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:
302.101	Amendment
302.102	Amendment
302.401	Amendment
302.401	Amendment
302.404	Amendment
302.405	Amendment
302.407	Amendment
302.408	Amendment
302.409	Amendment
302.410	Amendment
302.412	New Section
302.601	Amendment
302.648	Amendment
302.657	Amendment

4) Statutory 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]

5) A Complete Description of the Subjects and Issues Involved: For a more detailed description, please see the Board's opinion and order of September 18, 2014 in R08-9(D). The Board proposes water quality standards for the Chicago Area Waterways System (CAWS) and the Lower Des Plaines River (LDPR) that are necessary to meet the aquatic life uses for those waterways. The Board is proposing the standards for many constituents as recommended by the Illinois Environmental Protection Agency (IEPA), with two notable exceptions. The Board finds that the 500 mg/L chloride standard must be adapted for the Chicago Sanitary and Ship Canal (CSSC) from December 1 until April 30. Therefore the Board proposes for the CSSC a numeric standard of 620 mg/L as an acute water quality standard and 990 mg/L as a chronic water quality standard for chloride from December 1 until April 30. The Board also finds that the temperature water quality standards proposed by IEPA as well as those suggested by other participants are not appropriate. Therefore, the Board proposes that the General Use temperature standards apply to the waterways.

6) Published studies or reports, and sources of underlying data, used to compose this rulemaking:

- Lower Des Plaines River Use Attainability Analysis Final Report. AquaNova International, Ltd. and Hey & Associates, Inc., prepared for Illinois EPA (December 2003).

- Chicago Area Waterway System Use Attainability Analysis Final Report. Camp, Dresser and McKee, prepared for Illinois EPA (August 2007).

- Interim Economic Guidance for Water Quality Standards Workbook (Appendix M to the Water Quality Standards Handbook—Second Edition, EPA-823-B-94-005b). U.S. EPA Office of Water (EPA-823-B-95-002) (March 1995).

- Illinois Sanitary Water Board Rules and Regulations SWB-8 Water Quality Standards, Interstate Waters, Illinois River and Lower Section of Des Plaines River (REF. 348.025 ISWB SWB-8 C.2) (Criteria Adopted December 1, 1966; Implementation Plan Submitted August 10, 1967; Approved by U.S. Dept. of Interior January 27, 1968; Sanitary Water Board Reapproved March 5, 1968).

- Illinois Sanitary Water Board Rules and Regulations SWB-15 Water Quality Standards, Interstate Waters, Chicago River and Calumet River System and Calumet Harbor Basin (REF. 348.025 ISWB SWB-15 C.2) (Adopted by Board June 28, 1967; Approved by U.S. Dept. of Interior January 27, 1968; Sanitary Water Board reapproval March 5, 1968).

- Ordinance: Code of Forest Preserve District of Cook County, Title 2: Forest Preserve District Lands and Properties, Chapter 4: Recreation in the Forest Preserve.

- Inventory of Public Access Locations along the Chicago Area Waterway System. Illinois EPA, Bureau of Water (May 15, 2007).

- Description of the Chicago Waterway System: Use Attainability Analysis Study Conducted by Illinois EPA Bureau of Water in Cooperation with MWRDGC. MWRDGC, Research and Development (May 2002).

- Minutes from the June 23, 2005 Dispersal Barrier Advisory Panel. Philip B. Moy, University of Wisconsin Sea Grant Institute (June 23, 2005).

- Chicago Area Waterways Health Precautions Pamphlet. MWRDGC, Illinois Department of Public Health, U.S. EPA, Illinois EPA (October 2003).

- Ambient Water Quality Criteria for Bacteria – 1986. U.S. EPA Office of Water (EPA440/5-84-002) (January 1986).

- Analysis of Physical Habitat Quality and Limitations to Waterways in the Chicago Area. Center for Applied Bioassessment and Biocriteria, prepared for U.S. EPA Region 5 (2004).

- Aquatic Life and Habitat Data Collected in 2006 on the Illinois and Des Plaines Rivers. Midwest Biodiversity Institute, prepared for U.S. EPA Region 5 (2006).

- Biological Criteria for the Protection of Aquatic Life: Volume II: Users Manual for Biological and Field Assessment of Ohio Surface Waters. Ohio Environmental Protection Agency, Surface Water Section (Updated January 1, 1988).

- Interpreting Illinois Fish-IBI Scores, DRAFT: January 2005. Illinois EPA, Bureau of Water (January 2005).

- Quality Criteria for Water 1986 (gold book). U.S. EPA Office of Water (EPA 440/5-86-001) pp. 17-21, 34, 76-79, 168-171 and 253-261 (May 1, 1986).

- 2001-2006 Effluent Sample Results for Temperature at Water Reclamation Plants, 2005 and 2006 Water Quality Sample Results for Temperature, pH, Alkalinity and Chloride, and Calculations of H2CO3 (soluble CO2) in Chicago Area Waterways in 2005 and 2006. MWRDGC, Research and Development (June 4, 2007).

- Ambient Water Quality Criteria for Dissolved Oxygen. U.S. EPA Office of Water Regulations and Standards. Criteria and Standards Division. Washington, D.C (EPA 440/5-86-003) (April 1986).

- 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water. U.S. EPA Office of Water 4301 (EPA-820-B-96-001) (September 1996).

- The Metals Translator: Guidance for Calculating A Total Recoverable Permit Limit From A Dissolved Criterion. U.S. EPA Office of Water 4305 (EPA-823-B-96-007) (June 1996).

- 2001 Update of Ambient Water Quality Criteria for Cadmium. U.S. EPA Office

of Water 4304 (EPA-822-R-01-001) (April 2001).

- 2005 and 2006 Water Quality Sample Results for Hardness, Cadmium, Nickel and Zinc and Calculated Compliance Rates with Proposed Chronic Standards for the Respective Metals. MWRDGC, Research and Development (April 25, 2007).

- 2005 and 2006 Effluent Sample Results for Hardness and Cadmium at Calumet, North Side, and Stickney Water Reclamation Plants. MWRDGC, Research and Development (May 1, 2007).

- Quality Criteria for Water. U.S. EPA (PB-263 943) pp. 152-159 (1976).

- Ambient Water Quality for Silver. U.S. EPA Office of Water (EPA 440/5-80-071) (October 1980).

- Derivation of a Colorado State Manganese Table Value Standard for the Protection of Aquatic Life. William A. Stubblefield and James R. Hockett. ENSR Corporation (July 2000).

- Temperature Criteria Options for the Lower Des Plaines River. Chris O. Yoder, Research Director. Midwest Biodiversity Institute, Columbus, Ohio (October 11, 2005).

- Letter from Chris Yoder, Midwest Biodiversity Institute, to Toby Frevert, Illinois EPA Bureau of Water (July 11, 2007).

- 1999 Update of Ambient Water Quality Criteria for Ammonia. U.S. EPA Office of Water (EPA-822-R-99-014) (December 1999).

- The Upper Illinois Waterway Study Interim Report. 1994 Ichythoplankton Investigation RM 276.2-321.7. EA Engineering, Science, and Technology, prepared for Commonwealth Edison Co. (April 1995).

- 2004 Lower Des Plaines River Fisheries Investigation RM 274.4-285.5. EA Engineering, Science, and Technology, prepared for Midwest Generation, EME, LLC (November 2005).

- Master Plan North Side Water Reclamation Plant and Surrounding Chicago Waterways, Technical Memorandum 1WQ: Disinfection Evaluation. Consoer Townsend Environdyne Engineers, Inc., prepared for MWRDGC (August 26,

2005).

- Technical Memorandum 4WQ Supplemental Aeration of the North and South Branches of the Chicago River MWRDGC North Side Water Reclamation Plant, Project No. 04-014-2P. Consoer Townsend Environdyne Engineers, Inc., prepared for MWRDGC (January 12, 2007).

- Technical Memorandum 5WQ Flow Augmentation of the Upper North Shore Channel MWRDGC North Side Water Reclamation Plant, Project No. 04-014-2P. Consoer Townsend Environdyne Engineers, Inc., prepared for MWRDGC (January 12, 2007).

- Technical Memorandum 6WQ Flow Augmentation and Supplemental Aeration of the South Fork of the South Branch of the Chicago River MWRDGC North Side Water Reclamation Plant, Project No. 04-014-2P. Consoer Townsend Environdyne Engineers, Inc., prepared for MWRDGC (January 12, 2007).

- Memorandum of Understanding By and Between Midwest Generation LLC and Illinois Environmental Protection Agency, Revised 12/10/2006 3:21:06 PM.

- A River is Reborn - Use Attainability Analysis for the Lower Des Plaines River, Illinois. Vladimir Novotny, Neal O'Reilly, Timothy Ehlinger, Toby Frevert and Scott Twait. Water Environment Research, Volume 79, Number 1, pp. 68-80.

- Chicago Area Waterway System Habitat Evaluation And Improvement Study: Habitat Evaluation Report And Habitat Improvement Report, Prepared for the Metropolitan Water Reclamation District of Greater Chicago by LimnoTech

Statutes and Regulations

Federal Water Pollution Control Act (Clean Water Act) 33 USC 1251

Beaches Environmental Assessment and Coastal Health Act 2000 (Beach Act), 33 USC 1313

Illinois Environmental Protection Act [415 ILCS 5/1]

40 CFR Part 131 (Water Quality Standards)

U.S. EPA Guidance Documents

Water Quality Standards Handbook: Second Edition, EPA-823-B-94-005a, U.S. EPA Office of Water (4305) (August 1994)

Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, PB85-227049, U.S. EPA Office of Research and Development, Environmental Research Laboratories (1985) (reproduced by National Technical Information Service, U.S. Department of Commerce).

Board Opinions

In the Matter of: Petition of Commonwealth Edison Company for an Adjusted Standard from 35 Ill. Adm. Code 302.211(d) and (e), AS 96-10 (October 3, 1996) and (March 16, 2000).

Commonwealth Edison Company v. Illinois EPA, PCB 91-29 (Variance – Water) (November 21, 1991).

In the Matter of: Proposed Determination of No Significant Ecological Damage for the Joliet Generating Station, PCB 87-93 (November 15, 1989).

In the Matter of: Water Quality and Effluent Standards Applicable to the Chicago River System and Calumet River System, R 87-27 (May 19, 1988).

Commonwealth Edison Company v. Illinois EPA, PCB 84-33 (Variance – Water) (December 20, 1984).

Commonwealth Edison Company v. Illinois EPA, PCB 78-79 (Variance – Water) (May 25, 1978).

In the Matter of: Water Quality Standards Revisions, R72-4 (November 8, 1973).

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

Petition of Commonwealth Edison Company for Adjusted Standard from 35 Ill. Adm. Code 302.211(d) and (e), AS 96-10 (Oct. 3, 1996).

7) Will this proposed rulemaking replace an emergency rule currently in effect? No

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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

11) Statement of Statewide Policy Objectives: These proposed amendments do not create or enlarge a State mandate as defined in Section 3(b) of the State Mandates Act. [30 ILCS 805/3].

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 R08-09(D) from the Board's Web site at http://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 R08-08(D) and be addressed to:

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

13) Initial Regulatory Flexibility Analysis:

A) Types of small businesses, small municipalities and not-for-profit corporations affected: This rulemaking establishes water quality standards for the Chicago Area Waterways System and Lower Des Plaines River; any small business, small municipalities and not-for-profit corporation that discharges to those waterways will be impacted.

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

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: January 2014

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 F: PROCEDURES FOR DETERMINING WATER QUALITY CRITERIA

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. 18871, effective December 12, 2012; amended in R11-18(B) at 37 Ill. Reg. 7493, effective May 16, 2013; amended in R08-09(D) at 38 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL WATER QUALITY PROVISIONS

Section 302.101 Scope and Applicability

a) This Part contains schedules of water quality standards which are applicable throughout the State as designated in 35 Ill. Adm. Code 303. Site specific water quality standards are found with the water use designations in 35 Ill. Adm. Code 303.

b) Subpart B contains general use water quality standards which must be met in waters of the State for which there is no specific designation (35 Ill. Adm. Code 303.201).

c) Subpart C contains the public and food processing water supply standards. These are cumulative with Subpart B and must be met by all designated waters at the point at which water is drawn for treatment and distribution as a potable supply or for food processing (35 Ill. Adm. Code 303.202).

d) Subpart D contains the Chicago Area Waterway System and the Lower Des Plaines River water quality~~secondary contact and indigenous aquatic life~~ standards. These standards must be met only by certain waters designated in 35 Ill. Adm. Code 303.204, 303.220, 303.225, 303.227, 303.230, 303.235 and 303.240~~303.441~~. Subpart D also contains water quality standards applicable to indigenous aquatic life waters found only in the South Fork of the South Branch of the Chicago River (Bubbly Creek).

e) Subpart E contains the Lake Michigan Basin water quality standards. These must be met in the waters of the Lake Michigan Basin as designated in 35 Ill. Adm. Code 303.443.

f) Subpart F contains the procedures for determining each of the criteria designated in Sections~~Section~~ 302.210 and 302.410.

g) Unless the contrary is clearly indicated, all references to "Parts" or "Sections" are to Ill. Adm. Code, Title 35: Environmental Protection. For example, "Part 309"

is 35 Ill. Adm. Code 309, and "Section 309.101" is 35 Ill. Adm. Code 309.101.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.102 Allowed Mixing, Mixing Zones and ZIDs

a) Whenever a water quality standard is more restrictive than its corresponding effluent standard, or where there is no corresponding effluent standard specified at 35 Ill. Adm. Code 304, an opportunity shall be allowed for compliance with 35 Ill. Adm. Code 304.105 by mixture of an effluent with its receiving waters, provided the discharger has made every effort to comply with the requirements of 35 Ill. Adm. Code 304.102.

b) The portion, volume and area of any receiving waters within which mixing is allowed pursuant to subsection (a) shall be limited by the following:

1) Mixing must be confined in an area or volume of the receiving water no larger than the area or volume which would result after incorporation of outfall design measures to attain optimal mixing efficiency of effluent and receiving waters. These~~Such~~ measures may include, but are not limited to, use of diffusers and engineered location and configuration of discharge points.

2) Mixing is not allowed in waters which include a tributary stream entrance if the~~such~~ mixing occludes the tributary mouth or otherwise restricts the movement of aquatic life into or out of the tributary.

3) Mixing is not allowed in water adjacent to bathing beaches, bank fishing areas, boat ramps or dockages or any other public access area.

4) Mixing is not allowed in waters containing mussel beds, endangered species habitat, fish spawning areas, areas of important aquatic life habitat, or any other natural features vital to the well being of aquatic life in such a manner that the maintenance of aquatic life in the body of water as a whole would be adversely affected.

5) Mixing is not allowed in waters that~~which~~ contain intake structures of public or food processing water supplies, points of withdrawal of water for irrigation, or watering areas accessed by wild or domestic animals.

6) Mixing must allow for a zone of passage for aquatic life in which water quality standards are met. However, a zone of passage is not required in receiving streams that have zero flow for at least seven consecutive days recurring on average in nine years out of 10~~ten~~.

7) The area and volume in which mixing occurs, alone or in combination with other areas and volumes of mixing, must not intersect any area of any body of water in such a manner that the maintenance of aquatic life in the body of water as a whole would be adversely affected.

8) The area and volume in which mixing occurs, alone or in combination with other areas and volumes of mixing, must not contain more than 25% of the cross-sectional area or volume of flow of a stream except for those streams for which~~where~~ the dilution ratio is less than 3:1. In streams where the dilution ratio is less than 3:1, the volume in which mixing occurs, alone or in combination with other volumes of mixing, must not contain more than 50% of the volume flow unless an applicant for an NPDES permit demonstrates, pursuant to subsection (d)~~ of this section~~, that an adequate zone of passage is provided for pursuant to subsection~~Section~~ (b)(6).

9) No mixing is allowed when~~where~~ the water quality standard for the constituent in question is already violated in the receiving water.

10) No body of water may be used totally for mixing of single outfall or combination of outfalls, except as provided in subsection ~~Section 302.102~~(b)(6).

11) Single sources of effluents that~~which~~ have more than one outfall shall be limited to a total area and volume of mixing no larger than that allowable if a single outfall were used.

12) The area and volume in which mixing occurs must be as small as is practicable under the limitations prescribed in this subsection (b), and in no circumstances may the mixing encompass a surface area larger than 26 acres.

c) All water quality standards of this Part must be met at every point outside of the area and volume of the receiving water within which mixing is allowed. The acute toxicity standards of this Part~~Sections 302.208 and 302.210~~ must be met

within the area and volume within which mixing is allowed, except as provided in subsection (e).

d) Pursuant to the procedures of Section 39 of the Act and 35 Ill. Adm. Code 309, a person may apply to the Agency to include as a condition in an NPDES permit formal definition of the area and volume of the waters of the State within which mixing is allowed for the NPDES discharge in question. The~~Such formally~~ defined area and volume of allowed mixing shall constitute a "mixing zone" for the purposes of 35 Ill. Adm. Code: Subtitle C. Upon proof by the applicant that a proposed mixing zone conforms with the requirements of Section 39 of the Act, this Section and any additional limitations as may be imposed by the Clean Water Act (CWA) (33 USC 1251 et seq.), the Act or Board regulations, the Agency shall, pursuant to Section 39(b) of the Act, include within the NPDES permit a condition defining the mixing zone.

e) Pursuant to the procedures of Section 39 of the Act and 35 Ill. Adm. Code 309, a person may apply to the Agency to include as a condition in an NPDES permit a ZID as a component portion of a mixing zone. The~~Such~~ ZID shall, at a minimum, be limited to waters within which effluent dispersion is immediate and rapid. For the purposes of this subsection, "immediate" dispersion means an effluent's merging with receiving waters without delay in time after its discharge and within close proximity of the end of the discharge pipe, so as to minimize the length of exposure time of aquatic life to undiluted effluent, and "rapid" dispersion means an effluent's merging with receiving waters so as to minimize the length of exposure time of aquatic life to undiluted effluent. Upon proof by the applicant that a proposed ZID conforms with the requirements of Section 39 of the Act and this Section, the Agency shall, pursuant to Section 39(b) of the Act, include within the NPDES permit a condition defining the ZID.

f) Pursuant to Section 39 of the Act and 35 Ill. Adm. Code 309.103, an applicant for an NPDES permit shall submit data to allow the Agency to determine that the nature of any mixing zone or mixing zone in combination with a ZID conforms with the requirements of Section 39 of the Act and of this Section. A permittee may appeal Agency determinations concerning a mixing zone or ZID pursuant to the procedures of Section 40 of the Act and 35 Ill. Adm. Code 309.181.

g) When~~Where~~ a mixing zone is defined in an NPDES permit, the waters within that mixing zone, for the duration of that NPDES permit, shall constitute the sole waters within which mixing is allowed for the permitted discharge. It shall not be a defense in any action brought pursuant to 35 Ill. Adm. Code 304.105 that the area and volume of waters within which mixing may be allowed pursuant to subsection (b) is less restrictive than the area or volume or waters encompassed in the mixing zone.

h) When~~Where~~ a mixing zone is explicitly denied in a NPDES permit, no waters may be used for mixing by the discharge to which the NPDES permit applies, all other provisions of this Section notwithstanding.

i) Where an NPDES permit is silent on the matter of a mixing zone, or when~~where~~ no NPDES permit is in effect, the burden of proof shall be on the discharger to demonstrate compliance with this Section in any action brought pursuant to 35 Ill. Adm. Code 304.105.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

SUBPART D: CHICAGO AREA WATERWAY SYSTEM AND LOWER DES PLAINES RIVER WATER QUALITY STANDARDS~~SECONDARY CONTACT~~ AND INDIGENOUS AQUATIC LIFE STANDARDS

Section 302.401 Scope and Applicability

a) Subpart D contains the ~~secondary contact and~~ indigenous aquatic life standards. These must be met only by the South Fork of the South Branch of the Chicago River (Bubbly Creek)~~certain waters specifically designated in Part 303~~. The Subpart B general use and Subpart C public and food processing water supply standards of this Part do not apply to Bubbly Creek~~waters designated for secondary contact and indigenous aquatic life (Section 303.204)~~.

b) Subpart D also contains the Chicago Area Waterway System and Lower Des Plaines River water quality standards. These must be met only by waters specifically designated in 35 Ill. Adm. Code 303. The Subpart B general use and Subpart C public and food processing water supply standards of this Part do not apply to waters described in 35 Ill. Adm. Code 303.204 as the Chicago Area Waterway System or Lower Des Plaines River and listed in 35 Ill. Adm. Code 303.220 through 303.240, except that waters designated as Primary Contact Recreation Waters in 35 Ill. Adm. Code 303.220 must meet the numeric water quality standard for bacteria applicable to protected waters in Section 302.209 of this Part.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.402 Purpose

The Chicago Area Waterway System and Lower Des Plaines River standards shall protect primary contact, incidental contact or non-contact recreational uses (except when designated as non-recreational waters); commercial activity, including navigation and industrial water supply

uses; and the highest quality aquatic life and wildlife that is attainable, limited only by the physical condition of these waters and hydrologic modifications to these waters. The numeric and narrative standards contained in this Part will assure the protection of the aquatic life and recreational uses of the Chicago Area Waterway System and Lower Des Plaines River as those uses are defined in 35 Ill. Adm. Code 301 and designated in 35 Ill. Adm. Code 303. Indigenous~~Secondary contact and indigenous~~ aquatic life standards are intended for the South Fork of the South Branch of the Chicago River (Bubbly Creek), which is~~for those waters not suited for general use activities but which will be appropriate for all secondary contact uses and which will be~~ capable of supporting an indigenous aquatic life limited only by the physical configuration of the body of water, characteristics and origin of the water and the presence of contaminants in amounts that do not exceed the water quality standards listed in this Subpart D.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.404 pH

pH ~~(STORET number 00400)~~ shall be within the range of 6.5~~6.0~~ to 9.0 except for natural causes, except for the South Fork of the South Branch of the Chicago River (Bubbly Creek) for which pH shall be within the range of 6.0 to 9.0 except for natural causes.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.405 Dissolved Oxygen

Dissolved oxygen concentrations~~(STORET number 00300)~~ shall not be less than the applicable values in subsections (a), (b), (c) and (d)~~4.0 mg/1 at any time except that the Calumet-Sag Channel shall not be less than 3.0 mg/1 at any time~~.

a) For the South Fork of the South Branch of the Chicago River (Bubbly Creek), dissolved oxygen concentrations shall not be less than 4.0 mg/L at any time.

b) For the Upper Dresden Island Pool Aquatic Life Use waters listed in 35 Ill. Adm. Code 303.230:

1) during the period of March through July:

A) 6.0 mg/L as a daily mean averaged over 7 days; and

B) 5.0 mg/L at any time; and

2) during the period of August through February:

A) 5.5 mg/L as a daily mean averaged over 30 days;

B) 4.0 mg/L as a daily minimum averaged over 7 days; and

C) 3.5 mg/L at any time.

c) For the Chicago Area Waterway System Aquatic Life Use A waters listed in 35 Ill. Adm. Code 303.235:

1) during the period of March through July, 5.0 mg/L at any time; and

2) during the period of August through February:

A) 4.0 mg/L as a daily minimum averaged over 7 days; and

B) 3.5 mg/L at any time.

d) For the Chicago Area Waterway System and Brandon Pool Aquatic Life Use B waters listed in 35 Ill. Adm. Code 303.240:

1) 4.0 mg/L as a daily minimum averaged over 7 days; and

2) 3.5 mg/L at any time.

e) Assessing attainment of dissolved oxygen mean and minimum values.

1) Daily mean is the arithmetic mean of dissolved oxygen concentrations in 24 consecutive hours.

2) Daily minimum is the minimum dissolved oxygen concentration in 24 consecutive hours.

3) The measurements of dissolved oxygen used to determine attainment or lack of attainment with any of the dissolved oxygen standards in this Section must assure daily minima and daily means that represent the true daily minima and daily means.

4) The dissolved oxygen concentrations used to determine a daily mean or daily minimum should not exceed the air-equilibrated concentration.

5) "Daily minimum averaged over 7 days" means the arithmetic mean of daily minimum dissolved oxygen concentrations in 7 consecutive 24-hour periods.

6) "Daily mean averaged over 7 days" means the arithmetic mean of daily mean dissolved oxygen concentrations in 7 consecutive 24-hour periods.

7) "Daily mean averaged over 30 days" means the arithmetic mean of daily mean dissolved oxygen concentrations in 30 consecutive 24-hour periods.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.407 Chemical Constituents

a) The acute standard (AS) for the chemical constituents listed in subsection (e) shall not be exceeded at any time except 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 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 that have water quality based standards dependent upon hardness, the chronic water quality standard will be calculated according to subsection (e) using the hardness of the water body at the time the sample was collected. To calculate attainment status of chronic standards, the concentration of the chemical constituent in each sample is divided by the calculated water quality standard for the sample to determine a quotient. The water quality standard is attained if the mean of the sample quotients is less than or equal to one for the duration of the averaging period.

c) The human health standard (HHS) for the chemical constituents listed in subsection (f) shall not be exceeded, on a 12-month rolling average based on at least eight samples, collected in a manner representative of the sampling period, except as provided in subsection (d).

d) 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 a zone of initial dilution (ZID) applies 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.

517
518 e) Numeric Water Quality Standards for the Protection of Aquatic Organisms
519

Constituent	AS (µg/L)	CS (µg/L)
Arsenic (trivalent, dissolved)	340 X 1.0*=340	150 X 1.0*=150
Benzene	4200	860
Cadmium (dissolved)	exp[A+Bln(H)] X {1.138672-[(lnH)(0.041838)]}*, where A=-2.918 and B=1.128	exp[A+Bln(H)] X {1.101672-[(lnH)(0.041838)]}*, where A= -3.490 and B=0.7852
Chromium (hexavalent, total)	16	11
Chromium (trivalent, dissolved)	exp[A+Bln(H)] X 0.316*, where A=3.7256 and B=0.8190	exp[A+Bln(H)] X 0.860*, where A=0.6848 and B=0.8190
Copper (dissolved)	exp[A+Bln(H)] X 0.960*, where A=-1.645 and B=0.9422	exp[A+Bln(H)] X 0.960*. where A=-1.646 and B=0.8545
Cyanide**	22	10
Ethylbenzene	150	14
Flouride (total)	$e^{A+B\ln(H)}$, where A=6.7319 and B=0.5394	$e^{A+B\ln(H)}$, but shall not exceed 4.0 mg/L, where A=6.0445 and B=0.5394
Lead (dissolved)	exp[A+Bln(H)] X {1.46203-[(lnH)(0.145712)]}*, where A=-1.301 and B=1.273	exp[A+Bln(H)] X {1.46203-[(lnH)(0.145712)]}*, where A=-2.863 and B=1.273
Manganese (dissolved)	$e^{A+B\ln(H)}$ X 0.9812*, where A=4.9187 and B=0.7467	$e^{A+B\ln(H)}$ X 0.9812*, where A=4.0635 and B=0.7467
Mercury (dissolved)	1.4 X 0.85*=1.2	0.77 X 0.85*=0.65
Nickel (dissolved)	exp[A+Bln(H)] X 0.998*, where A=0.5173 and B=0.8460	exp[A+Bln(H)] X 0.997*, where A=-2.286 and B=0.8460
Toluene	2000	600
TRC	19	11
Xylene(s)	920	360

Zinc (dissolved)	exp[A+Bln(H)] X 0.978*, where A=0.9035 and B=0.8473	exp[A+Bln(H)] X 0.986*, where A=-0.4456 and B=0.8473

where:

µg/L = microgram per liter

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

ln(H) = natural logarithm of Hardness in milligrams per liter

* = 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	HHS in micrograms per liter (µg/L)
Benzene	310
Mercury (total)	0.012
Phenols	860,000

g) Numeric Water Quality Standards for Other Chemical Constituents
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	Standard
Chloride	mg/L	500
Iron (dissolved)	mg/L	1.0
Selenium (total)	mg/L	1.0
Silver (dissolved)	µg/L	exp[A+Bln(H)] X 0.85*, where A=-6.52 and B=1.72
Sulfate (where H is ≥ 100 but ≤ 500 and C is ≥ 25 but ≤ 500)	mg/L	[1276.7+5.508(H)-1.457(C)] X 0.65

Sulfate (where H is ≥ 100 but ≤ 500 and C is ≥ 5 but < 25)	mg/L	[-57.478 + 5.79(H) + 54.163(C)] X 0.65
Sulfate (where H > 500 and C ≥ 5)	mg/L	2,000

where:

mg/L = milligram per liter
µg/L = microgram per liter
H = Hardness concentration of receiving water in mg/L as $CaCO_3$
C = Chloride concentration of receiving water in mg/L
exp[x] = base of natural logarithms raised to the x-power
ln(H) = natural logarithm of Hardness in milligrams per liter
* = conversion factor multiplier for dissolved metals

h) Concentrations of other chemical constituents in the South Fork of the South Branch of the Chicago River (Bubbly Creek) shall not exceed the following standards:

CONSTITUENTS	STORET NUMBER	CONCENTRATION (mg/L)
Ammonia Un-ionized (as N*)	00612	0.1
Arsenic (total)	01002	1.0
Barium (total)	01007	5.0
Cadmium (total)	01027	0.15
Chromium (total hexavalent)	01032	0.3
Chromium (total trivalent)	01033	1.0
Copper (total)	01042	1.0
Cyanide (total)	00720	0.10
Fluoride (total)	00951	15.0
Iron (total)	01045	2.0
Iron (dissolved)	01046	0.5
Lead (total)	01051	0.1

Manganese (total)	01055	1.0
Mercury (total)	71900	0.0005
Nickel (total)	01067	1.0
Oil, fats and grease	00550, 00556 or 00560	15.0**
Phenols	32730	0.3
Selenium (total)	01147	1.0
Silver	01077	1.1
Zinc (total)	01092	1.0
Total Dissolved Solids	70300	1500

* For purposes of this Section,~~section~~ the concentration of un-ionized ammonia shall be computed according to the following equation:

$$U = \frac{N}{\left[0.94412\left(1+10^{x}\right)+0.0559\right]}$$

where:

$$X = 0.09018 + \frac{2729.92 - pH}{(T + 273.16)}$$

U = Concentration of un-ionized ammonia as N in mg/L

N = Concentration of ammonia nitrogen as N in mg/L

T = Temperature in degrees Celsius

** Oil shall be analytically separated into polar and non-polar components if the total concentration exceeds 15 mg/L. In no case shall either of the components exceed 15 mg/L (i.e., 15 mg/L polar materials and 15 mg/L non-polar materials).

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.408 Temperature

a) For the South Fork of the South Branch of the Chicago River (Bubbly Creek), temperature~~Temperature~~ (STORET number (°F) 00011 and (°3 C) 00010) shall not exceed 34° C (93° F) more than 5% of the time, or 37.8° C (100° F) at any

time.

b) Water temperature shall not exceed the maximum limits in the applicable table in subsections (b), (c) and (d) during more than one percent of the hours in the 12-month period ending with any month. Moreover, at no time shall the water temperature exceed the maximum limits in the applicable table that follows by more than 1.7°C (3.0°F).

c) Water temperature in the Chicago Area Waterway System Aquatic Life Use A waters listed in 35 Ill. Adm. Code 303.230 shall not exceed the limits in the following table in accordance with subsection (a):

Months	Daily Maximum (°F)
January	60
February	60
March	60
April	90
May	90
June	90
July	90
August	90
September	90
October	90
November	90
December	60

d) Water temperature in the Chicago Area Waterway System and Brandon Pool Aquatic Life Use B waters listed in 35 Ill. Adm. Code 303.325 shall not exceed the limits in the following table in accordance with subsection (a):

Months	Daily Maximum (°F)
January	60
February	60
March	60
April	90
May	90
June	90
July	90
August	90

September	90
October	90
November	90
December	60

e) Water temperature for the Upper Dresden Island Pool Aquatic Life Use waters, as defined in 35 Ill. Adm. Code 303.237, shall not exceed the limits in the following table in accordance with subsection (a):

Months	Daily Maximum (°F)
January	60
February	60
March	60
April	90
May	90
June	90
July	90
August	90
September	90
October	90
November	90
December	60

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.409 Cyanide for the South Fork of the South Branch of the Chicago River (Bubbly Creek)

Cyanide (total) shall not exceed 0.10 mg/L in the South Fork of the South Branch of the Chicago River (Bubbly Creek)~~.~~.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.410 Substances Toxic to Aquatic Life

Any substance or combination of substances toxic to aquatic life not listed in Section 302.407 shall not be present in amounts toxic or harmful to human health, aquatic life or wildlife; except for the South Fork of the South Branch of the Chicago River (Bubbly Creek) where the substance shall not exceed one-half of the 96-hour median tolerance limit (96-hour TL_m) for native fish or essential fish food organisms.

a) Any substance or combination of substances shall be deemed to be toxic or harmful to aquatic life if present in concentrations that exceed the following:

1) An Acute Aquatic Toxicity Criterion (AATC) validly derived and correctly applied pursuant to procedures set forth in Sections 302.612 through 302.618 or in Section 302.621; or

2) A Chronic Aquatic Toxicity Criterion (CATC) validly derived and correctly applied pursuant to procedures set forth in Section 302.627 or 302.630.

b) Any substance or combination of substances shall be deemed to be toxic or harmful to wild or domestic animal life if present in concentrations that exceed any Wild and Domestic Animal Protection Criterion (WDAPC) validly derived and correctly applied pursuant to Section 302.633.

c) Any substance or combination of substances shall be deemed to be toxic or harmful to human health if present in concentrations that exceed criteria, validly derived and correctly applied, based on either of the following:

1) Disease or functional impairment due to a physiological mechanism for which there is a threshold dose below which no damage occurs calculated pursuant to Sections 302.642 through 302.648 (Human Threshold Criterion); or

2) Disease or functional impairment due to a physiological mechanism for which any dose may cause some risk of damage calculated pursuant to Sections 302.651 through 302.658 (Human Nonthreshold Criterion).

d) The most stringent criterion of subsections (a), (b) and (c) shall apply at all points outside of any waters within which mixing is allowed pursuant to Section 302.102. In addition, the AATC derived pursuant to subsection (a)(1) shall apply in all waters except that it shall not apply within a ZID that is prescribed in accordance with Section 302.102.

e) The procedures of Subpart F set forth minimum data requirements, appropriate test protocols, and data assessment methods for establishing criteria pursuant to subsections (a), (b) and (c). No other procedures may be used to establish such criteria unless approved by the Board in a rulemaking or adjusted standard proceeding pursuant to Title VII of the Act. The validity and applicability of the Subpart F procedures may not be challenged in any proceeding brought pursuant to Title VIII or X of the Act, although the validity and correctness of application

of the numeric criteria derived pursuant to Subpart F may be challenged in the proceedings pursuant to subsection (f).

f) Agency derived criteria may be challenged as follows:

1) A permittee may challenge the validity and correctness of application of a criterion derived by the Agency pursuant to this Section only at the time the criterion is first applied in an NPDES permit pursuant to 35 Ill. Adm. Code 309.152 or in an action pursuant to Title VIII of the Act for violation of the toxicity water quality standard. Failure of a person to challenge the validity of a criterion at the time of its first application shall constitute a waiver of the challenge in any subsequent proceeding involving application of the criterion to that person.

2) Consistent with subsection (f)(1), if a criterion is included as, or is used to derive, a condition of an NPDES discharge permit, a permittee may challenge the criterion in a permit appeal pursuant to Section 40 of the Act and 35 Ill. Adm. Code 309.181. In any that action, the Agency shall include in the record all information upon which it has relied in developing and applying the criterion, whether that information was developed by the Agency or submitted by the Petitioner. THE BURDEN OF PROOF SHALL BE ON THE PETITIONER TO DEMONSTRATE THAT THE CRITERION-BASED CONDITION IS NOT NECESSARY TO ACCOMPLISH THE PURPOSES OF SUBSECTION (a) (see Section 40(a)(1) of the Act), but there is no presumption in favor of the general validity and correctness of the application of the criterion as reflected in the challenged condition.

3) Consistent with subsection (f)(1), in an action in which alleged violation of the toxicity water quality standard is based on alleged excursion of a criterion, the person bringing the action shall have the burdens of going forward with proof and of persuasion regarding the general validity and correctness of application of the criterion.

g) Subsections (a) through (e) do not apply to USEPA registered pesticides approved for aquatic application and applied pursuant to the following conditions:

1) Application shall be made in strict accordance with label directions;

2) Applicator shall be properly certified under the provisions of the Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 135 et seq. (1972)); and

3) Applications of aquatic pesticides must be in accordance with the laws, regulations and guidelines of all state and federal agencies authorized by law to regulate, use or supervise pesticide applications.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.412 Total Ammonia Nitrogen

a) This Section does not apply to the South Fork of the South Branch of the Chicago River (Bubbly Creek).

b) For the Chicago Area Waterway System and the Lower Des Plaines River described in 35 Ill. Adm. Code 303.204 and listed in 35 Ill. Adm. Code 303.220 through 303.240, total ammonia nitrogen must in no case exceed 15 mg/L.

c) The total ammonia nitrogen acute, chronic, and sub-chronic standards are determined in accordance with the equations in subsections (c)(1) and (c)(2). Attainment of each standard must be determined in accordance with subsections (d) and (e) in mg/L.

1) The acute standard (AS) is calculated using the following equation:

$$AS = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

2) The chronic standard (CS) is calculated using the following equations:

A) During the Early Life Stage Present period, as defined in subsection (e):

i) When water temperature is less than or equal to 14.51°C:

$$CS = \left\{ \frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right\} (2.85)$$

ii) When water temperature is above 14.51°C:

$$CS = \left\{ \frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right\} \left(1.45 * 10^{0.028*(25-T)}\right)$$

where:

T = Water Temperature, degrees Celsius

B) During the Early Life Stage Absent period, as defined in subsection (e):

i) When water temperature is less than or equal to 7°C:

$$CS = \left\{ \frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right\} \left(1.45 * 10^{0.504}\right)$$

ii) When water temperature is greater than 7°C:

$$CS = \left\{ \frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right\} \left(1.45 * 10^{0.028(25-T)}\right)$$

where:

T = Water Temperature, degrees Celsius

3) The sub-chronic standard is equal to 2.5 times the chronic standard.

d) Attainment of the Total Ammonia Nitrogen Water Quality Standards

1) The acute standard for total ammonia nitrogen (in mg/L) must not be exceeded at any time except in those waters for which the Agency has approved a ZID pursuant to Section 302.102.

2) The 30-day average concentration of total ammonia nitrogen (in mg/L) must not exceed the chronic standard (CS) except in those waters in which mixing is allowed pursuant to Section 302.102. Attainment of the chronic standard (CS) is determined in accordance with subsection (d) of this Section by averaging at least four samples collected at weekly intervals or at other sampling intervals that statistically represent a 30-day sampling period. The samples must be collected in a manner that assures a representative sampling period.

3) The 4-day average concentration of total ammonia nitrogen (in mg/L) must not exceed the sub-chronic standard except in those waters in which mixing is allowed pursuant to Section 302.102. Attainment of the sub-chronic standard is determined in accordance with subsection (d) by averaging daily sample results collected over a period of four consecutive

days within the 30-day averaging period. The samples must be collected in a manner that assures a representative sampling period.

e) The water quality standard for each water body must be calculated based on the temperature and pH of the water body measured at the time of each ammonia sample. The concentration of total ammonia in each sample must be 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.

f) The Early Life Stage Present period occurs from March through October. All other periods are subject to the Early Life Stage Absent period, except that waters listed in 35 Ill. Adm. Code 303.240 are not subject to Early Life Stage Present ammonia limits at any time.

BOARD NOTE: Acute and chronic standard concentrations for total ammonia nitrogen (in mg/L) for different combinations of pH and temperature are shown in Appendix C.

(Source: Added at 38 Ill. Reg. _____ effective_____)

SUBPART F: PROCEDURES FOR DETERMINING WATER QUALITY CRITERIA

Section 302.601 Scope and Applicability

This Subpart contains the procedures for determining the water quality criteria set forth in Sections~~Section~~ 302.210(a), (b) and (c) and 302.410(a), (b) and (c).

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.648 Determining the Human Threshold Criterion

The HTC is calculated according to the equation:

$$HTC = ADI/[W + (F \times BCF)]$$

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 (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 38 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:

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(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 38 Ill. Reg. _____, effective _____)

~~ILLINOIS REGISTER~~ JCAR350302-1419366r01

~~POLLUTION CONTROL BOARD~~

~~NOTICE OF PROPOSED AMENDMENTS~~

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

PART 302
WATER QUALITY STANDARDS

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SUBPART E: LAKE MICHIGAN BASIN WATER QUALITY STANDARDS

SUBPART F: PROCEDURES FOR DETERMINING WATER QUALITY CRITERIA

~~ILLINOIS REGISTER~~ JCAR350302-1419366r01

~~POLLUTION CONTROL BOARD~~

~~NOTICE OF PROPOSED AMENDMENTS~~

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. 18871, effective December 12, 2012; amended ~~at~~in R11-18(B) at 37 Ill. Reg. 7493, effective May 16, 2013; amended in R08-09(D) at 38 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL WATER QUALITY PROVISIONS

Section 302.101 Scope and Applicability

a) This Part contains schedules of water quality standards which are applicable throughout the State as designated in 35 Ill. Adm. Code 303. Site specific water quality standards are found with the water use designations in 35 Ill. Adm. Code 303.

b) Subpart B contains general use water quality standards which must be met in waters of the State for which there is no specific designation (35 Ill. Adm. Code 303.201).

c) Subpart C contains the public and food processing water supply standards. These are cumulative with Subpart B and must be met by all designated waters at the

point at which water is drawn for treatment and distribution as a potable supply or for food processing (35 Ill. Adm. Code 303.202).

d) Subpart D contains the Chicago Area Waterway System and the Lower Des Plaines River water ~~quality secondary contact and indigenous aquatic life standards~~qualitystandards. These standards must be met only by certain waters designated in 35 Ill. Adm. Code 303.204, 303.220, 303.225, 303.227, 303.230, 303.235 and ~~303.240 303.441.~~303.240. Subpart D also contains water quality standards applicable to indigenous aquatic life waters found only in the South Fork of the South Branch of the Chicago River (Bubbly Creek).

e) Subpart E contains the Lake Michigan Basin water quality standards. These must be met in the waters of the Lake Michigan Basin as designated in 35 Ill. Adm. Code 303.443.

f) Subpart F contains the procedures for determining each of the criteria designated in Sections 302.210 and 302.410.

g) Unless the contrary is clearly indicated, all references to "Parts" or "Sections" are to Ill. Adm. Code, Title 35: Environmental Protection. For example, "Part 309" is 35 Ill. Adm. Code 309, and "Section 309.101" is 35 Ill. Adm. Code 309.101.

(Source: Amended at 38 Ill. Reg. _____, effective_____)

Section 302.102 Allowed Mixing, Mixing Zones and ZIDs

a) Whenever a water quality standard is more restrictive than its corresponding effluent standard, or where there is no corresponding effluent standard specified at 35 Ill. Adm. Code 304, an opportunity shall be allowed for compliance with 35 Ill. Adm. Code 304.105 by mixture of an effluent with its receiving waters, provided the discharger has made every effort to comply with the requirements of 35 Ill. Adm. Code 304.102.

b) The portion, volume and area of any receiving waters within which mixing is allowed pursuant to subsection (a) shall be limited by the following:

1) Mixing must be confined in an area or volume of the receiving water no larger than the area or volume which would result after incorporation of outfall design measures to attain optimal mixing

efficiency of effluent and receiving waters. ~~Such~~These measures may include, but are not limited to, use of diffusers and engineered location and configuration of discharge points.

2) Mixing is not allowed in waters which include a tributary stream entrance if ~~such~~the mixing occludes the tributary mouth or otherwise restricts the movement of aquatic life into or out of the tributary.

3) Mixing is not allowed in water adjacent to bathing beaches, bank fishing areas, boat ramps or dockages or any other public access area.

4) Mixing is not allowed in waters containing mussel beds, endangered species habitat, fish spawning areas, areas of important aquatic life habitat, or any other natural features vital to the well being of aquatic life in such a manner that the maintenance of aquatic life in the body of water as a whole would be adversely affected.

5) Mixing is not allowed in waters ~~which~~that contain intake structures of public or food processing water supplies, points of withdrawal of water for irrigation, or watering areas accessed by wild or domestic animals.

6) Mixing must allow for a zone of passage for aquatic life in which water quality standards are met. However, a zone of passage is not required in receiving streams that have zero flow for at least seven consecutive days recurring on average in nine years out of ~~ten.~~10.

7) The area and volume in which mixing occurs, alone or in combination with other areas and volumes of mixing, must not intersect any area of any body of water in such a manner that the maintenance of aquatic life in the body of water as a whole would be adversely affected.

8) The area and volume in which mixing occurs, alone or in combination with other areas and volumes of mixing, must not contain more than 25% of the cross-sectional area or volume of

flow of a stream except for those streams ~~where~~for which the dilution ratio is less than 3:1. In streams where the dilution ratio is less than 3:1, the volume in which mixing occurs, alone or in combination with other volumes of mixing, must not contain more than 50 % of the volume flow unless an applicant for an NPDES permit demonstrates, pursuant to subsection (d) ~~of this section~~, that an adequate zone of passage is provided for pursuant to ~~Section 302.102~~subsection (b)(6).

9) No mixing is allowed ~~where~~when the water quality standard for the constituent in question is already violated in the receiving water.

10) No body of water may be used totally for mixing of single outfall or combination of outfalls, except as provided in ~~Section 302.102~~subsection (b)(6).

11) Single sources of effluents ~~which~~that have more than one outfall shall be limited to a total area and volume of mixing no larger than that allowable if a single outfall were used.

12) The area and volume in which mixing occurs must be as small as is practicable under the limitations prescribed in this subsection (b), and in no circumstances may the mixing encompass a surface area larger than 26 acres.

c) All water quality standards of this Part must be met at every point outside of the area and volume of the receiving water within which mixing is allowed. The acute toxicity standards of this Part ~~Sections 302.208 and 302.210~~ must be met within the area and volume within which mixing is allowed, except as provided in subsection (e).

d) Pursuant to the procedures of Section 39 of the Act and 35 Ill. Adm. Code 309, a person may apply to the Agency to include as a condition in an NPDES permit formal definition of the area and volume of the waters of the State within which mixing is allowed for the NPDES discharge in question. ~~Such formally~~The defined area and volume of allowed mixing shall constitute a "mixing zone" for the purposes of 35 Ill. Adm. Code: Subtitle C. Upon proof by the applicant that a proposed mixing zone conforms with the requirements of Section 39 of the Act, this Section and any additional limitations as may be imposed by the Clean Water

Act (CWA) (33 USC 1251 et seq.), the Act or Board regulations, the Agency shall, pursuant to Section 39(b) of the Act, include within the NPDES permit a condition defining the mixing zone.

e) Pursuant to the procedures of Section 39 of the Act and 35 Ill. Adm. Code 309, a person may apply to the Agency to include as a condition in an NPDES permit a ZID as a component portion of a mixing zone. ~~Such~~The ZID shall, at a minimum, be limited to waters within which effluent dispersion is immediate and rapid. For the purposes of this subsection, "immediate" dispersion means an effluent's merging with receiving waters without delay in time after its discharge and within close proximity of the end of the discharge pipe, so as to minimize the length of exposure time of aquatic life to undiluted effluent, and "rapid" dispersion means an effluent's merging with receiving waters so as to minimize the length of exposure time of aquatic life to undiluted effluent. Upon proof by the applicant that a proposed ZID conforms with the requirements of Section 39 of the Act and this Section, the Agency shall, pursuant to Section 39(b) of the Act, include within the NPDES permit a condition defining the ZID.

f) Pursuant to Section 39 of the Act and 35 Ill. Adm. Code 309.103, an applicant for an NPDES permit shall submit data to allow the Agency to determine that the nature of any mixing zone or mixing zone in combination with a ZID conforms with the requirements of Section 39 of the Act and of this Section. A permittee may appeal Agency determinations concerning a mixing zone or ZID pursuant to the procedures of Section 40 of the Act and 35 Ill. Adm. Code 309.181.

g) ~~Where~~When a mixing zone is defined in an NPDES permit, the waters within that mixing zone, for the duration of that NPDES permit, shall constitute the sole waters within which mixing is allowed for the permitted discharge. It shall not be a defense in any action brought pursuant to 35 Ill. Adm. Code 304.105 that the area and volume of waters within which mixing may be allowed pursuant to subsection (b) is less restrictive than the area or volume or waters encompassed in the mixing zone.

h) ~~Where~~When a mixing zone is explicitly denied in a NPDES permit, no waters may be used for mixing by the discharge to which the NPDES permit applies, all other provisions of this Section notwithstanding.

i) Where an NPDES permit is silent on the matter of a mixing zone, or ~~where~~when no NPDES permit is in effect, the burden of proof shall be on the discharger to

demonstrate compliance with this Section in any action brought pursuant to 35 Ill. Adm. Code 304.105.

(Source: Amended at 38 Ill. Reg. _____, effective_____)

SUBPART D: CHICAGO AREA WATERWAY SYSTEM AND LOWER DES PLAINES RIVER WATER QUALITY STANDARDS ~~SECONDARY CONTACT~~ AND INDIGENOUS AQUATIC LIFE STANDARDS

Section 302.401 Scope and Applicability

a) Subpart D contains the ~~secondary contact and~~ indigenous aquatic life standards. These must be met only by the South Fork of the South Branch of the Chicago River (Bubbly Creek) ~~certain waters specifically designated in Part 303.~~. The Subpart B general use and Subpart C public and food processing water supply standards of this Part do not apply to Bubbly Creek ~~designated for secondary contact and indigenous aquatic life (Section 303.204~~.

b) Subpart D also contains the Chicago Area Waterway System and Lower Des Plaines River water quality standards. These must be met only by waters specifically designated in ~~Part~~35 Ill. Adm. Code 303. The Subpart B general use and Subpart C public and food processing water supply standards of this Part do not apply to waters described in 35 Ill. Adm. Code 303.204 as the Chicago Area Waterway System or Lower Des Plaines River and listed in 35 Ill. Adm. Code 303.220 through 303.240, except that waters designated as Primary Contact Recreation Waters in 35 Ill. Adm. Code 303.220 must meet the numeric water quality standard for bacteria applicable to protected waters in ~~35 Ill. Adm. Code 302.209~~.Section 302.209 of this Part.

(Source: Amended at 38 Ill. Reg. _____, effective_____)

Section 302.402 Purpose

The Chicago Area Waterway System and Lower Des Plaines River standards shall protect primary contact, incidental contact or non-contact recreational uses (except ~~where~~when designated as non-recreational waters)~~:~~, commercial activity, including navigation and industrial water supply uses; and the highest quality aquatic life and wildlife that is attainable, limited only by the physical condition of these waters and hydrologic modifications to these waters. The numeric and narrative standards contained in this Part will assure the protection of the aquatic

life and recreational uses of the Chicago Area Waterway System and Lower Des Plaines River as those uses are defined in 35 Ill. Adm. Code ~~Part~~ 301 and designated in 35 Ill. Adm. Code ~~Part~~ 303. ~~Secondary contact and indigenous~~ Indigenous aquatic life standards are intended ~~for those waters not suited for general use activities but which will be appropriate for all secondary contact uses and which~~ for the South Fork of the South Branch of the Chicago River (Bubbly Creek), which ~~will be~~ is capable of supporting an indigenous aquatic life limited only by the physical configuration of the body of water, characteristics and origin of the water and the presence of contaminants in amounts that do not exceed the water quality standards listed in this Subpart D.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.404 pH

pH ~~(STORET number 00400)~~ shall be within the range of 6.5 ~~6.0~~ to 9.0 except for natural causes, except for the South Fork of the South Branch of the Chicago River (Bubbly Creek) ~~where~~for which pH shall be within the range of 6.0 to 9.0 except for natural causes.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.405 Dissolved Oxygen

Dissolved oxygen ~~(STORET number 00300)~~ concentrations shall not be less than the applicable values in subsections (a), (b), (c)~~, and (d) of this Section 4.0 mg/l at any time except that the Calumet Sag Channel shall not be less than 3.0 mg/1 at any time~~ and (d).

a) For the South Fork of the South Branch of the Chicago River (Bubbly Creek), dissolved oxygen concentrations shall not be less than 4.0 mg/L at any time.

b) For the Upper Dresden Island Pool Aquatic Life Use waters listed in ~~Section 303.230;~~35 Ill. Adm. Code 303.230:

1) during the period of March through July:

A) 6.0 mg/L as a daily mean averaged over 7 days~~.~~; and

B) 5.0 mg/L at any time; and

2) during the period of August through February:

A) 5.5 mg/L as a daily mean averaged over 30 days~~.~~;

B) 4.0 mg/L as a daily minimum averaged over 7 days~~.~~; and

C) 3.5 mg/L at any time.

c) For the Chicago Area Waterway System Aquatic Life Use A waters listed in ~~Section 303.235,~~35 Ill. Adm. Code 303.235:

1) during the period of March through July, 5.0 mg/L at any time; and

2) during the period of August through February:

A) 4.0 mg/L as a daily minimum averaged over 7 days~~.~~; and

B) 3.5 mg/L at any time.

d) For the Chicago Area Waterway System and Brandon Pool Aquatic Life Use B waters listed in ~~Section 303.240,~~35 Ill. Adm. Code 303.240:

1) 4.0 mg/L as a daily minimum averaged over 7 days~~.~~; and

2) 3.5 mg/L at any time.

e) Assessing attainment of dissolved oxygen mean and minimum values.

1) Daily mean is the arithmetic mean of dissolved oxygen concentrations in 24 consecutive hours.

2) Daily minimum is the minimum dissolved oxygen concentration in 24 consecutive hours.

3) The measurements of dissolved oxygen used to determine attainment or lack of attainment with any of the dissolved oxygen standards in this Section must assure daily minima and daily means that represent the true daily minima and daily means.

4) The dissolved oxygen concentrations used to determine a daily mean or daily minimum should not exceed the air-equilibrated concentration.

5) ~~"~~"Daily minimum averaged over 7 days~~"~~" means the arithmetic mean of daily minimum dissolved oxygen concentrations in 7 consecutive 24-hour periods.

6) ~~"~~"Daily mean averaged over 7 days~~"~~" means the arithmetic mean of daily mean dissolved oxygen concentrations in 7 consecutive 24-hour periods.

7) ~~"~~"Daily mean averaged over 30 days~~"~~" means the arithmetic mean of daily mean dissolved oxygen concentrations in 30 consecutive 24-hour periods.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.407 Chemical Constituents

a) The acute standard (AS) for the chemical constituents listed in subsection (e) shall not be exceeded at any time except 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 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 that have water quality based standards dependent upon hardness, the chronic water quality standard will be calculated according to subsection (e) using the hardness of the water body at the time the sample was collected. To calculate attainment status of chronic standards, the concentration of the chemical constituent in each sample is divided by the calculated water quality standard for the sample to determine a quotient. The water quality standard is attained if the mean of the sample quotients is less than or equal to one for the duration of the averaging period.

c) The human health standard (HHS) for the chemical constituents listed in subsection (f) shall not be exceeded, on a 12-month rolling average based on at least eight samples, collected in a manner representative of the sampling period, except as provided in subsection (d).

d) In waters where mixing is allowed pursuant to Section ~~302.102 of this Part.~~302.102, the following apply:

1) The AS shall not be exceeded in any waters except for those waters for which a zone of initial dilution (ZID) applies pursuant to Section ~~302.102 of this Part.~~302.102.

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

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

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

Constituent	AS (µg/L)	CS (µg/L)
Arsenic (trivalent, dissolved)	340 X 1.0*=340	150 X 1.0*=150
Benzene	4200	860
Cadmium (dissolved)	exp[A+Bln(H)] X {1.138672-[(lnH)(0.041838)]}*, where A=-2.918 and B=1.128	exp[A+Bln(H)] X {1.101672-[(lnH)(0.041838)]} *, where A= -3.490 and B=0.7852
Chromium (hexavalent, total)	16	11
Chromium (trivalent, dissolved)	exp[A+Bln(H)] X 0.316*, where A=3.7256 and B=0.8190	exp[A+Bln(H)] X 0.860*, where A=0.6848 and B=0.8190
Copper (dissolved)	exp[A+Bln(H)] X 0.960*, where A=-1.645 and B=0.9422	exp[A+Bln(H)] X 0.960*. where A=-1.646 and B=0.8545
Cyanide**	22	10
Ethylbenzene	150	14
Flouride (total)	$e^{A+B\ln(H)}$ where A = 6.7319 and B = 0.5394	$e^{A+B\ln(H)}$, but shall not exceed 4.0 mg/L, where A = 6.0445 and B = 0.5394

Lead (dissolved)	exp[A+Bln(H)] X {1.46203-[(lnH)(0.145712)]}*, where A=-1.301 and B=1.273	exp[A+Bln(H)] X {1.46203-[(lnH)(0.145712)]}*, where A=-2.863 and B=1.273
Manganese (dissolved)	$e^{A+B\ln(H)}$ X 0.9812*, where A = 4.9187 and B = 0.7467	$e^{A+B\ln(H)}$ X 0.9812*, where A = 4.0635 and B = 0.7467
Mercury (dissolved)	1.4 X 0.85*=1.2	0.77 X 0.85*=0.65
Nickel (dissolved)	exp[A+Bln(H)] X 0.998*, where A=0.5173 and B=0.8460	exp[A+Bln(H)] X 0.997*, where A=-2.286 and B=0.8460
Toluene	2000	600
TRC	19	11
Xylene(s)	920	360
Zinc (dissolved)	exp[A+Bln(H)] X 0.978*, where A=0.9035 and B=0.8473	exp[A+Bln(H)] X 0.986*, where A=-0.4456 and B=0.8473

~~where: µg/L = microgram per liter,~~

~~exp[x] = base of natural logarithms raised to the x- power,~~

~~ln(H) = natural logarithm of Hardness in milligrams per liter,~~

~~* = conversion factor multiplier for dissolved metals, and~~
~~** = 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).~~

where:

µg/L	=	microgram per liter
exp[x]	=	base of natural logarithms raised to the x- power
ln(H)	=	natural logarithm of Hardness in milligrams per liter

*	=	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	HHS in micrograms per liter (µg/L)
Benzene	310
Mercury (total)	0.012
Phenols	860,000

g) Numeric Water Quality Standards for ~~other chemical constituents~~Other Chemical Constituents

Concentrations of the following chemical constituents shall not be exceeded except in waters for which mixing is allowed pursuant to Section ~~302.102 of this Part.~~302.102.

Constituent	Unit	Standard
Chloride	mg/L	500
Iron (dissolved)	mg/L	1.0
Selenium (total)	mg/L	1.0
Silver (dissolved)	µg/L	exp[A+Bln(H)] X 0.85*, where A=-6.52 and B=1.72
Sulfate (where H is ≥ 100 but ≤ 500 and C is ≥ 25 but ≤ 500)	mg/L	[1276.7+5.508(H)-1.457(C)] X 0.65
Sulfate (where H is ≥ 100 but ≤ 500 and C is ≥ 5 but < 25)	mg/L	[-57.478 + 5.79(H) + 54.163(C)] X 0.65
Sulfate (where H > 500 and C ≥ 5)	mg/L	2,000

where: ~~mg/L = milligram per liter,~~

~~µg/L = microgram per liter,~~
~~H = Hardness concentration of receiving water in mg/L as $CaCO_3$,~~

~~C = Chloride concentration of receiving water in mg/L,~~

~~exp[x] = base of natural logarithms raised to the x-power,~~

~~ln(H) = natural logarithm of Hardness in milligrams per liter, and~~

~~* = conversion factor multiplier for dissolved metals~~

mg/L	≡	milligram per liter
µg/L	≡	microgram per liter
H	≡	Hardness concentration of receiving water in mg/L as $CaCO_3$
C	≡	Chloride concentration of receiving water in mg/L
exp[x]	≡	base of natural logarithms raised to the x-power
ln(H)	≡	natural logarithm of Hardness in milligrams per liter
*	≡	conversion factor multiplier for dissolved metals

h) Concentrations of other chemical constituents in the South Fork of the South Branch of the Chicago River (Bubbly Creek) shall not exceed the following standards:

CONSTITUENTS	STORET NUMBER	CONCENTRATION (mg/L)
Ammonia Un-ionized (as N*)	00612	0.1
Arsenic (total)	01002	1.0
Barium (total)	01007	5.0
Cadmium (total)	01027	0.15
Chromium (total hexavalent)	01032	0.3

Chromium (total trivalent)	01033	1.0
Copper (total)	01042	1.0
Cyanide (total)	00720	0.10
Fluoride (total)	00951	15.0
Iron (total)	01045	2.0
Iron (dissolved)	01046	0.5
Lead (total)	01051	0.1
Manganese (total)	01055	1.0
Mercury (total)	71900	0.0005
Nickel (total)	01067	1.0
Oil, fats and grease	00550, 00556 or 00560	15.0**
Phenols	32730	0.3
Selenium (total)	01147	1.0
Silver	01077	1.1
Zinc (total)	01092	1.0
Total Dissolved Solids	70300	1500

* For purposes of this sectionSection, the concentration of un-ionized ammonia shall be computed according to the following equation:

U = N where:
[0.94412(1 + 10^X) + 0.0559]

$$X = 0.09018 + \frac{2729.92}{(T + 273.16)} - pH$$

$$U = \frac{N}{[0.94412(1 + 10^{x}) + 0.0559]}$$

~~U = Concentration of un-ionized ammonia as N in mg/L~~
~~N = Concentration of ammonia nitrogen as N in mg/L~~
~~T = Temperature in degrees Celsius~~

where:

$$X \equiv 0.09018 + \frac{2729.92 - pH}{(T + 273.16)}$$

U ≡ Concentration of un-ionized ammonia as N in mg/L
N ≡ Concentration of ammonia nitrogen as N in mg/L
T ≡ Temperature in degrees Celsius

** Oil shall be analytically separated into polar and non-polar components if the total concentration exceeds 15 mg/L. In no case shall either of the components exceed 15 mg/L (i.e., 15 mg/L polar materials and 15 mg/L non-polar materials).

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.408 Temperature

a) For the South Fork of the South Branch of the Chicago River (Bubbly Creek), temperature ~~Temperature~~ (STORET number (°F) 00011 and (°C) 00010) shall not exceed 34° C (93° F) more than 5% of the time, or 37.8° C (100° F) at any time.

b) Water temperature shall not exceed the maximum limits in the applicable table in subsections (b), (c) and (d)~~, below,~~ during more than one percent of the hours in the 12-month period ending with any month. Moreover, at no time shall the water temperature exceed the maximum limits in the applicable table that follows by more than 1.7 °C (3.0° ~~F~~°F).

c) Water temperature in the Chicago Area Waterway System Aquatic Life Use A waters listed in 35 Ill. Adm. Code 303.230 shall not exceed the limits in the following table in accordance with subsection (a)~~, above~~:

Months	Daily Maximum

	(°F)
January	60
February	60
March	60
April	90
May	90
June	90
July	90
August	90
September	90
October	90
November	90
December	60

d) Water temperature in the Chicago Area Waterway System and Brandon Pool Aquatic Life Use B waters listed in 35 Ill. Adm. Code ~~303.325.~~303.325 shall not exceed the limits in the following table in accordance with subsection (a)~~. above~~:

Months	Daily Maximum (°F)
January	60
February	60
March	60
April	90
May	90
June	90
July	90
August	90
September	90
October	90
November	90
December	60

e) Water temperature for the Upper Dresden Island Pool Aquatic Life Use waters, as defined in 35 Ill. Adm. Code 303.237, shall not exceed the limits in the following table in accordance with subsection (a)~~. above~~:

Months		Daily Maximum (°F)
January		60
February		60
March		60
April		90
May		90
June		90
July		90
August		90
September		90
October		90
November		90
December		60

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.409 Cyanide for the South Fork of the South Branch of the Chicago River (Bubbly Creek)

Cyanide (total) shall not exceed 0.10 mg/~~l~~L in the South Fork of the South Branch of the Chicago River (Bubbly Creek).

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.410 Substances Toxic to Aquatic Life

Any substance or combination of substances toxic to aquatic life not listed in Section 302.407 shall not be present in amounts toxic or harmful to human health, aquatic life or wildlife; except for the South Fork of the South Branch of the Chicago River (Bubbly Creek) where the substance shall not exceed one-half of the 96-hour median tolerance limit (96-hour TL_m) for native fish or essential fish food organisms.

a) Any substance or combination of substances shall be deemed to be toxic or harmful to aquatic life if present in concentrations that exceed the following:

1) An Acute Aquatic Toxicity Criterion (AATC) validly derived and correctly applied pursuant to procedures set forth in Sections 302.612 through 302.618 or in Section 302.621; or

2) A Chronic Aquatic Toxicity Criterion (CATC) validly derived and correctly applied pursuant to procedures set forth in ~~Sections~~Section 302.627 or 302.630.

b) Any substance or combination of substances shall be deemed to be toxic or harmful to wild or domestic animal life if present in concentrations that exceed any Wild and Domestic Animal Protection Criterion (WDAPC) validly derived and correctly applied pursuant to Section 302.633.

c) Any substance or combination of substances shall be deemed to be toxic or harmful to human health if present in concentrations that exceed criteria, validly derived and correctly applied, based on either of the following:

1) Disease or functional impairment due to a physiological mechanism for which there is a threshold dose below which no damage occurs calculated pursuant to Sections 302.642 through 302.648 (Human Threshold Criterion); or

2) Disease or functional impairment due to a physiological mechanism for which any dose may cause some risk of damage calculated pursuant to Sections 302.651 through 302.658 (Human Nonthreshold Criterion).

d) The most stringent criterion of subsections (a), (b) and (c) shall apply at all points outside of any waters within which~~,~~ mixing is allowed pursuant to Section 302.102. In addition, the AATC derived pursuant to subsection (a)(1) shall apply in all waters except that it shall not apply within a ZID that is prescribed in accordance with Section 302.102.

e) The procedures of Subpart F set forth minimum data requirements, appropriate test protocols, and data assessment methods for establishing criteria pursuant to subsections (a), (b) and (c). No other procedures may be used to establish such criteria unless approved by the Board in a rulemaking or adjusted standard proceeding pursuant to Title VII of the Act. The validity and applicability of the Subpart F procedures may not be challenged in any proceeding brought pursuant to ~~Titles~~Title VIII or X of the Act, although the validity and correctness of

application of the numeric criteria derived pursuant to Subpart F may be challenged in ~~such~~the proceedings pursuant to subsection (f).

f) Agency derived criteria may be challenged as follows:

1) A permittee may challenge the validity and correctness of application of a criterion derived by the Agency pursuant to this Section only at the time ~~such~~the criterion is first applied in an NPDES permit pursuant to 35 Ill. Adm. Code 309.152 or in an action pursuant to Title VIII of the Act for violation of the toxicity water quality standard. Failure of a person to challenge the validity of a criterion at the time of its first application shall constitute a waiver of ~~such~~the challenge in any subsequent proceeding involving application of the criterion to that person.

2) Consistent with subsection (f)(1), if a criterion is included as, or is used to derive, a condition of an NPDES discharge permit, a permittee may challenge the criterion in a permit appeal pursuant to Section 40 of the Act and 35 Ill. Adm. Code 309.181. In any ~~such~~that action, the Agency shall include in the record all information upon which it has relied in developing and applying the criterion, whether ~~such~~that information was developed by the Agency or submitted by the Petitioner. THE BURDEN OF PROOF SHALL BE ON THE PETITIONER TO DEMONSTRATE THAT THE CRITERION-BASED CONDITION IS NOT NECESSARY TO ACCOMPLISH THE PURPOSES OF SUBSECTION (a) (see Section 40(a)(1) of the Act), but there is no presumption in favor of the general validity and correctness of the application of the criterion as reflected in the challenged condition.

3) Consistent with subsection (f)(1), in an action ~~where~~in which alleged violation of the toxicity water quality standard is based on alleged excursion of a criterion, the person bringing ~~such~~the action shall have the burdens of going forward with proof and of persuasion regarding the general validity and correctness of application of the criterion.

g) Subsections (a) through (e) do not apply to USEPA registered pesticides approved for aquatic application and applied pursuant to the following conditions:

1) Application shall be made in strict accordance with label directions;

2) Applicator shall be properly certified under the provisions of the Federal Insecticide, Fungicide, and Rodenticide Act (7 ~~U.S.C.~~USC 135 et seq. (1972)); and

3) Applications of aquatic pesticides must be in accordance with the laws, regulations and guidelines of all state and federal agencies authorized by law to regulate, use or supervise pesticide applications.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 302.412 Total Ammonia Nitrogen

a) This ~~section~~Section does not apply to the South Fork of the South Branch of the Chicago River (Bubbly Creek).

b) For the Chicago Area Waterway System and the Lower Des Plaines River described in 35 Ill. Adm. Code 303.204 and listed in 35 Ill. Adm. Code 303.220 through 303.240, total ammonia nitrogen must in no case exceed 15 mg/L.

c) The total ammonia nitrogen acute, chronic, and sub-chronic standards are determined in accordance with the equations ~~given~~ in subsections (c)(1) and (c)(2) ~~of this Section~~. Attainment of each standard must be determined in accordance with subsections (d) and (e) ~~of this Section~~ in mg/L.

1) The acute standard (AS) is calculated using the following equation:

$$AS = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

~~AS = 0.411 / (1 + 10^(7.204 - pH)) + 58.4 / (1 + 10^(pH - 7.204))~~

2) The chronic standard (CS) is calculated using the following equations:

A) During the Early Life Stage Present period, as defined in subsection (e) ~~of this Section~~:

i) When water temperature is less than or equal to 14.51°C:

$$CS = \left\{ \frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right\} (2.85)$$

ii) When water temperature is above 14.51°C:

$$CS = \left\{ \frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right\} \left(1.45 * 10^{0.028*(25-T)}\right)$$

~~Where T = Water Temperature, degrees Celsius~~
where:

T = Water Temperature, degrees Celsius

B) During the Early Life Stage Absent period, as defined in subsection (e)~~ of this Section~~:

i) When water temperature is less than or equal to 7°C:

$$CS = \left\{ \frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right\} \left(1.45 * 10^{0.504}\right)$$

ii) When water temperature is greater than 7°C:

$$CS = \left\{ \frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right\} \left(1.45 * 10^{0.028(25-T)}\right)$$

~~Where T = Water Temperature, degrees Celsius~~
where:

T = Water Temperature, degrees Celsius

3) The sub-chronic standard is equal to 2.5 times the chronic standard.

d) Attainment of the Total Ammonia Nitrogen Water Quality Standards~~:~~

1) The acute standard for total ammonia nitrogen (in mg/L) must not be exceeded at any time except in those waters for which the Agency has approved a ZID pursuant to Section ~~302.102 of this Part.~~302.102.

2) The 30-day average concentration of total ammonia nitrogen (in mg/L) must not exceed the chronic standard (CS) except in those waters in which mixing is allowed pursuant to Section ~~302.102 of this Part.~~302.102. Attainment of the chronic standard (CS) is determined in accordance with subsection (d) of this Section by averaging at least four samples collected at weekly intervals or at other sampling intervals that statistically represent a 30-day sampling period. The samples must be collected in a manner that assures a representative sampling period.

3) The 4-day average concentration of total ammonia nitrogen (in mg/L) must not exceed the sub-chronic standard except in those waters in which mixing is allowed pursuant to Section 302.102. Attainment of the sub-chronic standard is determined in accordance with subsection (d) ~~of this Section~~ by averaging daily sample results collected over a period of four consecutive days within the 30-day averaging period. The samples must be collected in a manner that assures a representative sampling period.

e) The water quality standard for each water body must be calculated based on the temperature and pH of the water body measured at the time of each ammonia sample. The concentration of total ammonia in each sample must be 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.

f) The Early Life Stage Present period occurs from March through October. All other periods are subject to the Early Life Stage Absent period, except that waters listed in ~~Section~~35 Ill. Adm. Code 303.240 are not subject to Early Life Stage Present ammonia limits at any time.

~~POLLUTION CONTROL BOARD~~

~~NOTICE OF PROPOSED AMENDMENTS~~

BOARD NOTE: Acute and chronic standard concentrations for total ammonia nitrogen (in mg/L) for different combinations of pH and temperature are shown in Appendix C.

(Source: Added at 38 Ill. Reg. _____ effective_____)

SUBPART F: PROCEDURES FOR DETERMINING WATER QUALITY CRITERIA

Section 302.601 Scope and Applicability

This Subpart contains the procedures for determining the water quality criteria set forth in ~~Sections~~~~Section~~Sections 302.210(a), (b) and (c) and 302.410(a), (b) and (c).

(Source: Amended at 38 Ill. Reg. _____, effective_____)

Section 302.648 Determining the Human Threshold Criterion

The HTC is calculated according to the equation:

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

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 (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 38 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:

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(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 38 Ill. Reg. _____, effective_____)

Document comparison by Workshare Compare on Monday, September 29, 2014 12:35:10 PM

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Style change	0
Format changed	0
Total changes	325

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENTS

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

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

3)

Section Numbers:	Proposed Action:
303.204	Amendment
303.235	Amendment
303.240	New Section
303.449	New Section

4) Statutory 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]

5) A Complete Description of the Subjects and Issues Involved: For a more detailed description, please see the Board's opinion and order of September 18, 2014, in R08-9(D). The Board proposes water quality standards for the Chicago Area Waterways System (CAWS) and the Lower Des Plaines River (LDPR) that are necessary to meet the aquatic life uses for those waterways. The Board proposes the standards for many constituents as recommended by the Illinois Environmental Protection Agency (IEPA), with two notable exceptions. The Board finds that the 500 mg/L chloride standard must be adapted for the Chicago Sanitary and Ship Canal (CSSC) from December 1 until April 30. Therefore the Board proposes for the CSSC a numeric standard of 620 mg/L as an acute water quality standard and 990 mg/L as a chronic water quality standard for chloride from December 1 until April 30. The Board also finds that the temperature water quality standards proposed by IEPA as well as those suggested by other participants are not appropriate. Therefore, the Board proposes that the General Use temperature standards apply to the waterways.

6) Published studies or reports, and sources of underlying data, used to compose this rulemaking:

A. Lower Des Plaines River Use Attainability Analysis Final Report. AquaNova International, Ltd. and Hey & Associates, Inc., prepared for Illinois EPA (December 2003).

B. Chicago Area Waterway System Use Attainability Analysis Final Report. Camp, Dresser and McKee, prepared for Illinois EPA (August 2007).

C. Interim Economic Guidance for Water Quality Standards Workbook (Appendix M to the Water Quality Standards Handbook—Second Edition, EPA 823-B-94-

005b). U.S. EPA Office of Water (EPA-823-B-95-002) (March 1995).

D. Illinois Sanitary Water Board Rules and Regulations SWB-8 Water Quality Standards, Interstate Waters, Illinois River and Lower Section of Des Plaines River (REF. 348.025 ISWB SWB-8 C.2) (Criteria Adopted December 1, 1966; Implementation Plan Submitted August 10, 1967; Approved by U.S. Dept. of Interior January 27, 1968; Sanitary Water Board Reapproved March 5, 1968).

Illinois Sanitary Water Board Rules and Regulations SWB-15 Water Quality Standards, Interstate Waters, Chicago River and Calumet River System and Calumet Harbor Basin (REF. 348.025 ISWB SWB-15 C.2) (Adopted by Board June 28, 1967; Approved by U.S. Dept. of Interior January 27, 1968; Sanitary Water Board reapproval March 5, 1968).

E. Ordinance: Code of Forest Preserve District of Cook County, Title 2: Forest Preserve District Lands and Properties, Chapter 4: Recreation in the Forest Preserve.

F. Inventory of Public Access Locations along the Chicago Area Waterway System. Illinois EPA, Bureau of Water (May 15, 2007).

G. Description of the Chicago Waterway System: Use Attainability Analysis Study Conducted by Illinois EPA Bureau of Water in Cooperation with MWRDGC. MWRDGC, Research and Development (May 2002).

H. Minutes from the June 23, 2005 Dispersal Barrier Advisory Panel. Philip B. Moy, University of Wisconsin Sea Grant Institute (June 23, 2005).

I. Chicago Area Waterways Health Precautions Pamphlet. MWRDGC, Illinois Department of Public Health, U.S. EPA, Illinois EPA (October 2003).

J. Ambient Water Quality Criteria for Bacteria – 1986. U.S. EPA Office of Water (EPA440/5-84-002) (January 1986).

K. Analysis of Physical Habitat Quality and Limitations to Waterways in the Chicago Area. Center for Applied Bioassessment and Biocriteria, prepared for U.S. EPA Region 5 (2004).

L. Aquatic Life and Habitat Data Collected in 2006 on the Illinois and Des Plaines Rivers. Midwest Biodiversity Institute, prepared for U.S. EPA Region 5 (2006).

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NOTICE OF PROPOSED AMENDMENTS

M. Biological Criteria for the Protection of Aquatic Life: Volume II: Users Manual for Biological and Field Assessment of Ohio Surface Waters. Ohio Environmental Protection Agency, Surface Water Section (Updated January 1, 1988).

N. Interpreting Illinois Fish-IBI Scores, DRAFT: January 2005. Illinois EPA, Bureau of Water (January 2005).

O. Quality Criteria for Water 1986 (gold book). U.S. EPA Office of Water (EPA 440/5-86-001) pp. 17-21, 34, 76-79, 168-171 and 253-261 (May 1, 1986).

P. 2001-2006 Effluent Sample Results for Temperature at Water Reclamation Plants, 2005 and 2006 Water Quality Sample Results for Temperature, pH, Alkalinity and Chloride, and Calculations of H2CO3 (soluble CO2) in Chicago Area Waterways in 2005 and 2006. MWRDGC, Research and Development (June 4, 2007).

Q. Ambient Water Quality Criteria for Dissolved Oxygen. U.S. EPA Office of Water Regulations and Standards. Criteria and Standards Division. Washington, D.C (EPA 440/5-86-003) (April 1986).

R. 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water. U.S. EPA Office of Water 4301 (EPA-820-B-96-001) (September 1996).

S. The Metals Translator: Guidance for Calculating A Total Recoverable Permit Limit From A Dissolved Criterion. U.S. EPA Office of Water 4305 (EPA-823-B-96-007) (June 1996).

T. 2001 Update of Ambient Water Quality Criteria for Cadmium. U.S. EPA Office of Water 4304 (EPA-822-R-01-001) (April 2001).

U. 2005 and 2006 Water Quality Sample Results for Hardness, Cadmium, Nickel and Zinc and Calculated Compliance Rates with Proposed Chronic Standards for the Respective Metals. MWRDGC, Research and Development (April 25, 2007).

V. 2005 and 2006 Effluent Sample Results for Hardness and Cadmium at Calumet, North Side, and Stickney Water Reclamation Plants. MWRDGC, Research and Development (May 1, 2007).

W. Quality Criteria for Water. U.S. EPA (PB-263 943) pp. 152-159 (1976).

X. Ambient Water Quality for Silver. U.S. EPA Office of Water (EPA 440/5-80-071) (October 1980).

Y. Derivation of a Colorado State Manganese Table Value Standard for the Protection of Aquatic Life. William A. Stubblefield and James R. Hockett. ENSR Corporation (July 2000).

Z. Temperature Criteria Options for the Lower Des Plaines River. Chris O. Yoder, Research Director. Midwest Biodiversity Institute, Columbus, Ohio (October 11, 2005).

AA. Letter from Chris Yoder, Midwest Biodiversity Institute, to Toby Frevert, Illinois EPA Bureau of Water (July 11, 2007).

BB. 1999 Update of Ambient Water Quality Criteria for Ammonia. U.S. EPA Office of Water (EPA-822-R-99-014) (December 1999).

CC. The Upper Illinois Waterway Study Interim Report. 1994 Ichythoplankton Investigation RM 276.2-321.7. EA Engineering, Science, and Technology, prepared for Commonwealth Edison Co. (April 1995).

DD. 2004 Lower Des Plaines River Fisheries Investigation RM 274.4-285.5. EA Engineering, Science, and Technology, prepared for Midwest Generation, EME, LLC (November 2005).

EE. Master Plan North Side Water Reclamation Plant and Surrounding Chicago Waterways, Technical Memorandum 1WQ: Disinfection Evaluation. Consoer Townsend Environdyne Engineers, Inc., prepared for MWRDGC (August 26, 2005).

FF. Technical Memorandum 4WQ Supplemental Aeration of the North and South Branches of the Chicago River MWRDGC North Side Water Reclamation Plant, Project No. 04-014-2P. Consoer Townsend Environdyne Engineers, Inc., prepared for MWRDGC (January 12, 2007).

GG. Technical Memorandum 5WQ Flow Augmentation of the Upper North Shore Channel MWRDGC North Side Water Reclamation Plant, Project No. 04-014-2P. Consoer Townsend Environdyne Engineers, Inc., prepared for MWRDGC

(January 12, 2007).

HH. Technical Memorandum 6WQ Flow Augmentation and Supplemental Aeration of the South Fork of the South Branch of the Chicago River MWRDGC North Side Water Reclamation Plant, Project No. 04-014-2P. Consoer Townsend Environdyne Engineers, Inc., prepared for MWRDGC (January 12, 2007).

II. Memorandum of Understanding By and Between Midwest Generation LLC and Illinois Environmental Protection Agency, Revised 12/10/2006 3:21:06 PM.

JJ. A River is Reborn - Use Attainability Analysis for the Lower Des Plaines River, Illinois. Vladimir Novotny, Neal O'Reilly, Timothy Ehlinger, Toby Frevert and Scott Twait. Water Environment Research, Volume 79, Number 1, pp. 68-80.

KK. Chicago Area Waterway System Habitat Evaluation And Improvement Study: Habitat Evaluation Report And Habitat Improvement Report, Prepared for the Metropolitan Water Reclamation District of Greater Chicago by LimnoTech

Statutes and Regulations

Federal Water Pollution Control Act (Clean Water Act) 33 USC 1251 et seq.

Beaches Environmental Assessment and Coastal Health Act 2000 (Beach Act), 33 USC 1313.

Illinois Environmental Protection Act, 415 ILCS 5/1.

40 CFR 131 (Water Quality Standards).

35 Illinois Administrative Code Subtitle C: Water Pollution.

U.S. EPA Guidance Documents

Water Quality Standards Handbook: Second Edition, EPA-823-B-94-005a, U.S. EPA Office of Water (4305) (August 1994).

Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, PB85-227049, U.S. EPA Office of Research and Development, Environmental Research

Laboratories (1985) (reproduced by National Technical Information Service, U.S. Department of Commerce).

Board Opinions

In the Matter of: Petition of Commonwealth Edison Company for an Adjusted Standard from 35 Ill. Adm. Code 302.211(d) and (e), AS 96-10 (October 3, 1996) and (March 16, 2000).

Commonwealth Edison Company v. Illinois EPA, PCB 91-29 (Variance – Water) (November 21, 1991).

In the Matter of: Proposed Determination of No Significant Ecological Damage for the Joliet Generating Station, PCB 87-93 (November 15, 1989).

In the Matter of: Water Quality and Effluent Standards Applicable to the Chicago River System and Calumet River System, R 87-27 (May 19, 1988).

Commonwealth Edison Company v. Illinois EPA, PCB 84-33 (Variance – Water) (December 20, 1984).

Commonwealth Edison Company v. Illinois EPA, PCB 78-79 (Variance – Water) (May 25, 1978).

In the Matter of: Water Quality Standards Revisions, R72-4 (November 8, 1973).

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

Petition of Commonwealth Edison Company for Adjusted Standard from 35 Ill. Adm. Code 302.211(d) and (e), AS 96-10 (Oct. 3, 1996).

7) Will this proposed rulemaking replace an emergency rule currently in effect? No

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

9) Does this rulemaking contain incorporations by reference? No

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENTS

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

11) Statement of Statewide Policy Objectives: These proposed amendments do not create or enlarge a State mandate as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3].

12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: The Board will accept written public comments on this proposal for a period of 45 days after the date of publication in the *Illinois Register*. Comments should reference Docket R08-09(D) and be addressed to:

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

Interested persons may request copies of the Board's opinion and order in R08-09(B) by calling the Clerk's office at 312/814-3620, or may download copies from the Board's Web site at http://www.ipcb.state.il.us.

For more information, contact hearing officer Marie Tipsord at 312/814-4925 or tipsorm@ipcb.state.il.us.

13) Initial Regulatory Flexibility Analysis:

A) Types of small businesses, small municipalities and not for profit corporations affected: This rulemaking establishes water quality standards for the Chicago Area Waterways System and Lower Des Plaines River. Any small business, small municipalities and not for profit corporation that discharges to those waterways will be impacted.

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

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: January 2014

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 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. 18898, effective December 12, 2012; amended in R08-9(C) at 38 Ill. Reg. 5517, effective February 13, 2014; amended in R08-09(D) at 38 Ill. Reg. _____, effective _____.

SUBPART B: NONSPECIFIC WATER USE DESIGNATIONS

Section 303.204 Chicago Area Waterway System and Lower Des Plaines River~~Outstanding Resource Waters~~

The Chicago Area Waterway System and Lower Des Plaines River Waters are designated to protect for primary contact recreation, incidental contact or non-contact recreational uses (except where designated as non-recreational waters), commercial activity (including navigation and industrial water supply uses), and the highest quality aquatic life and wildlife attainable, limited only by the physical condition of these waters and hydrologic modifications to these waters. Except for the Chicago River, these~~These~~ waters are required to meet ~~the secondary contact and indigenous~~ aquatic life standards contained in 35 Ill. Adm. Code 302, Subpart D, but are not required to meet the general use standards or the public and food processing water supply standards of 35 Ill. Adm. Code 302, Subpart B and C, except that the waters designated as Primary Contact Recreation Waters in Section 303.220 must meet the numeric water quality standard for fecal coliform bacteria applicable to protected waters in 35 Ill. Adm. Code 302.209. Designated recreational uses and aquatic life use for each segment of the Chicago Area Waterway System and Lower Des Plaines River are identified in this Subpart. The Chicago River must meet the general use standards for the protection of aquatic life as well as the numeric water quality standard for fecal coliform bacteria applicable to protected waters in 35 Ill. Adm. Code 302.209.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 303.235 Chicago Area Waterway System Aquatic Life Use A Waters~~ and Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters~~

~~a) Chicago Area Waterways System Aquatic Life Use A Waters~~

a~~1~~) Waters designated as Chicago Area Waterway System Aquatic Life Use A Waters are capable of maintaining, and shall have quality sufficient to protect, aquatic-life populations predominated by individuals of tolerant and intermediately tolerant types that are adaptive to the unique physical conditions, flow patterns, and operational controls necessary to maintain navigational use, flood control, and drainage functions of the waterway system. Such aquatic life may include, but is not limited to, fish species, such as channel catfish, largemouth bass, bluegill, black crappie, spotfin shiner, orangespotted sunfish, common carp, and goldfish.

b~~2~~) Waters designated as Chicago Area Waterway System Aquatic Life Use A Waters are not capable of attaining an aquatic life use consistent with the section 101(a)(2) of the Clean Water Act goal (33 USC 1251(a)(2)).

c~~3~~) The following waters are designated as Chicago Area Waterway System Aquatic Life Use A Waters and must meet the water quality standards of 35 Ill. Adm. Code 302.Subpart D:

1~~A~~) Upper North Shore Channel from Wilmette Pumping Station to North Side Water Reclamation Plant;

2~~B~~) Lower North Shore Channel from North Side Water Reclamation Plant to confluence with North Branch of the Chicago River;

3~~C~~) North Branch of the Chicago River from its confluence with North Shore Channel to its confluence with South Branch of the Chicago River and Chicago River;

4~~D~~) South Branch of the Chicago River;

5~~E~~) Calumet-Sag Channel;

6~~F~~) Calumet River from Lake Michigan to its confluence with Grand Calumet River and Little Calumet River;

7~~G~~) Little Calumet River from its confluence with Calumet River and Grand Calumet River to its confluence with Calumet-Sag Channel;

8~~H~~) Grand Calumet River;

9~~I~~) Lake Calumet; and

10~~J~~) Lake Calumet Connecting Channel.

~~b) Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters~~

~~1) Waters designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters are capable of maintaining, and shall have quality sufficient to protect, aquatic life populations predominated by individuals of tolerant types that are adaptive to unique physical conditions and modifications of long duration, including artificially constructed channels consisting of vertical sheet-pile, concrete and rip-rap walls designed to support commercial navigation, flood control, and drainage functions in deep-draft, steep-walled shipping channels. Such aquatic life may include, but is not limited to, fish specise such as common carp, golden shiner, bluntnose minnow, yellow bullhead and green sunfish.~~

~~2) Waters designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters are not capable of attaining an aquatic life use consistent with the section 101(a)(2) of the Clean Water Act goal (33 USC 1251(a)(2)).~~

~~3) The following waters are designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters and must meet the water quality standards of 35 Ill. Adm. Code 302.Subpart D:~~

~~A) Chicago Sanitary and Ship Canal; and~~

~~B) Lower Des Plaines River from its confluence with Chicago Sanitary and Ship Canal to the Brandon Road Lock and Dam (Brandon Pool).~~

(Source: Amended at 38 Ill. Reg. _____, effective _____)

Section 303.240 Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters

a) Waters designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters are capable of maintaining, and shall have quality sufficient to protect, aquatic life populations predominated by individuals of tolerant types that are adaptive to unique physical conditions and modifications of long duration, including artificially constructed channels consisting of vertical sheet-pile, concrete and rip-rap walls designed to support commercial navigation, flood control, and drainage functions in deep-draft, steep-walled shipping channels. Such aquatic life may include, but is not limited to, fish species such as common carp, golden shiner, bluntnose minnow, yellow bullhead and green sunfish.

b) Waters designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters are not capable of attaining an aquatic life use consistent with the section 101(a)(2) of the Clean Water Act goal (33 USC 1251(a)(2)).

c) The following waters are designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters and must meet the water quality standards of 35 Ill. Adm. Code 302. Subpart D:

1) Chicago Sanitary and Ship Canal; and

2) Lower Des Plaines River from its confluence with Chicago Sanitary and Ship Canal to the Brandon Road Lock and Dam (Brandon Pool).

(Source: Added at 38 Ill. Reg. _____, effective _____)

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

Section 303.449 Chicago Sanitary and Ship Canal

The numeric water quality standard for chloride set forth at 35 Ill. Adm. Code 302.407(g) does not apply to the Chicago Sanitary and Ship Canal during the period of December 1 through April 30. Chloride levels in these waters must meet the numeric water quality standards for the protection of aquatic organisms of 620 mg/L as a chronic water quality standard and 990 mg/L as an acute water quality standard for chloride.

(Source: Added at 38 Ill. Reg. _____, effective _____)

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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. 18898, effective December 12, 2012; amended in R08-9(C) at 38 Ill. Reg. 5517, effective February 13, 2014; amended in R08-09(D) at 38 Ill. Reg.~~___~~ _____, effective _____~~____~~.

SUBPART B: NONSPECIFIC WATER USE DESIGNATIONS

Section 303.204 Chicago Area Waterway System and Lower Des Plaines ~~River~~ RiverOutstanding Resource Waters

The Chicago Area Waterway System and Lower Des Plaines River Waters are designated to protect for primary contact recreation, incidental contact or non-contact recreational uses (except where designated as non-recreational waters), commercial activity (including navigation and industrial water supply uses), and the highest quality aquatic life and wildlife attainable, limited only by the physical condition of these waters and hydrologic modifications to these waters. Except for the Chicago River, ~~these~~ ~~These~~theseThese waters are required to meet the secondary contact and indigenous aquatic life standards contained in 35 Ill. Adm. Code 302, Subpart D, but are not required to meet the general use standards or the public and food processing water supply standards of 35 Ill. Adm. Code 302, Subpart B and C, except that the waters designated as Primary Contact Recreation Waters in Section 303.220 must meet the numeric water quality standard for fecal coliform bacteria applicable to protected waters in 35 Ill. Adm. Code 302.209. Designated recreational uses and aquatic life use for each segment of the Chicago Area Waterway System and Lower Des Plaines River are identified in this Subpart. The Chicago River must meet the ~~General Use~~general use standards for the protection of aquatic life as well as the numeric water quality standard for fecal coliform bacteria applicable to protected waters in 35 Ill. Adm. Code 302.209.

(Source: Amended at 38 Ill. Reg. _____, effective_____~~_____~~)

Section 303.235 Chicago Area Waterway System Aquatic Life Use A Waters and Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters

a)~~____~~ Chicago Area Waterways System Aquatic Life Use A Waters

a1) Waters designated as Chicago Area Waterway System Aquatic Life Use A Waters are capable of maintaining, and shall have quality sufficient to protect, aquatic-life populations predominated by individuals of tolerant and intermediately tolerant types that are adaptive to the unique physical conditions, flow patterns, and operational controls necessary to maintain navigational use, flood control, and drainage functions of the waterway system. Such aquatic life may include, but is not limited to, fish species, such as channel catfish, largemouth bass, bluegill, black crappie, spotfin shiner, orangespotted sunfish, common carp, and goldfish.

b2) Waters designated as Chicago Area Waterway System Aquatic Life Use A Waters are not capable of attaining an aquatic life use consistent with the section 101(a)(2) of the Clean Water Act goal (33 USC 1251(a)(2)).

c3) The following waters are designated as Chicago Area Waterway System Aquatic Life Use A Waters and must meet the water quality standards of 35 Ill. Adm. Code 302. Subpart D:

1A) Upper North Shore Channel from Wilmette Pumping Station to North Side Water Reclamation Plant;

2B) Lower North Shore Channel from North Side Water Reclamation Plant to confluence with North Branch of the Chicago River;

3C) North Branch of the Chicago River from its confluence with North Shore Channel to its confluence with South Branch of the Chicago River and Chicago River;

4D) South Branch of the Chicago River;

5E) Calumet-Sag Channel;

6F) Calumet River from Lake Michigan to its confluence with Grand Calumet River and Little Calumet River;

7G) Little Calumet River from its confluence with Calumet River and Grand Calumet River to its confluence with Calumet-Sag Channel;

8H) Grand Calumet River;

9I) Lake Calumet; and

10J) Lake Calumet Connecting Channel.

b) Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters

1) Waters designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters are capable of maintaining, and shall have quality sufficient to protect, aquatic life populations predominated by individuals of tolerant types that are adaptive to unique physical conditions and modifications of long duration, including artificially constructed channels consisting of vertical sheet-pile, concrete and rip-rap walls designed to support commercial navigation, flood control, and drainage functions in deep-draft, steep-walled shipping channels. Such aquatic life may include, but is not limited to, fish ~~species~~specise such as common carp, golden shiner, bluntnose minnow, yellow bullhead and green sunfish.

2) Waters designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters are not capable of attaining an aquatic life use consistent with the section 101(a)(2) of the Clean Water Act goal (33 USC 1251(a)(2)).-

3) The following waters are designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters and must meet the water quality standards of 35 Ill. Adm. Code 302.-Subpart D:

A) Chicago Sanitary and Ship Canal; and

B) Lower Des Plaines River from its confluence with Chicago Sanitary and Ship Canal to the Brandon Road Lock and Dam (Brandon Pool).

(Source: Amended at 38 Ill. Reg. _____, effective_____)

Section 303.240 Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters

a) Waters designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters are capable of maintaining, and shall have quality sufficient to protect, aquatic life populations predominated by individuals of tolerant types that are adaptive to unique physical conditions and modifications of long duration, including artificially constructed channels consisting of vertical sheet-pile, concrete and rip-rap walls designed to support commercial navigation, flood

control, and drainage functions in deep-draft, steep-walled shipping channels. Such aquatic life may include, but is not limited to, fish species such as common carp, golden shiner, bluntnose minnow, yellow bullhead and green sunfish.

b) Waters designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters are not capable of attaining an aquatic life use consistent with the section 101(a)(2) of the Clean Water Act goal (33 USC 1251(a)(2)).

c) The following waters are designated as Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Waters and must meet the water quality standards of 35 Ill. Adm. Code 302. Subpart D:

1) Chicago Sanitary and Ship Canal; and

2) Lower Des Plaines River from its confluence with Chicago Sanitary and Ship Canal to the Brandon Road Lock and Dam (Brandon Pool).

(Source: Added at 38 Ill. Reg. _____, effective_____ _____)

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

Section 303.449 Chicago Sanitary and Ship Canal

The numeric water quality standard for chloride set forth at 35 Ill. Adm. Code 302.407(g) does not apply to the Chicago Sanitary and Ship Canal during the period of December 1 through April 30. Chloride levels in these waters must meet the numeric water quality standards for the protection of aquatic organisms of 620 mg/L as a chronic water quality standard and 990 mg/L as an acute water quality standard for chloride.

(Source: Added at 38 Ill. Reg. _____, effective_____ _____)

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Style change	0
Format changed	0
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POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENT

1) Heading of the Part: Permits

2) Code Citation: 35 Ill. Adm. Code 309

3) Section Number: 309.141 — Proposed Action: Amendment

4) Statutory Authority: Implementing Sections 13 and 13.3 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/13, 13.3 and 27]

5) A Complete Description of the Subjects and Issues Involved: For a more detailed description, please see the Board's opinion and order of September 18, 2014 in R08-9(D). The Board proposes water quality standards for the Chicago Area Waterways System (CAWS) and the Lower Des Plaines River (LDPR) that are necessary to meet the aquatic life uses for those waterways. The Board proposes a provision that will allow discharges to use best management practices for chloride in National Pollutant Discharge Elimination Permits.

6) Published studies or reports, and sources of underlying data, used to compose this Rulemaking: None

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

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

9) Does this proposed rulemaking contain incorporations by reference? No

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

11) Statement of Statewide Policy Objectives: This proposed rule does not create or enlarge a State mandate, as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3(b) (2002)].

12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: The Board will accept written public comment on this proposal for 45 days after the date of publication in the *Illinois Register*. Comments should reference Docket R08-09(D) and be addressed to:

Clerk's Office
Illinois Pollution Control Board

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENT

100 W. Randolph St., Suite 11-500
Chicago IL 60601

Interested persons may request copies of the Board's opinion and order by calling the Clerk's office at 312/814-3620, or may download copies from the Board's Web site at http://www.ipcb.state.il.us.

For more information contact hearing officer Marie Tipsord at 312/814-4925 or marie.tipsord@illinois.gov.

13) Initial Regulatory Flexibility Analysis:

A) Types of small businesses, small municipalities and not-for-profit corporations affected: This rulemaking establishes water quality standards for the Chicago Area Waterways System and Lower Des Plaines River; any small business, small municipalities and not-for-profit corporation that discharges to those waterways will be impacted.

B) Reporting, bookkeeping or other procedures required for compliance: The proposed amendments do not add any additional reporting or recordkeeping requirements beyond what is already established in the Board's rules.

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: January 2014

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

JCAR350309-1419416r01

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

PART 309
PERMITS

SUBPART A: NPDES PERMITS

SUBPART B: OTHER PERMITS

309.APPENDIX A References to Previous Rules

AUTHORITY: Implementing Sections 13 and 13.3 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/13, 13.3 and 27].

SOURCE: Adopted in R71-14, at 4 PCB 3, March 7, 1972; amended in R73-11, 12, at 14 PCB 661, December 5, 1974, at 16 PCB 511, April 24, 1975, and at 28 PCB 509, December 20, 1977; amended in R73-11, 12, at 29 PCB 477, at 2 Ill. Reg. 16, p. 20, effective April 20, 1978; amended in R79-13, at 39 PCB 263, at 4 Ill. Reg. 34, p. 159, effective August 7, 1980; amended in R77-12B, at 41 PCB 369, at 5 Ill. Reg. 6384, effective May 28, 1981; amended in R76-21, at 44 PCB 203, at 6 Ill. Reg. 563, effective December 24, 1981; codified at 6 Ill. Reg. 7818; amended in R82-5, 10, at 54 PCB 411, at 8 Ill. Reg. 1612, effective January 18, 1984; amended in R86-44 at 12 Ill. Reg. 2495, effective January 13, 1988; amended in R88-1 at 13 Ill. Reg. 5993, effective April 18, 1989; amended in R88-21(A) at 14 Ill. Reg. 2892, effective February 13, 1990; amended in R91-5 at 16 Ill. Reg. 7339, effective April 27, 1992; amended in R95-22 at 20 Ill. Reg. 5526, effective April 1, 1996; amended in R99-8 at 23 Ill. Reg. 11287, effective August 26, 1999; amended in R02-11 at 27 Ill. Reg. 202, effective December 20, 2002; amended in R03-19 at 28 Ill. Reg. 7310, effective May 7, 2004; amended in R07-9 at 32 Ill. Reg. 14995, effective September 8, 2008; amended in R08-09(D) at 38 Ill. Reg. _____, effective _____.

SUBPART A: NPDES PERMITS

Section 309.141 Terms and Conditions of NPDES Permits

In establishing the terms and conditions of each issued NPDES Permit, the Agency shall apply and ensure compliance with all of the following, whenever applicable:

a) Effluent limitations under sections~~Sections~~ 301 and 302 of the CWA;

b) Standards of performance for new sources under section~~Section~~ 306 of the CWA;

c) Effluent standards, effluent prohibitions, and pretreatment standards under section~~Section~~ 307 of the CWA;

d) Any more stringent limitation, including those:

1) necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any Illinois statute or regulation (under authority preserved by section~~Section~~ 510 of the CWA),

2) necessary to meet any other federal law or regulation, or

3) required to implement any applicable water quality standards, such limitations to include any legally applicable requirements necessary to implement total maximum daily loads established pursuant to section~~Section~~ 303(d) of the CWA and incorporated in the continuing planning process approved under section~~Section~~ 303(e) of the CWA and any regulations or guidelines issued pursuant to that statute~~thereto~~;

e) Any more stringent legally applicable requirements necessary to comply with a plan approved pursuant to section~~Section~~ 208(b) of the CWA;

f) Prior to promulgation by the Administrator of the U.S. Environmental Protection Agency of applicable effluent standards and limitations pursuant to sections~~Sections~~ 301, 302, 306 and 307 of the CWA, such conditions as the Agency determines are necessary to carry out the provisions of the CWA;

g) If the NPDES Permit is for the discharge of pollutants into navigable waters from a vessel or other floating craft (except that no NPDES Permit shall be issued for the discharge of pollutants from a vessel or other floating craft into Lake Michigan), any applicable regulations promulgated by the Secretary of the Department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage and stowage of pollutants; and

h) If the NPDES Permit is for the discharge of pollutants from other than wet weather point sources into the Lake Michigan Basin as defined at 35 Ill. Adm. Code 303.443:

1) Total Maximum Daily Loads (TMDLs) and Waste Load Allocation (WLA) will be established through either the LaMP or a RAP for an Area of Concern. If a LaMP or RAP has not been completed and adopted, effluent limits shall be established consistent with the other provisions of this Section, including, but not limited to, Additivity, Intake Pollutants, Loading Limits, Level of Detection/Level of Quantification and Compliance Schedules. When calculation of TMDLs or a WLA is incomplete and it is expected that limits established through other provisions will be superseded upon completion of the TMDL or WLA process, those limits shall be identified as interim and the permit shall include a reopener clause triggered by completion of a TMDL or WLA determination. Any new limits brought about through exercise of the reopener clause shall be eligible for delayed compliance dates and compliance schedules consistent with Section 39(b) of the Act [415 ILCS 5/39(b)], Section~~35 Ill. Adm. Code~~ 309.148 of this Part, and 35 Ill. Adm. Code 352.Subpart H.

2) 35 Ill. Adm. Code 302.590 establishes an acceptable additive risk level of one in 100,000 (10^5) for establishing Tier I criteria and Tier II values for combinations of substances exhibiting a carcinogenic or other nonthreshold toxic mechanism. For those discharges containing multiple nonthreshold substances application of this additive standard shall be consistent with this subsection (h).

A) For discharges in the Lake Michigan Basin containing one or more 2,3,7,8-substituted chlorinated dibenzo-p-dioxins or 2,3,7,8-substituted dibenzofurans, the tetrachloro dibenzo-p-dioxin 2,3,7,8-TCDD toxicity equivalence concentration (TEC_{TCDD}) shall be determined as outlined in subsection (h)(2)(B).

B) The values listed in the following Table shall be used to determine the 2,3,7,8-TCDD toxicity equivalence concentrations using the following equation:

$$(TEC)_{TCDD} = \Sigma (C)_x (TEF)_x (BEF)_x$$

WHERE:

$(TEC)_{TCDD}$ = 2,3,7,8-TCDD toxicity equivalence concentration in effluent
$(C)_x$ = Concentration of total chemical x in effluent
$(TEF)_x$ = TCDD toxicity equivalency factor for x
$(BEF)_x$ = TCDD bioaccumulation equivalency factor for x

TABLE

Congener	TEF	BEF
2,3,7,8-TCDD	1.0	1.0
1,2,3,7,8-PeCDD	0.5	0.9
1,2,3,4,7,8-HxCDD	0.1	0.3
1,2,3,6,7,8-HxCDD	0.1	0.1
1,2,3,7,8,9-HxCDD	0.1	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.0
OCDD	0.001	0.0
2,3,7,8-TCDF	0.1	0.8
1,2,3,7,8-PeCDF	0.05	0.2
2,3,4,7,8-PeCDF	0.5	1.6
1,2,3,4,7,8-HxCDF	0.1	0.0
1,2,3,6,7,8-HxCDF	0.1	0.2

2,3,4,6,7,8-HxCDF	0.1	0.7
1,2,3,7,8,9-HxCDF	0.1	0.6
1,2,3,4,6,7,8-HpCDF	0.01	0.0
1,2,3,4,7,8,9-HpCDF	0.01	0.4
OCDF	0.001	0.0

C) Any combination of carcinogenic or otherwise nonthreshold toxic substances shall be assessed on a case-by-case basis. The Agency shall only consider such additivity for chemicals that exhibit the same type of effect and the same mechanism of toxicity, based on available scientific information that supports a reasonable assumption of additive effects.

3) Reasonable potential to exceed.

A) The first step in determining if a reasonable potential to exceed the water quality standard exists for any particular pollutant parameter is the estimation of the maximum expected effluent concentration for that substance. That estimation will be completed for both acute and chronic exposure periods and is termed the PEQ. The PEQ shall be derived from representative facility-specific data to reflect a 95 percent confidence level for the 95th percentile value. These data will be presumed to adhere to a lognormal distribution pattern unless the actual effluent data demonstrates a different distribution pattern. If facility-specific data in excess of 10 data values is available, a coefficient of variation that is the ratio of the standard deviation to the arithmetic average shall be calculated by the Agency. The PEQ is derived as the upper bound of a 95 percent confidence bracket around the 95th percentile value through a multiplier from the following table applied to the maximum value in the data set that has its quality assured consistent with 35 Ill. Adm. Code 352.410 as appropriate for acute and chronic data sets.

PEQ = (maximum data point)(statistical multiplier)

Coefficient of Variation

No. Samples	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3
1	1.4	1.9	2.6	3.6	4.7	6.2	8.0	10.1	12.6	15.5	18.7	22.3	26.4
2	1.3	1.6	2.0	2.5	3.1	3.8	4.6	5.4	6.4	7.4	8.5	9.7	10.9
3	1.2	1.5	1.8	2.1	2.5	3.0	3.5	4.0	4.6	5.2	5.8	6.5	7.2
4	1.2	1.4	1.7	1.9	2.2	2.6	2.9	3.3	3.7	4.2	4.6	5.0	5.5

5	1.2	1.4	1.6	1.8	2.1	2.3	2.6	2.9	3.2	3.6	3.9	4.2	4.5
6	1.1	1.3	1.5	1.7	1.9	2.1	2.4	2.6	2.9	3.1	3.4	3.7	3.9
7	1.1	1.3	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.1	3.3	3.5
8	1.1	1.3	1.4	1.6	1.7	1.9	2.1	2.3	2.4	2.6	2.8	3.0	3.2
9	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.8	2.9
10	1.1	1.2	1.3	1.5	1.6	1.7	1.9	2.0	2.2	2.3	2.4	2.6	2.7
11	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.5
12	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.9	2.0	2.1	2.2	2.3	2.4
13	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3
14	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2
15	1.1	1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1
16	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	1.9	2.0
17	1.1	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.7	1.8	1.9	1.9
18	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.7	1.8	1.9
19	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.8
20	1.1	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7
30	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4
40	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2
50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1
60 or greater	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

i) If the PEQ is less than or equal to the water quality standard, there is no reasonable potential and no limit will be established in the permit.

ii) If the PEQ is more than the water quality standard, the Agency will proceed to consideration of dilution and mixing pursuant to subsection (h)(4).

B) If facility-specific data of 10 or less data values is available, an alternative PEQ shall be derived using the table in subsection (h)(3)(A) assuming a coefficient of variation of 0.6, applied to the maximum value in the data set that has its quality assured consistent with 35 Ill. Adm. Code 352.410.

i) If the PEQ is less than or equal to the water quality standard, there is no reasonable potential and no limit will be established in the permit.

ii) If the PEQ exceeds the water quality standard, an alternative PEQ will be calculated using the maximum value in the data set and a multiplier of 1.4. If the

alternative PEQ also exceeds the water quality standard, the Agency will proceed to consider dilution and mixing pursuant to subsection (h)(4).

iii) If the PEQ exceeds the water quality standard but the alternative PEQ is less than or equal to the standard, the Agency will either proceed to consider dilution and mixing pursuant to subsection (h)(4), or will incorporate a monitoring requirement and reopener clause to reassess the potential to exceed within a specified time schedule, not to exceed one year. In determining which of these options to use in any individual application, the Agency shall consider the operational and economic impacts on the permittee and the effect, if any, deferral of a final decision would have on an ultimate compliance schedule if a permit limit were subsequently determined to be necessary.

C) The Agency shall compare monthly average effluent data values, when available, with chronic aquatic life, human health and wildlife standards to evaluate the need for monthly average water quality based effluent limitations (WQBELs). The Agency shall use daily effluent data values to determine whether a potential exists to exceed acute aquatic life water quality standards.

D) The Agency may apply other scientifically defensible statistical methods for calculating PEQ for use in the reasonable potential analysis as provided for in Procedure 5.b.2 of appendix~~Appendix~~ F to 40 CFR 132, incorporated by reference at 35 Ill. Adm. Code 301.106.

E) Regardless of the statistical procedure used, if the PEQ for the parameter is less than or equal to the water quality standard for that parameter, the Agency shall deem the discharge not to have a reasonable potential to exceed, and a WQBEL shall not be required unless otherwise required under 35 Ill. Adm. Code 352.430.

4) If the PEQ for a parameter is greater than the particular water quality standard, criteria or value for that parameter, the Agency will assess the level of treatment being provided by the discharger. If the discharger is providing (or will be providing) a level of treatment consistent with the best degree of treatment required by 35 Ill. Adm. Code 304.102(a), the PEQ derived under subsection (h)(3) shall be compared to a preliminary effluent limitation (PEL) determined by applying an appropriate mixing

zone or a default mixing zone to the discharge. Mixing opportunity and dilution credit will be considered as follows:

A) Discharges to tributaries of the Lake Michigan Basin shall be considered to have no available dilution for either acute or chronic exposures, and the PEL will be set equivalent to the water quality standard unless dilution is documented through a mixing zone study.

B) Bioaccumulative chemicals of concern (BCCs):

i) No mixing shall be allowed for new discharges of BCCs commencing on or after December 24, 1997. The PEL will be set equivalent to the water quality standard.

ii) Mixing shall be allowed for discharges of BCCs that~~which~~ existed as of December 24, 1997 in accordance with the requirements of 35 Ill. Adm. Code 302.530.

C) Direct discharges to the Open Waters of Lake Michigan shall have a default mixing allowance of 2:1 for acute standards, criteria or values and 10:1 for chronic standards, criteria or values if the discharge configuration indicates that the effluent readily and rapidly mixes with the receiving waters. If ready and rapid mixing is in doubt the Agency shall deny any default dilution or mixing allowance and require a mixing or dispersion study to determine the proper dilution allowance. If the discharger applies for more than the default dilution or mixing allowance, it must submit a mixing or dispersion study to justify its request. Whenever a mixing or dispersion study is available, it shall be used to determine dilution or mixing allowance in lieu of the default allowance.

5) Preliminary effluent limitations calculations.

A) The preliminary effluent limitation (PEL) is calculated in a simple mass balance approach reflecting the dilution allowance established in subsection (h)(4):

$$WQS = [(Qe)(PEL) + (Qd)(Cd)] / [Qe + Qd]$$

or

PEL = [WQS(Qe + Qd) - (Qd)(Cd)] / Qe

WHERE:

WQS = applicable water quality standard, criteria or value
Qe = effluent flowrate
Qd = allowable dilution flowrate
Cd = background pollutant concentration in dilution water

B) The representative background concentration of pollutants to develop TMDLs and WLAs calculated in the absence of a TMDL shall be established as follows:

i) "Background" represents all pollutant loadings, specifically loadings that flow from upstream waters into the specified watershed, water body, or water body segment for which a TMDL or WLA in the absence of a TMDL is being developed and enter the specified watershed, water body, or water body segment through atmospheric deposition, chemical reaction, or sediment release or resuspension.

ii) When determining what available data are acceptable for use in calculating background, the Agency shall use its best professional judgment, including consideration of the sampling location and the reliability of the data through comparison, in part, to detection and quantification levels. When data in more than 1 of the data sets or categories described in subsection (h)(5)(B)(iii) exists, best professional judgment shall be used to select the data that most accurately reflects or estimates background concentrations. Pollutant degradation and transport information may be considered when using pollutant loading data to estimate a water column concentration.

iii) The representative background concentration for a pollutant in the specified watershed, water body, or water body segment shall be established on a case-by-case basis as the geometric mean of: acceptable water column data; water column concentrations estimated through use of acceptable caged or resident fish tissue data; or water column concentrations estimated through the use of acceptable or projected pollutant loading data. When determining the

geometric mean of the data for a pollutant that includes values both above and below the detection level, commonly accepted statistical techniques shall be used to evaluate the data. If all of the acceptable data in a data set are below the detection level for a pollutant, then all the data for the pollutant in that data set shall be assumed to be zero.

6) Water quality based effluent limitations.

A) If the PEQ is less than or equal to the PEL, it will be concluded that there is no reasonable potential to exceed. Under such circumstances a permit limit for that contaminant will not be set unless otherwise justified under one or more provisions of 35 Ill. Adm. Code 352.430.

B) If the PEQ is equal to or greater than the PEL, and the PEQ was calculated using a data set of more than 10 values, a WQBEL will be included in the permit. If the PEQ was calculated using a data set of less than or equal to 10 values, and the alternative PEQ calculated under subsection (h)(3)(B) also exceeds the PEL, a WQBEL will be included in the permit.

C) If the PEQ was calculated using a data set of less than or equal to 10 values, and the PEQ is greater than the PEL but the alternative PEQ is less than the PEL, the Agency will either establish a WQBEL in the permit or incorporate a monitoring requirement and reopener clause to reassess potential to exceed within a specified time schedule, not to exceed one year. In determining which of these options to use in any individual application, the Agency shall consider the operational and economic impacts on the permittee and the effect, if any, deferral of a final decision would have on an ultimate compliance schedule if a permit limit were subsequently determined to be necessary.

D) The WQBEL will be set at the PEL, unless the PEL is appropriately modified to reflect credit for intake pollutants when the discharged water originates in the same water body to which it is being discharged. Consideration of intake credit will be limited to the provisions of 35 Ill. Adm. Code 352.425.

E) The reasonable potential analysis shall be completed separately for acute and chronic aquatic life effects. When WQBELs are based on acute impacts, the limit will be expressed as a daily maximum.

When the WQBEL is based on chronic effects, the limit will be expressed as a monthly average. Human health and wildlife based WQBELs will be expressed as monthly averages. If circumstances warrant, the Agency shall consider alternatives to daily and monthly limits.

i) Best management practices (BMPs) to control or abate the discharge of chloride when:

1) Authorized under section 402(p) of the CWA for the control of storm water discharges;

2) Numeric effluent limitations are infeasible; or

3) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

(Source: Amended at 38 Ill. Reg. _____, effective _____)

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

PART 309
PERMITS

SUBPART A: NPDES PERMITS

Section

SUBPART B: OTHER PERMITS

309.~~Appendix~~APPENDIX A References to Previous Rules

AUTHORITY: Implementing Sections 13 and 13.3 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/13, 13.3 and 27].

SOURCE: Adopted in R71-14, at 4 PCB 3, March 7, 1972; amended in R73-11, 12, at 14 PCB 661, December 5, 1974, at 16 PCB 511, April 24, 1975, and at 28 PCB 509, December 20, 1977; amended in R73-11, 12, at 29 PCB 477, at 2 Ill. Reg. 16, p. 20, effective April 20, 1978; amended in R79-13, at 39 PCB 263, at 4 Ill. Reg. 34, p. 159, effective August 7, 1980; amended in R77-12B, at 41 PCB 369, at 5 Ill. Reg. 6384, effective May 28, 1981; amended in R76-21, at 44 PCB 203, at 6 Ill. Reg. 563, effective December 24, 1981; codified at 6 Ill. Reg. 7818; amended in R82-5, 10, at 54 PCB 411, at 8 Ill. Reg. 1612, effective January 18, 1984; amended in R86-44 at 12 Ill. Reg. 2495, effective January 13, 1988; amended in R88-1 at 13 Ill. Reg. 5993, effective April 18, 1989; amended in R88-21(A) at 14 Ill. Reg. 2892, effective February 13, 1990; amended in R91-5 at 16 Ill. Reg. 7339, effective April 27, 1992; amended in R95-22 at 20 Ill. Reg. 5526, effective April 1, 1996; amended in R99-8 at 23 Ill. Reg. 11287, effective August 26, 1999; amended in R02-11 at 27 Ill. Reg. 202, effective December 20, 2002; amended in R03-19 at 28 Ill. Reg. 7310, effective May 7, 2004; amended in R07-9 at 32 Ill. Reg. ~~14978,~~14995, effective September 8, 2008; amended ~~at~~ in R08-09(D) at 38 Ill. Reg. _____, effective _____.

SUBPART A: NPDES PERMITS

Section 309.141 Terms and Conditions of NPDES Permits

In establishing the terms and conditions of each issued NPDES Permit, the Agency shall apply and ensure compliance with all of the following, whenever applicable:

a) Effluent limitations under ~~Sections~~sectionsSections 301 and 302 of the CWA;

b) Standards of performance for new sources under ~~Section~~sectionSection 306 of the CWA;

c) Effluent standards, effluent prohibitions, and pretreatment standards under ~~Section~~sectionSection 307 of the CWA;

d) Any more stringent limitation, including those:

1) necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any Illinois statute or regulation (under authority preserved by ~~Section~~sectionSection 510 of the CWA),

2) necessary to meet any other federal law or regulation, or

3) required to implement any applicable water quality standards, such limitations to include any legally applicable requirements necessary to implement total maximum daily loads established pursuant to ~~Section~~sectionSection 303(d) of the CWA and incorporated in the continuing planning process approved under ~~Section~~sectionSection 303(e) of the CWA and any regulations or guidelines issued pursuant ~~thereto;~~to that statutethereto;

e) Any more stringent legally applicable requirements necessary to comply with a plan approved pursuant to ~~Section~~sectionSection 208(b) of the CWA;

f) Prior to promulgation by the Administrator of the U.S. Environmental Protection Agency of applicable effluent standards and limitations pursuant to ~~Sections~~sectionsSections 301, 302, 306 and 307 of the CWA, such conditions as the Agency determines are necessary to carry out the provisions of the CWA;

g) If the NPDES Permit is for the discharge of pollutants into navigable waters from a vessel or other floating craft (except that no NPDES Permit shall be issued for the discharge of pollutants from a vessel or other floating craft into Lake Michigan), any applicable regulations promulgated by the Secretary of the Department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage and stowage of pollutants; and

h) If the NPDES Permit is for the discharge of pollutants from other than wet weather point sources into the Lake Michigan Basin as defined at 35 Ill. Adm. Code 303.443:

1) Total Maximum Daily Loads (TMDLs) and Waste Load Allocation (WLA) will be established through either the LaMP or a RAP for an Area of Concern. If a LaMP or RAP has not been completed and adopted, effluent limits shall be established consistent with the other provisions of this Section, including, but not limited to, Additivity, Intake Pollutants, Loading Limits, Level of Detection/Level of Quantification and Compliance Schedules. When calculation of TMDLs or a WLA is incomplete and it is expected that limits established through other provisions will be superseded upon completion of the TMDL or WLA process, those limits shall be identified as interim and the permit shall include a reopener clause triggered by completion of a TMDL or WLA determination. Any new limits brought about through exercise of the reopener clause shall be eligible for delayed compliance dates and compliance schedules consistent with Section 39(b) of the Act [415 ILCS

5/39(b)], Section35 Ill. Adm. Code ~~309.148,~~309.148 of this Part, and 35 Ill. Adm. Code 352.Subpart H.

2) 35 Ill. Adm. Code 302.590 establishes an acceptable additive risk level of one in 100,000 (10^5) for establishing Tier I criteria and Tier II values for combinations of substances exhibiting a carcinogenic or other nonthreshold toxic mechanism. For those discharges containing multiple nonthreshold substances application of this additive standard shall be consistent with this subsection (h).

A) For discharges in the Lake Michigan Basin containing one or more 2,3,7,8-substituted chlorinated dibenzo-p-dioxins or 2,3,7,8-substituted dibenzofurans, the tetrachloro dibenzo-p-dioxin 2,3,7,8-TCDD toxicity equivalence concentration (TEC_{TCDD}) shall be determined as outlined in subsection (h)(2)(B).

B) The values listed in the following Table shall be used to determine the 2,3,7,8-TCDD toxicity equivalence concentrations using the following equation:

~~$(TEC)_{TCDD} = \sum (C)_x (TEF)_x (BEF)_x$~~

~~WHERE:~~

~~$(TEC)_{TCDD}$ = 2,3,7,8-TCDD toxicity equivalence concentration in effluent~~
~~$(C)_x$ = Concentration of total chemical x in effluent~~
~~$(TEF)_x$ = TCDD toxicity equivalency factor for x~~
~~$(BEF)_x$ = TCDD bioaccumulation equivalency factor for x~~

~~TABLE~~

$(TEC)_{TCDD} = \Sigma (C)_x (TEF)_x (BEF)_x$

WHERE:

$(TEC)_{TCDD}$	=	2,3,7,8-TCDD toxicity equivalence concentration in effluent
$(C)_x$	=	Concentration of total chemical x in effluent
$(TEF)_x$	=	TCDD toxicity equivalency factor for x
$(BEF)_x$	=	TCDD bioaccumulation equivalency factor for x

TABLE

Congener	TEF	B E F
2,3,7,8-TCDD	1.0	1.0
1,2,3,7,8-PeCDD	0.5	0.9
1,2,3,4,7,8-HxCDD	0.1	0.3
1,2,3,6,7,8-HxCDD	0.1	0.1
1,2,3,7,8,9-HxCDD	0.1	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.0
~~1,1,2,3,4,6,7,8-HpCDD~~		
OCDD	0.001	0.0
2,3,7,8-TCDF	0.1	0.8
1,2,3,7,8-PeCDF	0.05	0.2
2,3,4,7,8-PeCDF	0.5	1.6
1,2,3,4,7,8-HxCDF	0.1	0.0
1,2,3,6,7,8-HxCDF	0.1	0.2
2,3,4,6,7,8-HxCDF	0.1	0.7
1,2,3,7,8,9-HxCDF	0.1	0.6
1,2,3,4,6,7,8-HpCDF	0.01	0.0
1,2,3,4,7,8,9-HpCDF	0.01	0.4
OCDF	0.001	0.0

C) Any combination of carcinogenic or otherwise nonthreshold toxic substances shall be assessed on a case-by-case basis. The Agency shall only consider such additivity for chemicals that exhibit the same type of effect and the same mechanism of toxicity, based on available scientific information that supports a reasonable assumption of additive effects.

3) Reasonable potential to exceed.

A) The first step in determining if a reasonable potential to exceed the water quality standard exists for any particular pollutant parameter is the estimation of the maximum expected effluent concentration for that substance. That estimation will be completed for both acute and chronic exposure periods and is termed the PEQ. The PEQ shall be derived from representative facility-specific data to reflect a 95 percent confidence level for the 95th percentile value. These data will be presumed to adhere to a lognormal distribution pattern unless the actual effluent data demonstrates a different distribution pattern. If facility-specific data in excess of 10 data values is available, a coefficient of variation that is the ratio of the standard deviation to the arithmetic average shall be calculated by the Agency. The PEQ is derived as the upper bound of a 95 percent confidence bracket around the 95th percentile value through a multiplier from the following table applied to the maximum value in the data set that has its quality assured consistent with 35 Ill. Adm. Code 352.410 as appropriate for acute and chronic data sets.

PEQ = (maximum data point)(statistical multiplier)

~~Coefficient of Variation~~

Coefficient of Variation

No. ~~Samples~~ Samples	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3
1	1.4	1.9	2.6	3.6	4.7	6.2	8.0	10.1	12.6	15.5	18.7	22.3	26.4
2	1.3	1.6	2.0	2.5	3.1	3.8	4.6	5.4	6.4	7.4	8.5	9.7	10.9
3	1.2	1.5	1.8	2.1	2.5	3.0	3.5	4.0	4.6	5.2	5.8	6.5	7.2
4	1.2	1.4	1.7	1.9	2.2	2.6	2.9	3.3	3.7	4.2	4.6	5.0	5.5
5	1.2	1.4	1.6	1.8	2.1	2.3	2.6	2.9	3.2	3.6	3.9	4.2	4.5

6	1.1	1.3	1.5	1.7	1.9	2.1	2.4	2.6	2.9	3.1	3.4	3.7	3.9
7	1.1	1.3	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.1	3.3	3.5
8	1.1	1.3	1.4	1.6	1.7	1.9	2.1	2.3	2.4	2.6	2.8	3.0	3.2
9	1.1	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.8	2.9
10	1.1	1.2	1.3	1.5	1.6	1.7	1.9	2.0	2.2	2.3	2.4	2.6	2.7
11	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.5
12	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.9	2.0	2.1	2.2	2.3	2.4
13	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3
14	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2
15	1.1	1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1
16	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	1.9	2.0
17	1.1	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.7	1.8	1.9	1.9
18	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.7	1.8	1.9
19	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.8
20	1.1	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7
30	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4
40	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2
50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1
60 or- ~~greater~~ greater	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

i) If the PEQ is less than or equal to the water quality standard, there is no reasonable potential and no limit will be established in the permit.

ii) If the PEQ is more than the water quality standard, the Agency will proceed to consideration of dilution and mixing pursuant to subsection (h)(4).

B) If facility-specific data of 10 or less data values is available, an alternative PEQ shall be derived using the table in subsection (h)(3)(A) assuming a coefficient of variation of 0.6, applied to the maximum value in the data set that has its quality assured consistent with 35 Ill. Adm. Code 352.410.

i) If the PEQ is less than or equal to the water quality standard, there is no reasonable potential and no limit will be established in the permit.

ii) If the PEQ exceeds the water quality standard, an alternative PEQ will be calculated using the maximum value in the data set and a multiplier of 1.4. If the

alternative PEQ also exceeds the water quality standard, the Agency will proceed to consider dilution and mixing pursuant to subsection (h)(4).

iii) If the PEQ exceeds the water quality standard but the alternative PEQ is less than or equal to the standard, the Agency will either proceed to consider dilution and mixing pursuant to subsection (h)(4), or will incorporate a monitoring requirement and reopener clause to reassess the potential to exceed within a specified time schedule, not to exceed one year. In determining which of these options to use in any individual application, the Agency shall consider the operational and economic impacts on the permittee and the effect, if any, deferral of a final decision would have on an ultimate compliance schedule if a permit limit were subsequently determined to be necessary.

C) The Agency shall compare monthly average effluent data values, when available, with chronic aquatic life, human health and wildlife standards to evaluate the need for monthly average water quality based effluent limitations (WQBELs). The Agency shall use daily effluent data values to determine whether a potential exists to exceed acute aquatic life water quality standards.

D) The Agency may apply other scientifically defensible statistical methods for calculating PEQ for use in the reasonable potential analysis as provided for in Procedure 5.b.2 of ~~Appendix~~appendixAppendix F to 40 CFR 132, incorporated by reference at 35 Ill. Adm. Code 301.106.

E) Regardless of the statistical procedure used, if the PEQ for the parameter is less than or equal to the water quality standard for that parameter, the Agency shall deem the discharge not to have a reasonable potential to exceed, and a WQBEL shall not be required unless otherwise required under 35 Ill. Adm. Code 352.430.

4) If the PEQ for a parameter is greater than the particular water quality standard, criteria or value for that parameter, the Agency will assess the level of treatment being provided by the discharger. If the discharger is providing (or will be providing) a level of treatment consistent with the best degree of treatment required by 35 Ill. Adm. Code 304.102(a), the PEQ derived under subsection (h)(3) shall be compared to a preliminary effluent limitation (PEL) determined by applying an appropriate mixing

zone or a default mixing zone to the discharge. Mixing opportunity and dilution credit will be considered as follows:

A) Discharges to tributaries of the Lake Michigan Basin shall be considered to have no available dilution for either acute or chronic exposures, and the PEL will be set equivalent to the water quality standard unless dilution is documented through a mixing zone study.

B) Bioaccumulative chemicals of concern (BCCs):

i) No mixing shall be allowed for new discharges of BCCs commencing on or after December 24, 1997. The PEL will be set equivalent to the water quality standard.

ii) Mixing shall be allowed for discharges of BCCs - ~~which~~thatwhich existed as of December 24, 1997 in accordance with the requirements of 35 Ill. Adm. Code 302.530.

C) Direct discharges to the Open Waters of Lake Michigan shall have a default mixing allowance of 2:1 for acute standards, criteria or values and 10:1 for chronic standards, criteria or values if the discharge configuration indicates that the effluent readily and rapidly mixes with the receiving waters. If ready and rapid mixing is in doubt the Agency shall deny any default dilution or mixing allowance and require a mixing or dispersion study to determine the proper dilution allowance. If the discharger applies for more than the default dilution or mixing allowance, it must submit a mixing or dispersion study to justify its request. Whenever a mixing or dispersion study is available, it shall be used to determine dilution or mixing allowance in lieu of the default allowance.

5) Preliminary effluent limitations calculations.

A) The preliminary effluent limitation (PEL) is calculated in a simple mass balance approach reflecting the dilution allowance established in subsection (h)(4):

$$WQS = [(Qe)(PEL) + (Qd)(Cd)] / [Qe + Qd]$$

~~$WQS = [(Qe)(PEL) + (Qd)(Cd)] / [Qe + Qd]$~~ or

~~PEL = [WQS(Qe + Qd) - (Qd)(Cd)] / Qe~~

~~WHERE:~~

~~WQS = applicable water quality standard, criteria or value~~
~~Qe = effluent flowrate~~
~~Qd = allowable dilution flowrate~~
~~Cd = background pollutant concentration in dilution water~~

PEL = [WQS(Qe + Qd) - (Qd)(Cd)] / Qe

WHERE:

WQS = applicable water quality standard, criteria or value
Qe = effluent flowrate
Qd = allowable dilution flowrate
Cd = background pollutant concentration in dilution water

B) The representative background concentration of pollutants to develop TMDLs and WLAs calculated in the absence of a TMDL shall be established as follows:

i) "Background" represents all pollutant loadings, specifically loadings that flow from upstream waters into the specified watershed, water body, or water body segment for which a TMDL or WLA in the absence of a TMDL is being developed and enter the specified watershed, water body, or water body segment through atmospheric deposition, chemical reaction, or sediment release or resuspension.

ii) When determining what available data are acceptable for use in calculating background, the Agency shall use its best professional judgment, including consideration of the sampling location and the reliability of the data through comparison, in part, to detection and quantification levels. When data in more than 1 of the data sets or categories described in subsection (h)(5)(B)(iii) exists, best professional judgment shall be used to select the data that most accurately reflects or estimates background concentrations. Pollutant degradation and transport information may be considered when using pollutant loading data to estimate a water column concentration.

iii) The representative background concentration for a pollutant in the specified watershed, water body, or water body segment shall be established on a case-by-case basis as the geometric mean of: acceptable water column data; water column concentrations estimated through use of acceptable caged or resident fish tissue data; or water column concentrations estimated through the use of acceptable or projected pollutant loading data. When determining the geometric mean of the data for a pollutant that includes values both above and below the detection level, commonly accepted statistical techniques shall be used to evaluate the data. If all of the acceptable data in a data set are below the detection level for a pollutant, then all the data for the pollutant in that data set shall be assumed to be zero.

6) Water quality based effluent limitations.

A) If the PEQ is less than or equal to the PEL, it will be concluded that there is no reasonable potential to exceed. Under such circumstances a permit limit for that contaminant will not be set unless otherwise justified under one or more provisions of 35 Ill. Adm. Code 352.430.

B) If the PEQ is equal to or greater than the PEL, and the PEQ was calculated using a data set of more than 10 values, a WQBEL will be included in the permit. If the PEQ was calculated using a data set of less than or equal to 10 values, and the alternative PEQ calculated under subsection (h)(3) (B) also exceeds the PEL, a WQBEL will be included in the permit.

C) If the PEQ was calculated using a data set of less than or equal to 10 values, and the PEQ is greater than the PEL but the alternative PEQ is less than the PEL, the Agency will either establish a WQBEL in the permit or incorporate a monitoring requirement and reopener clause to reassess potential to exceed within a specified time schedule, not to exceed one year. In determining which of these options to use in any individual application, the Agency shall consider the operational and economic impacts on the permittee and the effect, if any, deferral of a final decision would have on an ultimate compliance schedule if a permit limit were subsequently determined to be necessary.

D) The WQBEL will be set at the PEL, unless the PEL is

appropriately modified to reflect credit for intake pollutants when the discharged water originates in the same water body to which it is being discharged. Consideration of intake credit will be limited to the provisions of 35 Ill. Adm. Code 352.425.

E) The reasonable potential analysis shall be completed separately for acute and chronic aquatic life effects. When WQBELs are based on acute impacts, the limit will be expressed as a daily maximum. When the WQBEL is based on chronic effects, the limit will be expressed as a monthly average. Human health and wildlife based WQBELs will be expressed as monthly averages. If circumstances warrant, the Agency shall consider alternatives to daily and monthly limits.

~~(~~i) Best management practices (BMPs) to control or abate the discharge of chloride when:

~~(~~1) Authorized under section 402(p) of the CWA for the control of storm water discharges;

~~(~~2) Numeric effluent limitations are infeasible; or

~~(~~3) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

(Source: Amended at 38 Ill. Reg. _____, effective_____)

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