



OFFICE OF THE SECRETARY OF STATE

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R11-8 B

February 15, 2013

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CLERK'S OFFICE

FEB 21 2013

POLLUTION CONTROL BOARD
JOHN THERRIAULT ASSISTANT CLERK
100 W RANDOLPH ST, STE 11-500
CHICAGO, IL 60601

STATE OF ILLINOIS
Pollution Control Board

Dear JOHN THERRIAULT ASSISTANT CLERK

Your rules Listed below met our codification standards and have been published in Volume 37, Issue 8 of the Illinois Register, dated 2/22/2013.

PROPOSED RULES

Water Quality Standards

35 Ill. Adm. Code 302

2436

Point of Contact: Nancy Miller

If you have any questions, you may contact the Administrative Code Division at (217) 782 - 7017.

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NOTICE OF PROPOSED AMENDMENT

- 1) Heading of the Part: Water Quality Standards
- 2) Code Citation: 35 Ill. Adm. Code 302
- 3) Section Numbers: Proposed Action:
302.208 Amend
- 4) Statutory Authority: Implementing Sections 22.12 and 57 - 57.19 and authorized by Sections 27 and 28 of the Environmental Protection Act [415 ILCS 5/22.12, 27, 28, and 57 - 57.19.]
- 5) A Complete Description of the Subjects and Issues Involved: This subdocket proposes technical corrections to recently-adopted amendments to 35 Ill. Adm. Code 302.208, published in the *Illinois Register* at 36 Ill. Reg. 18871 (Dec. 28, 2012). See In the Matter of: Triennial Review of Water Quality Standards for Boron, Fluoride and Manganese: Amendments to 35 Ill. Adm. Code 301.106, 302.Subparts B, C, E, F and 303, R11-18 (Nov. 15, 2012). The unintended errors appear to have occurred between the first notice and final rule adoption publications.

A more detailed description of this rulemaking is contained in the Board's first notice opinion and order in this Technical Corrections to Triennial Review of Water Quality Standards Amendments for Fluoride and Manganese: Amendments to 35 Ill. Adm. Code 302.208(b) and (e), R11-18(B) (Feb. 7, 2012). In summary, this subdocket is opened for the limited purpose of making two changes to Section 302.208 (b) and (e), to correct scribes' errors that occurred during the rulemaking process. The errors occur in the reporting requirements for the water quality standards fluoride (errant appearance of the word "metals" which should have been stricken throughout the section) and manganese (omission of the word "dissolved"). The Board believes that failure to promptly propose corrections to the standards could result in unintended problems for dischargers in monitoring, reporting, and demonstrating compliance with rules that are arguably ambiguous.

The Board has already held the hearings required under Section 27 of the Environmental Protection Act, 5 ILCS 5/100 et al. seq. (2010). The sole purpose of this subdocket B is to have the adopted amendments comport with the rulemaking record on which they are based. The Board does not believe that additional hearings are necessary, and accordingly does not intend to hold additional hearings, unless they are specifically requested during the first notice comment period as provided by the Administrative Procedure Act (APA), 5 ILCS 100/1-1 (2010.)

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- 6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: None
- 7) Will these proposed amendments replace an emergency rule currently in effect? No.
- 8) Does this rulemaking contain an automatic repeal date? No.
- 9) Do these proposed amendments contain incorporations by reference? No.
- 10) Are there any other proposed amendments pending on this Part? No.
- 11) Statement of Statewide Policy Objectives: This proposed rule does not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act. [30 ILCS 805/3(b) (2010)].
- 12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking:

Interested persons may download copies of the Board's opinion and order in R11-18(b) from the Board's Web site at www.ipcb.state.il.us and may also request copies by calling the Clerk's office at 312-814-3620.

The Board will accept written public comment on this proposal for 45 days after the date of publication in the *Illinois Register*. Comments should refer to Docket R11-18Bb) and be addressed to:

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

- 13) Initial Regulatory Flexibility Analysis:
 - A. Types of small businesses, small municipalities and not for profit corporations affected: Any small businesses, small municipalities and not for profit corporations that discharge wastewaters into "waters of the State" (usually under their National Pollutant Discharge and Elimination System (NPDES) permits).

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- B. Reporting, bookkeeping or other procedures required for compliance: Those needed to comply with current permit requirements.
 - C. Types of Professional skills necessary for compliance: Wastewater treatment plant staff, possibly an environmental engineer.
- 14) Regulatory Agenda on which this rulemaking was summarized: July 2011

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

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TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE C: WATER POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD

PART 302
WATER QUALITY STANDARDS

SUBPART A: GENERAL WATER QUALITY PROVISIONS

Section	
302.100	Definitions
302.101	Scope and Applicability
302.102	Allowed Mixing, Mixing Zones and ZIDs
302.103	Stream Flows
302.104	Main River Temperatures
302.105	Antidegradation

SUBPART B: GENERAL USE WATER QUALITY STANDARDS

Section	
302.201	Scope and Applicability
302.202	Purpose
302.203	Offensive Conditions
302.204	pH
302.205	Phosphorus
302.206	Dissolved Oxygen
302.207	Radioactivity
302.208	Numeric Standards for Chemical Constituents
302.209	Fecal Coliform
302.210	Other Toxic Substances
302.211	Temperature
302.212	Total Ammonia Nitrogen
302.213	Effluent Modified Waters (Ammonia) (Repealed)

SUBPART C: PUBLIC AND FOOD PROCESSING WATER SUPPLY STANDARDS

Section	
302.301	Scope and Applicability
302.302	Algicide Permits
302.303	Finished Water Standards

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302.304	Chemical Constituents
302.305	Other Contaminants
302.306	Fecal Coliform
302.307	Radium 226 and 228

SUBPART D: SECONDARY CONTACT AND
INDIGENOUS AQUATIC LIFE STANDARDS

Section	
302.401	Scope and Applicability
302.402	Purpose
302.403	Unnatural Sludge
302.404	pH
302.405	Dissolved Oxygen
302.406	Fecal Coliform (Repealed)
302.407	Chemical Constituents
302.408	Temperature
302.409	Cyanide
302.410	Substances Toxic to Aquatic Life

SUBPART E: LAKE MICHIGAN BASIN WATER QUALITY STANDARDS

Section	
302.501	Scope, Applicability, and Definitions
302.502	Dissolved Oxygen
302.503	pH
302.504	Chemical Constituents
302.505	Fecal Coliform
302.506	Temperature
302.507	Thermal Standards for Existing Sources on January 1, 1971
302.508	Thermal Standards for Sources Under Construction But Not In Operation on January 1, 1971
302.509	Other Sources
302.510	Incorporations by Reference
302.515	Offensive Conditions
302.520	Regulation and Designation of Bioaccumulative Chemicals of Concern (BCCs)
302.521	Supplemental Antidegradation Provisions for Bioaccumulative Chemicals of Concern (BCCs)
302.525	Radioactivity
302.530	Supplemental Mixing Provisions for Bioaccumulative Chemicals of Concern

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- (BCCs)
- 302.535 Ammonia Nitrogen
 - 302.540 Other Toxic Substances
 - 302.545 Data Requirements
 - 302.550 Analytical Testing
 - 302.553 Determining the Lake Michigan Aquatic Toxicity Criteria or Values – General Procedures
 - 302.555 Determining the Tier I Lake Michigan Acute Aquatic Toxicity Criterion (LMAATC): Independent of Water Chemistry
 - 302.560 Determining the Tier I Lake Michigan Basin Acute Aquatic Life Toxicity Criterion (LMAATC): Dependent on Water Chemistry
 - 302.563 Determining the Tier II Lake Michigan Basin Acute Aquatic Life Toxicity Value (LMAATV)
 - 302.565 Determining the Lake Michigan Basin Chronic Aquatic Life Toxicity Criterion (LMCATC) or the Lake Michigan Basin Chronic Aquatic Life Toxicity Value (LMCATV)
 - 302.570 Procedures for Deriving Bioaccumulation Factors for the Lake Michigan Basin
 - 302.575 Procedures for Deriving Tier I Water Quality Criteria and Values in the Lake Michigan Basin to Protect Wildlife
 - 302.580 Procedures for Deriving Water Quality Criteria and Values in the Lake Michigan Basin to Protect Human Health – General
 - 302.585 Procedures for Determining the Lake Michigan Basin Human Health Threshold Criterion (LMHHTC) and the Lake Michigan Basin Human Health Threshold Value (LMHHTV)
 - 302.590 Procedures for Determining the Lake Michigan Basin Human Health Nonthreshold Criterion (LMHHNC) or the Lake Michigan Basin Human Health Nonthreshold Value (LMHHNV)
 - 302.595 Listing of Bioaccumulative Chemicals of Concern, Derived Criteria and Values

SUBPART F: PROCEDURES FOR DETERMINING WATER QUALITY CRITERIA

- Section
- 302.601 Scope and Applicability
 - 302.603 Definitions
 - 302.604 Mathematical Abbreviations
 - 302.606 Data Requirements
 - 302.612 Determining the Acute Aquatic Toxicity Criterion for an Individual Substance – General Procedures
 - 302.615 Determining the Acute Aquatic Toxicity Criterion – Toxicity Independent of Water Chemistry

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- 302.618 Determining the Acute Aquatic Toxicity Criterion – Toxicity Dependent on Water Chemistry
- 302.621 Determining the Acute Aquatic Toxicity Criterion – Procedure for Combinations of Substances
- 302.627 Determining the Chronic Aquatic Toxicity Criterion for an Individual Substance – General Procedures
- 302.630 Determining the Chronic Aquatic Toxicity Criterion – Procedure for Combinations of Substances
- 302.633 The Wild and Domestic Animal Protection Criterion
- 302.642 The Human Threshold Criterion
- 302.645 Determining the Acceptable Daily Intake
- 302.648 Determining the Human Threshold Criterion
- 302.651 The Human Nonthreshold Criterion
- 302.654 Determining the Risk Associated Intake
- 302.657 Determining the Human Nonthreshold Criterion
- 302.658 Stream Flow for Application of Human Nonthreshold Criterion
- 302.660 Bioconcentration Factor
- 302.663 Determination of Bioconcentration Factor
- 302.666 Utilizing the Bioconcentration Factor
- 302.669 Listing of Derived Criteria

- 302.APPENDIX A References to Previous Rules
- 302.APPENDIX B Sources of Codified Sections
- 302.APPENDIX C Maximum total ammonia nitrogen concentrations allowable for certain combinations of pH and temperature
- 302.TABLE A pH-Dependent Values of the AS (Acute Standard)
- 302.TABLE B Temperature and pH-Dependent Values of the CS (Chronic Standard) for Fish Early Life Stages Absent
- 302.TABLE C Temperature and pH-Dependent Values of the CS (Chronic Standard) for Fish Early Life Stages Present
- 302.APPENDIX D Section 302.206(d): Stream Segments for Enhanced Dissolved Oxygen Protection

AUTHORITY: Implementing Section 13 and authorized by Sections 11(b) and 27 of the Environmental Protection Act [415 ILCS 5/13, 11(b), and 27].

SOURCE: Filed with the Secretary of State January 1, 1978; amended at 2 Ill. Reg. 44, p. 151, effective November 2, 1978; amended at 3 Ill. Reg. 20, p. 95, effective May 17, 1979; amended at 3 Ill. Reg. 25, p. 190, effective June 21, 1979; codified at 6 Ill. Reg. 7818; amended at 6 Ill. Reg. 11161, effective September 7, 1982; amended at 6 Ill. Reg. 13750, effective October 26,

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1982; amended at 8 Ill. Reg. 1629, effective January 18, 1984; peremptory amendments at 10 Ill. Reg. 461, effective December 23, 1985; amended at R87-27 at 12 Ill. Reg. 9911, effective May 27, 1988; amended at R85-29 at 12 Ill. Reg. 12082, effective July 11, 1988; amended in R88-1 at 13 Ill. Reg. 5998, effective April 18, 1989; amended in R88-21(A) at 14 Ill. Reg. 2899, effective February 13, 1990; amended in R88-21(B) at 14 Ill. Reg. 11974, effective July 9, 1990; amended in R94-1(A) at 20 Ill. Reg. 7682, effective May 24, 1996; amended in R94-1(B) at 21 Ill. Reg. 370, effective December 23, 1996; expedited correction at 21 Ill. Reg. 6273, effective December 23, 1996; amended in R97-25 at 22 Ill. Reg. 1356, effective December 24, 1997; amended in R99-8 at 23 Ill. Reg. 11249, effective August 26, 1999; amended in R01-13 at 26 Ill. Reg. 3505, effective February 22, 2002; amended in R02-19 at 26 Ill. Reg. 16931, effective November 8, 2002; amended in R02-11 at 27 Ill. Reg. 166, effective December 20, 2002; amended in R04-21 at 30 Ill. Reg. 4919, effective March 1, 2006; amended in R04-25 at 32 Ill. Reg. 2254, effective January 28, 2008; amended in R07-9 at 32 Ill. Reg. 14978, effective September 8, 2008; amended in R11-18 at 36 Ill. Reg. 18871, effective December 28, 2012; amended in R11-18(b) at 37 Ill. Reg. _____ effective _____.

Section 302.208 Numeric Standards for Chemical Constituents

- a) The acute standard (AS) for the chemical constituents listed in subsection (e) shall not be exceeded at any time except for those waters for which a zone of initial dilution (ZID) has been approved by the Agency pursuant to Section 302.102.
- b) The chronic standard (CS) for the chemical constituents listed in subsection (e) shall not be exceeded by the arithmetic average of at least four consecutive samples collected over any period of at least four days, except for those waters in which the Agency has approved a mixing zone or in which mixing is allowed pursuant to Section 302.102. The samples used to demonstrate attainment or lack of attainment with a CS must be collected in a manner that assures an average representative of the sampling period. For the chemical constituents that have water quality based standards dependent upon hardness, the chronic water quality standard will be calculated according to subsection (e) using the hardness of the water body at the time the sample was collected. To calculate attainment status of chronic ~~metals~~ standards, the concentration of the chemical constituent in each sample is divided by the calculated water quality standard for the sample to determine a quotient. The water quality standard is attained if the mean of the sample quotients is less than or equal to one for the duration of the averaging period.
- c) The human health standard (HHS) for the chemical constituents listed in subsection (f) shall not be exceeded when the stream flow is at or above the

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harmonic mean flow pursuant to Section 302.658 nor shall an annual average, based on at least eight samples, collected in a manner representative of the sampling period, exceed the HHS except for those waters in which the Agency has approved a mixing zone or in which mixing is allowed pursuant to Section 302.102.

- d) The standard for the chemical constituents of subsections (g) and (h) shall not be exceeded at any time except for those waters in which the Agency has approved a mixing zone or in which mixing is allowed pursuant to Section 302.102.
- e) Numeric Water Quality Standards for the Protection of Aquatic Organisms

Constituent	AS (µg/L)	CS (µg/L)
Arsenic (trivalent, dissolved)	$360 \times 1.0^* = 360$	$190 \times 1.0^* = 190$
Boron (total)	40,100	7,600
Cadmium (dissolved)	$e^{A+B \ln(H)} \times \left\{ \frac{1.138672 - \left[\frac{1}{\ln(H)} \right] (0.041838)}{\left[\frac{1}{\ln(H)} \right] (0.041838)} \right\}^*$	$e^{A+B \ln(H)} \times \left\{ \frac{1.101672 - \left[\frac{1}{\ln(H)} \right] (0.041838)}{\left[\frac{1}{\ln(H)} \right] (0.041838)} \right\}^*$
	where $A = -2.918$ and $B = 1.128$	where $A = -3.490$ and $B = 0.7852$
Chromium (hexavalent, total)	16	11
Chromium (trivalent, dissolved)	$e^{A+B \ln(H)} \times 0.316^*$	$e^{A+B \ln(H)} \times 0.860^*$
	where $A = 3.688$ and $B = 0.8190$	where $A = 1.561$ and $B = 0.8190$
Copper (dissolved)	$e^{A+B \ln(H)} \times 0.960^*$	$e^{A+B \ln(H)} \times 0.960^*$

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	where $A = -1.464$ and $B = 0.9422$	where $A = -1.465$ and $B = 0.8545$
Cyanide**	22	5.2
Fluoride (total)	$e^{A+B \ln(H)}$ where $A = 6.7319$ and $B = 0.5394$	$e^{A+B \ln(H)}$, but shall not exceed 4.0 mg/L where $A = 6.0445$ and $B = 0.5394$
Lead (dissolved)	$e^{A=B \ln(H)} \times$ $\left\{ \frac{1.46203 -}{[(\ln H)(0.1457 / 2)]} \right\} *$	$e^{A=B \ln(H)} \times$ $\left\{ \frac{1.46203 -}{[(\ln H)(0.145712)]} \right\} *$
	where $A = -1.301$ and $B = 1.273$	where $A = -2.863$ and $B = 1.273$
Manganese (dissolved)	$e^{A+B \ln(H)} \times 0.9812*$ where $A = 4.9187$ and $B = 0.7467$	$e^{A+B \ln(H)} \times 0.9812*$ where $A = 4.0635$ and $B = 0.7467$
Mercury (dissolved)	$2.6 \times 0.85* = 2.2$	$1.3 \times 0.85* = 1.1$
Nickel (dissolved)	$e^{A+B \ln(H)} \times 0.998 *$ where $A = 0.5173$ and $B = 0.8460$	$e^{A+B \ln(H)} \times 0.997 *$ where $A = -2.286$ and $B = 0.8460$
TRC	19	11
Zinc (dissolved)	$e^{A+B \ln(H)} \times 0.978 *$ where $A = 0.9035$ and $B = 0.8473$	$e^{A+B \ln(H)} \times 0.986 *$ where $A = -0.4456$ and $B = 0.8473$

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Benzene	4200	860
Ethylbenzene	150	14
Toluene	2000	600
Xylene(s)	920	360

where:

$\mu\text{g/L}$	=	microgram per liter
e^x	=	base of natural logarithms raised to the x-power
$\ln(H)$	=	natural logarithm of Hardness
*	=	conversion factor multiplier for dissolved metals
**	=	standard to be evaluated using either of the following USEPA approved methods, incorporated by reference at 35 Ill. Adm. Code 301.106: Method OIA-1677, DW: Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry, January 2004, Document Number EPA-821-R-04-001 or Cyanide Amenable to Chlorination, Standard Methods 4500-CN-G (40 CFR 136.3)

f) Numeric Water Quality Standard for the Protection of Human Health

Constituent	($\mu\text{g/L}$)
Mercury (total)	0.012
Benzene	310

where:

$\mu\text{g/L}$ = micrograms per liter

g) Single-value standards apply at the following concentrations for these substances:

Constituent	Unit	Standard
Barium (total)	mg/L	5.0

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Chloride (total)	mg/L		500
Iron (dissolved)	mg/L	01046	1.0
Phenols	mg/L		0.1
Selenium (total)	mg/L		1.0
Silver (total)	µg/L		5.0

where:

mg/L = milligram per liter and

µg/L = microgram per liter

- h) Water quality standards for sulfate are as follows:
- 1) At any point where water is withdrawn or accessed for purposes of livestock watering, the average of sulfate concentrations must not exceed 2,000 mg/L when measured at a representative frequency over a 30 day period.
 - 2) The results of the following equations provide sulfate water quality standards in mg/L for the specified ranges of hardness (in mg/L as CaCO₃) and chloride (in mg/L) and must be met at all times:
 - A) If the hardness concentration of receiving waters is greater than or equal to 100 mg/L but less than or equal to 500 mg/L, and if the chloride concentration of waters is greater than or equal to 25 mg/L but less than or equal to 500 mg/L, then:

$$C = [1276.7 + 5.508 (\text{hardness}) - 1.457 (\text{chloride})] * 0.65$$

where:

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C = sulfate concentration

- B) If the hardness concentration of waters is greater than or equal to 100 mg/L but less than or equal to 500 mg/L, and if the chloride concentration of waters is greater than or equal to 5 mg/L but less than 25 mg/L, then:

$$C = [-57.478 + 5.79 (\text{hardness}) + 54.163 (\text{chloride})] * 0.65$$

where:

C = sulfate concentration

- 3) The following sulfate standards must be met at all times when hardness (in mg/L as CaCO₃) and chloride (in mg/L) concentrations other than specified in (h)(2) are present:
- A) If the hardness concentration of waters is less than 100 mg/L or chloride concentration of waters is less than 5 mg/L, the sulfate standard is 500 mg/L.
- B) If the hardness concentration of waters is greater than 500 mg/L and the chloride concentration of waters is 5 mg/L or greater, the sulfate standard is 2,000 mg/L.
- C) If the combination of hardness and chloride concentrations of existing waters are not reflected in subsection (h)(3)(A) or (B), the sulfate standard may be determined in a site-specific rulemaking pursuant to section 303(c) of the Federal Water Pollution Control Act of 1972 (Clean Water Act), 33 USC 1313, and Federal Regulations at 40 CFR 131.10(j)(2).

(Source: Amended at 37 Ill. Reg. _____, effective _____)