

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

RECEIVED
CLERK'S OFFICE

JUL 21 2015

STATE OF ILLINOIS
Pollution Control Board

METROPOLITAN WATER RECLAMATION)
DISTRICT OF GREATER CHICAGO,)
))
Petitioner,)
))
v.)
))
ILLINOIS ENVIRONMENTAL PROTECTION)
AGENCY,)
))
Respondent.)

PCB No. 16-28
(Variance – Water)

NOTICE OF FILING

To: IEPA, Division of Legal Counsel, #21
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

PLEASE TAKE NOTICE that on July 21, 2015, the **Metropolitan Water Reclamation District of Greater Chicago** electronically filed with the Office of the Clerk of the Illinois Pollution Control Board its **Petition for Variance from Dissolved Oxygen Standards**, a copy of which is hereby served upon you.

Dated: July 21, 2015

**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 (General)
(312) 214-8310 (Direct)
(312) 759-5646 (Fax)
fredric.andes@btlaw.com

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 **Petition for Variance from Dissolved Oxygen Standards**, to be served via First Class Mail, postage paid, from One North Wacker Drive, Chicago, Illinois, on the 21st Day of July, 2015 on:

IEPA, Division of Legal Counsel, #21
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

/s/ Fredric P. Andes
One of Its Attorneys

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

RECEIVED
CLERK'S OFFICE

JUL 21 2015

STATE OF ILLINOIS
Pollution Control Board

METROPOLITAN WATER RECLAMATION)
DISTRICT OF GREATER CHICAGO,)

Petitioner,)

v.)

ILLINOIS ENVIRONMENTAL PROTECTION)
AGENCY,)

Respondent.)

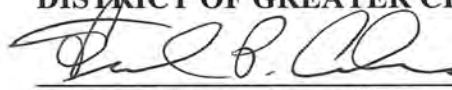
PCB No. 16-28
(Variance - Water)

APPEARANCE

The undersigned, as one of its attorneys, hereby enters his appearance on behalf of
METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO.

METROPOLITAN WATER RECLAMATION
DISTRICT OF GREATER CHICAGO

By:



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 (General)
(312) 214-8310 (Direct)
(312) 759-5646 (Fax)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

RECEIVED
CLERK'S OFFICE

JUL 21 2015

STATE OF ILLINOIS
Pollution Control Board

METROPOLITAN WATER RECLAMATION)
DISTRICT OF GREATER CHICAGO,)

Petitioner,)

v.)

ILLINOIS ENVIRONMENTAL PROTECTION)
AGENCY,)

Respondent.)

PCB No. 16-28
(Variance - Water)

PETITION FOR VARIANCE FROM DISSOLVED OXYGEN STANDARDS

The Metropolitan Water Reclamation District ("MWRD"), by its attorneys, Barnes & Thornburg LLP, and pursuant to Section 35(a) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/35(a), and Part 104 of Title 35 of the Illinois Administrative Code, 35 Ill. Admin. Code § 104.100 *et seq.*, hereby petitions the Illinois Pollution Control Board ("Board") for a variance authorizing discharges from its O'Brien, Calumet, and Stickney wastewater treatment plants ("Plants") and from the Combined Sewer Overflow ("CSO") outfalls into the Chicago Area Waterways System ("CAWS") pursuant to the terms and conditions outlined in this Petition for Variance ("Petition").

In Docket 2008-009, the Board has been engaged in an extensive rulemaking process regarding designated uses, effluent limitations and water quality standards for the CAWS. Subdockets C and D have involved the setting of designated uses and water quality standards for the protection of aquatic life. In connection with those subdockets, MWRD reached an agreement with the environmental organization parties¹ ("Environmental Groups") on recommendations to the Board for aquatic life designated uses and water quality standards for

¹ Natural Resources Defense Council ("NRDC"), Environmental Law & Policy Center, Friends of the Chicago River, Openlands, Southeast Environmental Task Force, Prairie Rivers Network, and Sierra Club-Illinois Chapter.

each reach of the CAWS. That agreement is reflected in the comments that were filed by each of those parties in the rulemaking on March 19, 2012 (attached as Exhibit A). This Petition is also consistent with that agreement.

The Board has now adopted final aquatic life water quality standards for the CAWS, effective July 1, 2015. Included in that rulemaking are new standards for dissolved oxygen (DO), which are consistent with the recommendations filed earlier by the MWRD and the Environmental Groups. Several reaches of the CAWS do not consistently meet the new DO standards now and, because of wet and dry weather issues, cannot do so in the next five years despite the MWRD's efforts to address water quality issues in the CAWS. Therefore, requirements imposed to bring about the immediate attainment of these standards would impose an arbitrary or unreasonable hardship on the MWRD. *See* 415 ILCS 5/35(a). The MWRD is requesting that the Board grant it a five-year variance. During that time, the MWRD would take interim measures to address water quality and would continue its evaluation of the issues and investigation of adequate solutions to address DO issues in the CAWS. That information would then be used to determine the terms of such subsequent variances as are needed to address the long-term water quality standard attainment issues in the CAWS.

Each element required by the Illinois regulation governing variance petition contents is set forth in italics and the required information provided below.

A. Requirements from Which a Variance Is Sought

A statement describing the regulation, requirement, or order of the Board from which a variance is sought. If variance from a regulation is sought, the statement must include the Illinois Administrative Code citation to the regulation as well as the effective date of that regulation. If variance from a requirement or order of the Board is sought, the statement must include the citation to that requirement or order of the Board promulgating that requirement, including docket number;

As noted above, the MWRD and the Environmental Groups reached agreement, during the R2008-09 rulemaking process, and made recommendations to the Board concerning designated uses for protection of aquatic life in the all of the CAWS reaches. Those parties also agreed on and made recommendations to the Board concerning revised water quality standards for dissolved oxygen (DO) in all the reaches of the CAWS based on protection of the designated aquatic uses. Subsequently, the Board has adopted new uses and standards that are consistent with those recommendations. The new aquatic uses for all of the CAWS reaches are long-term goals. Currently, the DO standards that are based on those uses are not met on a consistent basis and cannot be met in any of the segments for at least five years and for at least some of the segments may not be able to be met for a period substantially longer than five years.

The O'Brien Water Reclamation Plant discharges to the North Shore Channel, the Calumet Water Reclamation Plant discharges to the Little Calumet River, and the Stickney Water Reclamation Plant discharges to the Chicago Sanitary and Ship Canal. Each Plant is operating with an NPDES permit, which requires MWRD to not cause or contribute to violations of water quality standards, including those established in the R2008-09 rulemaking.

Therefore, it is necessary for MWRD to be issued a five-year variance for each Permit in the form suggested in this Petition in order to avoid the imposition of an arbitrary or unreasonable hardship on the MWRD.²

B. Activity of the MWRD

A complete and concise description of the nature of petitioner's activity that is the subject of the proposed variance, including:

² Each of the permits covers discharges from the specified Plant, as well as certain Combined Sewer discharges, as listed in B. below. At this time, MWRD is requesting a variance to cover all of the Combined Sewer discharges. Coverage of the discharges from the Plants may be necessary in the future, but is not being requested at this time. Because the Permits cover discharges from the Plants as well as the Combined Sewer discharges, information concerning the Plants and their discharges is included in this variance petition for the sake of completeness, and to ensure that MWRD is complying with all applicable Board requirements for this petition.

1) The location of, and area affected by, the petitioner's activity;

The facility name and address for the "O'Brien" treatment plant is:

MWRDGC O'Brien Water Reclamation Plant
3500 West Howard Street
Skokie, Illinois 60076

The facility name and address for the "Stickney" treatment plant is:

MWRDGC Stickney Water Reclamation Plant
6001 West Pershing Road
Cicero, Illinois 60804

The facility name and address for the "Calumet" treatment plant is:

MWRDGC Calumet Water Reclamation Plant
400 East 130th Street
Chicago, Illinois 60628

In addition, the permits also cover discharges from CSO outfalls operated by MWRD described in more detail below. The area affected by the MWRD's activities is the CAWS, which includes each of the receiving waters which are identified below.

2) The location of points of discharge, and, as applicable, the identification of the receiving waterway or land, or, if known, the location of the nearest air monitoring station maintained by the Agency;

The O'Brien plant's point of discharge is the 001 Water Reclamation Plant Outfall and the receiving water is the North Shore Channel. The nearest air monitoring station is unknown and not relevant for the requested variance. In addition, the plant's Permit authorizes the following Combined Sewer discharges:

Discharge Number	Location	Receiving Water
101	Sheridan Road	North Shore Channel
102	Green Bay Road	North Shore Channel
103	Emerson Street	North Shore Channel

104	Lake Street	North Shore Channel
105	Howard Street	North Shore Channel
106	Morse Avenue	North Shore Channel
107	North Branch Pumping Station	North Branch of Chicago River
109	Rand Road	Des Plaines River
110	Niles Center Outlet Sewer – Oakton Street	North Shore Channel

The Stickney plant’s point of discharge is the 001 Water Reclamation Plant Main Outfall and the receiving water is the Chicago Sanitary and Ship Canal. The nearest air monitoring station is unknown and not relevant for the requested variance. In addition, the plant’s Permit authorizes the following Combined Sewer discharges:³

Discharge Number	Location	Receiving Water
131	Devon Avenue	Des Plaines River
132	Northwest Tollway	Des Plaines River
133	Foster Avenue	Des Plaines River
134	North Avenue	Des Plaines River
135	Chicago Avenue	Des Plaines River
136	Roosevelt Road	Des Plaines River
142	38th and Racine Avenue	S. Fork of S. Branch of Chicago River
143	Laramie Avenue	Chicago San. and Ship Canal
144	Lombard Avenue	Chicago San. and Ship Canal

³ The Permit also authorizes discharges, under specified circumstances, from emergency high level bypass Outfalls 002, 003 and 004.

145	East Avenue	Chicago San. and Ship Canal
146	13A Pump Station	Chicago San. and Ship Canal
147	67th Street	Chicago San. and Ship Canal
148	75th Street	Chicago San. and Ship Canal
149	Tri-State Tollway	Chicago San. and Ship Canal
150	Westchester Pump Station	Addison Creek

The Calumet plant's point of discharge is the 001 Water Reclamation Plant Outfall and the receiving water is the Little Calumet River. The nearest air monitoring station is unknown and not relevant for the requested variance. In addition, the plant's Permit authorizes the following Combined Sewer discharges:⁴

Discharge Number	Location	Receiving Water
004	WRP TARP Bypass (Bulkheaded)	Little Calumet River
006	Calumet 18H Inverted Syphon	Calumet Sag Channel
007	Calumet 20B Interceptor	Calumet Sag Channel
010	Glenwood Pump Station	Deer Creek
151	94th Place	Calumet River
152	122nd Street Pump Station	Calumet River
153	Edbrook Avenue	Little Calumet River
154	Throop Street	Calumet Sag Channel
156	Francisco Avenue	Calumet Sag Channel
157	Central Park	Calumet Sag Channel

⁴ The Permit also authorizes discharges, under specified circumstances, from emergency high level bypass Outfalls 002 and 003.

158	Pulaski Road	Calumet Sag Channel
160	Ridgeland Avenue	Calumet Sag Channel
163	Sacramento	Calumet Sag Channel

3) An identification, including docket number, of any prior variance issued to the petitioner and, if known, the petitioner's predecessors, concerning similar relief;

There have been no variances issued to the MWRD concerning similar relief.

4) An identification, including number, of the environmental permits held by petitioner for the activity which may be affected by grant of variance;

The following permits held by MWRD would be affected by the grant of the requested

variances:

O'Brien:

NPDES Permit No. IL0028088⁵
Issue Date: January 22, 2002
Effective Date: March 1, 2002
Expiration Date: February 28, 2007

Stickney:

NPDES Permit No. IL0028053
Issue Date: December 23, 2013
Effective Date: January 1, 2014
Expiration Date: December 31, 2018

Calumet:

NPDES Permit No. IL0028061⁶
Issue Date: January 22, 2002
Effective Date: March 1, 2002
Expiration Date: February 28, 2007

⁵ The subsequently issued permit was remanded by the Pollution Control Board on December 18, 2014 and has not yet been reissued.

⁶ The subsequently issued permit was remanded by the Pollution Control Board on December 18, 2014 and has not yet been reissued.

5) *The number of persons employed by the petitioner's facility at issue and the age of that facility;*

The MWRD has a total of approximately 1862 employees.

O'Brien began operations in 1928, and has 189 employees.

Stickney began operations on the west side portion of the plant in 1930. The southwest portion of the plant was placed into service in 1939. The plant has 637 employees.

Calumet began operations in 1922, and has 259 employees.

6) *The nature and amount of the materials used in the process or activity for which the variance is sought and a full description of the particular process or activity in which the materials are used;*

The Plants are wastewater treatment facilities for the treatment of municipal sewage. The associated CSO outfalls provide relief from local flooding during heavy wet weather events due to finite pumping and hydraulic capacity of the collection system and treatment plants. The Permits, attached hereto as Exhibits B, C and D, provide details concerning each Plant's processes and authorized discharges as well as the discharge limits that will be affected by the requested variances.

7) *A description of the relevant pollution control equipment already in use; and*

O'Brien: Treatment consists of screening, grit removal, sedimentation, activated sludge and final settling. Sludge generated during the wastewater treatment processes is pumped to Stickney for further treatment. O'Brien treats domestic wastewater for part of the City of Chicago, Evanston, Skokie, Glenview, and other surrounding municipalities.

Stickney: Treatment consists of both primary and secondary treatment. Primary treatment is divided between two sets of processes, with flow entering on the "West Side" and the "Southwest Side." The West Side treats through screenings, skimming tanks, and Imhoff tanks, with grit flowing through channels and sludge going directly to digesters. The Southwest

Side treats via screenings, aerated grit tanks, and preliminary gravity settling tanks. Grit is dewatered and preliminary sludge is screened and concentrated before digestion. All flow then goes through a common secondary system of four-pass aeration tanks and final settling clarifiers. Sludge is anaerobically digested and then dewatered and aged for land application and other beneficial reuse. Stickney treats domestic and industrial wastewater for Berwyn, a portion of Chicago, Cicero, Des Plaines, Maywood, Melrose Park, Oak Park, Park Ridge and 38 other cities.

Calumet: Treatment consists of screening, grit removal, primary settling, activated sludge, final settling, and sludge handling facilities. Calumet treats domestic wastewater for part of the City of Chicago, Calumet City, Oak Lawn, Tinley Park and other surrounding municipalities.

8) The nature and amount of emissions, discharges or releases of the constituent in question currently generated by the petitioner's activity;

The discharges for each Plant and CSO Outfall are described in the respective permit applications and permits which are attached hereto as Exhibits B - G. In addition, Dr. Melching's report attached hereto as part of Exhibit H (described in III below) provides specific information with regard to DO in the CAWS.

C. Compliance with the Regulation Cannot Be Achieved by the Compliance Date

Data describing the nature and extent of the present or anticipated failure to meet the regulation, requirement, or order of the Board from which variance is sought and facts that support petitioner's argument that compliance with the regulation, requirement, or order of the Board was not or cannot be achieved by any required compliance date;

In the CAWS rulemaking, data and analysis have been presented to the Board demonstrating that the various reaches of the CAWS do not and cannot meet the new DO standards for five years or longer. Information has also been presented concerning the extraordinary measures that would be needed to move the reaches closer to attainment in the

immediate future. See Pre-Filed Testimony of David Zenz – Cost Estimates to Meet Proposed Dissolved Oxygen Water Quality Standards for the Chicago Area Waterway System attached hereto as Exhibit H. Included with that testimony is a Technical Report submitted by Charles S. Melching, Ph.D., P.E., entitled: *Development of Integrated Strategies to Meet Proposed Dissolved Oxygen Standards for the Chicago Waterway System.*

Dr. Zenz concludes that the total present worth cost for the MWRD to attempt to bring the CAWS reaches into attainment of the new DO standards is approximately \$669,900,000. Such costs include the addition of 28 supplementary aeration stations and 3 proposed aerated flow augmentation stations, plus additional operating hours for pumps at existing Sidestream Elevated Pool Aeration (SEPA) stations. This high figure would place a very large burden on the MWRD, and on the taxpayers in Cook County who would ultimately bear the cost through tax increases. Moreover, it is not likely that this costly program would actually result in consistent attainment of the DO standards. It would also take years to install the needed equipment and put it into operation, so that is another reason why immediate compliance is clearly not possible. Also, it is important to note that during the period in which that equipment would be designed, installed and brought on-line, the MWRD would be moving forward to complete TARP (at a remaining cost of about \$337 million), which is expected to significantly reduce wet-weather discharges to the CAWS and therefore assist in bringing the CAWS reaches closer to attainment of the new DO standards. Installation of new aeration stations and aerated flow augmentation facilities would be duplicative and a wasteful use of public resources.

D. Efforts Necessary to Achieve Immediate Compliance

A description of the efforts that would be necessary for the petitioner to achieve immediate compliance with the regulation, requirement, or Board order at issue. All possible compliance alternatives, with the corresponding costs for each alternative, must be set forth and discussed. The discussion of compliance alternatives must include the availability of alternate methods of compliance, the extent that the methods

were studied, and the comparative factors leading to the selection of the control program proposed for compliance. The discussion of the costs of immediate compliance may include the overall capital costs and the annualized capital and operating costs;

As stated in III above, immediate compliance with the new DO standards is simply not possible. The information provided by Dr. Zenz and Dr. Melching supports this finding, and also shows that the measures needed to move the CAWS reaches in the direction of compliance – 28 new aeration stations and 3 new aerated flow augmentation stations – would carry extraordinary costs, yet still not provide for consistent attainment under all conditions. It should also be noted that aside from the MWRD’s Plants and CSO outfalls, there are other sources that are relevant to attainment of the new DO standards, including 167 CSO outfalls that are operated by the City of Chicago, 49 CSO outfalls that are operated by various suburban communities, permitted discharges from municipal separate storm sewer systems (MS4s) operated by area communities, tributaries (such as the Grand Calumet River and the Upper North Branch of the Chicago River), and other sources in the pertinent reaches of the CAWS. These sources are not covered by the MWRD’s Permits. It is expected that contributions from some of these sources will be reduced as the MWRD implements the remaining elements of TARP but, as noted above, it is not expected that the proposed DO standards would be met consistently under all conditions.

E. Arbitrary or Unreasonable Hardship

Facts that set forth the reasons the petitioner believes that immediate compliance with the regulation, requirement, or order of the Board would impose an arbitrary or unreasonable hardship;

Immediate compliance with the new DO standards is not possible, and efforts to move in that direction would impose an arbitrary and unreasonable hardship on the MWRD. To install additional aeration stations and aerated flow augmentation stations is very expensive and still unlikely to make the CAWS compliant with water quality standards for DO according to the

expert testimony of Dr. Melching. In sum, it would be both arbitrary and an unreasonable hardship to require the MWRD to spend over \$650 million to try to comply with the new DO water quality standards, especially when all of the available evidence indicates that such expenditures would still not achieve consistent compliance under all conditions, and that major investments are being made in other projects (e.g., TARP) that will help address the DO issue.⁷

F. Compliance Plan and Suggested Conditions

A detailed description of the compliance plan, including:

- 1) A discussion of the proposed equipment or proposed method of control to be undertaken to achieve full compliance with the regulation, requirement, or order of the Board;*

MWRD will implement interim measures to improve DO levels in the CAWS while long-term solutions such as TARP, are being completed. Such measures include:

O'Brien:

- As part of the plan to make progress toward attainment of the long-term designated use goals, the MWRD is working with other stakeholders to assess possible habitat improvement projects. The MWRD provided funding of \$500,000 toward implementation of habitat improvement projects in the CAWS through the Chi-Cal Rivers Fund.⁸ This funding was leveraged with funding from other parties that contributed to these projects.
- Under this variance, existing aeration stations at Devon and Webster will be operated in operable periods during the months of April through October. For this purpose, “operable” periods shall not include occurrences of short-term equipment failure, weed control problems, mechanical problems and replacement of equipment for preventive maintenance purposes. Operation of those stations will not be required during any particular time period if it is not needed in order for the CAWS to meet the new DO water quality standards.
- No other DO-related control requirements will apply to the O'Brien Plant or the CSOs covered in the O'Brien Plant permit during the term of the variance. (This is not intended to refer to the control of any nutrients including nitrogen and phosphorus.) Any water quality-

⁷ In addition, it should be noted that over the next several years, the District will be designing, installing and operating disinfection facilities at the Calumet and O'Brien facilities, resulting in over \$112 million in capital costs and about \$5.6 million annually in operation and maintenance costs. Also, the District will be incurring substantial costs to achieve phosphorus effluent limits at its O'Brien, Calumet and Stickney WRPs.

⁸ See letter attached as Exhibit I.

related requirements in the permit that accompanies this variance are subject to this condition.

- Continuous monitoring of DO will be done at the following continuous dissolved oxygen monitoring (CDOM) stations: Foster Avenue on the North Shore Channel, and Addison Street and Division Street on the North Branch Chicago River.
- A report on DO results will be submitted by the MWRD each year, summarizing the prior year's data.
- In accordance with the Consent Decree concerning TARP between US EPA, IEPA and MWRD, Stage I and II of the McCook reservoir are to be completed by December 31, 2017 and December 31, 2029, respectively.⁹
- Pursuant to the Consent Decree, the MWRD will verify the operational plan and commence full operation of Stage 1 of the McCook reservoir no later than one year after Stage 1 is placed into operation. During the 12-month period after Stage I of the McCook reservoir has commenced full operation, the MWRD will evaluate the DO impacts of the McCook operation, and will submit a report to IEPA 6 months after the completion of that 12-month study period.
- The report will provide conclusions regarding expected nonattainment rate of the new DO standard with Stage I of McCook in full operation, separately analyzing wet weather events and dry weather time periods (assuming continued operation of aeration stations whenever operable)
- If the State reduces its discretionary diversion allocation notwithstanding the District's Petition for Modification of its allocation permit (*In the Matter of: Allocation of Water from Lake Mich.*, IDNR Case No. LMO 14-5 (Jul. 7, 2014)), then the report will incorporate an assessment of the impacts on DO standards attainment due to that reduction.
- The report will include an assessment of feasible options to further increase DO levels in the North Shore Channel and other relevant reaches of the CAWS.
- The results of the report will be assessed in determining whether a variance will be issued to accompany the next permit that is issued after submittal of the report. Such a variance, if issued, would incorporate the results of the report, specifying the expected nonattainment rate of the new DO standard during the variance term, requiring continued operation of the aeration stations whenever operable (from April through October), consider the feasibility of taking other steps to address low DO in the North Shore Channel, and specifying that no other DO-related control requirements (other than with regard to nutrients) would apply during the term of the variance except such steps as are found by the MWRD or the Board to be feasible and appropriate given the goals of the Clean Water Act.

⁹ The Consent Decree is attached as Exhibit J.

- The same procedure will be followed for completion of Stage II of the McCook reservoir, but given its completion date, such issues will be addressed in a subsequent permit and variance for the O'Brien Plant and related CSO Outfalls.

Stickney:

- As part of the plan to make progress toward attainment of the long-term designated use goals, the MWRD is working with other stakeholders to assess possible habitat improvement projects. The MWRD provided funding of \$500,000 toward implementation of habitat improvement projects in the CAWS through the Chi-Cal Rivers Fund. This funding was leveraged with funding from other parties that contributed to these projects.
- No other DO-related control requirements will apply to the Stickney Plant or the CSOs covered in the Stickney Plant permit during the term of the variance. (This is not intended to refer to the control of any nutrients including nitrogen and phosphorus.) Any water quality-related requirements in the permit that accompanies this variance are subject to this condition.
- Continuous monitoring of DO will be done at the following continuous dissolved oxygen monitoring (CDOM) stations: Cicero Avenue, B&O Railroad, and Lockport on the Chicago Sanitary and Ship Canal.
- A report on DO results will be submitted by the MWRD each year, summarizing the prior year's data.
- Stage I of the McCook reservoir is scheduled to be completed by December 31, 2017.
- Stage II of the McCook reservoir is scheduled to be completed by December 31, 2029.
- Pursuant to the Consent Decree, the MWRD will verify the operational plan and commence full operation of Stage 1 of the McCook reservoir no later than one year after Stage 1 is placed into operation. During the 12-month period after Stage I of the McCook reservoir has commenced full operation, the MWRD will evaluate the DO impacts of the McCook operation, and will submit a report to IEPA 6 months after the completion of that 12-month study period.
- The report will provide conclusions regarding expected nonattainment rate of the new DO standard with Stage I of McCook in full operation, separately analyzing wet weather events and dry weather time periods
- If the State reduces its discretionary diversion allocation notwithstanding the District's Petition for Modification of its allocation permit (*In the Matter of: Allocation of Water from Lake Mich.*, IDNR Case No. LMO 14-5 (Jul. 7, 2014)),¹⁰ then the report will incorporate an assessment of the impacts on DO standards attainment due to that reduction.

¹⁰ The Petition for Modification is attached as Exhibit K.

- The report will include an assessment of feasible options to further increase DO levels in the relevant reaches of the CAWS.
- The results of the report will be assessed in determining whether a variance will be issued to accompany the next permit that is issued after submittal of the report. Such a variance, if issued, would incorporate the results of the report, specifying the expected nonattainment rate of the new DO standard during the variance term, and specifying that no other DO-related control requirements (other than with regard to nutrients) would apply during the term of the variance except such steps as are found by the MWRD or the Board to be feasible and appropriate given the goals of the Clean Water Act.
- The same procedure will be followed for completion of Stage II of the McCook reservoir, but given its completion date, such issues will be addressed in a subsequent permit and variance for the Stickney Plant and related CSO Outfalls.

Calumet:

- As part of the plan to make progress toward attainment of the long-term designated use goals, the MWRD is working with other stakeholders to assess possible habitat improvement projects. The MWRD provided funding of \$500,000 toward implementation of habitat improvement projects in the CAWS through the Chi-Cal Rivers Fund. This funding was leveraged with funding from other parties that contributed to these projects.
- Under this variance, existing SEPA stations 3, 4 and 5 will be operated in operable periods during the months of April through October. (Existing SEPA stations 1 and 2, which are located in areas with already high DO levels and/or are not effective in increasing DO levels, will continue to be operated with one pump in operable periods during the months of April through October.) For this purpose, “operable” periods shall not include occurrences of short-term equipment failure, weed control problems, mechanical problems and replacement of equipment for preventive maintenance purposes. Operation of those stations will not be required during any particular time period if it is not needed in order for the CAWS to meet the new DO water quality standards.
- No other DO-related control requirements will apply to the Calumet Plant or the CSOs covered in the Calumet Plant permit during the term of the variance. (This is not intended to refer to the control of any nutrients including nitrogen and phosphorus.) Any water quality-related requirements in the permit that accompanies this variance are subject to this condition.
- Continuous monitoring of DO will be done at the following continuous dissolved oxygen monitoring (CDOM) stations: C&W Indiana RR and Halsted Street on the Little Calumet River, and Route 83 on the Cal-Sag Channel.
- A report on DO results will be submitted by the MWRD each year, summarizing the prior year’s data.
- The Thornton reservoir is expected to be on-line by December 31, 2015.

- Pursuant to the Consent Decree, the MWRD will verify the operational plan and commence full operation of the Thornton reservoir no later than one year after the reservoir is placed into operation. During the 12-month period after the Thornton reservoir has commenced full operation, the MWRD will evaluate the DO impacts of the Thornton operation, and will submit a report to IEPA 6 months after the completion of that 12-month study period.
- The report will provide conclusions regarding expected nonattainment rate of the new DO standard with Thornton in full operation, separately analyzing wet weather events and dry weather time periods (assuming continued operation of SEPA stations whenever operable)
- If the State reduces its discretionary diversion allocation notwithstanding the District's Petition for Modification of its allocation permit (*In the Matter of: Allocation of Water from Lake Mich.*, IDNR Case No. LMO 14-5 (Jul. 7, 2014)), then the report will incorporate an assessment of the impacts on DO standards attainment due to that reduction.
- The report will include an assessment of feasible options to further increase DO levels in the relevant reaches of the CAWS.
- The results of the report will be assessed in determining whether a variance will be issued to accompany the next permit that is issued after submittal of the report. Such a variance, if issued, would incorporate the results of the report, specifying the expected nonattainment rate of the new DO standard during the variance term, requiring continued operation of the aeration stations whenever operable (from April through October), and specifying that no other DO-related control requirements (other than with regard to nutrients) would apply during the term of the variance except such steps as are found by the MWRD or the Board to be feasible and appropriate given the goals of the Clean Water Act.

While these interim measures may not achieve total compliance with the new DO water quality standards, these actions should reduce the number of times that the standards will not be attained. As each interim measure is implemented, MWRD will analyze the data it collects from such actions and make modifications and adjustments in an effort to improve DO levels in the CAWS. In addition, such data will support MWRD's likely request for extension of these variances after the initial 5 year term.

2) A time schedule for the implementation of all phases of the control program from initiation of design to program completion; and

The interim measures to help improve compliance with the new DO water quality standards will be implemented upon approval of the variances. Further milestones with respect to TARP are set forth in the Consent Decree among MWRD, IEPA and USEPA.

3) *The estimated costs involved for each phase and the total cost to achieve compliance;*

To date, approximately \$3.5 billion has been spent on TARP, including about \$1.66 billion in MWRD funds. The completion of TARP, between 2015 and 2029, is expected to cost about \$337 million, of which about \$190 million will be borne by the MWRD. In addition, the expanded operation of the aeration stations during the initial variance period is estimated to result in additional operation and maintenance costs of at least \$300,000 per year. The habitat improvement projects discussed above have received funding from the MWRD of \$500,000. These interim measures will not result in consistent attainment of the new DO standards. Even installation of the 28 new aeration stations and 3 new aerated flow augmentation stations discussed above, and referenced in the reports by Dr. Zenz and Dr. Melching, which would carry a total cost of over \$650 million, would not result in attainment on a consistent basis.

G. Environmental Impact

A description of the environmental impact of the petitioner's activity including:

1) *The nature and amount of emissions, discharges, or releases of the constituent in question if the requested variance is granted, compared to that which would result if immediate compliance is required;*

Immediate compliance with the new DO standards is not possible. Even installation of the extraordinary measures referred to above would not result in attainment on a consistent basis. These measures would take years to implement, and would cost over \$650 million. The MWRD believes, as set forth in its testimony in this matter, that those measures would not make a significant difference in the nature and health of the aquatic community in the CAWS. Moreover, the additional energy needs to run the additional equipment would increase the MWRD's carbon footprint, thereby possibly causing adverse environmental impacts.

2) *The qualitative and quantitative description of the impact of petitioner's activity on human health and the environment if the requested variance is granted, compared*

to the impact of petitioner's activity if immediate compliance is required. Cross-media impacts, if any, must be discussed; and

See response to item 1 above.

3) A statement of the measures to be undertaken during the period of the variance to minimize the impact of the discharge of contaminants on human, plant, and animal life in the affected area, including the numerical interim discharge limitations that can be achieved during the period of the variance;

The interim measures that would be taken during the period of the variance to address

DO levels and habitat issues are described above.

H. Citation to Supporting Documents or Legal Authorities

Citation to supporting documents or legal authorities whenever they are used as a basis for the petition. Relevant portions of the documents and legal authorities other than Board decisions, reported state and federal court decisions, or state and federal regulations and statutes must be appended to the petition;

Relevant portions of supporting documents and legal authorities are cited throughout this document, with Exhibit numbers, and are appended.

I. Copies of Permits

If the requested variance involves an existing permit or a pending permit application, a copy of the material portion of the permit or permit application must be appended to the petition;

The relevant permits and permit applications are appended as Exhibits B - G.

J. Suggested Conditions of the Variance

Any conditions petitioner suggests for the requested variance;

O'Brien -- NPDES Permit No. IL0028088: As part of the plan to make progress toward attainment of the long-term designated use goals, the MWRD is working with other stakeholders to assess possible habitat improvement projects. The MWRD has provided funding of \$500,000 toward implementation of habitat improvement projects in the CAWS through the Chi-Cal Rivers Fund. This funding was leveraged with funding from other parties that contributed to these grant projects.

- Under this variance, existing aeration stations at Devon and Webster will be operated in operable periods during the months of April through October. For this purpose, “operable” periods shall not include occurrences of short-term equipment failure, weed control problems, mechanical problems and replacement of equipment for preventive maintenance purposes. Operation of those stations will not be required during any particular time period if it is not needed in order for the CAWS to meet the new DO water quality standards.
- No other DO-related control requirements will apply to the O’Brien or the CSOs covered in the O’Brien Plant permit during the term of the variance. (This is not intended to refer to the control of any nutrients including nitrogen and phosphorus.) Any water quality-related requirements in the permit that accompanies this variance are subject to this condition.
- Continuous monitoring of DO will be done at the following continuous dissolved oxygen monitoring (CDOM) stations: Foster Avenue on the North Shore Channel, and Addison Street and Division Street on the North Branch Chicago River.
- A report on DO results will be submitted by the MWRD each year, summarizing the prior year’s data.
- Stage I of the McCook reservoir is scheduled to be completed by December 31, 2017.
- Stage II of the McCook reservoir is scheduled to be completed by December 31, 2029.
- Pursuant to the Consent Decree, the MWRD will verify the operational plan and commence full operation of Stage 1 of the McCook reservoir no later than one year after Stage 1 is placed into operation. During the 12-month period after Stage I of the McCook reservoir commences full operation, the MWRD will evaluate the DO impacts of the McCook operation, and will submit a report to IEPA 6 months after the completion of that 12-month study period.
- The report will provide conclusions regarding expected nonattainment rate of the new DO standard with Stage I of McCook in full operation, separately analyzing wet weather events and dry weather time periods (assuming continued operation of aeration stations whenever operable)
- If the State reduces its discretionary diversion allocation notwithstanding the District's Petition for Modification of its allocation permit (*In the Matter of: Allocation of Water from Lake Mich.*, IDNR Case No. LMO 14-5 (Jul. 7, 2014)), then the report will incorporate an assessment of the impacts on DO standards attainment due to that reduction.
- The report will include an assessment of feasible options to further increase DO levels in the relevant reaches of the CAWS.
- The results of the report will be assessed in determining whether a variance will be issued to accompany the next permit that is issued after submittal of the report. Such a variance, if issued, would incorporate the results of the report, specifying the expected nonattainment rate of the new DO standard during the variance term, requiring continued operation of the

aeration stations whenever operable (from April through October), and specifying that no other DO-related control requirements (other than with regard to nutrients) would apply during the term of the variance except such steps as are found by the MWRD or the Board to be feasible and appropriate given the goals of the Clean Water Act.

- The same procedure will be followed for completion of Stage II of the McCook reservoir, but given its completion date, such issues will be addressed in a subsequent permit and variance for the O'Brien Plant and related CSO Outfalls.

Stickney – NPDES Permit No. IL0028053: As part of the plan to make progress toward attainment of the long-term designated use goals, the MWRD is working with other stakeholders to assess possible habitat improvement projects. The MWRD provided funding of \$500,000 toward implementation of habitat improvement projects in the CAWS through the Chi-Cal Rivers Fund. This funding was leveraged with funding from other parties that contributed to these grant projects.

- No other DO-related control requirements will apply to the Stickney Plant or the CSOs covered in the Stickney Plant permit during the term of the variance. (This is not intended to refer to the control of any nutrients including nitrogen and phosphorus.) Any water quality-related requirements in the permit that accompanies this variance are subject to this condition.
- Continuous monitoring of DO will be done at the following continuous dissolved oxygen monitoring (CDOM) stations: Cicero Avenue, B&O Railroad, and Lockport on the Chicago Sanitary and Ship Canal.
- A report on DO results will be submitted by the MWRD each year, summarizing the prior year's data.
- Stage I of the McCook reservoir is scheduled to be completed by December 31, 2017.
- Stage II of the McCook reservoir is scheduled to be completed by December 31, 2029.
- Pursuant to the Consent Decree, the MWRD will verify the operational plan and commence full operation of Stage 1 of the McCook reservoir no later than one year after Stage 1 is placed into operation. During the 12-month period after Stage I of the McCook reservoir commences full operation, the MWRD will evaluate the DO impacts of the McCook operation, and will submit a report to IEPA 6 months after the completion of that 12-month study period.

- The report will provide conclusions regarding expected nonattainment rate of the new DO standard with Stage I of McCook in full operation, separately analyzing wet weather events and dry weather time periods
- If the State reduces its discretionary diversion allocation notwithstanding the District's Petition for Modification of its allocation permit (*In the Matter of: Allocation of Water from Lake Mich.*, IDNR Case No. LMO 14-5 (Jul. 7, 2014)), then the report will incorporate an assessment of the impacts on DO standards attainment due to that reduction.
- The report will include an assessment of feasible options to further increase DO levels in the relevant reaches of the CAWS.
- The results of the report will be assessed in determining whether a variance will be issued to accompany the next permit that is issued after submittal of the report. Such a variance, if issued, would incorporate the results of the report, specifying the expected nonattainment rate of the new DO standard during the variance term, and specifying that no other DO-related control requirements (other than with regard to nutrients) would apply during the term of the variance except such steps as are found by the MWRD or the Board to be feasible and appropriate given the goals of the Clean Water Act.
- The same procedure will be followed for completion of Stage II of the McCook reservoir, but given its completion date, such issues will be addressed in a subsequent permit and variance for the Stickney Plant and related CSO Outfalls.

Calumet – NPDES Permit No. IL0028061: As part of the plan to make progress toward attainment of the long-term designated use goals, the MWRD is working with other stakeholders to assess possible habitat improvement projects. The MWRD provided funding of \$500,000 toward implementation of habitat improvement projects in the CAWS through the Chi-Cal Rivers Fund. This funding was leveraged with funding from other parties that contributed to these grant projects.

- Under this variance, existing SEPA stations 3, 4 and 5 will be operated in operable periods during the months of April through October. (Existing SEPA stations 1 and 2, which are located in areas with already high DO levels and/or are not effective in increasing DO levels, will continue to be operated with one pump in operable periods during the months of April through October.) For this purpose, “operable” periods shall not include occurrences of short-term equipment failure, weed control problems, mechanical problems and replacement of equipment for preventive maintenance purposes. Operation of those stations will not be required during any particular time period if it is not needed in order for the CAWS to meet the new DO water quality standards.

- No other DO-related control requirements will apply to the Calumet Plant or the CSOs covered in the Calumet Plant permit during the term of the variance. (This is not intended to refer to the control of any nutrients including nitrogen and phosphorus.) Any water quality-related requirements in the permit that accompanies this variance are subject to this condition.
- Continuous monitoring of DO will be done at the following continuous dissolved oxygen monitoring (CDOM) stations: C&W Indiana RR and Halsted Street on the Little Calumet River, and Route 83 on the Cal-Sag Channel.
- A report on DO results will be submitted by the MWRD each year, summarizing the prior year's data.
- The Thornton reservoir is expected to be on-line by December 31, 2015. Pursuant to the Consent Decree, the MWRD will verify the operational plan and commence full operation of the Thornton reservoir no later than one year after the reservoir is placed into operation. During the 12-month period after the Thornton reservoir commences full operation, the MWRD will evaluate the DO impacts of the Thornton operation, and will submit a report to IEPA 6 months after the completion of that 12-month study period.
- The report will provide conclusions regarding expected nonattainment rate of the new DO standard with Thornton in full operation, separately analyzing wet weather events and dry weather time periods (assuming continued operation of SEPA stations whenever operable)
- If the State reduces its discretionary diversion allocation notwithstanding the District's Petition for Modification of its allocation permit (*In the Matter of: Allocation of Water from Lake Mich.*, IDNR Case No. LMO 14-5 (Jul. 7, 2014)), then the report will incorporate an assessment of the impacts on DO standards attainment due to that reduction.
- The report will include an assessment of feasible options to further increase DO levels in the relevant reaches of the CAWS.
- The results of the report will be assessed in determining whether a variance will be issued to accompany the next permit that is issued after submittal of the report. Such a variance, if issued, would incorporate the results of the report, specifying the expected nonattainment rate of the new DO standard during the variance term, requiring continued operation of the aeration stations whenever operable (from April through October), and specifying that no other DO-related control requirements (other than with regard to nutrients) would apply during the term of the variance except such steps as are found by the MWRD or the Board to be feasible and appropriate given the goals of the Clean Water Act.

K. Beginning and End Dates of the Variance

A proposed beginning and ending date for the variance. If the petitioner requests that the term of the variance begin on any date other than the date on which the Board takes final action on the petition, a detailed explanation and justification for the alternative beginning date;

The proposed beginning date for the initial variance for each Plant would be the date that the Permit for that Plant is modified to include the variance, and the term for the initial variance would be for a maximum of five years, ending no later than the end of the term for that Plant's Permit. Because the attainment issues will continue over the long-term, it is likely that additional variances will need to be issued. However, the terms of those variances will likely be different than for the initial variance, since TARP completion and other developments will change the DO attainment situation in the waters, and modify the extent to which application of the variance terms will be needed.

L. Consistency with Federal Law

A discussion of consistency with federal law, including an analysis of applicable federal law and facts that may be necessary to show compliance with federal law as set forth in Section 104.208 of this Part;

Under Title IX of the Act (415 ILCS 5/35-38), the Board is responsible for granting variances when a petitioner demonstrates that immediate compliance with the Board regulation(s) would impose an "arbitrary or unreasonable hardship" on the petitioner. 415 ILCS 5/35(a). The Board may grant a variance, however, only to the extent consistent with applicable federal law. *Id.*

Section 104.28(b) of the Board rules states the following with regard to consistency with federal law for all petitions for variances from the Board's water pollution regulations:

All petitions for variances from Title III of the Act, from 35 Ill. Adm. Code Subtitle C, Ch. I "Water Pollution", or from water pollution related requirements of any other Title of the Act or Chapter of the Board's regulations, must indicate whether the Board may grant the relief consistent with the Clean Water Act (CWA) (33 USC 1251 et seq.), USEPA effluent guidelines and standards, any other federal regulations, or any area-wide waste treatment management plan approved by the Administrator of USEPA pursuant to Section 208 of the CWA (33 USC 1288).

The requested variances in this matter will be consistent with federal law. More specifically, the variance must meet one or more of the conditions in 40. C.F.R. § 131.10(g) which provides:

States may remove a designated use which is not an existing use, as defined in Sec. 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

(1) Naturally occurring pollutant concentrations prevent the attainment of the use; or

(2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or

(3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

(5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or

(6) Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

Under the circumstances here, there are natural conditions, man-caused conditions, hydrologic modifications, and physical conditions as to the CAWS that will prevent attainment

of the use within the next five years. Therefore, the variance would be justified pursuant to 131.10(g)(2), (g)(3),(g)(4) and (g)(5).¹¹

M. Affidavit

An affidavit verifying any facts submitted in the petition; and

Affidavits from Dr. Thomas C. Granato, Manju Sharma, and William Sheriff are attached as Exhibits M, N and O.

N. Request for Hearing

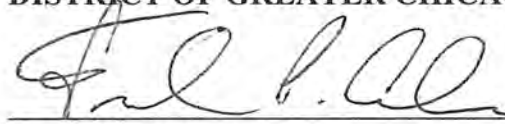
A statement requesting or denying that a hearing should be held in this matter.

The MWRD requests that a hearing be held in this matter.

Dated: July 21, 2015

**METROPOLITAN WATER RECLAMATION
DISTRICT OF GREATER CHICAGO**

By:



One of Its Attorneys

Fredric P. Andes
BARNES & THORNBURG LLP
One North Wacker Drive
Suite 4400
Chicago, Illinois 60606
(312) 357-1313 (General)
(312)214-8310 (Direct)
(312)759-5646 (Fax)
fredric.andes@btlaw.com

971290v1

¹¹ A letter from U.S. EPA concerning the variance is attached as Exhibit L.