

**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 B  
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 28<sup>th</sup> day of May, 2010, I, on behalf of the Metropolitan Water Reclamation District of Greater Chicago (the "District"), electronically filed with the Office of the Clerk of the Illinois Pollution Control Board, **Pre-Filed Testimony of Samuel Dorevitch Regarding CHEERS Research Update: An Interim Technical Report Prepared for Submission to the Illinois Pollution Control Board.**

Dated: May 28, 2010

**METROPOLITAN WATER RECLAMATION  
DISTRICT OF GREATER CHICAGO**

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

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**PROOF OF SERVICE**

The undersigned attorney certifies, under penalties of perjury pursuant to 735 ILCS 5/1-109, that I caused a copy of the forgoing, **Notice of Filing** and **Pre-Filed Testimony of Samuel Dorevitch Regarding CHEERS Research Update: An Interim Technical Report Prepared for Submission to the Illinois Pollution Control Board**, to be served via First Class Mail, postage prepaid, from One North Wacker Drive, Chicago, Illinois, on the 28<sup>th</sup> day of May, 2010, upon the attorneys of record on the attached Service List.

*/s/ David T. Ballard*

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WATER QUALITY STANDARDS AND )  
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**PRE-FILED TESTIMONY OF SAMUEL DOREVITCH REGARDING CHEERS  
RESEARCH UPDATE: AN INTERIM TECHNICAL REPORT PREPARED FOR  
SUBMISSION TO THE ILLINOIS POLLUTION CONTROL BOARD**

My name is Samuel Dorevitch and I am an environmental health researcher at the University of Illinois at Chicago School of Public Health. I am a medical doctor, with training and board certification in Emergency Medicine and also in Preventive Medicine, with specialization in Occupational Medicine. Over the last eight years, I've conducted research on local environmental health issues, such as the effects of public housing demolition and the reconstruction of the Dan Ryan expressway on air quality. In addition to being a scientist, I have been an advocate for reducing pollution and improving the environment. Over the years, I have testified at U.S. EPA hearings in favor of setting more stringent regulatory standards for ozone, particulate matter air pollution, and off-road diesel emissions. I have also spoken out in the media about the impact of coal-fired power plants on local air quality. I have added my name to the National Resources Defense Council's list of those opposed to the U.S. EPA's effort to stop regulating lead as an air pollutant.

In February, 2009, I participated in a conference held by the Water Environment Research Foundation entitled "Expert Scientific Workshop on Critical Research and Science Needs for the Development of Recreational Water Criteria for Inland Waters." Thirty-one national and international experts participated in the meeting, which was supported in part by the

US EPA's Office of Water. I served on the planning committee, led the working group on "Health Risks: Epidemiology and Risk Assessment," and participated in the writing of the final report. With the other group leaders I summarized the state of the science in an article entitled "Knowledge and gaps in developing microbial criteria for inland recreational waters," to be published in the June, 2010 issue of Environmental Health Perspectives.

I am directing the epidemiologic study of recreation in the Chicago Area Waterway System ("CAWS") known as CHEERS, which stands for the Chicago Health, Environmental Exposure, and Recreation Study. This is the first epidemiologic study of the health risks of fishing, boating, rowing and paddling. This research uses the gold standard of observational epidemiologic studies, the prospective cohort design, and follows the study format used for the United States Environmental Protection Agency's National Epidemiological and Environmental Assessment of Recreational (NEEAR) Water Study. which will generate national microbial water quality criteria for primary contact water. The CHEERS study design has been developed by a multi-disciplinary team of experienced researchers, with backgrounds in infectious disease medicine, environmental medicine, epidemiology, biostatistics, industrial hygiene and environmental science. A panel of recognized leaders in the fields of water microbiology and health from the U.S. Centers for Disease Control and Prevention, the U.S. Environmental Protection Agency, and other universities has reviewed and endorsed the design and protocols of the research, and continues to monitor the quality of data collected as well as its analysis and interpretation. A copy of the review panel's endorsement has been submitted by Mr. Daniel Woltering of the Water Environment Research Foundation and is Public Comment Number 63 in the docket for this rulemaking.

In my pre-filed testimony that was filed with the Illinois Pollution Control Board (the “Board”) on August 4, 2008, I provided a broad brushstroke view of the CHEERS research and its methodologies, and outlined the issues that the final analysis would address. Since that time, I have continued to direct the CHEERS research described in my testimony. As a result of the continuing research, on May 5, 2010, the Metropolitan Water Reclamation District of Greater Chicago (the “District”) filed a copy of “CHEERS Research Update: An Interim Technical Report Prepared for Submission to the Illinois Pollution Control,” (the “Interim Technical Report”) with the Board. The Interim Technical Report provides a status update for the Board regarding the CHEERS research study. As the Interim Technical Report shows, participant recruitment and health follow-up have been completed and statistical analysis is ongoing. While final results of the research are not yet available, the Interim Technical Report provides interim summaries of key data elements. The report summarizes preliminary results of water quality and observation of recreational use of the CAWS during the last three recreation seasons. For the CAWS water exposure group, General Use water exposure group, and unexposed to water recreational group, the report further summarizes participant recruitment, the occurrence of gastrointestinal illness, and microbes isolated from stool samples of study participants who developed gastrointestinal symptoms following recreation. The summaries that comprise the Interim Technical Report, however, should not be viewed as answers to primary study questions.

Yet to be completed are analyses of health risks of incidental contact water recreational activities. Such analysis will take into account multiple factors that must be considered when describing relationships between key variables (such as water quality) and health outcomes (such as the development of gastrointestinal illness). For example, if users of the CAWS are different in important ways compared to users of General Use waters or to study participants that were not

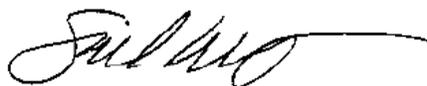
exposed to water – such as their age or presence of underlying health conditions – real differences in the health risk between the CAWS group and other groups may be distorted. The ongoing data analysis focuses on accounting for such difference in order to generate appropriate comparisons of risk across study groups.

Recently, we convened a meeting of the peer review group for CHEERS. The meeting provided an opportunity for the CHEERS research team to present specific questions about data quality and methods of analysis to the review team. Although Section 2.02 (a) of the Interim Technical Report notes that data are of sufficient quality to meet study objectives, the peer review group and the research team agreed that a subset of water quality data did not meet CHEERS project quality criteria, and should be excluded from analysis, even though they were generated by a certified lab that reported that its internal QC was acceptable during the generation of these data. Specifically, in the dataset for E. coli and enterococcus that formulates the basis for data presented in Table II-6 and Figure II-1 (a-b) of the Interim Technical Report, there are implausibly low values of indicator bacteria, collected at sites on the CAWS and other waters. The effect of excluding these data will likely increase the mean values of these indicators somewhat for the 2008 season, though the impact on median values would be minimal. I will be revising Tables II-6 and Figure II-1 (a-b) to address this issue in the next ten (10) days, after which the District will file the revised Tables with the Board.

The research team is continuing to work on analyses and preparation of its report. Based on the progress of the CHEERS research and analyses, a final CHEERS report will be completed and filed with the Board by August 31, 2010. That report will address, among other issues, occurrence of illness among study participants and rates of illness attributable to CAWS recreation adjusted for demographic differences among study participants, and microbes

responsible for gastrointestinal symptoms among study participants. It will also contain information concerning development of a relationship between microbial water quality parameters and incidence of illness for recreational uses proposed for the CAWS, which will eventually be needed to develop scientifically-based bacterial water quality standards for the CAWS. A supplemental report reflecting completed analyses of the water quality-illness relationship will be submitted to the Board by the end of 2010.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'S. Dorevitch', with a long horizontal flourish extending to the right.

By: Samuel Dorevitch  
University of Illinois at Chicago  
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