

ILLINOIS POLLUTION CONTROL BOARD
November 27, 2019

METROPOLITAN WATER)	
RECLAMATION DISTRICT OF GREATER)	
CHICAGO,)	PCB 16-28
)	(Time-Limited Water Quality Standard)
Petitioner,)	
)	
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

HEARING OFFICER ORDER

On July 26, 2018, the Metropolitan Water Reclamation District of Greater Chicago (MWRD) filed an amended petition for a dissolved oxygen (DO) time-limited water quality standard (TLWQS). 35 Ill. Adm. Code 104 Subpart E. MWRD is seeking TLWQS for discharges from Combined Sewer Overflow (CSO) outfalls into the Chicago Area Waterways System. MWRD requests TLWQS for CSO outfalls covered under the National Pollutant Discharge Elimination System permits issued to its O'Brien, Calumet and Stickney wastewater treatment plants. On March 28, 2019, the Board found that MWRD's amended petition is in substantial compliance with the Environmental Protection Act and Board regulations. The Board directed the hearing officer to schedule a public hearing. MWRD v. IEPA, PCB 16-28 (March 28, 2019).

In an order dated October 15, 2019, the hearing officer scheduled a hearing on Wednesday, December 11, 2019, to be conducted by videoconference between Room 2-025 of the James R. Thompson Center, 100 W. Randolph St., Chicago, Il. 60601 and Conference Room 1244 N.1st floor, Illinois Environmental Protection Agency (IEPA), 1021 N. Grand Avenue East, North Entrance, Springfield, Il. 62702. The hearing officer order also set deadlines of November 8, 2019 to pre-file testimony, and November 27, 2019 to pre-file questions.

The Board and its staff have reviewed the proposal and testimony submitted by MWRD and pre-files its questions for the petitioner and the IEPA in Attachment A to this order. The Board directs both MWRD and IEPA to respond to them at the hearing on December 11, 2019. The Board may also ask follow-up questions during the hearing.

The hearing officer notes that for this videoconference hearing, any document to be offered as a hearing exhibit must be received by the Clerk's Office at least 24 hours before the scheduled start of the hearing. 35 Ill. Adm. Code 102.424 (h). If not filed at least 24 hours

before scheduled start of the videoconference hearing, the document will not be allowed at the hearing but may be filed as a public comment after the hearing. *Id.*

The hearing will begin with MWRD's testimony and questioning of MWRD's expert witness. This will be followed by IEPA's response to Board questions.

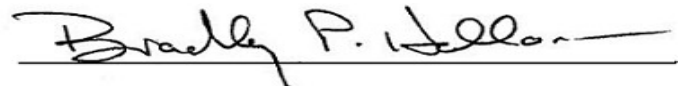
Written Public Comment

Written public comment may be filed with the Board at any time until the conclusion of the comment period. That date will be announced by hearing officer order after the close of hearings. If you have any questions regarding written public comment you may contact the hearing officer or the Clerk of the Board.

Availability of Filings

All filings in this proceeding will be available on the Board's web page at www.ipcb.state.il.us and participants may file electronically on the Board's web page. The pre-filed testimony and pre-filed questions must be served on the persons on the service list.

IT IS SO ORDERED.



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ATTACHMENT A

Illinois Environmental Protection Agency (IEPA)

1. Regarding 40 CFR 131.13 (10)(g) analysis, IEPA states, “[w]hen TARP is completed, MWRD will be able to avoid CSOs, extensive flooding and to also avoid adverse health effects of having diluted sewage backing up into many homes and buildings.” Rec. at 7.
 - a. Please comment on whether IEPA considered any impacts of climate change, particularly intensity of rainfall in the CAWS region, on the ability of TARP upon completion to provide adequate storage for larger volumes of wet weather runoff.
 - b. If so, please explain providing citations to the record as to how the planned storage capacity of TARP provides adequate storage for larger volumes of wet weather runoff.
 - c. If not, comment on whether MWRD must address impacts of climate change on storage capacity of TARP by considering other options in addition to TARP.
 - d. Also, if IEPA did not consider impacts of climate change as a part of its 10(g) analysis, comment on whether MWRD should account for impacts of climate change going forward.
2. Please provide citations to the petition supporting documents that IEPA relied on to make its recommendation regarding Factor 3. Rec. at 7.
3. Regarding Factor 6, IEPA states that the petition does not “sufficiently makes the case for substantial and widespread negative economic and social impact on the public because it is lacking information on of the cost per user and whether it is affordable.” Rec. at 8. Please clarify whether IEPA is recommending that the Board not rely on Factor 6 to evaluate MWRD’s demonstration without additional cost information.
4. IEPA states that the highest attainable condition (HAC) for MWRD’s TLWQS is specified under 35 Ill. Adm. Code 104.565(d)(4)(B), which applies to a watershed, water body, or waterbody segment TLWQS. Rec. at 8.
 - a. Since MWRD is seeking a single discharger TLWQS, please clarify whether the HAC for a single/multiple discharger TLWQS under Section 104.565(d)(4)(A) must apply.
 - b. If so, should the HAC be expressed as set forth in Section 104.565(d)(4)(A)(iii):

If no additional feasible pollutant control technology can be identified, the interim criterion or interim effluent condition that reflects the greatest pollutant reduction achievable with the pollutant control technologies installed at the time the Board adopts the TLWQS and with the adoption and implementation of a Pollutant Minimization Program.

- c. Please clarify whether “interim criterion or interim effluent condition” under subsection (d)(4)(A)(iii) is the same as “interim use and interim criterion” under subsection (d)(4)(B)(ii).
 - d. Also, comment on whether MWRD has made its demonstration under Section 104.560(a) as it pertains to the HAC under Section 104.565 (d)(4)(A) with respect to CSOs impacted by the McCook Reservoir.
- 5. IEPA agrees with “the petitioner that the highest attainable condition for the receiving streams are the continued use of TARP and the Implementation of the Pollutant Minimization Program that has been proposed with the addition of the language suggested by the Agency...” Rec. at 10. However, Sections 104.565(d)(4)(A) & (B) state that the Highest Attainable Condition (HAC) may be expressed as “interim criterion” that “reflect the greatest pollutant reduction achievable with the pollutant control technologies installed at the time the Board adopts the time-limited water quality standard and with the adoption and implementation of a Pollutant Minimization Program.” Ag. Rec. at 8, Am. Pet at 17-18, and 35 Ill. Adm. Code 104.565(d)(4)(B).
 - a. If the Board grants the requested relief, please clarify whether the Board should include a numeric “interim criterion” for DO that would apply to the waterways receiving the CSO discharges in lieu of the Board’s generally applicable DO standards for CAWS.
 - b. If so, please suggest interim DO criterion for the affected segments of the CAWS.
- 6. The Agency states the petitioner has made its demonstration regarding the Highest Attainable Condition (HAC) only for the CSOs impacted by the McCook Reservoir under Section 104.560(c). Ag. Rec. at 9.
 - a. Please clarify whether CSOs listed in Attachment 2 of the Agency’s recommendation include all CSOs impacted by the construction of McCook Reservoir that are covered by O’Brien and Stickney permits. If not, provide an updated listing.
 - b. Please comment on whether IEPA is aware of any other CSOs not covered by O’Brien and Stickney permits that are impacted by McCook Reservoir and may need relief from the CAWS DO standards.

- c. If so, clarify whether the owners or operators of such CSOs must seek relief separately since MWRD is seeking a single discharger TLWQS.
- 7. Regarding the HAC for CSOs impacted by the Thornton Reservoir, IEPA states that MWRD needs to be submit additional information on the necessity of the DO TLWQS since the Thornton Reservoir is fully operational. In response, MWRD submitted prefiled testimony of Dustin Gallagher along with a report entitled “Post-Construction Monitoring Report for the Calumet Tunnel and Reservoir Plan System dated June 2019.”
 - a. Please comment on whether MWRD’s November 8th submission of testimony and supporting documentation address IEPA’s concerns regarding CSOs impacted by the completion of the Thornton Reservoir.
 - b. Based on the new information, does IEPA support MWRD’s request to include CSOs impacted by the Thornton Reservoir as part of the DO TLWQS?
 - c. If so, please comment on whether the HAC proposed by MWRD for the Calumet River System needs to be revised to reflect the full operation of the Thornton Reservoir.
 - d. Also, comment on whether the Board should consider any additional conditions applicable to the CSOs impacted by Thornton Reservoir like a reopener clause for removal of Calumet CSOs from the TLWQS, as suggested by Mr. Gallagher. Gallagher Pref. Test. at 3.
- 8. Please comment on whether the potential language for the Board’s TLWQS order based on IEPA’s recommendation in Question #29 is acceptable to IEPA. If not, please propose revisions to the draft language.
- 9. IEPA states that the proposed TLWQS is consistent with applicable federal regulations. Rec. at 10. Please clarify whether the DO standards for CAWS under 35 Ill. Adm. Code 302.405 have been approved by USEPA in accordance with the requirements of 40 CFR Part 131 to ensure that the TLWQS is granted from currently applicable standards for “Clean Water Act purposes”. If so, please submit any approval documentation into the record.
- 10. As indicated by MWRD’s response to comments (Am. Pet. Exhibit N), USEPA has raised several concerns regarding MWRD’s initial variance petition, including the necessity of relief for the Calumet system.
 - a. Please clarify whether IEPA has been engaged in discussions with USEPA regarding the amended petition for TLWQS.

- b. If so, comment on whether IEPA has received any indication regarding the approvability of the TLWQS request. Please submit into the record any correspondence from USEPA regarding the amended petition for TLWQS.

Metropolitan Water Reclamation District of Greater Chicago (MWRD)

Dustin Gallagher

11. On page 2, you state, “we cannot conclude at this point that there will be NO CSO discharges ever again in that system. If there are CSO discharges, the TLWQS will be needed.” Please comment on whether the standard for determining whether a TLWQS is needed is “NO CSO” discharges ever in the future. If so, do you believe that kind of standard is achievable in the foreseeable future.
12. On the same page, you note that MWRD is making structural changes to the system that may further reduce the likelihood of discharges from the Calumet CSO outfalls that have had CSO discharges in recent years. Please explain what structural changes are being made and whether these changes address the issue of flow restrictions caused by local conditions during the two CSO events in the study period.
13. Regarding available storage capacity, you note that the transitional reservoir storage of 3.1 billion gallons (BG) would not be available when MWRD’s lease on that reservoir expires at the end of 2020 or 2021 with a potential extension. Gallagher Test. at 2.
 - a. Please clarify whether the loss of this storage is due to resumption of quarrying activities in that area.
 - b. Is there any possibility of extending the lease beyond 2021?
 - c. Please comment on the possibility of adding transitional reservoir storage in the future after completion of quarrying activities.
14. On page 3, you state that MWRD expects that future storms will be larger than those experienced in the past; and it is possible that a future storm or series of future storms will fill the Thornton Composite Reservoir (TCR) to capacity at some point, triggering CSO discharges.
 - a. Please clarify whether MWRD expects future storms to generate larger volumes of runoff due to climate change.
 - b. If so, please explain what measures or options in addition to TARP are being considered by MWRD to address impacts of climate change on storage capacity of TARP.

15. The Post-Construction Monitoring Report for the Calumet Tunnel and Reservoir Plan System (CRS Report) notes that the 7.9 billion gallons (BG) storage capacity of TCR is split between combined sewerage (4.8 BG) and Thorn Creek flood water (3.1 BG). Gallagher test. Attach., CRS Report at 14. Please clarify whether 3.1 BG storage is always reserved for Thorn Creek flood waters or storage higher than 4.8 BG is available to CSO flows.
16. The CRS Report notes, “Two CSO events occurred at a total of three CSO locations in the Calumet System during the post-construction monitoring period. Both were due to local conditions that restricted the conveyance of storm flows into the TARP drop shaft, not a failure of Calumet TARP system operation.” CSR Report at 14.
- a. Please explain what type of local conditions restricted conveyance of storm flows to the TARP drop shaft.
 - b. Has MWRD or affected local government implemented measures to avoid such restriction of stormwater flows in the future?
 - c. Please comment on whether it would be reasonable to assume that there would not have been any CSO events in the Calumet River System after TCR became fully operational if not for the two events caused by local conditions.
 - d. Clarify whether MWRD has reported any CSO discharges in the CRS since January 1, 2019. If so, please submit copies of such reports, including the date, location, time, duration, and estimated volume of CSOs.
17. On page 3, you note that MWRD is amenable to inclusion of a reopener provision in the TLWQS to allow for the removal of Calumet CSO outfalls if it is determined that there will be no CSO discharges in the Calumet System.
- a. Please explain on what basis the determination of “no CSO discharges” would be made.
 - b. If reopener clause is included, comment on whether MWRD or IEPA would initiate the reopening of the TLWQS to remove Calumet CSO outfalls.
 - c. Please provide draft language for reopener clause for possible inclusion in the TLWQS.

USEPA Concerns

18. The amended petition includes MWRD's response to USEPA's comments on MWRD's initial variance petition in this proceeding. Am. Pet. Exh. N. Please submit a copy of USEPA's comments on the variance into the record.
19. Please clarify whether MWRD has been engaged in discussions with USEPA regarding the amended petition for TLWQS after responding to USEPA's initial comments. If so, comment on whether MWRD has received any indication regarding the approvability of the proposed DO TLWQS. Please submit into the record any correspondence from USEPA regarding the amended petition for TLWQS.

Petition Content Requirements Section 104.530

20. 104.530(a)(1)

A statement indicating the type of TLWQS sought

Although MWRD is requesting a single discharger TLWQS, MWRD notes that attainment of DO in the affected segments of CAWS is also impacted by sources not covered by the MWRD permits, including 167 City of Chicago CSO outfalls and 49 suburban communities' CSO outfalls. Am Pet at 15-16 and Exh. J.

- a. Please explain the rationale for requesting a single discharger TLWQS rather than a multi-discharger or waterbody TLWQS that would allow other dischargers impacting DO levels in the CAWS to seek relief under the DO TLWQS.
- b. Please clarify whether MWRD expects the owners or operators of sources other than MWRD CSOs to seek relief separately since MWRD is seeking a single discharger TLWQS.

21. 104.530(a)(2)

Identification of the currently applicable water quality standard for the pollutant or parameter for which a TLWQS is sought

- a. Amended petition identifies the General Use DO standard under Section 302.206 as the currently applicable standard for which a TLWQS is sought. Am. Pet. at 4. However, the petition identifies several CSO outfalls discharging into various segments of the Chicago Area Waterway System (CAWS) that are not designated as General Use under 35 Ill. Adm. Code 303. *Id.* at 6-9. These waters are subject CAWS DO standards under Section 302.405. The only General Use segment covered by the TLWQS appears to be North Creek. The other two General Use segments listed in the amended petition (Des Plaines River & Addison Creek) are not covered by the proposed TLWQS, since they are not upstream of the CAWS. Am. Pet. at 7. Please identify the DO standards that apply to the various segments of CAWS, as well as any General Use segments covered by the proposed TLWQS.

- b. Clarify if applicable DO standards are being met in all CAWS and General Use segments receiving discharges from CSO outfalls covered under the proposed TLWQS.

22. 104.530(a)(3)

Location of the petitioner's activity and the location of the points of its discharge

- a. The amended petition notes that the NPDES permits for Stickney and Calumet also authorize discharges from emergency high level bypass Outfalls. Am. Pet. Footnotes 4 and 5.
 - i. Please clarify how often discharges occur from these bypass outfalls.
 - ii. Comment on whether discharges from bypass outfalls should be covered under the proposed TLWQS.
- b. Please clarify whether the Glenwood Pump Station CSO outfall (MWRD 010), which is listed in the Calumet WRP NPDES permit, discharges to North Creek or Deer Creek. Also, is this CSO outfall upstream of CAWS? Clarify whether the General Use DO water Quality Standards are currently being met in the North Creek and Deer Creek.
- c. The amended petition notes that the proposed TLWQS does not cover discharges from CSO outfalls that are not owned and operated by MWRD. Am. Pet. at 7.
 - i. Please comment on whether MWRD's CSO discharges have any impacts on the ability of the other (non-MWRD) CSO discharges to comply with the applicable CAWS DO standards.
 - ii. If so, would it be appropriate to extend the proposed TLWQS to cover other CSO discharges through a waterbody, watershed or waterbody segment TLWQS rather than a single discharger TLWQS.
- d. MWRD states that the proposed TLWQS is not intended to cover discharges from the O'Brien, Stickney, and Calumet Plants themselves. Am. Pet. at 12.
 - i. Comment on whether MWRD's CSO discharges have any impact on the ability of effluent discharges from MWRD's three plants or other NPDES non-CSO discharges into CAWS to comply with the applicable CAWS DO standards.
 - ii. If so, would the Agency be able to address any requests for relief from affected NPDES dischargers as a part of NPDES permit modification if the relief granted

in this proceeding is a waterbody, watershed or multi-discharger TLWQS rather than a single discharger TLWQS.

23. 104.530(a)(4)

A map of the proposed watershed, water body or waterbody segment to which the TLWQS will apply, as well as a written description of the watershed, water body, or waterbody segment, including the associated segment code

- a. Please clarify whether the “Stream Segment Codes and Associated Uses for the CSO discharge and receiving water” provided by IEPA (Rec. Attachment 2) covers all CSO outfalls included in MWRD’s TLWQS petition. If not, please identify any CSO outfalls that must be added or removed from the list.
- b. Also, clarify whether the proposed TLWQS applies to the General Use Segments identified in Attachment 2. If not, should the CSO Outfalls discharging to the General Use segments be excluded from the TLWQS?
- c. Please provide a larger scale map that: shows all CSO outfalls included in the TLWQS using legible font size for the description of the CSO outfalls; and depicts stream segment codes.

24. 104.530(a)(6)

Data describing the nature and extent of the present or anticipated failure to meet the water quality standard or standards, as well as facts that support the petitioner's argument that compliance with the water quality standard or standards cannot be achieved by the required compliance date;

The amended petition relies on testimony of Dr. Zenz along with a technical report prepared by Dr. Melching that were originally presented to the Board in Docket R08-9 in 2008 to demonstrate that compliance with the DO standard cannot be achieved by the required compliance date. Am Pet. at 13-14, Exh. I.

- a. Please clarify whether water quality conditions and flow dynamics during storm events in the CAWS have changed during the last ten years, particularly in the Calumet River System where the Thornton Reservoir is fully operational since November 2016.
- b. If so, describe these changes and their impact on compliance with applicable DO standards. Also, comment on whether Dr. Zenz’s cost estimate to bring CAWS reaches into attainment by installing supplementary aeration stations and flow augmentation stations needs to be updated to reflect these changes. Specifically address the following:

- i. Please provide MWRD's reasoning for why the improvements recommended by Dr. Zenz would not allow it to attain the DO standard. What data supports that conclusion?
- ii. The underlying data used to support the Marquette model in Dr. Melching's Report is nearly 20 years old. Please explain why MWRD has not conducted modeling using recent data.
- iii. The Zenz testimony states that the Marquette model is helpful but is one-dimensional and does not take in to account many complex conditions that can exist in some segments of CAWS. Zenz Testimony at 10. If MWRD were to run a more up-to-date model using more current data, would it anticipate any change in the construction cost or feasibility of the project?
- iv. Have there been any significant changes in aeration technology in the intervening years that would potentially reduce the cost of new systems?
- v. Why is MWRD certain that compliance with DO would be impossible even after the construction of the hypothetical \$650 million aeration project?

25. 104.530(a)(7)

A demonstration that attainment of the designated use or uses and criterion or criteria is not feasible throughout the term of the TLWQS because of one or more of the factors listed in Section 104.560(a);

MWRD demonstration relies on Sections 104.560(a)(3) (Human caused condition) and (a)(6) (widespread economic and social impact)

- a. MWRD states that the existence of the CSO outfalls is a human-caused condition, and it cannot be remedied for the term of the TLWQS. Further, noncompliance with the DO criteria that results from CSO discharges is also a human-caused condition that cannot be remedied. Am. Pet. 15-16.
 - i. The CRS Report notes that in the Calumet system, the number of CSO events dropped from 19 (2014-15) to 2 (2017-18) after TCR became fully operational in 2016. Further, the total estimated volume of CSOs during 2017-18 monitoring period (6.0 million gallons [MG]) was 99.8 percent lower than the preconstruction monitoring period (3.5 BG). CRS Report at 15-16. Given these results, please comment on whether Section 104.560(a)(3) (Factor 3) still applies to the Calumet River System.
 - ii. In 2012, USEPA stated that "the Thornton Reservoir (which will impact the Calumet portion of the Chicago Area Waterway System (CAWS)) is scheduled to be completed in 2015. Completion of the reservoir would mean that CSOs would not be a human-caused source of pollution that prevents attainment of the

DO criteria in the Calumet portion of the CAWS.” Am. Pet. Exh. K at 2. Please clarify whether MWRD has discussed the CSR Report findings with USEPA. If so, comment on whether USEPA has given any preliminary indication of approvability of the proposed TLWQS, which includes CSO outfalls in the Calumet system.

- iii. Amended petition notes the attainment of the new DO standards are also affected by sources not covered by the MWRD permits, including 167 City of Chicago CSO outfalls, 49 suburban communities’ CSO outfalls, permitted discharges from municipal separate storm sewer systems (MS4s), etc. Am. Pet. at 15-16. Please comment on why these non-MWRD sources were not included in the TLWQS, especially since they affect the attainment of the CAWS DO standards.
 - iv. Please comment on whether the TLWQS must include criteria for other sources affecting the attainment of DO standards in the CAWS to avail themselves of the relief under the DO TLWQS.
- b. MWRD states, “compliance with the new DO standards within the next several years is not possible, and efforts to move in that direction would impose substantial and widespread economic and social impact in the areas served by the MWRD.” Am. Pet at 16. Further, MWRD notes that installation of additional aeration stations and aerated flow augmentation stations would cost over \$650 million.
- i. Please comment on whether the cost for installing aeration stations and flow augmentation stations would be lower if Calumet River System portion of CAWs is removed from the proposed TLWQS because of Thornton Reservoir coming online. If so, provide revised cost estimate without the Calumet system.
 - ii. Also, as noted by IEPA, would it be possible for MWRD to provide the cost information in terms cost per user and address affordability?

26. 104.530(a)(10)

An identification and description of any process, activity, or source that contributes to a violation of a water quality standard, including the material used in that process or activity.

The Amended Petition Exhibit J-2 includes hourly DO data during 2013-2017 indicating the percent compliance with the DO standard. Please update the DO table with 2018-2019 DO data and comment on any improvement in terms percent compliance with the DO standard in the Calumet System since Thornton Reservoir became fully operational. Also, comment on any improvement in DO levels in other segments of CAWS with the completion of Stage 1 McCook Reservoir.

27. **104.530(a)(13)**

A demonstration of the pollutant control activities proposed to achieve the highest attainable condition

- a. MWRD's proposed interim measures require that "[n]o other DO-related control requirements will apply to the CSOs covered in the plant's permit during the term of the TLWQS." Am. Pet. at 16-18. Please explain the rationale for including this provision.
- b. For Calumet WRP, the proposed interim measures requires MWRD to incorporate the results of Post-Construction Monitoring Report for the Calumet TARP (CRS Report), "specifying the expected nonattainment rate of the new DO standard during the TLWQS term, requiring continued operation of the aeration stations whenever operable, and specifying that no other DO-related control requirements applicable to CSO discharges would apply during the term of the TLWQS 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." Am. Pet. at 20.
 - i. Please comment on whether the proposed interim measures for the Calumet CSO Outfalls needs to be revised based on the results of the CRS Report.
 - ii. If so, submit the revised interim measure for inclusion in a potential Board Order as a condition.

28. **104.530(a)(14)**

Term of the TLWQS

The term of the Dissolved Oxygen TLWQS is proposed to expire five years after the date of USEPA approval.

- a. What benchmarks are included in the TLWQS to determine that MWRD is making appropriate progress along the way?
- b. If there are benchmarks, are they quarterly, yearly?
- c. If progress is not being met at any point in the five years, what plans does MWRD have to remedy?

29. **104.565(d)**

Draft language for a potential Board order

Section 104.565(d) specifies that Board orders adopting a TLWQS will include TLWQS requirements and conditions that apply throughout the term of the TLWQS. In this regard, IEPA suggests a list of conditions to be included in the Board's order if the Board grants the TLWQS. Rec. Attachment 1. These conditions refer to a series of interim measures proposed by MWRD to improve DO levels in the CAWS. *Id.* citing Am. Pet. at

16-21. Please comment on whether the following language for a potential Board order is acceptable or propose revised language:

The Board grants Metropolitan Water Reclamation District of Greater Chicago (MWRD) a dissolved oxygen (DO) Time Limited Water Quality Standard (TLWQS) consistent with 40 C.F.R. § 131.14, Section 38.5 of the Act and 35 Ill. Adm. Code 104 Subpart E. This TLWQS is for the DO water quality standards in 35 Ill. Adm. Code 302.206 and 302.405 and applies only to the combined sewer overflow (CSO) outfall discharges, receiving waterbody segments, and associated designated uses listed in Table 1. This TLWQS is granted subject to the following conditions.

1. The term of this DO TLWQS will expire 5 years after the date of USEPA approval.
2. MWRD must comply with existing conditions imposed on the MWRD's CSO outfall discharges by the current NPDES Permits for Calumet, Stickney and O'Brien water reclamation plants (WRP), including Special Condition #13 for Calumet, Special Condition #13 for Stickney and Special Condition #8 for O'Brien 9. (Amended Petition Exhibits C, D and E).
3. MWRD must implement the following measures to improve DO levels in the CAWS during the term of the TLWQS:
 - a. In compliance with the Intergovernmental Agreement between MWRD and the Illinois Department of Natural Resources (Am. Pet. Exhibit M), MWRD must ensure that habitat improvement projects in the CAWS are implemented to attain the long-term designated use goals.
 - b. In compliance with the Consent Decree concerning the Tunnel and Reservoir Plan (TARP) between the United States Environmental Protection Agency, Illinois Environmental Protection Agency and MWRD (Am. Pet. Exhibit L), MWRD must:
 - i. Complete Stage 1 of McCook Reservoir by December 31, 2017 and commence full operation no later than December 31, 2018. (Accomplished)
 - ii. Complete Stage 2 of the McCook Reservoir by December 31, 2029 and commence full operation no later than December 31, 2030.
 - c. MWRD must evaluate DO impacts of the Stage 1 McCook Reservoir operation on relevant reaches of the CAWS over a 24-month period after commencement of full operation and submit a report to IEPA within 6 months of the end of the 24-month study period. The report must:
 - i. Provide conclusions regarding expected nonattainment rate of the DO standards under 35 Ill. Adm. Code 302.405 with Stage 1 of McCook in full

operation, analyzing wet weather events and dry weather time periods (assuming continued operation of aeration stations whenever operable).

- ii. Incorporate an assessment of the impacts on DO standards attainment due to reductions in the State's discretionary diversion allocation.
- iii. Include an assessment of feasible options to further increase DO levels in the relevant reaches of the CAWS. This assessment will include, as appropriate, consideration of non-TARP measures such as green infrastructure to reduce CSO discharges and DO violations resulting from CSO discharges.

O'Brien WRP

- d. MWRD must operate the existing aeration stations at Devon and Webster during operable periods. The "operable" periods do 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 is not required during any particular time period when it is not needed for the CAWS to meet the DO water quality standards.
- e. No other DO-related control requirements will apply to the CSOs covered in the O'Brien Plant permit during the term of the TLWQS. (This is not intended to refer to the control of any nutrients, including nitrogen and phosphorus, discharged from the Plant.) Any water quality-related requirements applicable to CSO discharges in the permit that accompanies this TLWQS are subject to this condition.
- f. MWRD must continuously monitor DO at the following continuous dissolved oxygen monitoring (CDOM) stations: Foster Avenue and Church Street on the North Shore Channel; and Addison Street and Division Street on the North Branch Chicago River.
- g. MWRD must submit to IEPA a report on DO results each year, summarizing the prior year's data.
- h. IEPA must consider the results of the report submitted under subsection (3)(c) in determining whether a TLWQS will be issued to accompany the next permit that is issued after submittal of the report.
- i. In any future TLWQS petition addressing the CSO Outfalls covered under O'Brien permit, MWRD must incorporate the results of the report in subsection (3)(c) for: specifying the expected nonattainment rate of the DO standards during the TLWQS term; requiring continued operation of the aeration stations whenever operable, considering the feasibility of taking other steps to address low DO in the North Shore Channel; and specifying that no other DO-related control requirements applicable to CSO discharges would be

imposed during the term of the TLWQS 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.

Stickney WRP

- j. No DO-related control requirements will apply to the CSO Outfalls covered in the Stickney Plant permit during the term of the TLWQS. (This is not intended to refer to the control of any nutrients, including nitrogen and phosphorus, discharged from the Plants.) Any water quality-related requirements applicable to CSO discharges in the permit that accompanies this TLWQS are subject to this condition.
- k. MWRD must continuously monitor DO at the following CDOM stations: Cicero Avenue, B&O Railroad, and Lockport on the Chicago Sanitary and Ship Canal.
- l. MWRD must submit to IEPA a report on DO results each year, summarizing the prior year's data.
- m. IEPA must consider the results of the report submitted under subsection (3)(c) in determining whether a TLWQS will be issued to accompany the next permit that is issued after submittal of the report.
- n. In any future TLWQS petition addressing the CSO Outfalls covered under Stickney permit, MWRD must incorporate the results of the report submitted under subsection (c) for: specifying the expected nonattainment rate of the new DO standard during the TLWQS term; requiring continued operation of the aeration stations whenever operable, considering the feasibility of taking other steps to address low DO in the relevant reaches of the CAWS; and specifying that no other DO-related control requirements applicable to CSO discharges would be imposed during the term of the TLWQS 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.

Calumet WRP

- o. MWRD must operate the existing SEPA stations: 3, 4 and 5 during operable periods; and 1 and 2 with one pump in operable periods. The "operable" periods do 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 is not required during any particular time period when it is not needed for the CAWS to meet the new DO water quality standards.

- p. No other DO-related control requirements will apply to the CSOs covered in the Calumet Plant permit during the term of the TLWQS. (This is not intended to refer to the control of any nutrients, including nitrogen and phosphorus, discharged from the Plant.) Any water quality-related requirements applicable to CSO discharges in the permit that accompanies this TLWQS are subject to this condition.
 - q. MWRD must continuously monitor DO at the following CDOM stations:
C&W Indiana RR and Halsted Street on the Little Calumet River, and Route 83 on the Cal-Sag Channel.
 - r. MWRD must submit to IEPA a report on DO results each year, summarizing the prior year's data.
4. **Interim DO Criteria**
- a) Place holder.