

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

PRAIRIE RIVERS NETWORK, )  
NATURAL RESOURCES DEFENSE )  
COUNCIL, SIERRA CLUB, )  
ENVIRONMENTAL LAW & POLICY )  
CENTER, FRIENDS OF CHICAGO )  
RIVER and GULF RESTORATION )  
NETWORK )

Petitioners, )

v. )

ILLINOIS ENVIRONMENTAL )  
PROTECTION AGENCY and )  
METROPOLITAN WATER )  
RECLAMATION DISTRICT OF )  
GREATER CHICAGO )

Respondents. )

PCB \_\_\_\_\_  
(Third Party NPDES Appeal)

**NOTICE OF ELECTRONIC FILING**

To: Attached Service List

PLEASE TAKE NOTICE that on January 27, 2014 I electronically filed with the Clerk of the Pollution Control Board of the State of Illinois, the attached **PETITION FOR ADMINISTRATIVE REVIEW OF AN NPDES PERMIT ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY** and **APPEARANCE OF JESSICA DEXTER** a copy of which is attached hereto and herewith served upon you.

Respectfully Submitted,



\_\_\_\_\_  
Jessica Dexter  
Staff Attorney  
Environmental Law and Policy Center  
35 East Wacker Drive, Ste. 1600  
Chicago, IL 60601  
312-795-3747

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**APPEARANCE OF JESSICA DEXTER**

NOW COMES Jessica Dexter, of the ENVIRONMENTAL LAW & POLICY CENTER, and hereby enters her appearance in this matter on behalf of Prairie Rivers Network, Natural Resources Defense Council, Sierra Club, Environmental Law & Policy Center, Friends of Chicago River and Gulf Restoration Network

Dated: January 27, 2014

Respectfully Submitted,



\_\_\_\_\_  
Jessica Dexter  
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Environmental Law and Policy Center  
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**PETITION FOR ADMINISTRATIVE REVIEW OF AN NPDES PERMIT ISSUED  
BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**

Pursuant to 415 ILCS 5/40(e)(1) and 35 Ill. Adm. Code § 105, Prairie Rivers Network, Natural Resources Defense Council, Sierra Club, Environmental Law & Policy Center, Friends of the Chicago River, and Gulf Restoration Network (collectively, "Petitioners") hereby petition for review of the decision of the Illinois Environmental Protection Agency ("IEPA") to renew a National Pollutant Discharge Elimination System ("NPDES"), permit no. IL0028061 ("Permit") to the Metropolitan Water Reclamation District of Greater Chicago ("MWRD") to discharge pollutants into the Little Calumet River.

In support of their petition, Petitioners state:

**Permit and Relief Sought**

1. The Permit was issued by IEPA on December 23, 2013. A copy of the Permit is attached as Exhibit 1.
2. As described below, issuance of the Permit did not comply with law because 1) IEPA has not determined the reasonable potential for discharges of phosphorus and nitrogen to cause or contribute to violations of water quality standards, and has not placed water-quality based effluent limits on such discharges as necessary to ensure compliance with water quality standards as required by 35 Ill. Admin.

Code §§ 304.105, 309.141 and 309.143 (NPDES permitting regulations); 2) IEPA has not justified the compliance schedule that allows 10 years to come into compliance with the phosphorus effluent limit; 3) IEPA failed to prohibit sanitary sewer overflows as required by 35 Ill. Adm. Code 306.304; and 4) IEPA failed to respond to Petitioners' comments in violation of 35 Ill. Admin. Code 166.192. Accordingly, the Board should vacate the Permit and remand it to the IEPA to be considered properly in compliance with law.

### **Jurisdiction**

3. The Board has jurisdiction to review IEPA's final determinations with regard to NPDES permits. 415 ILCS5/5 (d).
4. Further, 35 Ill. Admin Code 309.148 (h) establishes specific authority for the Board to review compliance schedules established in NPDES permits.

### **Petitioners**

5. PRN, Sierra Club, NRDC, FOCR, GRN, and ELPC submitted several comments to IEPA concerning the draft Permit regarding the issues raised in this appeal. First, PRN, Sierra Club, NRDC, FOCR and GRN submitted comments and a request for hearing on the draft Permit on December 9, 2009. See comments dated December 9, 2009 ("Initial Comments"), attached as Ex. 2. Second, PRN, Sierra Club, NRDC and ELPC appeared at the public hearing concerning the draft Permit (held jointly with hearing on the draft permits for MWRD's North Side/O'Brien and Stickney NPDES permits) held March 9, 2010 and gave testimony in opposition to the draft Permit. *See* Hearing Transcript. Finally, Friends of the Chicago River ("FOCR"), Alliance for the Great Lakes ("Alliance"), Natural Resources Defense Council ("NRDC"), Gulf Restoration Network (GRN), Environmental Law and Policy Center of the Midwest (ELPC), Prairie Rivers Network (PRN) and the Illinois Chapter of the Sierra Club (Sierra Club) submitted detailed post-hearing comments jointly regarding all three NPDES permits (North Side/O'Brien, Calumet and Stickney) on April 8, 2010. See comments dated April 8, 2010 ("Post-Hearing Comments"), attached as Ex. 3.
6. Prairie Rivers Network ("PRN") is an Illinois not-for-profit corporation concerned with river conservation and water quality issues in Illinois. It works with concerned citizens throughout the state to address issues that impact Illinois streams. Prairie Rivers Network members live and recreate in Cook County and depend on clean water in streams and wetlands in the Little Calumet River, the Calumet-Sag Channel, the Lower Des Plaines River and other waterways into which the Chicago Sanitary and Ship Canal flows, including the Illinois and Mississippi Rivers, the Gulf of Mexico, and in Lake Michigan for activities including boating, fishing, wading, bird watching, nature study, and other professional and recreational activities. These members are concerned that

- increased pollution and declining ecological health of these waters will adversely affect their enjoyment of these activities. (See, Ex. 3)
7. The Sierra Club is a California not-for-profit corporation, which has among its purposes to protect and restore the quality of the natural and human environment. The Sierra Club has over 23,000 members residing in the State of Illinois and has members who are adversely affected by the unnecessary degradation of water quality in the Little Calumet River, the Calumet-Sag Channel, the Lower Des Plaines River and other waterways into which the Chicago Sanitary and Ship Canal flows, including the Illinois and Mississippi Rivers, the Gulf of Mexico, and in Lake Michigan. Members depend on these waterways for recreational activities including swimming, wading, fishing, canoeing, kayaking, hiking, nature study, and bird watching. (See Ex. 3).
  8. Natural Resources Defense Council (“NRDC”), a not-for-profit corporation organized and existing under the laws of the State of New York, is a national environmental organization with more than 400,000 members. More than 16,840 of these members live in the State of Illinois. NRDC has members who are adversely affected by the unnecessary degradation of water quality in Little Calumet River, the Calumet-Sag Channel, the Lower Des Plaines River and other waterways into which the Chicago Sanitary and Ship Canal flows, including the Illinois and Mississippi Rivers, the Gulf of Mexico, and in Lake Michigan. NRDC is dedicated to the preservation, protection, and defense of the environment, its wildlife and natural resources, and actively supports effective enforcement of the CWA on behalf of its members. (See Ex. 3).
  9. Friends of Chicago River (“FOCR”) is not-for-profit corporation whose mission is to improve and protect the Chicago River system for people, plants, and animals. FOCR works to improve the water quality of the river so that it can support native plants, fish and other wildlife, and a variety of recreational uses; performs on-the-ground projects that result in physical improvements and the preservation of quality habitat; and engages in education and outreach programs that inform and inspire people to help revitalize the Chicago River. FOCR has members who are adversely affected by the unnecessary degradation of water quality in the Little Calumet River, the Calumet-Sag Channel, and the Lower Des Plaines River. (See Ex. 3).
  10. Gulf Restoration Network (“GRN”) is a regional non-profit conservation and education organization. GRN’s purpose is to unite and empower people to preserve, protect and restore the natural resources of the Gulf of Mexico Region for its members and the general public. The organization’s mission includes the preservation, management, and improvement of the fish and wildlife of the Gulf of Mexico and the waters that flow into it, including the Mississippi River and its tributaries. GRN’s members live and recreate in Gulf States, as well as Illinois, and states throughout the Mississippi River Basin. These members depend on

- clean water in the Mississippi River and its tributaries for activities including boating, fishing, wading, bird watching, swimming, and nature study, as well as a water supply for many communities. These members are concerned that increased pollution from upstream sources, such as those under this Permit, will adversely affect their use and enjoyment of these activities, and that this pollution also contributes to pollution issues in the Gulf of Mexico. (See Ex. 3).
11. Environmental Law & Policy Center (ELPC) is a non-profit corporation with its principal office in Chicago, Illinois. ELPC is a regional organization with over 300 individual members from Illinois. As a public interest environmental advocacy organization, one of ELPC's goals is to protect the Midwest's environment and natural heritage. ELPC advocates on behalf of its members and the general public to clean up the Chicago Area Waterway System and to improve the quality of the Mississippi River and the Gulf of Mexico. To that end, ELPC works to effectively implement and enforce the CWA in order to improve the quality of life for Midwest communities and ensure access to clean water for the benefit of its members and the public as a whole. The Chicago Area Waterway System provide substantial health, economic, recreational, aesthetic, and environmental benefits to ELPC's members, who enjoy swimming, boating, canoeing, kayaking, fishing, and picnicking, among other activities, in, on, or near the Chicago Area Waterway System and the Mississippi River. Discharges of excess pollutants, including nitrogen and phosphorus, adversely impact the health, economic, recreational, aesthetic, and environmental interests of ELPC's members in these waters. (See Ex. 3).
  12. In the comments submitted by the Petitioner groups, Petitioners raised legal and scientific issues regarding flaws in the draft Permit and in IEPA's consideration of the draft Permit, including, *inter alia*, the following:
    - a. The draft Permit allowed discharges of phosphorus and nitrogen that cause, have the reasonable potential to cause, or contribute to violations of the water quality standards regarding offensive conditions, 35 Ill. Adm. Code 302.203 and 302.402, in violation of 40 CFR 122.44(d), 35 Ill. Adm. Code 304.105, 309.141(d), and 309.143, and are impairing downstream uses. Nutrients are the likely cause of phosphorus and dissolved oxygen impairments in the Little Calumet River, the Calumet-Sag Channel, the CSSC and the Lower Des Plaines River, as well as the algal blooms and other unnatural plant growth observed in the Lower Des Plaines River, and of the hypoxic zone in the Gulf of Mexico. Petitioners asked that nitrogen and phosphorus limits be included in the Permit along with a schedule to ensure compliance with such limits within a reasonable time. *See, e.g.*, Ex. 3 at 6-9.
    - b. The draft Permit's reliance on the Sewer Summit Agreement was inadequate to control sanitary sewer overflows. MWRD's Annual Status Reports indicated that residual excessive infiltration/inflow (I/I) remained high in nearly all of the communities serviced by MWRD despite implementation of

the Sewer Summit Agreement, indicating a failure in the I/I Elimination Program under the Agreement. *See, e.g.*, Ex. 2 at 2-3.

- c. Petitioners requested that IEPA establish effluent limits for nitrogen and requested that studies be required regarding the levels of nitrogen and phosphorus that would be protective of receiving waters. *See, e.g.*, Ex. 3 at 8-9.
13. Pollutant Discharges from MWRD into the Little Calumet River would cause harm to members of all of the Petitioner organizations by interfering with their recreational and professional use and enjoyment of the Little Calumet River and downstream waters.
14. In addition, Article XI of the 1970 Illinois constitution provides, “Each person has the right to a healthful environment. Each person may enforce this right against any party, governmental or private, through appropriate legal proceedings subject to reasonable limitation and regulation as the General Assembly may provide by law.” ILL. CONST. art. XI, § 2. This constitutional right eliminates the need for individual plaintiffs to demonstrate personalized injuries in actions seeking to protect a healthful environment. *See Glisson v. City of Marion*, 188 Ill. 2d 211, 228 (Ill. 1999) (“It was the intent of the committee to broaden the law of standing by eliminating the traditional special injury prerequisite for standing to bring an environmental action.”).

### **Background**

15. The MWRD Calumet Water Reclamation Plant (“Calumet Plant”) discharges into the Little Calumet River. Pollutants flowing from the Little Calumet River flow to the Calumet Sag Channel, and then into the Chicago Sanitary and Ship Canal (CSSC), the Lower Des Plaines River and then to the Illinois River, before flowing into the Mississippi River and finally into the Gulf of Mexico.
16. The Little Calumet River, the Calumet-Sag Channel and the CSSC have been listed as impaired for aquatic life uses due to high levels of phosphorus. The Little Calumet River, the Cal Sag Channel, the CSSC and the Lower Des Plaines River have also been listed as impaired for aquatic life uses due to low levels of dissolved oxygen.
17. Nitrogen and phosphorus levels in waters downstream of the Calumet Plant are well in excess of the recommended criteria recommended by the United States Environmental Protection Agency (US EPA). Nitrogen levels 2 to 3 times the US EPA criteria, and phosphorus levels up to 10 times US EPA criteria, have been found in the Lower Des Plaines River and the Upper Illinois River.
18. The Illinois River is suffering from excess phosphorus pollution, much of it from point sources, particularly MWRD’s sewage treatment plants.

19. Excess nitrogen and phosphorus can lead to adverse ecological effects including the occurrence of harmful algal blooms, low dissolved oxygen (DO), severe diel swings in DO, high pH, and direct toxicity to both humans and aquatic animals. This is because nitrogen and phosphorus pollution stimulate plant and microbial growth (including algae) that robs the water column of oxygen, which can stress or kill aquatic life. The plant and microbial growth itself can be pathogenic and toxin-producing.
20. Low DO can also cause a release of toxic metals from sediments and hence increase the availability of toxic substances like ammonia and hydrogen sulfite, reducing the availability of acceptable habitat for many aquatic organisms. While small diel DO swings are a normal occurrence in waters where plants are photosynthesizing, if the water has too much algae, the diel swings can become too severe to support a healthy aquatic community.
21. Excess algae also creates increased turbidity which in turn can cause loss of useful macrophytes while promoting harmful invasive plants, altering the native composition and species diversity of aquatic communities. Noxious algal blooms can also make waters unfit for recreation.
22. Nitrogen and phosphorus pollution from the Calumet Plant is making its way to the Gulf of Mexico where it is contributing to the creation of the Gulf of Mexico Dead Zone, a massive oxygen deficient zone in which aquatic animals cannot survive. Those organisms that can swim may manage to move out of the Dead Zone, but those that cannot perish.
23. The lack of oxygen in the Dead Zone poses a serious threat to species diversity in the Gulf and to its \$2.8 billion fishing industry. Shrimp, as well as the dominant fish, the Atlantic Croaker, are absent from the Dead Zone. The unavailability of suitable habitat for shrimp and croaker forces them into the warmest waters inshore and also into cooler waters offshore of the hypoxic zone with adverse effects on growth, trophic interactions and reproductive capacity.
24. According to scientists at the United States Geological Survey, the Chicago/Calumet Watershed is contributing the greatest amount of both nitrogen and phosphorus to the Gulf Dead Zone.
25. On December 23, 2013, IEPA issued the final Permit . The final Permit, while containing some changes from the draft Permit did not remedy the flaws discussed above and raised in both the written and oral comments of the Petitioners.



### Grounds for Appeal

#### **COUNT ONE: Failure to include water quality based effluent limits for nitrogen and phosphorus**

26. Petitioners hereby repeat, reallege, adopt, and incorporate by reference paragraphs 1 through 25 herein above as if fully set out in this Cause of Action.
27. The Permit and the Responsiveness Summary show that there was no effort made to determine whether the discharges of nitrogen and phosphorus allowed by the Permit could cause or contribute to violations of the dissolved oxygen (35 Ill. Admin. Code 302.206 and 302.405), Unnatural Sludge (35 Ill. Admin. Code 302.403) or Offensive Conditions (35 Ill. Admin. Code 302.203) water quality standards.
28. This failure violated the Clean Water Act and Illinois law, which expressly require that IEPA make a determination whether a proposed discharge has the potential to cause or contribute to an exceedance of applicable water quality standards at the time of permit issuance. 35 Ill. Adm. Code § 302.105(c)(2)(B)(i) and 40 C.F.R. § 122.44 (d).
29. As stated in Paragraphs 26-29 above, nitrogen and phosphorous pollution causes a variety of problems downstream from the Calumet Plant.
30. The final Permit contains no limits on nitrogen, and a phosphorus limit of 1.0 mg/L.
31. The 1.0 mg/L phosphorus limit is not based upon an analysis of whether there is a reasonable potential for a discharge of phosphorus at this level to cause or contribute to impairment of receiving and downstream waters.
32. The record reflects no basis for the 1.0 mg/L phosphorus limit, and such limit will not prevent MWRD's discharge from causing or contributing to impairment of receiving and downstream waters.
33. IEPA admits in its Responsiveness Summary that waters that receive phosphorus are currently listed as impaired by phosphorus in its most recent proposed 303(d) list.
34. The 1.0 mg/L limit on phosphorus, while an improvement over the previous permit which contains no explicit limit on phosphorus, is not shown by the record to be protective of water quality.
35. The 1.0 mg/L is more than ten times the recommended U.S. EPA criteria for the applicable Ecoregion.

36. There is no possibility of an appropriate mixing zone given the lack of water available for dilution and the fact that the receiving waters are impaired.
37. Petitioners request that the Permit be remanded to IEPA with instructions to conduct a reasonable potential analysis for nitrogen and phosphorus and establish whatever water quality-based effluent limits are necessary to protect the receiving water and downstream waters.

**COUNT TWO: Inappropriate Compliance Schedule**

38. Petitioners hereby repeat, reallege, adopt, and incorporate by reference paragraphs 1 through 37 herein above as if fully set out in this Cause of Action.
39. Special Condition 19 of the Final Permit contains a compliance schedule that gives MWRD more than 6 years to meet the phosphorus effluent limit of 1.0 mg/L.
40. Although IEPA may include compliance schedules in NPDES permits, they must be designed to achieve compliance with effluent limitations and other requirements “at the earliest reasonable date.” 415 ILCS 5/39 (b) (2013). Any NPDES compliance schedule must be consistent with the Clean Water Act and applicable regulations. 35 Ill. Adm. Code 309.108 (2013). In granting a compliance schedule, Clean Water Act regulations require the permitting authority to demonstrate that the schedule is appropriate and requires compliance with permit requirements “as soon as possible.” 40 CFR 122.47 (a)(1).
41. Special Condition 19 contains a list of activities to be performed by specified dates, but the IEPA presented no evidence that a compliance schedule of 6 years is appropriate and requires compliance as soon as possible. IEPA has provided no explanation for why MWRD needs 6 years to comply with a phosphorus Permit limit.
42. Petitioners request that the Permit be remanded to IEPA to either eliminate the compliance schedule or establish a compliance schedule that requires compliance with permit requirements at the earliest reasonable date.

**COUNT THREE: Failure to Prohibit Sanitary Sewer Overflows**

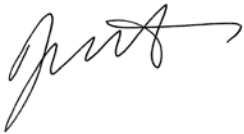
43. Petitioners hereby repeat, reallege, adopt, and incorporate by reference paragraphs 1 through 42 herein above as if fully set out in this Cause of Action.
44. The final Permit fails to prohibit sanitary sewer overflows in contravention of 35 Ill. Admin. Code 306.304.

45. The performance criterion for combined sewers established at 35 Ill. Admin. Code 306.304 states plainly that “overflows from sanitary sewers are expressly prohibited.”
46. Special Condition 18 of the Permit provides, “The Permittee shall work towards the goals of achieving no discharges from sanitary sewer overflows or basement backups and ensuring that overflows or backups, when they do occur do not cause or contribute to violations of applicable standards or cause impairment in any adjacent receiving water.”
47. Special Condition 18 is not a prohibition on sanitary sewer overflows and therefore purports to permit an activity that would be in violation of 35 Ill. Admin. Code 306.304.
48. Petitioners ask that the Permit be remanded to IEPA to revise the permit conditions to clearly prohibit sanitary sewer overflows.

**COUNT FOUR: Failure to Respond to Comments**

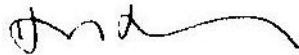
49. Petitioners hereby repeat, reallege, adopt, and incorporate by reference paragraphs 1 through 48 herein above as if fully set out in this Cause of Action.
50. 35 Ill. Admin. Code 166.192 (a) (5) requires that a responsiveness summary include “The Agency's specific response to all significant comments, criticisms, and suggestions” presented orally or in writing during the time the hearing record was open.
51. While correctly noting in the Responsive Summary that commenters objected to the lack of nitrogen limits, the Agency completely failed to respond to this comment in violation of 35 Ill. Admin. Code 166.192 (a) (5).
52. Petitioners further requested that studies be required to be undertaken of the levels of nitrogen and phosphorus that should be allowed from the Calumet Plant and that could be achieved.
53. IEPA did respond to this comment and is not requiring the necessary studies, thereby assuring that when the permit is up for renewal in 5 years IEPA will again act in ignorance of the full effect that nitrogen and phosphorus are having on the Little Calumet River and downstream waters.
54. Petitioners ask that the Permit be remanded to IEPA with instructions to address Petitioners’ objections about the lack of nitrogen effluent limits and Petitioners’ request for further studies and monitoring regarding the effects of nitrogen and phosphorus on downstream waters.

WHEREFORE, Prairie Rivers Network, Natural Resources Defense Council, Sierra Club, Friends of the Chicago River, Gulf Restoration Network and Environmental Law and Policy Center ask that the Pollution Control Board set aside the NPDES permit (No IL0028061) issued to Metropolitan Water Reclamation District of Greater Chicago – Calumet Water Reclamation Plant as not sufficiently protective of the environment and not in accord with law, and direct the Agency reconsider the Permit in order to establish conditions and limits necessary to protect Illinois waters, assure protection of Illinois water quality standards, and comply with the Federal Water Pollution Control Act, 33 U.S.C. § 1251 et seq., and Illinois law.



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Jessica Dexter (Reg. No. 6298340)  
*Counsel for Environmental Law & Policy Center and Friends of the Chicago River*



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Kim Knowles  
*Counsel for Prairie Rivers Network*



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Albert Ettinger  
*Counsel for Sierra Club & Gulf Restoration Network*



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Ann Alexander  
*Counsel for Natural Resources Defense Council*

Date: January 27, 2014

Environmental Law & Policy Center  
35 E. Wacker Dr. Suite 1600  
Chicago, Illinois 60601  
312-795-3747

**EXHIBIT 1:**

NPDES Permit No. IL0028061



## ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829

PAT QUINN, GOVERNOR

LISA BONNETT, DIRECTOR

217/782-0610

December 23, 2013

Metropolitan Water Reclamation District of Greater Chicago  
100 E. Erie Street  
Chicago, IL 60611

Re: Metropolitan Water Reclamation District of Greater Chicago  
MWRDGC - Calumet WRP  
NPDES Permit No. IL0028061  
Final Permit

Gentlemen:

Attached is the final NPDES Permit for your discharge. The Permit as issued covers discharge limitations, monitoring, and reporting requirements. Failure to meet any portion of the Permit could result in civil and/or criminal penalties. The Illinois Environmental Protection Agency is ready and willing to assist you in interpreting any of the conditions of the Permit as they relate specifically to your discharge.

We have received your comments dated **December 8, 2009** on the draft NPDES Permit and offer the following responses:

1. The Public Notice Fact Sheet is not included with the Final Permit. Therefore, comments on the Public Notice Fact Sheet are noted and will be taken into consideration during future permit actions.
2. Fecal coliform and chlorine residual effluent limits for Outfalls 151 and 152 have been removed from the Final Permit as requested. Please note that the permits prohibit discharges of pollutants that cause or contribute to violations of applicable water quality standards or cause or contribute to designated use impairment in the receiving waters.
3. The sample frequency "quarterly when discharging" has been removed from the Final Permit based on comments dated April 1, 2013 from the facility.
4. Composite and grab samples are required to be taken in accordance with the requirements of 40 CFR Part 136 and Attachment H of this Permit.
5. Special Condition 8.A.8 includes language required by USEPA's pretreatment regulations. The information required is consistent with USEPA's Local Limits Development Guidance (July 2004). However, the Final Permit has been revised to allow the District additional time to conduct the technical re-evaluation of its local limitations.
6. Special Condition 8.C.1 has been revised to indicate that sludge samples shall be taken of digester draw sludge as requested.
7. 40 CFR Part 136 identifies at least two analytical methods with detection limits lower than the minimum reporting limit for selenium of 0.005 mg/L. EPA Method 200.9 Revision 2.2 (1994) – Stabilized Temperature Graphite Furnace Atomic Absorption has a method detection limit of 0.0006 mg/L. Test Method SM 3113B – Atomic Absorption Furnace has an estimated detection limit of 0.002 mg/L. Therefore, the Final Permit has not been revised.
8. Special Condition 8.C.2.a monitoring requirements have been revised as requested.
9. Special Condition 8.C.2.b has been revised to include USEPA Method 608 as requested.
10. Special Condition 13 has been revised to reference Page 3 as requested.
11. The words "possible and practical" have been replaced with the word "practicable", which is consistent with the federal CSO Control Policy.
12. Special Condition 13.14 has been revised to include the most recent version of the CSO Public Notification Plan.
13. Special condition 13.17 has been revised to include the requested wording regarding modifications to the permit with respect to the Use Attainability Analysis.
14. Reporting of continuous dissolved oxygen monitoring is necessary to ensure compliance with the minimum acceptable dissolved oxygen concentration. However, the Final Permit has been revised to require quarterly submittals as requested.

4302 N. Main St., Rockford, IL 61103 (815)987-7760  
595 S. State, Elgin, IL 60123 (847)608-3131  
2125 S. First St., Champaign, IL 61820 (217)278-5800  
2009 Mall St., Collinsville, IL 62234 (618)346-5120

9511 Harrison St., Des Plaines, IL 60016 (847)294-4000  
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462  
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200  
100 W. Randolph, Suite 10-300, Chicago, IL 60601 (312)814-6026

in comments dated April 1, 2013 from the facility. Special Condition 15 has also been revised to require the submittal of monthly bridge grab samples collected from the Calumet WRP and associated CSO effluent receiving streams.

15. Special Condition 17 (TARP) has been removed from the Final Permit based on comments from USEPA.

Additional comments dated **December 9, 2009** on the draft NPDES Permit were received by the Agency and we offer the following responses:

1. The Agency acknowledges that pH samples will need to be analyzed in the field at the 95<sup>th</sup> Street and 122<sup>nd</sup> Street Pump Stations in order to satisfy holding time requirements.
2. Reporting of continuous dissolved oxygen monitoring is necessary to ensure compliance with the minimum acceptable dissolved oxygen concentration. However, the Final Permit has been revised to require quarterly submittals as requested in comments dated April 1, 2013 from the facility.

Additional comments dated **April 1, 2013** on the draft NPDES Permit were received by the Agency and we offer the following responses:

1. The Public Notice Fact Sheet is not included with the Final Permit. Therefore, comments on the Public Notice Fact Sheet are noted and will be taken into consideration during future permit actions.
2. Based on comments from USEPA, references to "maximum practical flow" have been removed from the Final Permit.
3. Fecal coliform sampling of Outfall 001 on a daily basis is required by USEPA. Therefore, the Final Permit has not been revised.
4. The Final Permit requires monitoring of Outfall 001 for Total Phosphorus weekly. All additional sampling data must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Reports as required by Attachment H of the Final Permit.
5. Monitoring of Outfall 001 for Total Nitrogen has been moved to the monthly average column and must be reported as a monthly average.
6. Fecal coliform and chlorine residual effluent limits for Outfalls 151 and 152 have been removed from the Final Permit as requested. Please note that the permit prohibits discharges of pollutants that cause or contribute to violations of applicable water quality standards or cause or contribute to designated use impairment in the receiving waters.
7. The sample frequency for Outfalls 151 and 152 has been revised to "Daily when Discharging" as requested. However to determine potential impacts from the discharge, concentrations must be reported as a daily maximum.
8. Effluent limits for pH have been included for the discharges from the 95<sup>th</sup> Street and 122<sup>nd</sup> Street Pump Stations to ensure compliance with water quality standards. Either samples may be analyzed using a portable sampler or sampling may be completed at the laboratory and the results qualified with the appropriate statement.
9. Composite and grab samples are required to be taken in accordance with the requirements of 40 CFR Part 136 and Attachment H of this Permit.
10. Special Condition 8.A.7.b has been revised to require the District to maintain all current pollution prevention activities with the Illinois Waste Management and Research Center (WMRC)/University of Illinois Sustainable Technology Center (ISTC). All pollution prevention reports must be submitted with the annual pretreatment report to the Agency.
11. 40 CFR Part 136 identifies at least two analytical methods with detection limits lower than the minimum reporting limit for selenium of 0.005 mg/L. EPA Method 200.9 Revision 2.2 (1994) – Stabilized Temperature Graphite Furnace Atomic Absorption has a method detection limit of 0.0006 mg/L. Test Method SM 3113B – Atomic Absorption Furnace has an estimated detection limit of 0.002 mg/L. Therefore, the Final Permit has not been revised.
12. Special Condition 8.C.2.a monitoring requirements have been revised as requested.
13. Special Conditions 10.2 and 10.3 have been revised as requested to provide the District additional time to complete biomonitoring testing and reporting.
14. Based on comments from USEPA, Special Condition 11 was revised to remove any references to the word "bypass".
15. Special Condition 13 has been revised to include the wording requested in the first paragraph. However, USEPA requested a more exact location for Discharge 004. Therefore, the location has not been revised in the Final Permit.



16. The Agency acknowledges your comments regarding monitoring of Discharges 006, 007 010 and 160.
17. Special Condition 13.1 has been revised to require the submittal of the flow demonstration no later than May 1<sup>st</sup> of each year.
18. Attachment H was updated in 2010. Twenty-four hour reporting requirements are identified in Item 12 (f).
19. Based on comments from USEPA, the wording following each nine minimum control was removed from the Final Permit.
20. The sensitive area determination applies to the CSOs, not to the main plant discharge. However, Special Condition 13.9 has been revised to require the sensitive area documentation within six months from the completion of the Thornton Composite Reservoir.
21. The words "possible and practical" have been replaced with the word "practicable", which is consistent with the federal CSO Control Policy.
22. Special Condition 13.10 included collection system rehabilitation as requested.
23. The intent of Special Condition 13.13 is to potentially modify the monitoring point of a CSO by minor modification. Revising the number of monitored CSO outfalls would not be a minor modification.
24. The submittal of quarterly monitoring reports required by Special Condition 13.13 has been revised as requested.
25. Based on comments from USEPA, a more exact location has been included for Discharge 004.
26. Special Condition 8.A.7.b has been revised to require the District to maintain all current pollution prevention activities with the Illinois Waste Management and Research Center (WMRC)/University of Illinois Sustainable Technology Center (ISTC). Special Condition 13.16 has been revised accordingly.
27. Dissolved oxygen continuous monitoring results are required to be submitted. However, Special Condition 15 has been revised to delete references to specific monitoring stations. Special Condition 15 has also been revised to require the submittal of monthly bridge grab samples collected from the Calumet WRP and associated CSO effluent receiving streams.
28. Special Condition 18 has been revised to include requirements for a third party notice plan as requested.
29. Comments regarding the phosphorus schedule are noted. Revisions to the phosphorus schedule would require a permit modification subject to the public notice requirements and opportunity for comments.
30. The submittal of reports required by the phosphorus compliance schedule has been further clarified. Reports must be submitted by the completion dates indicated in the compliance schedule.
31. Based on comments from USEPA, references to TARP as the approved Long Term Control Plan have been removed from the Final Permit.

The Agency has begun a program allowing the submittal of electronic Discharge Monitoring Reports (eDMRs) instead of paper Discharge Monitoring Reports (DMRs). If you are interested in eDMRs, more information can be found on the Agency website, <http://epa.state.il.us/water/edmr/index.html>. If your facility is not registered in the eDMR program, a supply of preprinted paper DMR Forms for your facility will be sent to you prior to the initiation of DMR reporting under the reissued permit. Additional information and instructions will accompany the preprinted DMRs upon their arrival.

The attached Permit is effective as of the date indicated on the first page of the Permit. Until the effective date of any re-issued Permit, the limitations and conditions of the previously-issued Permit remain in full effect. You have the right to appeal any condition of the Permit to the Illinois Pollution Control Board within a 35 day period following the issuance date.

Should you have questions concerning the Permit, please contact Amy Dragovich at 217/782-0610.

Sincerely,



Alan Keller, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

SAK:ALD:AAH:06122002.dlk

Attachment: Final Permit

cc: Records  
Compliance Assurance Section  
Des Plaines Region  
Facility  
USEPA  
Chicago Metropolitan Planning Agency (formerly NIPC)  
Lake County, Indiana Emergency Management Agency

NPDES Permit No. IL0028061

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date: December 31, 2018

Issue Date: December 23, 2013

Effective Date: January 1, 2014

Name and Address of Permittee:

Metropolitan Water Reclamation District  
of Greater Chicago  
100 E. Erie Street  
Chicago, IL 60611

Facility Name and Address:

MWRDGC - Calumet Water Reclamation Plant  
400 East 130th Street  
Chicago, IL 60628  
(Cook County)

Receiving Waters: Little Calumet River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of the Ill. Adm. Code, Subtitle C, Chapter I, and the Clean Water Act (CWA), the above-named Permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the Effluent Limitations, Monitoring and Reporting requirements; Special Conditions and Attachment H Standard Conditions attached herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the Permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.



Alan Keller, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

SAK:AAH:06122002.dlk

NPDES Permit No. IL0028061

Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): 001 WRP Outfall

Load limits computed based on a design average flow (DAF) of 354 MGD (design maximum flow (DMF) of 430 MGD).

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

Parameter	LOAD LIMITS lbs/day DAF (DMF)*			CONCENTRATION LIMITS MG/L			Sample Frequency	Sample Type	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum			
Flow (MGD)							Continuous		
CBOD <sub>5</sub> **	29,524 (35,862)	59,047 (71,724)		10	20		Daily	Composite	
Suspended Solids	44,285 (53,793)	73,809 (89,655)		15	25		Daily	Composite	
Dissolved Oxygen	Shall not be less than 4 mg/L						Daily	Grab	
pH	Shall be in the range of 6 to 9 Standard Units						Daily	Grab	
Fecal Coliform*****	The monthly geometric mean shall not exceed 200 per 100 mL and no more than 10% of the samples collected in a month shall exceed 400 per 100 mL (March – November)						Daily	Grab	
Chlorine Residual*****							0.05	Daily	Grab
Ammonia Nitrogen as (N)									
April-October	7,381 (8,966)		14,762 (17,931)	2.5		5.0	Daily	Composite	
November-March	11,809 (14,345)		23,619 (28,690)	4.0		8.0	Daily	Composite	
Cyanide (total)	443 (538)		886 (1076)	0.15		0.30	Daily	Grab	
Hardness***							Report	Daily	Composite
Cadmium***							Report	Daily	Composite
Total Nitrogen****							Report	Weekly	Composite
Total Phosphorus****	2952 (3586)					1.0		Weekly	Composite

\*Load limits based on design average flow shall apply during design average flow regimes. Load limits based on design maximum flow shall apply only when flow exceeds design average flow.

\*\*Carbonaceous BOD<sub>5</sub> (CBOD)<sub>5</sub> testing shall be in accordance with 40 CFR 136.

\*\*\*Hardness and Cadmium concentration shall be reported on the DMR as a daily maximum.

\*\*\*\*Total Nitrogen and Total Phosphorus concentration shall be reported on the DMR as a monthly average. See Special Condition 19.

\*\*\*\*\*See Special Condition 20.

\*\*\*\*\*See Special Condition 7. Chlorine Residual shall be reported on the DMR as a daily maximum.

Flow shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

pH shall be reported on the DMR as a minimum and a maximum.

Dissolved oxygen shall be reported on DMR as minimum.

Fecal Coliform shall be reported on the DMR as a geometric mean and as a percentage of the samples exceeding 400 per 100 mL.

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Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): 151 CSO at 94th Place (95th Street Pump Station)

Discharges from this Outfall are CSOs, subject to the requirements of Special Condition 13 of this Permit.

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

Parameter		CONCENTRATION mg/L		Sample Type
		Daily Maximum	Sample Frequency	
Total Flow (MG)	See Below		Daily When Discharging	Continuous
BOD <sub>5</sub>		Report	Daily When Discharging	Composite
Suspended Solids		Report	Daily When Discharging	Composite
Fecal Coliform		Report	Daily When Discharging	Grab
pH	Shall be in the range of 6 to 9 Standard Units		Daily When Discharging	Grab
Chlorine Residual		Report	Daily When Discharging	Grab
Hardness		Report	Daily When Discharging	Composite
Cadmium		Report	Daily When Discharging	Composite

Discharge Number(s) and Name(s): 152 CSO (122<sup>nd</sup> Street Pump Station)

Discharges from this Outfall are CSOs, subject to the requirements of Special Condition 13 of this Permit.

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

Parameter		CONCENTRATION mg/L		Sample Type
		Daily Maximum	Sample Frequency	
BOD <sub>5</sub>		Report	Daily When Discharging	Composite
Suspended Solids		Report	Daily When Discharging	Composite
Fecal Coliform		Report	Daily When Discharging	Grab
Chlorine Residual		Report	Daily When Discharging	Grab

Total flow in million gallons shall be reported on the Discharge Monitoring Report (DMR) in the quantity maximum column.

Report the number of days of discharge in the comments section of the DMR.

pH shall be reported on the DMR as a minimum and maximum.

BOD<sub>5</sub> and Suspended Solids shall be reported on the DMR as a daily maximum concentration.

Multiple manual grab samples may be collected and analyzed for the composite samples in accordance with Attachment H Standard Conditions.

Fecal Coliform and Chlorine Residual shall be reported on DMR as Daily maximum.

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Influent Monitoring, and Reporting

The influent to the plant shall be monitored as follows:

Parameter	Sample Frequency	Sample Type
Flow (MGD)	Continuous	
BOD <sub>5</sub>	Daily	Composite
Suspended Solids	Daily	Composite

Influent samples shall be taken at a point representative of the influent or influent data shall be adjusted to account for recycle flows.

Flow (MGD) shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

BOD<sub>5</sub> and Suspended Solids shall be reported on the DMR as a monthly average concentration.

NPDES Permit No. IL0028061

Special Conditions

SPECIAL CONDITION 1. This Permit may be modified to include different final effluent limitations or requirements which are consistent with applicable laws, regulations, or judicial orders. The IEPA will public notice the permit modification.

SPECIAL CONDITION 2. The use or operation of this facility shall be by or under the supervision of a Certified Class 1 operator.

SPECIAL CONDITION 3. The IEPA may request in writing submittal of operational information in a specified form and at a required frequency at any time during the effective period of this Permit.

SPECIAL CONDITION 4. The IEPA may request more frequent monitoring by permit modification pursuant to 40 CFR § 122.63 and Without Public Notice in the event of operational, maintenance or other problems resulting in possible effluent deterioration. Nothing in this provision limits IEPA from exercising its authority under any applicable law to require monitoring or to modify permits in situations not involving operational, maintenance or other problems resulting in possible effluent deterioration, including but not limited to IEPA's authority as referenced in Attachment H to this permit.

SPECIAL CONDITION 5. The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.

SPECIAL CONDITION 6. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

SPECIAL CONDITION 7. For discharge No. 001, any use of chlorine to control slime growths, odors or as an operational control, etc. shall not exceed the limit of 0.05 mg/L (daily maximum) total residual chlorine in the effluent. Sampling is required on a daily grab basis during the chlorination process. Reporting shall be submitted on the DMRs on a monthly basis.

SPECIAL CONDITION 8.A. Publicly Owned Treatment Works (POTW) Pretreatment Program General Provisions

1. The Permittee shall implement and enforce its approved Pretreatment Program which was approved on November 18, 1985, and all approved subsequent modifications thereto. The Permittee shall maintain legal authority adequate to fully implement the Pretreatment Program in compliance with Federal (40 CFR 403), State, and local laws and regulations. The Permittee shall:
  - a. Carry out independent inspection and monitoring procedures at least once per year, which will determine whether each significant industrial user (SIU) is in compliance with applicable pretreatment standards.
  - b. Evaluate whether each SIU needs a slug control plan or other action to control slug discharges. If needed, the SIU slug control plan shall include the items specified in 40 CFR 403.8(f)(2)(vi). For IUs identified as significant prior to November 14, 2005, this evaluation must have been conducted at least once by October 14, 2006; additional SIUs must be evaluated within 1 year of being designated an SIU;
  - c. Update its inventory of Industrial Users (IUs) at least annually and as needed to ensure that all SIUs are properly identified, characterized, and categorized;
  - d. Receive and review self monitoring and other IU reports to determine compliance with all pretreatment standards and requirements, and obtain appropriate remedies for noncompliance by any IU with any pretreatment standard and/or requirement;
  - e. Investigate instances of noncompliance, collect and analyze samples, and compile other information with sufficient care as to produce evidence admissible in enforcement proceedings, including judicial action;
  - f. Require development, as necessary, of compliance schedules by each industrial user to meet applicable pretreatment standards; and,
  - g. Maintain an adequate revenue structure for continued operation of the Pretreatment Program.
2. The Permittee shall issue/reissue permits or equivalent control mechanisms to all SIUs prior to expiration of existing permits or prior to commencement of discharge in the case of new discharges. The permits at a minimum shall include the elements listed in 40 CFR § 403.8(f)(1)(iii).
3. The Permittee shall develop, maintain, and enforce, as necessary, local limits to implement the prohibitions in 40 CFR § 403.5 which prohibit the introduction of specific pollutants to the waste treatment system from any source of nondomestic discharge.

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Special Conditions

4. In addition to the general limitations expressed in Paragraph 3 above, applicable pretreatment standards must be met by all industrial users of the POTW. These limitations include specific standards for certain industrial categories as determined by Section 307(b) and (c) of the Clean Water Act, State limits, or local limits, whichever are more stringent.
5. The USEPA and IEPA individually retain the right to take legal action against any industrial user and/or the POTW for those cases where an industrial user has failed to meet an applicable pretreatment standard by the deadline date regardless of whether or not such failure has resulted in a permit violation.
6. The Permittee shall establish agreements with all existing contributing jurisdictions, as necessary, to enable it to fulfill its requirements with respect to all IUs discharging to its system within one (1) month of the effective date of this Permit. The Permittee shall establish agreements with all new contributing jurisdictions proposing to connect to MWRDGC prior to any discharge.
7. Unless already completed, the Permittee shall within six (6) months of the effective date of this Permit submit to USEPA and IEPA a proposal to modify and update its approved Pretreatment Program to incorporate Federal revisions to the general pretreatment regulations. The proposal shall include all changes to the approved program and the sewer use ordinance which are necessary to incorporate the revisions of the Pretreatment Streamlining Rule (which became effective on November 14, 2005), which are considered required changes, as described in the Pretreatment Streamlining Rule Fact Sheet 2.0: Required changes, available at: [http://cfpub.epa.gov/npdes/whatsnew.cfm?program\\_id=3](http://cfpub.epa.gov/npdes/whatsnew.cfm?program_id=3). This includes any necessary revisions to the Permittee's Enforcement Response Plan (ERP).
  - a. The Permittee will review and modify, as appropriate, its existing industrial pretreatment program to minimize combined sewer overflow impacts related to discharges to the collection system from nondomestic users. This review shall include: (1) an inventory of nondomestic discharges to the combined sewers system, focusing on those dischargers with the greatest potential to impact CSOs (2) Assessment of the impact of these discharges on CSOs, and (3) Evaluation of feasible modifications to the pretreatment program to minimize CSO impacts, including the prohibition of batch discharges during wet weather events.
  - b. The Permittee shall maintain all current pollution prevention (P2) activities with the Illinois Waste Management and Research Center (WMRC)/ University of Illinois Sustainable Technology Center (ISTC). Reports on pollution prevention activities shall be included in the annual pretreatment report submitted to the Agency.
8. Within 1 year from the effective date of this permit, the Permittee shall conduct a technical re-evaluation of its local limitations consistent with U.S. EPA's Local Limits Development Guidance (July 2004), and submit the evaluation and any proposed revisions to its local limits to IEPA and U.S. EPA Region 5 for review and approval. To demonstrate technical justification for new local industrial user limits or justification for retaining existing limits, the following information must be submitted to U.S. EPA:
  - a. Total plant flow
  - b. Domestic/commercial pollutant contributions for pollutants of concern
  - c. Industrial pollutant contributions and flows
  - d. Current POTW pollutant loadings, including loadings of conventional pollutants
  - e. Actual treatment plant removal efficiencies, as a decimal (primary, secondary, across the wastewater treatment plant)
  - f. Safety factor to be applied
  - g. Identification of applicable criteria:
    - i. NPDES permit conditions
      - Specific NPDES effluent limitations
      - Water-quality criteria
      - Whole effluent toxicity requirements
      - Criteria and other conditions for sludge disposal
    - ii. Biological process inhibition
      - Nitrification
      - Sludge digester
    - iii. Collection system problems



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- h. The Permittee's sludge disposal methods (land application, surface disposal, incineration, landfill)
  - i. Sludge flow to digester
  - j. Sludge flow to disposal
  - k. % solids in sludge to disposal, not as a decimal
  - l. % solids in sludge to digester, not as a decimal
  - m. Plant removal efficiencies for conventional pollutants
  - n. If revised industrial user discharge limits are proposed, the method of allocating available pollutants loads to industrial users
  - o. A comparison of maximum allowable headworks loadings based on all applicable criteria listed in g, above
  - p. Pollutants that have caused:
    - i. Violations or operational problems at the POTW, including conventional pollutants
    - ii. Fires and explosions
    - iii. Corrosion
    - iv. Flow obstructions
    - v. Increased temperature in the sewer system
    - vi. Toxic gases, vapors or fumes that caused acute worker health and safety problems
    - vii. Toxicity found through Whole Effluent Toxicity testing
    - viii. Inhibition
  - q. Pollutants designated as "monitoring only" in the NPDES permit
  - r. Supporting data, assumptions, and methodologies used in establishing the information a through q above
9. The Permittee's Pretreatment Program has been modified to incorporate a Pretreatment Program Amendment approved on February 6, 1995, July 24, 1997, and September 27, 2005. The amendment became effective on the date of approval and is a fully enforceable provision of your Pretreatment Program.

Modifications of your Pretreatment Program shall be submitted in accordance with 40 CFR § 403.18, which established conditions for substantial and nonsubstantial modifications.

B. Reporting and Records Requirements

- 1. The Permittee shall provide an annual report briefly describing the permittee's pretreatment program activities over the previous calendar year. Permittees who operate multiple plants may provide a single report providing all plant-specific reporting requirements are met. Such report shall be submitted no later than June 30th of each year, and shall be in the format set forth in IEPA's POTW Pretreatment Report Package which contains information regarding:
  - a. An updated listing of the Permittee's significant industrial users, indicating additions and deletions from the previous year, along with brief explanations for deletions. The list shall specify which categorical Pretreatment standards, if any, are applicable to each Industrial User.
  - b. A descriptive summary of the compliance activities including numbers of any major enforcement actions, (i.e., administrative orders, penalties, civil actions, etc.), and the outcome of those actions. This includes an assessment of the compliance status of the Permittee's industrial users and the effectiveness of the Permittee's Pretreatment Program in meeting its needs and objectives.
  - c. A description of all substantive changes made to the Permittee's Pretreatment Program. Changes which are "substantial modifications" as described in 40 CFR § 403.18(c) must receive prior approval from the Approval Authority.
  - d. Results of sampling and analysis of POTW influent, effluent, and sludge. The IEPA may modify this Permit during its term to incorporate additional requirements or limitations based on the results of the monitoring. In addition, after review of the monitoring results, the IEPA may modify this Permit to include numerical limitations for specific toxic pollutants. Modifications under this condition shall follow public notice and opportunity for hearing.
  - e. A summary of the findings from the priority pollutants sampling. As sufficient data becomes available the IEPA may modify this Permit to incorporate additional requirements relating to the evaluation, establishment, and enforcement of local limits for organic pollutants. Any permit modification is subject to formal due process procedures pursuant to State and Federal law and regulation. Upon a determination that an organic pollutant is present that causes interference or pass through, the Permittee shall establish local limits as required by 40 CFR § 403.5(c).

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Special Conditions

2. The Permittee shall maintain all pretreatment data and records for a minimum of three (3) years. This period shall be extended during the course of unresolved litigation or when requested by the IEPA or the Regional Administrator of USEPA. Records shall be available to USEPA and the IEPA upon request.
3. The Permittee shall establish public participation requirements of 40 CFR 25 in implementation of its Pretreatment Program. The Permittee shall at least annually, publish the names of all IU's which were in significant noncompliance (SNC), as defined by 40 CFR § 403.8(f)(2)(viii), in a newspaper of general circulation that provides meaningful public notice within the jurisdictions served by the Permittee or based on any more restrictive definition of SNC that the POTW may be using.
4. The Permittee shall provide written notification to the Deputy Counsel for the Division of Water Pollution Control, IEPA, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 within five (5) days of receiving notice that any Industrial User of its sewage treatment plant is appealing to the Circuit Court any condition imposed by the Permittee in any permit issued to the Industrial User by Permittee. A copy of the Industrial User's appeal and all other pleadings filed by all parties shall be mailed to the Deputy Counsel within five (5) days of the pleadings being filed in Circuit Court.

C. Monitoring Requirements

1. The Permittee shall monitor its influent, effluent and sludge and report concentrations of the following parameters on monitoring report forms provided by the IEPA and include them in its annual report. Influent and effluent samples shall be taken at weekly intervals at the indicated reporting limit or better and consist of a 24-hour composite unless otherwise specified below. Sludge samples shall be taken monthly of digester draw sludge and consist of a grab sample reported on a dry weight basis.

<u>STORET CODE</u>	<u>PARAMETER</u>	<u>Minimum reporting limit</u>
01097	Antimony	0.07 mg/L
01002	Arsenic	0.05 mg/L
01007	Barium	0.5 mg/L
01012	Beryllium	0.005 mg/L
01027	Cadmium	0.001 mg/L
01032	Chromium (hex - grab not to exceed 24 hours)*	0.01 mg/L
01034	Chromium (total)	0.05 mg/L
01042	Copper	0.005 mg/L
00718	Cyanide (grab)* (available **** or amenable to chlorination)	5.0 ug/L
00720	Cyanide (grab) (total)	5.0 ug/L
00951	Fluoride*	0.1 mg/L
01045	Iron (total)	0.5 mg/L
01046	Iron (Dissolved)*	0.5 mg/L
01051	Lead	0.05 mg/L
01055	Manganese	0.5 mg/L
71900	Mercury (effluent grab)***	1.0 ng/L**
01067	Nickel	0.005 mg/L
00556	Oil (hexane soluble or equivalent) (Grab Sample only)*	5.0 mg/L
32730	Phenols (grab)	0.005 mg/L
01147	Selenium	0.005 mg/L
01077	Silver (total)	0.003 mg/L
01059	Thallium	0.3 mg/L
01092	Zinc	0.025 mg/L

\* Influent and effluent only

\*\*1 ng/L = 1 part per trillion.

\*\*\*Utilize USEPA Method 1631E and the digestion procedure described in Section 11.1.1.2 of 1631E, other approved methods may be used for influent (composite) and sludge.

\*\*\*\* USEPA Method OIA – 1677.

Unless otherwise indicated, concentrations refer to the total amount of the constituent present in all phases, whether solid, suspended or dissolved, elemental or combined including all oxidation states. Where constituents are commonly measured as other than total, the phase is so indicated.

2. The Permittee shall conduct an analysis for the one hundred and ten (110) organic priority pollutants identified in 40 CFR 122 Appendix D, Table II as amended. This monitoring shall be done annually and reported on monitoring report forms provided by the IEPA and shall consist of the following:

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Special Conditions

- a. The influent and effluent shall be sampled and analyzed for the one hundred and ten (110) organic priority pollutants. The sampling shall be done during a day when industrial discharges are expected to be occurring at normal to maximum levels.  
  
Samples for the analysis of acid and base/neutral extractable compounds, pesticides and PCBs shall be 24-hour composites.  
  
Six (6) grab samples shall be collected during a 24-hour period to be analyzed for volatile organic compounds. A single analysis for volatile pollutants (Method 624) may be run for each monitoring day by compositing equal volumes of each grab sample directly in the GC purge and trap apparatus in the laboratory.  
  
Wastewater samples must be handled, prepared, and analyzed by gas chromatograph/electron capture detector in accordance with USEPA Method 608 and by gas chromatograph/mass spectrometer in accordance with USEPA Methods 624 and 625 of 40 CFR 136 as amended.
  - b. The sludge shall be sampled and analyzed for the one hundred and ten (110) organic priority pollutants. A sludge sample shall be collected concurrent with a wastewater sample and taken as final sludge.  
  
Sampling and analysis shall conform to USEPA Methods 608, 624 and 625 unless an alternate method has been approved by IEPA.
  - c. Sample collection, preservation and storage shall conform to approved USEPA procedures and requirements.
3. In addition, the Permittee shall monitor any new toxic substances as defined by the Clean Water Act, as amended, following notification by the IEPA.
  4. Permittee shall report any noncompliance with effluent or water quality standards in accordance with Standard Condition 12(f) of this Permit.
  5. Analytical detection limits shall be in accordance with 40 CFR 136. Minimum detection limits for sludge analyses shall be in accordance with 40 CFR 503.
- D. The Permittee shall report names of all significant contributing industries annually to both IEPA and USEPA. The report shall include the flow and the Standard Industrial Classification for each major contributing industry and be submitted with the annual report required in Special Condition 8. The Permittee shall furnish industrial waste data for any specific industrial group that IEPA or USEPA requests, where such requests are reasonable in scope. Otherwise, at the request of IEPA or USEPA the Permittee shall provide access to files and guidance to IEPA or USEPA personnel for reviewing data related to industrial users.
  - E. To the extent different requirements are imposed by the Permittee's approved pretreatment program and this Permit, the stricter requirements shall be applicable.

SPECIAL CONDITION 9. By August 31 of each year, MWRDGC shall submit the District's Annual Financial Report which will include a balance sheet and statement of revenue and expenditures for all funds. The submittal shall be made to the Illinois Environmental Protection Agency, Division of Water Pollution Control, Compliance Assurance Section.

SPECIAL CONDITION 10. The Permittee shall conduct biomonitoring of the effluent from Discharge Number(s) 001.

Biomonitoring

1. Acute Toxicity - Standard definitive acute toxicity tests shall be run on at least two trophic levels of aquatic species (fish, invertebrate) representative of the aquatic community of the receiving stream. Testing must be consistent with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (Fifth Ed.) EPA/821-R-02-012. Unless substitute tests are pre-approved; the following tests are required:
  - a. Fish - 96 hour static LC<sub>50</sub> Bioassay using fathead minnows (*Pimephales promelas*).
  - b. Invertebrate 48-hour static LC<sub>50</sub> Bioassay using *Ceriodaphnia*.
2. Testing Frequency - The above tests shall be conducted using 24-hour composite samples unless otherwise authorized by the IEPA. Samples must be collected in the 17th, 14th, 11th, and 8th month prior to the expiration date of this Permit.
3. Reporting - Results shall be reported according to EPA/821-R-02-012, Section 12, Report Preparation, and shall be submitted to IEPA, Bureau of Water, Compliance Assurance Section within one week of receipt from the laboratory. Reports are due to the IEPA no later than the 15th, 12th, 9th, and 6th month prior to the expiration date of this Permit.

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Special Conditions

4. Toxicity Reduction Evaluation - Should the results of the biomonitoring program identify toxicity, the IEPA may require that the Permittee prepare a plan for toxicity reduction evaluation and identification. This plan shall be developed in accordance with Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833B-99/002, and shall include an evaluation to determine which chemicals have a potential for being discharged in the plant wastewater, a monitoring program to determine their presence or absence and to identify other compounds which are not being removed by treatment, and other measures as appropriate. The Permittee shall submit to the IEPA its plan for toxicity reduction evaluation within ninety (90) days following notification by the IEPA. The Permittee shall implement the plan within ninety (90) days or other such date as contained in a notification letter received from the IEPA.

The IEPA may modify this Permit during its term to incorporate additional requirements or limitations based on the results of the biomonitoring. In addition, after review of the monitoring results, the IEPA may modify this Permit to include numerical limitations for specific toxic pollutants. Modifications under this condition shall follow public notice and opportunity for hearing.

SPECIAL CONDITION 11. The following is a list of emergency high level outfalls associated with the MWRDGC Calumet WRP and collection system. Discharges from any of these outfalls are prohibited. These prohibited discharges, if they occur, are subject to conditions 1-5 listed below.

<u>Discharge Number</u>	<u>Location</u>	<u>Receiving Stream</u>
002	WRP Surge Chamber	Little Calumet River
003	WRP Primary Effluent	Little Calumet River

(1) Definitions

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a discharge. Severe property damage does not mean economic loss caused by delays in production.

(2) Notice

- (i) Anticipated discharge. If the Permittee knows in advance of the need for a prohibited discharge from Discharge Numbers 002 or 003, it shall submit prior notice, if possible at least ten days before the date of the discharge.
- (ii) Unanticipated discharge. The Permittee shall submit notice of an unanticipated discharge as required in Standard Condition 12(f) of this Permit (24-hour notice).

(3) Limitation on IEPA enforcement discretion. The IEPA may take enforcement action against a Permittee for prohibited discharges from Discharge Numbers 002 and 003 unless:

- (i) Discharge was unavoidable to prevent loss of life, personal injury, or severe property damage;
- (ii) There was no feasible alternative to the discharge, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a discharge which occurred during normal periods of equipment downtime or preventive maintenance; and
- (iii) The Permittee submitted notices as required under Standard Condition 12(f) of this Permit.

(4) Emergency discharges shall be monitored daily by grab sample for BOD<sub>5</sub> and Suspended Solids. The Permittee shall submit the monitoring results on Discharge Monitoring Report forms using one such form for each month in which discharging occurs.

(5) The above limitations on enforcement discretion apply only with respect to IEPA. They do not serve as a limitation on the ability of any other governmental agency or person to bring an enforcement action in accordance with the federal Clean Water Act.

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**SPECIAL CONDITION 12.** For the duration of this Permit, the Permittee shall determine the quantity of sludge produced by the treatment facility in dry tons or gallons with average percent total solids analysis. The Permittee shall maintain adequate records of the quantities of sludge produced and have said records available for IEPA inspection. The Permittee shall submit to the IEPA, at a minimum, a semi-annual summary report of the quantities of sludge generated and disposed of, in units of dry tons or gallons (average total percent solids) by different disposal methods including but not limited to application on farmland, application on reclamation land, landfilling, public distribution, dedicated land disposal, sod farms, storage lagoons or any other specified disposal method. Said reports shall be submitted to the IEPA by January 31 and July 31 of each year reporting the preceding January thru June and July thru December interval of sludge disposal operations.

Duty to Mitigate. The Permittee shall take all reasonable steps to minimize any sludge use or disposal in violation of this Permit.

Sludge monitoring must be conducted according to test procedures approved under 40 CFR 136 unless otherwise specified in 40 CFR 503, unless other test procedures have been specified in this Permit.

Planned Changes. The Permittee shall give notice to the IEPA on the semi-annual report of any changes in sludge use and disposal.

The Permittee shall retain records of all sludge monitoring, and reports required by the Sludge Permit as referenced in Standard Condition 23 for a period of at least five (5) years from the date of this Permit.

If the Permittee monitors any pollutant more frequently than required by the Sludge Permit, the results of this monitoring shall be included in the reporting of data submitted to the IEPA.

Monitoring reports for sludge shall be reported on the form titled "Sludge Management Reports" to the following address:

Illinois Environmental Protection Agency  
 Bureau of Water  
 Compliance Assurance Section  
 Mail Code #19  
 1021 North Grand Avenue East  
 Post Office Box 19276  
 Springfield, Illinois 62794-9276

SPECIAL CONDITION 13.

AUTHORIZATION OF  
 COMBINED SEWER AND TREATMENT PLANT DISCHARGES

The IEPA has determined that at least a portion of the collection system consists of combined sewers. References to the collection system and the sewer system refer only to those parts of the system which are owned and operated by the Permittee unless otherwise indicated. The Permittee is authorized to discharge from the combined sewer overflows listed below provided the following terms and conditions are met:

<u>Discharge Number</u>	<u>Location</u>	<u>Receiving Water</u>
004	Edbrook Gate (near 125 <sup>th</sup> St. P.S.)	Little Calumet River
006	Calumet 18H Inverted Siphon	Calumet Sag Channel
007	Calumet 20B Interceptor	Calumet Sag Channel
010	Glenwood Pump Station	Deer Creek
151* (See Page 3)	94th Place	Calumet River
152* (See Page 3)	122nd Street Pump Station	Calumet River
153	Edbrook Avenue (125 <sup>th</sup> St. P.S.) (N)	Little Calumet River
154	Throop Street	Calumet Sag Channel
156	Francisco Avenue	Calumet Sag Channel
157	Central Park	Calumet Sag Channel
158	Pulaski Road P.S. (Crawford Ave.) (N)	Calumet Sag Channel
160	Ridgeland Avenue	Calumet Sag Channel
163	Sacramento	Calumet Sag Channel

\*Page 3 of this permit has specific monitoring and reporting requirements for CSO Outfall 151 and CSO Outfall 152.

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Special ConditionsCollection and Treatment Requirements

1. All combined sewer overflows shall be given sufficient treatment to prevent pollution and the violation of applicable water quality standards. At a minimum, sufficient treatment shall consist of the following:

All dry weather flows and the first flush of storm flows shall be transported to the main STP and shall meet all applicable effluent standards and the effluent limitations required for the main STP outfall. Additional flows, but not less than ten times the average dry weather flow for the design year, shall receive the equivalent of primary treatment and disinfection with adequate retention time. Compliance with this requirement may be demonstrated by showing that a system that provides full secondary treatment to a volume less than 10 times the average dry weather flow (DWF) removes a pollutant loading that is equal to or greater than the pollutant loading that would be removed by providing primary treatment to 10 times the average DWF. This demonstration shall be completed annually and the results submitted no later than May 1<sup>st</sup> of each year.
2. All CSO discharges authorized by this Permit shall be treated, in whole or in part, to the extent necessary to prevent accumulations of sludge deposits, floating debris and solids in accordance with 35 Ill. Adm. Code 302.203 and 302.403 to prevent depression of oxygen levels below the applicable water quality standard.
3. Within six (6) months of the effective date of this permit the Permittee shall develop, submit and implement a detailed minimization/prevention plan for the prevention and capture of floatables. The plan shall incorporate additional actions to the current actions for floatables already undertaken by the Permittee.
4. Overflows during dry weather are prohibited. Dry weather overflows, if discovered, shall be reported to the IEPA pursuant to Standard Condition 12(f) of this Permit (24 hour notice).
5. The collection system shall be operated and maintained to optimize transport of wastewater flows and minimize CSOs.
6. The treatment system shall be operated and maintained to maximize treatment of wastewater flows and minimize CSOs.

Nine Minimum Controls

7. The Permittee shall comply with the nine minimum controls contained in the National CSO Control Policy published in the Federal Register on April 19, 1994. The nine minimum controls are:
  - a. Proper operation and maintenance program for the sewer system and the CSOs;
  - b. Maximum use of the collection system for storage;
  - c. Review and modification of pretreatment requirements to assure CSO impacts are minimized;
  - d. Maximization of flow to the POTW for treatment;
  - e. Prohibition of CSOs during dry weather;
  - f. Control of solids and floatable materials in CSOs;
  - g. Pollution prevention programs which focus on source control activities;
  - h. Public notification to ensure that citizens receive adequate information regarding CSO occurrences and CSO impacts; and
  - i. Monitoring to characterize impacts and efficiency of CSO controls.

Pollution Prevention Activities

8. The Permittee's Pollution Prevention activities are identified in Special Condition 8 Part A. 7.b.

Sensitive Area Considerations

9. Pursuant to Section II.C.3 of the federal CSO Control Policy of 1994, sensitive areas are any water likely to be impacted by a CSO discharge which meet one or more of the following criteria: (1) designated as an Outstanding National Resource Water; (2) found to contain shellfish beds; (3) found to contain threatened or endangered aquatic species or their habitat; (4) used for primary contact recreation; or, (5) within the protection area for a drinking water intake structure. The most recent Sensitive Area Consideration Report was dated February 2003.

Within six (6) months from the completion of the Thornton Composite Reservoir, the Permittee shall submit two (2) copies of

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documentation indicating which of the outfalls listed in this Special Condition do not discharge to sensitive areas. Such documentation shall include information regarding the use of the receiving water for primary contact activities (swimming, water skiing, etc.). If the Permittee believes that it is not possible for primary contact recreation to occur in the areas impacted or potentially impacted by the CSOs listed in this Special Condition, then justification as to why primary contact recreation is not possible shall be submitted. Adequate justification may include, but is not limited to: (1) inadequate water depth; (2) presence of physical obstacles sufficient to prevent access to or for primary contact recreation; and, (3) uses of adjacent land sufficient to discourage primary contact activities. The IEPA will make a determination based on this documentation and other information available to the IEPA.

Should the IEPA conclude that any of the CSOs listed in this Special Condition discharge to a sensitive area, the IEPA will notify the Permittee in writing. Within three (3) months of the date of notification, or such other date contained in the notification letter, the Permittee shall submit two (2) copies of either a schedule to relocate, control, or treat discharges from these outfalls. If none of these options are possible, the Permittee shall submit adequate justification as to why these options are not possible. Such justification shall be in accordance with Section II.C.3 of the National CSO Control Policy.

Operational and Maintenance Plans

10. The IEPA received a CSO operational and maintenance plan "CSO O&M plan" for this sewerage system dated January 16, 2007. The Permittee shall review and revise, if needed, the CSO O&M plan to reflect system changes and any comments previously sent to the Permittee by the IEPA. The CSO O&M plan shall be presented to the general public at a public information meeting conducted by the Permittee within nine (9) months of the effective date of this Permit. The Permittee shall submit documentation that the public information meeting was held within twelve (12) months of the effective date of this Permit. Such documentation shall be submitted to the IEPA within twelve (12) months of the effective date of this Permit and shall include a summary of all significant issues raised by the public, the Permittee's response to each issue, and two (2) copies of the "CSO Operational Plan Checklist and Certification", one (1) with original signatures, and two (2) copies of the final CSO O&M plan. Copies of the "CSO Operational Plan Checklist and Certification" are available online at <http://www.epa.state.il.us/water/permits/waste-water/forms/cso-checklist.pdf>. Following the public meeting, the Permittee shall implement the CSO O&M plan within one (1) year and shall maintain a current CSO O&M plan, updated to reflect system modifications, on file at the sewage treatment works or other acceptable location and made available to the public. The Permittee shall review its O&M from time to time, but at least annually, and revise the plan if necessary employing a process that actively involves the affected communities. The CSO O&M plan revisions shall be submitted to the IEPA one (1) month from the revision date.

The objectives of the CSO O&M plan are to reduce the total loading of pollutants and floatables entering the receiving stream and to mitigate impacts from such loadings to the greatest extent practicable. These plans, tailored to the local government's collection and waste treatment system, shall include mechanisms and specific procedures where applicable to ensure:

- a. Collection system inspection on a scheduled basis;
- b. Sewer, catch basin and regulator cleaning and maintenance on a scheduled basis;
- c. Inspections are made and preventive maintenance is performed on all pump/lift stations;
- d. Collection system rehabilitation and replacement, where necessary;
- e. Detection and elimination of illegal connections;
- f. Detection, prevention, and elimination of dry weather overflows;
- g. The collection system is operated to maximize storage capacity and the combined sewer portions of the collection system are operated to delay storm entry into the system: and,
- h. The treatment and collection systems are operated to maximize treatment.

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Special ConditionsSewer Use Ordinances

11. a. The Permittee shall implement and enforce all conditions and requirements of the Sewer Summit Agreement between the Permittee and tributary communities that are the responsibility and/or under the jurisdiction of the District in the Agreement. The steps used to implement the Sewer Summit Agreement shall be included in the OMP contained in Paragraph 10 of this Special Condition.
- b. The Permittee shall report to the IEPA's Compliance Assurance Section on an annual basis the progress obtained in its efforts to meet the goals of the Sewer Summit Agreement between the Permittee and tributary communities of 1) Prevention of water pollution; and 2) Elimination of basement sewage backups and adverse surcharging conditions that cause health hazards and financial losses. Also included in this report shall be the results of the District's efforts to reduce and effectively control sources of infiltration and inflow. The report shall be submitted by November 15th of each year and shall include the most recent October 1 through September 30 time period.
- c. In the event that local sewer system owners have excessive I/I (any wet weather flows exceeding 150 gpcpd 24-hour average with peak flow not to exceed 100 gpcpd times an allowable peaking factor in accordance with the Illinois Recommended Standards for Sewage Treatment Works) in their separate sewer systems that cause or contribute to basement back-ups and/or sanitary sewer overflows, the Permittee shall require that the local sewer system owner implement measures in addition to those required under the Sewer Summit Agreement in an effort to reduce the excessive I/I. Such additional remedies may include sewer system evaluation studies, sewer rehabilitation or replacement, inflow source removal, and restrictions on the issuance of additional sewer connection permits. A summary of such additional measures shall be included with the Sewer Summit Agreement Report.

Compliance with Water Quality Standards

12. Pursuant to Section 301 of the federal Clean Water Act and 40 CFR § 122.4, discharges from the outfalls listed in this Special Condition shall not cause or contribute to violations of applicable water quality standards or cause or contribute to designated use impairment in the receiving waters. The Permittee, no later than December 1 of each year, shall submit documentation of water quality data for the waterway systems within its jurisdiction. The Permittee shall also work with the IEPA and Municipalities with CSO outfall structures connected to TARP, or planned to be connected to TARP, to develop and implement a plan to assess, and if necessary, abate, impacts from CSO discharges. The Permittee shall provide semi-annual progress reports to the Agency by January 1<sup>st</sup> and July 1<sup>st</sup> of each year until the Thornton Composite Reservoir improvements to the reservoir portions of TARP are completed.

Within six (6) months of the completion of TARP, the Permittee shall develop and submit to IEPA at least two (2) copies of a plan to determine whether or not the CSOs in the TARP service area have the potential to cause or contribute to either violations of applicable water quality standards or use impairment in the waterways that receive MWRDGC and tributary communities' CSOs. Such a plan should be developed with input from other CSO communities within the service area and may include input from the general public. Once submitted, the Permittee shall submit a written response to any IEPA comments within sixty (60) days of receiving such comments. This plan shall be implemented within six (6) months of IEPA approval, or such other date as contained in the IEPA approval letter.

Reporting, Monitoring, and Notification Requirements

13. Beginning with the effective date of this Permit, the Permittee shall monitor the frequency of discharge (number of discharges per month) and estimate the duration (in hours) of each discharge of the following CSO outfalls: 006, 007, 010, 151, 152, 153 (125<sup>th</sup> St. P.S.) (N), 158 P.S. (Crawford Ave.) (N) and 160. The Permittee shall also implement the CSO Representative Monitoring Plan dated February 1, 2013. The Permittee shall include this plan as an addendum to the CSO operational and maintenance plan. In accordance with the CSO Representative Monitoring Plan, the Permittee shall monitor the frequency of discharge (number of discharges per month) and estimate the duration (in hours) of the discharge from the following CSO outfalls listed below. If the District requests that the permit be modified to allow it to monitor a different CSO outfall or outfalls in lieu of monitoring any of the specific CSO outfalls listed below and IEPA agrees with that request, then such request can be included in this permit as a minor modification to this permit, provided that the total number of CSO outfalls that must be monitored in accordance with this permit is not decreased.



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The Permittee shall include with its February, May, August and November DMR reports to IEPA a detailed report, on an outfall by outfall basis, of all CSO discharges that occurred from the monitored CSO locations in the previous quarter (October – December, January – March, April – June, July – September) and the estimated durations of all such discharges. For frequency reporting, all discharges from the same storm, or occurring within 24 hours, shall be reported as one. The date that a discharge commences and the duration and volume of the discharge shall be recorded for each outfall. The reports shall also include estimates of storm duration and the total rainfall for each storm event. In addition to the above required information, these reports shall include estimates of the pounds of BOD discharged, and the pounds of suspended solids discharged through CSO's located on, or scheduled to be connected to the legs of TARP tributary to the Calumet Water Reclamation Plant. Models or other appropriate mechanisms may be used to make these estimates. The report shall also include estimates of the pounds of BOD, pounds of suspended solids, and volume of combined sewage treatment at the Calumet Water Reclamation Plant.

Summary of Monitored	CSO Outfalls
Cal-Sag Channel	9
Little Calumet River	35
Calumet River	3
Grand Calumet River	3
Calumet Union Drainage Ditch	1
<b>Total Representative CSO Outfalls</b>	<b>51</b>

Receiving Water: Cal-Sag Channel (total: 9)			
Discharge No.	TARP Structure	Outfall Location	CSO Outfall Owner(s)
005/001	CDS-6	California Avenue & Edward Street	1-Blue Island/Posen
002	CDS-7	Irving Avenue (N)	1-Blue Island
003	CDS-8	Division Avenue (S)	1-Blue Island
001/218	CDS-10	Laflin Avenue (N)	1-Calumet Park/Chicago
158	18E-PS	Pulaski Road PS (Crawford Ave N)	1-MWRD
157	CDS-2	Central Park Avenue (N)	1-MWRD
163	CDS-4	Sacramento Avenue (S)	1-MWRD
156/001	CDS-5	Francisco Avenue (N)	1-MWRD/Blue Island
154	CDS-11	Throop Street (N)	1-MWRD

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Receiving Water: Little Calumet River (total:35)

Discharge No.	TARP Structure	Outfall Location	CSO Outfall Owner(s)
002	CDS-53	River Drive (N)	1-Calumet City
003	CDS-53	Woodview Avenue (N)	1-Calumet City
004	CDS-55	Greenbay Avenue (N)	1-Calumet City
005	CDS-55	Burnham Avenue (N)	1-Calumet City
006	CDS-55	Stanley Boulevard (N)	1-Calumet City
007	CDS-55	Lincoln Avenue (N)	1-Calumet City
211	CDS-14	130 <sup>th</sup> Street (E)	1-Chicago
210	CDS-15-5	Indiana Avenue (E)	1-Chicago
239	CDS-16	Vernon Avenue & East 134 <sup>th</sup> Street	1-Chicago
241	CDS-12	Stewart Avenue	1-Chicago
001	CDS-39	Ashland Avenue (S)	1-Dixmoor
001	CDS-17	Forest Avenue Ext. (S)	1-Dolton
002	CDS-18	Dorchester Avenue (S)	1-Dolton
003	CDS-51	Ellis Avenue (N)	1-Dolton
001	CDS-41	144 <sup>th</sup> Street (W)	1-Harvey
002	CDS-41	Center Avenue (E)	1-Harvey
003	CDS-42	Union Street (W)	1-Harvey
004	CDS-43	Clinton Street (W)	1-Harvey
005	CDS-43	Illinois Central Railroad (E)	1-Harvey
006	CDS-45	147 <sup>th</sup> Street (N)	1-Harvey
007	CDS-45	149 <sup>th</sup> Street (E)	1-Harvey
002/005	CDS-55	Burnham Avenue (S)	1-Lansing
004	TARP Outfall	Edbrook Gate (near 125 <sup>th</sup> St. PS)	1-MWRD
153	CDS-13	Edbrook Avenue (125 <sup>th</sup> St. PS)	1-MWRD
001	CDS-45	9 <sup>th</sup> Avenue Extension & 151 <sup>st</sup> Street	1-Phoenix
002	CDS-15-1	Penn Central & Dearborn Street	1-Riverdale
003	CDS-15-2	Wabash Street (S)/Ext. State Street	1-Riverdale
004	CDS-42	Union Avenue P.S. (N)	1-Riverdale
005	CDS-15-4	Indiana Avenue (W)	1-Riverdale
N/A	CDS-15-3	Extended State Street	1-Riverdale
001	CDS-C-1	South Park (N)	1-South Holland
002	CDS-C-1	South Park (S)	1-South Holland
003	CDS-48	Chicago & Eastern Railroad Yard	1-South Holland
004	CDS-45	152 <sup>nd</sup> Street Extension Structure 1	1-South Holland
N/A	CDS-45	152 <sup>nd</sup> Street Extension Structure 2	1-South Holland

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Receiving Water: Calumet River (total: 3)			
Discharge No.	TARP Structure	Outfall Location	CSO Outfall Owner(s)
206	CDS-20	134 <sup>th</sup> & Brainard	1-Chicago
152	CDS-28	122 <sup>nd</sup> Street PS	1-MWRD
151	CDS-34	95 <sup>th</sup> Street PS	1-MWRD

Receiving Water: Grand Calumet River (total: 3)			
Discharge No.	TARP Structure	Outfall Location	CSO Outfall Owner(s)
001	CDS-21	Escanaba Avenue	1-Burnham
002	CDS-22	138 <sup>th</sup> Place Extension (N)	1-Burnham
003	CDS-23	142 <sup>nd</sup> Street Extension	1-Burnham

Receiving Water: Calumet Union Drainage Ditch (total: 1)			
Discharge No.	TARP Structure	Outfall Location	CSO Outfall Owner(s)
001	CDS-57	Markham PS	1-Markham

14. A public notification program in accordance with Section II.B.8 of the federal CSO Control Policy of 1994 and the Wet Weather Act of 2000 shall continue to be implemented by the Permittee and the CSO Public Notification Plan and program shall be modified should conditions change since the original plan was approved. The Permittee shall review the plan on an annual basis and make any needed changes and implementations by the commencement of the recreation season. The most recent CSO Public Notification Plan was dated December 2009.

The Permittee shall notify potable water supply agencies in Cook County, Illinois and Lake County, Indiana withdrawing water from Lake Michigan and other municipal units of government, that include primary contact beach managing agencies, in Cook County, Illinois and Lake County, Indiana, including the Cities of Hammond, East Chicago and Whiting, Indiana on the Lake Michigan Shore each time flows from the Calumet River system are expected to be discharged to Lake Michigan.

15. If any of the CSO discharge points listed in this Special Condition are eliminated, or if additional CSO discharge points, not listed in this Special Condition, are discovered, the Permittee shall notify the IEPA in writing within one month of the respective outfall elimination or discovery. Such notification shall be in the form of a request for the appropriate modification of this NPDES permit.

Summary of Compliance Dates in this CSO Special Condition

16. The following summarizes the dates that submittals contained in this Special Condition are due at the IEPA:

Solids Demonstration (Paragraph 1)	Every May 1 <sup>st</sup>
Sewer Summit Agreement Report (Paragraphs 11)	Every November 15 <sup>th</sup>
CSO Monitoring Data Report (Paragraph 13)	Quarterly
Water Quality Data (Paragraph 12)	Every December 1 <sup>st</sup>
Floatables Minimization/ Prevention Plan (Paragraph 3)	6 months from the effective date of this Permit
Elimination of a CSO or Discovery of Additional CSO locations (Paragraph 15)	1 month from discovery or elimination
Progress Reports on TARP (Paragraph 12)	Every January 1 <sup>st</sup> and July 1 <sup>st</sup> until TARP is completed

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Water Quality Study (Paragraph 12)	6 months from the completion of TARP
Pollution Prevention Report (Paragraph 8 and Special Condition 8.A.7.b)	Every June 30 <sup>th</sup>
Sensitive Area Documentation (Paragraph 9)	6 months from the completion of the Thornton Composite Reservoir
CSO O & M Final Plan (Paragraph 10)	12 months from the effective date of this Permit

Reopening and Modifying this Permit

17. The IEPA may initiate a modification for this Permit at any time to include requirements and compliance dates which have been submitted in writing by the Permittee and approved by the IEPA, or other requirements and dates which are necessary to carry out the provisions of the Illinois Environmental Protection Act, the Clean Water Act, or regulations promulgated under those Acts. Public Notice of such modifications and opportunity for public hearing shall be provided. Such modifications may include, but are not limited to changes in designated uses and water quality standards and in waterway management strategies necessary to comply with such uses and standards that are the result of the final Chicago Area Waterway System Use Attainability Analysis appealable order that has not been stayed and associated modifications of the rules and regulations by the Illinois Pollution Control Board (IPCB).

SPECIAL CONDITION 14. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall (001 WRP Outfall, 151 CSO at 94th Place - 95th Street Pump Station, and 152 CSO – 122<sup>nd</sup> Street Pump Station) each month.

In the event that outfall (151 CSO at 94th Place - 95th Street Pump Station and 152 CSO – 122<sup>nd</sup> Street Pump Station) do not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee may choose to submit electronic DMRs (eDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the eDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/edmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 25th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using eDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

Attention: Compliance Assurance Section, Mail Code # 19

SPECIAL CONDITION 15. The District shall maintain supplemental aeration capability in the receiving stream via instream aeration stations. Operation shall be provided at all times the SEPA stations are operable to achieve compliance with the minimum acceptable Dissolved Oxygen concentration.

The District shall submit the dissolved oxygen continuous monitoring results from all stations contained in the continuous dissolved oxygen monitoring plan previously approved by the Agency. The results shall be submitted quarterly and shall include data collected from the previous quarter as follows: data collected December 1 to February 28 or 29 shall be submitted by the following July 15; data collected March 1 to May 31 shall be submitted by the following September 15; data collected June 1 to August 31 shall be submitted by the following December 15; and data collected September 1 to November 30 shall be submitted by the following March 15.

The District shall also submit with their Discharge Monitoring Reports dissolved oxygen monitoring results from monthly bridge grab samples collected from the Calumet WRP and associated CSO effluent receiving streams.

SPECIAL CONDITION 16. The Permittee shall provide a dry-weather flow quantification on a mass basis of discharge for Discharge Number 001 for the parameters listed in Special Condition 8.C.1. This data shall be provided on an annual basis and submitted to the IEPA no later than June 30 of each year.

SPECIAL CONDITION 17. The Permittee shall notify the Agency whenever any waterway gates or locks are opened which may allow flow to discharge to Lake Michigan and shall notify the Agency of any fish kills in the Chicago area waterways or of any water pollution related emergencies. The Permittee shall report any of the above activities to the Des Plaines Regional Field Operations Office at (847) 294-4000 in accordance with Standard Condition 12(f). Cook County, Illinois; Lake County, Indiana; and the Cities of Hammond, East Chicago and Whiting, Indiana shall be notified whenever a flow reversal would discharge to Lake Michigan. In addition, the Lake County, Indiana

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Emergency Management Agency shall be notified at (219) 755-3549 whenever a flow reversal would discharge to Lake Michigan.

SPECIAL CONDITION 18. The Permittee shall work towards the goals of achieving no discharges from sanitary sewer overflows or basement backups and ensuring that overflows or backups, when they do occur do not cause or contribute to violations of applicable standards or cause impairment in any adjacent receiving water. In order to accomplish these goals, the Permittee shall develop, implement and submit to the IEPA a Capacity, Management, Operations, and Maintenance (CMOM) plan within twelve (12) months of the effective date of this Permit. The Permittee should work as appropriate, in consultation with affected authorities at the local, county, and/or state level to develop the plan components involving third party notification of overflow events. The Permittee may be required to construct additional sewage transport and/or treatment facilities in future permits or other enforceable documents should the implemented CMOM plan indicate that the Permittee's facilities are not capable of conveying and treating the flow for which they were designed.

The CMOM plan shall include the following elements:

a. Measures and Activities:

1. A complete map of the collection system owned and operated by the Permittee;
2. Schedules, checklists, and mechanisms to ensure that preventative maintenance is performed on equipment owned and operated by the Permittee;
3. An assessment of the capacity of the collection and treatment system owned and operated by the Permittee at critical junctions and immediately upstream of locations where overflows and backups occur or are likely to occur; and
4. Identification and prioritization of structural deficiencies in the system owned and operated by the Permittee.

b. Design and Performance Provisions:

1. Monitor the effectiveness of CMOM;
2. Upgrade the elements of the CMOM plan as necessary; and
3. Maintain summary of CMOM activities.

c. Overflow Response Plan:

1. Know where overflows within the facilities owned and operated by the Permittee occur;
2. Respond to each overflow to determine additional actions such as clean up; and
3. Implement measures with respect to local sewer system owners as described in Special Condition 13.11., as appropriate.

d. System Evaluation Plan.

e. Reporting and Monitoring Requirements.

f. Third Party Notice Plan:

1. Describe how, under various overflow scenarios, the public, as well as other entities, would be notified of overflows within the Permittee's system that may endanger public health, safety or welfare;
2. Identifies overflows within the Permittee's system that would be reported, giving consideration to various types of events including events with potential widespread impacts;
3. Identifies who shall receive the notification;
4. Identifies the specific information that would be reported including actions that will be taken to respond to the overflow;
5. Includes a description of the lines of communication; and
6. Includes the identities and contact information of responsible POTW officials and local, county, and or state level officials.

NPDES Permit No. IL0028061

Special Conditions

SPECIAL CONDITION 19. A phosphorus monthly average concentration effluent limitation of 1.0 mg/L and associated loading limitations shall become effective 77 months from the effective date of this Permit. In order to achieve a phosphorus effluent limit of 1.0 mg/L, the Permittee shall submit progress reports in compliance with the following schedule.

- |   |  |
|---|--|
| 1. Assess Key Process Parameters for System Design; Initiate Construction of Anaerobic Zone in One Aeration Battery   | 6 months from effective date of this Permit  |
| 2. Evaluate Mixer Design, Phosphorus Source Tracking and Strategy to Supplement Carbon in Aeration Tanks; Complete Construction of Anaerobic Zone in One Aeration Battery                                   | 12 months from effective date of this Permit |
| 3. Progress Report on Evaluation and Installation of Mixers, Phosphorus Source Tracking and Strategy to Supplement Carbon in Aeration Battery   | 18 months from effective date of this Permit |
| 4. Initiate Installation of Mixers; Progress Report on Phosphorus Source Tracking and Design of Supplemental Carbon Process   | 24 months from effective date of this Permit |
| 5. Progress Report on Installation of Mixers, Phosphorus Source Tracking and Design of Supplemental Carbon Process  | 30 months from effective date of this Permit |
| 6. Progress Report on Installation of Mixers, Phosphorus Source Tracking; Complete Design of Supplemental Carbon Process  | 38 months from effective date of this Permit |
| 7. Initiate Construction of Supplemental Carbon Process; Complete Installation of Mixers; Progress Report on Final Results of Phosphorus Source Tracking  | 44 months from effective date of this Permit |
| 8. Complete Construction of Supplemental Carbon Process; Initiate Construction of Anaerobic Zone in One Aeration Battery w/ Carbon Addition   | 50 months from effective date of this Permit |
| 9. Progress Report on Construction of Anaerobic Zone  | 54 months from effective date of this Permit |
| 10. Complete Construction of Anaerobic Zone in One Aeration Battery; Initiate Construction of Anaerobic Zone in All Batteries w/ Carbon Addition; Initiate Design of Sidestream Phosphorus Recovery Process | 60 months from effective date of this Permit |
| 11. Progress Report on Construction of Anaerobic Zone in All Batteries; Initiate Construction of Sidestream Phosphorus Recovery Process   | 66 months from effective date of this Permit |
| 12. Complete Construction of Anaerobic Zone in All Batteries; Progress Report on Construction of Sidestream Phosphorus Recovery Process   | 72 months from effective date of this Permit |
| 13. Complete Construction of Sidestream Phosphorus Recovery Process; Achieve Monthly Concentration and Loading Effluent Limitations for Total Phosphorus  | 77 months from effective date of this Permit |

NPDES Permit No. IL0028061

Special Conditions

In addition, the IEPA may initiate a modification of the schedule set forth in this permit at any time, to include other dates which are necessary to carry out the provisions of the Environmental Protection Act, the Federal Clean Water Act or regulations promulgated under those Acts or compliance dates which have been submitted in writing by the Permittee and approved by the IEPA. Public Notice of such modifications and opportunity for public hearing shall be provided consistent with 40 CFR 122.63.

The Permittee shall submit the above reports for each number item in the compliance schedule, indicating, a) the date the item was completed, or b) that the item was not completed. All reports shall be submitted to IEPA at the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution control  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

**SPECIAL CONDITION 20.** A fecal coliform monthly geometric mean of 200 per 100 mL and no more than 10% of the samples collected in a month shall exceed 400 per 100 mL (March through November) for discharge number(s) 001 shall become effective March 31, 2016.

The Permittee shall construct disinfection equipment in accordance with the following schedule:

- |    |                                 |                   |
|----|---------------------------------|-------------------|
| 1. | Progress Report on Construction | December 31, 2013 |
| 2. | Complete 25 % of Construction   | June 30, 2014     |
| 3. | Complete 50 % of Construction   | December 31, 2014 |
| 4. | Complete 75 % of Construction   | June 30, 2015     |
| 5. | Complete Construction           | December 31, 2015 |
| 6. | Obtain Operational Level        | March 31, 2016    |

REPORTING

The Permittee shall submit progress reports for items 1, 2, 3, 4, 5 and 6 of the compliance schedule, indicating, a) the date the item was completed, or b) that the item was not completed, the reasons for non-completion and the anticipated completion date to the Agency's Compliance Assurance Section.

## Attachment H

## Standard Conditions

## Definitions

**Act** means the Illinois Environmental Protection Act, 415 ILCS 5 as Amended.

**Agency** means the Illinois Environmental Protection Agency.

**Board** means the Illinois Pollution Control Board.

**Clean Water Act** (formerly referred to as the Federal Water Pollution Control Act) means Pub. L 92-500, as amended. 33 U.S.C. 1251 et seq.

**NPDES** (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

**USEPA** means the United States Environmental Protection Agency.

**Daily Discharge** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

**Maximum Daily Discharge Limitation** (daily maximum) means the highest allowable daily discharge.

**Average Monthly Discharge Limitation** (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

**Average Weekly Discharge Limitation** (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

**Best Management Practices** (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**Aliquot** means a sample of specified volume used to make up a total composite sample.

**Grab Sample** means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

**24-Hour Composite Sample** means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

**8-Hour Composite Sample** means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

**Flow Proportional Composite Sample** means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

- (1) **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.
- (2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.
- (3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- (5) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.
- (6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62 and 40 CFR 122.63. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- (7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.
- (8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency upon request, copies of records required to be kept by this permit.



- (9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency or USEPA (including an authorized contractor acting as a representative of the Agency or USEPA), upon the presentation of credentials and other documents as may be required by law, to:
- Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
  - Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
  - Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.
- (10) **Monitoring and records.**
- Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
  - The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. Records related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Agency or USEPA at any time.
  - Records of monitoring information shall include:
    - The date, exact place, and time of sampling or measurements;
    - The individual(s) who performed the sampling or measurements;
    - The date(s) analyses were performed;
    - The individual(s) who performed the analyses;
    - The analytical techniques or methods used; and
    - The results of such analyses.
  - Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.
- (11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.
- Application.** All permit applications shall be signed as follows:
    - For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;
    - For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
    - For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
  - Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly

authorized representative only if:

- The authorization is made in writing by a person described in paragraph (a); and
  - The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and
  - The written authorization is submitted to the Agency.
- (c) **Changes of Authorization.** If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (d) **Certification.** Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all 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, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(12) **Reporting requirements.**

- Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required when:
  - The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source pursuant to 40 CFR 122.29 (b); or
  - The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements pursuant to 40 CFR 122.42 (a)(1).
  - The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- Transfers.** This permit is not transferable to any person except after notice to the Agency.
- Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.
  - Monitoring results must be reported on a Discharge Monitoring Report (DMR).

- (2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
- (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.
- (f) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24-hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported within 24-hours:
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit.
  - (2) Any upset which exceeds any effluent limitation in the permit.
  - (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit or any pollutant which may endanger health or the environment.  
The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24-hours.
- (g) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12) (d), (e), or (f), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12) (f).
- (h) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.
- (13) **Bypass.**
- (a) Definitions.
    - (1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
    - (2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
  - (b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (13)(c) and (13)(d).
  - (c) Notice.
    - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
    - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (12)(f) (24-hour notice).
  - (d) Prohibition of bypass.
    - (1) Bypass is prohibited, and the Agency may take enforcement action against a permittee for bypass, unless:
      - (i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
      - (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
      - (iii) The permittee submitted notices as required under paragraph (13)(c).
    - (2) The Agency may approve an anticipated bypass, after considering its adverse effects, if the Agency determines that it will meet the three conditions listed above in paragraph (13)(d)(1).
- (14) **Upset.**
- (a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
  - (b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (14)(c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
  - (c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
    - (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
    - (2) The permitted facility was at the time being properly operated; and
    - (3) The permittee submitted notice of the upset as required in paragraph (12)(f)(2) (24-hour notice).
    - (4) The permittee complied with any remedial measures required under paragraph (4).
  - (d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.
- (15) **Transfer of permits.** Permits may be transferred by modification or automatic transfer as described below:
- (a) Transfers by modification. Except as provided in paragraph (b), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued pursuant to 40 CFR 122.62 (b) (2), or a minor modification made pursuant to 40 CFR 122.63 (d), to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act.
  - (b) Automatic transfers. As an alternative to transfers under paragraph (a), any NPDES permit may be automatically

transferred to a new permittee if:

- (1) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;
  - (2) The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage and liability between the existing and new permittees; and
  - (3) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.
- (16) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:
- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
    - (1) One hundred micrograms per liter (100 ug/l);
    - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6 dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
    - (3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
    - (4) The level established by the Agency in this permit.
  - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.
- (17) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:
- (a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
  - (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
  - (c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (18) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
- (a) User charges pursuant to Section 204 (b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
  - (b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
  - (c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.
- (19) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.
- (20) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.
- (21) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.
- (22) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Additional penalties for violating these sections of the Clean Water Act are identified in 40 CFR 122.41 (a)(2) and (3).
- (23) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.
- (24) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (25) Collected screening, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.
- (26) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.
- (27) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 Ill. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board or any court with jurisdiction.
- (28) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.

**EXHIBIT 2:**

December 9, 2009 comments



## ILLINOIS CHAPTER

70 East Lake Street, Suite 1500. Chicago, IL 60601

tel: 312.251.1680

fax: 312.251.1780

web: [illinois.sierraclub.org](http://illinois.sierraclub.org)

December 9, 2009

*Sent via mail and fax to 217-782-9891*

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Permit Section  
1021 North Grand Avenue East  
P. O. Box 19276  
Springfield, IL 62794-9276

**Re: Objection, request for documents, and request for public hearing regarding Calumet Water Reclamation Plant (NPDES Permit No. IL0028061; Notice No. AAH:06122002.dlk)**

Dear Sir or Madam:

The Friends of the Chicago River (“FOCR”), Alliance for the Great Lakes (“Alliance”), Natural Resources Defense Council (“NRDC”), Gulf Restoration Network (GRN), Environmental Law and Policy Center of the Midwest (ELPC), Prairie Rivers Network (PRN) and the Illinois Chapter of the Sierra Club (Sierra Club) object to the draft permit proposed to be issued to the Metropolitan Water Reclamation District (MWRDGC) Calumet Water Reclamation Plant for discharges of wastewater to the Little Calumet River. FOCR, Alliance, NRDC, GRN, ELPC, PRN and Sierra Club have members who boat, fish, wade, birdwatch, study nature, and engage in other professional and recreational activities in the Little Calumet River, the Calumet-Sag Channel, the Lower Des Plaines River and other waterways into which the Little Calumet River flows, including the Illinois and Mississippi Rivers and the Gulf of Mexico (which receive nitrogen and phosphorus pollution from the MWRDGC plants) and in Lake Michigan (which now periodically receives sanitary-waste-contaminated stormwater from MWRDGC sources). Although we recognize the contributions MWRDGC has long made to improving water quality around the region, we object to the draft permit, pose questions and request a public hearing regarding this draft permit as follows:

### Objections:

#### **1. The draft permit’s controls on Combined Sewer Overflows are inadequate.**

The permit renewal for the Calumet Water Reclamation Plant cannot be issued until it is shown that the permit is consistent with U.S.EPA requirements in the 1994 National CSO Policy (CSO Policy) and Wet Weather Act of 2000. U.S. Environmental Protection Agency, “Combined Sewer Overflow (CSO) Control Policy” 59 Fed. Reg. No 75 at 18688 (Apr. 19, 1994) (*available at*, <http://www.epa.gov/npdes/pubs/owm0111.pdf>). *See also*, U.S. EPA, “CSO Guidance for Permit Writers” EPA 832-B-95-008 (Aug. 1995) (*available at*, <http://cfpub.epa.gov/npdes/cso/guidedocs.cfm>). The draft permit does not appear to contain documentation of MWRDGC’s implementation of the “nine minimum controls” required by the

CSO Policy as a condition of the Phase I permit issued to the facility in 1993. CSO Policy at 18696. Nor does the permit contain enforceable conditions requiring the implementation of those nine minimum controls, as is required of the Phase II permit that is now proposed to be issued. *Id.* Under the CSO Policy, the Illinois Environmental Protection Agency (IEPA) must make a “best professional judgment” determination that the nine minimum controls are being implemented by the facility. To our knowledge, only one of the controls (the public notification requirement) has been approved by IEPA. These permits do not appear to reflect any decision on IEPA’s part regarding the adequacy of the other eight technology controls.

Issuance of a Phase II permit also requires implementation of a Long-Term Control Plan (LTCP) for CSOs. *Id.* The requirements for a LTCP have not been met by this permit. Simply calling the MWRDGC’s Tunnel and Reservoir Project (TARP) the LTCP is confusing and misleading. TARP planning was done prior to the development of the CSO Policy, and so was not designed to meet the LTCP requirements of the CSO Policy. The CSO Policy does allow recognition of ongoing CSO programs (such as TARP), provided that such a program is reasonably equivalent to the treatment objectives of the CSO Policy and will meet water quality standards and protect designated uses. CSO Policy at 18690. However, in order for IEPA to determine that TARP complies with these requirements, the District would have to do further planning to be consistent with the CSO Policy requirements for sensitive areas and develop a post-construction compliance monitoring program. To the extent that TARP has been determined to represent at least part of the LTCP for this facility, the permit must include an enforceable schedule for TARP completion in order to comply with Phase II permit requirements.

The permit should also define “maximum practical flow” for the facility. The draft permit states that excess flow facilities shall not be utilized until the collection system and treatment facility is receiving its maximum practical flow. Draft Permit, p 3. This information would also pertain to one of the nine minimum controls in the CSO policy.

## **2. The draft permit’s controls on sanitary sewage overflows are inadequate.**

The permit should address the continued problem of excessive infiltration and inflow (I/I) to the system that contributes to Sanitary Sewage Overflows and basement back-ups. It is obvious from the Annual Status Reports submitted by MWRDGC that the I/I Elimination Program under the Sewer Summit Agreement has failed. Residual excessive I/I still remain high in nearly all of the service communities. IEPA needs to address this problem in some fashion before this permit is issued, as it affects MWRDGC’s ability to comply with CWA requirements.

## **3. The draft permit does not minimize contributions of mercury.**

The permit should include permit limits for mercury and/or conditions requiring development and implementation of a mercury pollution minimization plan. The Little Calumet River is listed on Illinois Environmental Protection Agency’s (IEPA’s) Section 303(d) list of impaired waters for fish consumption due to unacceptable levels of mercury present in fish. Mercury is a known pollutant present in sewage effluent, and a large facility such as this one, discharging 354 MGD, presents a meaningful opportunity to reduce the contributions of mercury into impaired waters.

#### **4. The draft permit does not minimize contributions of PCBs**

The permit should include conditions requiring measures to reduce PCB contributions into the system. The Little Calumet River is listed on Illinois Environmental Protection Agency's (IEPA's) Section 303(d) list of impaired waters for fish consumption due to unacceptable levels of PCBs present in fish. PCBs are a known pollutant present in sewage effluent. A large facility such as this one, discharging 354 MGD, presents a meaningful opportunity to reduce the contributions of PCBs into impaired waters. Permit conditions should require development and implementation of a pollution minimization plan for PCBs.

#### **5. The permit does not limit or minimize phosphorus or nitrogen discharges.**

The permit should include limits on phosphorus and nitrogen that require removal of these pollutants and/or require systemic measures to reduce the facility's phosphorus discharges. Nitrogen and phosphorus pollution lead to myriad problems in freshwater systems throughout the Mississippi River Basin, including those waters downstream from the MWRDGC Calumet, Stickney and North Side Water Reclamation Plants. Some problems are caused by high concentrations of the nutrients themselves; for example, direct toxicity of high levels of nitrate in drinking water to humans and to aquatic organisms in natural waters. Most problems caused by nitrogen and phosphorus pollution, however, result from the stimulating effect these pollutants have on plant and microbial growth, altering the balance of natural communities, robbing the water column of oxygen, and promoting the growth of pathogenic and toxin-producing microorganisms. These problems prevent waters from attaining the basic Clean Water Act "fishable/swimmable" goals, threaten the health of human and wildlife users of these waters, and impose significant costs on drinking water suppliers.

Human health effects have also been traced to nitrogen and phosphorus pollution. Excess nitrogen and phosphorus lead to high levels of algae in the water. Before such water is suitable for drinking it must be treated, and cancer-causing trihalomethanes are produced as an unwanted side effect during the treatment process.<sup>1</sup> Further, nitrogen and phosphorus pollution affect human health by stimulating the growth of cyanobacteria.<sup>2</sup>

The MWRDGC Calumet, Stickney and North Side Water Reclamation Plants all discharge water containing phosphorus into Illinois waters listed under section 303(d) as failing to meet water quality standards due to excess phosphorus, including the North Shore Channel, the Chicago Sanitary and Ship Canal, the Cal-Sag Channel, and the Little Calumet River. *See* Illinois Integrated Water Quality Report and Section 303(d) List – 2008, IEPA, Aug. 2008. Moreover, the MWRDGC Plants are upstream of several other river segments that are impaired by phosphorus, including the Chicago River and segments of the Des Plaines River. *Id.* Illinois NPDES permits must include effluent limitations on any pollutant which has the potential to cause or contribute to violations of State water quality standards, *see* 35 Ill. Admin. Code § 143, and must ensure compliance with water quality standards. 35 Ill. Admin. Code §§ 141(d) (1), (3). The permit cannot ensure compliance with the phosphorus standards if it allows unlimited discharges of phosphorus into waters already impaired by phosphorus pollution.

Furthermore, nitrogen and phosphorus pollution---including that discharged by the MWRDGC Calumet, Stickney and North Side WRPs---is devastating the Northern Gulf of Mexico. According

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<sup>1</sup> Nutrient Criteria Guidance at 4-5.

<sup>2</sup> NRC Report at 45.

to many reports, including those recently drafted by the respected scientists at the NRC and the United States Environmental Protection Agency Science Advisory Board (“USEPA-SAB”), as well as by the Mississippi River/Gulf of Mexico Watershed Nutrients Task Force (“Task Force”), excessive levels of nitrogen and phosphorus have observable and detrimental effects on saltwater environments, such as the Northern Gulf of Mexico.

The aquatic life uses of the Gulf of Mexico are clearly impaired by virtue of the fact that a large hypoxic zone exists in the Gulf where virtually nothing can survive. In Louisiana’s most recent 303(d) list, the Mississippi River Basin Coastal Bays and Gulf Waters to the State Three Mile Limit, Barataria Basin Coastal Bays and Gulf Waters to the State Three Mile Limit, and Terrebonne Basin Coastal Bays and Gulf Waters to the State Three-Mile Limit are all listed as impaired for dissolved oxygen. The relationship between nitrogen and phosphorus pollution and low dissolved oxygen is well-documented. As the United States Geological Survey determined in its study of Total Phosphorus and Total Nitrogen yields delivered to the Gulf of Mexico, the HUC-8 watershed to which the MWRDGC Calumet, Stickney and North Side Water Reclamation Plants discharge is far and away the largest contributor of nitrogen and phosphorus pollution to the Gulf of Mexico. See [http://water.usgs.gov/nawqa/sparrow/nutrient\\_yields/](http://water.usgs.gov/nawqa/sparrow/nutrient_yields/) and attached maps. Unlike other watersheds in the Mississippi Basin, the vast majority of the nitrogen and phosphorus in this watershed comes from point source discharges, namely the MWRDGC Calumet, Stickney and North Side Water Reclamation Plants. The nitrogen and phosphorus loading contributed by the MWRDGC plants is therefore contributing to a downstream impairment of the aquatic life use in the Gulf of Mexico and of dissolved oxygen in a number of Louisiana waters.

The excess nitrogen and phosphorus in these systems have serious consequences, including the creation of harmful algal blooms; the development of areas of lowered dissolved oxygen known as “hypoxic zones” or “dead zones;” the loss of sub-aquatic vegetation, changes in the species composition of benthic organisms, and damage to coral reefs.<sup>3</sup>

Due to the excessive nitrogen and phosphorus pollution flowing from the Mississippi and Atchafalaya River Systems, a large zone of hypoxia has developed in the Northern Gulf of Mexico. In the Gulf of Mexico, hypoxia is deemed to occur when dissolved oxygen levels are less than two milligrams per liter (“mg/L”). At this level, the fish and shrimp that normally live on the bottom can no longer be found.<sup>4</sup> The hypoxic region in the Gulf of Mexico extends up to 125 kilometers (“km”) offshore and ranges from the mouth of the Mississippi River in eastern Louisiana west to the coastal waters of Texas.<sup>5</sup> Since 1985, when scientists began regular measurements of the hypoxic zone, its area has fluctuated, although several years it has exceeded 20,000 square kilometers (“km<sup>2</sup>”) or about the size of Massachusetts. The Gulf’s dead zone has twice the total surface area of the entire Chesapeake Bay, and its volume is several orders of magnitude greater than the hypoxic water volume of Chesapeake Bay.<sup>6</sup>

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<sup>3</sup> NRC Report at 209; National Research Council, *Clean Coastal Waters: Understanding and Reducing the Effects of Nutrient Pollution* (2000); E. Selman, S. Greenhalgh, R. Diaz, and Z. Sugg, *Eutrophication and hypoxia in coastal areas: A global assessment of the state of knowledge*, World Resources Institute Policy Note (March 2008); P.M. Vitousek, J.D. Aber, R.W. Howarth, G.E. Likens, P.A. Matson, D.W. Schindler, W.H. Schlesinger & D.G. Tilman, *Human Alterations of the Global Nitrogen Cycle: Sources and Consequences*, 7(3) *Ecological Applications*, 737-750 (1997).

<sup>4</sup> See *Overview*, Mapping the “Dead Zone” at [www.gulfhypoxia.net](http://www.gulfhypoxia.net) (last visited July 26, 2008).

<sup>5</sup> U.S.EPA, Science Advisory Board, *Hypoxia in the Northern Gulf of Mexico*, (2008), [http://yosemite.epa.gov/sab/sabproduct.nsf/C3D2F27094E03F90852573B800601D93/\\$File/EPA-SAB-08-003complete.unsigned.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/C3D2F27094E03F90852573B800601D93/$File/EPA-SAB-08-003complete.unsigned.pdf); N.N. Rabalais, et al., *Characterization and Long-Term Trends of Hypoxia in the Northern Gulf of Mexico: Does the Science Support the Action Plan?*, 30(5) *Estuaries and Coasts* 753-772 (2007).

<sup>6</sup> “Overview – What is Hypoxia?” Hypoxia in the Northern Gulf of Mexico at [www.gulfhypoxia.net](http://www.gulfhypoxia.net) (last visited July 26, 2008).



The hypoxic zone is a giant ecological imbalance triggered far upstream from the Gulf. It begins with the discharge of large amounts of nitrogen and phosphorus from the Mississippi and Atchafalaya Rivers into the Gulf. The nitrogen and phosphorus pollution enriches the water and causes the growth of massive algal (phytoplankton) blooms each summer. Dead phytoplankton cells, along with fecal pellets from zooplankton that have eaten the phytoplankton, sink to the lower strata of the Gulf, and provide a large source of available carbon. Bacteria consume this carbon at a high rate, and in the process also consume dissolved oxygen. Because of salinity and temperature differences, the water in the Gulf naturally stratifies. As a result of this stratification, the bacteria and other organisms near the bottom use up the oxygen faster than it can be replenished. When this happens, a hypoxic zone, or sometimes an anoxic zone (an area with *no* dissolved oxygen) forms in the bottom strata of the Northern Gulf. When a hypoxic zone forms, the shrimp and fish that can swim away do so. Those creatures that cannot escape suffocate and die. The ultimate consequence is an environment where little to no sea life exists.<sup>7</sup>

The lack of oxygen in the Dead Zone poses a serious threat to species diversity in the Gulf and to its \$2.8 billion commercial and recreational fishing industry.<sup>8</sup> In the 2008 NRC Report, the authors describe the effects of hypoxia on coastal shrimp and fish:

Shrimp, as well as the dominant fish, the Atlantic croaker, are absent from the large areas affected by hypoxia (Renaud, 1986; Craig and Crowder, 2005; Craig et al., 2005). There is a negative relationship between the catch of brown shrimp—the largest economic fishery in the northern Gulf of Mexico—and the relative size of the midsummer hypoxic zone (Zimmerman and Nance, 2001). The catch per unit effort of brown shrimp declined during a recent interval in which hypoxia was known to expand (Downing et al., 1999). The presence of a large hypoxic water mass when juvenile brown shrimp are migrating from coastal marshes to offshore waters inhibits their growth to a larger size and thus affects the poundage of captured shrimp (Zimmerman and Nance, 2001). The unavailability of suitable habitat for shrimp and croaker forces them into the warmest waters inshore and also cooler waters offshore of the hypoxic zone with potential effects on growth, trophic interactions, and reproductive capacity (Craig and Crowder, 2005).<sup>9</sup>

## **6. The draft permit fails to monitor for and control impacts from the discharge of endocrine-disrupting chemicals.**

The permit should contain conditions to monitor for chronic effects from endocrine-disrupting chemicals and/or control known endocrine-disrupting chemicals. Sewage effluent contains a wide array of pollutants, including pharmaceuticals and personal care products, for which adverse effects and interactionary effects on aquatic life have not been fully ascertained. At this point, the only way we can begin to understand the consequences of these so-called “emerging pollutants” is to monitor for chronic effects through long-term Whole Effluent Toxicity (WET) testing. Permit conditions should be modified to require chronic WET testing in addition to acute WET testing. WET limits and/or monitoring for certain known chemicals may also be necessary.

GRN, Alliance, FOGR, NRDC ELPC, PRN and Sierra Club request that a hearing be held at which at least the following issues would be discussed:

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<sup>7</sup> “Mapping the ‘Dead Zone,’” Hypoxia in the Northern Gulf of Mexico, at [www.gulphypoxia.net](http://www.gulphypoxia.net) (last visited July 26, 2008).

<sup>8</sup> National Centers for Coastal Ocean Science, *Gulf of Mexico Ecosystems & Hypoxia Assessment (NGOMEX)* (2007).

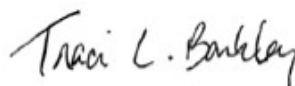
<sup>9</sup> NRC Report at 61.

1. Whether controls on CSOs are adequate and in compliance with legal requirements.
2. Whether the most recent Operations and Maintenance Plan for the facility (from 2007, referenced in Special Condition 10) has been approved.
3. Whether the permit should require MWRDGC to perform a stress test on the WRP under wet weather conditions in order to determine "maximum practical flow."
4. Whether controls on SSOs are adequate and in compliance with legal requirements.
5. What measures should be undertaken to control excessive I/I in the system.
6. Whether the permit should contain limits on mercury or require mercury reduction programs.
7. Whether the permit should require development of a PCB minimization plan.
8. Whether the permits should contain limits nitrogen and phosphorus or require other measures (such as wetland removal) to reduce nitrogen and phosphorus contributions to impaired local waters and downstream waters including the Illinois River and the Gulf of Mexico.
9. Whether the permit should require chronic toxicity testing to monitor impacts of endocrine-disrupting chemicals on aquatic life in the receiving waters.
10. Whether the permit should require programs (such as pharmaceutical collection programs) to reduce contributions of endocrine-disrupting chemicals to the receiving waters.

Sincerely,



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Enclosures

**EXHIBIT 3:**

April 8, 2010 Post-Hearing Comments



**ENVIRONMENTAL LAW & POLICY CENTER**  
Protecting the Midwest's Environment and Natural Heritage

April 8, 2010

*Sent via USPS and email to [epa.publichearingcom@illinois.gov](mailto:epa.publichearingcom@illinois.gov)*

Hearing Officer Dean Studer  
Re: MWRDGC NPDES Permits  
Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
P. O. Box 19276  
Springfield, IL 62794-9276

**Re: Objections and post-hearing comments regarding Stickney Water Reclamation Plant (NPDES Permit No. IL0028053, Notice No. FRB:07031401.bah); North Side Water Reclamation Plant (NPDES Permit No. IL0028088, Notice No. ALD:07061901.bah); and Calumet Water Reclamation Plant (NPDES Permit No. IL0028061, Notice No. AAH:06122002.dlk)**

Dear Hearing Officer Studer,

The Friends of the Chicago River ("FOCR"), Alliance for the Great Lakes ("Alliance"), Natural Resources Defense Council ("NRDC"), Gulf Restoration Network (GRN), Environmental Law and Policy Center of the Midwest (ELPC), Prairie Rivers Network (PRN) and the Illinois Chapter of the Sierra Club (Sierra Club) object to the draft permits proposed to be issued to the Metropolitan Water Reclamation District (MWRDGC) Stickney Water Reclamation Plant ("Stickney"), North Side Water Reclamation Plant ("North Side") and Calumet Water Reclamation Plant ("Calumet") for discharges of wastewater to the Chicago Sanitary and Ship Canal, North Shore Channel and Little Calumet River. FOCR, Alliance, NRDC, GRN, ELPC, PRN and Sierra Club have members who boat, fish, wade, birdwatch, study nature, and engage in other professional and recreational activities in the Chicago Sanitary and Ship Canal, Des Plaines River, Addison Creek, Bubbly Creek, the Lower Des Plaines River, North Shore Channel, the North Branch of the Chicago River, Little Calumet River, the Calumet-Sag Channel and other waterways into which the Chicago Sanitary and Ship Canal flows, including the Illinois and Mississippi Rivers and the Gulf of Mexico (which receive nitrogen and phosphorus pollution from the MWRDGC plants) and in Lake Michigan (which now periodically receives sanitary-waste-contaminated stormwater from MWRDGC sources). Although we recognize the contributions MWRDGC has long made to improving water quality around the region, we object to issuance of the draft permits unless the following modifications are made to the permits:

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Phone: (312) 673-6500 Fax: (312) 795-3730 [www.elpc.org](http://www.elpc.org) [elpcinfo@elpc.org](mailto:elpcinfo@elpc.org)  
Harry Drucker - Chairperson Howard A. Learner - Executive Director



**1. The NPDES permits for Stickney, North Side and Calumet must comply with the federal CSO Policy.**

The Federal Clean Water Act requires that permits for discharge from a municipal combined storm and sanitary sewer conform to the 1994 National Combined Sewer Overflow (CSO) Policy. 33 U.S.C. §1342 (q) (1). The 1994 National CSO Policy (CSO Policy) sets forth requirements for NPDES CSO permittees that include implementation of minimum technological requirements (the “nine minimum controls”) and a Long-Term CSO Control Plan. U.S. Environmental Protection Agency, “Combined Sewer Overflow (CSO) Control Policy” 59 Fed. Reg. 75, 18688 (Apr. 19, 1994), *available at* <http://www.epa.gov/npdes/pubs/owm0111.pdf> and included as Attachment 1. The draft NPDES permits for Stickney, North Side and Calumet that were put on public notice do not comply with the CSO Policy and cannot be issued until the following changes are made:

**a. The Stickney, North Side and Calumet permits must include an enforceable schedule for completion of TARP.**

The CSO Policy requires that a Long-Term CSO Control Plan (LTCP) be implemented that includes “fixed-date project implementation schedules (which may be phased).” CSO Policy (II)(C), p. 118691. *See also*, CSO Policy (II)(C)(8) (“Implementation Schedule”) p. 18694. The CSO Policy directs the NPDES permitting authority (in this case, IEPA) to “include in an appropriate *enforceable* mechanism, requirements for implementation of the long-term CSO control plan as soon as practicable.” CSO Policy (IV)(B)(2) (emphasis added). If the permittee cannot immediately comply with the requirements, “the NPDES authority should include, in an enforceable mechanism, compliance dates on the fastest practicable schedule for those activities directly related to meeting the requirements of the CWA. For major permittees, the compliance schedule should be placed in a judicial order.” CSO Policy (IV)(B)(2)(g), p. 18696.

IEPA and MWRDGC have identified the Tunnel and Reservoir Project (TARP) as the LTCP for CSOs associated with the Stickney, North Side and Calumet WRPs. However, the permits contain no enforceable schedule for completion of TARP, as the CSO Policy requires. Instead, the permits contain projected schedules for construction which are provided “for informational purposes.” The dates projected in the draft permits are as follows:

- Stage 1 – McCook Reservoir Completed December 31, 2015. (Special Condition 17 in Stickney and North Side permits)
- Stage 2 – McCook Reservoir Completed December 31, 2024. (Special Condition 17 in Stickney and North Side permits)
- Thornton Composite Reservoir Contract – CUP Basin Completed December 31, 2014. (Special Condition 17 in Calumet permit)

When asked in the hearing why no enforceable compliance schedules were included, IEPA officials stated that the projected completion dates were beyond the five-year permit term so IEPA declined to include compliance schedules. March 9 Transcript (afternoon) p 74-75. There is no such limitation in the federal regulation regarding compliance schedules, see 40 CFR §122.47, and as a practical matter

at least one of the projected dates is less than five years from now and another is just beyond five years. It is also likely that interim benchmarks could be identified that can ensure continued progress toward the goal of completing the reservoirs. If IEPA is not willing to include enforceable terms in the NPDES permits, it must initiate another mechanism (e.g. a judicial order) to make the compliance schedule enforceable as required by the CSO Policy.

A few basic facts in the record illustrate the need for enforceable compliance schedules to ensure that the CSO LTCP is implemented as soon as practicable. In the last permit cycle, similar projected dates for completion of these same projects were also proffered “for informational purposes”:

- Stage 1 – McCook Reservoir Completed **December 31, 2009**. (Stickney (SC 19) and North Side (SC 20) permits issued in 2002)
- Stage 2 – McCook Reservoir Completed **December 31, 2015**. (Stickney (SC 19) and North Side (SC 20) permits issued in 2002)
- Thornton Composite Reservoir – CUP Basin Award January 31, 2010. (Calumet (SC 19) permit issued in 2002)
- Thornton Composite Reservoir– CUP Basin Completed December 31, 2014. (Calumet (SC 19) permit issued in 2002)

Clearly these milestones are not even close to being reached. In fact, even between the time the draft permits went on notice on November 11, 2009 and the MWRDGC presentation at the public hearing on March 9, 2010, the completion dates had slipped even further into the future:

- Stage 1 – McCook Reservoir **Completed 2017**.
- Stage 2 – McCook Reservoir **Completed 2029**.
- Thornton Composite Reservoir Completed 2015.

At this rate, CSO discharges associated with these WRPs will never be addressed. IEPA must either include an enforceable schedule for completion in the Stickney, North Side and Calumet NPDES permits or seek a judicial order requiring MWRDGC to adhere to such a compliance schedule. Interim benchmarks should be included in the compliance schedule to measure progress toward ultimate project completion.

**b. The Stickney permit must better require maximum treatment at the WRP in order to ensure TARP has adequate storage capacity to prevent CSOs.**

In order to reduce the incidence of CSOs, the CSO Policy requires permittees to maximize flow to the POTW for treatment as one of the “nine minimum controls” and as part of the LTCP for the permittee. CSO Policy (II)(B)(4), p. 18691, and (II)(C)(7), p. 18693. IEPA, as the NPDES permitting authority, is required to include conditions in the permit that require implementation of the nine minimum controls and the LTCP and in addition is specifically directed to include “conditions establishing requirements for maximizing the treatment of wet weather flows at the POTW treatment plant, as appropriate.” CSO Policy (IV)(B)(2), (2)(a), (b) and (f), p 18696.

All three permits contain a condition that “The treatment system shall be operated and maintained to maximize treatment of wastewater flows,” (Stickney Permit SC 13.6, North Side Permit SC 13.6, and Calumet Permit SC 8.6) and as initial matter we note that without actual performance standards this condition is weak in all three permits. This permit condition essentially forces IEPA to rely on the permittee to determine whether flows have been “maximized.”

However, flow maximization is especially critical at the Stickney WRP, which is responsible for dewatering and treating the enormous quantity of water that TARP can hold. If Stickney is not operating optimally, it cannot treat sufficient quantities of water from TARP and the storage TARP is designed to provide is not available in the event of a storm. As Dr. Thomas J. Murphy explains in his comments, the maximum daily flow at Stickney has been steadily decreasing over the last decade. See Attachment 2. Reduced treatment capacity at Stickney leads to reduced storage capacity at TARP, and as Dr. Murphy explains, a significant number of CSOs in past years could have been avoided if full storage capacity was available at TARP.

In order to maximize treatment at Stickney, IEPA must work with MWRDGC to identify the problems that are causing diminished treatment capacity and include appropriate remediation measures as permit conditions. A generic condition stating that the WRP must be properly operated and maintained is not enough in this circumstance. Other conditions should specify what needs to be done to maximize flow at Stickney. A permit condition requiring Stickney to dewater TARP in anticipation of a storm event should also be added.

**c. Required CSO control plans must be completed and incorporated into these permits.**

The CSO Policy requires permittees to develop and implement a number of plans in furtherance of the nine minimum controls and the LTCP. The Stickney, North Side and Calumet permits reference several of these plans, but in several cases the plans have not been adequately completed or updated. For example, each permit contains a condition requiring the permittee to implement a “CSO operational and maintenance plan (OMP)” (Stickney SC 13.10, North Side SC 8.10, Calumet SC 13.10), but there is no indication that IEPA has reviewed or approved the contents of those plans. The Stickney and North Side permits indicate that the most recent OMPs for those facilities are from 2007, and the Calumet permit does not indicate whether an OMP has ever been developed for this facility. There is some uncertainty about whether the existing OMPs have ever actually been adopted or whether they are still in draft form. For the Stickney OMP at least, IEPA and USEPA developed and finalized comments on the plan in December 2007, stating that the OMP as submitted was “partial” and “omitting key O&M programs,” but those concerns were never sent to MWRDGC. The most recent version of the OMP has never been accepted by IEPA, and no public information hearing has been held by MWRDGC.

OMP are critical to CSO management and are important elements of an NPDES permit consistent with the CSO Policy. Before these permits are issued, OMPs should be completed, their contents reviewed and approved by IEPA and they should be officially adopted by the permittee. Because the



OMPs represent and contain conditions of the NPDES permits, they should be incorporated into the permit such that the terms of the plan are clear and enforceable.

Similarly, the permits (and the CSO Policy) recognize the problem that Infiltration and Inflow (I/I) contributes to a CSO system. Superintendent Lanyon indicated at the public hearing that MWRDGC has developed a plan to reduce I/I flows to 150 gallons/day per capita. IEPA should review the plan and if it is adequate, include the I/I Plan and a requirement that it be implemented as an enforceable permit condition.

Because CSO control is largely a function of volume control, these NPDES permits should include conditions requiring MWRDGC to implement stormwater management mechanisms and thereby maximize use of the collection system for storage. *See* CSO Policy (II)(B)(2). Permit conditions should require MWRDGC to adopt the Cook County Watershed Management Ordinance it has developed to manage stormwater in the region. A condition should also require MWRDGC to develop and implement a plan that identifies stormwater control projects (including “green infrastructure” projects) that it will construct to reduce the volume of water that inundates the system in a storm.

**d. IEPA should identify sensitive areas to be given priority for CSO controls.**

The CSO Policy states that the Long Term Control Plan should give highest priority to controlling overflows to sensitive areas. CSO Policy (II)(C)(3), p. 18692. Sensitive Areas include “waters with threatened or endangered species and their habitat” and “waters with primary contact recreation.” *Id.*

The waters to which CSOs in these permits discharge have been identified as habitat for a number of state threatened and endangered aquatic species. The Black Crowned Night Heron is a state-endangered aquatic bird species whose largest breeding population in Illinois exists in the Lake Calumet area. Attachments 3 and 4. Similarly, the Hines Emerald Dragonfly is a state-endangered wetland species that only occurs in Illinois along the Des Plaines River. Attachment 5. The presence of these two species in the waterways receiving CSO discharges should prompt IEPA to identify sensitive areas in the Calumet and Stickney permits. IEPA should also revisit the list of state threatened and endangered species to ensure that other threatened and endangered species do not exist in this area. *See* Attachments 6 and 7.

Furthermore, jet-skiing is known to occur in the Cal-Sag Channel. *See* Attachment 8. Jet-skiing is considered a primary contact activity, making the Cal-Sag Channel a “water with primary contact activity.” IEPA should consider this a sensitive area and thereby prioritize management of CSOs in this area where primary contact recreation is known to occur.

**e. The Stickney, North Side and Calumet permits should include a requirement to notify the public when discharges to Lake Michigan are necessary.**

While we recognize that sewer overflow discharges necessitating opening the locks to release water to Lake Michigan are uncommon, they are significant pollution events to a water that is of unquestionable recreational importance to the region. Accordingly, as part of the public notification required by the

CSO Policy, the permits should also require public notification when discharges to Lake Michigan do occur.

**2. The Stickney, North Side and Calumet permits must control nitrogen and phosphorus pollution, which is causing downstream impairments**

It is apparent that these three WRPs, in combination with other sources, are causing violations of applicable narrative water quality standards, 35 Ill. Adm. Code 302.203, and 302.402, and impairment of uses downstream of the plants through their discharges of phosphorus and nitrogen. NPDES permits cannot be issued that would allow such violations and impairments. 35 Ill. Adm. Code § 304.105, 35 Ill. Adm. Code 309.141(d), 309.143 and 40 CFR 122.44(d). Accordingly, limits on the discharge of phosphorus and nitrogen that will prevent such discharges from violating standards are necessary or at least a compliance plan must be developed pursuant to 40 CFR § 122.47. IEPA may not ignore nitrogen and phosphorus pollution simply because it has not yet developed numeric standards for these pollutants. *IEPA and Village of New Lenox v. IPCB*, 386 Ill. App. 3d 375, 896 N.E. 2d 479 (3d Dist. 2008).

**a. Water bodies receiving nitrogen and phosphorus from the Calumet, Northside and Stickney plants are impaired by phosphorus and nitrogen.**

The effects of nitrogen and phosphorus are well known. (See Attachment 9, Petition for Rulemaking under the Clean Water Act – Secondary Treatment Standards for Nutrient Removal “11-27-07 Petition re. Secondary Treatment Requirements” pp. 2-4 and Attachment 10 the Petition for Rulemaking under the Clean Water Act Numeric Water Quality Standards for Nitrogen and Phosphorus and TMDLs for the Mississippi and the Gulf of Mexico “Nutrient Petition” and the documents cited therein) Generally, U.S. EPA has described the damage caused by excess nutrients, stating:

Human health problems can be attributed to nutrient enrichment. One serious human health problem associated with nutrient enrichment is the formation of trihalomethanes (THMs). Trihalomethanes are carcinogenic compounds that are produced when certain organic compounds are chlorinated and bromated as part of the disinfection process in a drinking water facility. Trihalomethanes and associated compounds can be formed from a variety of organic compounds including humic substances, algal metabolites and algal decomposition products. The density of algae and the level of eutrophication in the raw water supply has been correlated with the production of THMs.

\* \* \*

Nutrient impairment can cause problems other than those related to human health. One of the most expensive problems caused by nutrient enrichment is the increased treatment required for drinking water... Adverse ecological effects associated with nutrient enrichment include reductions in dissolved oxygen (DO) and the occurrence of HABs (harmful algal blooms). High algal and macrophyte biomass may be associated

with severe diurnal swings in DO and pH in some water bodies. Low DO can release toxic metals from sediments contaminating habitats of local aquatic organisms. In addition, low DO can cause increased availability of toxic substances like ammonia and hydrogen sulfide, reducing acceptable habitat for most aquatic organisms, including valuable game fish. Decreased water clarity (increased turbidity) can cause loss of macrophytes and creation of dense algal mats. Loss of macrophytes and enrichment may alter the native composition and species diversity of aquatic communities.<sup>1</sup>

In addition, nutrients, particularly phosphorus, can cause high pH levels which themselves can be harmful to aquatic life. Walter K. Dodds, *Freshwater Ecology*, Academic Press (2002) p. 341-42. See also Attachment 12 (Dodds Comment in R2004-26); Attachment 13 (Miltner, R.T. and Rankin, E.T., Primary Nutrients and the Biotic Integrity of River and Streams, *Freshwater Biology* (1998) 40, 145-8); Attachment 14 (Smith, V.H., Joye, S.B. and Horwarth, R.W., Eutrophication of Freshwater and Marine Ecosystems, *Limnol. Oceanogr.*, 51 (1, part 2) 2006, 351-355); Attachment 15 (Graham, J. Harmful Algal Blooms, USGS Fact Sheet 2006-3147 (2007), Attachment 16 (World Health Organization Guidelines for Safe Recreational Water Environments).

That the WRPs at issue are discharging levels of nitrogen and phosphorus that has a reasonable potential to cause the types of impairments known to be caused by such pollution is beyond serious debate. See Attachment 17, p124 (Lanyon, Richard, *Impacts of Chicago Metropolitan Area Point Sources on Water Quality in the Upper Illinois Waterway*) (shows nitrogen levels 2 and 3 times USEPA criteria and phosphorus levels up to 10 times EPA criteria in Lower Des Plains and Upper Illinois)

Indeed, it is literally apparent that waters below the sewage treatment plants are affected by unnatural vegetative growth algal blooms and other effects known to result from such pollution. In his testimony given on January 13, 2010 in IPCB R08-09, Dr. Alan Burton testified regarding his observation of such problems in the Lower Des Plaines. See Attachments 18 and 19 (Testimony of Dr. Alan Burton together with picture taken of algal bloom in Lower Des Plaines)

IEPA in its most recent listing of impaired waters itself lists a number of waters as potentially impaired by phosphorus including the North Shore Channel and segments of the Lower Des Plaines River (segment IL\_G-24 and -11), Cal-Sag Channel (segment IL\_H-01), and the Chicago Sanitary and Ship Canal (segments (IL\_GI-02, -03, and -06) available at <http://www.epa.state.il.us/water/tmdl/303-appendix/2010/appendix-a2-303d-list-alphabetized-draft-3-26-10.pdf>

This IEPA list, however, is clearly too short as IEPA's current methodology only lists a water as potentially impaired by phosphorus if it has a concentration over .610 mg/L. (IEPA Draft 2010 303(d) list p. 50) This number is over six (6) times higher than the U.S. EPA's suggested phosphorus criteria and the criteria recently developed for large rivers by the State of Wisconsin. See Attachment 20 (03-10-3A5 Proposed Wisconsin P Criteria Rule) and the documents used to develop the Wisconsin

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<sup>1</sup> U.S. Environmental Protection Agency, Nutrient Criteria, Technical Guidance Manual, Rivers and Streams, EPA -822-B-00-002 (July 2000) (pp. 4-5, citations omitted) (Attachment 11)

Criteria (Attachment 21) and Attachment 22 (Robertson, D., Weigel, Brian, Graczyk, D, Nutrient Concentrations and their Relations to the Biotic Integrity of Nonwadeable Rivers in Wisconsin available at <http://pubs.usgs.gov/pp/1754/>.)<sup>2</sup>

The Illinois River, while perhaps not having the extreme phosphorus levels present in the IEPA listed waters, is clearly impacted by phosphorus pollution. See Attachment 17 (Lanyon supra); Attachment 23 (Testimony of Dr. Michael Lemke in R04-026); See also Attachment 24 (USGS, Water Quality in the Upper Illinois River Basin, Illinois, Indiana and Wisconsin, 1999-2001) Much of this phosphorus comes from point sources, including, of course the three sewage treatment plants at issue here. In David, M.B and Gentry L.E., *Anthropogenic Inputs of Nitrogen and Phosphorus and Riverine Export for Illinois, USA*, J. Environ. Qual. 29:494-508(2000)(a hearing exhibit identified at Tr. 95), University of Illinois scholars estimate that “47% of the total P loads in Illinois rivers were from sewerage for 1980 through 1997” and that “estimates of the sewerage effluent contribution to river export were 70% for the Illinois River.” p.501. Still further, there is reason to believe that point source discharges of phosphorus are actually more harmful to the environment than other loadings. As stated in the Minnesota Pollution Control Agency Detailed Assessment of Phosphorus Sources to Minnesota Watersheds, “Phosphorus from point sources may be more bio-available, impacting surface water quality more than a similar amount of nonpoint source phosphorus that enters the same surface water.” See Attachment 25 (Barr Engineering MN Phosphorus Study)

Further downstream, the Chicago Watershed has been identified by the U.S. Geological Survey as the watershed contributing the greatest amount of both nitrogen and phosphorus to the Gulf Dead Zone. See Attachment 26 (Sparrow Study). The Gulf Zone is a huge area in which fish and other aquatic life cannot live in the waters of Louisiana as well as the Territorial waters of the United States caused by nitrogen and phosphorus pollution. See Attachment 10 (Nutrient Petition supra p. 5-9)

**b. If limits are not now placed on phosphorus and nitrogen discharges under these permits, at least studies and a compliance plan should be developed.**

The US EPA Science Advisory Committee has proposed that sewage treatment plants in the Mississippi Basin receive limits of .3 mg/L phosphorus and 3.0 for total nitrogen. Attachment 27 (EPA-SAB-08-003 p. 8, 128), See also Attachment 9 (Secondary Treatment Petition supra and documents cited therein) Numerous sewage treatment plants now have limits lower than those where, as here, it is clear that the plants are major contributors to impairments of water quality. See City of Attleboro, MA Wastewater Treatment Plant 14 E.A.D \_\_ (E.A.B. 2009); City of Marlborough, Massachusetts Easterly Wastewater Treatment Plan 12 E.A.D 235 (E.A.B. 2005)

In April 2007 EPA released a study of phosphorus removal costs for advanced wastewater treatment technologies, finding that the 23 facilities assessed could reduce total discharges of phosphorus in effluent to low levels with very low costs of operation, ranging from \$18 to 46 per person per month in total sewerage rates to operate the entire treatment facility.<sup>3</sup> EPA observed that no technical or

<sup>2</sup> Despite U.S. EPA objections, IEPA never lists an impairment as caused by nitrogen.

<sup>3</sup> Attachment 28 (Advanced Treatment to Achieve Low Concentration of Phosphorus, EPA Region 10, April 2007, at 3-9.)

economic reason precludes other dischargers from using the treatment technologies employed at these facilities.<sup>4</sup> See also, Attachment 29 (The Cadmus Group, *Nutrient Control Design Manual* (Jan. 2009))

It may be argued that treating for nutrients at the plants will increase CO2 emissions from the energy sources for the plants. This should be considered in developing the best compliance plan. Ways to use wetland treatment and other methods that may limit such emissions should certainly be explored as well as other ways to reduce existing use of energy at the plants. However, the potential for creation of CO2 through treatment is not a legal basis for allowing discharges that cause violations of water quality standards. This is particularly true given that it is clear that nutrient pollution also creates very damaging greenhouse gases. See Attachment 30 (Codispoti, L.A., *Science* Vol 327 (12 March 2010) p. 1339-40))

In addition to treating the wastewater better, other parts of a compliance plan could include limits on use of fertilizer containing phosphorus as well as better stormwater controls. To its credit, the MWRD has already taken a small step to reduce its phosphorus discharge by supporting legislation to reduce phosphorus levels in automatic dishwasher detergent.

It is in any event clear that IEPA cannot simply ignore the fact that nutrients discharged from the three WRPs may be causing or contributing to violations of standards and water quality impairments. The fact that numeric standards for nitrogen and phosphorus may be on the way in the future does not license doing nothing to control nitrogen and phosphorus pollution from these huge WRPs now. The permits must control all pollutants that may be discharged at a level to cause an excursion above any state water quality standards. 35 Ill. Adm. Code 309.143.

### **3. The Stickney, North Side and Calumet permits should contain conditions requiring pollution minimization programs to be developed to address mercury impairments.**

The North Shore Channel, Chicago Sanitary and Ship Canal and Little Calumet River are listed on Illinois Environmental Protection Agency's (IEPA's) 2008 Section 303(d) list of impaired waters for fish consumption due to unacceptable levels of mercury present in fish. Consistent with the requirement that permitted discharges do not cause or contribute to violations of state water quality standards, 35 Ill. Admin. Code § 309.143, and the goal of minimizing pollution from CSOs, (CSO Policy (II)(B)(3) and (7), p. 18691), the Stickney, North Side and Calumet permits should include conditions requiring development and implementation of a mercury pollution minimization plan, either as part of the pretreatment program or as a stand-alone requirement.

Together, these plants discharge an average of 1.8 billion gallons of wastewater per day. Dr. Thomas J. Murphy has calculated that Stickney alone contributes 2.2 kg/year of mercury to the receiving waters. Attachment 31. Mercury is a persistent bioaccumulative pollutant, and in order to address fish consumption impairments, IEPA (and MWRDGC, as part of its pretreatment authority) should require reductions of mercury from all identifiable sources. Accordingly a permit condition should require creation of a pollution prevention plan for mercury.

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<sup>4</sup> Id. at 3

**4. The Stickney, North Side and Calumet permits should contain conditions requiring pollution minimization programs to be developed to address pollution from pharmaceuticals and personal care products.**

Sewage effluent contains a wide array of pollutants, including pharmaceuticals and personal care products that are known as “emerging contaminants” and for which water quality standards have not yet been developed. See Attachments 32 (Kolpin 2002), 33 (Metcalf 2009), and 34 (Ramirez 2009). The lack of water quality standards does not correlate with a lack of adverse effects, and steps should be taken to minimize the incidence of these pollutants in waterways. Consistent with the goal of minimizing pollution from CSOs, (CSO Policy (II)(B)(3) and (7), p. 18691), and the overall goal of eliminating discharges of pollutants to waterways, the Stickney, North Side and Calumet permits should include conditions requiring development and implementation of a pollution prevention plan for pharmaceuticals and personal care products, either as part of the pretreatment program or as a stand-alone requirement. In furtherance of such a plan, the following specific conditions should be included:

**a. The permit should require MWRDGC to provide a report to IEPA on the ability of current waste water treatments to remove endocrine-disrupting chemicals.**

The permit should require the district to evaluate how well present waste water treatment technologies remove endocrine-disrupting chemicals. As shown on pages 10-11 of the Alliance for the Great Lakes’ Protecting the Great Lakes from Pharmaceutical Pollution Report (“Alliance Report”, included as Attachment 35), the Illinois EPA Bureau of Water found four pharmaceutical compounds in untreated water in Chicago in 2008. These compounds include cotinine, monensin, nicotine, and gemfibrozil. In addition, Lake County tested their drinking water intake in 2008 and found two endocrine-disrupting compounds in the intake waters from Lake Michigan: DEET and Gemifibrozil. These findings show that there is a need for strengthened permits regarding endocrine-disrupting chemicals. The permit should require MWRD to test intake and outtake waters from the Stickney, North Side, and Calumet Water Reclamation Plants. We recommend that these three plants provide results to the IEPA on how well current waste water treatment methods remove endocrine-disrupting chemicals.

**b. The permit should require MWRDGC to study new waste water treatment technologies.**

The permit should require MWRDGC to employ added waste water treatment technologies which will enable them to better handle the removal of threatening endocrine-disrupting chemicals. Current research regarding waste water treatment technologies and water quality have yielded five conclusions: (1) aerobic rather than anaerobic treatments result in lower median concentrations of pharmaceuticals;<sup>5</sup> (2) plants employing activated sludge treatment remove more pharmaceuticals than plants using a trickling filter process;<sup>6</sup> (3) the treatment method employed at the biological phase (sludge vs. filter) is

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5 Conn, Kathleen E., et al. “Occurrence and Fate of Organic Contaminants during Onsite Wastewater Treatment.” *Environmental Science & Technology* 40.23 (2006): 7358-7366.

6 See “A Multi-Disciplinary Approach to the Removal of Emerging Contaminants in Municipal Wastewater Treatment Plants in New York State (2003-2004),” Water Environment Federation’s WEFTEC 78th Annual Technical Exhibition and Conference, Conference Proceedings, Washington DC, November 2005, pages 5095-5124.

much more important than the treatment method employed at the disinfectant stage (ultraviolet vs. chlorination);<sup>7</sup> (4) ultraviolet treatment at the disinfectant stage is more effective at removing caffeine, but chlorine treatment is more effective at removing steroidal compounds;<sup>8</sup> and (5) increasing sludge retention time from five days to ten days makes the activated sludge method more effective.<sup>9</sup>

Presently there are studies being done on the impact of more advanced treatment systems using newer advanced oxidation processes (AOPs). These processes include advanced treatment techniques such as photocatalysis and nonthermal plasma treatments (NTP). Photocatalysis and NTP are treatments of interest because of their ability to reduce contaminants in the water without adding new chemical contaminants.<sup>10</sup> They also expend less energy than other treatment alternatives.<sup>11</sup>

The permit should require MWRD to study new waste water treatment technologies to remove endocrine-disrupting chemicals such as pharmaceuticals and personal care products, including chemicals remaining in sludge waste. The permit should require that this research be completed and a report submitted to IEPA by December, 31 2013.

**c. The permit should require quarterly tests for chronic toxicity of endocrine-disrupting chemicals.**

The permit should instruct MWRD to test for chronic toxicity of endocrine-disrupting chemicals, including pharmaceutical compounds, on a quarterly basis. As indicated on pages 8-9 of the Alliance Report, Chicago has been involved in research focusing on endocrine-disrupting chemicals in fish. Fish were analyzed in fall 2006 and spring 2007 for the presence of endocrine-disrupting chemicals including pharmaceuticals and personal care products. Of the twenty-four pharmaceutical compounds targeted by the pilot test, six were detected in the flesh and/or liver samples of fish taken from the North Shore Channel. Of the two personal care product chemicals (glaxolide and tonalide), both were detected in fish flesh samples taken from the North Shore Channel. This study shows that endocrine-disrupting compounds are present in Chicago area aquatic life.

The permit should require MWRD to do a quarterly test for chronic toxicity of endocrine-disrupting chemicals including pharmaceuticals and personal care products. Pharmaceutical compounds and personal care products effects on aquatic life are not fully understood. However, monitoring for chronic effects through long term Whole Effluent Toxicity (WET) testing may allow us to further understand the relationship between these compounds and aquatic organisms. The permits should require MWRD to conduct chronic and acute WET testing.

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7 Id.

8 "The Occurrence and Fate of Pharmaceuticals, Personal Care Products and Endocrine Disrupting Compounds in a Municipal Water Use Cycle: A Case Study in the Cities of Ann Arbor, Grand Rapids, and Monroe." September 2006.

9 See "A Multi-Disciplinary Approach to the Removal of Emerging Contaminants in Municipal Wastewater Treatment Plants in New York State (2003-2004), Water Environment Federation's WEFTEC 78th Annual Technical Exhibition and Conference, Conference Proceedings, Washington DC, November 2005, pages 5095-5124.

10 Benotti, Mark J., et al. "Evaluation of a Photocatalytic Reactor Membrane Pilot System for the Removal of Pharmaceuticals and Endocrine Disrupting Compounds from Water." *Water Research* 43.6 (2009): 1513-1522.

11 Synopsis of presentation "Innovative Advanced Oxidation Processes for the Treatment of Pharmaceuticals and EDCs" at <http://ngwa.confex.com/ngwa/pharm09/webprogram/Paper6454.html>

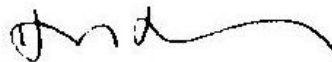
## 5. Conclusion

The permits as written have some good features. However, in many respects, addressed above, the permits cannot be issued as written without violating 35 Ill. Adm. Code 304.105, 309.141, 309.143 and 309.146.

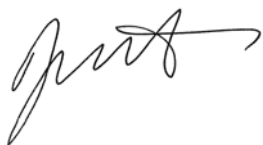
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Enclosure [disc including attachments and attachment list]

**CERTIFICATE OF SERVICE**

I, Jessica Dexter, hereby certify that I have filed the attached **NOTICE OF FILING, APPEARANCE OF JESSICA DEXTER** and **PETITION FOR ADMINISTRATIVE REVIEW OF AN NPDES PERMIT ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY** upon the parties below by depositing said documents in the United States Mail, postage prepaid, in Chicago, Illinois on January 27, 2014.

Respectfully submitted,

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

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