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), 809.21(10)(e), Appendix B and C to NR 809 subch. VII and 809.81; to amend NR 809.11(3)(b), 809.12(6)(b), 809.22, 809.561(title), 809.562(3)(a) through (e), 809.565(1)(c), 809.566(2)(a)2., 809.566(4), 809.567(2)(a)5., (b)4., (c)2., (d)3., (d)4., (e)4., 809.567(3)(a)4., (b)2. and (b)3., 809.567(2)(d) 3. and 4., 809.567(4), 809.569(1)(d), 809.569(2)(b)4.a., and (3)(a)(intro.), 809.725(1)Table E., 809.75(1)(a), 809.76(5), 809.775(1)(f), 809.80(5) and (6)(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; to renumber NR 809.561(1) through (3), Subchapter VII – Conditional Waivers and Variances to Subchapter VIII, and Subchapter VIII to Subchapter IX; and to create NR 809.561(1), (2) and (4)(b), 809.566(2)(a)3., 809.80(8)(e)1. and 2., 809.82(6), 809.833(2)(c)3. and 4., 809.835(5), subch. X of ch. NR 809, and Appendixes A, B and C to NR 809 subch. X 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.

EPA published amendments to 40 CFR 141, 142 and 143. The Department of Natural Resources' ("the department") primacy agreement with EPA requires the department 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 the department's 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, several minor revisions are included in this document that address EPA corrections to previously adopted disinfection and disinfection byproducts regulations. Finally, corrections are included to correct omissions or typographical errors in earlier editions of this chapter. Sections 5 through 17 fall into these categories.

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

NR 809.11(3)(b) ~~There will be~~ The non-community water system meets 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 pubic water system in accordance with ~~s. NR 809.81~~ subch. X and meet other Tier 1 public notification requirements under subch. X. 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 renumbered NR 809.561(5).

SECTION 6. NR 809.561 (title) is amended to read:

NR 809.561 Maximum contaminant level goals (MCLGs), maximum residual disinfectant level goals (MRDLGs), and maximum contaminant levels (MCLs) for disinfection byproducts, maximum residual disinfectant levels (MRDLs) and best available treatment.

SECTION 7. NR 809.561(1) and (2) are renumbered NR 809.561(3) and (4)(a).

SECTION 8. NR 809.561(4)(b) is created to read:

NR 809.561(4)(b) Other means available for achieving compliance with the maximum residual disinfectant levels identified in this subsection are to control treatment processes to reduce disinfectant demand and to control disinfection treatment processes to reduce disinfectant levels.

SECTION 9. NR 809.561(1) and NR 809.561(2) are created to read:

NR 809.561(1) 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

(2) 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)

SECTION 10. NR 809.565(1)(c) is amended to read:

NR 809.565(1)(c) Failure to monitor in accordance with the monitoring plan required under sub. ~~(7)~~ (8) is a monitoring violation.

SECTION 11. NR 809.566(2)(a)2. and (4) are amended to read:

NR 809.566(2)(a)2. For systems monitoring less frequently than quarterly, compliance with MCLs in s. NR 809.561 (3) shall be based on an average of samples taken that year under the provisions of s. NR 809.565 (2) to (3). If the average of these samples exceeds the MCL, the systems shall increase monitoring to once per quarter per treatment plant~~. Systems on a reduced monitoring schedule whose annual average exceeds the MCL shall revert to routine monitoring immediately. These systems may not be considered in violation of the MCL until they have completed one year of routine monitoring and that year's annual average exceeds the MCL.~~ and the system is not in violation of the MCL until it has completed one year of quarterly monitoring, unless the result of fewer than 4 quarters of monitoring will cause the running annual average to exceed the MCL, in which case the system is in

violation at the end of that quarter. Systems required to increase monitoring frequency to quarterly monitoring shall calculate compliance by including the sample which triggered the increased monitoring plus the following 3 quarters of monitoring.

(4) DISINFECTION BYPRODUCT PRECURSORS (DBPP). Compliance with disinfection byproduct precursors shall be determined as specified in s. NR 809.569 (1). Systems may begin monitoring to determine whether Step 1 TOC removals can be met 12 months prior to the compliance date for the system. This monitoring is not required and failure to monitor during this period is not a violation. However, any system that does not monitor during this period, and then determines in the first 12 months after the compliance date that it is not able to meet the Step 1 requirements in s. NR 809.569 (1) (b) and therefore applies for alternate minimum TOC removal (Step 2) requirements, is not eligible for retro-active approval of alternate minimum TOC removal (Step 2) requirements as allowed pursuant to s. NR 809.569 (1) (c) and is in violation. Systems may apply for alternate minimum TOC removal (Step 2) requirements any time after the compliance date. For systems required to meet Step 1 TOC removals, if the value calculated under s. NR 809.569(3)(a)4. is less than 1.00, the system is in violation of the treatment technique requirements and shall notify the public pursuant to subch. X in addition to reporting to the department pursuant to s. NR 809.567.

SECTION 12. NR 809.566(2)(a)3. is created to read:

NR 809.566(2)(a)3. If the running annual arithmetic average of quarterly averages covering any consecutive 4-quarter period exceeds the MCL, the system is in violation of the MCL and shall notify the public pursuant to subch. X, in addition to reporting to the department pursuant to s. NR 809.567.

SECTION 13. NR 809.567(2)(a)5., (b)4., (c)2., (d)3. and 4., (e)4., (3)(a)4., (b)2. and 3. are amended to read:

NR 809.567(2)(a)5. Whether the MCL was exceeded, as determined according to s. NR 809.566(2).

(b)4. Whether the MCL was exceeded, as determined according to s. NR 809.566(2).

(c)2. Whether the MCL was exceeded, as determined according to s. NR 809.566(2).

(d)3. For each month in the reporting period, the arithmetic average of all samples taken in ~~the month~~ each 3 sample set collected in the distribution system.

4. Whether, based on s. NR 809.566(2)(c), the MCL was exceeded, and ~~in which month~~ how many times it was exceeded each month.

(e)4. Whether the MCL was exceeded, as determined according to s. NR 809.566(2)(b).

(3)(a)4. Whether the MRDL was exceeded, as determined according to s. NR 809.566(3)(a).

(b)2. Whether the MRDL was exceeded, as determined according to s. NR 809.566(3)(b).

3. Whether the MRDL was exceeded in any 2 consecutive daily samples and whether the resulting violation was acute or nonacute as determined according to s. NR 809.566(3)(b).

SECTION 14. NR 809.569(2)(b)4.a., and (3)(a)(intro.) are amended to read:

NR 809.569(2)(b)4.a. These technologies shall be installed and operating not later than ~~June 16, 2005.~~ June 30, 2005.

(3)(a)(intro.) Systems which are supplied by a surface water source or by a ground water source under the direct influence of surface water, other than those identified in sub. (2) (b) or (c) shall comply with requirements contained in sub. (1) (b) or (c). Systems shall calculate compliance quarterly, beginning after the system has collected 12 months of data, by determining an annual average using the following method:

SECTION 15. NR 809.725(1) Table E is amended to read:

TABLE E

SDWA Approved Methodology for Physical Parameters, Residual Chlorine, Sodium, Corrosivity, and Secondary Contaminants

Parameter and Method[1]	EPA[2]	Standard Methods[3]	ASTM[4]	USGS[5]	Other
Alkalinity–Titrimetric		2320B	D1067–92(B)	I–1030–85	–
Aluminum – Total[6], Digestion, followed by:					
Atomic absorption (AA); direct aspiration		3111D			–
Atomic absorption (AA); graphite furnace		3113 B		–	–
Inductively–coupled plasma (ICP)	200.7	3120 B	–	–	–
Inductively–coupled plasma; mass spectrometry (ICP/MS)	200.8	–	–	–	–
Atomic absorption (AA); platform furnace	200.9	–	–	–	–
Calcium					
EDTA titrimetric		3500–Ca D	D511–93(A)	–	–
AA; direct aspiration	–	3111 B	D511–93(B)	–	–
ICP	200.7	3120 B	–	–	–
Chloride					
Potentiometric	–	4500–Cl– D	–	–	–
Ion Chromatography	300.0[1]	4110	D4327–91	–	–
Chlorine dioxide residual					
Amperometric	–	4500–ClO_2 C or D	–	–	–
DPD	–	4500–ClO_2 D	–	–	–
Color					
Colorimetric, Pt–Co	–	2120 B	–	–	–
Combined chlorine					
Amperometric titration		4500–C1 D			
DPD Ferrous titrimetric		4500–C1 F			
DPD Colorimetric		4500–C1 G			
Corrosivity					
Langelier Index	–	2330	–	–	–
Aggressive Index	–	–	–	–	C400–77[7]
Foaming Agents (MBAS)					
Colorimetric		5540 C	–	–	–
Free chlorine residual[11]					
Colorimetric or ferrous titrimetric DPD	–	4500–Cl G or F	–	–	–
Amperometric		4500–Cl D	D 1253–86	–	–
Syringaldazine		4500–Cl H		–	–
Total Chlorine					
Amperometric titration	–	4500–Cl D	D 1253–86	–	–
Amperometric titration (low level)	–	4500–Cl E		–	–
DPD Ferrous titrimetric	–	4500–Cl F		–	–
DPD Colorimetric	–	4500–Cl G		–	–
Iodometric Electrode	–	4500–Cl I		–	–
Iron – Total[6] , Digestion, followed by:					
AA; direct aspiration		3111 B			
AA; graphite furnace	200.9	3111 B	–	–	–
ICP	200.7	3120 B	–	–	–
Manganese – Total[6] , Digestion, followed by:					

AA; direct aspiration		3111 B			
AA; graphite furnace	200.9	3113 B	–	–	–
ICP	200.7	3113 B	–	–	–
Inductively–coupled plasma; mass spectrometry	200.8	–	–	–	–
(ICP/MS)	–	–	–	–	–
Odor – Threshold Odor					
Orthophosphate, Unfiltered, no digestion or hydrolysis		2150 B	–	–	–
Colorimetric, automated, ascorbic acid	365.1[1]	4500–P F	–	–	–
Colorimetric, ascorbic acid		4500–P E	D515–88(A)	–	–
Colorimetric, phosphomolybdate; automated segment flow automated discrete	–	–	–	I–1601–85 I–2601–90 I–2598–85	–
Ion chromatography	300.0A[1]	4110	D4327–91	–	–
Ozone					
Indigo Method	–	4500–0_3B	–	–	
pH					
~~Electrometric~~		~~4500–H+ B~~	~~D1293–84~~		
Electrometric	150.1, 150.2	4500-H^+ B	D1293-95	–	–
Silica					
Colorimetric, molybdate blue	–	–	–	I–1700–85	–
Automated–segmented flow: Colorimetric Molybodosilicate Heteropoly blue	– – –	– – 4500–Si D 4500–Si E	– D859–88 – –	I–2700–85 – – –	– – – –
Automated method for molybdate–reactive silica	–	4500–Si F	–	–	–
ICP	200.7	3120 B	–	–	–
Sodium – Total[6], Digestion, followed by:					
AA; direct aspiration	–	3111 B	–	–	–
ICP	200.7	–	–	–	–
Silver – Total[6], Digestion, followed by:					
AA; direct aspiration	–	3111 B	–	I–3720–85	–
AA; graphite furnace	–	3113 B	–	–	–
AA; platform furnace	200.9	–	–	–	–
ICP	200.7	3120 B	–	–	–
ICP/MS	200.8	–	–	–	–
Sulfate					
Spectrophotometric	375.2[1]	–	4500–SO4–F		–
Gravimetric	–	–	4500–SO4–C, D		–
Ion chromatography	300.0[1]	D4327–91	4110		–
Temperature, Thermometric	–	2550 B	–	–	–
Total Filterable Residue (TDS), gravimetric – 2540 C – – –					
Zinc – Total[6], Digestion followed by:					
AA; direct aspiration	–	3111 B	–	–	–
ICP	200.7	3120 B	–	–	–
ICP/MS	200.8	–	–	–	–

[1] "Methods for the Determination of Inorganic Substances in Environmental Samples", EPA–600/R–93–100, August 1993, Available at NTIS, Order #PB94–12811, 5285 Port Royal Road, Springfield, VA 22161.
[2] Unless otherwise noted, methods are in "Methods for the Determination of Metals in Environmental Samples – Supplement I", EPA–600/R–94/111, May 1994. Avail-able from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. PB94–184942
[3] "Standard Methods for the Examination of Water and Wastewater", American Public Health Association, American Water Works Association, Water Pollution Control Federation, 18th edition, 1989, 1015 Fifteenth Street, N.W., Washington, D.C. 20005.
[4] "Annual Book of ASTM Standards, Vols. 11.01 and 11.02, 1994. Available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103. The same method in the current edition may be used if the date of method revision is the same as the 1991 edition.
[5]Available from Books and Open–File reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, CO. 80225–0425.

[6]Samples that contain less than 1 NTU (nephelometric turbidity unit) and are properly preserved (conc. HNO3 to pH < 2) may be analyzed directly without digestion) for total metals, otherwise, digestion is required. Turbidity must be measured on the preserved samples just prior to the initiation of metal analysis. When digestion is required the total recoverable technique as defined in the method must be used.
[7] "AWWA Standards for Asbestos – Cement Pipe, 4 in. through 16 in. for Water and Other Liquids", AWWA C400–77, Revision of C400–75. Available from the AWWA, 6666 West Quincy Avenue, Denver Colorado, 80235.
[11]Residual disinfectant concentrations for free chlorine and combined chlorine may also be measured by using DPD colorimetric test kits if approved by the department.

SECTION 16. NR 809.75(1)(a) is amended to read:

NR 809.75(1)(a) At least ~~99.99%~~ 99.9% (3 log) removal or inactivation of *Giardia lamblia* cysts between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer; and

SECTION 17. NR 809.76(5) is amended to read:

NR 809.76(5) OTHER FILTRATION TECHNOLOGIES. A public water system ~~supplier~~ may use a filtration technology not listed in subs. (1) to (4) if the supplier demonstrates to the department, using pilot studies or other means, that the alternative filtration technology, in combination with disinfection treatment that meets the requirements of s. NR 809.78, consistently achieves 99.9% removal or inactivation of *Giardia lamblia* cysts and 99.99% removal or inactivation of viruses, and 99% removal of *Cryptosporidium* oocysts, and the department approves the use of the filtration technology. For each approval, the department will set turbidity performance requirements that the system shall meet at least 95% of the time at a level that consistently achieves 99.9% removal or inactivation of *Giardia lamblia* cysts, 99.9% removal or inactivation of viruses, and 99% removal of *Cryptosporidium* oocysts. The department may set other performance requirements to assure the integrity of the technology.

SECTION 18. NR 809.775(1)(f) is amended to read:

NR 809.775(1)(f) Any system having either a TTHM annual average ≥ ~~30.064~~ 0.064 mg/L or an HAA5 annual average ≥ ~~30.048~~ 0.048 mg/L during the period identified in pars. (a) and (b) shall comply with sub. (2).

SECTION 19. NR 809.80(5) and (6)(e)2. are amended to read:

NR 809.80(5) The supplier of water, within 10 days of completion of each public notification required under ~~s. NR 809.81~~subch. X, 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 persons served by the system or to the media, or both.

(6)(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 20. NR 809.80(8)(e) is created to read:

NR 809.80(8)(e) Additional reporting requirements. 1. If at any time the turbidity exceeds 1 NTU on representative samples of filtered water in a system using conventional filtration treatment or direct filtration, the system shall inform the department as soon as possible, but no later than the end of the next business day.

2. If at any time the turbidity in representative samples of filtered water exceeds the maximum level set by the department under s. NR 809.76(5) for filtration technologies other than conventional filtration treatment, direct filtration, slow sand filtration or diatomaceous earth filtration, the system shall inform the department as soon as possible, but no later than the end of the next business day.

SECTION 21. NR 809.81 is repealed.

SECTION 22. NR 809.82(6) is created to read:

NR 809.82(6) The department shall keep copies of public notices issued pursuant to subch. X and certifications made to the department pursuant to s. NR 809.80 for 3 years after issuance.

SECTION 23. NR 809.833(2)(c)(intro.) is amended to read:

NR 809.833(2)(c)(intro.) A report which contains data on ~~a contaminant for~~ contaminants 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:

SECTION 24. 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 25. NR 809.833(3)(intro.), (c)9., (e), (5)(c) and (d) are amended to read:

NR 809.833(3)(intro.) INFORMATION ON DETECTED CONTAMINANTS. With the exception of C*ryptosporidium*, reports shall contain the following information in the specified format, for regulated contaminants ~~with MCLs, treatment techniques, or action levels~~ subject to a MCL, action level, maximum residual disinfectant level, or treatment technique, unregulated contaminants for which monitoring is required under subch. I, and disinfection by-products and microbial contaminants for which monitoring is required under subchs. IV and V:

(c)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 ~~B~~A ~~to this subchapter~~ to subch. VIII 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 systems shall use the relevant language of Appendix ~~C~~A ~~to this subchapter~~ to subch. VIII.

(5)(c)(title) *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 ~~C~~A ~~to this subchapter~~ to subch. VIII for lead, copper or both.

(d)(title)*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 ~~C~~A ~~to this subchapter~~ to subch. VIII.

SECTION 26. NR 809.835(5) is created to read:

NR 809.835(5) Community water systems that detect total trihalomethanes 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 total trihalomethanes prescribed by Appendix A to subch. VIII.

SECTION 27. 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~~3 years.

SECTION 28. Subchapter VII – Conditional Waivers and Variances is renumbered Subchapter VIII.

SECTION 29. Subchapter VIII – Water System Capacity is renumbered Subchapter IX.

SECTION 30. NR 809 Appendix A, B and C to subch. VII are repealed and Appendix A is recreated to read:

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.	N/A	MCL: (systems that collect ≥40 samples/ month) 5% of monthly samples are positive; (systems that collect ≤40 samples/ month) 1 positive monthly sample.	0	Naturally present in the environment.	Coliforms are bacteria that are naturally present in the 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	N/A	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	N/A	TT	N/A	Naturally present in the environment.	Total organic carbon has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. Their byproducts include trihalomethanes and haloacetic acids. 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	N/A	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	N/A	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	N/A	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	N/A	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 from glass and electronics production wastes.	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Asbestos (MFL)	7 MFL	N/A	7	7	Decay of asbestos cement water; Erosion of natural deposits.	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium (ppm)	2	N/A	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	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	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	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	N/A	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	200	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories.	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
Fluoride (ppm)	4	N/A	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of 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.
Lead (ppb)	AL = .015	1000	AL = 15	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	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	N/A	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	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.
Nitrite (ppm)	1	N/A	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	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail loss, numbness in fingers or toes, or problems with their circulation.
Thallium (ppb)	.002	1000	2	0.5	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	70	Runoff from herbicide used on row crops.	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
2,4,5-TP [Silvex] (ppb)	.05	1000	50	50	Residue of banned herbicide.	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
Acrylamide	TT	N/A	TT	0	Added to water during sewage/wastewater treatment.	Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.
Alachlor (ppb)	.002	1000	2	0	Runoff from herbicide used on row crops.	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidney, or spleen, or experience anemia, and may have an increased risk of getting cancer.
Atrazine (ppb)	.003	1000	3	3	Runoff from herbicide used on row crops.	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive

						difficulties.
Benzo(a)pyrene [PAH] (nanograms/l)	.0002	1,000,000	200	0	Leaching from lining 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	40	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	0	Residue of banned termiticide.	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
Dalapon (ppb)	.2	1000	200	200	Runoff from herbicide used on rights of way.	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
Di(2-ethylhexyl) adipate (ppb)	.4	1000	400	400	Discharge from chemical factories.	Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.
Di(2-ethylhexyl) phthalate (ppb)	.006	1000	6	0	Discharge from rubber and chemical factories.	Some people who drink water containing di (2-ethylhexyl) phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloropropane (ppt)	.0002	1,000,000	200	0	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.
Dinoseb (ppb)	.007	1000	7	7	Runoff from herbicide used on soybeans and vegetables.	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
Diquat (ppb)	.02	1000	20	20	Runoff from herbicide use.	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
Dioxin [2,3,7,8-TCDD] (ppq)	.00000003	1,000,000,000	30	0	Emissions from waste incineration and other combustion; Discharge from chemical factories.	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Endothall (ppb)	.1	1000	100	100	Runoff from herbicide use.	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin (ppb)	.002	1000	2	2	Residue of banned insecticide.	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Epichlorohydrin	TT	N/A	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 ethylene dibromide 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	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	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	Discharge from wood preserving factories.	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
Picloram (ppb)	.5	1000	500	500	Herbicide runoff.	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
Simazine (ppb)	.004	1000	4	4	Herbicide runoff.	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
Toxaphene (ppb)	.003	1000	3	0	Runoff/leaching from insecticide used on cotton and	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their

					cattle.	kidneys, liver, or thyroid, and may have an increased risk of getting cancer.
Volatile organic contaminants:						
Benzene (ppb)	.005	1000	5	0	Discharge from factories; Leaching from gas storage tanks and landfills.	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Bromate (ppb)	.010	1000	10	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	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	N/A	MRDL = 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	N/A	MRDL = 4	MRDLG = 4	Water additive used to control microbes.	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chlorite (ppm)	1	N/A	1	0.8	By-product of drinking water chlorination.	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Chloride dioxide (ppb)	MRDL = .8	1000	MRDL = 800	MRDLG = 800	Water additive used to control microbes.	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
Chlorobenzene (ppb)	.1	1000	100	100	Discharge from chemical and agricultural chemical factories.	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
o-Dichlorobenzene (ppb)	.6	1000	600	600	Discharge from industrial chemical 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.
p-Dichlorobenzene (ppb)	.075	1000	75	75	Discharge from industrial chemical factories.	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
1,2-Dichloroethane (ppb)	.005	1000	5	0	Discharge from industrial	Some people who drink water containing 1,2-dichloroethane

					chemical factories.	in excess of the MCL over many years may have an increased risk of getting cancer.
1,1-Dichloroethylene (ppb)	.007	1000	7	7	Discharge from industrial chemical factories.	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
cis-1,2-dichloroethylene (ppb)	.07	1000	70	70	Discharge from industrial chemical factories.	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
Trans-1,2-Dichloroethylene (ppb)	.1	1000	100	100	Discharge from industrial chemical factories.	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
Dichloromethane (ppb)	.005	1000	5	0	Discharge from pharmaceutical and chemical factories.	Some people who drink water containing dichlorormethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
1,2-dichloropropane (ppb)	.005	1000	5	0	Discharge from industrial chemical factories.	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene (ppb)	.7	1000	700	700	Discharge from petroleum refineries.	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Haloacetic Acids (pbb)	.060	1000	60	N/A	By-product of drinking water disinfection.	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Styrene (ppb)	.1	1000	100	100	Discharge from rubber and plastic factories; Leaching from landfills.	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
Tetrachloroethylene (ppb)	.005	1000	5	0	Discharge from factories and dry cleaners.	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
1,2,4-Trichlorobenzene (ppb)	.07	1000	70	70	Discharge from textile-finishing factories.	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
1,1,1-Trichloroethane (ppb)	.2	1000	200	200	Discharge from metal degreasing sites and other factories.	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.
1,1,2-Trichloroethane (ppb)	.005	1000	5	3	Discharge from industrial chemical factories.	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
Trichloroethylene (ppb)	.005	1000	5	0	Discharge from metal degreasing sites and other factories.	Some people who drink water containing trichoroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
TTHMs [Total trihalomethanes]	0.10/0.80	1000	100/80	N/A	By-product of drinking water	Some people who drink water containing trihalomethanes in

(ppb)					chlorination.	excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Toluene (ppm)	1	N/A	1	1	Discharge from petroleum factories.	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
Vinyl Chloride (ppb)	.002	1000	2	0	Leaching from PVC piping; Discharge from plastics factories.	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes (ppm)	10	N/A	10	10	Discharge from petroleum factories; Discharge from chemical factories.	Some people who drink water containing xylenes in excess of the MCL over many years could experience 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 31. Subch. X of ch. NR 809 is created to read:

Subchapter X
Public Notification of Drinking Water Violations

NR 809.950 General public notification requirements. (1) DATE OF COMPLIANCE. 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 [revisor insert date], whichever comes first. Prior to these dates, public water systems shall continue to comply with the public notice requirements in s. NR 809.81.

(2) WHO SHALL GIVE PUBLIC NOTICE. (a) *Public owner or operator.* 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, maximum residual disinfection level, treatment technique, monitoring requirements, and testing procedures in ch. NR 809. Appendix A to this subchapter 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 include all of the following:

a. Failure to comply with an applicable maximum contaminant level or maximum residual disinfectant level.

b. Failure to comply with a treatment technique prescribed by this chapter.

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

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

2. Variance and exemptions under subch. VIII include all of the following:

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 include all of the following:

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

b. Exceedance of the nitrate MCL by non-community water systems, where granted permission by the department under s. NR 809.11(3).

c. Exceedance of the secondary maximum contaminant level 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 listed in Appendix A.

(3) TYPE OF PUBLIC NOTICE IS REQUIRED FOR EACH VIOLATION OR SITUATION. (a) *Public notice tiers.* 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. (2)(b) are determined by the tier to which it is assigned. The definition of each tier is provided in sub. (3)(b). Appendix A identifies the tier assignment for each specific violation or situation.

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

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

3. Tier 3 public notice is required for NPDWR violations or situations not included in Tier 1 and Tier 2.

(4) WHO SHALL BE NOTIFIED. (a) Each public water system shall provide public notice to persons served by the water system, in accordance with this subchapter. Public water systems that sell or otherwise provide drinking water 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 include all of the following:

1. Violation of the MCL for total coliforms when fecal coliform or E. coli is 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 809.76, 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 (79), 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 IS PROVIDED AND WHAT ADDITIONAL STEPS ARE REQUIRED. Public water systems shall do all of the following if Tier 1 notice is required:

(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 shall be designed to fit the specific situation, and to reach residential, transient and non-transient users of the water system. To reach all persons served, water systems shall 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 include all of the following:

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 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, 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 of the following:

1. Violation of the turbidity MCL under s. NR 809.76.

2. Violation of the surface water treatment rule or interim enhanced surface water treatment rule 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, such as house renters, apartment dwellers, university students, nursing home patients, prison inmates. Other methods may include publication in a local newspaper; delivery of multiple copies for distribution by customers that provide their drinking water to others, such as 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. 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, such as 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 include all of the following:

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 conditional waiver or variance, or both, under subch. VIII.

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

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

(2) WHEN TIER 3 PUBLIC NOTICE TO BE PROVIDED. (a) Public water systems shall provide Tier 3 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 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, such as apartment building owners or large private employers; posting in public places 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. 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, such as 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 required under this subchapter may be used as a vehicle for the initial Tier 3 public notice and all required repeat notices, as long as all of the following occur:

(a) The consumer confidence report 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 consumer confidence report follows the content requirements under s. NR 809.954.

(c) The consumer confidence report 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 national primary drinking water regulation 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 in sub. (1).

(3) HOW PUBLIC NOTICE IS TO BE PRESENTED. (a) Each public notice required by this section shall meet all of the following:

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 subd. 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. (1) 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.

(2) 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) and (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 secondary maximum contaminant level for fluoride. (1) WHEN SPECIAL NOTICE IS TO BE GIVEN. Community water systems that exceed the fluoride secondary maximum contaminant level of 2 mg/l as specified in s. NR 809.60, 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 secondary maximum contaminant level is exceeded. If the public notice is posted, the notice shall remain in place for as long as the secondary maximum contaminant level 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) and (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.

NR 809.958 Special notice for nitrate exceedances above MCL by non-community water systems, 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 subchapter 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 32. NR 809 Appendix A to subch. X is created to read:

Appendix A to Subchapter X of ch. NR 809 – NPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE[1]

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:[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 (for TT violations resulting from a single exceedance of maximum allowable turbidity level)	[6]2, 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 Treatement 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. X	3	809.12(intro.), 809.12(11), 809.08, subch. X
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	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. Dichloromethan	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. EPA sets standards for controlling the levels of disinfectants and disinfection byproducts in drinking water, including trihalomethanes -and haloacetic acids. [9]				

1. Total trihalomethanes	2	809.22, 809.561(1)	3	809.25, 809.565(1)-(4)
2. Haloacetic Acids	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[12]1	809.561(2), 809.566(d)	1	809.565(1), (5), 809.566(3)(b)
9. Control of disinfection byproducts 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 Treatement 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 Conditional Waivers and Variances				
A. Operation under a conditional waiver or variance	3	809.90, 809.91	N/A	N/A
B. Violation of a conditional waiver or variance	2	Subchapter X	N/A	N/A
IV. Other Situations Requiring Public Notification:				
A. Fluoride secondary maximum contaminant level 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 unregulted 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[14]	1	N/A	N/A	N/A
F. Other situations as determined by the department	1[15], 2, 3	N/A	N/A	N/A

Appendix A Footnotes

1. 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 s. NR 809.951(1) and

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

3. The term Violations of National Primary Drinking Water Regulations is used here to include violations of MCL, MRDL, TT, monitoring and testing procedure requirements.

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

5. Systems that violate the turbidity MCL of 5 NTU based on an average of measurements over 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.

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

7. Most of the requirements of the Interim Enhanced Surface Water Treatment Rule (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 Surface Water Treatment Rule.

8. 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.

9. Water systems using surface water or ground water under the direct influence of surface water community and non-transient non-community systems serving greater that or equal to 10,000 must comply with the new disinfection byproducts 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.

10. NR 809.22 will no longer apply after January 1, 2004.

11. 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.

12. 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.

13. Some water systems must monitor for certain unregulated contaminants listed in NR 809.26.

14. 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.

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

SECTION 33. NR 809 Appendix B to Subch. X is created to read:

Appendix B to Subch. X 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:			
A. Microbiologocial 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 and Interim Enhanced Surface Water Treatment Rule violations:			

3. Gardia lamblia	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			
5. Heterotrophic plate count bacteria[10]			
6. Legionella			
7. Cryptosporidium			
C. Inorganic Chemicals:			
8. Antimony	0.006	0.006	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.
9. Arsenic	None	0.05	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.
10. Asbestos (10 µm)	7 MFL[11]	7 MFL	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.
11. Barium	2	2	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
12. Beryllium	0.004	0.004	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
13. Cadmium	0.005	0.005	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
14. Chromium (total)	0.1	0.1	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
15. Cyanide	0.2	0.2	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage of problems with their thyroid.
16. Fluoride	4.0	4.0	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than 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.
17. Mercury (inorganic)	0.002	0.002	Some people who drink water containing mercury well in excess of the MCL over many years could experience kidney damage.
18. Nitrate	10	10	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.
19. Nitrite	1	1	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.
20. Total Nitrate and Nitrite	10	10	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.
21. Selenium	0.05	0.05	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess

			of the MCL over many years could experience hair or fingernail loss, changes in their blood, or problems with their kidneys, intestines, or liver.
22. Thallium	0.0005	0.002	Some people who drink water containing thallium in excess of the MCl over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
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	TT13	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
E. Synthetic Organic Chemicals:			
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-ethylhexul) 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	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	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:			
55. Benzene	Zero	0.005	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.
56. Carbon tetrachloride	Zero	0.005	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
57. Chlorobenzene (monochlorobenzene)	0.1	0.1	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
58. *o*-Dichlorobenzene	0.6	0.6	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
59. *p*-Dichlorobenzene	0.075	0.075	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
60. 1,2-Dichloroethane	Zero	0.005	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
61. 1,1-Dichloroethylene	0.007	0.007	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
62. *cis*-1,2-Dichloroethylene	0.07	0.07	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
63. *trans*-1,2-Dichloroethylene	0.1	0.1	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
64. Dichloromethane	Zero	0.005	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
65. 1,2-Dichloropropane	Zero	0.005	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
66. Ethylbenzene	0.7	0.7	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
67. Styrene	0.1	0.1	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
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, 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. EPA sets standards for controlling the levels of disinfectants and DBPs in drinking water, including trihalomethanes and haloacetic acids:[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	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 chlormines 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 effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia. *Add for public notification only:* 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.
86. Control of DBP precursors (TOC)	None	TT	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 and haloacetic acids. 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.
I. Other Treatment Techniques:			
87. Acrylamide	Zero	TT	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.
88. Epichlorohydrin	Zero	TT	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.

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, and the 1998 Interim Enhanced Surface Water Treatment Rule. Systems subject to the Surface Water Treatment Rule (both filtered and unfiltered) may not exceed 5 NTU. In addition, in filtered systems, 95 percent of samples each month 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, and the 1998 Interim Enhanced Surface Water Treatment Rule. For systems subject to the interim enhanced surface water treatment rule (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 interim enhanced surface water treatment rule using technologies other than conventional, direct, slow sand, or diatomaceous earth filtration shall meet turbidity limits set by the department.

9. Surface water treatment rule and interim enhanced surface water treatment rule treatment technique violations that involve turbidity exceedances may use the health effects language for turbidity instead.

10. The bacteria detected by heterotrophic plate count 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 years.

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 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 total trihalomethanes 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 34. Appendix C to Subch. X in ch. NR 809 is created to read:

Appendix C to Subchapter X 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 35. CROSS-REFERENCE CHANGES. Subsections NR 809.12(6)(b), 809.23(4), 809.30(2), 809.31(7)(a) and (b), 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(5) are amended by revising "s. NR 809.81" to read "subch. X" and in 809.541(7) by revising "s. NR 809.81(5)(eu)" to read "Appendix B to subch. X" and in 809.60(4) by revising "s. NR 809.81(5)(i)" to read "Appendix B to subch. X" and in 811.08(4)(e) by revising "s. NR 809.81(1)(a)3." to read "s. NR 809.951". Subsections NR 809.562(1) and (5), and 809.81(1)(a)3.d., are amended by revising "s. NR 809.561(2)" to read "s. NR 809.561(4)(a)" and in s. NR 809.562(1) by revising "s. NR 809.561(1) and (2)" to read "s. NR 809.561(3) and (4)(a)" and in s. NR 809.562(1) by revising "s. NR 809.561(3)" to read "s. NR 809.561(5)" and in ss. NR 809.562(7) and 809.566(2)1. and 2., by revising "s. NR 809.561(1)" to read "s. NR 809.561(3)".

SECTION 36. DATE CHANGE. Change December 16, 2003 to December 31, 2003 in each of the following locations: NR 809.22 and NR 809.562(3)(a), (b), (c), (d), and (e).

SECTION 37. NR 809.569(1)(d)1., 2., 3., and 5., are amended by striking all parenthetical entries of the term "(as aluminum)".

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on May 22, 2002.

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 _____
Darrell Bazzell, Secretary

(SEAL)