Sierra Club, Prairie Rivers Network Friends of Chicago River, Natural Resources Defense Council, Openlands, Alliance for the Great Lakes, and the Environmental Law and Policy Center

Sent via email to Kaushal.Desai@illinois.gov and al.keller@illinois.gov

August 24, 2015

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: North Shore Water Reclamation District: NPDES Permit No. IL 0030171, Notice No. KKD: 12032701.daa, Clavey Road Water Reclamation Facility

Dear Mr. Desai and other Illinois EPA officials,

This letter, the exhibits to this letter and the Review of Dr. Amanda Parker constitute the comments of the Illinois Chapter of the Sierra Club, Friends of the Chicago River, Prairie Rivers Network, Natural Resources Defense Council, Openlands, Alliance for the Great Lakes and Environmental Law & Policy Center (collectively "Commenters") on the draft National Pollutant Discharge Elimination System ("NPDES") permit (the "Draft Permit") for discharges by the North Shore Water Reclamation District ("NSWRD") from its Clavey Road Water Reclamation Facility ("Clavey Road WRF") to the Skokie River.

Members of the Commenters are directly affected by pollutant discharges into the Skokie River and downstream water bodies. Members of the Commenters boat, fish, swim, hike near, observe wildlife and otherwise use the Skokie River, the North Branch of the Chicago River and other waters to which the Clavey Road WRF contributes pollutants including the Chicago Sanitary and Ship Canal, the Des Plaines River, the Illinois and, when the locks to Lake Michigan must be opened, Lake Michigan. (Map of the CAWS and Tributaries, Ex. 1). Members of these organizations would use these waters more frequently were they not affected by pollution from the NSWRD.

Commenters appreciate that steps are being taken to reduce the impact of the discharges from the plant on the receiving water bodies (e.g. Special Condition 22) and that studies are being conducted that may lead to further improvements (Special Condition 19-21). However, the Draft Permit and the procedures used to develop and describe it do not comply with state and federal law in numerous respects and do not afford the receiving waters the protections to which they are entitled by law.

State law, including federal Clean Water Act provisions incorporated by reference, requires IEPA to include effluent limits in permits where necessary to prevent violations of water quality standards. 35 Ill. Adm. Code 304.105, 35 Ill. Adm. Code 309.141(d) (1), (2), 35 Ill. Adm. Code 309.143(a); 40 C.F.R. § 122.44(d). As explained below, there is at least a reasonable potential for the Clavey Road WRF discharge of total phosphorus ("TP"), carbonaceous oxygen demand ("CBOD") and nitrogenous oxygen demand ("NBOD") to cause violations of the water quality standards for dissolved oxygen ("DO"), 35 Ill. Adm. Code 302.206, and the narrative "offensive conditions" water quality standard prohibiting plant and algal growth of other-than-natural origin. 35 Ill. Adm. Code 302.203. In fact, these waters are already impaired for aquatic life and aesthetic uses with the associated causes of aquatic algae, dissolved oxygen and phosphorus. Specifically, the receiving stream segment (Waterbody segment HCCD-09) is described in the public notice factsheet as having aquatic life and aesthetic use impairments with aquatic algae, dissolved oxygen and phosphorus listed among the causes. The North Branch of the Chicago River (NCC-07) is also impaired.

Regarding phosphorus, the Draft Permit includes only an effluent limit of 1.0 mg/L TP. This is 20 times or more of what has been identified as the natural level of phosphorus in Illinois waters (Testimony of Professor Michael Lemke to the IPCB R04-026, Ex.2.p.3) and more than 13 times the recommended U.S. EPA criteria for this eco-region (0.076 mg/L)(Ex. 3). It is also at least ten times the phosphorus standard that the State of Wisconsin has set for flowing waters less than 40 miles north of the Skokie River and the North Branch of the Chicago River (0.10 mg/L for non-wadeable streams. TP criteria for wadeable streams are lower).(Ex.s 4, 5, 6, 7NW, 7W)

IEPA plainly has not has calculated a water quality-based effluent limit ("WQBEL"). There is no reason to believe that the 1.0 mg/L limit will prevent the plant discharges from causing or contributing to the already existing dissolved oxygen and offensive conditions violations. IEPA should start over, place a proper WQBEL in the permit that is designed to prevent the discharge of phosphorus from causing or contributing to violations of the dissolved oxygen and "offensive conditions" standards, consider what additional steps may be necessary to control CBOD and NBOD, and re-notice the a revised draft permit for public comment under 35 Ill. Adm. Code 309.120.

OBJECTIONS, COMMENTS AND QUESTIONS

A. IEPA must determine if there is a reasonable potential for the discharge to contribute to a violation of numeric or narrative water quality standards.

Numerous provisions of law require that IEPA determine if there is a reasonable potential for discharges of phosphorus (as well as for other pollutants that are or may be in the

discharge) to cause or contribute to a violation of any Illinois numeric or narrative water quality standard:

- 35 Ill. Adm. Code 304.105 provides that "no effluent shall, alone or in combination with other sources, cause a violation of any applicable water quality standard."
- 35 Ill. Adm. Code 309.143(a) requires limits on pollutants that have the "reasonable potential" to cause violations of water quality standards.
- 35 Ill. Adm. Code 309.141(d)(1) and (2) require IEPA to impose any requirement necessary to meet water quality standards and any federal law or regulation, thereby incorporating 40 C.F.R. § 122.44(d).

40 CFR § 122.44(d) requires IEPA to make a reasonable potential determination. As explained by EPA Region 5 Water Director Tinka Hyde:

> EPA expects that Illinois EPA will follow 40 CFR §122.44(d) when it develops permits for nutrient discharges. Specifically, Illinois must (1) determine whether nutrient discharges will cause, have a reasonable potential to cause or contribute to an excursion beyond the criteria in 35 Ill. Adm. Code 302.203 or 302.205 in proximate and downstream waters; and (2) set nutrient effluent limitations which are derived from and comply with 35 Ill. Adm. Code 302.203 and 302.205, as applicable, when it makes an affirmative determination. In addition, Illinois EPA must: (1) determine whether nutrients, either alone or in combination with carbonaceous biochemical oxygen demand (CBOD) and ammonia, will cause, have a reasonable potential to cause, or contribute to an excursion beyond the criteria in 35 Ill. Adm. Code 302.206 in proximate or downstream waters.

Letter of January 21, 2011 from Ms. Tinka Hyde to Marcia Willhite, Illinois EPA. (Ex. 8) See also, Permit Writers Manual Chapter 6 (Ex. 9); Response to Petition of Minnesota Center for Environmental Advocacy (Ex. 10) pp.11-13; Letter of ELPC, MEA, MCEA, NRDC and Sierra Club to Tinka Hyde, Jan. 14, 2013 (Ex.11)(collecting U.S. EPA statements on 40 CFR § 122.44(d)). See also, State-EPA Nutrient Innovations Task Group, "Urgent Call to Action" (August 2009) (Ex. 12); U.S. EPA Presentation, "Developing WQBELs for Nutrient Pollution (Ex. 13)

IEPA provided to Commenters the memo of Bob Mosher to Abel Haile of December 22, 2011, (Ex. 14), which contains a reasonable potential analysis as to certain pollutants and pollutant parameters. It does not, however, provide any analysis of the reasonable potential of the discharge to violate 302.203 (offensive conditions) or 302.206 (dissolved oxygen). Special Condition 21 indicates that IEPA intends to conduct some further analysis regarding dissolved oxygen sometime in the future but certainly does not ensure

that dissolved oxygen standards will not be violated by the discharge. Further, the permit Fact Sheet provides no information on how IEPA derived a 1.0 mg/L phosphorus limit, in violation of NPDES procedural requirements at 40 CFR 124.8(b)(4) and 35 Ill. Adm. Code 309.108 and 309.113(a)(3). The citation given in the Fact Sheet for the 1.0 mg/L limit, 35 Ill. Adm. Code 309.146, a provision which relates to monitoring not WQBELs, is plainly incorrect and therefore violates 35 Ill. Adm. Code 309.113(a)(4).

B. There is at least a reasonable potential that the Clavey Road WRF discharge will cause or contribute to violations of the dissolved oxygen and narrative standards.

It is well known to IEPA that sewage treatment plants that have not been designed to remove phosphorus are likely to discharge phosphorus at concentrations well in excess of the level of the 0.1 mg/L. (Ex.s 15.16. and 17 with data on MWRD discharges and a Water Environment Research Foundation study) Measures of phosphorus concentrations above and below the Clavey Road plant show large increases in phosphorus levels in the Skokie River below the plant, with concentrations below the Clavey Road WRF discharge far in excess of the Wisconsin and U.S. EPA TP criteria. (Ex.s 18, 19)

It cannot be seriously maintained that a 1.0 mg/L limit is adequate to prevent the discharge from causing or contributing to a violation of standards. There is little dilution available in the Skokie River at the Clavey Road WRF outfall (Ex.14) and the waters in the Middle Fork and West Fork of the North Branch of the Chicago River do not provide clean water that could sufficiently dilute the Clavey Road WRF to prevent Clavey Road WRF from causing or contributing to violations of the North Branch of the Chicago River. These other forks of the North Branch contain nutrient-laden effluent from the Deerfield WRF as well as runoff and CSOs. (Ex.1)

IEPA has listed phosphorus as a cause of impairment in a number of waters that receive discharges from the Clavey Road WRF under Section 303(d) of the Clean Water Act, and has specifically listed phosphorus as a cause in HCCD-09 and HCC-07 (Ex.s 14, 20A, 20B). Each of these waters is listed as impaired by low dissolved oxygen and phosphorus with municipal point sources among the sources of the pollutants causing the impairment. (See also MWRD DO data, Ex.s 21 and 22) HCCD-09 is also listed as impaired by aquatic algae. A 303(d) listing of a water body as impaired by the state is at least a *prima facie* showing that it is in fact impaired. *Ala. Dept. of Env. Mgmt. v. Ala. Rivers Alliance, Inc.*, 14 So. 3d 853, 864, 866–68 (Ala. Civ. App. 2007)

There is every reason to believe that phosphorus levels must be well below 0.3 mg/L to prevent violations of 302.203 and 302.206. As noted, U.S. EPA criteria, Wisconsin criteria and Minnesota criteria all would dictate that total phosphorus should be kept less than 0.1 mg/L. (Ex.s 3-7,23, 24). Scientific studies indicate that phosphorus certainly

must be reduced below 0.25 mg/L to reduce the level of unnatural plant or algal growth (Ex.s 25-8). Even a study by the Metropolitan Water Reclamation District at its Egan plant demonstrated that reducing phosphorus levels to 1.0 mg/L is not sufficient to prevent violations of water quality standards (Ex.29).

C. The law requires IEPA to set numeric permit limits that ensure dissolved oxygen and offensive conditions standards will not be violated.

35 Ill. Adm. Code 304.105 and 35 Ill. Adm. Code 309.141(d)(1) require the agency to "ensure" that limits are placed in NPDES permits that prevent violations of water quality standards. To "ensure" means "to make certain." *Corey H. by Shirley P. v. Bd. of Educ.*, 995 F. Supp. 900, 913 (N.D. Ill. 1998); American Heritage College Dictionary (3d Ed.). Surely, one does not "make certain" that pollution allowed by permits will not violate water quality standards without 1) studying the potential impacts of the pollution on the receiving streams, 2) determining what is necessary to prevent impacts that violate water quality standards, and 3) including limits in the permit to prevent such violations. 40 C.F.R. § 122.44(d). See also Ex.s 8-13.

The applicable incorporated federal requirement set forth at 40 C.F.R. § 122.44(d) specifically requires that NPDES permits set limits to prevent discharges from violating not only *numeric* water quality standards (such as the applicable numeric dissolved oxygen minimum levels), but *any* water quality standards "including State narrative criteria for water quality" (such as the narrative offensive conditions standard).

Illinois does not currently have a numeric phosphorus water quality standard that would allow easy calculation of a permit limit. However, the law nonetheless requires that IEPA develop a numeric permit limit on the discharge of phosphorus to prevent phosphorus pollution from causing a violation of the dissolved oxygen or offensive conditions standard. Federal regulations identify several options available to IEPA to accomplish this. As explained in *American Paper Inst. v. United States EPA*, 40 C.F.R. § 122.44(d)(1)(vi) was enacted to prevent the kind of mistake made in the Draft Permit:

> On its face, section 301 [of the Clean Water Act] imposes this strict requirement as to all standards—*i.e.*, permits must incorporate limitations necessary to meet standards that rely on narrative criteria to protect a designated use as well as standards that contain specific numeric criteria for particular chemicals. The distinctive nature of each kind of criteria, however, inevitably leads to significant distinctions in how the two types of criteria are applied to derive effluent limitations in individual permits. When the standard includes numeric criteria, the process is fairly straightforward: the permit merely adopts a limitation

> on a point source's effluent discharge necessary to keep the concentration of a pollutant in a waterway at or below the numeric benchmark. Narrative criteria, however, present more difficult problems: How is a state or federal NPDES permit writer to divine what limitations on effluent discharges are necessary to assure that the waterway contains, for example, "no toxics in toxic amounts"? Faced with this conundrum, some permit writers threw up their hands and, contrary to the Act, simply ignored water quality standards including narrative criteria altogether when deciding upon permit limitations. . . .
>
> To address these difficulties, the EPA promulgated the regulation under attack here, 40 C.F.R. § 122.44(d)(1)(vi). That rule requires NPDES permit writers to use one of three mechanisms to translate relevant narrative criteria into chemical-specific effluent limitations. Specifically, the regulation provides that a permit writer must establish effluent limits from narrative criteria by using (1) a calculated numeric water quality criterion derived from such tools as a proposed state numeric criterion or an "explicit state policy or regulation interpreting its narrative water quality criterion"; (2) the EPA recommended numeric water quality criteria, but only on a "case-by-case basis" and "supplemented where necessary by other relevant information"; and/or (3) assuming certain conditions are met, limitations on the discharge of an "indicator parameter," *i.e.*, a different pollutant also found in the point source's effluent.

996 F.2d 346, 350 (D.C. Cir. 1993).

Applying 40 C.F.R. § 122.44(d)(1)(vi), U.S. EPA has repeatedly set numeric phosphorus limits for sewage treatment plants at 0.1 mg/L based on an analysis of what limits were stringent enough to prevent violations of Massachusetts narrative standards substantially similar to the Illinois dissolved oxygen and offensive conditions standards. These limits —which are an order of magnitude lower than the limit established in the draft Clavey Road WRF Permit— have been upheld by the U.S. EPA Environmental Appeals Board and a federal appellate court. *Upper Blackstone Water Pollution Abatement Dist. v. U.S. EPA*, 690 F.3d 9, 30–31 (1st Cir. 2012), cert. denied, 133 S. Ct. 2382 (2013) (upholding 0.1 mg/L phosphorus limit based on U.S. EPA criteria and national, regional and local studies); *In re City of Attleboro, Mass. Wastewater Treatment Plant*, 14 E.A.D. 398, 399–400, (EAB 2009) (upholding limit of 0.1 mg/L phosphorus to prevent violation of narrative and numeric standards based on EPA Gold Book criteria). The Environmental Appeals Board has even remanded a limit of 0.1 mg/L of phosphorus (one tenth of the limit in the Draft Permit) as potentially not stringent enough, because the record in that case did not show that the limit ensured that an applicable narrative standard would not be violated. *In re City of Marlborough, Mass. Easterly Wastewater Treatment Plant* 12 E.A.D. 235, 250, 2005 EPA App. LEXIS 14 (EAB 2005).

Here, IEPA can look to numerous pieces of information to determine a proper WQBEL for phosphorus in the permit including U.S. EPA phosphorus criterion for this Eco-region is 0.076 mg/L, the Wisconsin phosphorus criteria for wadeable and non-wadeable waters, and the Minnesota 0.150 mg/L criterion..(Ex.s 3-7, 23, 24) To be clear, Commenters do not argue that the U.S. EPA, Minnesota or Wisconsin criteria are water quality standards directly applicable in Illinois. The applicable water quality standards are the offensive condition standard and the dissolved oxygen standards. However, because Illinois has no applicable numeric water quality standard for phosphorus, the U.S. EPA, Minnesota and Wisconsin criteria are the sort of data that 40 C.F.R. § 122.44(d)(1)(vi)(A) requires IEPA to use in setting numeric effluent limits on phosphorus to protect against violations of the dissolved oxygen standards and the offensive condition standard.

Although not directly relevant to the development of a proper WQBEL, it may be mentioned that chemical and biological phosphorus removal processes have been used to reliably reduce phosphorus to well below 1.0 mg/L at facilities similar to the Clavey Road WRF. Many conventional chemical and biological processes can consistently achieve phosphorus levels between 0.5 and 1.0 mg/L, while lower limits are attainable with advanced processes such as tertiary sedimentation and filtration processes.

Many different types of filters, including dual media filters, tri-media filters, and deep bed filters have been used to remove phosphorus, sometimes in combination with sedimentation facilities that provide a secondary barrier to improve performance. This arrangement has been used by Clean Water Services in Portland, OR to consistently meet a 70 ug/L effluent TP permit limit. Direct filtration (without sedimentation facilities) using different types of filters provides a single barrier for solids separation. The City of Las Vegas has used this approach to consistently meet a 170 ug/L effluent TP permit limit. Two stage filtration, or using two filters in series, provides an additional removal barrier to improve separation of phosphorus containing particles. New York has used this type of technology to reduce total phosphorus to below 50 ug/L at its Stamford, Delhi, and Walton plants.[1]

At the Blue Heron Water Reclamation Facility (DAF = 6.75 MGD) in Titusville, FL, improvements including anoxic zone RAS bleed, anaerobic zone VFA addition and discharge to a restored wetland have resulted in nutrient level reductions from 5.67 mg/L to 0.94 mg/L total nitrogen and 0.77 mg/L to 0.04 mg/L total phosphorus.[2]

[1] *Tertiary Phosphorus Removal.* Water Environment Research Foundation.(Ex.17)

[2] *Case Studies on Implementing Low-Cost Modifications to Improve Nutrient Reduction at Wastewater Treatment Plants*. US EPA. August 2015. (Ex. 30) Appendix B Pp. 49-58. Additional references showing that practical treatment to levels far below those proposed by IEPA here

The permit does have a minimum dissolved oxygen limit for the effluent. This is helpful, but requiring minimum levels of dissolved oxygen *in the effluent* does little to protect against phosphorus fueling plant or algal blooms that reduce dissolved oxygen levels in the Skokie River and the North Branch of the Chicago River. In fact, phosphorus pollution leads to plant and algal growth that will take the dissolved oxygen out of the water some time after it is discharged and miles below the discharge point. (Ex.s 2, 31, 32). Indeed, the IPCB has recognized that dissolved oxygen effluent limits are not sufficient to protect dissolved oxygen levels in receiving waters from the effects of phosphorus-fueled algal growth. *IEPA v. IPCB*, 386 Ill. App. 3d 375, 386 (Ill. App. 2008) (imposition of permit effluent limits for dissolved oxygen and pH not sufficient to assure protection against violations in receiving waters of dissolved oxygen or pH standards due to nutrient pollution).

Daily swings in dissolved oxygen levels caused by photosynthetic activity can be caused by plant or algal growth that is stimulated by phosphorus pollution. (Ex.2 and Robert G. Wetzel, Limnology, Academic Press (3d. Ed. 2001) p. 154; Burkholder, JoAnn M., Glibert, Patricia M., Eutrophication and Oligotrophication, Encyclopedia of Biodiversity, Vol. 3, p. 351 (2013) Phosphorus discharged with the effluent may not immediately have any effect on dissolved oxygen in the effluent, and will not even have an effect in the receiving water bodies until there has been time for plants or algae in the receiving waters to use that phosphorus. Thus, even if the effluent has a high level of dissolved oxygen in the pipe coming out of the plant, there may be DO violations downstream as biological activity caused by phosphorus pollution leads to crashes in the DO level during periods of darkness. Dr. Michael Lemke of the University of Illinois testified that low dissolved oxygen levels caused by phosphorus pulsing into Illinois River side channel lakes from river water caused fish kills inside side channel lakes. (Ex. 2).

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include City of Rutland Wastewater Treatment Facility Phosphorus Removal Planning Study Filtration. October 2014. http://www.rutlandcity.org/vertical/sites/%7B7B135F7F-3358-43FC-B154-A313EF1F3222%7D/uploads/Rutland_WWTF_P_Removal_Study_-_Oct_2014.pdf; Erik R. Coats, David L. Watkins, Cynthia K. Brinkman, and Frank J. Loge. Effect of Anaerobic HRT on Biological Phosphorus Removal and the Enrichment of Phosphorus Accumulating Organisms. http://www.mobio.com/images/custom/file/pdf/2011-Coats-WER-Effect-of-anaerobic-HRT-on-biological-phosphorous-removal-and-the-enrichment-of-PAOs.pdf ; Linda L. Blackall, Gregory R. Crocetti, Aaron M. Saunders, and Philip L. Bond. 2002. A review and update of the microbiology of enhanced biological phosphorus removal in wastewater treatment plants. Antonie van Leeuwenhoek, 81 (681-691).; Omoike A. I. and vanLoon, G. W. 1999. Removal of phosphorus and organic matter removal by alum during wastewater treatment. Water Research, 33 (3617-3627).

As a matter of science, it is well established that phosphorus pollution can travel great distances and often causes adverse effects well downstream from the discharge point at locations where the other necessary requirements for plant or algal growth (e.g. light, proper flow conditions) give the algae an opportunity to grow. (Ex.s 2, 31, 32 and publications cited above) As a matter of law, the permit limits must protect those downstream waters in addition to the waters proximate to the discharge. *Arkansas v. Oklahoma*, 503 U.S. 91, 94, 105-07 (1992) (discharges in Arkansas could not be allowed if they would cause a violation of water quality standards in Oklahoma, 39 miles downstream); *In re Proposed Determination of No Significant Ecological Damage for the Joliet Generating Station*, 1989 Ill. ENV LEXIS 1204 *37 (PCB 1989) (discharges of effluent from power plants in Joliet could not be allowed to cause violations of water quality standards downstream in Des Plaines River near Channahon, Illinois). It is literally apparent to members of Commenters that phosphorus pollution is causing algal growth in downstream waters in the North Branch of the Chicago Rivers. (See Pictures)

D. The Permit should require monitoring adequate to determine whether discharges from the Clavey Road WRF violate Special Condition 5.

35 Ill. Adm. Code 309.146(a)(2) provides that "The Agency shall require every holder of an NPDES Permit, as a condition of the NPDES Permit issued to the holder, to ... make reports adequate to determine the compliance or lack of compliance with all effluent limits and special conditions in the permit ..." However, the Draft Permit does not require any monitoring or reporting that will allow determination of whether Special Condition 5 (prohibiting violations of water quality standards) has been met. At a minimum, continuous dissolved oxygen monitoring and appropriate monitoring of chlorophyll in the Skokie River and the North Branch of the Chicago River are needed to determine compliance with the prohibition in Special Condition 5 with regard to dissolved oxygen and offensive conditions. *See Des Plaines River Watershed Alliance v. Ill. EPA*, 2007 Ill. ENV LEXIS 149 *141–42 (PCB 2007) (additional studies required by IPCB to determine if copper limit in NPDES permit was necessary when copper tests that had been done did not lead to clear results).

Objections:

Commenters object to:

1. The lack of a reasonable potential analysis regarding whether the discharge of phosphorus from the Clavey Road WRF, alone and in combination with the discharge of CBOD, NBOD and other pollutants, will cause or contribute to violations of dissolved oxygen standards, 35 Ill. Adm. Code 302.206;

2. The failure of IEPA to perform a reasonable potential analysis regarding compliance with the offensive conditions water quality standard, 35 Ill. Adm. Code 302.203, in the Skokie River and the North Branch of the Chicago River;

3. The failure of the Fact Sheet to provide an analysis of how the 1.0 mg/L total phosphorus limit was derived, in violation of 35 Ill. Adm. Code 309.108(c), 309.113(a)(3) and (4) and 40 CFR 124.8(b)(4);

4. The failure of the Draft Permit to set numeric water quality based effluent limits for phosphorus that ensure against violations of 35 Ill. Adm. Code 302.203 (offensive conditions);

5. The failure of the Draft Permit to set numeric water quality based effluent limits for phosphorus, CBOD and NBOD that ensure against violations of 35 Ill. Adm. Code 302.206 (dissolved oxygen);

6. The failure of the Draft Permit, in violation of 35 Ill. Adm. Code 309.146(a)(2), to require monitoring adequate to determine whether Special Condition 5 is being violated through discharges that cause or contribute to violations of the dissolved oxygen standard, 35 Ill. Adm. Code 302.206; and

7. The failure of the Draft Permit, in violation of 35 Ill. Adm. Code 309.146(a)(2) to require monitoring adequate to determine whether Special Condition 5 is being violated through discharges that cause or contribute to violations of the offensive conditions standard, 35 Ill. Adm. Code 302.203.

Questions:

Commenters ask what analysis IEPA has done with regard to the following subjects and ask that IEPA provide the results of any such analysis:

1. Whether discharges of phosphorus, NBOD and CBOD in the concentrations permitted by the numeric limits in the Draft Permit will cause or contribute or have a reasonable potential to cause or contribute to violations of dissolved oxygen standards, 35 Ill. Adm. Code 302.206, in the Skokie River?

2. Whether discharges of phosphorus, NBOD and CBOD in the concentrations permitted by the numeric limits in the Draft Permit will cause or contribute or have a reasonable potential to cause or contribute to violations of dissolved oxygen standards, 35 Ill. Adm. Code 302.206, in the North Branch of the Chicago River?

3. Whether discharges of phosphorus in a concentration of up to 1.0 mg/L will cause or contribute or have a reasonable potential to cause or contribute to violations of offensive conditions standards, 35 Ill. Adm. Code 302.203, in the Skokie River?

4. Whether the discharge of phosphorus in a concentration of up to 1.0 mg/L will cause or contribute or have a reasonable potential to cause or contribute to violations of offensive conditions standards, 35 Ill. Adm. Code 302.203 in the North Branch of the Chicago River?

5. Whether the discharge of nitrate or total nitrogen from the Clavey Road WRF has affected receiving waters or has any potential to do so?

In addition, Commenters ask:

6. Is 1.0 mg/L phosphorus a water quality-based effluent limit? How was the 1.0 mg/L limit calculated?

7. How does the Agency plan to use the phosphorus removal feasibility study required in Special Condition 20?

8. Does the Agency plan to evaluate phosphorus levels in the Skokie River and their impact on algae and dissolved oxygen levels as part of the reasonable potential analysis and development of water quality based effluent limitations as described in Special Condition 21? When does the Agency plan to conduct these analyses?

9. Special Condition 10 includes this text: "Excluding chlorine associated with air scrubber discharge, 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." This condition prompts a number of questions. What is the origin of the air scrubber discharge? Shouldn't it be subject to the same total residual chlorine limit of 0.05 mg/L as other uses of chlorine? What will be the volume and effect of the chlorine coming from the scrubber waste?

CONCLUSION

Commenters recognize that the nutrient pollution problems faced by IEPA and Illinois dischargers will not be solved easily or immediately. However, the requirements of the Clean Water Act and the state and federal regulations that implement that law must be followed in fashioning the necessary and practical steps to be taken to maintain and restore the chemical, physical and biological integrity of Illinois waters. Most critically, the Draft Permit violates the regulations requiring establishment of water quality based

effluent limits that ensure that discharges allowed by the permit will not cause or contribute to violations of the dissolved oxygen or offensive conditions standards. 35 Ill. Adm. Code 304.105, 35 Ill. Adm. Code 309.141(d) (1) – (2), 35 Ill. Adm. Code 309.143(a); 40 C.F.R. § 122.44(d). In addition, the Fact Sheet and the monitoring requirements are deficient as described above.

We look forward to continuing to work with IEPA to restore and maintain water quality in Illinois rivers, lakes, streams and wetlands.

Sincerely,

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