 1.01 (6) and (8), Manual.] They should either be deleted or the abbreviation should be defined. For example, see s. NR 809.81 (5) (hy).
- b. Section NR 809.81 (intro.) should be numbered sub. (1) as it does not contain introductory language and end with a colon.
- c. Section NR 809.81 (5) (ek) should be numbered as par. (ec) so that the list is in alphabetical order.
- d. Section NR 809.82 should be rewritten in the active voice, i.e., "The department shall keep"
- e. In s. NR 809.833 (3) (intro.), "~~regulated contaminants~~" should be replaced with "regulated contaminants" and "regulated contaminants" should be deleted.
- f. Section NR 809.950 (intro.) should be numbered sub. (1) as it does not contain introductory language.
- g. In s. NR 809.950 (1) (a), a title should be inserted to be consistent with the subsequent paragraph. This comment also applies to sub. (2) (a).

h. Section NR 809.950 (1) (b) 1. should have language such as “are all of the following” inserted at the end of the sentence to introduce the subsequent text. Similar language is needed in subs. 2. and 3. and ss. 809.951 (1) (b), 809.952 (1) (b) and (2) (c), 809.953 (1) (b), (3) (a) and (4) (intro.) and 809.954 (3) (a).

i. In s. NR 809.956, the subdivisions should be numbered (1) and (2) instead of (a) and (b).

4. Adequacy of References to Related Statutes, Rules and Forms

a. SECTION 5 repeals s. NR 809.561 (3). There is no such subsection.

b. In s. NR 809.950 (1) (b) 3. b., please check the citation to s. NR 809.959 (4). I was unable to find sub. (4).

c. In s. NR 809.951 (1) (b) 7., it would be helpful to cite s. NR 809.04 (65) instead of just s. NR 809.04. However, this would not be needed if s. NR 809.04 (intro.) were created, stating “In this chapter:”.

d. In s. NR 809.954 (3) (b) 2., the citation to sub. (3) (b) 1. should be to subd. 1. instead.

e. In s. NR 809.956 (b), the comma between s. NR 809.953 (3) and (4) (a) should be replaced with “and.” This comment also applies to s. NR 809.957 (2).

5. Clarity, Grammar, Punctuation and Use of Plain Language

a. Please review s. NR 809.561 (5) (c) and rewrite it as a complete sentence.

b. In s. NR 809.81 (intro.), “these state-adopted rules become effective, whichever comes first” should be rewritten as “the effective date of this section . . . [revisor inserts date], whichever is earlier.” [See s. 1.01 (9) (b), Manual.]

c. In the SECTION 16 treatment clause, “Appendix” should be inserted before “A is recreated to read.”

d. In Appendix A to subch. VII, what does it mean when the column entitled “To convert for CCR; multiply by” is blank? Should “N/A” be inserted? Also, “fluoride” is misspelled in the row relating to fluoride. In the row relating to bromate, it appears that there is no space between the words “containing” and “bromate.” Also in Appendix A, in the health effects language for Heptachlor epoxide (ppt), “live” should be replaced with “liver.” Finally, in the health effects language for TTHMs, Toluene and Vinyl Chloride, “MCl” should be replaced with “MCL.”

e. In s. NR 809.950 (1) (b) 1. b., who prescribes the treatment technique?

- f. In s. NR 809.950 (1) (b) 1. d., is “a drinking water regulation” specific enough?
- g. In s. NR 809.950 (1) (b) 3. e., “already” should be deleted.
- h. In s. NR 809.950 (2) (b) 1. to 3., the dash should be replaced with “is.” Also in subd. 2., “all other” should be deleted.
- i. In s. NR 809.950 (2) (b) 3., “all other” should be deleted. Also, “and” should be replaced with “or.”
- j. In s. NR 809.950 (3) (a), “to other public water systems, i.e.,” should be deleted.
- k. In s. NR 809.951 (1) (b) 1., “E. coli are” should be replaced with “E. coli is.”
- l. In s. NR 809.951 (1) (b) 6., the parentheses around “as identified in Appendix A” should be deleted.
- m. In s. NR 809.951 (2) (title), “TO BE” should be replaced with “IS.”
- n. In s. NR 809.951 (2) (intro.), “if Tier 1 notice is required” should be inserted at the end of the sentence.
- o. In s. NR 809.951 (3) (intro.), “are” in the second sentence should be replaced with “shall be designed” and “, but shall be designed” should be replaced with “and.” Finally, “are to” in the last sentence should be replaced with “shall.”
- p. In s. NR 809.952 (2) (b), “repeat notice frequency” in the first sentence should be replaced with “notice frequency.”
- q. In s. NR 809.952 (2) (c), “within the next 24 hours, i.e.,” should be deleted.
- r. In s. NR 809.952 (3) (a) 2., both instances of “e.g.” should be replaced with “such as.” This comment also applies to par. (b) 2. Also, “, prison inmates, etc.” should be replaced with “prison inmates.” Finally, the colon after “include” should be deleted. These comments also apply to s. NR 809.953 (3) (a) and (b) 2.
- s. In s. NR 809.952 (3) (b) 2., the second sentence should be deleted. It is not very helpful in explaining the provision. This comment also applies to s. NR 809.953 (3) (b) 2.
- t. In s. NR 809.953 (2) (a), in the first sentence, “the public notice” should be replaced with “Tier 3 public notice.”
- u. In s. NR 809.953 (4) (intro.), the sentence should end with “all of the following occur” or “any of the following occurs.”
- v. In s. NR 809.954 (2) (b), “listed” should be deleted.

w. In Appendix B to subch. IX, in the language relating to copper, should "Tillson's Disease" be replaced with "Wilson's Disease"?

Report to
Legislative Council Rules Clearinghouse
NR 809, Wis. Adm. Code
Natural Resources Board Order No. DG-46-00

Wisconsin Statutory Authority

ss. 280.11 and 281.17(8), Stats.

Federal Authority

40 CFR 141, 142 and 143

Court Decisions Directly Relevant

None

Analysis of the Rule - Rule Effect - Reason for the Rule

In 1978, the Department entered into a primacy agreement with the U.S. Environmental Protection Agency to enforce federal drinking water standards under the Safe Drinking Water Act. U.S. EPA published amendments to 40 CFR 141, 142 and 143. Section 281.19(5), Stats., and our primacy agreement with U.S. EPA require us to adopt rules at least as stringent as federal regulations. These proposed amendments are necessary to assure that our administrative rules are consistent with federal regulations.

The revisions to the public notice rule are essentially an attempt to simplify and further clarify existing Safe Drinking Water Act required public notice requirements. These revisions separate public notifications into three categories called "tiers". Tier 1 public notices will be required for acute public health violations such as a violation of the Total Coliform Rule and notice must be issued within 24 hours. Tier 2 public notification will be required for non-acute maximum contaminant level violations and this type of notice may be delayed up to 30 days. Finally, tier 3 public notice is required for most monitoring and reporting violations and other "minor" violations and may be provided once per year.

The rule revisions clearly spell out what type of violations fit under each tier and provide step by step information regarding what must be done by public water systems that incur violations. In addition, creating the tiered notification process will substantially reduce overall noticing required of public water systems by allowing a "once per year" notice in a water system's annual consumer confidence report. This allowance should actually reduce the cost of noticing for some systems and greatly simplify the process for others.

In addition to clarifying and simplifying existing requirements, this rule revision includes new mandatory public notice language for newly regulated contaminants promulgated under other rules and reformats existing tables to make them easier to understand and use. Overall, this regulation should not increase the regulatory workload on public water systems and should make it more simple and less costly to comply with public notice requirements.

Agency Procedures for Promulgation

Public hearings, Natural Resources Board final adoption, followed by legislative review.

Description of any Forms (attach copies if available)

None

Name and Telephone Number of Agency Liaisons

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Submitted on November 8, 2000

Fiscal Estimate — 1999 Session

- Original Updated
 Corrected Supplemental

LRB Number	Amendment Number if Applicable
Bill Number	Administrative Rule Number NR 809

Subject
 Revisions to NR 809 (Safe Drinking Water)

Fiscal Effect

State: No State Fiscal Effect

Check columns below only if bill makes a direct appropriation or affects a sum sufficient appropriation.

- Increase Existing Appropriation Increase Existing Revenues
 Decrease Existing Appropriation Decrease Existing Revenues
 Create New Appropriation

Increase Costs — May be possible to absorb within agency's budget.
 Yes No

Decrease Costs

Local: No Local Government Costs

1. Increase Costs
 Permissive Mandatory
 2. Decrease Costs
 Permissive Mandatory

3. Increase Revenues
 Permissive Mandatory
 4. Decrease Revenues
 Permissive Mandatory

5. Types of Local Governmental Units Affected:
 Towns Villages Cities
 Counties Others Sanitary Districts
 School Districts WTCS Districts

Fund Sources Affected

- GPR FED PRO PRS SEG SEG-S

Affected Chapter 20 Appropriations

Assumptions Used in Arriving at Fiscal Estimate

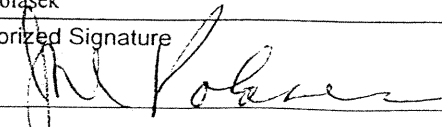
SUMMARY OF BILL/RULE - This proposed revision to Chapter NR 809 incorporates USEPA's Public Notice Rule, which simplifies and further clarifies existing Safe Drinking Water Act (SDWA) public notice requirements. These revisions separate public notifications into three categories or "tiers". Tier 1 public notices will be required for acute public health violations such as a violation of the Total Coliform Rule and notice must be issued within 24 hours. Tier 2 public notification will be required for non-acute maximum contaminant level violations and this type of notice may be delayed up to 30 days. Finally, tier 3 public notice is required for most monitoring and reporting violations and other "minor" violations and may be provided once per year.

In addition to clarifying and simplifying existing requirements, this rule revision includes new mandatory public notice language for newly regulated contaminants promulgated under other SWDA rules and reformats existing tables to make them easier to understand and use. Overall, this regulation should not increase the regulatory workload on public water systems and should make it more simple and less costly to comply with public notice requirements.

FISCAL IMPACT - Neither the Department, nor local governments should experience cost increases as a result of these proposed revisions. In fact, because of the reduced requirements for public notice of minor violations, some facilities will actually experience cost reductions. However, the amount of any cost reduction at the local level is too speculative to quantify at this point

Long-Range Fiscal Implications

None.

Prepared By: Joe Polasek	Telephone No. 608-266-2974	Agency Department of Natural Resources
Authorized Signature 	Telephone No. 608-266-2974	Date (mm/dd/ccyy) 8/25/2000

**ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING, RENUMBERING, AMENDING, REPEALING AND RECREATING, AND
CREATING RULES**

The Natural Resources Board proposes an order to repeal NR 809.12(9)(e), (10)(e), 809.561(3), and Appendix B and C to NR 809 subch. VII; to amend NR 809.11(3)(b), 809.12(6)(b), 809.80(4) and (5)(e)2., 809.833(2)(c)(intro.), (3)(intro.), (3)(c)9., (3)(e), (5)(c) and (5)(d), and 809.837(8); to repeal and recreate NR 809 Appendix A to subch. VII; and to create NR 809.561(3) to (5), 809.81(intro.), (5)(dd), (ei), (ek), (ep) and (hy), 809.82(6), 809.833(2)(c)3. and 4., 809.835(5), subch. IX of ch. NR 809, and Appendixes A, B and C to NR 809 subch. IX relating to public notification requirements for public water systems.

DG-46-00

Analysis Prepared by Department of Natural Resources

Statutory authority: ss. 280.11 and 281.17(8), Stats.

Statutes interpreted: ss. 280.11 and 281.17(8), Stats.

USEPA published amendments to 40 CFR 141, 142 and 143. Our primacy agreement with EPA requires us to adopt rules no less stringent than federal regulations. The proposed changes to Chapter NR 809 update it to reflect changes in 40 CFR, and are necessary to assure that our administrative rules are consistent with federal regulations.

Revisions to the Public Notice Rule are essentially an attempt to simplify and further clarify existing SDWA public notice requirements. These revisions separate public notifications into three categories called "tiers". The rule changes set forth the specifications, qualifications and violations for each tier. In addition to clarification and simplification, this rule revision includes new mandatory public notice language on newly regulated contaminants promulgated under other rules and reformats existing tables to make them easier to understand and use.

Additionally, a few minor revisions are included in this document that were overlooked in the previous rule change submitted. Sections 5, 6 and 9 fall into this category, but only clarify and complete rule revisions previously adopted.

SECTION 1. NR 809.11(3)(b) is amended to read:

NR 809.11(3)(b) ~~There will be~~ The non-community water system is meeting the public notification requirements under s. NR 809.958, including continuous posting of the fact that nitrate as nitrogen levels exceed 10 mg/l and the potential health effects of exposure; and

SECTION 2. NR 809.12(6)(b) is amended to read:

NR 809.12(6)(b) Where nitrate or nitrite sampling results indicate an exceedance of the MCL, the system shall take a confirmation sample within 24 hours of the system's receipt of notification of the analytical results of the first sample. Systems unable to comply with the 24-hour sampling requirement shall immediately notify the consumers served by the public water system in accordance with s. NR 809.81 and meet other Tier 1 public notification requirements under subch. IX. Systems exercising this option shall take and analyze a confirmation sample within 2 weeks of notification of the analytical results of the first sample.

SECTION 3. NR 809.12(9)(e) is repealed.

SECTION 4. NR 809.21(10)(e) is repealed.

SECTION 5. NR 809.561(3) is repealed.

Handwritten notes:
water... (4) no sub. (3)
12/15/97

SECTION 6. NR 809.561(3) to (5) are created to read:

(3) MAXIMUM CONTAMINANT LEVEL GOALS. The MCLGs for the following disinfection byproducts are as indicated:

Disinfection byproduct	MCLG (mg/L)
Chloroform	Zero
Bromodichloromethane	Zero
Bromoform	Zero
Bromate	Zero
Dichloroacetic acid	Zero
Trichloroacetic acid	0.3
Chlorite	0.8
Dibromochloromethane	0.06

(4) MAXIMUM RESIDUAL DISINFECTANT LEVEL GOALS. MRDLGs for disinfectants are as follows:

Disinfectant residual	MRDLG (mg/L)
Chlorine	4 (as Cl ₂)
Chloramines	4 (as Cl ₂)
Chlorine dioxide	0.8 (as ClO ₂)

(5) BEST AVAILABLE TREATMENT. (a) The department, pursuant to 42 USC 300g-1 and related regulations applicable to public water systems, identifies the following as the best available treatment technology, treatment techniques or other means available for achieving compliance with the maximum contaminant levels for disinfection byproducts identified in s. NR 809.561(1):

(b) Disinfection byproduct	Best available treatment
TTHM.....	Enhanced coagulation or enhanced softening or GAC10, with chlorine as the primary and residual disinfectant.
HAA5.....	Enhanced coagulation or enhanced softening or GAC10, with chlorine as the primary and residual disinfectant.
Bromate.....	Control of ozone treatment process to reduce production of bromate.
Chlorite.....	Control of treatment processes to reduce disinfectant demand and control of disinfection treatment processes to reduce disinfectant levels.

(c) Maximum residual disinfectant levels identified in s. NR 809.560(2): control of treatment processes to reduce disinfectant demand and control of disinfection treatment processes to reduce disinfectant levels.

SECTION 7. NR 809.80(4) and (5)(e)2. are amended to read:

NR 809.80(4) The supplier of water, within 10 days of completion of each public notification required under ~~s. NR 809.81~~ subch. IX, shall submit to the department a certification that it has fully complied with the public notification regulations. The supplier of water shall include with this certification a representative copy of each type of notice distributed, published, posted, or made available to the person served by the system or to the media, or both.

(5)(e)2. If at any time the turbidity exceeds 5 NTU, the water supplier shall ~~inform~~ consult with the department as soon as possible, but no later than ~~the end of the next business day~~ 24 hours after the exceedance is known, in accordance with the public notification requirements under s. NR 809.952(2)(c).

SECTION 8. NR 809.81(intro.) is created to read:

NR 809.81(intro.) The requirements in this section apply until the requirements of subch. IX are applicable. Public water systems where EPA directly implements the public water system supervision program shall comply with the requirements in subch. IX on October 31, 2000. All other public water systems shall comply with the requirements in subch. IX on May 6, 2002 or on the date these ~~state-adopted~~ rules become effective, whichever comes first.

SECTION 9. NR 809.81(5)(dd) (ei), (ek), (em), (ep) and (hy) are created to read:

NR 809.81(5)(dd) *Bromate*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that bromate is a health concern at certain levels of exposure. Bromate is formed as a byproduct of ozone disinfection of drinking water. Ozone reacts with naturally occurring bromide in the water to form bromate. Bromate has been shown to produce cancer in rats. EPA has set a drinking water standard to limit exposure to bromate.

(ei) *Chlorine*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that chlorine is a health concern at certain levels of exposure. Chlorine is added to drinking water as a disinfectant to kill bacteria and other disease-causing microorganisms and is also added to provide continuous disinfection throughout the distribution system. Disinfection is required for surface water systems. However, at high doses for extended periods of time, chlorine has been shown to affect blood and the liver in laboratory animals. EPA has set a drinking water standard for chlorine to protect against the risk of these adverse effects. Drinking water which meets this EPA standard is associated with little to none of this risk and should be considered safe with respect to chlorine.

(ek) *Chloramines*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that chloramines are a health concern at certain levels of exposure. Chloramines are added to drinking water as a disinfectant to kill bacteria and other disease-causing microorganisms and are also added to provide continuous disinfection throughout the distribution system. Disinfection is required for surface water systems. However, at high doses for extended periods of time, chloramines have been shown to affect blood and the liver in laboratory animals. EPA has set a drinking water standard for chloramines to protect against the risk of these adverse effects. Drinking water which meets this EPA standard is associated with little to none of this risk and should be considered safe with respect to chloramines.

(em) *Chlorine dioxide*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that chlorine dioxide is a health concern at certain levels of exposure. Chlorine dioxide is used in water treatment to kill bacteria and other disease-causing microorganisms and can be used to control tastes and odors. Disinfection is required for surface water systems. However, at high doses, chlorine dioxide-treated drinking water has been shown to affect blood in laboratory animals. Also, high levels of chlorine dioxide given to laboratory animals in drinking water have been shown to cause neurological effects on the developing nervous system. These neurodevelopmental effects may occur as a result of a short-term excessive chlorine dioxide exposure. To protect against such potentially harmful exposures, EPA requires chlorine dioxide monitoring at the treatment plant, where disinfection occurs, and at representative points in the distribution system serving water users. EPA has set a drinking water standard for chlorine dioxide to protect against the risk of these adverse effects.

Note: In addition to the language in this introductory text of par. (em), systems shall include either the language in subd. 1. or 2. Systems with a violation at the treatment plant, but not in the distribution system, are required to use the language in subd. 1. and treat the violation as a nonacute violation. Systems with a violation in the distribution system are required to use the language in subd. 2. and treat the violation as an acute violation.

1. The chlorine dioxide violations reported today are the result of exceedances at the treatment facility only, and do not include violations within the distribution system serving users of this water supply.

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Continued compliance with chlorine dioxide levels within the distribution system minimizes the potential risk of these violations to present consumers.

2. The chlorine dioxide violations reported today include exceedances of the EPA standard within the distribution system serving water users. Violations of the chlorine dioxide standard within the distribution system may harm human health based on short-term exposures. Certain groups, including pregnant women, infants, and young children, may be especially susceptible to adverse effects of excessive exposure to chlorine dioxide-treated water. The purpose of this notice is to advise that such persons should consider reducing their risk of adverse effects from these chlorine dioxide violations by seeking alternate sources of water for human consumption until such exceedances are rectified. Local and state health authorities are the best sources for information concerning alternate drinking water.

(ep) *Chlorite*. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that chlorite is a health concern at certain levels of exposure. Chlorite is formed from the breakdown of chlorine dioxide, a drinking water disinfectant. Chlorite in drinking water has been shown to affect blood and the developing nervous system. EPA has set a drinking water standard for chlorite to protect against these effects. Drinking water which meets this standard is associated with little to none of these risks and should be considered safe with respect to chlorite.

(hy) *Disinfection byproducts and treatment technique for DBPs*. The United States Environmental Protection Agency (EPA) sets drinking water standards and requires the disinfection of drinking water. However, when used in the treatment of drinking water, disinfectants react with naturally-occurring organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBPs). EPA has determined that a number of DBPs are a health concern at certain levels of exposure. Certain DBPs, including some trihalomethanes (THMs) and some haloacetic acids (HAAs), have been shown to cause cancer in laboratory animals. Other DBPs have been shown to affect the liver and the nervous system, and cause reproductive or developmental effects in laboratory animals. Exposure to certain DBPs may produce similar effects in people. EPA has set standards to limit exposure to THMs, HAAs, and other DBPs. *define*

SECTION 10. NR 809.82(6) is created to read:

NR 809.82(6) Copies of public notices issued pursuant to subch. IX and certifications made to the department pursuant to s. NR 809.80 shall be kept for 3 years after issuance. *passive*

SECTION 11. NR 809.833(2)(c)(intro.) is amended to read: *mb*

NR 809.833(2)(c)(intro.) A report which contains data on a ~~contaminant~~ contaminants for which EPA has set a ~~treatment technique or an action level~~ shall include one or both of the following definitions as applicable regulates using any of the following terms shall include the applicable definitions: *mb* *AT*

SECTION 12. NR 809.833(2)(c) 3. and 4. are created to read:

NR 809.833(2)(c)3. Maximum residual disinfectant level goal or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

SECTION 13. NR 809.833(3)(intro.), (3)(c)9., (3)(e), (5)(c) and (5)(d) are amended to read:

NR 809.833(3)(intro.) With the exception of *Cryptosporidium*, reports shall contain the following information in the specified format, ~~for regulated contaminants with MCLs treatment techniques, or action levels regulated contaminants subject to a MCL, action level, maximum residual disinfectant level, or treatment technique, unregulated~~ contaminants for which monitoring is required under subch. I, and *cont*

disinfection by-products and microbial contaminants for which monitoring is required under subchs. IV and V:

9. The likely sources of detected contaminants to the best of the water system owner or operator's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments, and should be used when available to the water system owner or operator. If the water system owner or operator lacks specific information on the likely source, the report shall include one or more of the typical sources for that contaminant listed in Appendix BA that are most applicable to the system.

(e) The tables shall clearly identify any data indicating violations of MCLs or treatment techniques and the report shall contain a clear and readily understandable explanation of the violation including: the length of the violation, the potential adverse health effects, and actions taken by the system to address the violation. To describe the potential health effects, the system shall use the relevant language of Appendix CA.

(5)(c) Lead and copper control requirements prescribed by subch. II. For systems that fail to take one or more actions prescribed by s. NR 809.541(4), 809.542, 809.543, 809.544 or 809.545, the report shall include the applicable language of Appendix CA for lead, copper or both.

(d) Treatment techniques for Acrylamide and Epichlorohydrin prescribed by subch. I. For systems that violate the requirements of s. NR 809.26(4), the report shall include the relevant language from Appendix CA.

SECTION 14. NR 809.835(5) is created to read:

NR 809.835(5) Community water systems that detect TTHM above 0.080 mg/l, but below the MCL in s. NR 809.22, as an annual average, monitored and calculated under the provisions of s. NR 809.23, shall include health effects language for TTHMs prescribed by appendix A.

SECTION 15. NR 809.837(8) is amended to read:

NR 809.837(8) Any systems subject to this subchapter shall retain copies of its consumer confidence report for no less than 5 years.

SECTION 16. NR 809 Appendix A, B and C to subch. VII are repealed and A is recreated to read:

Appendix A

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 ≥ 40 samples/month) 5% of monthly samples are positive; (systems that collect ≤ 40 samples/month) 1 positive monthly sample. 0		MCL: (systems that collect ≥ 40 samples/month) 5% of monthly samples are positive; (systems that collect ≤ 40 samples/month) 1 positive monthly sample. 0	0	Naturally present in the environment.	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
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.
Total organic carbon (ppm)	TT		TT	N/A	Naturally present in the environment.	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by products. Their byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Turbidity (NTU)	TT		TT	N/A	Soil runoff.	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.
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 emitters 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.
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)	.05	1000	50	N/A	Erosion of natural deposits; Runoff from orchards; Runoff	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or

Asbestos (MFL)	7 MFL			7	from glass and electronics production wastes. Decay of asbestos cement water; Erosion of natural deposits.	problems with their circulatory system, and may have an increased risk of getting cancer.
Barium (ppm)	2			2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Beryllium (ppb)	.004	1000		4	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries.	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
Cadmium (ppb)	.005	1000		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.
Chromium (ppb)	.1	1000		100	Discharge from steel and pulp mills; Erosion of natural deposits.	Some people who drink water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Copper (ppm)	AL = 1.3			1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.	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	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.
Flouride (ppm)	4			4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.	Some people who drink water containing flouride in excess of the MCL over many years could get bone disease, including pain and tenderness of bones. Flouride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than 9 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		0	Corrosion of household plumbing system; 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 attentions 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	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	Runoff from fertilizer use;	Infants below the age of 6 months who drink water containing

									Leaching from septic tanks, sewage; Erosion of natural deposits.	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	1	1	1	1	1	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Infants below the age of 6 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.
Selenium (ppb)	.05	1000	50	1000	50	1000	50	1000	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 loss, numbness in fingers or toes, or problems with their circulation.
Thallium (ppb)	.002	1000	2	1000	0.5	1000	0.5	1000	Leaching from ore-processing sites; Discharge from electronic, 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	1000	70	1000	70	1000	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	1000	50	1000	50	1000	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	TT	TT	TT	TT	TT	TT	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 problems with their nervous system or blood, and may have an increased risk of getting cancer.
Alachlor (ppb)	.002	1000	2	1000	0	1000	0	1000	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, kidney, or spleen, or experience anemia, and may have an increased risk of getting cancer.
Atrazine (ppb)	.003	1000	3	1000	3	1000	3	1000	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 problems with their cardiovascular system or reproductive difficulties.
Benzo(a)pyrene [PAH] (nanograms/l)	.0002	1,000,000	200	1,000,000	0	1,000,000	0	1,000,000	Leaching from liming of water storage tanks and 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	1000	40	1000	40	1000	Leaching of soil fumigant used on rice and alfalfa.	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.
Chlordane (ppb)	.002	1000	2	1000	0	1000	0	1000	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	1000	200	1000	200	1000	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	1000	400	1000	400	1000	Discharge from chemical factories.	Some people who drink water containing di (2-ethylhexyl) phthalate in excess of the MCL over many years may have

Dibromochloropropane (ppt)	.0002		1,000,000	200	0	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.	problems with their liver, or experience reproductive difficulties, and may have an increase risk of getting cancer. 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.
Endothal (ppb)	.1		1000	100	100	Runoff from herbicide use.	Some people who drink water containing endothal 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.
Ethylene dibromide (ppt)	.00005		1,000,000	50	0	Discharge from petroleum refineries.	Some people who drink water containing ethylenedibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive systems, 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 and 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 and 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	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 [Polychlorinatedbiphenyls] (ppt)	.0005	1,000,000	500	0	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.
Pentachlorophenol (ppb)	.001	1000	1	0	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	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	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	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	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.
Bromate (ppb)	.010	1000	10	0	0	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.
Carbon tetrachloride (ppb)	.005	1000	5	0	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 their liver and may have an increased risk of getting cancer.
Chloramines (ppm)	MRDL = 4		MRDL = 4	MRDLG = 4	MRDLG = 4	Water additive used to control microbes.	Some people who drink 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.
Chlorine (ppm)	MRDL = 4		MRDL = 4	MRDLG = 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.
Chlorite (ppm)	1		1	0.8	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.
Chloride dioxide (ppb)	MRDL = .8	1000	MRDL = 800	MRDLG = 800	MRDLG = 800	Water additive used to control microbes.	Some infants and young children who drink water containing chloride dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of

Chlorobenzene (ppb)	.1	1000	100			100	Discharge from chemical and agricultural chemical factories.	pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
o-Dichlorobenzene (ppb)	.6	1000	600			600	Discharge from industrial 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.
p-Dichlorobenzene (ppb)	.075	1000	75			75	Discharge from industrial chemical factories.	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.
1,2-Dichloroethane (ppb)	.005	1000	5			0	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.
1,1-Dichloroethylene (ppb)	.007	1000	7			7	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.
cis-1,2-dichloroethylene (ppb)	.07	1000	70			70	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.
Trans-1,2-Dichloroethylene (ppb)	.1	1000	100			100	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.
Dichloromethane (ppb)	.005	1000	5			0	Discharge from pharmaceutical and 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.
1,2-dichloropropane (ppb)	.005	1000	5			0	Discharge from industrial 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 increased risk of getting cancer.
Ethylbenzene (ppb)	.7	1000	700			700	Discharge from petroleum refineries.	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.
Haloacetic Acids (HAA) (ppb)	.060	1000	60			N/A	By-product of drinking water disinfection.	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Styrene (ppb)	.1	1000	100			100	Discharge from rubber and plastic factories; Leaching from landfills.	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Tetrachloroethylene (ppb)	.005	1000	5			0	Discharge from factories and dry cleaners.	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.
1,2,4-Trichlorobenzene (ppb)	.07	1000	70			70	Discharge from textile-finishing factories.	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.
1,1,1-Trichloroethane (ppb)	.2	1000	200			200	Discharge from metal degreasing sites and other 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.
1,1,2-Trichloroethane (ppb)	.005	1000	5			3	Discharge from industrial	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.

Trichloroethylene (ppb)	.005	1000	5	0	chemical factories.	trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
TTHMs [Total trihalomethanes] (ppb)	0.10/0.80	1000	100/80	N/A	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.
Toluene (ppm)	1		1	1	By-product of drinking water chlorination.	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.
Vinyl Chloride (ppb)	.002	1000	2	0	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.
Xylenes (ppm)	10		10	10	Leaching from PVC piping; Discharge 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.
					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 damages to their nervous system.

Key:

- AL = Action Level
- MCL = Maximum Contaminant Level
- MCLG = Maximum Contaminant Level Goal
- MFL = million fibers per liter
- MRDL = Maximum Residual Disinfectant Level
- MRDLG = Maximum Residual Disinfectant Level Goal
- mrem/year = millirems per year (a measure of radiation absorbed by the body)
- N/A = Not Applicable
- NTU = Nephelometric Turbidity Units (a measure of water clarity)
- pCi/l = picocuries per liter (a measure of radioactivity)
- ppm = parts per million, or milligrams per liter (mg/l)
- ppb = parts per billion, or micrograms per liter (µg/l)
- ppt = parts per trillion, or nanograms per liter
- ppq = parts per quadrillion, or picograms per liter
- TT = Treatment Technique

SECTION 17. Subch. IX of s. NR 809 is created to read:

Stick
Subchapter IX
Public Notification of Drinking Water Violations

NR 809.950 General public notification requirements. Public water systems shall comply with the requirements in this subchapter no later than May 6, 2002 or on the date the rule becomes effective, whichever comes first. Prior to these dates, public water systems shall continue to comply with the public notice requirements in s. NR 809.80.

(1) **WHO SHALL GIVE PUBLIC NOTICE** (a) Each owner or operator of a public water system including community water systems, non-transient non-community water systems, and transient non-community water systems, shall give notice for all violations of national primary drinking water regulations (NPDWR) and for other situations, as listed in par. (b). The term "NPDWR violations" is used in this subchapter to include violations of the maximum contaminant level (MCL), maximum residual disinfection level (MRDL), treatment technique (TT), monitoring requirements, and testing procedures in ch. NR 809. Appendix A to this subpart identifies the tier assignment for each specific violation or situation requiring a public notice.

(b) *Violation categories and other situations requiring a public notice.* 1. NPDWR violations:

a. Failure to comply with an applicable maximum contaminant level (MCL) or maximum residual disinfectant level (MRDL).

b. Failure to comply with a prescribed treatment technique (TT).

c. Failure to perform water quality monitoring, as required by the drinking water regulations.

d. Failure to comply with testing procedures as prescribed by a drinking water regulation.

2. Variance and exemptions under subch. VII of ch. NR 809:

a. Operation under a variance or an exemption.

b. Failure to comply with the requirements of any schedule that has been set under a variance or exemption.

3. Special public notices:

a. Occurrence of a waterborne disease outbreak or other waterborne emergency.

b. Exceedance of the nitrate MCL by non-community water systems (NCWS), where granted permission by the primacy agency under s. NR 809.959(4).

c. Exceedance of the secondary maximum contaminant level (SMCL) for fluoride.

d. Availability of unregulated contaminant monitoring data.

e. Other violations and situations determined by the department to require a public notice under this subchapter, not already listed in Appendix A.

(2) **TYPE OF PUBLIC NOTICE IS REQUIRED FOR EACH VIOLATION OR SITUATION** (a) Public notice requirements are divided into 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 sub. (1)(b) are determined by the tier to which it is assigned. The

definition of each tier is provided in par. (b). Appendix A identifies the tier assignment for each specific violation or situation.

(b) *Definition of public notice tiers.* 1. Tier 1 public notice⁵⁸ required for NPDWR violations and situations with significant potential to have serious adverse effects on human health as a result of short-term exposure.

2. Tier 2 public notice⁵⁸ required for all other NPDWR violations and situations with potential to have serious adverse effects on human health.

3. Tier 3 public notice⁵⁸ required for all other NPDWR violations and situations not included in Tier 1 and Tier 2.

(3) WHO SHALL BE NOTIFIED (a) Each public water system shall provide public notice to persons served by the water system, in accordance with this subsection. Public water systems that sell or otherwise provide drinking water to other public water systems, i.e., to consecutive systems, are required to give public notice to the owner or operator of the consecutive system; the consecutive system is responsible for providing public notice to the persons it serves.

(b) If a public water system has a violation in a portion of the distribution system that is physically or hydraulically isolated from other parts of the distribution system, the department may allow the system to limit distribution of the public notice to only persons served by that portion of the system which is out of compliance. Permission by the department for limiting distribution of the notice shall be granted in writing.

(c) A copy of the notice shall also be sent to the department, in accordance with the requirements under s. NR 809.80(5).

NR 809.951 Tier 1 Public Notice—Form, manner, and frequency of notice. (1) VIOLATIONS OR SITUATIONS WHICH REQUIRE A TIER 1 PUBLIC NOTICE (a) Paragraph (b) lists the violation categories and other situations requiring a Tier 1 public notice. Appendix A identifies the tier assignment for each specific violation or situation.

(b) 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 s. NR 809.30(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 s. NR 809.31(4).

2. Violation of the MCL for nitrate, nitrite, or total nitrate and nitrite, as defined in s. NR 809.11, 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 s. NR 809.12(6)(b).

3. Exceedance of the nitrate MCL by non-community water systems, where permitted to exceed the MCL by the department under s. NR 809.11(3), as required under s. NR 809.958.

4. Violation of the MRDL for chlorine dioxide, as defined in s. NR 809.561(2), 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 s. NR 809.566(3)(b)1.

5. Violation of the turbidity MCL under s. NR 809.40(2), 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) or Interim Enhanced Surface Water Treatment Rule (IESWTR) treatment technique requirement resulting from a single exceedance of the

maximum allowable turbidity limit (as identified in Appendix A), 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.

7. Occurrence of a waterborne disease outbreak, as defined in s. NR 809.04, or other waterborne emergency, such as a failure or significant interruption in key water treatment processes, a natural disaster that disrupts the water supply or distribution system, or a chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water contamination.

8. Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the department either in its regulations or on a case-by-case basis.

~~(2) WHEN THE TIER 1 PUBLIC NOTICE TO BE PROVIDED AND WHAT ADDITIONAL STEPS ARE REQUIRED.~~ Public water systems shall do all of the following:

(a) Provide a public notice as soon as practical but no later than 24 hours after the system learns of the violation.

(b) Initiate consultation with the department as soon as practical, but no later than 24 hours after the public water system learns of the violation or situation, to determine additional public notice requirements.

(c) Comply with any additional public notification requirements, including any repeat notices or direction on the duration of the posted notices, that are established as a result of the consultation with the department. Requirements may include the timing, form, manner, frequency, and content of repeat notices, if any, and other actions designed to reach all persons served.

(3) **FORM AND MANNER OF THE PUBLIC NOTICE.** Public water systems shall provide the notice within 24 hours in a form and manner reasonably calculated to reach all persons served. The form and manner used by the public water system are to fit the specific situation, but shall be designed to reach residential, transient and non-transient users of the water system. To reach all persons served, water systems are to use, at a minimum, one or more of the following forms of delivery:

(a) Appropriate broadcast media, such as radio and television.

(b) Posting of the notice in conspicuous locations throughout the area served by the water system.

(c) Hand delivery of the notice to persons served by the water system.

(d) Another delivery method approved in writing by the department.

NR 809.952 Tier 2 Public Notice—Form, manner, and frequency of notice. (1) **VIOLATIONS OR SITUATIONS WHICH REQUIRE A TIER 2 PUBLIC NOTICE.** (a) Paragraph (b) lists the violation categories and other situations requiring a Tier 2 public notice. Appendix A identifies the tier assignment for each specific violation or situation.

(b) 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 s. NR 809.951(1) 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.

(2) WHEN TIER 2 PUBLIC NOTICE TO BE PROVIDED. (a) Public water systems shall provide the public notice as soon as practical, but no later than 30 days after the system learns of the violation. If the public notice is posted, the notice shall remain in place for as long as the violation or situation persists, but in no case for less than 7 days, even if the violation or situation is resolved. The department may, in appropriate circumstances, allow additional time for the initial notice of up to 3 months from the date the system learns of the violation. The department may not grant an extension to the 30-day deadline for any unresolved violation nor ~~allow across-the-board extensions by rule or policy~~ for other violations or situations requiring a Tier 2 public notice. Extensions granted by the department shall be in writing.

(b) The public water system shall repeat the notice every 3 months as long as the violation or situation persists, unless the department determines that appropriate circumstances warrant a different repeat notice frequency. In no circumstance may the repeat notice be given less frequently than once per year. The department may not allow across-the-board reductions in the repeat notice frequency for other ongoing violations requiring a Tier 2 repeat notice. Department determinations allowing repeat notices to be given less frequently than once every 3 months shall be in writing.

(c) For turbidity violations specified in this paragraph, public water systems shall consult with the department as soon as practical but no later than 24 hours after the public water system learns of the violation, to determine whether a Tier 1 public notice under s. NR 809.951(1) is required to protect public health. When consultation does not take place within the 24-hour period, the water system shall distribute a Tier 1 notice of the violation ~~within the next 24 hours, i.e.,~~ no later than 48 hours after the system learns of the violation, following the requirements under s. NR 809.951(2) and (3). Consultation with the department is required for either:

1. Violation of the turbidity MCL under s. NR 809.40(2).
2. Violation of the SWTR or IESWTR treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit.

(3) FORM AND MANNER OF THE TIER 2 PUBLIC NOTICE. Public water systems shall provide the initial public notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it shall at a minimum meet the following requirements:

(a) Unless directed otherwise by the department in writing, community water systems shall provide notice by both of the following:

1. Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the public water system.

2. 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 subd. 1. 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.

(b) Unless directed otherwise by the department in writing, non-community water systems shall provide notice by both of the following:

1. Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the system, or by mail or direct delivery to each customer and service connection, where known.

2. 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 subd. 1. 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.

NR 809.953 Tier 3 Public Notice—Form, manner, and frequency of notice. (1)

VIOLATIONS OR SITUATIONS WHICH REQUIRE A TIER 3 PUBLIC NOTICE. (a) Paragraph (b) lists the violation categories and other situations requiring a Tier 3 public notice. Appendix A identifies the tier assignment for each specific violation or situation.

(b) Violation categories and other situations requiring a Tier 3 public notice:

1. Monitoring violations under ch. NR 809, except where a Tier 1 notice is required under s. NR 809.951(1) or where the department determines that a Tier 2 notice is required.

2. Failure to comply with a testing procedure established in ch. NR 809, except where a Tier 1 notice is required under s. NR 809.951(1) or where the department determines that a Tier 2 notice is required.

3. Operation under a variance granted under s. 1415 or an exemption granted under s. 1416 of the safe drinking water act.

4. Availability of unregulated contaminant monitoring results, as required under s. NR 809.956.

5. Exceedance of the fluoride secondary maximum contaminant level (SMCL), as required under s. NR 809.957.

(2) **WHEN TIER 3 PUBLIC NOTICE TO BE PROVIDED.** (a) Public water systems shall provide the public notice not later than one year after the public water system learns of the violation or situation or begins operating under a variance or exemption. Following the initial notice, the public water system shall repeat the notice annually for as long as the violation, variance, exemption, or other situation persists. If the public notice is posted, the notice shall remain in place for as long as the violation, variance, exemption, or other situation persists, but in no case less than 7 days, even if the violation or situation is resolved.

(b) Instead of individual Tier 3 public notices, a public water system may use an annual report detailing all violations and situations that occurred during the previous 12 months, as long as the timing requirements of par. (a) are met.

(3) **FORM AND MANNER OF THE TIER 3 PUBLIC NOTICE.** Public water systems shall provide the initial notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it shall at a minimum meet the following requirements:

(a) Unless directed otherwise by the department in writing, community water systems shall provide notice by both:

1. Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the public water system.

2. 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 subd. 1. 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 or on the internet; or delivery to community organizations.

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(b) Unless directed otherwise by the department in writing, non-community water systems shall provide notice by both of the following:

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1. Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the system, or by mail or direct delivery to each customer and service connection, where known.

2. 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 subd. 1. Such persons may include those who may not see a posted notice because the 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.

(4) SITUATIONS IN WHICH THE CONSUMER CONFIDENCE REPORT MAY BE USED TO MEET THE TIER 3 PUBLIC NOTICE REQUIREMENTS. For community water systems, the consumer confidence report (CCR) required under subch. IX may be used as a vehicle for the initial Tier 3 public notice and all required repeat notices, as long as:

(a) The CCR is provided to persons served no later than 12 months after the system learns of the violation or situation as required under s. NR 809.953(2).

(b) The Tier 3 notice contained in the CCR follows the content requirements under s. NR 809.954.

(c) The CCR is distributed following the delivery requirements under s. NR 809.953(3).

NR 809.954 Content of the public notice. (1) ELEMENTS TO BE INCLUDED IN THE PUBLIC NOTICE FOR VIOLATIONS OF NATIONAL PRIMARY DRINKING WATER REGULATIONS (NPDWR) OR OTHER SITUATIONS REQUIRING A PUBLIC NOTICE. When a public water system violates a NPDWR or has a situation requiring public notification, each public notice shall include all of the following elements:

(a) A description of the violation or situation, including the contaminants of concern, and, as applicable, the contaminant levels.

(b) When the violation or situation occurred.

(c) Any potential adverse health effects from the violation or situation, including the standard language under sub. (4)(a) or (b), whichever is applicable.

(d) The population at risk, including subpopulations particularly vulnerable if exposed to the contaminant in their drinking water.

(e) Whether alternative water supplies should be used.

(f) What actions consumers should take, including when they should seek medical help, if known.

(g) What the system is doing to correct the violation or situation.

- (h) When the water system expects to return to compliance or resolve the situation.
- (i) The name, business address, and phone number of the water system owner, operator, or designee of the public water system as a source of additional information concerning the notice.
- (j) A statement to encourage the notice recipient to distribute the public notice to other persons served, using the standard language under sub. (4)(c), where applicable.

(2) ELEMENTS INCLUDED IN THE PUBLIC NOTICE FOR PUBLIC WATER SYSTEMS OPERATING UNDER A VARIANCE OR EXEMPTION. (a) If a public water system has been granted a variance or an exemption, the public notice shall contain all of the following:

1. An explanation of the reasons for the variance or exemption.
2. The date on which the variance or exemption was issued.
3. A brief status report on the steps the system is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance or exemption.
4. A notice of any opportunity for public input in the review of the variance or exemption.

(b) If a public water system violates the conditions of a variance or exemption, the public notice shall contain the 10 elements listed in sub. (1).

(3) HOW PUBLIC NOTICE IS TO BE PRESENTED. (a) Each public notice required by this section:

1. Shall be displayed in a conspicuous way when printed or posted.
2. May not contain overly technical language or very small print.
3. May not be formatted in a way that defeats the purpose of the notice.
4. May not contain language which nullifies the purpose of the notice.

(b) Each public notice required by this section shall comply with multilingual requirements, as follows:

1. For public water systems where 5% or more of the population served consists of non-English speaking consumers, the public notice shall contain information in the appropriate languages regarding the importance of the notice or contain a telephone number or address where persons served may contact the water system to obtain a translated copy of the notice or to request assistance in the appropriate languages.

2. In cases where the public water system is unable to accurately determine whether non-English speaking consumers constitute 5% of the population served, the department may require inclusion in the public notice the same information as in sub. (3)(b)1., to reach non-English speaking persons served by the water system.

(4) STANDARD LANGUAGE PUBLIC WATER SYSTEMS TO INCLUDE IN THEIR PUBLIC NOTICE. Public water systems are required to include the following standard language in their public notice:

(a) *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 shall include in each public notice the health effects language specified in Appendix B corresponding to each MCL, MRDL and

treatment technique violation listed in Appendix A, and for each violation of a condition of a variance or exemption.

(b) *Standard language for monitoring and testing procedure violations.* Public water systems shall 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: 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.

(c) *Standard language to encourage the distribution of the public notice to all persons served.* Public water systems shall include in their notice the following language, where applicable: Please share this information with all the other people who drink this water, especially those who may not have received this notice directly, for example, people in apartments, nursing homes, schools, and businesses. You can do this by posting this notice in a public place or distributing copies by hand or mail.

NR 809.955 Notice to new billing units or new customers. (1) REQUIREMENT FOR COMMUNITY WATER SYSTEMS. Community water systems shall give a copy of the most recent public notice for any continuing violation, the existence of a variance or exemption, or other ongoing situations requiring a public notice to all new billing units or new customers prior to or at the time service begins.

(2) **REQUIREMENT FOR NON-COMMUNITY WATER SYSTEMS.** Non-community water systems shall continuously post the public notice in conspicuous locations in order to inform new consumers of any continuing violation, variance or exemption, or other situation requiring a public notice for as long as the violation, variance, exemption, or other situation persists.

NR 809.956 Special notice of the availability of unregulated contaminant monitoring results.
(a) **WHEN SPECIAL NOTICE IS TO BE GIVEN.** The owner or operator of a community water system or non-transient non-community water system required to monitor under s. NR 809.26 shall notify persons served by the system of the availability of the results of such sampling no later than 12 months after the monitoring results are known.

(b) **FORM AND MANNER OF THE SPECIAL NOTICE.** The form and manner of the public notice shall follow the requirements for a Tier 3 public notice prescribed in s. NR 809.953(3), (4)(a) and (c). The notice shall also identify a person and provide the telephone number to contact for information on the monitoring results.

NR 809.957 Special notice for exceedance of the SMCL for fluoride. (1) WHEN SPECIAL NOTICE IS TO BE GIVEN. Community water systems that exceed the fluoride secondary maximum contaminant level (SMCL) of 2 mg/l as specified in s. NR 809.05, determined by the last single sample taken in accordance with s. NR 809.12, but do not exceed the maximum contaminant level (MCL) of 4 mg/l for fluoride, as specified in s. NR 809.11, shall provide the public notice in sub. (3) to persons served. Public notice shall be provided as soon as practical but no later than 12 months from the day the water system learns of the exceedance. A copy of the notice shall also be sent to all new billing units and new customers at the time service begins and to the state public health officer. The public water system shall repeat the notice at least annually for as long as the SMCL is exceeded. If the public notice is posted, the notice shall remain in place for as long as the SMCL is exceeded, but in no case less than 7 days, even if the exceedance is eliminated. On a case-by-case basis, the department may require an initial notice sooner than 12 months and repeat notices more frequently than annually.

(2) **FORM AND MANNER OF THE SPECIAL NOTICE.** The form and manner of the public notice, including repeat notices, shall follow the requirements for a Tier 3 public notice in s. NR 809.953(3), (4)(a) and (c).

(3) MANDATORY LANGUAGE TO BE CONTAINED IN THE SPECIAL NOTICE. The notice shall contain the following language, including the language necessary to fill in the blanks: This is an alert about your drinking water and a cosmetic dental problem that might affect children under 9 years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/l) of fluoride may develop cosmetic discoloration of their permanent teeth known as dental fluorosis. The drinking water provided by your community water system [name] has a fluoride concentration of [insert value] mg/l. Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under 9 should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water. Drinking water containing more than 4 mg/L of fluoride, the U.S. Environmental Protection Agency's drinking water standard, can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/l of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/l because of this cosmetic dental problem. For more information, please call [name of water system contact] of [name of community water system] at [phone number]. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.

fluoride

NR 809.958 Special notice for nitrate exceedances above MCL by non-community water systems (NCWS), where granted permission by the department under s. NR 809.11(3). (1) WHEN SPECIAL NOTICE TO BE GIVEN. The owner or operator of a non-community water system granted permission by the department under s. NR 809.11(3) to exceed the nitrate MCL shall provide notice to persons served according to the requirements for a Tier 1 notice under s. NR 809.951(1) and (2).

(2) FORM AND MANNER OF THE SPECIAL NOTICE. Non-community water systems granted permission by the department to exceed the nitrate MCL under s. NR 809.11(3) shall provide continuous posting of the fact that nitrate levels exceed 10 mg/l and the potential health effects of exposure, according to the requirements for Tier 1 notice delivery under s. NR 809.951(3) and the content requirements under s. NR 809.954.

NR 809.959 Notice by the department on behalf of the public water system. (1) DEPARTMENT MAY GIVE NOTICE ON BEHALF OF THE PUBLIC WATER SYSTEM. The department may give the notice required by this subpart on behalf of the owner and operator of the public water system if the department complies with the requirements of this subchapter.

(2) RESPONSIBILITY OF THE PUBLIC WATER SYSTEM WHEN NOTICE IS GIVEN BY THE DEPARTMENT. The owner or operator of the public water system remains responsible for ensuring that the requirements of this subchapter are met.

SECTION 18. NR 809 Appendix A to subch. IX is created to read:

Appendix A to Subchapter IX of ch. NR 809 – NPDWR 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 National Primary Drinking Water Regulations (NPDWR):³				
A. Microbiological Contaminants				
1. Total coliform	2	809.30(1)	3	809.31(1)-(4)
2. Fecal coliform/E. coli	1	809.30(2)	⁴ 1, 3	809.31(4)
3. Turbidity MCL	2	809.40(1)	3	809.41
4. Turbidity MCL (average 2 days' samples >5	⁵ 2, 1	809.40(2)	3	809.41

NTU)				
5. Turbidity (for TT violations resulting from a single exceedance of maximum allowable turbidity level)	6, 1	809.755(1)(b), 809.755(3)(b)1., 809.76(1)(b), 809.76(3)(b), 809.76(4)(b), 809.76(5), 809.76(1)(b), 809.76(5)	3	809.78(2)(a), 809.78(1)(b), 809.76
6. Surface Water Treatment Rule violations, other than violations resulting from single exceedance of max. allowable turbidity level (TT)	2	809.75 – 809.77	3	809.78
7. Interim Enhanced Surface Water Treatment Rule violations, other than violations resulting from single exceedance of max. turbidity level (TT)	2	NR 809 subch. V	3	809.77, 809.76
B. Inorganic Chemicals (IOCs)				
1. Antimony	2	809.11(2)	3	809.12(intro.), 809.12(3)
2. Arsenic	2	809.11(2)(a), 809.80, 809 subch. IX	3	809.12(intro.), 809.12(11), 809.08, subch. IX
3. Asbestos (fibers >10 µm)	2	809.11(2)	3	809.12(intro.), 809.12(3)
4. Barium	2	809.11(2)	3	809.12(intro.), 809.12(3)
5. Beryllium	2	809.11(2)	3	809.12(intro.), 809.12(3)
6. Cadmium	2	809.11(2)	3	809.12(intro.), 809.12(3)
7. Chromium (total)	2	809.11(2)	3	809.12(intro.), 809.12(3)
8. Cyanide	2	809.11(2)	3	809.12(intro.), 809.12(3)
9. Fluoride	2	809.11(2)	3	809.12(intro.), 809.12(3)
10. Mercury (inorganic)	1	809.11(2)	3	809.12(intro.), 809.12(3)
11. Nitrate	1	809.11(2)	⁸ 1, 3	809.12(intro.), 809.12(4), 809.12(6)(b)
12. Nitrite	1	809.11(2)	⁸ 1, 3	809.12(intro.), 809.12(5), 809.12(6)(b)
13. Total Nitrate and Nitrite	2	809.11(2)	3	809.12(intro.)
14. Selenium	2	809.11(2)	3	809.12(intro.), 809.12(3)
15. Thallium	2	809.11(2)	3	809.12(intro.), 809.12(3)
C. Lead and Copper Rule (Action Level for lead is 0.015 mg/L, copper is 1.3 mg/L)				
1. Lead and Copper Rule (TT)	2	809.541 – 809.55	3	809.541-809.55
D. Synthetic Organic Chemicals (SOCs)				
1. 2,4-D	2	809.20(1)	3	809.21(1)
2. 2,4,5-TP (Silvex)	2	809.20(1)	3	809.21(1)
3. Alachlor	2	809.20(1)	3	809.21(1)
4. Atrazine	2	809.20(1)	3	809.21(1)
5. Benzo(a)pyrene (PAHs)	2	809.20(1)	3	809.21(1)
6. Carbofuran	2	809.20(1)	3	809.21(1)
7. Chlordane	2	809.20(1)	3	809.21(1)
8. Dalapon	2	809.20(1)	3	809.21(1)
9. Di (2-ethylhexyl) adipate	2	809.20(1)	3	809.21(1)
10. Di (2-ethylhexyl) phthalate	2	809.20(1)	3	809.21(1)
11. Dibromochloropropane	2	809.20(1)	3	809.21(1)
12. Dinoseb	2	809.20(1)	3	809.21(1)
13. Dioxin (2, 3, 7, 8-TCDD)	2	809.20(1)	3	809.21(1)
14. Diquat	2	809.20(1)	3	809.21(1)
15. Endothall	2	809.20(1)	3	809.21(1)

16. Endrin	2	809.20(1)	3	809.21(1)
17. Ethylene dibromide	2	809.20(1)	3	809.21(1)
18. Glyphosate	2	809.20(1)	3	809.21(1)
19. Heptachlor	2	809.20(1)	3	809.21(1)
20. Heptachlor epoxide	2	809.20(1)	3	809.21(1)
21. Hexachlorobenzene	2	809.20(1)	3	809.21(1)
22. Hexachlorocyclo-pentadiene	2	809.20(1)	3	809.21(1)
23. Lindane	2	809.20(1)	3	809.21(1)
24. Methoxychlor	2	809.20(1)	3	809.21(1)
25. Oxamyl (Vydate)	2	809.20(1)	3	809.21(1)
26. Pentachlorophenol	2	809.20(1)	3	809.21(1)
27. Picloram	2	809.20(1)	3	809.21(1)
28. Polychlorinated biphenyls (PCBs)	2	809.20(1)	3	809.21(1)
29. Simazine	2	809.20(1)	3	809.21(1)
30. Toxaphene	2	809.20(1)	3	809.21(1)
E. Volatile Organic Chemicals (VOCs)				
1. Benzene	2	809.24(1)	3	809.25(1)
2. Carbon tetrachloride	2	809.24(1)	3	809.25(1)
3. Chlorobenzene (monochlorobenzene)	2	809.24(1)	3	809.25(1)
4. o-Dichlorobenzene	2	809.24(1)	3	809.25(1)
5. p-Dichlorobenzene	2	809.24(1)	3	809.25(1)
6. 1,2-Dichloroethane	2	809.24(1)	3	809.25(1)
7. 1,1-Dichloroethylene	2	809.24(1)	3	809.25(1)
8. cis-1,2-Dichloroethylene	2	809.24(1)	3	809.25(1)
9. trans-1,2-Dichloroethylene	2	809.24(1)	3	809.25(1)
10. Dichloromethane	2	809.24(1)	3	809.25(1)
11. 1,2-Dichloropropane	2	809.24(1)	3	809.25(1)
12. Ethylbenzene	2	809.24(1)	3	809.25(1)
13. Styrene	2	809.24(1)	3	809.25(1)
14. Tetrachloroethylene	2	809.24(1)	3	809.25(1)
15. Toluene	2	809.24(1)	3	809.25(1)
16. 1,2,4-Trichlorobenzene	2	809.24(1)	3	809.25(1)
17. 1,1,1-Trichloroethane	2	809.24(1)	3	809.25(1)
18. 1,1,2-Trichloroethane	2	809.24(1)	3	809.25(1)
19. Trichloroethylene	2	809.24(1)	3	809.25(1)
20. Vinyl chloride	2	809.24(1)	3	809.25(1)
21. Xylenes (total)	2	809.24(1)	3	809.25(1)
F. Radioactive Contaminants				
1. Beta/photon emitters	2	809.51	3	809.52(1), 809.53(2)
2. Alpha emitters	2	809.50(2)	3	809.52(1), 809.53(1)
3. Combined radium (226 & 228)	2	809.50(1)	3	809.52(1), 809.53(1)
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).⁹				
1. Total trihalomethanes (TTHMs)	2	809.22, 809.561(1)	3	809.25, 809.565(1)-(4)
2. Haloacetic Acids (HAA5)	2	809.561(1)	3	809.565(1)-(4)
3. Bromate	2	809.561(1)	3	809.565(1)-(4)
4. Chlorite	2	809.561(1)	3	809.565(1)-(4)
5. Chlorine (MRDL)	2	809.561(2)	3	809.565(1), (5)
6. Chloramine (MRDL)	2	809.561(2)	3	809.565(1), (5)
7. Chlorine dioxide (MRDL), where any 2 consecutive daily samples at entrance to distribution system only are above MRDL	2	809.561(2), 809.566(d)	2 ¹¹ , 3	809.565(1), (5), 809.566(3)(b)
8. Chlorine dioxide (MRDL), where samples in distribution system the next day are also above MRDL	1 ²	809.561(2), 809.566(d)	1	809.565(1), (5), 809.566(3)(b)
9. Control of DBP precursors – TOC (TT)	2	809.569(1)-(2)	3	809.565(1), (6)
10. Bench marking and disinfection profiling	N/A	N/A	3	809.77

11. Development of monitoring plan	N/A	N/A	3	809.565(8)
H. Other Treatment Techniques				
1. Acrylamide (TT)	2	809.26(5)	N/A	N/A
2. Epichlorohydrin (TT)	2	809.26(5)	N/A	N/A
II. Unregulated Contaminant Monitoring: ¹³				
A. Unregulated contaminants	N/A	N/A	3	809.74
B. Nickel	N/A	N/A	3	809.12(4)(c), 809.735(1) Table A
III. Public Notification for Vacancies and Exemption:				
A. Operation under a variance or exception	3	¹⁴ 1415, 1416	N/A	N/A
B. Violation of conditions of a variance or exemption	2	1415, 1416, ¹⁵ §142.307	N/A	N/A
IV. Other Situations Requiring Public Notification:				
A. Fluoride secondary maximum contaminant level (SMCL) exceedance	3	809.60	N/A	N/A
B. Exceedance of nitrate MCL for non-community systems, as allowed by the department	1	809.11(3)	N/A	N/A
C. Availability of unregulated contaminant monitoring data	3	809.26	N/A	N/A
D. Waterborne disease outbreak	1	809.04, 809.755(3)(b)2.	N/A	N/A
E. Other waterborne emergency ¹⁶	1	N/A	N/A	N/A
F. Other situations as determined by the department	¹⁷ 1, 2, 3	N/A	N/A	N/A

Appendix A Footnotes

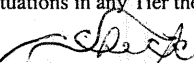
- Violations and other situations not listed in this table, e.g., reporting violations and failure to prepare Consumer Confidence Reports, do not require notice, unless otherwise determined by the department. Departments may, at their option, also require a more stringent public notice tier, e.g., Tier 1 instead of Tier 2 or Tier 2 instead of Tier 3, for specific violations and situations listed in this Appendix, as authorized under §141.202(a) and
- MCL--Maximum contaminant level, MRDL--Maximum residual disinfectant level, TT--Treatment technique.
- The term Violations of National Primary Drinking Water Regulations (NPDWR) is used here to include violations of MCL, MRDL, TT, monitoring and testing procedure requirements.
- Failure to test for fecal coliform or E. coli is a Tier 1 violation if testing is not done after any repeat sample tests positive for coliform. All other total coliform monitoring and testing procedure violations are Tier 3.
- Systems that violate the turbidity MCL of 5 NTU based on an average of measurements over 2 consecutive days shall 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.
- Systems with treatment technique violation involving a single exceedance of a maximum turbidity limit under the Surface Water Treatment Rule (SWTR) or the Interim Enhanced Surface Water Treatment Rule (IESWTR) 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.
- Most of the requirements of the Interim Enhanced Surface Water Treatment Rule (63 FR 69477) become effective January 1, 2002 for systems using surface water or ground water under the direct influence of surface water serving at least 10,000 persons. However, NR 809.77 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 supersede the SWTR.
- 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.
- Water systems using surface water or ground water under the direct influence of surface water community and non-transient non-community systems serving greater than or equal to 10,000 must comply with the 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. Water systems using surface water or ground water under the direct influence of surface water transient non-community systems 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. Water systems using surface water or ground water under the direct influence of surface water transient non-community systems 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.
- NR 809.22 will no longer apply after January 1, 2004.
- 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.
- 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.
- Some water systems must monitor for certain unregulated contaminants listed in NR 809.26.

14. This citation refers to §§ 1415 and 1416 of the Safe Drinking Water Act. §§ 1415 and 1416 require that "a schedule prescribed... for a public water system granted a variance [or exemption] shall require compliance by the system..."

15. In addition to § 1416 of the Safe Drinking Water Act, 40 CFR §142.307 specifies the items and schedule milestones that must be included in a variance for small systems.

16. Other waterborne emergencies require a Tier 1 public notice under §141.202(a) for situations that do not meet the definition of a waterborne disease outbreak given in 40 CFR 141.2 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 failure or significant interruption in water treatment processes, natural disasters that disrupt the water supply, chemical spills, or unexpected loading of possible pathogens into the source water.

17. The department may place other situations in any Tier they believe appropriate, based on threat to public safety.



SECTION 19. NR 809 Appendix B to Subch. IX is created to read:

Appendix B to Subch. IX of ch. NR 809 – STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION

Contaminant	MCGL ¹ mg/L	MCL ² mg/L	Standard health effects language for public notification
National Primary Drinking Water Regulations (NPDWR):			
A. Microbiological Contaminants:			
1a. Total coliform	Zero	See footnote ³	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
1b. Fecal coliform/E. coli	Zero	Zero	Fecal coliforms and E. coli are bacteria whose presence indicate that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
2a. Turbidity (MCL) ⁴	None	1 NTU ⁵ /5 NTU	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.
2b. Turbidity (SWTR TT) ⁶	None	TT ⁷	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.
2c. Turbidity (IESWTR TT) ⁸	None	TT	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.
B. Surface Water Treatment Rule (SWTR) and Interim Enhanced Surface Water Treatment Rule (IESWTR) violations:			
3. <i>Gardia lamblia</i> (SWTR/IESWTR)	Zero	TT ⁹	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.
4. Viruses (SWTR/IESWTR)			

5. Heterotrophic plate count (HPC) bacteria ¹⁰ (SWTR/IESWTR)		
6. Legionella (SWTR/IESWTR)		
7. Cryptosporidium (IESWTR)		
C. Inorganic Chemicals (IOCs):		
8. Antimony	0.006	0.006
9. Arsenic	None	0.05
10. Asbestos (10 µm)	7 MFL ¹¹	7 MFL
11. Barium	2	2
12. Beryllium	0.004	0.004
13. Cadmium	0.005	0.005
14. Chromium (total)	0.1	0.1
15. Cyanide	0.2	0.2
16. Fluoride	4.0	4.0
17. Mercury (inorganic)	0.002	0.002
18. Nitrate	10	10
19. Nitrite	1	1
20. Total Nitrate and Nitrite	10	10
21. Selenium	0.05	0.05
22. Thallium	0.0005	0.002

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.

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.

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.

Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.

Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.

Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

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.

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 9 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.

Some people who drink water containing mercury well in excess of the MCL over many years could experience kidney damage.

Infants below the age of 6 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.

Infants below the age of 6 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.

Infants below the age of 6 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.

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 loss, changes in their blood, or problems with their kidneys, intestines, or liver.

Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

D. Lead and Copper Rule:			
23. Lead	Zero	TT ¹²	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 ¹³	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 Tillson's Disease should consult their personal doctor.
E. Synthetic Organic Chemicals (SOCs):			
25. 2,4-D	0.07	0.07	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
26. 2,4,5-TP (Silvex)	0.05	0.05	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
27. Alachlor	Zero	0.002	Some people who drink water containing alachlor in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
28. Atrazine	0.003	0.003	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
29. Benzo(a)pyrene (PAHs)	Zero	0.0002	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
30. Carbofuran	0.04	0.04	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.
31. Chlordane	Zero	0.002	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
32. Dalapon	0.2	0.2	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
33. Di (2-ethylhexyl) adipate	0.4	0.4	Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.
34. Di (2-ethylhexyl) phthalate	Zero	0.006	Some people who drink water containing di (2-ethylhexyl) phthalate in excess of the MCL over many years may have problems with their live, or experience reproductive difficulties, and may have an increase risk of getting cancer.
35. Dibromochloropropane (DBCP)	Zero	0.0002	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
36. Dinoseb	0.007	0.007	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
37. Dioxin (2,3,7,8-TCDD)	Zero	3x10 ⁻⁸	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and many 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 intestine.
40. Endrin	0.002	0.002	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
41. Ethylene dibromide	Zero	0.00005	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
42. Glyphosate	0.7	0.7	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
43. Heptachlor	Zero	0.0004	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
44. Heptachlor epoxide	Zero	0.0002	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
45. Hexachlorobenzene	Zero	0.001	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.
46. 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 MCL over many years could experience

56. Carbon tetrachloride	Zero	0.005	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. <i>o</i> -Dichlorobenzene	0.6	0.6	Some people who drink water contain <i>o</i> -dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
59. <i>p</i> -Dichlorobenzene	0.075	0.075	Some people who drink water containing <i>p</i> -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. <i>cis</i> -1,2-Dichloroethylene	0.07	0.07	Some people who drink water containing <i>cis</i> -1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
63. <i>trans</i> -1,2-Dichloroethylene	0.1	0.1	Some people who drink water containing <i>trans</i> -1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
64. Dichloromethane	Zero	0.005	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
65. 1,2-Dichloropropane	Zero	0.005	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
66. Ethylbenzene	0.7	0.7	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
67. Styrene	0.1	0.1	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
68. Tetrachloroethylene	Zero	0.005	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
69. Toluene	1	1	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
70. 1,2,4-Trichlorobenzene	0.07	0.07	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
71. 1,1,1-Trichloroethane	0.2	0.2	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.
72. 1,1,2-Trichloroethane	0.003	0.005	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
73. Trichloroethylene	Zero	0.005	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
74. Vinyl chloride	Zero	0.002	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.

75. Xylenes (total)	10	10	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
G. Radioactive Contaminants:			
76. Beta/photon emitters	Zero	4 mrem/yr ¹⁴	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 ¹⁵	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 getting cancer.
78. Combined radium (226 & 228)	Zero	5 pCi/L	Some people who drink water containing radium 226 and 228 in excess of the MCL over many years may have an increased risk of getting cancer.
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).¹⁶			
79. Total trihalomethanes	N/A	0.10/ 0.80 ^{17,18}	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.
80. Haloacetic Acids (HAA)	N/A	0.060 ¹⁹	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have increased risk of getting cancer.
81. 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.
82. Chlorite	0.08	1.0	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
83. Chlorine	4 (MRDLG) ²⁰	4.0 (MRDL) ²¹	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.
84. Chloramines	4 (MRDLG)	4.0 (MRDL)	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
85a. Chlorine dioxide, where any 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 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.
85b. Chlorine dioxide, where one or more distribution system samples are above the MRDL.	0.8 (MRDLG)	0.8 (MRDL)	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar

			<p>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 byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.</p>
<p>86. Control of DBP precursors (TOC)</p>	<p>None</p>	<p>TT</p>	
<p>I. Other Treatment Techniques:</p>			
<p>87. Acrylamide</p>	<p>Zero</p>	<p>TT</p>	<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>88. Epichlorohydrin</p>	<p>Zero</p>	<p>TT</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>

Appendix B Footnotes

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 40 CFR 141.13, the 1989 Surface Water Treatment Rule, and the 1998 Interim 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 (40 CFR 141.13).
5. NTU--Nephelometric turbidity unit.
6. There are various regulations that set turbidity standards for different types of systems, including 40 CFR 141.13, the 1989 Surface Water Treatment Rule (SWTR), and the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR). 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 shall not exceed 0.5 NTU in systems using conventional or direct filtration and shall 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 40 CFR 141.13, the 1989 Surface Water Treatment Rule (SWTR), and the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR). 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 shall not exceed 1 NTU at any time. Systems subject to the IESWTR using technologies other than conventional, direct, slow sand, or diatomaceous earth filtration shall meet turbidity limits set by the department.
9. SWTR and IESWTR treatment technique violations that involve turbidity exceedances may use the health effects language for turbidity instead.
10. 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.
11. Millions fibers per liter.
12. Action Level = 0.015 mg/L.
13. Action Level = 1.3 mg/L.
14. Millirems per year.
15. Picocuries per liter.
16. Surface water systems and ground water systems under the direct influence of surface water are regulated under Subpart H of 40 CFR 141. Community and non-transient non-community systems using ground water under the direct influence of surface water serving 10,000 or more shall comply with DBP MCLs and disinfectant maximum residual disinfectant levels (MRDLs) beginning January 1, 2002. All other community and non-transient noncommunity systems shall meet the MCLs and MRDLs beginning January

1, 2004. Transient non-community systems using ground water under the direct influence of surface water serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant shall comply with the chlorine dioxide MRDL beginning January 1, 2002. Transient non-community systems using ground water under the direct influence of surface water serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water and using chlorine dioxide as a disinfectant or oxidant shall comply with the chlorine dioxide MRDL beginning January 1, 2004.

17. The MCL of 0.10 mg/l for TTHMs is in effect until January 1, 2002 for community water systems using ground water under the direct influence of surface water serving 10,000 or more. This MCL is in effect until January 1, 2004 for community water systems with a population of 10,000 or more using only ground water not under the direct influence of surface water. After these deadlines, the MCL will be 0.080 mg/l. On January 1, 2004, all systems serving less than 10,000 will have to comply with the new MCL as well.

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

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

20. MRDLG--Maximum residual disinfectant level goal.

21. MRDL--Maximum residual disinfectant level.

SECTION 20. Appendix C to Subch. IX in ch. NR 809 is created to read:

Appendix C to Subchapter IX of Chapter 809--List of Acronyms Used in Public Notification Regulation

CCR Consumer Confidence Report
CWS Community Water System
DBP Disinfection Byproduct
EPA Environmental Protection Agency
HPC Heterotrophic Plate Count
IESWTR Interim Enhanced Surface Water Treatment Rule
IOC Inorganic Chemical
LCR Lead and Copper 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
SWTR Surface Water Treatment Rule
TCR Total Coliform Rule
TT Treatment Technique
TWS Transient Non-Community Water System
VOC Volatile Organic Chemical

SECTION 21. Terminology changes. ss. NR 809.12(6)(b), 809.23(4), 809.30(2), 809.31(7)(a) and (b), 809.41(3), 809.53(1)(c) and (2)(d), 809.562(6) and (7), 809.566(2)(a), (2)(b) and (c), (3)(a)1., (3)(b)1. and 2., and s. NR 809.80(4) are amended by revising "s. NR 809.81" to read "subch. IX" and in 809.541(7) by revising "s. NR 809.81(5)(eu)" to read "subch. IX" and in 809.60(4) by revising "s. NR 809.81(5)(i)" to read "subch. IX" and in 811.08(4)(e) by revising "s. NR 809.81(1)(a)3." to read "subch. IX".

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on

The rules shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in 227.22(2)(intro.), Stats.

Dated at Madison, WI

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
George E. Meyer, Secretary

(SEAL)