

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	
WATER QUALITY STANDARDS AND)	R08-9
EFFLUENT LIMITATIONS FOR THE)	(Rulemaking - Water)
CHICAGO AREA WATERWAY SYSTEM)	
AND THE LOWER DES PLAINES RIVER:)	Subdocket D
PROPOSED AMENDMENTS TO 35 Ill.)	
Adm. Code Parts 301, 302, 303 and 304)	

NOTICE OF FILING

To: ALL COUNSEL OF RECORD
(Service List Attached)

PLEASE TAKE NOTICE that on the 21st day of November, 2014, I electronically filed **METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO'S COMMENTS ON FIRST NOTICE OPINION AND ORDER** with the Office of the Clerk of the Illinois Pollution Control Board.

Dated: November 21, 2014

**METROPOLITAN WATER RECLAMATION
DISTRICT OF GREATER CHICAGO**

By: /s/ Fredric P. Andes
One of Its Attorneys

Fredric P. Andes
BARNES & THORNBURG LLP
One North Wacker Drive
Suite 4400
Chicago, Illinois 60606
(312) 357-1313

PROOF OF SERVICE

The undersigned attorney certifies, under penalties of perjury pursuant to 735 ILCS 5/1-109, that he caused a copy of the foregoing **METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO'S COMMENTS ON FIRST NOTICE OPINION AND ORDER**, to be served via First Class Mail, postage paid, from One North Wacker Drive, Chicago, Illinois, on the 21st Day of November, 2014, upon those listed on the attached Service List.

/s/ Fredric P. Andes

One of Its Attorneys

Fredric P. Andes
BARNES & THORNBURG LLP
One North Wacker Drive
Suite 4400
Chicago, Illinois 60606
(312) 357-1313

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SERVICE LIST

Roy M. Harsch
Drinker, Biddle, Gardner, Carton
191 North Wacker Drive
Suite 3700
Chicago, IL 60606-1698

Claire A. Manning
Brown, Hay & Stephens LLP
700 First Mercantile Bank Building
205 South Fifth Street
P.O. Box 2459
Springfield, IL 62705-2459

Deborah J. Williams, Assistant Counsel
Stefanie N. Diers, Assistant Counsel
Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Katherine D. Hodge
Matthew C. Read
Hodge Dwyer & Driver
3150 Roland Avenue
P.O. Box 5776
Springfield, IL 62705-5776

Thomas W. Dimond
Ice Miller LLP
200 West Madison Street
Suite 3500
Chicago, IL 60606-3417

Jerry Paulsen/Cindy Skrukud
Environmental Defenders of McHenry County
110 South Johnson Street
Suite 106
Woodstock, IL 60098

Robert VanGyseghem
City of Geneva
1800 South Street
Geneva, IL 60134-2203

Lisa Frede
Chemical Industry Council of Illinois
1400 East Touhy Avenue
Suite 110
Des Plaines, IL 60018

Matthew J. Dunn, Chief
Susan Hedman
Thomas H. Shepherd - Asst. Atty. General
Office of the Attorney General
Environmental Bureau North
69 West Washington Street
Suite 1800
Chicago, IL 60602

James L. Daugherty, District Manager
Thorn Creek Basin Sanitary District
700 West End Avenue
Chicago Heights, IL 60411

Thomas H. Shepherd
Assistant Attorney General
Environmental Bureau
69 West Washington Street
18th Floor
Chicago, IL 60602

Mitchell Cohen
Illinois DNR, Legal
One Natural Resources Way
Springfield, IL 62705-5776

Bernard Sawyer
Thomas Granato
Metropolitan Water Reclamation District
6001 West Pershing Road
Cicero, IL 60804-4112

Frederick D. Keady, P.E., President
Vermilion Coal Company
1979 Johns Drive
Glenview, IL 60025

Keith I. Harley
Elizabeth Schenkier
Chicago Legal Clinic, Inc.
211 West Wacker Drive
Suite 750
Chicago, IL 60606

James E. Eggen
Director of Public Works & Utilities
City of Joliet, Department of Public
Works & Utilities
150 W. Jefferson Street
Joliet, IL 60431

W.C. Blanton
Husch Blackwell Sanders LLP
4801 Main Street
Suite 1000
Kansas City, MO 64112

Ann Alexander, Sr. Attorney
Natural Resources Defense Council
20 North Wacker Drive
Suite 1600
Chicago, IL 60606

Erin L. Brooks
Bryan Cave LLP
One Metropolitan Square
211 N. Broadway, Suite 3600
St. Louis, MO 63102-2750

Chicago Department of Law
30 N. LaSalle St, Suite 1400
Chicago, Illinois 60602

James Huff, Vice President
Huff & Huff, Inc.
915 Harger Road
Suite 330
Oak Brook, IL 60523

Dr. Thomas J. Murphy
DePaul University
2325 North Clifton Street
Chicago, IL 60614

Cindy Hudzik
City of Chicago - Mayor's Office of
Intergovernmental Affairs
121 North LaSalle Street
City Hall - Room 509
Chicago, IL 60602

Vicky McKinley
Evanston Environment Board
223 Grey Avenue
Evanston, IL 60202

Irwin Polls
Ecological Monitoring and Assessment
3206 Maple Leaf Drive
Glenview, IL 60025

Kenneth W. Liss
Andrews Environmental Engineering
3300 Ginger Creek Drive
Springfield, IL 62711

Jack Darin
Sierra Club
Illinois Chapter
70 East Lake Street
Suite 1500
Chicago, IL 60601-7447

Bob Carter
Bloomington Normal Water
Reclamation District
P.O. Box 3307
Bloomington, IL 61702-3307

Jessica Dexter
Environmental Law & Policy Center
35 East Wacker Drive
Suite 1600
Chicago, IL 60601

Kay Anderson
American Bottoms RWTF
One American Bottoms Road
Sauget, IL 62201

Lyman C. Welch
Manager, Water Quality Programs
Alliance for the Great Lakes
150 N. Michigan
Suite 700
Chicago, IL 60601

Marie Tipsord, Hearing Officer
John Therriault, Assistant Clerk
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, IL 60601

Stacy Meyers-Glen
Openlands
25 East Washington
Suite 1650
Chicago, Illinois 60602

Susan M. Franzetti
Nijman Franzetti LLP
10 South LaSalle Street
Suite 3600
Chicago, IL 60603

Jeffrey C. Fort
Irina Dashevsky
Denton US LLP
233 South Wacker Drive
Suite 7800
Chicago, IL 60606-6404

Kristen Laughridge Gale
Nijman Franzetti LLP
10 South LaSalle Street
Suite 3600
Chicago, IL 60603

Frederick M. Feldman
Ronald M. Hill
Margaret T. Conway
Metropolitan Water Reclamation District
100 East Erie Street
Chicago, IL 60611

Albert Ettinger – Senior Staff Attorney
53 West Jackson
Suite 1664
Chicago, IL 60604

Mark Schultz
Regional Environmental Coordinator
Navy Facilities and Engineering Command
201 Decatur Avenue
Building 1A
Great Lakes, IL 60088-2801

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**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO'S
COMMENTS ON FIRST NOTICE OPINION AND ORDER**

The Metropolitan Water Reclamation District of Greater Chicago ("MWRD" or the "District") has the following comments concerning the First Notice Opinion and Order in this proceeding filed by the Board on September 18, 2014:

1. The Board considers site-specific chloride standards (990 mg/l acute standard and 620 mg/L chronic standard) only for the Chicago Sanitary and Ship Canal (CSSC) from December 1 – April 30, while the remainder of the waterways will be subject to the General Use water quality standard of 500 mg/L. In providing justification for its proposed standards for the CSSC, Citgo relied on data gathered by the MWRD and others for the Chicago Area Waterways System (CAWS). Upon review of the available data concerning presence of various species throughout the CAWS, MWRD believes that the same justification applies to site-specific standards for the remaining CAWS reaches for the same time period. (The relevant data are included in reports that are available at <http://www.mwrdd.org/irj/portal/anonymous/WQM>.) Since the Board has accepted Citgo's proposal, it should apply the same site-specific standards (990 mg/l acute and 620 mg/l chronic) to the other CAWS reaches. (MWRD does not gather information

regarding presence of species on the Lower Des Plaines River (LDPR), so this request does not extend to the LDPR.)

2. MWRD is aware that U.S. EPA has expressed concerns about the exclusion of certain species in the Citgo calculations. However, even if the standards were recalculated, in response to U.S. EPA comments, to re-include *Ceriodaphnia* and *Sphaerium*, the revised site-specific standards would still be significantly different than the 500 mg/l proposed by the Board. Based on review of historical MWRD data, we have also included the American eel and the threespine stickleback in the taxa list for recalculation of the chloride water quality standard. (The taxa list and other relevant information to the recalculation process are included in Appendix 1 to these comments.) Based on MWRD's recalculation, the new chloride standards would be 640 mg/l as an acute standard and 400 mg/l as a chronic standard. (Supporting calculations are attached as Appendix 2 to these comments.) While application of these revised standards would not entirely eliminate the attainment issues in the CAWS, they would significantly reduce the extent of noncompliance as compared to application of the proposed 500 mg/l standard, and some reaches would either be in attainment or may not need the application of a variance (as discussed below). MWRD believes that the scientific issues about the chloride standards that remain to be resolved are significant enough that the Board should consider creating a new Subdocket, to consider issues relating to chloride standards for the CAWS.
3. Because of the attainment issues that would result from application of the new chloride standards, Illinois Environmental Protection Agency (IEPA) has asked MWRD to lead a workgroup on chloride issues in the metropolitan Chicago area. MWRD will be reaching

out to stakeholders in the near future, so discussions can begin about how the chloride attainment issues can best be addressed. These discussions will specifically include review of the options that are raised by the Board in its First Notice Opinion and Order, including use of Best Management Practices (BMPs) and development of group variances for affected dischargers on reaches that cannot meet the new standards. MWRD suggests that it would be useful if the parties were to report to the Board periodically on their progress in addressing the chloride attainment issues.

4. The First Notice Opinion and Order imposes a new requirement that 24 consecutive hours of dissolved oxygen (DO) data must be used to assess attainment of mean and minimum values. This definition necessitates continuous hourly DO monitoring for compliance determination. We are not sure what the justification is for instituting this new requirement, and we urge the Board to reconsider whether it should be included in the regulations.
5. On page 31, section 302.412 (e) should refer to waterways listed in section 303.240 rather than 303.235.
6. On pages 233 – 234, all of the obsolete total metals standards should be stricken.
7. The First Notice Opinion and Order states several times that the General Use temperature standards that the Board decided to apply to the CAWS are less stringent than the IEPA's proposed temperature standards for the CAWS. However, that is not entirely accurate. The maximum temperature limit for December – March was reduced from 88.7 degrees F (IEPA's proposal) to 60 degrees F, which is more stringent than the 88.7 degree proposal.

8. In several places, the First Notice Opinion and Order refers to the wrong section numbers as containing the list of CAWS A and CAWS B waters. For example, 302.408(c) and (d) incorrectly reference 303.230 and 303.325 as containing CAWS A and CAWS B waters.
9. The reference to Subsection (a) in Section 302.408(d) is not clear. It appears that it should refer to Subsection (b).

Dated: November 21, 2014

Respectfully submitted,

**METROPOLITAN WATER RECLAMATION
DISTRICT OF GREATER CHICAGO**

By: /s/ Fredric P. Andes
One of Its Attorneys

Fredric P. Andes
BARNES & THORNBURG LLP
One North Wacker Drive
Suite 4400
Chicago, Illinois 60606
(312) 357-1313

APPENDIX 1

Metropolitan Water Reclamation District of Greater Chicago

TABLE 1: TAXA, TAXA RANKS, GENUS MEAN ACUTE VALUES (GMAV) AND SPECIES MEAN ACUTE VALUES (SMAV) USED TO RECALCULATE CHLORIDE WATER QUALITY STANDARDS FOR THE CAWS

RANK	GMAV	COMMON NAME	GENUS SPECIES	SMAV
29	17,161	American eel	<i>Anguilla rostrata</i>	17,161
28	16,203	Crayfish	<i>Cambarus sp.</i>	16,203
27	14,897	Plains killifish	<i>Fundulus kansae</i>	17,897
26	14,843	Dragonfly	<i>Libellulidae</i>	14,843
25	13,453	Threespine stickleback	<i>Gasterosteus aculeatus</i>	13,453
24	>11,860	Guppy	<i>Poecilia reticulata</i>	>11,860
23	9,993	Mosquitofish	<i>Gambusia affinis</i>	9,933
22a	9,157	Green sunfish	<i>Lepomis cyanellus</i>	9,975
22b	9,157	Bluegill	<i>Lepomis macrochirus</i>	8,407
21	8,971	Red shiner	<i>Notropis lutrensis</i>	8,971
20	8,043	Rainbow trout	<i>Oncorhynchus mykiss</i>	8,043
19	7,442	Black bullhead	<i>Ameiurus melas</i>	7,442
18	6,515	Fathead minnow	<i>Pimephales promelas</i>	6,515
17	6,219	Tubificid worm	<i>Tubifex tubifex</i>	6,219
16	6,111	Bannerfin shiner	<i>Cyprinella leedsi</i>	6,111
15	6,072	Midge	<i>Chironomus dilutes</i>	6,072
14	5,897	Bullfrog (tadpole)	<i>Rana catesbeiana</i>	5,897
13	5,444	Aquatic worm	<i>Lumbriculus variegatus</i>	5,444
12	5,078	Amphipod	<i>Hyalella azteca</i>	5,078
11	4,686	Chorus frog	<i>Pseudacris sp.</i>	4,686
10	4,369	Leech	<i>Nepheleopsis obscura</i>	4,369
9	3,946	Copepod	<i>Diaptomus clavipes</i>	3,946
8	3,891	Isopod	<i>Lirceus fontinalis</i>	3,891
7	3,728	Snail	<i>Gyraulus parvas</i>	3,728
6	3,350	Snail	<i>Physa gyrina</i>	3,350
5a	3,086	Mussel	<i>Villosa delumbis</i>	3,821
5b	3,086	Mussel	<i>Villosa iris</i>	2,492
4a	2,835	Mussel	<i>Lampsilis fasciola</i>	2,907
4b	2,835	Mussel	<i>Lampsilis siliquoidea</i>	2,764
3a	2,326	Cladoceran	<i>Daphnia ambigua</i>	1,650
3b	2,326	Cladoceran	<i>Daphnia magna</i>	3,773
3c	2,326	Cladoceran	<i>Daphnia pulex</i>	2,020
2	1,542	Cladoceran	<i>Ceriodaphnia dubia</i>	1,542
1	1,128	Fingernail clam	<i>Sphaerium simile</i>	1,128

Adapted from Stephan, 2009, Iowa DNR, available at:

<http://www.iowadnr.gov/InsideDNR/RegulatoryWater/WaterQualityStandards/ChemicalCriteria.aspx>

Lines that have been crossed out indicate that these species were not used in the chloride water quality standard recalculation for the CAWS

APPENDIX 2

Chloride water quality standard recalculation for the CAWS, including *S. simile* and *C. dubia*, excluding *Lampsilis* species

Rank	GMAV	Type	Cumulative Probability (P)	LN(GMAV) ²	LN(GMAV)	P ^{1/2}
4	3086	Mussel Villosa delumbis	0.1481	64.5553	8.0346	0.3849
3	2326	Cladoceran Daphnia ambigua	0.1111	60.0920	7.7519	0.3333
2	1542	Cladoceran Ceriodaphnia dubia	0.0741	53.8879	7.3408	0.2722
1	1128	Fingernail clam Sphaerium simile	0.0370	49.3956	7.0282	0.1925
SUMS:			0.3704	227.9308	30.1556	1.1828

$P=R/(N+1)$

N=26. Deleted Lampsilis, chorus frog, and guppy from Iowa list of 29

$$\begin{aligned} \sum \ln(\text{GMAV})^2 / 4 &= 227.3397 \\ \sum (\ln(\text{GMAV})^2) - \sum \ln(\text{GMAV})^2 &= 0.5912 \\ \sum P - (\sum P^{1/2})^2 / 4 &= 0.0206 \\ S^2 = [\sum (\ln(\text{GMAV})^2) - (\sum \ln(\text{GMAV}))^2 / 4] / [\sum P - (\sum P^{1/2})^2 / 4] &= 28.7149 \\ S &= 5.3586 \\ L = [\sum (\ln(\text{GMAV}) - S * (\sum P^{1/2}))] / 4 &= 5.9543 \\ A &= 7.1525 \\ \text{FAV} = e^A &= 1277.3042 \\ \text{FCV} = \text{FAV} / \text{ACR} &= 401.9208 \end{aligned}$$

ACR for invertebrates = 3.178

$$\begin{aligned} \text{ACUTE} &= \text{FAV} / 2 = 638.6521 \\ \text{CHRONIC} &= \text{FCV} = 401.9208 \end{aligned}$$

Rounded Values

640 mg/L
400 mg/L

Calculations from page 16 of *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*, USEPA 1985