POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENT

1) Heading of the Part: Introduction

2) Code Citation: 35 Ill. Adm. Code 301

3) Section Number: 301.106 — Proposed Action: 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: A lengthy description is contained in the Board's March 15, 2012 first notice opinion and order in Board Docket R11-18 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 303.312 (Mar. 15, 2012). The Illinois Environmental Protection Agency (IEPA) filed this.

The Board proposes to amend the materials incorporated by reference in Section 301.06 to include an updated methodology concerning cyanide used to determine compliance with the water quality standards in 35 Ill. Adm. Code Part 302 (described elsewhere in this issue of the Illinois Register). No one has objected to the proposed update at the two public hearings held, or in written public comment.

6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: The rulemaking includes amendments to 35 Ill. Adm. Code Parts 301, 302, and 303. The list of documents used by IEPA to prepare this proposal is quite lengthy. As the bulk of the proposed amendments are to the Part 302 water quality standards, the Board is including that list only in the notice pages for Part 302.

7) Will this rulemaking replace any emergency rulemaking currently in effect? No

8) Does this rulemaking contain an automatic repeal date? No

9) Does this rulemaking contain incorporations by reference? Yes. Section 301.106 is the central incorporations by reference Section for 35 Ill. Adm. Code. Subchapter C at 35 Ill. Adm. Code 301.106.

10) Are there any other proposed rulemakings pending on this Part? No

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENT

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 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 R11-18 and be addressed to:

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

13) Initial Regulatory Flexibility Analysis: Part 301 itself imposes no requirements; it contains general provisions applicable to the enforcement of water quality standards in Part 302 (described elsewhere in this issue of the Illinois Register).

A) Types of small businesses, small municipalities and not for profit corporations affected: None

B) Reporting, bookkeeping or other procedures required for compliance: None

C) Types of Professional skills necessary for compliance: None

14) Regulatory Agenda on which this rulemaking was summarized: July 2011

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

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

PART 301
INTRODUCTION

44	301.305	Land Runoff
45	301.307	Lower Des Plaines River
46	301.310	Marine Toilet
47	301.311	Method Detection Level
48	301.312	Minimum Level
49	301.313	Metals Translator
50	301.315	Modification
51	301.320	New Source
52	301.323	Primary Contact Recreation
53	301.324	Non-contact Recreation and Non-recreational
54	301.325	NPDES
55	301.330	Other Wastes
56	301.331	Outlier
57	301.335	Person
58	301.340	Pollutant
59	301.341	Pollutant Minimization Program
60	301.345	Population Equivalent
61	301.346	Preliminary Effluent Limitation
62	301.350	Pretreatment Works
63	301.355	Primary Contact
64	301.356	Projected Effluent Quality
65	301.360	Public and Food Processing Water Supply
66	301.365	Publicly Owned Treatment Works
67	301.370	Publicly Regulated Treatment Works
68	301.371	Quantification Level
69	301.372	Reasonable Potential Analysis
70	301.373	Same Body of Water
71	301.375	Sanitary Sewer
72	301.380	Secondary Contact
73	301.385	Sewage
74	301.390	Sewer
75	301.395	Sludge
76	301.400	Standard of Performance
77	301.405	STORET
78	301.410	Storm Sewer
79	301.411	Total Maximum Daily Load
80	301.413	Total Metal
81	301.415	Treatment Works
82	301.420	Underground Waters
83	301.421	Wasteload Allocation
84	301.425	Wastewater
85	301.430	Wastewater Source
86	301.435	Watercraft

301.440 Waters
301.441 Water Quality Based Effluent Limitation
301.442 Wet Weather Point Source
301.443 Whole Effluent Toxicity
301.APPENDIX A References to Previous Rules

AUTHORITY: Implementing Section 13 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/13 and 27].

SOURCE: Filed with the Secretary of State January 1, 1978; amended at 3 Ill. Reg. 25, p. 190, effective June 21, 1979; amended at 5 Ill. Reg. 6384, effective May 28, 1981; codified at 6 Ill. Reg. 7818; amended in R88-1 at 13 Ill. Reg. 5984, effective April 18, 1989; amended in R88-21(A) at 14 Ill. Reg. 2879, effective February 13, 1990; amended in R99-8 at 23 Ill. Reg. 11277, effective August 26, 1999; amended in R02-11 at 27 Ill. Reg. 158, effective December 20, 2002; amended in R08-9(A) at 35 Ill. Reg. 15071, effective August 23, 2011; amended in R11-18 at 36 Ill. Reg. _____, effective _____.

Section 301.106 Incorporations by Reference

a) Abbreviations. The following abbreviated names are used for materials incorporated by reference:

"ASTM" means American Society for Testing and Materials.

"GPO" means Superintendent of Documents, U.S. Government Printing Office.

"NTIS" means National Technical Information Service.

"Standard Methods" means "Standard Methods for the Examination of Water and Wastewater", available from the American Public Health Association.

"USEPA" means United States Environmental Protection Agency.

b) The Board incorporates the following publications by reference:

American Public Health Association et al., 800 I~~1015 Fifteenth~~ Street, N.W., Washington, D.C. 20001-3710, (202)777-274~~20005~~.

Standard Methods for the Examination of Water and Wastewater, 21st~~16th~~ Edition, 2005~~1985~~.

ASTM. American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610)832-9585

ASTM Standard E 724-80 "Standard Practice for Conducting Static Acute Toxicity Tests with Larvae of Four Species of Bivalve Molluscs", approved 1980.

ASTM Standard E 729-80 "Standard Practice for Conducting Static Acute Toxicity Tests with Fishes, Macroinvertebrates, and Amphibians", approved 1980.

ASTM Standard E 857-81 "Standard Practice for Conducting Subacute Dietary Toxicity Tests with Avian Species", approved 1981.

ASTM Standard E 1023-84 "Standard Guide for Assessing the Hazard of a Material to Aquatic Organisms and Their Uses", approved 1984.

ASTM Standard E 1103-86 "Method for Determining Subchronic Dermal Toxicity", approved 1986.

ASTM Standard E 1147-87 "Standard Test Method for Partition Coefficient (n-Octanol/Water) Estimation by Liquid Chromatography", approved February 27, 1987.

ASTM Standard E 1192-88 "Standard Guide for Conducting Acute Toxicity Tests on Aqueous Effluents with Fishes, Macroinvertebrates and Amphibians", approved 1988.

ASTM Standard E 1193-87 "Standard Guide for Conducting Renewal Life-Cycle Toxicity Tests with Daphnia Magna", approved 1987.

ASTM Standard E 1241-88 "Standard Guide for Conducting Early Life-Stage Toxicity Tests with Fishes", approved 1988.

ASTM Standard E 1242-88 "Standard Practice for Using Octanol-Water Partition Coefficients to Estimate Median Lethal Concentrations for Fish due to Narcosis", approved 1988.

ASTM Standard E 4429-84 "Standard Practice for Conducting Static Acute Toxicity Tests on Wastewaters with Daphnia", approved 1984.

NTIS. National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703)487-4600

SIDES: STORET Input Data Editing System, January 1973, Document Number PB-227 052/8.

Water Quality Data Base Management Systems, February 1984, Document Number AD-P004 768/8.

USEPA. United States Environmental Protection Agency, Office of Health and Environmental Assessment, Washington, D.C. 20460

Mutagenicity and Carcinogenicity Assessment for 1,3-Butadiene, September 1985, Document Number EPA/600/8-85/004A.

Method OIA-1677, DW: Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry, January 2004, Document Number EPA-821-R-04-001.

c) The Board incorporates the following federal regulations by reference. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202)783-3238:

Procedure 5.b.2 of Appendix F of 40 CFR 132 (1995)

40 CFR 136 (1996)

40 CFR 141 (1988)

40 CFR 302.4 (1988)

d) The Board incorporates the following federal regulations by reference, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202)783-3238:

USEPA 1996: The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion. EPA 823-B-96-007 (1996).

e) This Section incorporates no future editions or amendments.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

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

PART 301
INTRODUCTION

Section

301.340 Pollutant
301.341 Pollutant Minimization Program
301.345 Population Equivalent
301.346 Preliminary Effluent Limitation
301.350 Pretreatment Works
301.355 Primary Contact
301.356 Projected Effluent Quality
301.360 Public and Food Processing Water Supply
301.365 Publicly Owned Treatment Works
301.370 Publicly Regulated Treatment Works
301.371 Quantification Level
301.372 Reasonable Potential Analysis
301.373 Same Body of Water
301.375 Sanitary Sewer
301.380 Secondary Contact
301.385 Sewage
301.390 Sewer
301.395 Sludge
301.400 Standard of Performance
301.405 STORET
301.410 Storm Sewer
301.411 Total Maximum Daily Load
301.413 Total Metal
301.415 Treatment Works
301.420 Underground Waters
301.421 Wasteload Allocation
301.425 Wastewater
301.430 Wastewater Source
301.435 Watercraft
301.440 Waters
301.441 Water Quality Based Effluent Limitation
301.442 Wet Weather Point Source
301.443 Whole Effluent Toxicity
301.APPENDIX A References to Previous Rules

AUTHORITY: Implementing Section 13 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/13 and 27].

SOURCE: Filed with the Secretary of State January 1, 1978; amended at 3 Ill. Reg. 25, p. 190, effective June 21, 1979; amended at 5 Ill. Reg. 6384, effective May 28, 1981; codified at 6 Ill. Reg. 7818; amended in R88-1 at 13 Ill. Reg. 5984, effective April 18, 1989; amended in R88-21(A) at 14 Ill. Reg. 2879, effective February 13, 1990; amended in R99-8 at 23 Ill. Reg. 11277, effective August 26, 1999; amended in R02-11 at 27 Ill. Reg. 158, effective December 20, 2002; amended in R08-~~09~~2(A) at 35 Ill. Reg. 15071, effective August 23, 2011; amended in R11-18 at 36 Ill. Reg. _____, effective _____.

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b) The Board incorporates the following publications by reference:

American Public Health Association et al., 800 I Street, N.W., Washington, D.C. 20001-~~3710.~~3710. (202) 777-~~2742~~2742.

Standard Methods for the Examination of Water and Wastewater, 21st Edition, ~~2005~~2005.

ASTM. American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-~~2959~~2959. (610) 832-9585

ASTM Standard E 724-80 "Standard Practice for Conducting Static Acute Toxicity Tests with Larvae of Four Species of Bivalve Molluscs", approved 1980.

ASTM Standard E 729-80 "Standard Practice for Conducting Static Acute Toxicity Tests with Fishes, Macroinvertebrates, and Amphibians", approved 1980.

ASTM Standard E 857-81 "Standard Practice for Conducting Subacute Dietary Toxicity Tests with Avian Species", approved 1981.

ASTM Standard E 1023-84 "Standard Guide for Assessing the Hazard of a Material to Aquatic Organisms and Their Uses", approved 1984.

ASTM Standard E 1103-86 "Method for Determining Subchronic Dermal Toxicity", approved 1986.

ASTM Standard E 1147-87 "Standard Test Method for Partition Coefficient (n-Octanol/Water) Estimation by Liquid Chromatography", approved February 27, 1987.

ASTM Standard E 1192-88 "Standard Guide for Conducting Acute Toxicity Tests on Aqueous Effluents with Fishes, Macroinvertebrates and Amphibians", approved 1988.

ASTM Standard E 1193-87 "Standard Guide for Conducting Renewal Life-Cycle Toxicity Tests with Daphnia Magna", approved 1987.

ASTM Standard E 1241-88 "Standard Guide for Conducting Early Life-Stage Toxicity Tests with Fishes", approved 1988.

ASTM Standard E 1242-88 "Standard Practice for Using Octanol-Water Partition Coefficients to Estimate Median Lethal Concentrations for Fish due to Narcosis", approved 1988.

ASTM Standard E 4429-84 "Standard Practice for Conducting Static Acute Toxicity Tests on Wastewaters with Daphnia", approved 1984.

NTIS. National Technical Information Service, 5285 Port Royal Road, Springfield, VA ~~22161~~22161. (703) 487-4600

SIDES: STORET Input Data Editing System, January 1973, Document Number PB-227 052/8.

Water Quality Data Base Management Systems, February 1984, Document Number AD-P004 768/8.

USEPA. United States Environmental Protection Agency, Office of Health and Environmental Assessment, Washington, D.C. 20460

Mutagenicity and Carcinogenicity Assessment for 1,3-Butadiene, September 1985, Document Number EPA/600/8-85/004A.

Method OIA-1677, DW: Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry, January 2004, Document Number EPA-821-R-04-001.

c) The Board incorporates the following federal regulations by reference. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. ~~20402~~20402, (202) 783-3238:

Procedure 5.b.2 of Appendix F of 40 CFR 132 (1995)

40 CFR 136 (1996)

40 CFR 141 (1988)

40 CFR 302.4 (1988)

d) The Board incorporates the following federal regulations by reference, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. ~~20402~~20402, (202) 783-3238:

USEPA 1996: The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion. EPA 823-B-96-007 (1996).

e) This Section incorporates no future editions or amendments.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

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POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENT

1) Heading of the Part: Water Use Designations and Site-Specific Water Quality Standards

2) Code Citation: 35 Ill. Adm. Code 303

3) Section Number: 303.312 — Proposed Action: Repeal

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: A lengthy description is contained in the Board's March 15, 2012 first notice opinion and order in Board Docket R11-18 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 303.312 (Mar. 15, 2012).

Section 303.312 sets forth fluoride standards for waters receiving fluorspar mine drainage. The Board adopted Section 303.312 in 1975 to provide site-specific relief from the general use fluoride standard for two companies: Ozark-Mahoning and Minerva Oil. At the time, these companies performed fluorspar mining in Pope and Hardin Counties. The Illinois Environmental Protection Agency reported that both companies ceased production and terminated their discharge permits. IEPA also added that the Illinois State Geologic Survey confirmed that there are currently no companies conducting fluorspar mining in Illinois or anywhere in the United States. Consequently, the Board proposes to repeal the Section as no longer necessary.

6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: The rulemaking includes amendments to 35 Ill. Adm. Code Parts 301, 302, and 303. The list of documents used by IEPA to prepare this proposal is quite lengthy. As the bulk of the proposed amendments are to the Part 302 water quality standards, the Board is including that list only in the Notice pages for Part 302.

7) Will this rulemaking replace any emergency rulemaking currently in effect? No

8) Does this rulemaking contain an automatic repeal date? No

9) Does this rulemaking contain incorporations by reference? No

10) Are there any other proposed rulemakings pending on this Part? No

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENT

11) Statement of Statewide Policy Objectives: This proposed rulemaking does not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b) (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 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 R11-18 and be addressed to:

John Therriault
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: None

B) Reporting, bookkeeping or other procedures required for compliance: None

C) Types of Professional skills necessary for compliance: None

14) Regulatory Agenda on which this rulemaking was summarized: January 2012

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

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

PART 303
WATER USE DESIGNATIONS AND SITE-SPECIFIC WATER QUALITY STANDARDS

SUBPART A: GENERAL PROVISIONS

SUBPART B: NONSPECIFIC WATER USE DESIGNATIONS

SUBPART C: SPECIFIC USE DESIGNATIONS AND SITE SPECIFIC WATER QUALITY STANDARDS

SUBPART D: THERMAL DISCHARGES

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. 27, p. 221, effective July 5, 1978; amended at 3 Ill. Reg. 20, p. 95, effective May 17, 1979; amended at 5 Ill. Reg. 11592, effective October 19, 1981; codified at 6 Ill. Reg. 7818; amended at 6 Ill. Reg. 11161, effective September 7, 1982; amended at 7 Ill. Reg. 8111, effective June 23, 1983; amended in R87-27 at 12 Ill. Reg. 9917, effective May 27, 1988; amended in R87-2 at 13 Ill. Reg. 15649, effective September 22, 1989; amended in R87-36 at 14 Ill. Reg. 9460, effective May 31, 1990; amended in R86-14 at 14 Ill. Reg. 20724, effective December 18, 1990; amended in R89-14(C) at 16 Ill. Reg. 14684, effective September 10, 1992; amended in R92-17 at 18 Ill. Reg. 2981, effective February 14, 1994; amended in R91-23 at 18 Ill. Reg. 13457, effective August 19, 1994; amended in R93-13 at 19 Ill. Reg. 1310, effective January 30, 1995; amended in R95-14 at 20 Ill. Reg. 3534, effective February 8, 1996; amended in R97-25 at 22 Ill. Reg. 1403, effective December 24, 1997; amended in R01-13 at 26 Ill. Reg. 3517, effective February 22, 2002; amended in R03-11 at 28 Ill. Reg. 3071, effective February 4, 2004; amended in R06-

24 at 31 Ill. Reg. 4440, effective February 27, 2007; amended in R09-8 at 33 Ill. Reg. 7903, effective May 29, 2009; amended in R09-11 at 33 Ill. Reg. 12258, effective August 11, 2009; amended in R08-9(A) at 35 Ill. Reg. 15078, effective August 23, 2011; amended in R11-18 at 36 Ill. Reg. _____, effective _____.

SUBPART C: SPECIFIC USE DESIGNATIONS AND SITE SPECIFIC WATER QUALITY STANDARDS

Section 303.312 Waters Receiving Fluorspar Mine Drainage (Repealed)

~~a)~~ ~~The fluoride standard of Section 302.208 shall not apply to waters which:~~

~~1)~~ ~~receive effluent from the mines and mills of the fluorspar mining and concentrating industry, and~~

~~2)~~ ~~have been designated by the Illinois State Water Survey as streams which once in ten years have an average minimum seven day low flow of zero.~~

~~b)~~ ~~Such waters shall meet the following standard with regard to fluoride:~~

~~CONSTITUENT~~	~~STORET NUMBER~~	~~CONCENTRATION mg/l~~
~~Fluoride~~	~~0095~~	~~5~~

(Source: Repealed at 36 Ill. Reg. _____, effective _____)

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

PART 303
WATER USE DESIGNATIONS AND SITE-SPECIFIC
WATER QUALITY STANDARDS

SUBPART A: GENERAL PROVISIONS

Section
303.100 Scope and Applicability
303.101 Multiple Designations
303.102 Rulemaking Required (Repealed)

SUBPART B: NONSPECIFIC WATER USE DESIGNATIONS

Section
303.200 Scope and Applicability
303.201 General Use Waters
303.202 Public and Food Processing Water Supplies
303.203 Underground Waters
~~303.204 Secondary Contact and Indigenous Aquatic Life Waters~~
303.204 Chicago Area Waterway System and Lower Des Plaines River
303.205 Outstanding Resource Waters
303.206 List of Outstanding Resource Waters
303.220 Primary Contact Recreation Waters
303.225 Incidental Contact Recreation Waters
303.227 Non-Contact Recreation Waters and Non-Recreational Waters

SUBPART C: SPECIFIC USE DESIGNATIONS AND SITE SPECIFIC WATER QUALITY STANDARDS

Section
303.300 Scope and Applicability
303.301 Organization
303.311 Ohio River Temperature
303.312 Waters Receiving Fluorspar Mine Drainage (Repealed)
303.321 Wabash River Temperature
303.322 Unnamed Tributary of the Vermilion River
303.323 Sugar Creek and Its Unnamed Tributary
303.326 Unnamed Tributary of Salt Creek, Salt Creek, and Little Wabash River
303.331 Mississippi River North Temperature
303.341 Mississippi River North Central Temperature
303.351 Mississippi River South Central Temperature
303.352 Unnamed Tributary of Wood River Creek
303.353 Schoenberger Creek; Unnamed Tributary of Cahokia Canal
303.361 Mississippi River South Temperature
303.400 Bankline Disposal Along the Illinois Waterway/River
303.430 Unnamed Tributary to Dutch Creek
303.431 Long Point Slough and Its Unnamed Tributary
303.441 Secondary Contact Waters (Repealed)
303.442 Waters Not Designated for Public Water Supply
303.443 Lake Michigan Basin
303.444 Salt Creek, Higgins Creek, West Branch of the DuPage River, Des Plaines River

303.445 Total Dissolved Solids Water Quality Standard for the Lower Des Plaines River
303.446 Boron Water Quality Standard for Segments of the Sangamon River and the Illinois River
303.447 Unnamed Tributary of the South Branch Edwards River and South Branch Edwards River
~~303.444~~ 303.448 Mud Run Creek

SUBPART D: THERMAL DISCHARGES

Section
303.500 Scope and Applicability~~303.501~~
303.502 Lake Sangchris Thermal Discharges

303.APPENDIX A References to Previous Rules
303.APPENDIX B Sources of Codified Sections

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. 27, p. 221, effective July 5, 1978; amended at 3 Ill. Reg. 20, p. 95, effective May 17, 1979; amended at 5 Ill. Reg. 11592, effective October 19, 1981; codified at 6 Ill. Reg. 7818; amended at 6 Ill. Reg. 11161, effective September 7, 1982; amended at 7 Ill. Reg. 8111, effective June 23, 1983; amended in R87-27 at 12 Ill. Reg. 9917, effective May 27, 1988; amended in R87-2 at 13 Ill. Reg. 15649, effective September 22, 1989; amended in R87-36 at 14 Ill. Reg. 9460, effective May 31, 1990; amended in R86-14 at 14 Ill. Reg. 20724, effective December 18, 1990; amended in R89-14(C) at 16 Ill. Reg. 14684, effective September 10, 1992; amended in R92-17 at 18 Ill. Reg. 2981, effective February 14, 1994; amended in R91-23 at 18 Ill. Reg. 13457, effective August 19, 1994; amended in R93-13 at 19 Ill. Reg. 1310, effective January 30, 1995; amended in R95-14 at 20 Ill. Reg. 3534, effective February 8, 1996; amended in R97-25 at 22 Ill. Reg. 1403, effective December 24, 1997; amended in R01-13 at 26 Ill. Reg. 3517, effective February 22, 2002; amended in R03-11 at 28 Ill. Reg. 3071, effective February 4, 2004; amended in R06-24 at 31 Ill. Reg. 4440, effective February 27, 2007; amended in R09-8 at 33 Ill. Reg. ~~7903~~7903, effective May 29, 2009; amended in R09-11 at 33 Ill. Reg. 12258, effective August 11, 2009; amended in R08-9(A) at 35 Ill. Reg. 15078, effective August 23, 2011; amended in R11-18 at 36 Ill. Reg. _____, effective _____.

SUBPART C: SPECIFIC USE DESIGNATIONS AND SITE SPECIFIC WATER QUALITY ~~STANDARD~~STANDARDS

Section 303.312 Waters Receiving Fluorspar Mine Drainage (Repealed)

~~a) The fluoride standard of Section 302.208 shall not apply to waters which:~~

~~1) receive effluent from the mines and mills of the fluorspar mining and concentrating industry, and~~

~~2) have been designated by the Illinois State Water Survey as streams which once in ten years have an average minimum seven day low flow of zero.~~

~~b) Such waters shall meet the following standard with regard to fluoride:~~

~~CONSTITUENTSTORET NUMBERCONCENTRATION mg/lFluoride009505~~

(Source: Repealed at 36 Ill. Reg. _____, effective _____)

JCAR350303-1205756r01

~~ILLINOIS REGISTER~~

~~POLLUTION CONTROL BOARD~~

~~NOTICE OF PROPOSED AMENDMENT~~

Document comparison done by DeltaView on Friday, April 06, 2012 10:51:45 AM

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Style change	
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POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENTS

1) Heading of the Part: Water Quality Standards

2) Code Citation: 35 Ill. Adm. Code 302

3)

Section Numbers:	Proposed Action:
302.208	Amend
302.303	Amend
302.304	Amend
302.504	Amend
302.510	Amend
302.553	Amend
302.595	Amend
302.648	Amend
302.657	Amend
302.669	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: A lengthy description is contained in the Board's March 15, 2012 first notice opinion and order in Board Docket R11-18 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 303.312 (Mar. 15, 2012). The Board's proposal is based on the December 2, 2010 proposal filed by the Illinois Environmental Protection Agency (Agency or IEPA) under Section 27 of the Illinois Environmental Protection Act (Act), 415 ILCS 5/27 (2010) and the Board's procedural rules at 35 Ill. Adm. Code 102. IEPA's proposal was the culmination of a recent "triennial review" of standards required by the Federal Water Pollution Control Act (FWPCA or Clean Water Act), 33 USC 1313.

The Board's first notice proposal includes IEPA's proposed updates to the boron, fluoride, and manganese water quality standards under the General Use standards in 35 Ill. Adm. Code 302.Subpart B, the Public and Food Processing Water Supply standards in 35 Ill. Adm. Code 302.Subpart C, and the Lake Michigan Basin Water Quality Standards in 35 Ill. Adm. Code 302.Subpart E. The proposal also makes other clean-up amendments and updates, including the correction of the chronic zinc standard and the repeal of a site-specific fluoride standard at 35 Ill. Adm. Code 303.312. The Board is adding cyanide test methods to the incorporations by reference in Parts 301 and 302. Finally, the Board is also amending the requirements in Sections 302.595 and 302.669 that the Agency

publish the derived water quality criteria in the *Illinois Register*, to require annual rather than quarterly publication (to better reflect the rate of updates to the criteria).

6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: The rulemaking includes amendments to 35 Ill. Adm. Code Parts 301, 302, and 303. The list of documents used by IEPA to prepare this proposal is quite lengthy. As the bulk of the proposed amendments are to the Part 302 water quality standards, the Board is including that list here only:

Guidance Documents

Method OIA-1677 Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry, 821-R-99-013, United States Environmental Protection Agency (August, 1999).

Standard Methods for the Examination of Water and Wastewater: Centennial Edition. 21st Edition. Eaton, AD, LS Clesceri, EW Rice, AE Greenberg, and MAR Franson (editors). ISBN: 0875530478. American Public Health Association. 2005. Washington, D.C.

Pollution Control Board Opinions: Rulemakings of General Applicability

In the Matter of Water Quality Triennial Review: Amendments to 35 Adm. Code 302.105, 302.208(e)-(g), 302.504(a), 302.575(d), 309. 141 (h),- and Proposed 35 Ill. Adm. Code 301.267, 301.313, 301.413, 304.120, and 309.157, R02-11 (December 19, 2002).

In the Matter of Conforming Amendments/or the Great Lakes Initiative: 35 Ill. Adm. Code Part 302.101; 302.105; 302. Subpart E; 303.443, and 304.222, R97-25.

In the Matter of Proposed Amendments to Title 35, Subtitle C (Toxins Control), R88-21 - Docket A (January 25, 1990).

In the Matter of Water Quality Standards Revisions, R71-14 (Consolidated with R70-8 and R71-20) (March 7, 1972).

Pollution Control Board Opinions: Site Specific Rulemakings and Adjusted Standards Boron

In the Matter of: City of Galva Site Specific Water Quality Standard for Boron Discharges to Edwards River and Mud Run Creek: 35 Ill. Adm. Code 303.447 and

303.448, R09-11 (August 6, 2009).

In the Matter of: Proposed Site Specific Rule for City of Springfield, Illinois, Office of Public Utilities, City, Water, Light and Power and Springfield Metro Sanitary District from 35 Ill. Adm. Code 302.208(g): New 35 Ill. Adm. Code 303.446, R09-8 (May 21, 2009).

In the Matter of: Petition of Central Illinois Light Company (Duck Creek Station) for Adjusted Standard from 35 Ill. Adm. Code 302.208 and 35 Ill. Adm. Code 304.105 Regarding the Parameter Boron, AS96-8 (June 20, 1996).

In the Matter of: Petition of Illinois Power Company (Baldwin Power Plant) for Adjusted Standard from 35 Ill. Adm. Code 302.208 and 35 Ill. Adm. Code 304.105 Regarding the Parameter Boron, AS96-I (May 2, 1996).

In the Matter of: Petition of the City of Springfield, Office of Public Utilities for an Adjusted Standard from 35 Ill. Adm. Code 302.208(e), AS94-9 (December 1, 1994).

In the Matter of: Petition of Akzo Chemicals, Inc. for an Adjusted Standard from 35 Ill. Adm. Code 304.105 and 302.208, AS93-8 (September 1, 1994).

In the Matter of: Petition of South Illinois Power Cooperative (Marion Power) for Adjusted Standard from 35 Ill.. Adm. Code 302.208(e), AS92-10 (July 1, 1993).

In the Matter of: The Proposed Amendment to Rule 203 of the Water Pollution Regulations. R76-18 (May 25, 1978) (Illinois Power Wood River Station).

Fluoride

In the Matter of: Granite City Division of National Steel Petition for Adjusted Standard from 35 Ill. Adm. Code 302.208: Numeric Standard for Fluoride, AS 90-4 (April 8, 1993).

In the Matter of: Petition of General Motors Corporation to Amend 35 Ill. Adm. Code 303.222 (Site Specific Regulation for Fluoride), R93-13 (January 11, 1995).

In the Matter of: Site-Specific Limitation for the Modine Manufacturing Company Facility,Ringwood, Illinois, R87-36 (May 24, 1990)

In the Matter of: Site Specific Rule for City of Effingham Treatment Plant Fluoride

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Discharge, 35 Ill. Adm. Code 304.233, R03-11 (December 18,2003).

Toxicity Studies and Data used in Derivation of Proposed Water Quality standards and summarized in Attachment 1, Exhibits G, H, 0, P, Q and R:

Beleau, MH and JA Bartosz. 1982. Acute toxicity of selected chemicals: data base. U.S. Fish and Wildlife Service, Colorado River Fishery Project, Report No.6. Salt Lake City, Utah. 3:242-254.

Biesinger, KE and OM Christensen. 1972. Effects of various metals on survival, growth, reproduction, and metabolism of *Daphnia magna*. Journal of the Fisheries Research Board of Canada 29:1691-1700.

Buikema, AL, CL See, and J Cairns, Jr. 1977. Rotifer sensitivity to combinations of inorganic water pollutants. OWRT Project A-071-VA. Virginia Water Resources Research Center Bulletin No. 92. Blackburg, VA; 42 p.

Calleja, MC, G Persoone, and P Geladi. 1994. Comparative acute toxicity of the first 50 multicentre evaluation of *in vitro* cytotoxicity chemicals to aquatic non-vertebrates. Archives of Environmental Contamination and Toxicology 26:69-78.

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Couillard Y, P Ross, and B Pinel-Alloul. 1989. Acute toxicity of six metals to the rotifer *Brachionus calyciflorus*, with comparisons to other freshwater organisms. Toxicity Assessment 4:451-462.

Davies, PH and SF Brinkman. 1994. Acute and chronic toxicity of manganese to exposed and unexposed rainbow and brown trout. Federal Aid in Fish and Wildlife Restoration Job Progress Report, Colorado Division of Wildlife, Fish Research Section.

Fort Collins, CO, USA. Federal Aid Project #F-243R-1.

Davies, PH and SF Brinkman. 1995. Acute and chronic toxicity of manganese to brown trout *(Salmo trutta)* in hard water. Federal Aid in Fish and Wildlife Restoration Job Progress Report, Colorado Division of Wildlife, Fish Research Section. Fort Collins, CO, USA. Federal Aid Project #F-243R-2.

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Report, Colorado Division of Wildlife, Fish Research Section. Fort Collins, CO, USA. Federal Aid Project #F-243R-5.

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Hamilton, SJ and KJ Buhl. 1990. Acute toxicity of boron, molybdenum and selenium to fry of chinook salmon and coho salmon. Archives of Environmental Contamination and Toxicology 19(6):366-373.

Hamilton, SJ and KJ BuhI. 1997. Hazard evaluation of inorganics, singly and in mixtures to Flannelmouth Sucker, *Catostomus lalipinnis*, in the San Juan River, New Mexico. Ecotoxicology and Environmental Safety 38:296-308.

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Other Documents Relied On

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U.S. Environmental Protection Agency Legacy STORET Data Center Database at http://www.epa.gov/storpublllegacy/gateway.htm.

7) Will this rulemaking replace any emergency rulemaking currently in effect? No

8) Does this rulemaking contain an automatic repeal date? No

9) Does this rulemaking contain incorporations by reference Yes. The materials incorporated by reference are listed in the central incorporations by reference section for this Subchapter C at 35 Ill. Adm. Code 301.106.

10) Are there any other proposed rulemaking pending on this Part? No

11) Statement of Statewide Policy Objectives: This proposed rulemaking does not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b) (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 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 R11-18 and be addressed to:

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

13) Initial Regulatory Flexibility Analysis:

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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).

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 Amendments begins on the next page:

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

SUBPART B: GENERAL USE WATER QUALITY STANDARDS

Section

SUBPART C: PUBLIC AND FOOD PROCESSING WATER SUPPLY STANDARDS

Section

SUBPART D: SECONDARY CONTACT AND
INDIGENOUS AQUATIC LIFE STANDARDS

Section

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
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, 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. _____, effective _____.

SUBPART B: GENERAL USE WATER QUALITY STANDARDS

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) applies pursuant to Section ~~302.102as provided in subsection (d).~~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 allowed mixing pursuant to Section ~~302.102as provided in subsection (d).~~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 ~~metals~~ 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 ~~metals~~ sample was collected. To calculate attainment status of chronic metals standards, the concentration of the chemical constituent ~~metal~~ 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 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 allowed mixing pursuant to Section ~~302.102as provided in subsection (d).~~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 allowed mixing pursuant to Section 302.102. ~~In waters where mixing is allowed pursuant to Section 302.102, the following apply:~~

~~1) The AS shall not be exceeded in any waters except for those waters for which the Agency has approved a zone of initial dilutions (ZID) pursuant to Section 302.102.~~

~~2) The CS shall not be exceeded outside of waters in which mixing is allowed pursuant to Section 302.102.~~

~~3) The HHS shall not be exceeded outside of waters in which mixing is allowed pursuant to Section 302.102.~~

e) Numeric Water Quality Standards for the Protection of Aquatic Organisms

~~ConstituentSTORET NumberAS~~
ConstituentAS (µg/L)CS (µg/L)
Arsenic (trivalent, dissolved)

360 X 1.0* = 360
~~22680~~190 X 1.0* = 190Boron (total)40,1007,600Cadmium (dissolved)~~01025~~
**where A = -2.918 and
B = 1.128where ~~and~~Chromium A = -3.490 and
B = 0.7852Chromium (hexavalent, total) ~~01032161~~1611Chromium (trivalent, dissolved) ~~80357 ,~~

where A = 3.688 and
~~,~~
B = 0.8190

where A = 1.561 and
B = 0.8190Copper (dissolved) ~~01040 ,~~

where A = -1.464 and ~~,~~
B = 0.9422

where A = -1.465 and
B = 0.8545Cyanide** ~~0071822 5.2~~ 225.2Fluoride (total)
~~where A = 6.7319and B = 0.5394,~~ but shall not exceed 4.0 mg/L

where A = 6.0445 and
B = 0.5394
where A = 6.7319 and
B = 0.5394Lead (dissolved) ~~01049~~ **where A = -1.301 and
B = 1.273where A = -2.863 and
B = 1.273Manganese ~~(dissolved) X~~ 0.9812* 0.9812*where A = 4.9187 and
B = 0.7467 ~~X 0.9812*~~ where A = 4.0635 and
B = 0.7467Mercury (dissolved)~~71890~~ 2.6 X 0.85* = 2.21.3 X 0.85* = 1.1Nickel (dissolved)~~01065,~~where A = 0.5173 and
~~,~~
B = 0.8460where A = -2.286 and
B = 0.8460TRC~~50060019111~~1911Zinc (dissolved)~~01090,~~where A = 0.9035 and
~~,~~
~~where and Benzene781244200860Ethyl-benzene7811315014Toluene781312000600Xylene(s)81551920360~~ B = 0.8473where A = -0.4456 and B = 0.8473Benzene4200860Ethylbenzene15014Toluene2000600Xylene(s)920360

where: µg/L ~~= micrograms~~=microgram per ~~liter~~ literex= base of natural logarithms raised to the x- power ln(H)= natural logarithm of Hardness ~~(STORET 00900)~~ * = conversion factor multiplier for dissolved metals ** ~~Standard~~ **=standard to be evaluated using either of the following ~~U.S. EPA~~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 ~~C.F.R.~~CFR 136.3)~~.~~

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

~~ConstituentSTORET Number~~

Constituent (µg/L) Mercury (total) ~~71900~~0.012 0.012 Benzene ~~78~~124310 310

where: µg/L = micrograms per liter

g) Single-value standards apply at the following concentrations for these substances: ~~Concentrations of the following chemical constituents shall not be exceeded except in waters for which mixing is allowed pursuant to Section 302.102.~~

~~Constituent UnitSTORET Number~~

ConstituentUnit Standard Barium (total) mg/L ~~01007 5.0 Boron (total) mg/L 01022 1.0~~ 5.0 Chloride (total) mg/L 00940 500 ~~Fluoride mg/L 00951 1.4~~ Iron (dissolved) mg/L ~~01046 1.0 Manganese (total) mg/L 01055 1.0~~ 10 461.0 Phenols mg/L ~~32730 0.1~~ Selenium (total) mg/L ~~01147 1.0~~ Silver (total) µg/L ~~01077 5.0~~

where: mg/L ~~= milligrams~~ =milligram per liter and µg/L ~~= micrograms~~ =microgram per liter

h) Water quality standards for sulfate are as follows ~~: The following concentrations for sulfate must not be exceeded except in receiving waters for which mixing is allowed pursuant to Section 302.102:~~ :

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 (hardness) - 1.457 (chloride)] * 0.65

where ~~:~~ :

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 (hardness) + 54.163 (chloride)] * 0.65

where: ~~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 36 Ill. Reg. _____, effective _____)

SUBPART C: PUBLIC AND FOOD PROCESSING WATER SUPPLY STANDARDS

Section 302.303 Finished Water Standards

Water shall be of such quality that with treatment consisting of coagulation, sedimentation, filtration, storage and chlorination, or other equivalent treatment processes, the treated water shall meet in all respects the requirements of Part ~~611~~604.611.
(Note: Prior to codification, Table I, Rule 304 of Ch 6: Public Water Supplies.)

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.304 Chemical Constituents

The following levels of chemical constituents shall not be exceeded:

~~CONSTITUENTSTORET NUMBERCONCENTRATION (mg/l~~CONCENTRATIONCONSTITUENT(mg/1)Arsenic (total)~~010020.05~~0.05Barium (total)~~010071.01~~1.0Boron (total)1.0Cadmium (total)~~010270.010~~ 0.010Chloride (total)~~00940250.250~~Chromium~~010340.05~~0.05Fluoride (total)1.4Iron (dissolved)~~010460.3~~0.3Lead (total)~~010510.05~~0.05Manganese (total)~~010551.00.15~~1.0Nitrate-Nitrogen~~0062010.10~~Oil (hexane-solubles ~~or equivalent)00550, 00556 or 005600.1Organics Pesticides Chlorinated Hydrocarbon Insecticides Aldrin393300.001 Chlordane393500.003 DDT393700.05 Dieldrin393800.001 Endrin393900.0002 Heptachlor394100.0001 Heptachlor Epoxide394200.0001 Lindane397820.004 Methoxychlor394800.1 Toxaphene394000.005 Organophosphate Insecticides Parathion395400.1 Chlorophenoxy Herbicides 2,4-Dichlorophenoxyacetic acid (2,4-D)397300.1 2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP or~~ or equivalent)0.1OrganicsPesticidesChlorinated Hydro-carbon Insecticides Aldrin0.001Chlordane0.003DDT0.05Dieldrin0.001Endrin0.0002Heptachlor0.0001Heptachlor Expoxide0.0001Lindane0.004Methoxychlor0.1Toxaphene0.0005OrganophosphateInsecticidesParathion0.1Chlorophenoxy Herbicides2,4-Dichlorophenoxy-acetic acid (2,4-D)0.12-(2,4,5-Trichloro-phenoxy)-propionicacid (2,4,5-TPor Silvex)~~397600.01~~0.01Phenols~~327300.001Selenium~~0.001Selenuim

(total)~~011470.01Sulfates00945250.~~0.01Sulphates250Total Dissolved Solids~~70300500.~~500

(Source: Amended at 36 Ill. Reg. _____, effective _____)

SUBPART E: LAKE MICHIGAN BASIN WATER QUALITY STANDARDS

Section 302.504 Chemical Constituents

The following concentrations of chemical constituents must not be exceeded, except as provided in Sections 302.102 and 302.530:

a) The following standards must be met in all waters of the Lake Michigan Basin. Acute aquatic life standards (AS) must not be exceeded at any time except for those waters for which the Agency has approved a zone of initial dilution (ZID) pursuant to Sections 302.102 and 302.530. Chronic aquatic life standards (CS) and human health standards (HHS) must not be exceeded outside of waters in which mixing is allowed pursuant to ~~Section~~Sections 302.102 and 302.530 by the arithmetic average of at least four consecutive samples collected over a period of at least four days. The samples used to demonstrate compliance with the CS or HHS must be collected in a manner which assures an average representation of the sampling period.

~~Constituent STORET NumberUnitASCSHHSArsenic~~
ConstituentUnitASCSHHSArsenic (Trivalent, dissolved) ~~22680mg/L340 X 1.0*=340148 X 1.0*=148NABoron~~µg/LNABoron (total)mg/L40.17.6NACadmium (dissolved)~~01025mg/Lexp[A +Bln(H)] X {1.138672 [(lnH)~~µg/LNA(0.041838)]}*~~, (0.041838)]}*~~where A = -3.6867 and B = 1.128~~exp[A +Bln(H)] X {1.101672 [(lnH)(0.041838)]}*,~~ where A = -2.715 and B = 0.7852~~NAChromium~~Chromium (Hexavalent, total)~~01032mg~~µg/L1611NAChromium (Trivalent, dissolved)~~80357mg/Lexp[A +Bln(H)] X~~ µg/LNA0.316*~~, 0.860*~~where A = 3.7256 and B = 0.819~~exp[A +Bln(H)] X 0.860*,~~ where A = 0.6848 and B = 0.819~~NACopper~~Copper (dissolved) ~~01040mg/Lexp[A +Bln(H)] X~~ µg/LNA0.960*~~, 0.960*~~where A = -1.700 and B = 0.9422~~exp[A +Bln(H)] X 0.960*,~~ where A = -1.702 and B = 0.8545
~~NACyanide**~~
~~(Weak acid dissociable)00718mg~~Cyanide**µg/L225.2NAFluoride (total)µg/L
~~mg/Lexp[A +Bln(H)]~~

where A = 6.7319 and B = ~~0.5394exp[A +Bln(H)],~~0.5394, but shall not exceed 4.0 mg/~~L~~LNA
where A = 6.0445 and B = 0.5394
~~NALead~~Lead (dissolved)~~01049mg/Lexp[A +Bln(H)] X {1.46203 [(lnH)~~µg/LNA(0.145712)]}*~~, (0.145712)]}*~~where A = -1.055 and B =1.273~~exp[A +Bln(H)] X {1.46203 [(lnH)(0.145712)]}*,~~ where A = -4.003 and B = 1.273
~~NAManganese~~Manganese (dissolved)~~mg/Lexp[A +Bln(H)] X 0.9812*where~~µg/LNA~~where~~ A = 4.9187 and B = 0.7467~~exp[A +Bln(H)] X 0.9812*~~where A = 4.0635 and B = 0.7467
~~NANickel~~Nickel (dissolved)~~01065mg/Lexp[A +Bln(H)] X~~ µg/LNA0.998*~~, 0.997*~~where A = 2.255 and B = 0.846~~exp[A +Bln(H)] X 0.997*,~~ where A = 0.0584 and B = 0.846~~NASelenium~~Selenium (dissolved) ~~01145mg~~µg/LNA5.0NATRC~~50060mg~~µg/L1911NAZinc (dissolved)~~01090mg/Lexp[A +Bln(H)] X~~ µg/LNA0.978*~~, where A=0.884 andB=0.8473exp[A +Bln(H)] X~~ 0.986*~~,~~ where A = 0.884 and B = 0.8473
~~NABenzene~~
~~78124 mg/L3900 800 310Chlorobenzene 34301mg/LNANA3.2 2,4 Dimethylphenol34606mg~~where A = 0.884 and B = 0.8473Benzeneµg/L3900800310Chlorobenzenemg/LNANA3.22,4-Dimethylphenolmg/LNANA8.72,4-~~Dinitrophenol 03756mg~~Dinitrophenolmg/LNANA2.8Endrin~~39390mg~~µg/L0.0860.036NAEthylbenzene~~78113~~µg/L15014NAHexachloroethane~~34396mg~~µg/LNA

NA6.7Methylene ~~chloride 34423mg~~chloridemg/LNANA2.6Parathion
~~39540mg~~ug/L0.0650.013NAPentachlorophenol
~~03761mg/Lexp B ([pH] +A), whereA=~~ug/L NAwhere A = -4.869 and B = 1.005~~exp B ([pH] +A),~~ where A = -5.134 and B =~~1.005NAToluene78131mg/Lmg/L2000 610 51.0_
1.005Tolueneug/L 200061051.0Trichloroethylene
~~39180mg~~ug/LNANA370Xylene(s)~~81551mg~~ug/L1200490NA
~~Where~~where: NA = Not ~~Applied Exp~~AppliedExp[x] = base of natural logarithms raised to the x-~~power ln~~powerln(H) = natural logarithm of Hardness *
~~(STORET 00900)~~

~~* = =~~conversion factor multiplier for dissolved metals~~** Standard~~_
**=standard to be evaluated using either of the following ~~U.S. EPA~~USEPA approved methods, incorporated by reference at 35 Ill. Adm. Code 302.510: 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 ~~C.F.R.~~CFR 136.3).

b) The following water quality standards must not be exceeded at any time in any waters of the Lake Michigan Basin, unless a different standard is specified under subsection (c) of this Section.

~~Constituent STORET~~
~~NumberUnitWater~~ConstituentUnitWater Quality StandardBarium
(total)01007mg/L5.0~~Boron (total)01022mg/L1.0~~Chloride (total)
~~00940~~mg/L500~~Fluoride 00951mg/L1.4~~Iron (dissolved)~~01046~~mg/L1.0~~Manganese (total) 01055mg/L1.0Phenols~~
~~32730mg/L0.1Sulfate00945mg~~Phenolsmg/L0.1Sulfatemg/L500Total Dissolved
~~Solids70300mg~~Solidsmg/L1000

c) In addition to the standards specified in subsections (a) and (b) of this Section, the following standards must not be exceeded at any time in the Open Waters of Lake Michigan as defined in Section 302.501.

~~ConstituentSTORET NumberUnitWater~~ConstituentUnitWater Quality StandardArsenic
(total)~~01002mg~~ug/L50.0Boron (total)mg/L1.0Barium (total)
~~01007~~mg/L1.0Chloride (total)
~~00940~~mg/L12.0Fluoride (total)mg/L1.4Iron (dissolved)
~~01046~~mg/L0.30Lead (total)
~~01051mg~~ug/L50.0Manganese (total)
~~01055~~mg/L0.15Nitrate-~~Nitrogen~~
~~00620mg~~Nitrogenmg/L10.0Phosphorus
~~00665mg~~ug/L7.0Selenium (total)
~~01147mg~~ug/L10.0
~~Sulfate~~
~~00945mg~~Sulfatemg/L24.0Total Dissolved ~~Solids~~
~~70300mg~~Solidsmg/L180.0Oil (hexane solubles or equivalent)
~~00550, 00556 or 00560~~mg/L0.10Phenols
~~32730mg~~ug/L1.0

d) In addition to the standards specified in subsections (a), (b) and (c) of this Section, the following human health standards (HHS) must not be exceeded in the Open Waters of Lake Michigan as defined in Section 302.501 by the arithmetic average of at least four consecutive samples collected over a period of at least four days. The samples used to demonstrate compliance with the HHS must be collected in a manner which assures an average representation of the sampling period.

~~ConstituentSTORET NumberUnitWater~~ConstituentUnitWater Quality ~~Standard~~
~~Benzene~~

~~34030mg~~Standard Benzene µg/L12.0 Chlorobenzene
~~34301~~
~~mg/L~~
~~470.02,4~~µg/L470.02,4-Dimethylphenol
~~34606~~
~~mg/L~~
~~450.02,4~~µg/L450.02,4-Dinitrophenol
~~03757mg~~µg/L55.0Hexachloroethane (total)
~~34396mg~~µg/L5.30Lindane
~~39782mg~~µg/L0.47Methylene chloride
~~34423mg~~µg/L47.0
~~Toluene~~
~~78131~~
~~mg/L~~
~~5.60~~Trichloroethylene
~~39180mg~~µg/L29.0

e) For the following bioaccumulative chemicals of concern (BCCs), acute aquatic life standards (AS) must not be exceeded at any time in any waters of the Lake Michigan Basin and chronic aquatic life standards (CS), human health standards (HHS), and wildlife standards (WS) must not be exceeded in any waters of the Lake Michigan Basin by the arithmetic average of at least four consecutive samples collected over a period of at least four days subject to the limitations of Sections 302.520 and 302.530. The samples used to demonstrate compliance with the HHS and WS must be collected in a manner that assures an average representation of the sampling period.

~~ConstituentSTORETNumberUnitASCSHHSWSMercury~~Constituent Unit AS CS HHS WS Mercury (total) ~~71900~~ng/L1,7009103.11.3
~~Chlordane~~
~~39350~~
~~ng/L~~
~~NA~~
~~NA0.25~~
~~NA~~
~~DDT and metabolites~~
~~39370~~
~~pg/L~~
~~NA~~
~~NA~~
~~150~~
~~11.0~~
~~Dieldrin~~
~~39380~~
~~ng/L~~
~~240~~
~~56~~
~~0.0065~~
~~NA~~
~~Hexachlorobenzene~~
~~39700~~
~~ng/L~~
~~NA~~
~~NA~~
~~0.45~~
~~NA~~
~~Lindane~~
~~39782mg/L0.95NA0.5~~

~~NAPCBs (class)~~
~~79819pg/L~~Chlordaneng/LNANA0.25NADDT and metabolitespg/LNANA15011.0Dieldrinng/L240560.0065NAHexachlorobenzeneng/LNANA0.45NALindaneµg/L0.95NA0.5NAPCBs (class)pg/LNANA261202.3,7,8-TCDDfg/LNANA8.63.1Toxaphenepg/LNANA68NA
~~NA~~
~~NA~~
~~26~~
~~120~~
~~2,3,7,8-TCDD~~
~~03556~~
~~fg/L~~
~~NA~~
~~NA~~
~~8.6~~
~~3.1~~
~~Toxaphene~~
~~39400~~
~~pg/L~~
~~NA~~
~~NA~~
~~68~~
~~NA~~
~~Where~~where: mg/L = milligrams per liter (10-3 grams per liter) ~~mg~~µg/L = micrograms per liter (10-6 grams per liter) ng/L = nanograms per liter (10-9 grams per liter) pg/L = picograms per liter (10-12 grams per liter) fg/L = femtograms per liter (10-15 grams per liter) NA = Not Applied
(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.510 Incorporations by Reference

a) The Board incorporates the following publications by reference:

American Public Health Association et al., ~~800 I~~1015 Fifteenth Street, N.W., Washington, D. C. ~~20001-3710,~~20005, Standard Methods for the Examination of Water and Wastewater, ~~21st~~18th Edition, ~~2005.~~1996. Available from the American Public Health Association, ~~800 I Street~~1015 Fifteenth St., NW, Washington, D.C. ~~20001-3710~~ 20005 (202)789-5600. ~~777-2742.~~

USEPA. United States Environmental Protection Agency, Office of Health and Environmental Assessment, Washington, D.C. 20460, Method OIA-1677, DW: Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry, January 2004, Document Number EPA-821-R-04-001.

b) The Board incorporates the following federal regulations by reference. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (202) 783-3238:

40 CFR 136 (1996)

40 CFR 141 (1988)

40 CFR 302.4 (1988)

The Sections of 40 CFR 132 (1996) listed below:

~~APPENDIX A~~

Appendix A

Section I A

Section II

Section III C

Section IV D, E, F, G, H, and I

Section V C

Section VI A, B, C, D, E, and F

Section VIII

Section XI

Section XVII

~~APPENDIX B~~

Appendix B

Section III

Section VII B and C

Section VIII

~~APPENDIX C~~

Appendix C

Section II

Section III A (1 through 6 and 8), B (1 and 2)

~~APPENDIX D~~

Appendix D

Section III C, D, and E

Section IV

~~d~~c) This Section incorporates no future editions or amendments.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.553 Determining the Lake Michigan Aquatic Toxicity Criteria or Values - General Procedures

The Lake Michigan Aquatic Life Criteria and Values are those concentrations or levels of a substance at which aquatic life is protected from adverse effects resulting from short or long term exposure in water.

a) Tier I criteria and Tier II values to protect against acute effects in aquatic organisms will be calculated according to procedures listed at Sections 302.555, 302.560 and 302.563. The procedures of Section 302.560 shall be used as necessary to allow for interactions with other water quality characteristics such as hardness, pH, temperature, etc. Tier I criteria and Tier II values to protect against chronic effects in aquatic organisms shall be calculated according to the procedures listed at Section 302.565.

b) Minimum data requirements. In order to derive a Tier I acute or chronic criterion, data must be available for at least one species of freshwater animal in at least eight different families such that the following taxa are included:

1) The family Salmonidae in the class Osteichthyes;

2) One other family in the class Osteichthyes;

3) A third family in the phylum Chordata;

4) A planktonic crustacean;

5) A benthic crustacean;

6) An insect;

7) A family in a phylum other than Arthropoda or Chordata; and

8) A family from any order of insect or any phylum not already represented.

c) Data for tests with plants, if available, must be included in the data set.

d) If data for acute effects are not available for all the eight families listed above, but are available for the family Daphnidae, a Tier II value shall be derived according to procedures in Section 302.563. If data for chronic effects are not available for all the eight families, but there are acute and chronic data available according to Section 302.565(b) so that three acute to chronic ratios (ACRs) can be calculated, then a Tier I chronic criterion can be derived according to procedures in Section 302.565. If three ACRs are not available, then a Tier II chronic value can be derived according to procedures in Section 302.565(~~bc).~~b).

e) Data must be obtained from species that have reproducing wild populations in North America except that data from salt water species can be used in the derivation of an ACR.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.595 Listing of Bioaccumulative Chemicals of Concern, Derived Criteria and Values

a) The Agency shall maintain a listing of toxicity criteria and values derived pursuant to this Subpart. This list shall be made available to the

public and updated whenever a new criterion or value is derived ~~periodically~~ but no less frequently than ~~annuallyquarterly~~annually, and shall be published when updated in the Illinois Register and the Agency's website at http://www.iepa.state.il.us.

b) A criterion or value published pursuant to subsection (a) of this Section may be proposed to the Board for adoption as a numeric water quality standard.

c) The Agency shall maintain for inspection all information including, but not limited to, assumptions, toxicity data and calculations used in the derivation of any toxicity criterion or value listed pursuant to subsection (a) of this Section until adopted by the Board as a numeric water quality standard.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

SUBPART F: PROCEDURES FOR DETERMINING WATER QUALITY CRITERIA

Section 302.648 Determining the Human Threshold Criterion

The HTC is calculated according to the equation:

HTC = ADI/[W + (F x BCF)]

~~Where:~~
where:

HTC = Human health protection criterion in milligrams per liter (mg/L);ADI = Acceptable daily intake of substance in milligrams per day (mg/d) as specified in Section 302.645;W = Per capita daily water consumption equal to 2 liters per day (L/d) for surface waters at the point of intake of a public or food processing water supply, or equal to 0.01 liters per day (L/d) which represents incidental exposure through contact or ingestion of small volumes of water while swimming or during other recreational activities for areas which are determined to be public access areas pursuant to Section ~~302.102302.201~~302.102 (b)(3), or 0.001 liters per day (L/d) for other General Use waters;F = Assumed daily fish consumption in the United States equal to 0.020 kilograms per day (kg/d); ~~andBCF~~ andBCF= Aquatic organism Bioconcentration Factor with units of liter per kilogram (L/kg) as derived in Sections 302.660 through 302.666.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.657 Determining the Human Nonthreshold Criterion

The HNC is calculated according to the equation:

HNC = RAI/[W + (F x BCF)]

~~Where:~~
where:

HNC = Human Nonthreshold Protection Criterion in milligrams per liter (mg/L);RAI = Risk Associated Intake of a substance in milligrams per day (mg/d) which is associated with a lifetime cancer risk level equal to a ratio of one to 1,000,000 as derived in Section 302.654;W = Per capita daily water consumption equal to 2 liters per day (L/d) for surface waters at the point of intake of a

public or food processing water supply, or equal to 0.01 liters per day (L/d) which represents incidental exposure through contact or ingestion of small volumes of water while swimming or during other recreational activities for areas which are determined to be public access areas pursuant to Section ~~302.102302.201~~302.102(b)(3), or 0.001 liters per day (L/d) for other General Use waters;F = Assumed daily fish consumption in the United States equal to 0.020 kilograms per day (kg/d); ~~andBCF~~ andBCF= Aquatic Life Bioconcentration Factor with units of liter per kilogram (L/kg) as derived in Section 302.663.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.669 Listing of Derived Criteria

a) The Agency shall develop and maintain a listing of toxicity criteria pursuant to this Subpart. This list shall be made available to the public and updated whenever a new criterion is derived ~~periodically~~ but no less frequently than ~~annuallyquarterly or~~annually, and shall be published when updated in the Illinois Register and the Agency's website at http://www.iepa.state.il.us.

b) A criterion published pursuant to subsection (a) may be proposed to the Board for adoption as a numeric water quality standard.

c) The Agency shall maintain for inspection all information including, but not limited to, assumptions, toxicity data and calculations used in the derivation of any toxicity criterion listed pursuant to subsection (a) until adopted by the Board as a water quality standard.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

JCAR350302-1205721r01

~~ILLINOIS REGISTER~~

~~POLLUTION CONTROL BOARD~~

~~NOTICE OF PROPOSED AMENDMENTS~~

Document comparison done by DeltaView on Friday, April 06, 2012 11:15:48 AM

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Document 1	file://I:/Input/35-302-Agency(issue15).doc
Document 2	file://I:/Input/35-302-r01(issue 15).doc
Rendering set	Standard

Legend:	
Insertion	
~~Deletion~~	
~~Moved from~~	
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Style change	
Format change	
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Inserted cell	
Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
	Count
Insertions	166
Deletions	316
Moved from	0
Moved to	0
Style change	0
Format changed	0
Total changes	482

JCAR350302-1205721r01

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

SUBPART B: GENERAL USE WATER QUALITY STANDARDS

Section

SUBPART C: PUBLIC AND FOOD PROCESSING WATER SUPPLY STANDARDS

Section

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, 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. _____, effective _____.

SUBPART B: GENERAL USE WATER QUALITY STANDARDS

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) applies pursuant to Section 302.102~~as provided in subsection (d)~~.

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 allowed mixing pursuant to Section 302.102~~as provided in subsection (d)~~. 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 ~~metals~~ 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 ~~metals~~ sample was collected. To calculate attainment status of chronic metals standards, the concentration of the chemical constituent~~metal~~ 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 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 allowed mixing pursuant to Section 302.102~~as provided in subsection (d)~~.

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 allowed mixing pursuant to Section 302.102. ~~In waters where mixing is allowed pursuant to Section 302.102, the following apply:~~

~~1) The AS shall not be exceeded in any waters except for those waters for which the Agency has approved a zone of initial dilutions (ZID) pursuant to Section 302.102.~~

~~2)~~ ~~The CS shall not be exceeded outside of waters in which mixing is allowed pursuant to Section 302.102.~~

~~3)~~ ~~The HHS shall not be exceeded outside of waters in which mixing is allowed pursuant to Section 302.102.~~

e) Numeric Water Quality Standards for the Protection of Aquatic Organisms

Constituent	~~STORET Number~~	AS (µg/L)	CS (µg/L)
Arsenic (trivalent, dissolved)	~~22680~~	360 X 1.0* = 360	190 X 1.0* = 190
Boron (total)		40,100	7,600
Cadmium (dissolved)	~~01025~~	$e^{A+B\ln(H)} \times \left\{1.138672 - [(\ln(H))(0.041838)]\right\}$ *; where A = -2.918 and B = 1.128	$e^{A+B\ln(H)} \times \left\{1.101672 - [(\ln(H))(0.041838)]\right\}$ *; where A = -3.490 and B = 0.7852
Chromium (hexavalent, total)	~~01032~~	16	11
Chromium (trivalent, dissolved)	~~80357~~	$e^{A+B\ln(H)} \times 0.316$ *; where A = 3.688 and B = 0.8190	$e^{A+B\ln(H)} \times 0.860$ *; where A = 1.561 and B = 0.8190
Copper (dissolved)	~~01040~~	$e^{A+B\ln(H)} \times 0.960$ *; where A = -1.464 and B = 0.9422	$e^{A+B\ln(H)} \times 0.960$ *; where A = -1.465 and B = 0.8545
Cyanide**	~~00718~~	22	5.2
Fluoride (total)		$e^{A+B\ln(H)}$	$e^{A+B\ln(H)}$, but shall not

			exceed 4.0 mg/L
		where A = 6.7319 and B = 0.5394	where A = 6.0445 and B = 0.5394
Lead (dissolved)	~~01049~~	$e^{A+B\ln(H)} \times \left\{1.46203 - [(\ln H)(0.1457/2)]\right\}$*;	$e^{A+B\ln(H)} \times \left\{1.46203 - [(\ln H)(0.145712)]\right\}$*;
		where A = -1.301 and B = 1.273	where A = -2.863 and B = 1.273
Manganese		$e^{A+B\ln(H)} \times 0.9812$*	$e^{A+B\ln(H)} \times 0.9812$*
		where A = 4.9187 and B = 0.7467	where A = 4.0635 and B = 0.7467
Mercury (dissolved)	~~71890~~	2.6 X 0.85* = 2.2	1.3 X 0.85* = 1.1
Nickel (dissolved)	~~01065~~	$e^{A+B\ln(H)} \times 0.998$*;	$e^{A+B\ln(H)} \times 0.997$*;
		where A = 0.5173 and B = 0.8460	where A = -2.286 and B = 0.8460
TRC	~~500600~~	19	11
Zinc (dissolved)	~~01090~~	$e^{A+B\ln(H)} \times 0.978$*;	$e^{A+B\ln(H)} \times 0.986$*;
		where A = 0.9035 and B = 0.8473	where A = -0.4456~~A = -0.8165~~ and B = 0.8473
Benzene	~~78124~~	4200	860
Ethylbenzene	~~78113~~	150	14
Toluene	~~78131~~	2000	600
Xylene(s)	~~81551~~	920	360

where:

µg/L = microgram per liter
e^x = base of natural logarithms raised to the x-power
ln(*H*) = natural logarithm of Hardness ~~(STORET 00900)~~
* = 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	~~STORET Number~~	(µg/L)
Mercury (total)	~~71900~~	0.012
Benzene	~~78124~~	310

where:

µg/L = micrograms per liter

g) Single-value standards apply at the following concentrations for these substances:~~Concentrations of the following chemical constituents shall not be exceeded except in waters for which mixing is allowed pursuant to Section 302.102.~~

Constituent	Unit	~~STORET Number~~	Standard
Barium (total)	mg/L	~~01007~~	5.0
~~Boron (total)~~	~~mg/L~~	~~01022~~	~~1.0~~
Chloride (total)	mg/L	~~00940~~	500
~~Fluoride~~	~~mg/L~~	~~00951~~	~~1.4~~
Iron (dissolved)	mg/L	01046	1.0
~~Manganese (total)~~	~~mg/L~~	~~01055~~	~~1.0~~

Phenols	mg/L	~~32730~~	0.1
Selenium (total)	mg/L	~~01147~~	1.0
Silver (total)	µg/L	~~01077~~	5.0

where:
mg/L = milligram per liter and
µg/L = microgram per liter

h) Water quality standards for sulfate are as follows~~The following concentrations for sulfate must not be exceeded except in receiving waters for which mixing is allowed pursuant to Section 302.102~~:

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 $CaCO_3$) 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:~~Where,~~

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:~~Where~~

C = sulfate concentration

3) The following sulfate standards must be met at all times when hardness (in mg/L as $CaCO_3$) 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 36 Ill. Reg. _____, effective _____)

SUBPART C: PUBLIC AND FOOD PROCESSING WATER SUPPLY STANDARDS

Section 302.303 Finished Water Standards

Water shall be of such quality that with treatment consisting of coagulation, sedimentation, filtration, storage and chlorination, or other equivalent treatment processes, the treated water shall meet in all respects the requirements of Part 611~~604~~.
(Note: Prior to codification, Table I, Rule 304 of Ch 6: Public Water Supplies)

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.304 Chemical Constituents

The following levels of chemical constituents shall not be exceeded:

CONSTITUENT	~~STORET NUMBER~~	CONCENTRATION (mg/l)
Arsenic (total)	~~01002~~	0.05

Barium (total)	~~01007~~	1.0
Boron (total)		1.0
Cadmium (total)	~~01027~~	0.010
Chloride (total)	~~00940~~	250~~.~~
Chromium	~~01034~~	0.05
Fluoride (total)		1.4
Iron (dissolved)	~~01046~~	0.3
Lead (total)	~~01051~~	0.05
Manganese (total)	~~01055~~	1.0~~0.15~~
Nitrate-Nitrogen	~~00620~~	10~~.~~
Oil (hexane-solubles or equivalent)	~~00550, 00556 or 00560~~	0.1
Organics		
Pesticides		
Chlorinated Hydrocarbon Insecticides		
Aldrin	~~39330~~	0.001
Chlordane	~~39350~~	0.003
DDT	~~39370~~	0.05
Dieldrin	~~39380~~	0.001
Endrin	~~39390~~	0.0002
Heptachlor	~~39410~~	0.0001
Heptachlor Expoxide	~~39420~~	0.0001
Lindane	~~39782~~	0.004
Methoxychlor	~~39480~~	0.1
Toxaphene	~~39400~~	0.0005
Organophosphate Insecticides		
Parathion	~~39540~~	0.1
Chlorophenoxy Herbicides		
2,4-Dichlorophenoxy-acetic acid (2,4-D)	~~39730~~	0.1
2-(2,4,5-Trichloro-phenoxy)-propionic acid (2,4,5-TP or Silvex)	~~39760~~	0.01
Phenols	~~32730~~	0.001
Selenuim (total)	~~01147~~	0.01
Sulphates	~~00945~~	250~~.~~
Total Dissolved Solids	~~70300~~	500~~.~~

(Source: Amended at 36 Ill. Reg. _____, effective _____)

SUBPART E: LAKE MICHIGAN BASIN WATER QUALITY STANDARDS

Section 302.504 Chemical Constituents

The following concentrations of chemical constituents must not be exceeded, except as provided in Sections 302.102 and 302.530:

a) The following standards must be met in all waters of the Lake Michigan Basin. Acute aquatic life standards (AS) must not be exceeded at any time except for those waters for which the Agency has approved a zone of initial dilution (ZID) pursuant to Sections 302.102 and 302.530. Chronic aquatic life standards (CS) and human health standards (HHS) must not be exceeded outside of waters in which mixing is allowed pursuant to Sections 302.102 and 302.530 by the arithmetic average of at least four consecutive samples collected over a period of at least four days. The samples used to demonstrate compliance with the CS or HHS must be collected in a manner which assures an average representation of the sampling period.

Constituent	~~STORET Number~~	Unit	AS	CS	HHS
Arsenic (Trivalent, dissolved)	~~22680~~	µg/L	$340 \times 1.0^* = 340$	$340 \times 1.0^* = 148$	NA
Boron (total)		mg/L	40.1	7.6	NA
Cadmium (dissolved)	~~01025~~	µg/L	$\exp[A + B\ln(H)] \times \{1.138672 - [(\ln H)(0.041838)]\}^*$; where A = -3.6867 and B = 1.128	$\exp[A + B\ln(H)] \times \{1.101672 - [(\ln H)(0.041838)]\}^*$; where A = -2.715 and B = 0.7852	NA
Chromium (Hexavalent, total)	~~01032~~	µg/L	16	11	NA
Chromium (Trivalent, dissolved)	~~80357~~	µg/L	$\exp[A + B\ln(H)] \times 0.316^*$; where A = 3.7256 and B = 0.819	$\exp[A + B\ln(H)] \times 0.860^*$; where A = 0.6848 and B = 0.819	NA
Copper (dissolved)	~~01040~~	µg/L	$\exp[A + B\ln(H)] \times$	$\exp[A + B\ln(H)] \times$	NA

			0.960*;	0.960*;	
			where A = -1.700 and B = 0.9422	where A = -1.702 and B = 0.8545	
Cyanide**~~(Weak acid dissociable)~~	~~00718~~	µg/L	22	5.2	NA
Fluoride (total)		µg/L	$\exp[A+B\ln(H)]$ where A = 6.7319 and B = 0.5394	$\exp[A+B\ln(H)]$, but shall not exceed 4.0 mg/L where A = 6.0445 and B = 0.5394	NA
Lead (dissolved)	~~01049~~	µg/L	$\exp[A+B\ln(H)]\times\{1.46203-[(\ln H)(0.145712)]\}$*; where A = -1.055 and B =1.273	$\exp[A+B\ln(H)]\times\{1.46203-[(\ln H)(0.145712)]\}$*; where A = -4.003 and B = 1.273	NA
Manganese (dissolved)		µg/L	$\exp[A+B\ln(H)]\times$ 0.9812* where A = 4.9187 and B = 0.7467	$\exp[A+B\ln(H)]\times$ 0.9812* where A = 4.0635 and B = 0.7467	NA
Nickel (dissolved)	~~01065~~	µg/L	$\exp[A+B\ln(H)]\times$ 0.998*; where A = 2.255 and B = 0.846	$\exp[A+B\ln(H)]\times$ 0.997*; where A = 0.0584 and B = 0.846	NA
Selenium (dissolved)	~~01145~~	µg/L	NA	5.0	NA
TRC	~~50060~~	µg/L	19	11	NA
Zinc (dissolved)	~~01090~~	µg/L	$\exp[A+B\ln(H)]\times$ 0.978*;	$\exp[A+B\ln(H)]\times$ 0.986*;	NA

			where $A = 0.884$ and $B = 0.8473$	where $A = 0.884$ and $B = 0.8473$	
Benzene	~~78124~~	µg/L	3900	800	310
Chlorobenzene	~~34301~~	mg/L	NA	NA	3.2
2.4-Dimethylphenol	~~34606~~	mg/L	NA	NA	8.7
2,4-Dinitrophenol	~~03756~~	mg/L	NA	NA	2.8
Endrin	~~39390~~	µg/L	0.086	0.036	NA
Ethylbenzene	~~78113~~	µg/L	150	14	NA
Hexachloroethane	~~34396~~	µg/L	NA	NA	6.7
Methylene chloride	~~34423~~	mg/L	NA	NA	2.6
Parathion	~~39540~~	µg/L	0.065	0.013	NA
Pentachlorophenol	~~03761~~	µg/L	$\exp B([pH]+A)$; where $A = -4.869$ and $B = 1.005$	$\exp B([pH]+A)$; where $A = -5.134$ and $B = 1.005$	NA
Toluene	~~78131~~	µg/L ~~mg/L~~	2000	610	51.0
Trichloroethylene	~~39180~~	µg/L	NA	NA	370
Xylene(s)	~~81551~~	µg/L	1200	490	NA

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where~~Where~~:

NA = Not Applied

Exp[x] = base of natural logarithms raised to the x-power

ln(H) = natural logarithm of Hardness ~~(STORET 00900)~~

* = 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 302.510: 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).

b) The following water quality standards must not be exceeded at any time in any waters of the Lake Michigan Basin, unless a different standard is specified under subsection (c) of this Section.

Constituent	~~STORET Number~~	Unit	Water Quality Standard
Barium (total)	01007	mg/L	5.0
~~Boron (total)~~	~~01022~~	~~mg/L~~	~~1.0~~
Chloride (total)	~~00940~~	mg/L	500
~~Fluoride~~	~~00951~~	~~mg/L~~	~~1.4~~
Iron (dissolved)	~~01046~~	mg/L	1.0
~~Manganese (total)~~	~~01055~~	~~mg/L~~	~~1.0~~
Phenols	~~32730~~	mg/L	0.1
Sulfate	~~00945~~	mg/L	500
Total Dissolved Solids	~~70300~~	mg/L	1000

c) In addition to the standards specified in subsections (a) and (b) of this Section, the following standards must not be exceeded at any time in the Open Waters of Lake Michigan as defined in Section 302.501.

Constituent	~~STORET Number~~	Unit	Water Quality Standard
Arsenic (total)	~~01002~~	µg/L	50.0
Boron (total)		mg/L	1.0
Barium (total)	~~01007~~	mg/L	1.0
Chloride (total)	~~00940~~	mg/L	12.0
Fluoride (total)		mg/L	1.4

Iron (dissolved)	~~01046~~	mg/L	0.30
Lead (total)	~~01051~~	µg/L	50.0
Manganese (total)	~~01055~~	mg/L	0.15
Nitrate-Nitrogen	~~00620~~	mg/L	10.0
Phosphorus	~~00665~~	µg/L	7.0
Selenium (total)	~~01147~~	µg/L	10.0
Sulfate	~~00945~~	mg/L	24.0
Total Dissolved Solids	~~70300~~	mg/L	180.0
Oil (hexane solubles or equivalent)	~~00550, 00556 or 00560~~	mg/L	0.10
Phenols	~~32730~~	µg/L	1.0

d) In addition to the standards specified in subsections (a), (b) and (c) of this Section, the following human health standards (HHS) must not be exceeded in the Open Waters of Lake Michigan as defined in Section 302.501 by the arithmetic average of at least four consecutive samples collected over a period of at least four days. The samples used to demonstrate compliance with the HHS must be collected in a manner which assures an average representation of the sampling period.

Constituent	~~STORET Number~~	Unit	Water Quality Standard
Benzene	~~34030~~	µg/L	12.0
Chlorobenzene	~~34301~~	µg/L	470.0
2,4-Dimethylphenol	~~34606~~	µg/L	450.0
2,4-Dinitrophenol	~~03757~~	µg/L	55.0
Hexachloroethane (total)	~~34396~~	µg/L	5.30
Lindane	~~39782~~	µg/L	0.47
Methylene chloride	~~34423~~	µg/L	47.0
~~Toluene~~	~~78131~~	~~mg/L~~	~~5.60~~
Trichloroethylene	~~39180~~	µg/L	29.0

e) For the following bioaccumulative chemicals of concern (BCCs), acute aquatic life standards (AS) must not be exceeded at any time in any waters of the Lake Michigan Basin and chronic aquatic life standards (CS), human health standards (HHS), and wildlife standards (WS) must not be exceeded in any waters of the Lake Michigan Basin by the arithmetic average of at least four consecutive samples collected over a period of at least four days subject to the limitations of Sections 302.520 and 302.530. The samples used to demonstrate compliance with the HHS and WS must be collected in a manner that assures an average representation of the sampling period.

Constituent	~~STORET Number~~	Unit	AS	CS	HHS	WS
Mercury (total)	~~71900~~	ng/L	1,700	910	3.1	1.3
Chlordane	~~39350~~	ng/L	NA	NA	0.25	NA
DDT and metabolites	~~39370~~	pg/L	NA	NA	150	11.0
Dieldrin	~~39380~~	ng/L	240	56	0.0065	NA
Hexachlorobenzene	~~39700~~	ng/L	NA	NA	0.45	NA
Lindane	~~39782~~	µg/L	0.95	NA	0.5	NA
PCBs (class)	~~79819~~	pg/L	NA	NA	26	120
2,3,7,8-TCDD	~~03556~~	fg/L	NA	NA	8.6	3.1
Toxaphene	~~39400~~	pg/L	NA	NA	68	NA

where~~Where~~:

mg/L = milligrams per liter (10^{-3} grams per liter)

µg/L = micrograms per liter (10^{-6} grams per liter)

ng/L = nanograms per liter (10^{-9} grams per liter)

pg/L = picograms per liter (10^{-12} grams per liter)

fg/L = femtograms per liter (10^{-15} grams per liter)

NA = Not Applied

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.510 Incorporations by Reference

a) The Board incorporates the following publications by reference:

American Public Health Association et al., 1015 Fifteenth Street, N.W., Washington, D.C. 20005, Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1996. Available from the American Public Health Association, 1015 Fifteenth St., NW, Washington, D.C. 20005 (202)789-5600.

USEPA. United States Environmental Protection Agency, Office of Health and Environmental Assessment, Washington, D.C. 20460, Method OIA-1677, DW: Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry, January 2004, Document Number EPA-821-R-04-001.

b) The Board incorporates the following federal regulations by reference. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (202) 783-3238:

40 CFR 136 (1996)

40 CFR 141 (1988)

40 CFR 302.4 (1988)

The Sections of 40 CFR 132 (1996) listed below:

Appendix A

Section I A

Section II

Section III C

Section IV D, E, F, G, H, and I

Section V C

Section VI A, B, C, D, E, and F

Section VIII

Section XI

Section XVII

Appendix B

Section III

Section VII B and C

Section VIII

Appendix C

Section II

Section III A (1 through 6 and 8), B (1 and 2)

Appendix D

Section III C, D, and E

Section IV

c~~d~~) This Section incorporates no future editions or amendments.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.553 Determining the Lake Michigan Aquatic Toxicity Criteria or Values – General Procedures

The Lake Michigan Aquatic Life Criteria and Values are those concentrations or levels of a substance at which aquatic life is protected from adverse effects resulting from short or long term exposure in water.

a) Tier I criteria and Tier II values to protect against acute effects in aquatic organisms will be calculated according to procedures listed at Sections 302.555, 302.560 and 302.563. The procedures of Section 302.560 shall be used as necessary to allow for interactions with other water quality characteristics such as hardness, pH, temperature, etc. Tier I criteria and Tier II values to protect against chronic effects in aquatic organisms shall be calculated according to the procedures listed at Section 302.565.

b) Minimum data requirements. In order to derive a Tier I acute or chronic criterion, data must be available for at least one species of freshwater animal in at least

eight different families such that the following taxa are included:

1) The family Salmonidae in the class Osteichthyes;

2) One other family in the class Osteichthyes;

3) A third family in the phylum Chordata;

4) A planktonic crustacean;

5) A benthic crustacean;

6) An insect;

7) A family in a phylum other than Arthropoda or Chordata; and

8) A family from any order of insect or any phylum not already represented.

c) Data for tests with plants, if available, must be included in the data set.

d) If data for acute effects are not available for all the eight families listed above, but are available for the family Daphnidae, a Tier II value shall be derived according to procedures in Section 302.563. If data for chronic effects are not available for all the eight families, but there are acute and chronic data available according to Section 302.565(b) so that three acute to chronic ratios (ACRs) can be calculated, then a Tier I chronic criterion can be derived according to procedures in Section 302.565. If three ACRs are not available, then a Tier II chronic value can be derived according to procedures in Section 302.565(be).

e) Data must be obtained from species that have reproducing wild populations in North America except that data from salt water species can be used in the derivation of an ACR.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.595 Listing of Bioaccumulative Chemicals of Concern, Derived Criteria and Values

a) The Agency shall maintain a listing of toxicity criteria and values derived pursuant to this Subpart. This list shall be made available to the public and updated whenever a new criterion or value is derived~~periodically~~ but no less frequently than annually~~quarterly~~, and shall be published when updated in the Illinois Register and the Agency's website at http://www.iepa.state.il.us.

b) A criterion or value published pursuant to subsection (a) of this Section may be proposed to the Board for adoption as a numeric water quality standard.

c) The Agency shall maintain for inspection all information including, but not limited to, assumptions, toxicity data and calculations used in the derivation of any toxicity criterion or value listed pursuant to subsection (a) of this Section until adopted by the Board as a numeric water quality standard.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

SUBPART F: PROCEDURES FOR DETERMINING WATER QUALITY CRITERIA

Section 302.648 Determining the Human Threshold Criterion

The HTC is calculated according to the equation:

HTC = ADI/[W + (F x BCF)]

where~~Where~~:

HTC = Human health protection criterion in milligrams per liter (mg/L);

ADI = Acceptable daily intake of substance in milligrams per day (mg/d) as specified in Section 302.645;

W = Per capita daily water consumption equal to 2 liters per day (L/d) for surface waters at the point of intake of a public or food processing water supply, or equal to 0.01 liters per day (L/d) which represents incidental exposure through contact or ingestion of small volumes of water while swimming or during other recreational activities for areas which are determined to be public access areas pursuant to Section 302.102 ~~302.201~~(b)(3), or 0.001 liters per day (L/d) for other General Use waters;

F = Assumed daily fish consumption in the United States equal to 0.020 kilograms per day (kg/d); and

BCF = Aquatic organism Bioconcentration Factor with units of liter per kilogram (L/kg) as derived in Sections 302.660 through 302.666.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.657 Determining the Human Nonthreshold Criterion

The HNC is calculated according to the equation:

$$HNC = RAI/[W + (F \times BCF)]$$

where~~Where~~:

HNC = Human Nonthreshold Protection Criterion in milligrams per liter (mg/L);

RAI = Risk Associated Intake of a substance in milligrams per day (mg/d) which is associated with a lifetime cancer risk level equal to a ratio of one to 1,000,000 as derived in Section 302.654;

W = Per capita daily water consumption equal to 2 liters per day (L/d) for surface waters at the point of intake of a public or food processing water supply, or equal to 0.01 liters per day (L/d) which represents incidental exposure through contact or ingestion of small volumes of water while swimming or during other recreational activities for areas which are determined to be public access areas pursuant to Section 302.102~~302.201~~(b)(3), or 0.001 liters per day (L/d) for other General Use waters;

F = Assumed daily fish consumption in the United States equal to 0.020 kilograms per day (kg/d); and

BCF = Aquatic Life Bioconcentration Factor with units of liter per kilogram (L/kg) as derived in Section 302.663.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 302.669 Listing of Derived Criteria

a) The Agency shall develop and maintain a listing of toxicity criteria pursuant to this Subpart. This list shall be made available to the public and updated whenever a new criterion is derived~~periodically~~ but no less frequently than annually~~quarterly~~, and shall be published when updated in the Illinois Register and the Agency's website at http://www.iepa.state.il.us.

b) A criterion published pursuant to subsection (a) may be proposed to the Board for adoption as a numeric water quality standard.

c) The Agency shall maintain for inspection all information including, but not

limited to, assumptions, toxicity data and calculations used in the derivation of any toxicity criterion listed pursuant to subsection (a) until adopted by the Board as a water quality standard.

(Source: Amended at 36 Ill. Reg. _____, effective _____)