BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO,	)	
Petitioner,	)	
v.	)	**PCB No. 2016-028 (Time-Limited Water Quality Standard)**
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

NOTICE OF FILING

To: See Attached Service List

PLEASE TAKE NOTICE that on March 13, 2020, the **Metropolitan Water Reclamation District of Greater Chicago** electronically filed with the Office of the Clerk of the Illinois Pollution Control Board the **Responses to Pre-Filed Questions by Metropolitan Water Reclamation District Of Greater Chicago**, a copy of which is hereby served upon you.

Dated: March 13, 2020

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 **Responses to Pre-Filed Questions by Metropolitan Water Reclamation District Of Greater Chicago** to be served via electronic mail to all parties listed on the attached Service List on this 13th day of March, 2020.

/s/ Fredric P. Andes
One of Its Attorneys

SERVICE LIST

Bradley P. Halloran
Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center, Suite 11-500
100 W. Randolph Street
Chicago, IL 60601
Email: Brad.Halloran@illinois.gov

Albert Ettinger
53 W. Jackson, Suite 1664
Chicago, IL 60604
Email: ettinger.albert@gmail.com

Stefanie N. Diers
Rex L. Gradeless
IEPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276
Email: Stefanie.diers@illinois.gov
Email: Rex.Gradeless@Illinois.gov

Stacy Meyers
Openlands
25 East Washington Street, Suite 1650
Chicago, IL 60602
Email: smeyers@openlands.org

Jared Policicchio
City of Chicago
Department of Law
30 N. LaSalle Street
Suite 1400
Chicago, IL 60602
Email: jared.policicchio@cityofchicago.org

Dave Pfeifer
USEPA
77 W. Jackson
Chicago, IL 60604
Email: pfeifer.david@epa.gov

168136606v1

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO,	)	
Petitioner,	)	
v.	)	**PCB No. 2016-028 (Time-Limited Water Quality Standard)**
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

RESPONSES TO PRE-FILED QUESTIONS BY METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

QUESTIONS FROM ILLINOIS EPA

l. How often did combined sewer overflow (CSO) events happen in the Calumet System in 2017 and 2018?

RESPONSE:

There were two CSO events in the Calumet System during the 2017-2018 period.

2. What is the District doing to address these CSOs events?

RESPONSE:

The actions that MWRD is taking are described in the pre-filed testimony of Dustin Gallagher and in the Post-Construction Monitoring Report for the Calumet Tunnel and Reservoir Plan System (the "Post-Construction Monitoring Report") that is attached to that testimony.

At the two locations, C-1 and CDS-45, the TARP connecting structure was constructed upstream of the interceptor connecting structure. In order to prevent dry weather flow (DWF) from going to TARP, a flume was created that was designed to take DWF through the TARP connecting structure to the interceptor (keeping it out of the tunnel). The CSOs occurred because during severe storms, too much flow was flumed past the TARP connection and the downstream interceptor was mostly full so some of the flumed flow was discharged through the outfall. Initially, an attempt was made to rectify this situation by adding weir boards just upstream of the outfall tide gates in an effort to force flow back to the TARP connection. However, the boards that were added were proven to be of

insufficient height to prevent an overflow during a major rain event and increasing the height further would restrict flow out the outfall possibly causing flooding when TARP fills.

As the original modifications did not prevent further overflows, the District is now demolishing the dry weather flume and constructing a new sewer to route dry weather flow around the TARP connection to the interceptor downstream of the outfall, which should prevent a reoccurrence of CSOs prior to TARP filling at both locations. This work is currently under contract and will be completed in 2020.

3. On page 2 of the pre-filed testimony, Mr. Gallagher you state, "MWRD is making structural changes to the system that we believe will further reduce the likelihood of discharges form the Calumet CSO outfall that have had CSO discharges in recent years." What are the structural changes being made by MWRD and how will those changes reduce the CSO discharges?

RESPONSE:

Those structural changes are described in the Response to IEPA Question 2 above.

4. Has MWRD evaluated other measures to reduce the chance of future CSO discharges into the Calumet System? If so, what are those measures and what would they cost?

RESPONSE:

No. MWRD is not aware of any other available measures to reduce the chance of future discharges into the Calumet System. MWRD has constructed and collaborated on various Green Infrastructure projects designed to reduce the amount of water entering the sewer system and retain it on site and will continue to do so. These projects are effective on a local scale and mostly for smaller storms. The Calumet TARP System is the most effective measure for reducing CSOs.

5. Has the number of CSOs decreased in Calumet System since the Thornton Composite Reservoir became operational in November 2015?

RESPONSE:

Yes.

6. Has the results of the dissolved oxygen monitoring improved since the Thornton Composite Reservoir became operational in November 2015?

RESPONSE:

Yes. The results are described in the Post-Construction Monitoring Report.

7. How much would it cost the District to eliminate all discharges from CSOs in the Calumet System?

RESPONSE:

MWRD does not believe that it is possible to guarantee that there will be no discharges from CSOs in the Calumet System.

8. What is limiting the aquatic life in the Calumet System now that CSO events have been reduced to once per year?

RESPONSE:

The primary limiting factors are physical, having to do with lack of suitable habitat. These factors are discussed in the pre-filed testimony of Scott Bell in the original CAWS water quality standard rulemaking, at https://pcb.illinois.gov/documents/dsweb/Get/Document-71294 .

9. Does the Calumet system have dissolved oxygen issues other than during or after CSOs events?

RESPONSE:

Yes.

10. According to the executive summary (page xii), the dissolved oxygen water quality standard compliance was 90 percent. For the 10% that was not compliant, what percentage was due to wet-weather conditions with CSOs?

RESPONSE:

Zero - there were no exceedance of the dissolved oxygen standards due to CSOs.

a) What percentage was due to wet-weather conditions without CSOs?

RESPONSE:

That percentage has not been determined. Additional analysis would be required.

b) Were there other causes of depressed dissolved oxygen?

RESPONSE:

Yes – the primary other causes were dry conditions, low water flow, stagnant areas, warm weather, and temporary shutdown of a SEPA station.

c) Does the District plan on continuing its continuous dissolved oxygen monitoring program in the Calumet System?

RESPONSE:

Yes.

d) Could data from the continuous dissolved oxygen monitoring program be used to identify additional causes of depressed dissolved oxygen?

RESPONSE:

No.

e) What measures other than additional CSO control could be taken to remedy depressed dissolved oxygen?

RESPONSE:

While there are measures that could possibly address depressed dissolved oxygen, such as additional aeration, additional diversion, and sediment removal, none of those measures are practicable here, and there would still be depressed dissolved oxygen issues, due to the physical nature of the system.

f) What is the District's plan to remedy the depressed dissolved oxygen?

RESPONSE:

MWRD's plans to address the dissolved oxygen issues are described in the Amended Petition.

g) What will it cost to remedy the depressed dissolved oxygen during times other than "wet-weather conditions with CSOs"?

RESPONSE:

That condition is not remediable given the physical conditions of the system. Also, water quality conditions during times when there are no CSOs are not the subject of the TLWQS that is being sought in the Amended Petition, which focuses on CSO discharges.

h) What interim measures to address the current water quality issues are happening in the Chicago Area Waterway System waters and Lower Des Plains River Segments?

RESPONSE:

Those measures are described in Section E.1. of the Amended Petition.

11. Have the results of the dissolved oxygen monitoring improved since the Thornton Composite Reservoir became operational?

RESPONSE:

Yes. The results are described in the Post-Construction Monitoring Report.

Questions from Friends of the Chicago River

l. To be clear, this variance only covers combined sewer overflows (CSOs) covered by the NPDES permits for three Metropolitan Water Reclamation District of Greater Chicago (MWRD) plants, Calumet, O'Brien and Stickney?

RESPONSE:

Yes.

2. What other CSOs are there that affect the Chicago Area Waterways (CAWS)?

RESPONSE:

There are CSO outfalls owned and operated by communities in the region, which are covered by the NPDES permits for those communities.

3. What other CSOs are there that affect dissolved oxygen (DO) levels in CAWS?

RESPONSE:

The CSO outfalls referred to in the Response to Question 2 above.

4. In monitoring, how is the Illinois Environmental Protection Agency (IEPA) and the public to distinguish effects of MWRD CSOs from effects of other CSOs?

RESPONSE:

MWRD is not aware of any means to accomplish that task.

5. What are the "interim measures" mentioned at page 3 of the (unpaginated) Amended Petition?

RESPONSE:

This refers to the requirements specified in Section E.1. of the Amended Petition.

6. Do other entities have CSO direct discharges to water bodies to which O'Brien, Calumet and Stickney CSOs discharge?

RESPONSE:

Yes.

7. Does MWRD take in water from other entities into TARP to prevent or lessen CSOs from those other entities?

RESPONSE:

Yes.

8. Are there circumstances under which MWRD does not accept water from other entities connected to TARP into the TARP? If so, what are those circumstances?

RESPONSE:

Yes. This occurs when TARP is full. MWRD will close the gates to TARP on those occasions.

9. At p. 17 of Amended petition, it is mentioned that a report will be filed six months after completion of McCook 1. That report is due then in July 2020?

RESPONSE:

No, that report is due in July 2021.

10. In the pre-filed testimony of Mr. Gallagher (at page 2 of another unpaginated document), it is mentioned that there were CSOs that flowed into the area covered by the Thornton reservoir system in 2019. Please describe what happened? Whose CSOs were they?

RESPONSE:

There was five CSO events that occurred in March and April 2019. The CSO dischargers were caused by damaged stop logs. Further details are contained in the MWRD report that is included as Attachment A. The CSO outfall (CDS-45) is owned by the City of Phoenix.

11. Please describe generally what happened to cause the CSOs on February 28, 2017 and March 30, 2017.

RESPONSE:

These situations are described in the Responses to IEPA Questions 1 – 3 and in the Post-Construction Monitoring Report.

12. Are both of these CSO discharges from CSOs covered by the Calumet NPDES permit?

RESPONSE:

No.

13. Are there CSO discharges in the CAWS segments covered by the Thornton Composite Reservoir ("TCR") that are not covered by the Calumet NPDES Permit?

RESPONSE:

Yes.

14. There were violations of the dissolved oxygen standards in 2017 in the Little Calumet River and the Cal Sag in according to the MWRD report 18-29 2017 CDOM (Pre-filed questions Exhibit A, pp. 27-31, the complete document appears at https://mwrd.org/sites/default/files/documents/18-29 2017 CDOM O.pdf). Would violations like these of the dissolved oxygen standards be covered by the proposed variance if they occurred after the variance went into effect?

RESPONSE:

Yes, if they occurred due to CSO discharges from MWRD outfalls.

15. Can you identify whether any of these violations of the dissolved oxygen standard shown in Pre-filed Questions Exhibit A were caused by CSOs?

RESPONSE:

Those situations did not occur due to wet weather, and no CSO discharges were occurring, so they were not caused by CSOs.

16. Turning now to the document entitled Post-Construction Monitoring report for the Calumet Tunnel and Reservoir Plan System that is attached to the Pre-filed Gallagher testimony, on page xi there is a reference to "local conditions," what is meant by that?

RESPONSE:

The term "local conditions" refers to characteristics of specific TARP connections .

17. Have there been other "local conditions" that have caused CSOs into the CAWS?

RESPONSE:

We are not aware of any other CSOs during that time period.

18. Page 3 shows a number of CSO outfalls. Are those all MWRD owned CSO outfalls or does Figure 1 include other outfalls?

RESPONSE:

Figure 1 includes both MWRD-owned CSO outfalls and other CSO outfalls.

19. On page 4, monitoring on 51 CSO outfalls is discussed. Are those all MWRD outfalls?

RESPONSE:

No.

20. Outfalls above the confluence of the Little Calumet and the Cal-Sag Channel are shown. Is the Little Calumet upstream of its confluence with the Cal-Sag to be covered by this proposed variance?

RESPONSE:

Yes.

21. On page 12, the CSOs due to local conditions are contrasted with "a failure of TARP system operation." What would be a "failure of TARO system operation?"

RESPONSE:

A "failure of TARP system operation" would be a large-scale failure of the system to work as intended, as contrasted to "local conditions" that refer to issues presented at specific TARP connections.

22. Is the DO data in Table 14 consistent with the data on Pre-filed Questions Exhibit A? Did the minimum post construction DO levels correspond to the periods of very low (less than 2.0 mg/L) levels shown in Exhibit A?

RESPONSE:

No and No. The data in Table 14 includes data from both 2017 and 2018, while the data shown in Exhibit A is only from 2017.

Questions from Pollution Control Board

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.

RESPONSE:

MWRD cannot predict wet-weather conditions that may arise in the future. It is possible that there will be CSO discharges occurring in the Calumet River System. This is especially so, as discussed in the pre-filed testimony of Dustin Gallagher, after MWRD's lease on the transitional reservoir expires, at the end of 2020 (with a possible extension to the end of 2021), which will result in 3.1 billion gallons of storage capacity being lost. Therefore, the TLWQS is needed for the foreseeable future. The term of the requested TLWQS is five years, and the situation will be reevaluated before the end of that term.

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.

RESPONSE:

This information is provided in the Response to IEPA Question 1.

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.

RESPONSE:

Yes.

b. Is there any possibility of extending the lease beyond 2021?

RESPONSE:

The only extension that may be available at the current time is through 2021.

c. Please comment on the possibility of adding transitional reservoir storage in the future after completion of quarrying activities.

RESPONSE:

Quarrying activities are likely to continue for several decades. There are no current plans to acquire additional reservoir capacity.

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.

RESPONSE:

Storm sizes in the future will vary, and some will generate larger volumes of runoff. Historic rain patterns in the region consist of intense, short bursts that can overwhelm community systems. In Cook County over the last 30 years, extreme rainfall events and flooding have increased, and an average precipitation increase per year of 0.33 inches (over 5-year moving averages) has been observed. MWRD is proactively addressing stormwater management and flood mitigation, with an eye on 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.

RESPONSE:

Green infrastructure measures are being implemented, consistent with the Consent Decree between MWRD, U.S. EPA and the Illinois EPA.

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.

RESPONSE:

That storage is designed to be reserved for Thorn Creek flood waters. MWRD is still using the transitional reservoir, so it does not have any operating experience yet with a TCR configuration that does not include the transitional reservoir storage capacity.

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.

RESPONSE:

This information is provided in the Response to IEPA Question 2.

b. Has MWRD or affected local government implemented measures to avoid such restriction of stormwater flows in the future?

RESPONSE:

Yes.

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.

RESPONSE:

There were no other CSOs during that time period. MWRD cannot speculate as to what other CSOs might have occurred.

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.

RESPONSE:

This information is provided in the Response to Friends of the Chicago River Question 10.

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.

RESPONSE:

Monitoring would be conducted during the five-year term of the TLWQS. A report would then be submitted, which would assess whether it is likely that CSO will occur in the future.

b. If reopener clause is included, comment on whether MWRD or IEPA would initiate the reopening of the TLWQS to remove Calumet CSO outfalls.

RESPONSE:

The reopening would be initiated by IEPA.

c. Please provide draft language for reopener clause for possible inclusion in the TLWQS.

RESPONSE:

MWRD suggests the following language: "If IEPA determines, based on review of information provided by MWRD under the terms of the TLWQS, that CSO discharges will not occur in the future within the Calumet River System, IEPA may notify the Board, MWRD and other interested parties that it is asking the Board to reopen the TLWQS to eliminate coverage in the TLWQS of CSO discharges within the Calumet River System."

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.

RESPONSE:

The USEPA letter is attached to the Amended Petition as Exhibit L.

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.

RESPONSE:

MWRD has engaged in discussions with USEPA regarding the amended petition in the last several years. The discussions have been productive, but MWRD has received no indication regarding the approvability of the proposed TLWQS and has received no correspondence from USEPA regarding the Amended Petition.

20. 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.

RESPONSE:

Other sources have had opportunities to join in this request, but none have sought similar relief. Moreover, MWRD owns and operates TARP, so is in a different situation than any other source with respect to the operation of that system and compliance with the Consent Decree regarding CSO discharges.

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.

RESPONSE:

MWRD understands that the City of Chicago is considering seeking similar relief. MWRD is not aware of interest in seeking relief by any other source.

21. 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.

RESPONSE:

The Amended Petition covers all CSO outfalls into the CAWS that are owned and operated by MWRD. As stated on page 8, the relevant designated uses for CAWS waters (other than General Use waters) are provided in 35 IAC 303.235 and 303.240. The reference on page 4 of the Amended Petition to the General Use standard should also have identified the standards for CAWS reaches that are not General Use waters as well, which are in 35 IAC 302.405. Those standards cover all reaches of the CAWS other than the Chicago River and North Creek, which are the two General Use waters that are intended to be covered by the TLWQS. The Board has already recognized and addressed the issue of referring to the proper standards in its Order of March 28, 2019, in which it stated as follows: "The amended petition identifies the General Use DO standards under Section 302.206 as the currently applicable standard for which a TLWQS is sought. Am. Pet. at 4. However, the Board is including the CAWS DO standards under Section 302.405 because both MWRD's initial and amended petitions generally state that MWRD is seeking relief from the CAWS DO standards adopted by the Board in July 2015."

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.

RESPONSE:

No.

22. 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.

RESPONSE:

The emergency high level bypass outfalls at Calumet have had no recent discharges. At Stickney, outfalls 002 and 004 have had no recent discharges. For Stickney outfall 003, during the years 2012 – 2019, there has been an average of approximately 8 discharges per year.

ii. Comment on whether discharges from bypass outfalls should be covered under the proposed TLWQS.

RESPONSE:

No.

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.

RESPONSE:

The Glenwood Pump Station CSO outfall discharges to North Creek. It is listed in the Calumet WRP NPDES permit as discharging to Deer Creek, but that is not correct. This outfall is upstream of the CAWS. It is covered in the Amended Petition because its discharges could affect the CAWS. MWRD does not know if the General Use DO standard is currently being met in North Creek or 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.

RESPONSE:

Not to MWRD's knowledge.

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.

RESPONSE:

Not applicable.

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.

RESPONSE:

Not to MWRD's knowledge.

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.

RESPONSE:

Not applicable.

23. 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.

RESPONSE:

The following outfalls should be removed from the list, since they are not included in the MWRD TLWQS petition: 109, 131, 132, 133, 134, 135, 136, and 150.

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?

RESPONSE:

The TLWQS would not apply to the following General Use segments that are listed in Attachment 2: the listed segments of the Des Plaines River upstream of Brandon Pool (G-28, G-15, G-30, and G-32) and Addison Creek upstream of Brandon Pool (GLA-02). As stated in the Response to Board Question 23.a., the Outfalls discharging to those segments should be excluded from the TLWQS. As noted in the Response to Board Question 22.b., the CSO Outfall that discharges to North Creek (010) should be included in the TLWQS. North Creek is upstream of the CAWS, but the discharges to that reach could affect the CAWS. One other General Use segment that is in the CAWS should be included in the TLWQS – the Chicago River (HCB-01).

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.

RESPONSE:

The requested map is included as Attachment B.

24. 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.

RESPONSE:

MWRD is not aware of any significant changes in water quality conditions or flow dynamics during storm events in the CAWS in the last ten years, except as described in the Post-Construction Monitoring Report.

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?

RESPONSE:

This reasoning is set forth in the Zenz report and the accompanying technical report by Dr. Melching.

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.

RESPONSE:

Those data were used to confirm and validate the Melching model. Once that was done, there was no need to reconfirm and revalidate the model. MWRD is not aware of any changes in conditions that would make a new modeling exercise necessary for purposes of the TLWQS Petition.

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?

RESPONSE:

Any modeling effort that attempted to more fully take into account those complex conditions would probably result in a compliance cost estimate that would be even higher than those presented in the Zenz report.

iv. Have there been any significant changes in aeration technology in the intervening years that would potentially reduce the cost of new systems?

RESPONSE:

MWRD is not aware of any significant changes in aeration technology during this time period that could 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?

RESPONSE:

The rationale is set forth in the Melching and Zenz reports, and in the testimony of Mr. Zenz and Dr. Melching before the Board in Docket R08-9.

25. 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.

RESPONSE:

Yes, that factor still applies, because CSOs can still occur in 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.

RESPONSE:

MWRD has not discussed the CRS Report findings with USEPA.

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.

RESPONSE:

MWRD has no control over those sources, which are owned and operated by other entities. Those entities have had opportunities to seek relief, but have not done so.

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.

RESPONSE:

No, that is not required. It is up to the Board to decide if it believes that including such criteria would be appropriate.

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.

RESPONSE:

MWRD does not support removing the Calumet River System portion of the CAWS from the TLWQS, for the reasons stated above. If that portion were removed from the TLWQS, it is likely that less aeration stations and flow augmentation stations would need to be installed. A detailed engineering and hydraulic analysis would be needed to determine the final number of stations needed, since the various portions of the CAWS are connected. The cost figure of $650 million from 2008 would also need to be adjusted for inflation, so it is not known if the final cost would be more or less than that figure.

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?

RESPONSE:

Such an analysis would be complex and take substantial time and effort, particularly given the new analyses that would be required and the need to adjust the cost information for inflation and other factors. It is important to note that the Amended Petition does not claim affordability as a reason for approval of the TLWQS.

26. 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.

RESPONSE:

The requested updated DO table is included as Attachment C. As to improvements in DO levels in the last several years, the data are not yet adequate to determine long-term trends.

27. 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.

RESPONSE:

The purpose of this provision is to ensure that the relief provided by the TLWQS is not taken away indirectly, by imposition of requirements applied through some other means.

a. 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.

RESPONSE:

No.

ii. If so, submit the revised interim measure for inclusion in a potential Board Order as a condition.

RESPONSE:

Not applicable.

28. 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?

RESPONSE:

Annual reports will be submitted that describe the progress being made each year. There is no quantitative measure readily available that could be applied as a benchmark.

b. If there are benchmarks, are they quarterly, yearly?

RESPONSE:

Yearly.

c. If progress is not being met at any point in the five years, what plans does MWRD have to remedy?

RESPONSE:

MWRD is not aware of any quantitative way to determine progress during that time period, other than to assess if MWRD has taken the actions required in the TLWQS. At the end of the five years, there will be an evaluation to determine the proper path forward.

29. 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 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.

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.

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.

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 hold

RESPONSE:

MWRD believes that two changes are needed in the proposed language for a possible Board order. First, Number 3.a. should be deleted. The habitat improvement projects in the CAWS that were included in MWRD's Petition and Amended Petition have now been completed. MWRD provided the funding that it committed to provide, and it has no further obligations under the relevant Intergovernmental Agreement. Second, Section 4.a. should be deleted. There is no need for interim DO criteria under the TLWQS as being requested by MWRD in the Amended Petition. There is no specific DO criterion that would be achievable during the time period of the TLWQS. Instead, MWRD is complying with the relevant TLWQS/variance requirements through the specific actions that were specified in the Amended Petition, which should be reflected in the final Board order.

Dated: March 13, 2020

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

EXHIBIT A

Protecting Our Water Environment

Metropolitan Water Reclamation District of Greater Chicago

100 EAST ERIE STREET CHICAGO, ILLINOIS 60611-3154 312.751.5600

BOARD OF COMMISSIONERS
Kari K. Steele
President
Barbara J. McGowan
Vice President
Frank Avila
Chairman of Finance
Cameron Davis
Kimberly Du Buclet
Marcelino Garcia
Josina Morita
Debra Shore
Mariyana T. Spyropoulos

Brian A. Perkovich, P.E.
Executive Director

312.751.7900 f: 312.751.7926
brian.perkovich@mwrd.org

May 10, 2019

Mr. Dean Maraldo, Chief
Water Enforcement and Compliance Assurance Branch
Water Division
United States Environmental Protection Agency (USEPA)
Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

Chief, Environmental Enforcement
Section
Environmental and Natural Resources
Division
US Department of Justice (USDOJ)
Box 7611 Ben Franklin Station
Washington. D.C. 20044-7611
Re: DOJ No. 90-5-1-1-07679

Regional Counsel
USEPA, Region 5
Division of Water Pollution Control
77 W. Jackson Blvd.
Chicago, IL 60604

Subject: Metropolitan Water Reclamation District of Greater Chicago (District)
National Pollutant Discharge Elimination System (NPDES) Permits
Consent Decree (Civil Action No. 11 C 8859) – Notice of Combined Sewer Overflow
March 14, March 30, April 14 and April 18, 2019

In March and April 2019, Combined Sewer Overflow (CSO) events occurred at CDS-45 on the Little Calumet River. On March 14, 2019, the CSOs occurred as a result of an average rainfall in the south area in the amount of 0.82 inches over March 13-14, 2019. On March 30, 2019, a CSO occurred as a result of rainfall in the south area in the amount of 0.73 inches. On April 14, 2019, a CSO occurred as a result of rainfall in the south area in the amount of 0.75 inches. On April 18, 2019, a CSO occurred as a result of rainfall in the south area in the amount of 0.55 inches.

The details of these discharges are as follows:

Location	Overflow Date & Start Time	Overflow Date & Stop Time	Duration	Estimated Volume of Discharge (Gallons)
CDS-45	3/14/19 @ 12:00 pm	3/14/19 @ 12:51 pm	51 min	2,550
CDS-45	3/14/19 @ 2:08 pm	3/14/19 @ 4:00 pm	1 hr 52 min	5,600
CDS-45	3/30/19 @ 4:25 am	3/30/19 @ 6:44 am	2 hr 19 min	6,950
CDS-45	4/14/19 @ 2:50 pm	4/14/19 @ 4:10 pm	1 hr 20 min	4,000
CDS-45	4/18/19 @ 10:30 am	4/18/19 @ 11:40 pm	1 hr 10 min	2,800

District staff determined that these discharges were caused by damaged stop logs. The damage caused leakage through the bottom of the stop log assembly. On April 25, 2019 District staff replaced the stop log assembly and sealed all gaps to prevent further leakage.

Dean Maraldo and Regional Counsel, USEPA
Chief, Environmental Enforcement Section, USDOJ

May 10, 2019

Condition VIII.28.f of the Consent Decree (Calumet TARP System Performance Criteria) states that *"For each precipitation event, no CSO Outfall in the Calumet TARP System shall discharge until conditions described in subparagraphs (a) through (e) preceding this subparagraph are achieved"*. These conditions for this storm are documented below:

a. *All flows that enter the Calumet TARP tunnels and Thornton Composite Reservoir are conveyed to the Calumet WRP for full treatment in accordance with the then current Calumet NPDES Permit, including the bypass provisions in that permit; provided however, that, when the Cal Sag Tunnel is full, flow may leave the Calumet TARP Tunnels through Outfall No. 158 on the Calumet 18EA branch tunnel without first being conveyed to the Calumet WRP for full treatment as described in Appendix A. Notwithstanding the above, Outfall No. 158 remains subject to the terms of the then current Calumet NPDES Permit.*

   All flows that entered into the Calumet TARP System received full treatment; the flow that discharged from CDS-45 was unable to enter the system due to local conditions.

b. *During all precipitation events, MWRD shall accept and provide full treatment of the Maximum Practical Flow at the Calumet WRP;*

   The Calumet WRP provided full treatment for the maximum practical flow that could be pumped to the plant at any given time.

   On March 14, 2019, at the start of the storm, the flow at the plant was 386 MGD. TARP pumps were already in operation (120 MGD of the plant flow) at this time, as dewatering was ongoing. As the flow to the wet well increased, the pumping rate through the plant was also increased until a maximum flow rate of 470 MGD was achieved. The flow pumped at the plant was maintained between 450 and 470 MGD throughout the duration of the storm and beyond.

   On March 30, 2019, at the start of the storm, the flow at the plant was 353 MGD. TARP pumps were already in operation (19 MGD of the plant flow) at this time, as dewatering was ongoing. As the flow to the wet well increased, the pumping rate through the plant was also increased until a maximum flow rate of 437 MGD was achieved. The flow pumped at the plant was maintained between 415 and 437 MGD throughout the duration of the storm and beyond.

   On April 14, 2019, at the start of the storm, the flow at the plant was 204 MGD. TARP pumps were already in operation (35 MGD of the plant flow) at this time, as dewatering was ongoing. As the flow to the wet well increased, the pumping rate through the plant was also increased until a maximum flow rate of 448 MGD was achieved. The flow pumped at the plant was maintained near 448 MGD throughout the duration of the storm and beyond.

   On April 18, 2019, at the start of the storm, the flow at the plant was 345 MGD. TARP pumps were already in operation (123 MGD of the plant flow) at this time, as dewatering was ongoing. As the flow to the wet well increased, the pumping rate through the plant was also increased until a maximum flow rate of 436 MGD was achieved. The flow pumped at the plant was maintained between 416 and 436 MGD throughout the duration of the storm and beyond.

c. *Treatment at the Calumet WRP and capture of combined sewage in the Calumet TARP System is maximized at all times, consistent with the TARP Operational Plan approved by Illinois EPA and in accordance with the then current Calumet NPDES Permit (at the time the proposed Operational Plan is submitted to Illinois EPA for approval, MWRD must provide a copy of the proposed plan to the United States);*

The current NPDES permit for the Calumet WRP does not require the submittal of the TARP Operational Plan. As previously reported, the District has reached out to the Illinois EPA for direction regarding this requirement.

d. *During all times when the Calumet TARP tunnels or Thornton Composite Reservoir contain combined sewage in excess of any Retained Amount, MWRD shall pump combined sewage from the Calumet TARP Pump Station at the Maximum Practical Pumping Rate subject to the Maximum Practical Flow capable of receiving full treatment at the Calumet WRP;*

At the start of the storm on March 14, 2019 at 10:00 am, the TARP tunnels had an available capacity of 65.4% (410 MG total) while the reservoir had an available capacity of 97.4% (7,640 MG total); therefore, the amount in the reservoir (2.6%) was less than the Retained Maximum Amount (5.6%). The dewatering of the TARP System had been ongoing at the start of the storm and continued as a result of subsequent storms.

At the start of the storm on March 30, 2019 at 12:00 am, the TARP tunnels had an available capacity of 77.8% (488 MG total) while the reservoir had an available capacity of 97.1% (7,616 MG total); therefore, the amount in the reservoir (2.9%) was less than the Retained Maximum Amount (5.6%). The dewatering of the TARP System had been ongoing at the start of the storm and continued as a result of subsequent storms.

At the start of the storm on April 14, 2019 at 4:30 am, the TARP tunnels had an available capacity of 91.6% (574 MG total) while the reservoir had an available capacity of 100% (7,845 MG total); therefore, the amount in the reservoir (0.0%) was less than the Retained Maximum Amount (5.6%). The dewatering of the TARP System had been ongoing at the start of the storm and continued as a result of subsequent storms.

At the start of the storm on April 18, 2019 at 4:45 am, the TARP tunnels had an available capacity of 71.6% (449 MG total) while the reservoir had an available capacity of 98.3% (7,712 MG total); therefore, the amount in the reservoir (1.7%) was less than the Retained Maximum Amount (5.6%). The dewatering of the TARP System had been ongoing at the start of the storm and continued as a result of subsequent storms.

e. *All Calumet TARP drop shaft control structures (inlet sluice gates) must be maintained in the 100 percent Equivalent Open position to receive maximum flow into the Calumet TARP tunnels and Thornton Composite Reservoir until the Thornton Composite Reservoir is Full or Transient Events would occur if the sluice gates remained in the 100 Percent Equivalent Open position.*

All sluice gates were maintained in the 100% equivalent open position throughout the duration of the storm. No gates were closed in anticipation of a transient event nor did a transient event occur. All gates were operable throughout.

The CSOs at CDS-45 did not occur as a result of failure to achieve the conditions above or to operate the TARP System in a manner that was consistent with the Operating Plan, but rather occurred as a result of local conditions preventing the conveyance of storm flows into the TARP dropshaft. As noted above, these conditions have been rectified.

Dean Maraldo and Regional Counsel, USEPA
Chief, Environmental Enforcement Section, USDOJ

May 10, 2019

Section XII. Reporting Requirement Certification, Paragraph 48:

I certify under penalty of law that this document and its attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Sincerely,

Brian A. Perkovich

JPM:EJS:FC

c: Roger Callaway, IEPA – Springfield
Jay Patel, IEPA – Des Plaines
Elizabeth Wallace and Thomas Shepherd, Illinois Attorney General's Office - Chicago
Podczerwinski/Morakalis/O'Connor/Dring

EXHIBIT B

ILAUID REACHES WITH MWRD CSO OUTFALLS TO CAWS

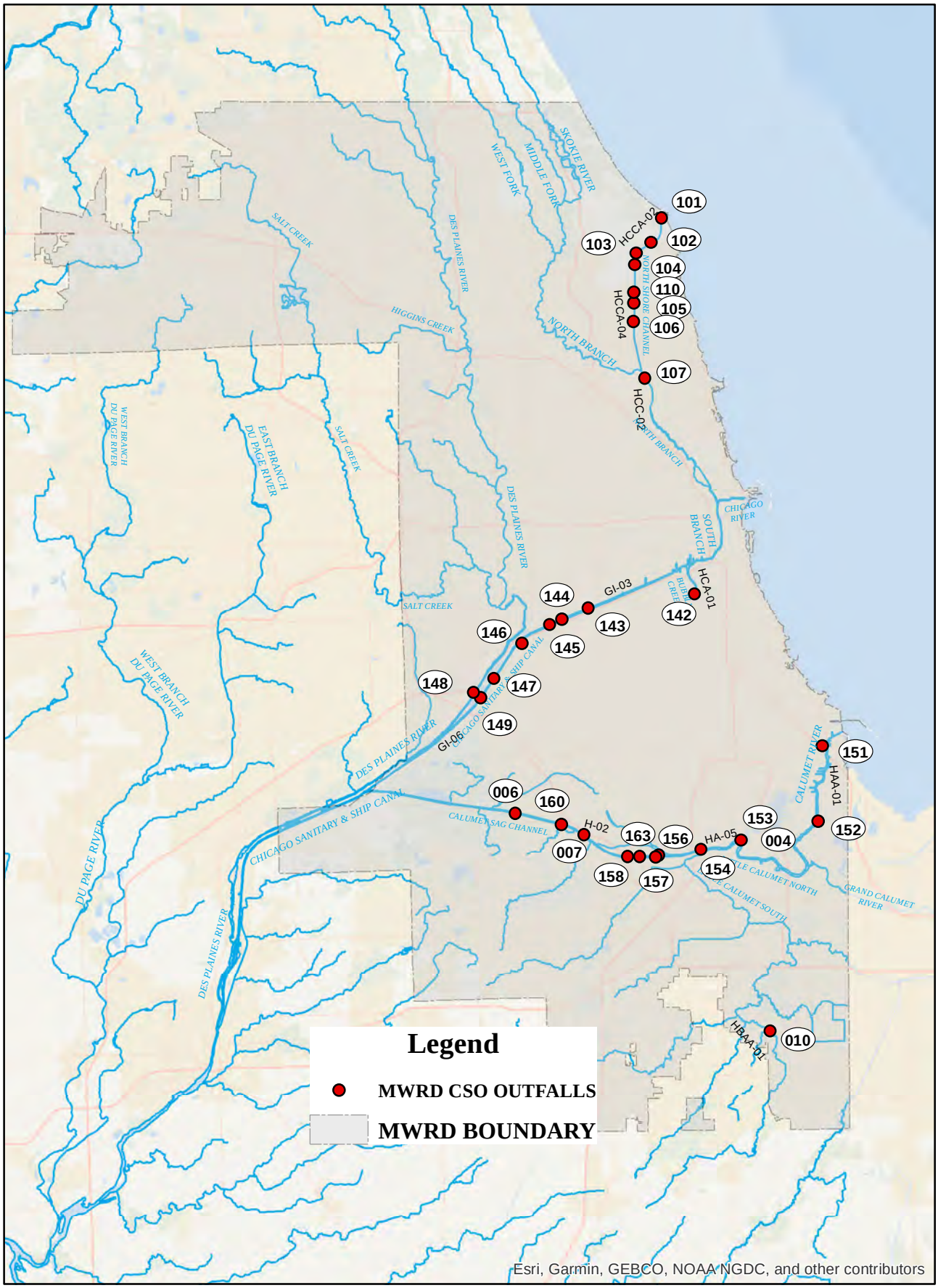

EXHIBIT C

Table 1: Hourly Dissolved Oxygen Data During 2013-2019 Compared to Chicago Area Waterway System Aquatic Life Use A Water Quality Standard

Location	Year	Total N	N < Standard[1]	Percent Compliance
Church Street, North Shore Channel[2]	2013	2,635	575	78.2
	2014	4,242	935	78.0
	2015	3,386	67	98.0
	2016	5,530	370	93.3
	2017	8,495	1,254	85.2
	2018	8,757	32	99.6
	2019	8,711	9	99.9
	2013-2019	41,756	3,242	92.2
Foster Avenue, North Shore Channel	2013	8,701	44	99.5
	2014	7,245	19	99.7
	2015	8,758	46	99.5
	2016	7,257	15	99.8
	2017	6,996	3	100.0
	2018	8,760	3	100.0
	2019	8,759	0	100.0
	2013-2019	56,476	130	99.8
Addison Street, North Branch Chicago River	2013	7,411	126	98.3
	2014	8,448	53	99.4
	2015	8,304	78	99.1
	2016	8,278	92	98.9
	2017	8,760	28	99.7
	2018	8,756	13	99.9
	2019	7,751	5	99.9
	2013-2019	57,708	395	99.3
Division Street, North Branch Chicago River	2013	4,046	403	90.0
	2014	8,423	85	99.0
	2015	6,739	296	95.6
	2016	8,781	648	92.6
	2017	8,110	532	93.4
	2018	8,756	78	99.1
	2019	6,760	107	98.4
	2013-2019	51,615	2,149	95.8
Kinzie Street, North Branch Chicago River[3]	2013	3,367	13	99.6
	2013-2019	3,367	13	99.6
Loomis Street, South Branch Chicago River	2013	7,390	702	90.5
	2014	8,757	518	94.1
	2015	8,255	133	98.4
	2016	8,281	953	88.5
	2017	8,255	440	94.7
	2018	7,755	115	98.5
	2019	8,110	85	99.0

	2013-2019	48,693	2,861	94.1

Table 1 (Continued): Hourly Dissolved Oxygen Data During 2013-2018 Compared to Chicago Area Waterway System Aquatic Life Use A Water Quality Standard

Location	Year	Total N	N < Standard[1]	Percent Compliance
C&W Indiana RR, Little Calumet River	2013	6,767	642	90.5
	2014	6,875	283	95.9
	2015	6,227	350	94.4
	2016	7,320	254	96.5
	2017	8,759	233	97.3
	2018	8,255	369	95.5
	2019	8,748	466	94.7
	2013-2019	52,951	2,597	95.1
Halsted Street, Little Calumet River	2013	6,731	534	92.1
	2014	7,702	314	95.9
	2015	5,875	772	86.9
	2016	4,943	231	95.3
	2017	8,759	409	95.3
	2018	7,751	476	93.9
	2019	7,801	226	97.1
	2013-2019	49,562	2,962	94.0
Cicero Avenue, Cal-Sag Channel	2014	6,924	941	86.4
	2015	7,890	689	91.3
	2016	8,779	384	95.6
	2017	8,759	297	96.6
	2018	7,754	890	88.5
	2019	6,130	61	99.0
	2013-2019	46,236	3,262	92.9
Route 83, Cal-Sag Channel	2013	8,760	1,249	85.7
	2014	8,423	1,260	85.0
	2015	8,205	1,553	81.1
	2016	7,748	875	88.7
	2017	8,231	502	93.9
	2018	8,758	1,016	88.4
	2019	8,757	1,026	88.3
	2013-2019	58,882	7,481	87.3

N = Number of Dissolved Oxygen Readings

[1]Compared to Water Quality Standard of 5.0 mg/L March - July, 3.5 mg/L August - February

[2]During 2013-2016, the Church Street monitor was only deployed during certain spring, summer, months. Full-time deployment started November, 2016.

[3]Kinzie Street location was replaced by Division Street in June 2013, after being damaged by a barge.

Table 2: Hourly Dissolved Oxygen Data During 2013-2019 Compared to Chicago Area Waterway System Aquatic Life Use B Water Quality Standard

Location	Year	Total N	N < Standard[1]	Percent Compliance
Cicero Avenue, CSSC	2013	7,415	1,546	79.2
	2014	8,758	1,624	81.5
	2015	8,759	714	91.8
	2016	8,277	2,019	75.6
	2017	7,415	594	92.0
	2018	8,254	453	94.5
	2019	8,256	154	98.1
	2013-2019	57,134	7,104	87.6
B&O Central Railroad, CSSC	2013	7,776	184	97.6
	2014	7,929	388	95.1
	2015	8,626	200	97.7
	2016	7,299	701	90.4
	2017	8,252	298	96.4
	2018	7,224	60	99.2
	2019	8,110	160	98.0
	2013-2019	55,216	1,991	96.4
Lockport Powerhouse, CSSC	2013	7,718	607	92.1
	2014	8,759	2,126	75.7
	2015	7,585	974	87.2
	2016	8,783	2,641	69.9
	2017	8,760	687	92.2
	2018	8,759	1,016	83.3
	2019	7,930	555	93.0
	2013-2019	58,294	8,606	85.2

N = Number of Dissolved Oxygen Readings

CSSC = Chicago Sanitary and Ship Canal

[1]Compared to Water Quality Standard of 3.5 mg/L anytime