

Electronic Filing - Received, Clerk's Office, October 20, 2008

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:)	
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 20th day of October, 2008, I electronically filed with the Office of the Clerk of the Illinois Pollution Control Board, **Metropolitan Water Reclamation District of Greater Chicago's Motion to Allow Oral Statement of Thomas Granato.**

Dated: October 20, 2008

**METROPOLITAN WATER RECLAMATION
DISTRICT OF GREATER CHICAGO**

By: /s/ David T. Ballard
One of Its Attorneys

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

PROOF OF SERVICE

The undersigned, a non-attorney, certifies, under penalties of perjury pursuant to 735 ILCS 5/1-109, that I caused a copy of the forgoing, **Notice of Filing of Metropolitan Water Reclamation District of Greater Chicago's Motion to Allow Oral Statement of Thomas Granato**, to be served via First Class Mail, postage prepaid, from One North Wacker Drive, Chicago, Illinois, on the 20th day of October, 2008, upon the attorneys of record on the attached Service List.

/s/ Barbara E. Szynalik

Barbara E. Szynalik

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SERVICE LIST R08-9 (Rulemaking - Water)

Richard J. Kissel
Roy M. Harsch
Drinker, Biddle, Gardner, Carton
Suite 3700
191 N. Wacker Drive
Chicago, IL 60606-1698

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

Kevin G. Desharnais
Thomas W. Dimond
Thomas V. Skinner
Mayer, Brown LLP
71 South Wacker Drive
Chicago, IL 60606-4637

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

Matthew J. Dunn, Chief
Office of the Attorney General
Environmental Bureau North
Suite 1800
69 West Washington Street
Chicago, IL 60602

Bernard Sawyer
Thomas Grant
Metropolitan Water Reclamation District
6001 W. Pershing Road
Cicero, IL 60804

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

Katherine D. Hodge
Monica T. Rios
Matthew C. Read
Hodge Dwyer Zeman
3150 Roland Avenue
P.O. Box 5776
Springfield, IL 62705-5776

Charles W. Wesselhoft
James T. Harrington
McGuireWoods LLP
Suite 4100
77 West Wacker Drive
Chicago, IL 60601-1818

Jerry Paulsen
Cindy Skrukrud
McHenry County Defenders
132 Cass Street
Woodstock, IL 60098

Kevin B. Hynes
O'Keefe Lyons & Hynes, LLC
Suite 4100
30 North LaSalle Street
Chicago, Illinois 60602

Lisa Frede
Chemical Industry Council of Illinois
Suite 239
2250 East Devon Avenue
Des Plaines, IL 60018-4509

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

Sharon Neal
Commonwealth Edison Company
125 South Clark Street
Chicago, IL 60603

Tracy Elzemeyer, General Counsel
American Water Company Central Region
727 Craig Road
St. Louis, MO 63141

Margaret P. Howard
Hedinger Law Office
2601 South Fifth Street
Springfield, IL 62703

Keith I. Harley
Elizabeth Schenkier
Chicago Legal Clinic, Inc.
4th Floor
205 West Monroe Street
Chicago, IL 60606

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

Roy G. Wilcox
Attorney at Law
16 West Madison
P.O. Box 12
Danville, IL 61834

Georgia Vlahos
Naval Training Center
2601A Paul Jones Street
Great Lakes, IL 60088-2845

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

Dennis L. Duffield
Director of Public Works & Utilities
City of Joliet, Department of Public
Works & Utilities
921 E. Washington Street
Joliet, IL 60431

Traci Barkley
Prarie Rivers Networks
Suite 6
1902 Fox Drive
Champaign, IL 61820

Ann Alexander, Sr. Attorney
Natural Resources Defense Council
Suite 609
101 North Wacker Drive
Chicago, IL 60606

James Huff, Vice President
Huff & Huff, Inc.
Suite 3300
915 Harger Road
Oak Brook, IL 60523

Beth Steinhorn
2021 Timberbrook
Springfield, IL 62702

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Cathy Hudzik
City of Chicago - Mayor's Office of
Intergovernmental Affairs
City Hall - Room 406
121 N. LaSalle Street
Chicago, IL 60602

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

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

Susan M. Franzetti
Franzetti Law Firm P.C.
Suite 3600
10 S. LaSalle Street
Chicago, IL 60603

Marc Miller, Senior Policy Advisor
Jamie S. Caston, Policy Advisor
Office of Lt. Governor Pat Quinn
Room 414 State House
Springfield, IL 62706

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

Albert Ettinger, Senior Staff Attorney
Jessica Dexter
Environmental Law & Policy Center
Suite 1300
35 E. Wacker Drive
Chicago, IL 60601

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

Tom Muth
Fox Metro Water Reclamation District
682 State Route 31
Oswego, IL 60543

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

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

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

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

Kristy A. N. Bulleit
Brent Fewell
Hunton & Williams LLC
1900 K Street, NW
Washington, DC 20006

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

Jeffrey C. Fort
Ariel J. Teshner
Sonnenschein Nath & Rosenthal LLP
7800 Sears Tower
233 S. Wacker Drive
Chicago, IL 60606-6404

Susan Hedman
Andrew Armstrong
Environmental Counsel Environmental Bureau
Suite 1800
69 West Washington Street
Chicago, IL 60602

Ronald M. Hill
Margaret T. Conway
Metropolitan Water Reclamation District of
Greater Chicago
100 E. Erie Street, Room 301
Chicago, Illinois 60611

Alec M. Davis
General Counsel
Illinois Environmental Regulatory Group
215 East Adams Street
Springfield, IL 62701

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[This filing submitted on recycled paper as defined in 35 Ill. Adm. Code 101.202]

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO'S
MOTION TO ALLOW ORAL STATEMENT OF THOMAS GRANATO**

Pursuant to 35 Ill. Adm. Code 101.500 and 101.628(a), the Metropolitan Water Reclamation District of Greater Chicago (the "District") respectfully moves to allow Thomas Granato to make oral statements at the upcoming rulemaking hearings¹ according to his previously submitted pre-filed testimony in the above-captioned case. In support of this Motion, the District states as follows:

1. On August 4, 2008, the District filed, among other documents, the Pre-Filed Testimony of Thomas Granato - Recreational Use and Standards, and Pre-Filed Testimony of Thomas Granato - Aquatic Life Uses and Criteria. These two pre-filed testimonies are attached as Exhibits A and B.

2. Unlike all of the other pre-filed testimonies filed by the District, the two pre-filed testimonies for Mr. Granato were filed not to provide new data or analysis, but to summarize and synthesize the testimonies of all other District witnesses. By concluding the District witnesses' testimonies with a summary by Mr. Granato, the District intended to provide the Board with a clear conclusion about the District's positions and analyses in this rulemaking.

¹ The next hearings are scheduled for October 27 and 28, 2008.

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3. Under Board rules:

The hearing officer may permit a participant to make oral statements on the record when time, facilities, and concerns for a clear and concise hearing record so allow. The oral statements must be made under oath and are subject to cross-examination.

35 Ill. Adm. Code 101.628(a).

4. Mr. Granato's pre-filed testimonies are eight double-spaced pages each, and should not take more than ten minutes each to read. Thus, his oral testimony of his submissions will not cause any real delay during the rulemaking hearings. Instead, Mr. Granato's oral testimony will provide a short summary of the extensive and complex testimony over multiple days that is being presented by the District's other witnesses. This testimony will serve to provide a "clear and concise hearing record." Further, considering the short length of the testimony, there is sufficient time and facilities to allow Mr. Granato to provide oral testimony.²

5. Mr. Granato will provide his oral statement as requested in this Motion under oath, and will be subject to cross-examination.

WHEREFORE, the District respectfully requests that the Board allow for Thomas Granato to make oral statements at the upcoming rulemaking hearings according to his previously submitted pre-filed testimony, and grant all relief the Board deems fair and just.

² If the Board grants this Motion, Mr. Granato will provide his oral statement as to recreational issues at the conclusion of the cross-examinations of the District's recreation witnesses, and his statement as to aquatic life issues after the end of the cross-examinations of the District's aquatic life witnesses.

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Dated: October 20, 2008

Respectfully submitted,

METROPOLITAN WATER
RECLAMATION DISTRICT OF
GREATER CHICAGO

By: /s/ David T. Ballard

Fredric P. Andes

Erika K. Powers

David T. Ballard

Barnes & Thornburg LLP

1 North Wacker Drive

Suite 4400

Chicago, Illinois 60606

Tel: (312) 357-1313

Fax: (312) 759-5646

Frederick M. Feldman

Ronald M. Hill

Margaret T. Conway

Metropolitan Water Reclamation

District of Greater Chicago

100 E. Erie Street, Room 301

Chicago, Illinois 60611

Tel: (312) 751-6587

Fax: (312) 751-6598

Attorneys for

Metropolitan Water Reclamation

District of Greater Chicago

EXHIBIT A

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

**PRE-FILED TESTIMONY OF THOMAS GRANATO
RECREATIONAL USES AND STANDARDS**

My name is Thomas Granato, and I am the Assistant Director of Research and Development managing the Environmental Monitoring and Research Division at the Metropolitan Water Reclamation District of Greater Chicago. I have been employed by the District for over 20 years and have held progressively responsible positions, including head of the Biosolids Utilization and Soil Science Section, and Coordinator of Technical Services. I have been Assistant Director of R&D for the past three and one half years. The EM&R Division houses the District's Wastewater Treatment Process Research Section, the Biosolids Utilization and Soil Science Section, the Analytical Microbiology and Biomonitoring Section, the Aquatic Ecology and Water Quality Section, and the Radiochemistry Section, which collectively house approximately 70 environmental scientists and engineers, soil scientists, biologists, microbiologists, chemists, radiation chemists, biostatisticians and other technical personnel. Over this time period I have been directly involved in the planning, development, management and administration of the many research studies that the District has undertaken to support the Chicago Area Waterways Use Attainability Analysis.

I hold a Bachelor of Science degree in Agricultural Science and a Master of Science degree in Soil Chemistry from the University of Illinois at Urbana-Champaign and a Doctor of Philosophy degree in Environmental Soil Science from North Carolina State University. I am a

member of the Water Environment Federation, the American Chemical Society, the Soil Science Society of America and the American Society of Agronomy. I have been a managing editor of Water Environment Research for the past two years. I have published over 50 research articles and reports pertaining to biosolids management, risk assessment, water quality, and other areas of environmental science.

This testimony summarizes and concludes the District's testimony on recreational use issues for the Chicago Area Waterways System (CAWS). The District believes that the Illinois Environmental Protection Agency relied on incorrect assumptions and incomplete information to reach faulty conclusions regarding recreational use designations and associated standards for the CAWS. Instead of pursuing this rulemaking now, IEPA should wait for necessary studies being conducted by the District to be completed. These studies will provide essential information to make scientifically supported decisions regarding appropriate water quality standards for the CAWS. However, if the rulemaking does move forward at this time before the studies are complete, the District urges significant revisions to assure that the recreational use designations and criteria for the CAWS are technically and legally supportable.

The District participated in and supported the UAA Study by providing technical information on the potential recreational use classification for the CAWS. IEPA and the District agreed that a thorough understanding of the CAWS is required before scientifically sound recommendations concerning the recreational use potential and associated protective standards can be established given the unique man-made and altered waterways of the CAWS.

IEPA requested that the District undertake and support a structured scientific assessment approach designed to evaluate the need and, if necessary, provide the basis for generating numeric water quality standards for the proposed recreational use designations. To assist IEPA

in making this determination, and at the agency's request, the District initiated a multi-phase research program, and has invested substantial funds (over \$10 million) on expert studies that can produce meaningful recommendations for a systematic technical and scientific assessment of recreational health risks to protect the identified uses of the CAWS. The key focus in this comprehensive research program is the assessment of the risks to human health for the identified recreational uses relative to the current practice of not disinfecting the effluents that discharge to the CAWS, as well as a structured scientific assessment to generate data and information upon which science-based water quality criteria can be derived.

However, instead of waiting for the conclusion of this scientific assessment, which is well underway, IEPA is proposing to revise the recreational designated uses for the CAWS and to impose technology-based effluent standards for treated wastewater. The District disagrees with the decision by IEPA not to wait for the results from the structured scientific assessment approach, which it supported and asked the District to undertake. However, if this rulemaking moves forward before completion of the scientific assessment, the District makes the following recommendations concerning specification of recreational uses and standards.

Recreational Uses

In the proposed rulemaking, most waterways in the CAWS have been designated for Incidental Contact Recreation. Incidental Contact Recreation includes fishing, commercial boating, small craft recreational boating, and any limited contact associated with shoreline activity such as wading. However, the CAWS presents many safety issues that may render contact recreational activities such as swimming, wading and hand-powered boating hazardous to individuals. The man-made waterways do not have a substantial shallow area along the banks; the depth drops off very rapidly; the banks are lined with high vertical sheet piling or large limestone rocks; periodic draw downs of water levels cause unexpected, rapid increases in

stream velocity; and there is frequent barge and large power boat traffic. These safety factors are persuasive grounds for restricting primary and incidental contact recreational activities such as swimming, wading and hand-powered boating in the CAWS.

Non-Contact Recreation is defined in Section 301.323 of the IEPA's regulatory proposal as "any recreational activity in which human contact with the water is unlikely, such as pass through commercial or recreational navigation, and where physical conditions or hydrologic modifications make human contact unlikely or dangerous." The physical limitations and hydrological modifications of the CAWS make this category more appropriate for the CAWS than Incidental Contact Recreation.

Based on the physical hazards they present, the District proposes that the following waterways be designated for Non-Contact Recreation, contrary to the proposed standards: the Chicago Sanitary and Ship Canal from the South Branch of the Chicago River to the junction with the Calumet-Sag Channel, the entire Calumet-Sag Channel, the Chicago River, and the South Fork of the South Branch of the Chicago River (Bubbly Creek).

Recreational Standards

The District is confident that the weight of scientific evidence against the proposed 400 fecal coliform cfu/100 mL effluent standard is clear and overwhelming. To provide confidence in any decision making regarding disinfection requirements, multiple lines of scientific evidence must be considered collectively. On the basis of the District's systematic technical and scientific assessment of the CAWS, as summarized in the testimony presented by those before me, these lines of evidence include the following:

1. The microbial risk assessment report concluded that low pathogen levels in the District's plant effluents and in the CAWS downstream of the plants mean there is a minimal risk for gastrointestinal illness associated with recreational use of the CAWS. Furthermore, the

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presence of pathogens is mainly due to secondary loading of the waterway under wet weather conditions from CSOs and other discharges. The microbial risk assessment report also concludes that disinfection of effluent from the water reclamation plants will have minimal effects on overall recreational illness rates.

2. The District's epidemiological study will not be completed until 2010, and undertaking this rulemaking prior to completion of the study is premature. The District's epidemiology study is necessary to develop science-based criteria for incidental contact activities.

3. Disinfection to reduce fecal coliform from wastewater effluent discharges is not justified when much higher concentrations of fecal coliform are regularly introduced into the CAWS by tributary flows and during wet weather. A District report concluded that disinfection during wet weather would not improve the microbiological water quality in the CAWS downstream of the District's reclamation plants in terms of maintaining less than 400 fecal coliform cfu/100 mL.¹ Results from the UAA Study also indicated that fecal coliform densities upstream of the reclamation plants and in major tributaries to the CAWS were well above the proposed 400 fecal coliform cfu/100 mL effluent standard, indicating that the proposed effluent standard could not be attained in the CAWS even if the reclamation plants met the proposed effluent standard. Previous testimony regarding the risk assessment study indicated that fecal coliform were not well correlated with presence of pathogens.

4. Over the past 23 years, wastewater discharges have received secondary treatment but have not been disinfected, and there have been no documented public health outbreaks resulting from recreational use of the CAWS. As Dr. Blatchley presented in his testimony, this

¹ District Report, 2007-79.

is not surprising considering the experience of many other developed countries. In most countries of western Europe, wastewater disinfection is practiced only at facilities where effluent discharge is to a public swimming area, or where other opportunities for direct human contact are likely (e.g., shellfish breeding grounds). Despite the fact that effluent disinfection is uncommon in Europe, the incidence of diseases associated with waterborne pathogens among the residents of these countries does not appear to be substantially different than in the U.S.

5. The proposed effluent standard is normally applied to treated wastewater effluents discharged to receiving waters that may be used for drinking water supply, swimming, or shell fishing. However, IEPA has concluded that primary contact recreation is not an attainable use in the CAWS, and that the CAWS is not a drinking water or shell fishing source. Therefore, the proposed disinfection requirements should not be applied to CAWS dischargers.

6. USEPA's monitoring methods detect traditional fecal indicators that are not always associated with health risks.² Although the presence of these indicator organisms can initiate management actions, sound science does not justify such actions for the CAWS. The report of the Experts Scientific Workshop on Critical Research Needs for the Development of New or Revised Recreational Water Quality Criteria recommended that monitoring tools for bacteria should be reflective of health risks.³ The current rulemaking addresses fecal coliform bacteria, which have been determined by USEPA to be poor predictors of the presence or concentration of pathogens in water. It is essential that the microbial standards for water be

² Colford et al., 2007. *Water Quality Indicators and the Risk of Illness at Beaches With Nonpoint Sources of Fecal Contamination*. *Epidemiology*. 18(1):27-35.

³ EPA, 2007. Report of the Experts Scientific Workshop on Critical Research Needs for the Development of New or Revised Recreational Water Quality Criteria. EPA 823-R-07-006.
<http://www.epa.gov/waterscience/criteria/recreation/>.

reasonably and adequately protective of human health in light of the substantial capital expenditure that may be required to bring the CAWS into regulatory compliance.

7. There is evidence that no disinfection technology can offer a 100 percent guarantee of safe recreational water. Studies have found that although bacterial indicators are significantly reduced by disinfection, there is no clear indication that pathogens are also significantly reduced, particularly viruses.⁴ The infrastructure expenditure necessary to achieve a particular effluent fecal coliform level is not an efficient or productive use of limited public resources.

8. The District's Stickney, Calumet, and North Side reclamation plants provide treated wastewater of exceptional quality. The District is addressing the current and future needs of the plants for handling wet weather flow. The District has also instituted an effective research program to determine the health risks and to study potential public health issues for the CAWS. The risk assessment study found that the risks associated with incidental contact recreational practices on the CAWS are below the most conservative risk threshold that USEPA applies to criteria for primary contact recreation. IEPA acknowledges that the results of the CAWS epidemiological study, which is well underway, will provide the necessary scientific basis for protective bacterial water quality standards for the CAWS.

9. The costs associated with effluent disinfection are extraordinary, particularly considering the limited benefit. For example, installation and operation of UV disinfection technology, which currently represents the most likely choice for implementation at the District's North Side, Calumet and Stickney plants, is estimated at a total present worth cost of \$919.6 million. Chlorination/dechlorination would result in similar costs to the District. Based upon the

⁴ Blatchley et al., "Effects of Wastewater Disinfection on Waterborne Bacteria and Viruses," 2007.

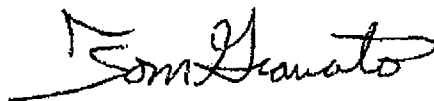
District's limitations and restrictions on generating revenues to fund programs, funding such an expenditure would require legislative action, a voter referendum, or significantly reducing funding of existing District programs.

10. Finally, effluent disinfection will result in substantial environmental impacts in the form of energy usage, air emissions from power generation and transportation of raw and waste materials, and land usage. These environmental impacts must be weighed when considering the appropriateness of disinfection requirements.

Conclusion

As established by the preceding testimony by the District's witnesses, IEPA's tentative conclusions in the Statement of Reasons are not supported by sound science, and are often arbitrary, speculative, or not rationally related to the information necessary to establish appropriate recreational uses and supporting criteria. The District, partly at IEPA's request, has undertaken an expeditious and systematic program of study to generate the scientific information necessary to understand the public health uncertainties in the CAWS. Given the enormous capital costs that will be required to meet the proposed effluent standards and the apparent low risk that currently exists for recreational users of the CAWS, it would be most prudent to base the final rulemaking on the completed program of study. For these reasons, the District strongly recommends that the IPCB consider delaying the establishment of new recreational uses and the technology-based effluent disinfection requirement. If the rulemaking proceeds, we recommend that those parts of the CAWS as previously stated (including the Chicago Sanitary and Ship Canal from the South Branch of the Chicago River to the junction with the Calumet-Sag Channel, the entire Calumet-Sag Channel, the Chicago River, and the South Fork of the South Branch of the Chicago River (Bubbly Creek).) be designated for Non-Contact Recreation, and that the requirement to disinfect be removed as unsupported.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Tom Granato". The signature is written in a cursive style with a large initial "T" and a long horizontal stroke at the end.

By: *Thomas Granato*

EXHIBIT B

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
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PRE-FILED TESTIMONY OF THOMAS GRANATO
AQUATIC LIFE USES AND CRITERIA

My name is Thomas Granato, and I am the Assistant Director of Research and Development managing the Environmental Monitoring and Research Division at the Metropolitan Water Reclamation District of Greater Chicago. I have been employed by the District for over 20 years and have held progressively responsible positions, including head of the Biosolids Utilization and Soil Science Section, and Coordinator of Technical Services. I have been Assistant Director of R&D for the past three and one half years. The EM&R Division houses the District's Wastewater Treatment Process Research Section, the Biosolids Utilization and Soil Science Section, the Analytical Microbiology and Biomonitoring Section, the Aquatic Ecology and Water Quality Section, and the Radiochemistry Section, which collectively house approximately 70 environmental scientists and engineers, soil scientists, biologists, microbiologists, chemists, radiation chemists, biostatisticians and other technical personnel. Over this time period I have been directly involved in the planning, development, management and administration of the many research studies that the District has undertaken to support the Chicago Area Waterways Use Attainability Analysis.

This testimony summarizes and concludes each main topic of the District's testimony with regard to aquatic life use and criteria issues. The District believes that IEPA relied on incorrect assumptions and reached faulty conclusions concerning aquatic life use designations

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and associated criteria for the CAWS. Instead of pursuing this rulemaking now, IEPA should wait for necessary studies being conducted by the District to be completed. These studies will provide information necessary to make scientifically supported decisions concerning appropriate water quality standards for the CAWS. However, if the rulemaking does move forward before those studies are complete, the District urges significant revisions to assure that the use designations and criteria for the CAWS are technically and legally supportable.

Aquatic Use Summary and Conclusions

As an active stakeholder, the District has appreciated the opportunity to provide the majority of the environmental data that have been assessed in the CAWS UAA. Research projects and studies regarding the UAA have been initiated by the District either on our own accord or on the request of IEPA. The District is concerned that IEPA has filed its proposal for R08-09 before the results of these crucial studies were available. The IEPA has chosen to formulate use designations and proposed standards for the CAWS, despite being aware that certain studies they have requested have not yet been completed.

We feel strongly that the results of all of the studies conducted for or in association with the UAA must be available and assessed before IEPA can make informed and scientifically supportable decisions about the uses and standards that are applicable to the CAWS. For parameters for which there is little or no science available, it would be counter-productive to set arbitrary standards while we await the results of ongoing research. Related to the aquatic life standards, the District's Habitat Evaluation and Improvement Study will provide extensive data on the physical habitat and the aquatic life potential in the CAWS at many more locations than were assessed in the UAA report. Since 2001, the District has been collecting biological and physical habitat data throughout the CAWS on a 4-year cycle for our Ambient Water Quality Monitoring Program. In other words, all 59 stations (28 of which are in the CAWS) are sampled

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within four years. As the data were being analyzed from the first two sampling cycles, it became apparent that additional stations in the CAWS should be evaluated to adequately characterize the aquatic environment. This habitat evaluation study will fill in these gaps, determine what physical habitat modifications would be required to achieve a sustainable fish community in the CAWS, and also synthesize and compare District chemical water quality data to tolerance levels of the fish species expected to colonize the CAWS if habitat improvements were implemented. This is necessary to replace the approach that IEPA took, which was based on insufficient habitat and biotic index data, and which was derived from indices that are not appropriate for use in the CAWS and which were calculated incorrectly.

The definition and basis for the proposed aquatic life use designations was never adequately explained by the IEPA. One of the confusing aspects of the CAWS UAA report is that it contains language that is inconsistent with the proposed standards. For instance, the CAWS UAA report refers to the Aquatic Life Use Designations in categories, including Modified Warm-water Aquatic Life (MWAL) and Limited Warm-water Aquatic Life (LWAL). IEPA's proposed aquatic life use designations, however, do not mention these classifications, nor do they explain how they are related to Aquatic Life Use A and B, terms that are introduced in the UAA proposal for the CAWS.

Between the 2004 CAWS UAA draft report and the 2007 issuance of the final report, no new data were assessed. All of the water quality, sediment quality and biological data described in the UAA report was collected prior to or during 2002. During 2001-2007, the District has collected a wealth of sediment chemistry, sediment toxicity, and benthic invertebrate data in the CAWS as part of the Ambient Water Quality Monitoring Program. However, none of information was considered when IEPA designated Aquatic Life Uses. Essentially, it appears

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that only fish Index of Biotic Integrity (IBI) percentile was used to classify waterways into Aquatic Life Use A or B. Given the more extensive database now available for sediment and benthic invertebrates and the soon-to-be completed CAWS Habitat Evaluation and Improvement Study, the IEPA should consider these factors and their implications for the Aquatic Life Use designations in the CAWS.

Furthermore, the Agency did not adequately account for the unique characteristics of the CAWS that significantly differentiate it from other General Use waters. Hydraulic limitations such as flow reversals, slow water velocity and the effects of wet weather present challenges not faced by most natural waterbodies. The ecological community in the CAWS also is substantially impaired by poor habitat, including low quality substrate, little or no sinuosity, poor riffle and pond development and low gradients. The CAWS substrate alone will prevent any further improvements in water quality from translating to a better macroinvertebrate community and will not likely result in improvements in aquatic life use. Without suitable habitat pattern and diversity, sustainable aquatic populations will not be established even with improvements in water quality.

If this rulemaking moves forward despite the data gaps, the Aquatic Life Uses should be revised to more appropriately reflect the nature of the CAWS and the aquatic community to be protected. For example, the Calumet-Sag Channel, which is a deep-draft, steep-walled channel, should be classified with other deep-draft, steep-walled channels in Aquatic Life Use B. Bubbly Creek, which is stagnant during dry weather and inundated with combined sewer overflow from the Racine Avenue Pumping Station during wet weather, does not reasonably fit within either of IEPA's proposed aquatic life uses. Bubbly Creek is unique in that it is a side fork and is therefore not used for fish passage through the Chicago Area Waterway System. To this end, the

District recommends a narrative DO standard for Bubbly Creek that prevents fish kills and maintains aesthetics (*e.g.*, prevents nuisance odors). This would be appropriate until such time as the sediments are capped, removed or remediated and the frequency of discharge at Racine Avenue Pumping Station is diminished sometime after 2024. If a numerical DO standard is deemed imperative, then the IPCB should consider the testimonies of Drs. Paul Freedman and Marcelo Garcia as a basis for such a standard.

Aquatic Criteria Summary and Conclusions

The District is very concerned that the IEPA's proposal establishes standards to protect aquatic life that are inappropriate for the proposed uses in the CAWS, and which would require the expenditure of significant resources to implement flow augmentation and supplemental aeration projects that ultimately could not guarantee achievement of the proposed standards. We therefore urge the Board not to adopt the agency's proposal.

Despite the unique highly-managed, manmade characteristics of the CAWS, and despite IEPA's indication that the aquatic life uses are designed to protect tolerant or intermediately tolerant species, the agency has proposed criteria that are virtually identical to those applicable to General Use waters in the case of dissolved oxygen and are more stringent than General Use waters in Cook County for cyanide. This is not reasonable, because the General Use standards apply to natural waters where intolerant sensitive species must be protected. The Agency proposed that Aquatic Life Use A waters be required to meet standards proposed to protect early life stages of fish, such as smallmouth bass, which cannot succeed in the CAWS due to lack of appropriate habitat. The Agency's proposed cyanide standard was based on protection of cold water species such as rainbow trout, which are not present in the CAWS. Without a clear link between the standards and protection of appropriate organisms, the agency's proposal is not justified.

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While the Agency has applied the General Use numerical criteria to the CAWS, it has failed to also apply the narrative dissolved oxygen standard that was recently adopted for General Use waters to the CAWS. The Agency gave no consideration to developing a similar standard for the inherently quiescent reaches of the CAWS. The Agency stated in the recently adopted General Use waters rulemaking that it is not reasonable to expect to attain the dissolved oxygen standard that was set for General Use waters everywhere and that “[t]here are isolated areas where the physical and chemical and biological circumstances are such that you cannot maintain that standard.”¹

As a result, the dissolved oxygen criteria proposed by IEPA would require implementation of flow augmentation and supplemental aeration projects, even in isolated areas of the CAWS that are quiescent due to their physical circumstances. However, even if implementation of these projects could be accomplished in all areas of the CAWS, the Agency has provided no direct evidence that the proposed criteria could be achieved. The Agency particularly failed to consider the prolonged effects of wet weather on dissolved oxygen levels in all parts of the CAWS, particularly in Bubbly Creek. If this rulemaking proceeds, the proposal should be revised to incorporate wet weather standards and eliminate the seven-day average dissolved oxygen criterion. In addition, the chronic cyanide criterion should be revised to reflect protection of species actually present (or intended to be present) in the CAWS. The resulting chronic cyanide standard that is developed for the CAWS should not be more restrictive than the General Use standard currently applicable to Cook County.

Finally, the District has serious concerns about the feasibility and the significant costs of such an uncertain undertaking. It is simply not practicable to install supplemental aeration

¹ R04-25 at Tr. 4, pg 61-62.

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stations of the size necessary to achieve 100 percent compliance with the proposed dissolved oxygen criteria and still maintain certain recreational uses in and around some parts of the CAWS . For example, to build a diffused-air instream aeration station that delivers DO to meet the proposed DO standards could require installing diffusers in an area the length of a football field, in which the rising air bubbles in the water could make this area unsafe for passing hand-powered boats. The implementation of flow augmentation for the upper NSC would likely require the construction of a 4.5 mile, 7-foot diameter pipeline along the waterway, which would disrupt transportation and recreation in the surrounding communities including trenching across many streets, CTA railway tracks, a golf course, Ladd Arboretum and miles of walking trails.

Furthermore, the costs associated with implementation of DO enhancement processes are significant: \$525 million in capital costs and \$6.9 million in annual operation and maintenance costs. Based upon the District's limitations and restrictions on generating revenues to fund programs, funding such an expenditure would require legislative action, a voter referendum, or significantly reducing funding of existing District programs.

Installation and operation of technology necessary to comply with proposed aquatic life uses and criteria would result in substantial environmental impacts in the form of energy usage, air emissions (including greenhouse gasses) from power generation and transportation of raw and waste materials, and land usage. For example, the total energy required for operation of dissolved oxygen enhancement technologies is estimated at 74.2 million kWh/yr, which will increase the District's total energy consumption by 13.5 percent. These environmental impacts must be taken into consideration in determining appropriate requirements.

Conclusion

In conclusion, the CAWS was created largely by the District for purposes other than sustaining aquatic life use, long before the Clean Water Act was conceived or passed into law.

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Nevertheless, the District has expended considerable resources and has undertaken many ambitious engineering projects, such as building some of the world's largest wastewater treatment plants and developing and implementing TARP to improve water quality in the CAWS. These water quality improvements will no doubt continue as TARP is completed. The District shares the goal of its fellow UAA stakeholders to continuously improve Chicago's aquatic environment, both the CAWS and Lake Michigan. However, the District cannot support the proposal that the IEPA has put before you in this rulemaking. That proposal has focused solely on addressing further improvements in chemical water quality, requires higher dissolved oxygen concentrations and lower concentrations of many chemical constituents than are currently required, and has ignored the many inherent physical limitations the CAWS has, which prior testimony has shown will prevent the chemical water quality improvements that the Agency seeks from supporting improved aquatic life use. With the potential cost of compliance measured in the hundreds of millions of dollars, standards that are based on incomplete, inappropriate and incorrect data are unacceptable.

I appreciate the opportunity to present this testimony today, and encourage the Board to reject IEPA's proposal as premature, without sufficient scientific basis, unattainable, and inappropriate to protect the CAWS.

Respectfully submitted,

A handwritten signature in cursive script that reads "Tom Granato". The signature is written in black ink and is positioned above the typed name.

By: *Thomas Granato*

PROOF OF SERVICE

The undersigned, a non-attorney, certifies, under penalties of perjury pursuant to 735 ILCS 5/1-109, that I caused a copy of the forgoing, **Metropolitan Water Reclamation District of Greater Chicago's Motion to Allow Oral Statement of Thomas Granato**, to be served via First Class Mail, postage prepaid, from One North Wacker Drive, Chicago, Illinois, on the 20th day of October, 2008, upon the attorneys of record on the attached Service List.

/s/ Barbara E. Szynalik

Barbara E. Szynalik

SERVICE LIST
R08-9 (Rulemaking - Water)

Richard J. Kissel
Roy M. Harsch
Drinker, Biddle, Gardner, Carton
Suite 3700
191 N. Wacker Drive
Chicago, IL 60606-1698

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

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

Katherine D. Hodge
Monica T. Rios
Matthew C. Read
Hodge Dwyer Zeman
3150 Roland Avenue
P.O. Box 5776
Springfield, IL 62705-5776

Kevin G. Desharnais
Thomas W. Dimond
Thomas V. Skinner
Mayer, Brown LLP
71 South Wacker Drive
Chicago, IL 60606-4637

Charles W. Wesselhoft
James T. Harrington
McGuireWoods LLP
Suite 4100
77 West Wacker Drive
Chicago, IL 60601-1818

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

Jerry Paulsen
Cindy Skrukud
McHenry County Defenders
132 Cass Street
Woodstock, IL 60098

Matthew J. Dunn, Chief
Office of the Attorney General
Environmental Bureau North
Suite 1800
69 West Washington Street
Chicago, IL 60602

Kevin B. Hynes
O'Keefe Lyons & Hynes, LLC
Suite 4100
30 North LaSalle Street
Chicago, Illinois 60602

Bernard Sawyer
Thomas Grant
Metropolitan Water Reclamation District
6001 W. Pershing Road
Cicero, IL 60804

Lisa Frede
Chemical Industry Council of Illinois
Suite 239
2250 East Devon Avenue
Des Plaines, IL 60018-4509

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

Sharon Neal
Commonwealth Edison Company
125 South Clark Street
Chicago, IL 60603

Tracy Elzemeyer, General Counsel
American Water Company Central Region
727 Craig Road
St. Louis, MO 63141

Margaret P. Howard
Hedinger Law Office
2601 South Fifth Street
Springfield, IL 62703

Keith I. Harley
Elizabeth Schenkier
Chicago Legal Clinic, Inc.
4th Floor
205 West Monroe Street
Chicago, IL 60606

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

Roy G. Wilcox
Attorney at Law
16 West Madison
P.O. Box 12
Danville, IL 61834

Georgia Vlahos
Naval Training Center
2601A Paul Jones Street
Great Lakes, IL 60088-2845

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

Dennis L. Duffield
Director of Public Works & Utilities
City of Joliet, Department of Public
Works & Utilities
921 E. Washington Street
Joliet, IL 60431

Traci Barkley
Prarie Rivers Networks
Suite 6
1902 Fox Drive
Champaign, IL 61820

Ann Alexander, Sr. Attorney
Natural Resources Defense Council
Suite 609
101 North Wacker Drive
Chicago, IL 60606

James Huff, Vice President
Huff & Huff, Inc.
Suite 3300
915 Harger Road
Oak Brook, IL 60523

Beth Steinhorn
2021 Timberbrook
Springfield, IL 62702

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Cathy Hudzik
City of Chicago - Mayor's Office of
Intergovernmental Affairs
City Hall - Room 406
121 N. LaSalle Street
Chicago, IL 60602

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

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

Susan M. Franzetti
Franzetti Law Firm P.C.
Suite 3600
10 S. LaSalle Street
Chicago, IL 60603

Marc Miller, Senior Policy Advisor
Jamie S. Caston, Policy Advisor
Office of Lt. Governor Pat Quinn
Room 414 State House
Springfield, IL 62706

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

Albert Ettinger, Senior Staff Attorney
Jessica Dexter
Environmental Law & Policy Center
Suite 1300
35 E. Wacker Drive
Chicago, IL 60601

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

Tom Muth
Fox Metro Water Reclamation District
682 State Route 31
Oswego, IL 60543

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

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

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

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

Kristy A. N. Bulleit
Brent Fewell
Hunton & Williams LLC
1900 K Street, NW
Washington, DC 20006

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

Jeffrey C. Fort
Ariel J. Tesher
Sonnenschein Nath & Rosenthal LLP
7800 Sears Tower
233 S. Wacker Drive
Chicago, IL 60606-6404

Susan Hedman
Andrew Armstrong
Environmental Counsel Environmental Bureau
Suite 1800
69 West Washington Street
Chicago, IL 60602

Ronald M. Hill
Margaret T. Conway
Metropolitan Water Reclamation District of
Greater Chicago
100 E. Erie Street, Room 301
Chicago, Illinois 60611

Alec M. Davis
General Counsel
Illinois Environmental Regulatory Group
215 East Adams Street
Springfield, IL 62701

503835

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