

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO) R04-25
DISSOLVED OXYGEN STANDARD) (Rulemaking – Water)
35 ILL. ADM. CODE 302.206)

RECEIVED
CLERK'S OFFICE

OCT 05 2006

STATE OF ILLINOIS
Pollution Control Board

NOTICE OF FILING

TO: SEE ATTACHED SERVICE LIST.

PLEASE TAKE NOTICE that on October 5, 2006, we filed the attached *Motion for Leave to File the Pre-Filed Testimony of Richard Lanyon On Behalf Of The Metropolitan Water Reclamation District of Greater Chicago In Support Of Proposed Amendments To Dissolved Oxygen Standard* and the *Pre-Filed Testimony of Richard Lanyon On Behalf Of The Metropolitan Water Reclamation District of Greater Chicago In Support Of Proposed Amendments To Dissolved Oxygen* with the Clerk of the Pollution Control Board, a copy of which is herewith served upon you.

METROPOLITAN WATER RECLAMATION
DISTRICT OF GREATER CHICAGO

By: *Frederick M. Feldman*
Frederick M. Feldman, Its Attorney

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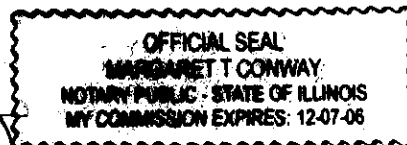
CERTIFICATE OF SERVICE

I, *Mickie Valdez*, being duly sworn on oath, certify that I caused a copy of the above *Notice* and attached *Motion for Leave to File the Pre-Filed Testimony of Richard Lanyon On Behalf Of The Metropolitan Water Reclamation District of Greater Chicago In Support Of Proposed Amendments To Dissolved Oxygen Standard* and *Pre-Filed Testimony of Richard Lanyon On Behalf Of The Metropolitan Water Reclamation District of Greater Chicago In Support Of Proposed Amendments To Dissolved Oxygen Standard* to be sent via first-class U.S. Mail to the individuals identified on the attached service list, at their address as shown, with proper postage prepaid, from 100 East Erie Street, Chicago, Illinois, at or near the hour of 4:30 p.m. this 5th day of October, 2006.

Mickie Valdez

Subscribed and Sworn to
Before me this 5th day of
October, 2006.

Margaret T. Conway
Notary Public



ILLINOIS POLLUTION CONTROL BOARD

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OCT 05 2006

STATE OF ILLINOIS
Pollution Control Board

IN THE MATTER OF:)

PROPOSED AMENDMENTS TO R04-25)

R04-25

DISSOLVED OXYGEN STANDARD 35 ILL.)

(Rulemaking – Water)

ADM. CODE 302.206)

)

**MOTION FOR LEAVE TO FILE PRE-FILED TESTIMONY OF
RICHARD LANYON ON BEHALF OF THE METROPOLITAN WATER
RECLAMATION DISTRICT OF GREATER CHICAGO IN SUPPORT OF
PROPOSED AMENDMENTS TO DISSOLVED OXYGEN STANDARD**

The Metropolitan Water Reclamation District of Greater Chicago ("District"), by its Attorney, Frederick M. Feldman, moves the Hearing Officer for leave to file the Pre-Filed Testimony of Richard Lanyon on Behalf of the Metropolitan Water Reclamation District of Greater Chicago in Support of Proposed Amendments to Dissolved Oxygen Standard, instanter. In support of its motion, the District states:

1. On July 14, 2006, Hearing Officer Richard McGill entered an Order setting forth the date and time of the fifth hearing in these proceedings. In addition, the Order set forth that any persons who wish to testify at the fifth hearing must pre-file their testimony and any related exhibits with the Board no later than October 4, 2006.
2. In compliance with the aforementioned Order, on October 2, 2006, the District timely filed the pre-filed testimony of Louis Kollias, Director of Research and Development for the District, with exhibits appended thereto.
3. The General Superintendent of the District, Richard Lanyon, also wishes to submit a brief statement in supplement to the pre-filed testimony of Mr. Kollias.

4. To expedite matters, the District has prepared and served along with this motion, the *Pre-Filed Testimony of Richard Lanyon on Behalf of the Metropolitan Water Reclamation District of Greater Chicago in Support of Proposed Amendments to Dissolved Oxygen Standard.*

5. In addition, if the instant motion is granted, Mr. Lanyon requests that he be allowed to testify immediately prior to Mr. Kollias who is currently scheduled to testify on the second day of the hearing, November 3, 2006.

6. No party will be prejudiced by allowing the District to submit the pre-filed testimony of Richard Lanyon only one day after the deadline.

7. Mr. Lanyon's testimony at the fifth hearing will further supplement and complement the testimony of Louis Kollias, thereby providing the Board with vital information, necessary to render a fully informed decision.

WHEREFORE, the Metropolitan Water Reclamation District of Greater Chicago respectfully requests leave to file instanter the *Pre-Filed Testimony of Richard Lanyon on Behalf of the Metropolitan Water Reclamation District of Greater Chicago in Support of Proposed Amendments to Dissolved Oxygen Standard.*

Metropolitan Water Reclamation District of
Greater Chicago,

By: 

Frederick M. Feldman, Attorney

October 5, 2006

Metropolitan Water Reclamation
District of Greater Chicago
100 East Erie
Chicago, Illinois 60611
312.751.6587

ILLINOIS POLLUTION CONTROL BOARD

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OCT 05 2006

STATE OF ILLINOIS
Pollution Control Board

IN THE MATTER OF:)	
)	
PROPOSED AMENDMENTS TO R04-25)	R04-25
DISSOLVED OXYGEN STANDARD 35 ILL.)	(Rulemaking – Water)
ADM. CODE 302.206)	
)	

PRE-FILED TESTIMONY OF RICHARD LANYON ON BEHALF OF THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO IN SUPPORT OF PROPOSED AMENDMENTS TO DISSOLVED OXYGEN STANDARD

My name is Richard Lanyon. In June 2006 I was appointed General Superintendent of the Metropolitan Water Reclamation District of Greater Chicago (“District”). I am submitting the following testimony on behalf of the District in support of the subject proposed amendments to the dissolved oxygen (DO) standards for General Use waters in Illinois. Prior to June 2006, I was the Director of Research and Development for the District for seven years and previously testified in this proceeding in that capacity. I have been employed by the District since 1963.

As General Superintendent, I am responsible for the day-to-day operations of the District, a special purpose unit of local government with 2100 employees and an annual budget of \$1 billion. The District is responsible for wastewater treatment for an 860-square-mile area in Cook County serving a population of 5 million and a commercial and industrial wastewater load of an equivalent population of 5 million. The District also operates the 78-mile long Chicago Waterway System to provide an outlet for treated effluent and properly drain the metropolitan area of excess stormwater. We are also responsible for stormwater management planning, regulation and maintenance for all of Cook County.

I received both Bachelors and Masters of Civil Engineering degrees from the University of Illinois at Urbana-Champaign (“UIUC”). I received the American Society of Civil Engineer’s

National Government Civil Engineer of the Year Award in 1999 and Distinguished Alumnus of the Department of Civil and Environmental Engineering at the UIUC in 2003. I am also a past President of the Illinois Section of the American Society of Civil Engineers (ASCE) and have been involved in a variety of technical activities for ASCE, the Water Environment Federation, the Illinois Association of Wastewater Agencies, the U.S. Geological Survey and the National Association of Clean Water Agencies.

Mr. Louis Kollias, the District's Director of Research and Development will also provide testimony in this proceeding focusing on the water quality impact of the proposed rule. My testimony will focus on the impact in the context of the District's budget and capital improvement program and involvement in the Use Attainability Analysis (UAA) Studies of the Chicago Area Waterways (CAWs) and Lower Des Plaines River (LDPR).

The District previously submitted comments in support of the proposed amendments to 35 Ill. Adm. Code 302.206. This testimony is being submitted to address certain other comments and testimony that has been filed, and in support of the District's prior comments.

As mentioned in my earlier testimony, the District is a principal participant in the UAA Studies being conducted by the Illinois Environmental Protection Agency (IEPA) for the CAWs and LDPR. These studies include approximately 90 miles of waterways designated as Secondary Contact and General Use. Those designated as General Use include 4.0 miles of the North Shore Channel and 1.6 miles of the Chicago River. The remainder of the CAWs and LDPR is designated as Secondary Contact. The UAA Studies have demonstrated that based on water quality monitoring data from many sources, the CAWs and LDPR are meeting most General Use water quality standards at most locations for most of the time, except for bacteria and DO. There is no bacterial standard for the Secondary Contact use designation and effluents discharged into these waters are not required to be disinfected. In addition, all segments of the CAWs, and LDPR, including the General Use reaches, are impacted by occasional combined sewer and stormwater overflows containing bacterial contamination and oxygen-demanding substances.

Certain reaches of the CAWs have deficient DO concentrations during periods of warm weather and low flows. As part of the CAWs UAA Study, the District, at the request of the IEPA, has performed technical investigations of feasible technology to address the DO deficiencies. Various feasible technologies could cost from \$200 to \$360 million on a present worth basis to correct the DO deficiencies during warm weather. Completion of the District's Tunnel and Reservoir Plan (TARP), expected by 2019, will address the temporary deficiencies in DO concentrations caused by wet weather by capturing, storing and treating most combined sewer overflows (CSOs). However, TARP completion alone will not address dry weather, low flow conditions.

More thorough study of the complicated waterways system and the technologies and costs to achieve compliance with DO standards is needed. The District has recently begun further studies, employing the resources of the Department of Civil and Environmental Engineering and the National Center for Supercomputer Applications at the University of Illinois in Urbana-Champaign and the U.S. Geological Survey's Illinois Water Science Center, also in Urbana. This work will involve a complete bathymetric survey, additional flow measurement stations and development of a three-dimensional hydraulic model using the U.S. Environmental Protection Agency's Environmental Fluid Dynamics Code. This research effort will be funded by the District at a cost of approximately \$900,000.

Approximately 70 percent of the annual flow leaving the CAWs at Lockport consists of treated water reclamation plant effluent. Effluent typically has high DO concentrations in the range 5 to 7 mg/L during dry weather. Effluent also contains biological oxygen demand (BOD) and suspended solids (SS) at concentrations less than 5 mg/L. Therefore, the oxygen demanding substances in the effluent easily consume the available oxygen in the effluent, making it difficult for effluent alone to provide sufficient oxygen to maintain compliance with the DO water quality standard.

It is for this reason that the District finds it necessary to provide supplemental aeration in waterways downstream of effluent outfalls to meet the applicable standard. Supplemental aeration is necessary because the slow moving water is incapable of sufficient natural re-aeration to maintain compliance with the standard. However, supplemental aeration is not currently

available throughout the CAWs and LDPR. It is probable that additional supplemental aeration will have to be provided when a new DO standard is adopted.

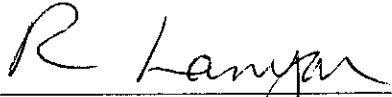
The UAA Study for the LDPR has been completed and the current recommendation is for the LDPR in the Brandon Road Pool to meet a minimum DO concentration of 4.0 mg/L and the General Use standard in the Dresden Island Pool. The UAA Study for the CAWs is not complete, but the draft report recommends that certain aquatic life use designations be adopted and that for these uses, the General Use water quality standards be adopted with some minor modifications. The two proposed aquatic life use designations do not contemplate fish reproduction due to the limited habitat. Therefore, when the proposed rulemaking for the CAWs comes before the Illinois Pollution Control Board (IPCB), it will have to include some other water quality standard than is being proposed by either the IAWA or the IEPA/Illinois Department of Natural Resources (IDNR) for General Use waters.

As will be shown in the testimony of Mr. Kollias, most of the monitoring locations in the CAWs will not be able to meet the General Use standard for DO as proposed by the IEPA/IDNR. Only one location can meet the proposed IEPA/IDNR standard and this is in the Chicago River at Clark Street. Ironically, this is one location in the most limited aquatic use designation recommended in the draft UAA Study report. This segment of the Chicago River has high quality water because it contains water brought in from Lake Michigan. However, it is a straight channel, 250 to 300 feet wide, 20 to 26 feet deep with vertical walls of concrete or steel, a sandy substrate channel bottom, numerous thermal discharges from the cooling systems of high-rise buildings and a high volume of boat traffic during warm weather months. It is devoid of any suitable habitat for the reproduction of fish.

With respect to the eventual need for additional capacity for supplemental aeration to meet the DO standards that result from the UAA Studies, the District will have to add these facilities to its capital improvement program. Currently, our capital resources are committed for infrastructure replacement and rehabilitation through 2016 at the rate of approximately \$150 million per year. Our ability to raise funds for capital improvement through bonding and to retire the debt through ad valorem taxes is governed by state statute. The IPCB will have to take this in consideration

when adopting standards requiring the District to expend capital funds for infrastructure to comply with the standard.

Metropolitan Water Reclamation District of
Greater Chicago,

By: 
Richard Lanyon, General Superintendent

October 5, 2006

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