BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

CITIZENS AGAINST RUINING THE ENVIRONMENT Petitioner, v. ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and JACKSON GENERATION, LLC Respondents.	)	PCB _____ (Third Party NPDES Appeal)

NOTICE OF ELECTRONIC FILING

To:
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Jackson Generation, LLC
1900 East Golf Road, Suite 1030
Schaumburg, IL 60173

PLEASE TAKE NOTICE that on April 2, 2019 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 DARYL GRABLE** a copy of which is attached hereto and herewith served upon you.

Respectfully Submitted,

4/2/2019

Daryl Grable
Baum Senior Legal Fellow
Chicago Legal Clinic, Inc.
211 W. Wacker Drive, Suite 750
Chicago, IL 60606
(312) 726-2938
dgrable@clclaw.org

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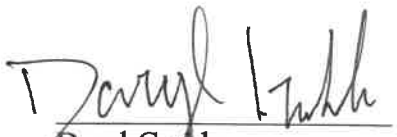
APPEARANCE OF DARYL GRABLE

NOW COMES Daryl Grable, of the Chicago Legal Clinic, Inc., and hereby enters their appearance in this matter on behalf of Citizens Against Ruining the Environment.

Dated: April 2, 2019

Respectfully Submitted,



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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(a)(1) and 35 Ill. Adm. Code § 105, Citizens Against Ruining the Environment ("CARE") hereby petitions for review of the February 26, 2019 decision of the Illinois Environmental Protection Agency ("IL EPA") to grant a new National Pollutant Discharge Elimination System ("NPDES") permit, permit no. IL0080134 ("Permit"), to Jackson Generation, LLC to discharge pollutants from its Jackson Energy Center ("Facility") into an unnamed tributary of Cedar Creek.

In support of their petition, Petitioner states:

Statement of Petitioner

1. Citizens Against Ruining the Environment ("CARE") is the oldest environmental non-profit in Will County, Illinois, focused on fighting for environmental justice and representing the interests of, primarily, Will County residents. CARE is dedicated to ensuring all residents have access to clean air, clean water, clean soil, and clean food, all of which are essential for happy, healthy lives. It is far too common for corporations and public officials to give precedence to profits and big money rather than residents' quality of life, and CARE refuses to allow Will County residents to be treated as second-class citizens.

2. Members and representatives of Petitioner, like Sandy Burcenski and Daryl Grable, appeared at the November 27th, 2018 hearing held in this proceeding and/or submitted comments in opposition to the issuance of the permit. As they are concerned about the additional pollution from Jackson Generation's Facility degrading the natural environment, particularly the water resources in the area enjoyed for recreational and aesthetic purposes, these and other members of Petitioner are so situated as to be affected by the pollution that will result from the Facility.

3. Pursuant to Article XI of the 1970 Illinois constitution, Petitioner has associational standing to seek administrative review of the grant of NPDES permit No. IL0080134 for Jackson Generation's Facility. Article XI 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.").

4. Furthermore, Petitioner has authority to ask the Board to review the NPDES permit, pursuant to 35 Ill. Adm. Code § 105.204(b) and 415 ILCS 5/40(a)(1). Section 105.204(b) states, "If the Agency grants or denies a permit under subsection (b) of Section 39 of the Act, a third party, other than the permit applicant or Agency, may petition the Board for a hearing to contest the decision of the Agency."

Grounds for Appeal

5. This permit appeal presents two claims.

COUNT ONE: IL EPA Should Not Have Issued Jackson Generation's Permit Without Addressing The Presence Of Radium

6. Petitioner hereby repeats, realleges, adopts, and incorporates by reference paragraphs one through five above as if fully set out in this Cause of Action.

7. IL EPA should not have issued the final permit because it cannot assure compliance with Illinois water quality standards, with the Clean Water Act ("CWA"), or the Illinois Environmental Protection Act.

8. The Facility will discharge pollutants from Outfall 001 into an unnamed tributary of Cedar Creek, inevitably migrating to Cedar Creek itself.

9. Specifically, the Facility will be discharging an average of 0.24 MGD of water that is derived from the Village of Elwood municipal water supply. This source water has been demonstrated to contain elevated levels of combined radium 226/228, the unmitigated and unmonitored discharge of which risks disrupting nearby aquatic ecosystems and communities, as combined radium is known to bioaccumulate in aquatic organisms.

10. Illinois' water quality standards governing the General Use unnamed tributary of Cedar Creek are set forth in 35 Ill. Adm. Code § 302, Subpart B.

11. Under CWA regulations, "[n]o permit may be issued . . . When the conditions of the permit do not provide for compliance with the applicable requirements of CWA, or regulations

promulgated under CWA" or "[w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements . . ." 40 CFR § 122.4(a), (d).

12. Every NPDES permit must comply with the CWA and regulations adopted thereunder.

13. When writing an NPDES permit, IL EPA must "ensure compliance with" any limitation "necessary to meet water quality standards . . . established pursuant to any Illinois statute or regulation (under authority preserved by section 510 of the CWA)." 35 Ill. Adm. Code § 309.141(d)(1).

14. Illinois' General Use water quality standards for radioactivity provide that "[t]he average annual radium 226 and 228 (STORET number 11503) combined concentration must not exceed 3.75 picocuries per liter (pCi/L)." 35 Ill. Adm. Code § 302.207(c).

15. The Village of Elwood's Consumer Confidence Reports ("CCRs") have shown that combined radium concentrations have been steadily increasing since 2011, with the most recent CCR, from 2017, indicating the highest concentration found was 6 pCi/L. Village of Elwood, *Consumer Confidence Report*, villageofelwood.com, https://www.villageofelwood.com/ArchiveCenter/ViewFile/Item/150.

16. Although combined radium is present at concentrations that exceed the General Use water quality standard for radioactivity in the water that the Facility will utilize and, ultimately, discharge into the unnamed tributary, the Permit contains no conditions addressing combined radium.

17. The intake water from the Village of Elwood water supply will be treated on-site with reverse osmosis ("RO") to demineralize the water for the heat recovery steam generator and other processes. RO reject from the demineralization process would be discharged with the facility's other sources of wastewater. Public Notice/Fact Sheet, Notice No. JML:18062001.docx, NPDES Permit No. IL0080134, Ill. EPA, 4 (Aug. 2, 2018), *available at* https://external.epa.illinois.gov/ WebSiteApi/api/PublicNotices/GetDocument/3027.

18. As IL EPA explained, RO reject water will contain the same chemical constituents that were removed from the source water, but at increased concentrations. Take strontium, for example: "Based on information provided by water treatment vendors, I[L] EPA expects approximately 99.9% removal of strontium in the RO/mixed-bed systems, and a strontium concentration in the RO reject approximately 4-times the concentration of the city water. Assuming a concentration of 1.2 mg/L in the city water the strontium concentration in the RO reject would be approximately 4.8 mg/L . . ." Jackson Energy Center NPDES Permit Responsiveness Summary, Office of Community Relations, Ill. EPA, 7 (Feb. 26, 2019), *available at* https://external.epa.illinois.gov/WebSiteApi/api/PublicNotices/GetDocument/7992.

19. IL EPA did indicate that it anticipated a "final discharge concentration [of strontium] *following treatment in the proposed detention basin* of approximately 1.75 mg/L." *Id.* (emphasis added).

20. No such acknowledgment of the elevated concentration of combined radium present in the Facility's source water was made in the Responsiveness Summary or the final Permit. Similarly, there was no mention of any treatment to mitigate the even higher concentration of combined radium present in the RO reject water that will be sent to the detention basin prior to its ultimate discharge to the unnamed tributary of Cedar Creek.

21. Petitioner therefore asks the Board to remand the Permit to IL EPA with instructions to include a combined radium effluent limitation based on the Illinois General Use radioactivity water quality standards in 35 Ill. Adm. Code § 302.207(c).

22. In the alternative, Petitioner asks the Board to remand the Permit to IL EPA with instructions to include a combined radium monitoring requirement, as this is the only way for IL EPA and Jackson Generation to "ensure compliance with" Illinois' water quality standards in 35 Ill. Adm. Code § 302.207(c).

COUNT TWO: IL EPA Failed to Respond to Comments

23. Petitioner hereby repeats, realleges, adopts, and incorporates by reference paragraphs one through five above as if fully set out in this Cause of Action.

24. 35 Ill. Adm. Code § 166.192(a)(5) requires that a responsiveness summary include "[t]he Agency's specific response to all significant comments, criticisms, and suggestions" presented orally or in writing during the time the hearing record was open.

25. CARE submitted a detailed comment focused on combined radium, drawing upon years-worth of CCRs from the Village of Elwood, which indicated the presence of combined radium 226/228 at levels which exceed Illinois' General Use water quality standard promulgated under the CWA in 35 Ill. Adm. Code § 302, Subpart B.

26. While IL EPA acknowledged this comment in the Responsiveness Summary, its "response" referenced a separate Agency response to a prior comment relating to the presence of strontium-90. In this response, the Agency completely failed to respond to the concerns raised about the presence and concentration of combined radium 226/228 in the Facility's source water in violation of 35 Ill. Adm. Code § 166.192(a)(5).

27. In a second comment expressing concern over the ability of IL EPA to ensure proposed discharges from the Facility will not violate state water quality standards for radioactivity, IL EPA failed to respond to the issue of combined radium, again making reference to the prior Agency response concerning the presence of strontium-90.

28. Petitioner asks that the Permit be remanded to IL EPA with instructions to address Petitioner's objections about the Permit's failure to address the presence of radium in any way, including the failure to impose an effluent limitation for combined radium and the failure to include a combined radium monitoring requirement necessary to ensure compliance.

WHEREFORE, Citizens Against Ruining the Environment ask that the Illinois Pollution Control Board set aside the NPDES permit (No. IL0080134) issued to Jackson Generation, LLC as not sufficiently protective of the environment and not in accord with law, and direct the Agency to 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.

Respectfully,

Daryl Grable
Baum Senior Legal Fellow

Date: April 2, 2019

Chicago Legal Clinic, Inc.
211 W. Wacker Drive, Suite 750
Chicago, IL 60606
(312) 726-2938
dgrable@clclaw.org

Counsel for Citizens Against Ruining the Environment

Exhibit A

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, ACTING DIRECTOR

217/782-0610

February 26, 2019
Jackson Generation, LLC
1900 East Golf Road, Suite 1030
Schaumburg, IL 60173

Re: Jackson Energy Center
NPDES Permit No. IL0080134
BOW ID: W1970350010
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.

Based on comments made during the public hearing and public notice period following the hearing the following modification were made to the permit:

1. Strontium-90 monitoring was removed from the permit.
2. Ammonia monitoring was added to the permit.
3. Phosphorus monitoring was added to ther permit.
4. A phosphate load limit was added to the permit.
5. Special Condition 12 was added to the permit.
6. The sample type for oil and grease was changed from composite to grab in the permit.

Pursuant to the Final NPDES Electronic Reporting Rule, all permittees must report DMRs electronically unless a waiver has been granted by the Agency. The Agency utilizes NetDMR, a web based application, which allows the submittal of electronic Discharge Monitoring Reports instead of paper Discharge Monitoring Reports (DMRs). More information regarding NetDMR can be found on the Agency website, http://epa.state.il.us/water/net-dmr/index.html. If your facility has received a waiver from the NetDMR program, a supply of preprinted paper DMR Forms will be sent to your facility. Additional information and instructions will accompany the preprinted DMRs. Please see the attachment regarding the electronic reporting rule.

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 Jenny Larsen at 217-782-0610 and the address listed above.

Sincerely,

Darin E. LeCrone, P.E.
Manager, Industrial Unit, Permit Section
Division of Water Pollution Control

DEL:JML:18062001.docx

Attachment: Final Permit

cc: Records
Compliance Assurance Section
Des Plaines Region
USEPA
DRSCW
CMAP

NPDES Permit No. IL0080134

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

New (NPDES) Permit

Expiration Date: January 31, 2024

Issue Date: February 26, 2019
Effective Date: February 26, 2019

Name and Address of Permittee:

Jackson Generation, LLC
1900 East Golf Road, Suite 1030
Schaumburg, IL 60173

Facility Name and Address:

Jackson Energy Center
Intersection of Brandon Rd. and Noel Rd.
Elwood, IL 60421
(Will County)

Discharge Number and Name:

001 Quenched Heat Recovery Steam Generator Blowdown, Reverse Osmosis Reject Water, Evaporative Cooler Blowdown, Misc. Plant Wastewater, Steam Sample Panel Drains and Stormwater

Receiving Waters:

Unnamed Tributary to Cedar Creek

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of Ill. Adm. Code, Subtitle C and/or Subtitle D, Chapter 1, 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 standard conditions and attachments 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.

Darin E. LeCrone, P.E.
Manager, Industrial Unit, Permit Section
Division of Water Pollution Control

DEL:JML:18062001.docx

NPDES Permit No. IL0080134

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Outfall 001 – Quenched Heat Recovery Steam Generator Blowdown, Reverse Osmosis Reject Water, Evaporative Cooler Blowdown, Misc. Plant Wastewater, Steam Sample Panel Drains, and Stormwater* (Average Flow = 0.24 MGD, Maximum Flow = 0.46 MGD)						
Flow (MGD)	See Special Condition 1.				1/Month	Measure
pH	See Special Condition 2.				1/Month	Grab
Total Suspended Solids			15	30	1/Month	Grab
Oil and Grease			15	20	1/Month	Grab
Total Residual Chlorine				0.05**	1/Month	Grab
Temperature			Monitor Only		1/Month	Grab
Arsenic			Monitor Only		2/Year	Grab
Boron			Monitor Only		2/Year	Grab
Cadmium			Monitor Only		2/Year	Grab
Chromium (hexavalent, total)			Monitor Only		2/Year	Grab
Copper			Monitor Only		2/Year	Grab
Iron			Monitor Only		2/Year	Grab
Lead			Monitor Only		2/Year	Grab
Manganese			Monitor Only		2/Year	Grab
Mercury			Monitor Only		2/Year	Grab
Nickel			Monitor Only		2/Year	Grab
Zinc			Monitor Only		2/Year	Grab
Phosphorus			Monitor Only		1/Month	Grab

*See Special Condition 5.
**See Special Condition 7.

NPDES Permit No. IL0080134

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge shall be monitored and limited at all times as follows:

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Outfall 001 Cont.						
Ammonia as N			Monitor Only		1/Month	Grab
Phosphate		3.33			1/Day*	Grab

*Sampling shall be required only when phosphate based additves are used during initial startup/commissioning of the Heat Recovery Steam Generators and during periods of time when there are chemistry upsets that require phosphate-based treatment to maintain boiler pH.. Phosphate usage or non-usage shall be indicated on monthly DMRs.

SPECIAL CONDITION 1. Flow shall be measured in units of Million Gallons per Day and reported as a monthly average and a daily maximum on the discharge monitoring report.

SPECIAL CONDITION 2. The pH shall be in the range 6.5 to 9.0. The monthly minimum and monthly maximum values shall be reported on the DMR form.

SPECIAL CONDITION 3. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) electronic forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee is required to submit electronic DMRs (NetDMRs) instead of mailing paper DMRs to the IEPA unless a waiver has been granted by the Agency. More information, including registration information for the NetDMR program, can be obtained on the IEPA website, https://www2.illinois.gov/epa/topics/water-quality/surface-water/netdmr/Pages/quick-answer-guide.aspx.

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 that have been granted a waiver 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
Attention: Compliance Assurance Section, Mail Code # 19
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

SPECIAL CONDITION 4. If an applicable effluent standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the NPDES Permit, the Agency shall revise or modify the permit in accordance with the more stringent standard or prohibition and shall so notify the permittee.

SPECIAL CONDITION 5. The Agency has determined that the effluent limitations in this permit constitute BAT/BCT for storm water which is treated in the existing treatment facilities for purposes of this permit issuance, and no pollution prevention plan will be required for such storm water. In addition to the chemical specific monitoring required elsewhere in this permit, the permittee shall conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity, and determine whether any facility modifications have occurred which result in previously-treated storm water discharges no longer receiving treatment. If any such discharges are identified the permittee shall request a modification of this permit within 30 days after the inspection. Records of the annual inspection shall be retained by the permittee for the term of this permit and be made available to the Agency on request.

SPECIAL CONDITION 6. In addition to other requirements of this permit, no effluent shall contain settleable solids, floating debris, visible oil, grease, scum, or sludge solids. Color, odor, and turbidity shall be reduced to below obvious levels.

SPECIAL CONDITION 7. All samples for Total Residual Chlorine shall be analyzed by an applicable method contained in 40 CFR 136, equivalent in accuracy to low-level amperometric titration. Any analytical variability of the method used shall be considered when determining the accuracy and precision of the results obtained.

SPECIAL CONDITION 8. There shall be no discharge of polychlorinated biphenyl compounds.

SPECIAL CONDITION 9. The use of any new additives, or change in those previously approved by the Agency, or if the permittee increases the feed rate or quantity of the additives used beyond what has been approved by the Agency, the permittee shall request a modification of this permit in accordance with the Standard Conditions – Attachment H

SPECIAL CONDITION 10. 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 11. 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 12. The permittee agrees to use a non-phosphate based treatment system for chemistry control in the feedwater cycle (HRSG Blowdown) during normal operation of the unit. Normal operation would not include initial unit startup/commissioning, nor periods of time when the non-phosphate treatment is ineffective. The permittee also agrees to use a non-phosphate based RO-antiscalant. Phosphate-based treatment would be permissible during initial startup/commissioning of the units and during periods of time when there are chemistry upsets that require phosphate-based treatment to maintain boiler water pH. During these periods, total phosphate discharge should not exceed 3.33 lbs/day.

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:

(a) 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;
(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
(d) 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.**
(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
(b) 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.
(c) Records of monitoring information shall include:
(1) The date, exact place, and time of sampling or measurements;
(2) The individual(s) who performed the sampling or measurements;
(3) The date(s) analyses were performed;
(4) The individual(s) who performed the analyses;
(5) The analytical techniques or methods used; and
(6) The results of such analyses.
(d) 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.
(a) **Application.** All permit applications shall be signed as follows:
(1) 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:
(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
(b) **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:
(1) The authorization is made in writing by a person described in paragraph (a); and
(2) 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
(3) 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.**
(a) **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:
(1) 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
(2) 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).
(3) 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.
(b) **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.
(c) **Transfers**. This permit is not transferable to any person except after notice to the Agency.
(d) **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.
(e) **Monitoring reports**. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
(1) 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.

(Rev. 7-9-2010 bah)

Exhibit B

Jackson Energy Center

National Pollutant Discharge Elimination System (NPDES) Permit

Responsiveness Summary

Regarding

November 27, 2018 Public Hearing

Illinois Environmental Protection Agency
Office of Community Relations
February 26, 2019

Jackson Energy Center

National Pollutant Discharge Elimination System (NPDES) Permit Responsiveness Summary

Table of Contents

Final February 26, 2019

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Jackson Generation, LLC
Jackson Energy Center
NPDES Permit
Permit Number IL0080134

ILLINOIS EPA PERMIT DECISION

On February 26, 2019, the Illinois Environmental Protection Agency approved a NPDES permit for Jackson Generation, LLC, Jackson Energy Center.

The draft NPDES permit was public noticed on August 2, 2018 and placed on the Illinois EPA website at:
https://www2.illinois.gov/epa/public-notices/npdes-notices/Pages/default.aspx

On October 9, 2018, the hearing notice was posted and on December 7, 2018, the hearing transcript was posted. (After going to the website shown above, please enter "IL0080134" into the search above the "Posting Date".)

The following changes have been made to the draft permit since it was placed on public notice on August 2, 2018:

1. Strontium-90 monitoring was removed from the permit
2. Ammonia monitoring was added to the permit
3. Phosphorus monitoring was added to the permit
4. A phosphate load limit was added to the permit
5. Special Condition 12 was added to the permit
6. The sample type for oil and grease was changed from composite to grab in the permit.

PRE-HEARING PUBLIC OUTREACH

The hearing notice was mailed or e-mailed to:

- Will County officials;
- Municipal officials in Channahon, Manhattan, Elwood, and Joliet;
- Those on the NPDES public notice list; and,
- Those who have requested to be notified of Bureau of Water hearings.

NOVEMBER 27, 2018 PUBLIC HEARING

Hearing Officer Dean Studer opened the hearing on November 27, 2018, shortly after 6:00 p.m. at Joliet Junior College, Weitendorf Agriculture Center, 17840 Laraway Road, Joliet, Illinois 60433.

Illinois EPA Hearing Participants:

Dean Studer, Hearing Officer, Office of Community Relations
Jenny Larsen, Permit Section, Bureau of Water
Darin LeCrone, Permit Section, Bureau of Water
Abby Brokaw, Standards Section, Bureau of Water
Scott Twait, Standards Section, Bureau of Water
Stefanie Diers, Division of Legal Council

Comments and questions were received from the audience.

Hearing Officer Dean Studer closed the hearing at 7:10 pm on November 27, 2018.

Illinois EPA personnel were available before and during the hearing to meet with concerned citizens.

Approximately 20 persons representing neighbors, businesses, environmental groups, and interested citizens participated in or attended the hearing. A court reporter prepared a transcript of the public hearing which was posted December 7, 2018 on the Illinois EPA website.

The hearing record remained open through December 27, 2018.

BACKGROUND OF Jackson Energy Center

The Illinois EPA Bureau of Water prepared a draft National Pollutant Discharge Elimination System (NPDES) permit for Jackson Generation, LLC, whose business address is 1900 East Golf Drive, Road, Suite 1030 Schaumburg, Illinois 601073. The Jackson Energy Center will be located at Intersection of Brandon Road and Noel Road, Elwood, Illinois 60421 (in Will County).

Illinois EPA held this hearing for the purpose of receiving comments on the draft permit prior to taking final action on the permit application. Issues relevant to this proceeding included the antidegradation analysis and the applicant's compliance with the permitting requirements of the federal Clean Water Act and Subtitle C 35 Illinois Adm. Code.

The applicant is proposing to operate a new 1,200 megawatt (MW) natural gas-fired combined-cycle power generating facility (SIC4911). Waste water will be generated from heat recovery steam generator (HRSG) blowdown, reverse osmosis reject water, evaporative cooler blowdown, miscellaneous plant wastewater, steam sample panel drains and stormwater. Plant operation will result in an average discharge of 0.24 million gallons per day (MGD) and maximum discharge of 0.46 MGD from outfall 001.

Responses to Comments, Questions and Concerns

Comments, Questions and Concerns in regular text
Agency responses in bold text

NPDES Permit

1. How much water is going to be supplied from Elwood?

   Jackson Generation estimates that approximately 0.23 million gallons per day (MGD) to 0.39 MGD, assuming 24-hour operation, of water will be required to supply the Jackson Energy Center. Actual water use for the Jackson Energy Center is expected to range between approximately 0.12 MGD to 0.20 MGD.

2. What was the discharge at outfall?

   Outfall 001 will discharge an average of 0.24 MGD.

3. What are the proper waste disposal methods for this facility?

   Jackson Generation will follow applicable special waste hauling requirements pursuant to 35 Ill. Adm. Code 809.

4. Do you know which landfill the solids from the soil/water separator will be taken to?

   Jackson Generation has not determined where solids from the oil/water separator will be disposed. However, solids from the oil/water separator will be sent off-site to a permitted solid waste disposal facility for disposal.

5. The application states that both the waste water and storm water during a rain event will go to the detention pond, which has been designed to accept both. Who reviews and determines that these ponds will meet their goals?

   Illinois Pollution Control Board regulations require that a construction permit application be submitted to the Illinois EPA prior to construction being initiated. As of the date of this responsiveness summary, the construction permit application has not been received. The operation of the detention basin is regulated by NPDES permit limits which includes limits to ensure that the discharge from the detention basin must meet water quality standards and technology-based effluent limitations prior to discharge to the receiving stream.

6. They have a whole list of metals listed here. Why is strontium-90 listed on their listed?

Strontium-90 monitoring has been removed from the permit. Strontium was indicated on Form 2D to be present in the source water. Strontium is naturally occurring and is a constituent of groundwater similar to calcium and magnesium. The strontium in groundwater is not radioactive and not toxic at naturally occurring levels. The radioactive form of strontium, strontium-90, is formed in nuclear reactors and during the explosion of nuclear weapons. Naturally occurring strontium is present in the water supply to the plant, but there is no reason to believe strontium-90 will be present.

Jackson Generation collected two city water samples taken from a fire hydrant near the site in August and October of 2017 and tested for a number of constituents, including strontium. Those samples showed strontium concentrations of 1.2 milligrams per liter (mg/L) and 0.84 mg/L, respectively. City water will be treated by reverse osmosis (RO) and mixed bed ion exchange systems prior to being used in the steam cycle. RO removes many types of dissolved and suspended constituents from water, including strontium[1]. Based on information provided by water treatment vendors, Illinois EPA expects approximately 99.9% removal of strontium in the RO/mixed-bed systems, and a strontium concentration in the RO reject approximately 4-times the concentration of the city water. Assuming a concentration of 1.2 mg/L in the city water the strontium concentration in the RO reject would be approximately 4.8 mg/L with a final discharge concentration following treatment in the proposed detention basin of approximately 1.75 mg/L.

The USEPA's 2018 Edition of the Drinking Water Standard and Health Advisories Tables (2018) does not list a Maximum Contaminant Level for Strontium. However, the Tables give a Lifetime Health Advisory of 4 mg/L which is the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for a lifetime of exposure. Illinois does not have a strontium water quality standard; however, nearby states of Michigan and Indiana have 40 mg/L and 21 mg/L acute and chronic strontium standards based on aquatic toxicity, respectively. As stated above, Jackson Generation's discharge is predicted to have a strontium concentration of 1.75 mg/L which would not exceed the Drinking Water Lifetime Health Advisory of 4 mg/L or the acute and chronic strontium water quality standards for Michigan and Indiana.

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[1] See, e.g., Water Quality Association, water quality fact sheets: https://www.wqa.org/learn-about-water/common-contaminants/chromium, https://www.wqa.org/Portals/0/Technical/Technical%20Fact%20Sheets/2014_Radium.pdf) See also, Water Technology – Contaminant of the Month Strontium, December 9, 2014, https://www.watertechonline.com/contaminant-of-the-month-strontium/

7. Why would the facility be testing for nuclear fission?

Please see response to question 6.

8. Will the detention pond be lined?

The discharge from the detention pond must meet NPDES permit limits prior to discharging to the receiving stream. Once the Illinois EPA receives the construction permit application, the Illinois EPA will review the design of the detention pond to ensure that the discharge from the pond will meet NPDES permit limits. The Illinois EPA may request the facility to conduct groundwater monitoring around the pond to ensure there is no contamination to surrounding groundwater.

9. Has there been any evaluation of how the discharge will or how the water use will affect the municipal water supply and groundwater supply for Elwood and the surrounding communities?

Jackson Generation estimates water supply requirements of approximately 0.23 MGD to 0.39 MGD, assuming 24-hour operation. Actual use is expected to range between approximately 0.12 MGD to 0.20 MGD. Between July 2014 and May 2017, water consumption in the village of Elwood averaged 0.22 MGD, ranging between 0.17 and 0.34 MGD[2]. According to the report prepared by Baxter & Woodman Consulting Engineers for the Village of Elwood, the existing Village of Elwood water supply and treatment facilities include two deep wells, a water treatment plant, and a 1 million gallon elevated storage tank. Five wells, originally drilled and owned by the US Department of the Army were used to serve the Joliet Arsenal and since have been turned over the Village of Elwood. The Village currently draws from the two deep wells (well Nos. 9 & 10 each with a capacity of 1.1 MGD) drilled in the Galesville sandstone formation. The remaining three wells are currently inactive but have not been abandoned. The actual firm pumping capacity of the present Elwood well system with one unit out of service is 1.1 MGD. Assuming average flows, the actual amount of water needed to supply Jackson Energy Center and The Village of Elwood is approximately 0.38 MGD. Thus, the Village of Elwood has sufficient existing capacity to provide water to both the Jackson Energy Center and the Village of Elwood.

The water required to supply Jackson Energy Center will be significantly less than a similar natural-gas fired combined-cycle generating facility that does not utilize air cooled condensing. For example, Kendall Energy Center, also a 1,200 megawatt (MW) natural gas-fired combined-cycle power generating

[2] Baxter & Woodman (2017) Village of Elwood, Water and Wastewater Facilities Planning Report.

facility located in Kendall County, discharges an average of 1.5 MGD. Jackson Energy Center will discharge an average of 0.24 MGD.

10. Why is the Illinois EPA not requiring a pollution prevention plan in Special Condition 5?

A stormwater pollution prevention plan will not be required for this facility because stormwater will be treated on site in a detention basin prior to discharge and the discharge from the pond will be subject to effluent limitations prior to entering the receiving stream. The Illinois EPA has determined that the facility meets BAT/BCT for stormwater and no pollution prevention plan will be required. Not requiring a stormwater pollution prevention plan is a common condition placed in permits where the facility provides BAT/BCT for stormwater. Special Condition 5 of the permit requires the permittee to conduct annual inspections of the site to identify areas contributing to stormwater discharges associated with industrial activity and determine whether any modifications have occurred which would result in previously-treated stormwater discharged no longer receiving treatment. If such discharges are identified, the permittee is required to request a permit modification.

11. There's been considerable discussion of the source of the water here. You say it's the municipal supply. Is that the finished water of the intake water to the municipal supply?

The source water is supplied by the Village of Elwood.

12. The draft permit as it stands has no phosphorus monitoring. Can the permit include phosphorus monitoring during the time that phosphorus is being used at the facility?

Once a month phosphorus monitoring has now been included in the permit.

13. What frequency is this facility proposed to run? Is it going to run 24/7 or periodically?

It is difficult to estimate the number of hours the generating station will operate on a daily or annual basis, because of the high efficiencies achieved with the combined-cycle technology and the ability to respond rapidly to changes in energy demand. Jackson Generation anticipates that the facility will operate at a relatively high capacity factor. A reasonable approximation of annual hours of operation can be determined by looking at a similarly designed generating facility. A nearby 1,200 MW natural gas-fired combined-cycle power generating facility's annual hours of operation have ranged between approximately 6500 to 7400 hours per year, or between 18 and 20 hours per day, for 365 days a year.

14. In looking through permit review notes on page 7, the only treatment check there was sedimentation. Will there be oil and grease separators as part of the treatment?

The only planned treatment for the facility will be oil/water separators and a stormwater detention basin.

15. In the permit application besides indicating that there was strontium present, there was also gross alpha measurements in the water. My question is, should there be a gross alpha limit placed in the permit?

There is no water quality standard or effluent standard for gross alpha. However, the USEPA's 2018 Edition of the Drinking Water Standard and Health Advisories Tables (2018) does list a Maximum Contaminant Level (MCL) for Gross Alpha. MCL is defined as the highest level of a contaminant that is allowed in drinking water. The MCL for Gross Alpha is listed at 15 picocuries per liter (pCi/L). Form 2D in the permit application estimated the maximum concentration of Gross Alpha from outfall 001 to be 9.6 pCi/L, which is below the MCL. There will not be a permit limit for Gross Alpha because Gross Alpha's estimated concentration in the discharge is well below Drinking Water Standards.

16. Am I correct, in my review that it looks like there's a 25-27% of the water that's used in the facility is going to be lost due to evaporative cool?

Just over 80% of the approximately 81 gallons per minute (gpm) of water used to supply the evaporative cooler will be lost to evaporation. The evaporative cooler will only operate at an ambient temperature above approximately 59°F.

17. Did you assess how much things are concentrated in the blowdown?

Between 0.5% and 1.0% of the water used in the heat recovery steam generator will be blowdown on a continuous basis.

18. How often is the facility supposed to monitor and submit this data to the Illinois EPA?

Page 2 of the permit specifies how often each parameter must be sampled. Sampling results must be submitted each month to the Illinois EPA as required by Special Condition 3 of the permit.

19. Is there any way sampling could be incorporated in the permit so Illinois EPA could go out on a yearly basis and possibly do split sampling with the company for all these constituents?

The Illinois EPA will occasionally conduct a site visit of the facility and may take a sample depending on the Agency's goals, targets, and priorities for that year. The Illinois EPA may conduct split samples with the facility if inconsistencies in the sample results are found.

20. What would necessitate the Illinois EPA in their documentation to say, wait a minute, something's going on? Is it just one of their monthly samples? Is it every three?

The results of the monthly discharge monitoring reports are reviewed by the Illinois EPA's compliance section and may trigger a response by the Illinois EPA if there is a violation that exceeds a permit limit by a certain percentage or for a certain duration.

21. The draft NPDES permit proposed by Illinois EPA fails to address, or even acknowledge, the presence of radioactive materials in the water Jackson Energy Center will use for the heat recovery steam generator and other processes.

Please see response to question 6.

22. Illinois EPA must clarify where the boundaries are for what is considered water of the United States as it pertains to the unnamed tributary, Cedar Creek, and the location of the proposed detention basin.

The unnamed tributary of Cedar Creek drains approximately 0.15 square miles of land into Cedar Creek. Both the unnamed tributary of Cedar Creek and Cedar Creek are considered Waters of the United States. The proposed detention basin will be located along the north end of the property boundary.

23. The NPDES permit is incomplete at best due to its failure to provide any details about the proposed detention pond, a significant piece of the pollution control equipment to be used at Jackson Energy.

Please see response to question 5.

24. There are a number of concerns about the use of Village of Elwood groundwater supplies at this facility. the Illinois EPA needs to take a careful look at whether the proposed discharges from the facility will violate state water quality standards for radioactivity.

Please see responses to questions 6 and 9.

25. What are Illinois EPA's runoff requirements for an industrial facility like this? How will Illinois EPA ensure that all storm water is treated in the existing treatment facilities and will meet BAT/BCT for storm water?

Please see response to question 10.

26. What would be the costs of putting proper waste water treatment at this plant and what are the costs of such treatment relative to the profits to be made by the facility?

Wastewater discharge from the Jackson Energy Center will primarily consist of HRSG blowdown, otherwise known as boiler blowdown. Boiler blowdown is considered a low-volume waste source pursuant to 40 CFR 423.11(b). New Source Performance Standards in 40 CFR 423.15 are derived from pollutant levels achieved using best available control technologies economically feasible. The USEPA's development document for Steam Electric Power Generating facilities states that for low-volume waste sources, "These wastes, where by the specific wastewater parameters of the untreated waste, can be practicably treated collectively by segregation from higher volume wastes, equalization, oil separation, chemical addition, solids separation, and pH adjustment." The primary parameter of concern in the boiler blowdown is solids. Solids are treated through settling which can be achieved through various methods including but not limited to a lagoon, settling tank or detention basin. A biological wastewater treatment plant would not be feasible for the parameters present in boiler blowdown as there is not sufficient organic matter present in the wastewater to sustain the microbial population required for biological treatment. Please refer to the response to question 38 regarding additional wastewater treatment alternatives evaluated during the antidegradation assessment. The Illinois EPA concurred with Jackson Generation's determination that biological treatment was not a technically feasible wastewater treatment option.

27. What kinds of discharges have been seen at other facilities of this type?

The water required to supply Jackson Energy Center will be significantly less than a similar natural-gas fired combined-cycle generating facility that does not utilize air cooled condensing. For example, a nearby 1,200 MW natural gas-fired combined-cycle power generating facility located in Kendall County, discharges an average of 1.5 MGD. Jackson Energy Center will discharge an average of 0.24 MGD.

28. What evaluation has been done on the impact of the additional water used by this facility on the sustainability of groundwater resources that Elwood and nearby towns rely on?

Please see response to question 9.

29. We object to waiving any requirements for a pollution prevention plan, as well as requisite annual submission of records for Illinois EPA review.

Please see response to question 10.

Antidegradation Assessment/Water Quality Standards

30. The outfall is an unnamed tributary to Cedar Creek. What is the history of this area as far as flooding and are there any residential areas that could be impacted by this flood plain?

The Illinois Office of Water Resources at the Illinois Department of Natural Resources regulates construction in the floodways of streams in urban areas where the stream drainage area is one square mile or more and all streams in rural areas where the stream drainage area is ten square miles or more. Floodplain maps are available on the IDNR Flood Insurance Rate Map (FIRM) or Federal Emergency Management Agency (FEMA) websites. (https://www.dnr.illinois.gov/waterresources/pages/faq's.aspx)

Per the *Wetland and Waterway Investigation Report* dated January 3, 2018, provided by the Applicant, the FEMA FIRM depicts Zones A (Floodplain) and X (Other Areas) within the project limits. Zone A is defined as the 'special flood hazard areas inundated by the 100-year flood...No base flood elevations determined" and Zone X is defined as "areas determined to be outside the 500-year floodplain."

31. The unnamed tributary possesses a watershed area less than 1 square mile. Can you list the regulation that supports this type of operation?

An Antidegradation Assessment was conducted pursuant to 35 Ill. Adm. Code 302.105 for the proposed facility's discharge to ensure protection of existing uses of the receiving stream and review potential impacts to water quality. The facility has proposed a design average flow of 0.24 MGD, which would provide more consistent flow for aquatic life. The additional flow in the receiving stream will be especially beneficial during dry weather periods, which coincides with the facility's peak operation during the summer months. Furthermore, the limits in the facility's permit would be protective of aquatic life and the proposed activity results in the attainment of water quality standards.

32. There are a multitude of chemical additives listed in the permit application. A couple that stood out were hydrochloric acid and sulfuric acid. Will there be

monitoring for those chemicals? There is also phosphorus-based additives of anti-corrosive and anti-scaling of the piping water treatment additives for chemical conditioning of the RO system and HRSB. Can you describe that process?

The NPDES permit would not require monitoring for hydrochloric acid and sulfuric acid, specifically, but the use of these chemical additives as pH adjusters would be monitored by the pH limit in the permit. The pH from the outfall would be reported to the Illinois EPA each month electronically through the Discharge Monitoring Report (DMR) system.

The additive proposed to manage the pH of the RO reject stream and aid in anti-scaling is a common pH adjuster comprised of < 51% sulfuric acid. The product would be applied continuously into the RO reject stream at 80 ppm (mg/L) and discharged from Outfall 001 at a maximum concentration of 16.6 ppm (mg/L), a concentration that may be toxic to aquatic life (96-hour *Gambusia affinis* LC50 = 42 mg/L). However, the low pH of the product would be neutralized within the RO reject and further neutralized with other waste streams would occur prior to discharge through the outfall, thus mitigating toxicity.

33. There are a multitude of parameters for Outfall 001. What are the monitoring requirements for Outfall 001?

The proposed monitoring requirements are typical for an industrial discharger. The Applicant would collect the samples required in the permit, either monthly or semi-annually, and would submit results electronically to the Illinois EPA through the DMR system. Monitoring requirements and frequency are provided on page 2 of the permit.

34. We have concerns about the discharges effect on the Cedar Creek and the unnamed tributary especially in regards to sedimentation and then the phosphorus and ammonia additives that will be discharged especially given that the waterway has not been assessed.

Total suspended solids (TSS) would be treated in the sedimentation ponds. Effluent discharged from the pond would contain suspended solids loadings similar to or less than those occurring from the land in its present use (agriculture). The facility would have a TSS limit of 15 mg/L for the 30-day average and 20 mg/L for a daily maximum, per 35 Ill. Adm. Code 304.124.

The initial phosphorus loading estimate of 3.9 lbs./day was a worst-case scenario proposed by the Applicant. This initial review was conducted to determine if the facility's effluent load would exceed the effluent phosphorus limit of 25 lbs./day. Per the antidegradation requirements, the Applicant has agreed to restrict the use of phosphorus-based additives during the initial start-up and chemical upsets. A more accurate estimate of the phosphorus

loading would be 0.9 lbs./day to be treated by the sedimentation pond. A phosphorus limit is not necessary; however, monthly phosphorus monitoring was added to the permit.

If ammonia limits were applicable to this facility, they would be calculated based on water quality standards at 35 Ill. Adm. Code Part 355, using water quality data from AWQMN station DV-04, Mazon River, west of Coal City. Daily maximum limits of 3.5 mg/L (spring/fall), 2.9 mg/L (summer) and 2.8 mg/L (winter) would be proposed. These limits reflect the seasonal acute water quality standards with no mixing allowance because the receiving stream has no flow during 7Q10 conditions. Chronic water quality standards with no mixing zone dictate 30-day average limits. Limits would be 1.2 mg/L (spring/fall), 0.8 mg/L (summer), and 2.1 mg/L (winter). The Applicant provided best professional estimates of 0.3 mg/L for maximum daily value and average daily value. This estimate is well below the chronic and acute ammonia water quality standards. Additional ammonia treatment and/or ammonia limits would not be required; however, monthly ammonia monitoring is required in the permit.

35. Will Illinois EPA be involved in any of the sampling?

See response to question 19.

36. Has there been any evaluation of how aquatic life in Cedar Creek would be affected or how the existing use of that waterway would be affected?

Huff & Huff, Inc. (H&H), a subsidiary of GZA, Inc., conducted a physical, biological and chemical analysis of the unnamed tributary to Cedar Creek on February 3 and 4, 2019 at two locations as close to the proposed outfall and confluence with Cedar Creek as possible given site constraints. The Qualitative Habitat Evaluation Index (QHEI), developed by the Ohio EPA as a methodology for evaluating the physical habitat of a stream (Ohio EPA 2006), was used to score several key components of lotic (flowing) habitat characteristics important to fish. A high scoring stream is considered to have more of the key characteristics of good in-stream habitat (> 70). Both sample locations 1 and 2 rated numerical scores of 25 with corresponding narrative ratings of very poor. During the site investigation no evidence of relic freshwater mussel shells were identified within the streambed or along the banks. In addition, no fish species were encountered. Given the intermittent nature and limited depth of the unnamed tributary to Cedar Creek, as well as the culvert outfall to Cedar Creek being slightly higher than the normal water level of Cedar Creek, it is unlikely fish species inhabit the unnamed tributary to Cedar Creek.

The biological survey completed by Huff & Huff further supports that the unnamed tributary of Cedar Creek in the area of the proposed facility is likely

a 7Q1.1 zero flow stream. Aquatic life communities in these headwater streams are tolerant of the effects of drying and depending on the rainfall before, either a very limited or no aquatic life community would be found. Additionally, the IDNR EcoCAT consultation found that adverse impacts to protective resources in the vicinity of the proposed project area are unlikely. Based on the findings by Huff & Huff, size of the watershed, results of the EcoCAT consultation, and that water quality standards will be met at the point of discharge, with phosphorus kept to a minimum, it is not anticipated that aquatic life or the existing use of the receiving stream would be adversely impacted. Rather, it is expected that the additional flow (0.24 MGD) to the receiving stream would be beneficial to aquatic life, especially during dry weather conditions.

37. I see that there was an EcoCat study completed for Cedar Creek, but there's been no other biological assessment done on Cedar Creek. Can you explain why that is?

Please see response to question 36.

38. Was there any consideration given for further treatment beyond putting water in the lagoon and the oil separator?

The Applicant considered the following additional treatment alternatives that would follow the sedimentation pond treatment: treatment by the Village of Elwood WWTP; free water surface wetland system; and slow rate land treatment. As discussed below, each of the alternatives were considered infeasible due to the lack of nutrients and organic loading in the proposed effluent. Additionally, the Applicant is proposing to meet all applicable water quality standards which are protective of the receiving stream by use of a sedimentation pond as the proposed treatment method.

The Water and Wastewater Facilities Planning Report for Village of Elwood, Illinois, dated December 2017 and completed by Baxter & Woodman evaluated the impact of the proposed facility's wastewater if received by the Village's WWTP receiving the proposed facility's wastewater. In Chapter 8, the report identifies that the facility's wastewater would burden the WWTP with dilute flows and the Village would require the facility to pre-treat the effluent with organic loading prior to entering the Village's WWTP.

The report further acknowledges that organic supplementation is not a common recommendation; however, due to the highly dilute flows from the facility, additional pre-treatment would be required. Pre-treatment would need to include, flow equalization and wastewater supplementation with organic loads representative of typical wastewater contents, approximately 555 lbs. of carbon per day. Additionally, the Village anticipates that within

the first month that the facility connects, the water demand and wastewater treatment flows may be up to the design maximum levels.

The Applicant assessed the construction of a free water surface (FWS) wetland system, which would be designed and operated to remove BOD, COD and TSS. With a sufficiently long hydraulic retention time and properly designed wetland, FWS wetlands can also provide nitrogen and phosphorus removal. FWS wetlands require relatively large land areas, especially if nitrogen or phosphorus removal is required. Design, construction and maintenance of a constructed FWS wetland would require significant land and earth work to provide alternating shallow and deep zones, and effectiveness would be seasonal. Regardless of the size of the wetland or the characteristics of the influent, nutrient concentrations anticipated in the facility wastewater are already at or below background water chemistry levels. Because of the low nutrient concentrations in the Jackson Generation wastewater stream, discharging to a constructed wetland would not provide significant secondary wastewater treatment, or result in a significantly different discharge stream.

The Applicant also assessed slow rate (SR) land application. The primary objective of the SR treatment option is to provide water and nutrients that contribute to the growth of a wide variety of crops, the maintenance of parks, pasture lands, and forests, while simultaneously providing wastewater treatment. SR systems can be used to reduce BOD, TSS, nitrogen, phosphorus, metals trace organics, and pathogens in wastewater. Limitations of SR systems are generally related to the availability of sufficient land, the suitability of the soil, and the capacity of the vegetative growth to remove nutrients (or other pollutants) of concern. Nutrient concentrations in wastewaters generated at the facility would be limited at less than 1 ppm making it likely that nutrient addition would be required to support crop plant growth and unlikely that an SR system would effectively reduce nutrient concentrations in the wastewater. Furthermore, climatic conditions would limit application of the wastewater during wet periods or winter months, and a large water storage facility would be needed to allow continued operations during these time periods.

39. There was no consideration of a treatment wetland below the pond that would take phosphorus in the plants or anything like that?

Please see response to question 38.

40. Could a condition for phosphorus-based additives be made part of the permit?

The permit now contains the following special condition (Special Condition 12):

The permittee agrees to use a non-phosphate based treatment system for chemistry control in the feedwater cycle (HRSG Blowdown) during normal operation of the unit. Normal operation would not include initial unit startup/commissioning, nor periods of time when the non-phosphate treatment is ineffective. The permittee also agrees to use a non-phosphate based RO-antiscalant. Phosphate-based treatment would be permissible during initial startup/commissioning of the units and during periods of time when there are chemistry upsets that require phosphate-based treatment to maintain boiler water pH. During these periods, total phosphate discharge should not exceed 3.33 lbs./day.

41. In reviewing a chart called Effluent Character Characteristics and it lists phosphorus and they have a maximum daily value of 1 part per million and an average value of .29. Is the facility not going to use phosphorus in treatment?

Per the antidegradation requirements, the Applicant has agreed to modify the use of phosphorus-based additives only in instances of initial start-up and upsets. A more accurate estimate of the phosphorus loading would be 0.9 lbs./day to be sent to the sedimentation pond for treatment. Most recent estimates from the facility, using back calculations to determine the phosphate in city water, have determined that average concentrations of 0.5 mg/L are achievable. Phosphorus concentrations would be monitored monthly and the permit contains the special condition provided in question 40.

42. Was any consideration given to ammonia treatment through any sort of wetland or other facility that would stand between the pond and either the unnamed tributary or Cedar Creek?

Please see response to question 38 that includes discussion of all the assessed alternatives, including a wetland. Additionally, please see response in question 34 regarding the ammonia levels in the effluent.

43. Could the Agency consider as an alternative putting some sort of treatment wetland in between the pond and either the unnamed tributary or Cedar Creek to provide an additional protection of Cedar Creek?

Please see response to question 38.

44. The pH limit is between 6.5 and 9. We heard some questions about the possibility of an acid discharge. Did the Illinois EPA consider the combination of the operation of a .3 milligram per liter ammonia if you had a base that approached 9 in the receiving water?

The facility has proposed the use of chemical additives to be used as cleaning solutions for the RO system and pH adjuster. The use and

discharge concentration of each product has been reviewed and found that the pH would be neutralized within the RO reject and further neutralized with other waste streams prior to the outfall. Given the pH of the chemical additives would be neutralized and that the ammonia concentration of 0.3 mg/L is below the water quality standard, impacts of the pH combined with the ammonia at discharge are unlikely to lead to conditions that will make the ammonia toxic. The permit includes monthly monitoring for ammonia and pH to increase data availability for the facility's permit renewal.

45. Is the Illinois EPA aware of the new USEPA ammonia criteria with regards to protection of muscles and other aquatic life from ammonia toxicity where there's a high pH and discharge of .3 milligrams per liter?

The Illinois EPA is aware of the 2013 national criteria document for ammonia. However, the current Illinois water quality standard in Illinois is based on the 1999 national criteria document. The 2013 ammonia criteria have not been adopted by the Illinois Pollution Control Board.

However, based on the proposed 2013 national criteria document for ammonia and pH and temperature data from AWQMN station DV-04, Mazon River, west of Coal City (an adjacent and similar watershed), the 0.3 mg/L of ammonia proposed by the facility would meet the proposed 2013 USEPA chronic limits of 0.5 mg/L (spring/fall), 0.4 mg/L (summer), and 1.0 mg/L (winter) based on median pH and no mixing allowance.

46. Under Section 302.105, applicants are required to, ID and characterized give an identification and characterization of the physical, biological and chemical conditions of the water affected by the proposed activity and existing water body uses. I understand that there wasn't data available on the tributary to Cedar Creek and Cedar Creek itself, why didn't Illinois EPA require the applicant to conduct their own studies?

At the point of discharge for proposed Outfall 001, the USGS Illinois Streamstats basin characteristics program determined a watershed size of 0.09 square miles for the unnamed tributary of Cedar Creek. According to the Illinois State Water Survey, the unnamed tributary of Cedar Creek is likely to be 7Q1.1 zero flow stream that exhibits no flow for at least a continuous seven-day period nine out of ten years. In this region of Illinois, 7Q1.1 zero flow streams are streams with a watershed area of 1 square mile or less. Aquatic life communities in these headwater streams are tolerant of the effects of drying and when surveyed (depending on recent rainfall events) very limited aquatic life community or no community at all are found. Given this flow regime and that the IDNR EcoCAT consultation found adverse impacts to protective resources in the vicinity of the proposed project area unlikely, no additional biological characterization is required. However, Huff & Huff, Inc. (H&H), a subsidiary of GZA, Inc., completed a wetland delineation

report dated November 20, 2017, (referenced) and conducted a physical, biological and chemical analysis of the unnamed tributary to Cedar Creek on February 3 and 4, 2019 at two locations as close to the proposed outfall and confluence with Cedar Creek as possible given site constraints. The findings of the survey completed February 3 and 4, 2019, are discussed below.

The unnamed tributary to Cedar Creek is an intermittent stream that primarily receives surface water runoff from adjacent roadways, agricultural fields and industrial developments. Vegetation primarily consist of low quality and invasive species. Both sample locations have a narrative QHEI score of Very Poor, indicating very poor aquatic habitat quality. No fish species were encountered during the site investigation or during the wetland delineation on November 20, 2017. Given the intermittent nature and limited depth of the Unnamed Tributary to Cedar Creek, as well as the culvert outfall to Cedar Creek being slightly higher than the normal water level of Cedar Creek, it is unlikely fish species or mussels inhabit the unnamed tributary of Cedar Creek.

The results of the water chemistry concluded that the parameter concentrations identified by the Applicant as potentially being present in the effluent are at or below background concentrations for all parameters with the exception of ammonia, copper, fluoride, iron, lead, mercury, oil and grease, phosphorus, silver and zinc. Copper, lead, mercury, oil and grease, silver and zinc water chemistry data were above the background concentrations. However, the water chemistry data and effluent samples were measured at different minimum detection levels and likely that these parameters are similar to background concentrations. When comparing the iron concentration to the proposed effluent, iron was above the sampled background concentrations. However, it is well below the effluent standard. Ammonia and phosphorus would also be above background concentrations. As discussed in the response to question 34, ammonia would be below the water quality standards and as previously discussed in the response to question 34, phosphorus use would be kept at minimum.

47. Did the Illinois EPA do an assessment of how far downstream the new pollutants from this facility are going to reach so that while you might not have life in that small tributary to Cedar Creek, certainly the potential life impacted downstream in Cedar Creek itself?

Based on the size of the watershed, results of the EcoCAT consultation, and that water quality standards will be met at the point of discharge, with phosphorus kept to a minimum, it is not anticipated that aquatic life or the existing use of Cedar Creek would be adversely impacted. Rather, it is expected that the additional flow (0.24 MGD) to the receiving stream would be beneficial to aquatic life, especially during dry weather conditions.

48. Why wasn't land application of the waste water, why wasn't an evaluation of that considered as one of the alternatives?

Please see response to question 38.

49. One of the alternatives that the applicant did consider was zero liquid discharge with reverse osmosis. That option would reduce pollutant loadings to the stream. It was dismissed because of the cost. Did the Illinois EPA have that treatment option evaluated against the overall life of the facility and anticipated income?

The Applicant did provide additional information relating to the economic impacts of the zero liquid discharge (ZLD) system to the project. The initial analysis included using the ratios provided by the USEPA "Interim Economic Guidance for Water Quality Standards" workbook from March 1995 (Interim Guidance). However, due to the fact that the Interim Guidance document does not account for the difference in the Applicant's corporate structure, loan structure, and fails to account for dividends paid to equity investors, the Applicant found the use of the Interim Guidance inappropriate for this analysis.

The Applicant instead proposes that the most accurate reflection of ZLD capital costs, operations, and maintenance, is the comparison of the Applicant's after-tax (ATAZ) internal rate of return (IRR) between the proposed facility and the facility with a ZLD system. Using the project's IRR is a widely-used method for making corporate investment decisions and sizable decreases in a project's ATAZ IRR may be a deterrent to moving a project forward. Using USEPA's assumptions of a 10-year payback period and the costs of $24.1MM to install with $808,000 in operating costs, Jackson Generation's 10-year ATAZ IRR would decrease by 13.9% with the installation of a ZLD system. A 13.9% decrease in Jackson Generation's projected IRR represents a significant negative impact to the project's financial performance. The negative impact of installing and operating a ZLD system may be cost prohibitive of constructing the project. As shown in the facility's economic impact study, *Economic Impact of the Jackson Generation, LLC.,* the economic impact to Will County and the State would be a loss of $139.3MM of economic benefit to Will County during construction phase, with an additional $29.9MM of economic benefit annually during operation; and $733.3 MM during construction and $75.9MM during operation to the State of Illinois.

50. There has been discussion on biotoxicity measurements and whether it should be done or not. I wanted to make a note that the discharges included wash water that comes through the drains that includes, leaks from machinery and such. Can you explain why the Illinois EPA feels that biotoxicity measurements do not need to be completed in this permit?

The factor of concern for potentially requiring biomonitoring would be the size of the receiving water; however, the effluent from the proposed facility would likely be beneficial given the small volume of flow that exists in the unnamed tributary. Also, the water treatment additives have been reviewed and there are no concerns for unknown toxicants given the type of industry. The permit limitations should appropriately protect against effluent toxicity, providing the limits are met. Miscellaneous plant wastewater (wash water, leaks from machinery, etc.) flows through the oil/water separator for treatment. Therefore, the Illinois EPA determined biomonitoring would not be a requirement for the discharge.

51. We have concerns about times when ammonia is going to be used as a treatment. In this permit application ammonia levels could be as high as .3 milligrams per liter. If you have a really high pH, you could have a condition and fairly high temperatures, there would be times when levels of .3 milligrams per liter would be greater than the water quality standard. Has Illinois EPA considered tightening the requirements for adjusting neutralizing the pH to closer to neutral than just the 6.5 to 9 that their water quality standard when ammonia is being used? The permit should maybe be limiting the pH to a tighter range to closer to neutral or acidic conditions when it's less toxic?

Please see response to question 44.

52. At the October 26 Green Town Conference in Joliet, Allison Swisher, Director of Public Works for Joliet, was speaking about both her concerns about the amount of water, the water shortage that they're looking at in Joliet and also the water quality that we have in Joliet and there's an increase of water needed for commercial use and we're also seeing. Do we know how many years the plant is going to exist? My other point I wanted to make was that we know that we have concerns about in our community about water and air quality and we think that it would be a great thing for the Illinois EPA to provide both air and water quality monitoring stations.

The Applicant did not provide a prediction of the total number of years the facility would be in use. The Illinois EPA does not provide water quality monitoring stations for individual permittees. Rather, the Agency uses a network of ambient water quality monitors throughout the state to monitor water quality. The Applicant would be required, per compliance with the proposed permit, to monitor several parameters and report sampling results electronically through the DMR system.

Additionally, the Applicant, consistent with antidegradation rules, proposed to design and build a dry cooling facility that uses significantly less water than a similar facility using once through cooling technology. The facility would be discharging relatively clean effluent, which would not include

toxins. Parameters identified by the permit would be required to meet water quality standards; therefore, adverse impacts to the receiving stream are not anticipated.

Please refer to the response for question 9 for a discussion of the discharges impacts on municipal and groundwater supplies.

53. As part of Illinois EPA's analysis an EcoCAT is done in consultation with the Illinois Department of Natural Resources. We suggest that you should be requiring them to submit a EcoCAT consultation that includes a number of miles down in the receiving water so that, so that additional information can be captured.

The EcoCAT program utilizes databases, GIS mapping, and a set of programmed decision rules to determine whether protected resources are in the vicinity of the proposed action. More specifically, identified resources are given "buffers" within the mapping tool based on life history requirements of the species and/or characteristics of the resource. The Applicant submitted the project site for EcoCAT consultation with the initial results auto-generated by the system determining the Northern Long-Eared Bat was in the vicinity of the project location. In instances where a resource is identified, an IDNR staff member reviews the impact on the identified resource(s) and proximity to additional resources that may be impacted. On July 27, 2018, IDNR concluded that impacts to identified resources are unlikely and terminated the consultation. The Illinois EPA asked IDNR to re-open the consultation to identify resources that could be impacted downstream of the receiving waters. After a review of their records extending approximately 4 miles downstream of the proposed discharge location, to the Des Plaines River, no state-listed species or protected lands occur in the area of influence and adverse impacts to protected natural resources are unlikely. Per the provided letter dated February 20, 2019, the consultation is closed.

54. The draft NPDES permit was not supported by any biological information and Illinois EPA's failure to utilize all options afforded to it to obtain such information represents an abdication of the duty to restore and maintain chemical, physical, and biological integrity of the Nation's waters.

Please see response to question 46.

55. We request that a lower phosphorus limit and monitoring requirement should be added to the NPDES permit.

The permit now includes monthly phosphorus monitoring. Additionally, see response to question 40 regarding the special condition added to the permit.

56. We request that a proper identification and characterization of the affected water body must be completed.

Please refer to the response to question 46 for discussion of the Applicant's physical, biological and chemical stream characterization for the receiving stream, the unnamed tributary of Cedar Creek.

57. A proper analysis of the fate and effect of parameters proposed for increased loading has not been done and explained in the materials available to the public. The small size of receiving waters and the lack of dilution opportunities means that pollutants will persist at higher concentrations even farther downstream. The effects this may have on water quality and aquatic life in Cedar Creek must be addressed.

Increased pollutant loading from the proposed project would include metal parameters determined by the Applicant to be present in the discharge, heat from the HRSG blowdown, and identified water treatment additive residuals including phosphorus and ammonia. Initially, the metal parameters identified by the Applicant were determined to be either at or below the minimum detection level used by the Applicant or at or below background concentrations, as determined by reviewing data from a similar and adjacent stream, AWQMN station DV-04 Mazon River. Temperature is anticipated to dissipate in the sedimentation pond and the receiving stream. Ammonia discharged by the facility would decay into simple and harmless byproducts by naturally occurring organisms in the stream. Some of the nitrogen originating in the ammonia would remain in the stream in the form of nitrates or organic nitrogen. Proposed phosphorus loading has been reduced to an estimated of 0.9 lbs./day. These nutrient levels discharged would be absorbed by aquatic or riparian terrestrial plants or remain in the stream.

The water treatment additives proposed for use by the facility and have been reviewed for compliance with water quality standards as well as the potential for aquatic toxicity and have been determined to be suitable for use. Pollutant loadings associated with water treatment additive usage are not expected to adversely impact the existing uses of the receiving stream.

Huff & Huff, Inc. (H&H), a subsidiary of GZA, Inc., completed a wetland delineation report dated November 20, 2017, (referenced) and conducted a physical, biological and chemical analysis of the unnamed tributary to Cedar Creek on February 3 and 4, 2019 at two locations as close to the proposed outfall and confluence with Cedar Creek as possible given site constraints. The results of the water chemistry concluded that the parameter concentrations identified by the Applicant as potentially being present in the effluent, are at or below background concentrations for all parameters with the exception of ammonia, copper, fluoride, iron, lead, mercury, oil and grease, phosphorus, silver and zinc. Copper, lead, mercury, oil and grease,

silver and zinc water chemistry data were above the background concentrations; however, the water chemistry data and effluent samples were measured at different minimum detection levels and likely that these parameters are similar to background concentrations. When comparing the iron concentration to the proposed effluent, iron was above the sampled background concentrations. However, it is well below the effluent standard, which is more stringent than the water quality standard. Ammonia and phosphorus would also be above background concentrations; however, as discussed in the response to question 34, ammonia would be below the water quality standards and as previously discussed in the response to question 34 phosphorus use would be kept at minimum.

58. Consultation (EcoCat) should be conducted on area of downstream waters, not just within a two-mile radius of plant footprint.

Please see response to question 53.

59. The permit should be reconsidered and limited to address the potential for toxic conditions that could result from the combination of ammonia with wastewater or leaks that have a high pH, especially in warmer temperatures.

Please see response to question 44.

60. The permit should include periodic biotoxicity tests.

Please see response to question 50.

61. Does construction of this gas plant serve the public interest given the existing gas plants and the potential for constructing cleaner energy in the area such as solar farms?

A significant number of older fossil fuel-fired power plants in the U.S. are retiring due to their age, size, operating costs, compliance costs, and inefficiencies. According to the Brattle Group's January 25, 2017, presentation titled Future of Coal: Clean Power Plan, Market Drivers and Other Regulations (as cited in the Applicant's antidegradation assessment), 65 gigawatts (GW) of coal-fired generating capacity will likely retire by 2020, with an additional 6 to 10 GW retiring by 2030. A large portion of the retirements, approximately 20 GW, are expected to occur in the PJM. PJM is the upper Midwest region for coordination of wholesale electricity, which includes Illinois, as well as 12 additional states and the District of Columbia. These anticipated retirements indicate a need for additional base load capacity in the PJM.

The Applicant did evaluate alternative electric power generating technologies for their ability to meet the project goals: providing approximately 1,100 MW of reliable baseload capacity to replace planned retirements in PJM and the ability to respond quickly to fluctuations in energy supply and demand. Wind and solar alternatives are not capable of meeting the project goals due to intermittency. However, the baseload capacity from the proposed facility would support the increased generation from renewable alternatives.

Additional benefits to the local community, identified by the Applicant, include: the efficient production of low-cost electricity for the PJM system; the displacement of generation from older less-efficient fossil fuel power plants; reduced environmental impact (lower regional air emissions and reduced surface water impacts/use from dry-cooling), regional economic benefits, and a significant property tax benefit to the community.

62. What types of aquatic life are now present in Cedar Creek and will any of the existing uses be harmed by the discharge?

Please see response to question 36.

63. The requisite antidegradation analysis is inadequate to identify the existing and potential aquatic life uses in Cedar Creek, and to evaluate the potential impacts of the new discharges on those resources. This missing data and analysis is central to deciding whether to issue a permit, and what conditions would be necessary to comply with regulatory requirements.

Please see response to questions 36 and question 46.

64. There is no evidentiary basis for the bare conclusion that pollutants will be present at background levels. This assumption could have serious consequences, and mandates further analysis.

Please see response to question 57.

Acronyms and Initials

BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
CFR	Code of Federal Regulations
DMR	Discharge Monitoring Report
gpm	Gallons per Minute
HRSG	Heat Recovery Steam Generator
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
ILCS	Illinois Compiled Statutes
Ill. Adm. Code	Illinois Administrative Code
lbs.	Pounds
MCL	Maximum Contaminant Level
mg/L	Milligrams per Liter
MGD	Million Gallons per Day
MW	Megawatt
NPDES	National Pollutant Discharge Elimination System
pH	A Measure of Acidity or Alkalinity of a Solution
pCi/L	Picocuries per Liter
RO	Reverse Osmosis
USEPA	United States Environmental Protection Agency

DISTRIBUTION OF RESPONSIVENESS SUMMARY

An announcement, that the NPDES permit decision and accompanying responsiveness summary is available on the Illinois EPA website, was mailed or e-mailed to all who registered at the hearing and to all who sent in written comments. Printed copies of this responsiveness summary are available from Barb Lieberoff, 217-524-3038, e-mail: barb.lieberoff@illinois.gov.

WHO CAN ANSWER YOUR QUESTIONS

Illinois EPA NPDES Permit:

NPDES Permit	Jenny Larsen	217-782-3362
Legal questions	Stefanie Diers	217-782-5544
Water Quality Standards Unit	Abby Brokaw	217-782-0610
Public hearing of November 27,2018	Dean Studer	217-558-8280

The public hearing notice, the Public Notice, the hearing transcript, the NPDES permit and the responsiveness summary are available on the Illinois EPA website (it may be necessary to paste the web address into the window of your internet browser and then enter either "Jackson Energy" or "IL0080134" in the search box above the "Posting Date"):

https://www2.illinois.gov/epa/public-notices/npdes-notices/Pages/default.aspx

Exhibit C

CHICAGO LEGAL CLINIC, INC.
Sharon A. Hwang, President · Adam Salzman, Executive Director · Marta C. Bukata, Deputy Director

Downtown Office
211 W. Wacker Dr.
Suite 750
Chicago, IL 60606
Phone: 312-726-2938
Fax: 312-726-5206
TDD: 773-731-3477
Keith I. Harley
Greta M. Doumanian
Caroline R. Simon
Daryl D. Grable

December 21, 2018

NPDES Permit No.: IL0080134
Notice No. JML: 18062001

Re: Jackson Generation, LLC, Jackson Energy Center
Proposed NPDES Permit

Hearing Officer Struder:

Please be advised that I represent Citizens Against Ruining the Environment[1], a Will County area-based environmental justice organization representing the interests of, primarily, Will County residents. This organization requested the assistance of the Chicago Legal Clinic, Inc. to comment on various aspects of the Illinois EPA ("IL EPA") proposed National Pollution Discharge Elimination System ("NPDES") permit for a proposed natural gas-fired combined-cycle electric power generating facility to be known as the Jackson Energy Center ("JEC").

By way of summary, the draft NPDES permit proposed by IL EPA is fundamentally flawed for a variety of reasons. Dangerous radioactive constituents present in the source water for JEC were left off the permit entirely, endangering the surrounding community, the environment, and the groundwater supply, likely leading to a violation of Illinois' water quality standards. Further, leaving out crucial information about a proposed piece of pollution control equipment resulted not only in the public being unable to comment on the full scope of the permit, but in a situation where IL EPA is making critical permitting decisions without material information. Finally, the failure to rely on any biological information while drafting the permit, as well as failing to utilize all options afforded to IL EPA to obtain the said information, results in a proposed NPDES permit that fails to further the essential purpose of the Clean Water Act ("CWA"). These legal and factual inaccuracies and omissions fail to restore or maintain the chemical, physical, and biological integrity of the Nation's waters and must be corrected, or the permit must be denied.

Post Hearing Comments

Comment One: The draft NPDES permit proposed by IL EPA fails to address, or even acknowledge, the presence of radioactive materials in the water JEC will use for the heat recovery steam generator and other processes.

The draft NPDES permit for JEC provides that the water used in the heat recovery steam generator, as well as in the evaporative cooler, will come from the Village of Elwood municipal

[1] https://www.willcountycare.org/

water supply.[2] The permit also provides that "[w]ater samples from the Village of Elwood were analyzed with strontium identified in the proposed facility's intake water."[3] The permit is absolutely silent on another radioactive constituent, however: combined Radium 226/228.

Combined radium 226/228 has been known to be present in the Elwood municipal water supply since at least 2003.[4] Since then, in fact, the concentration of this radioactive contaminant has only continued to increase; it is presently at the highest-detected concentrations to date, which is above the maximum contaminant level.[5] The significant health risks posed by combined radium are concerning as combined radium in aquatic environments is known to bioaccumulate in organisms frequently consumed by humans, such as fish, snails, clams, and algae.[6]

As "[w]astewater generated by JEC would discharge to a General Use unnamed tributary of Cedar Creek[,]" the General Use Water Quality Standards, 35 IAC 302 Subpart B, are controlling. Under the "Radioactivity" regulations, Illinois requires that the "annual average radium 226 and 228 [ ] combined concentration must not exceed 3.75 [pCi/l]."[7] This is particularly concerning as the current level of combined Radium in the Elwood municipal water supply is 6 pCi/l.[8]

Without the addition of pollution control mechanisms to specifically address the presence of combined radium in the source water, the draft NPDES permit for JEC simply cannot be upheld as it will, by definition, lead to a violation of the State's general use water quality standards for combined radium 226 and 228.

In the event that IL EPA feels that the permit's omission of any mention of combined radium 226/228 does not represent a fatal flaw to the permit as a whole, additional monitoring requirements must be imposed. With the source water for JEC being almost double the 3.75 pCi/l limit, it follows that imposing a monitoring requirement for combined Radium 226/228 would generate "such other information as may reasonably be required" to ensure compliance with applicable regulations.[9] Thus, IL EPA should apply the same reasoning used to require monitoring for strontium-90—that the mere presence of the radioactive constituent in the source

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[2] NPDES Permit No. IL0080134, Draft New NPDES Permit to Discharge into Waters of the State, 4 (Ill. Envtl. Prot. Agency Aug. 2, 2018).
[3] *Id.*
[4] *See, e.g.*, Village of Elwood, *Annual Drinking Water Quality Report*, villageofelwood.com, https://www.villageofelwood.com/Archive/ViewFile/Item/150 (last visited Nov. 30, 2018); Village of Elwood, *Annual Drinking Water Quality Report for Calendar Year 2010*, villageofelwood.com, https://www.villageofelwood.com/Archive/ViewFile/Item/71 (last visited Nov. 30, 2018); Village of Elwood, *Annual Drinking Water Quality Report for Calendar Year 2008*, villageofelwood.com, https://www.villageofelwood.com/Archive/ViewFile/Item/69 (last visited Nov. 30, 2018).
[5] Maximum contaminant level is the highest level of a contaminant that is allowed in drinking water. *Id.*
[6] Agency for Toxic Substances & Disease Registry, *Toxic Substances Portal – Radium*, atsdr.cdc.gov, https://www.atsdr.cdc.gov/toxprofiles/tp144-c5.pdf (last visited Dec. 18 2018).
[7] 35 IAC 302.207.
[8] Village of Elwood, *Annual Drinking Water Quality Report*, villageofelwood.com, https://www.villageofelwood.com/Archive/ViewFile/Item/150 (last visited Nov. 30, 2018).
[9] 35 IAC 309.146.

water is enough to mandate additional monitoring[10]—to the consideration of imposing monitoring requirements for combined Radium 226/228 and gross alpha particles.

Comment Two: IL EPA must clarify where the boundaries are for what is considered a water of the United States as it pertains to the unnamed tributary, Cedar Creek, and the location of the proposed detention basin.

In the draft NPDES permit, Jackson Generation, LLC is proposing to build a detention pond which will then discharge into an unnamed tributary of Cedar Creek via Outfall 001, ultimately flowing into Cedar Creek.[11] Clearly the detention pond is being constructed close enough to the unnamed tributary to discharge directly into it via Outfall 001. Also clear is that the unnamed tributary is characterized as a water of the United States for purposes of the CWA, which is why Jackson Generation, LLC is required to have an NPDES permit for the discharge of pollutants from the detention basin, a point source, into the unnamed tributary.[12]

IL EPA needs to clarify whether the detention pond is being constructed so close to the unnamed tributary, a water of the United States, such that the construction will actually take place *in* a water of the United States. If this is the case, then an additional NPDES permit would be required to regulate the discharge from the facility into the detention pond, which would also be a water of the United States. This is because a manmade impoundment which "resulted from the impoundment of the waters of the United States" is considered a water of the United States.[13] Although U.S. EPA attempted to suspend the enforcement of this definition just two months following its enactment[14], the attempt fails to stand up to legal scrutiny.

First, U.S. EPA relied on 33 U.S.C. § 1251 as the authority for its suspension; this was improper because nothing in this section permits EPA to change a rule without notice and comment period, something that was not done.[15] U.S. EPA's attempted suspension of the definition was in direct contradiction of the CWA's policy of protecting the nation's waters and regulating discharges into *any* water of the United States.[16] In fact, the Supreme Court itself has asserted that damning or impounding a water of the United States does not make the water non-jurisdictional.[17] Second, U.S. EPA's attempted suspension failed to meet the requirements of a modification under the Administrative Procedures Act ("APA"), nor does the action fall under the APA's good cause exception.

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[10] In Re The Matter Of: Issuance of an NPDES Permit Jackson Generating, LLC, Elwood, IL, 20:2-3, Nov. 27, 2018.

[11] NPDES Permit No. IL0080134, Draft New NPDES Permit to Discharge into Waters of the State (Ill. Envtl. Prot. Agency Aug. 2, 2018).

[12] An NPDES permit is only required when a point source discharges or proposes to discharge pollutants into a water of the United States. Thus, an NPDES permit would not be needed for the discharge at Outfall 001 into the unnamed tributary unless the unnamed tributary was a water of the United States.

[13] 40 C.F.R. § 122.2 (2017).

[14] 45 Fed. Reg. 48620-01 (July 21, 1980).

[15] 33 U.S.C. § 1251(e).

[16] 33 U.S.C. § 1251, 1342 (2012).

[17] *See S.D. Warren Co. v. Maine Bd. of Envtl. Prot.*, 547 U.S. 370, 379 n.5 (2006) ("[N]or can we agree that one can denationalize national waters by exerting private control over them.").

As a result of the above considerations, IL EPA must provide additional information as to what the boundaries for the waters of the United States are as they relate to the permit at hand. This information is significant in terms of determining whether additional permits, such as an NPDES permit or a potential CWA § 404 dredge and fill permit, may be required for the construction of the JEC.

Comment Three: The NPDES permit is incomplete at best due to its failure to provide any details about the proposed detention pond, a significant piece of the pollution control equipment to be used at JEC.

In the draft permit, the proposed detention pond is going to act as a piece of pollution control equipment for the facility. This was clearly stated at the public hearing by an IL EPA permit writer from the Industrial Unit, Ms. Larsen. When discussing whether or not the proposed detention pond will be lined, Ms. Larsen stated of the detention pond: "It's going to be a treatment."[18] This was restated while discussing how the detention pond will handle all storm water in addition to the wastewater leaving the facility: "Yeah, all the storm water will go to the detention basin prior to discharge, it will be treated, and then when it – it being discharged, it will have to meet effluent limit in the permit."[19] In discussing why IL EPA does not know whether the detention pond will be lined, Ms. Larsen provided that "[i]t's not really considered a treatment until they have to get a construction permit for us and those type of issues, whether or not they'll need a liner and so forth will be addressed -- . . . -- with the construction permit."[20]

However whether or not a detention pond will be lined materially weighs on other considerations that go into the permit drafting process. If, for example, the pond is unlined, ensuring that water from the pond will inevitably leach into the groundwater, this would surely factor into determining the quantities of chemicals that would be allowed to be added to the pond during these treatment processes. In the case of an unlined detention pond, IL EPA needs to be ensuring not only that the water discharged out of Outfall 001 is meeting the applicable effluent limitations, but also that the water discharging from the pond into the groundwater would be meeting applicable guidelines to prevent pollution from entering the United States' public waterways.

Comment Four: The failure to include any details on the proposed detention pond prevents IL EPA from fully understanding the facility and make all requisite permit considerations.

Building off of the above two comments, information related to whether or not the proposed detention pond will be lined or unlined bears significantly on whether or not Jackson Generation, LLC will need to acquire an additional NPDES permit to cover discharges to surface waters via groundwater through the potentially unlined detention pond. Although the courts are currently split on the issue, the majority of courts to have considered the question have found that the CWA does confer EPA the jurisdiction to regulate the discharge of pollutants into surface waters

[18] In Re The Matter Of: Issuance of an NPDES Permit Jackson Generating, LLC, Elwood, IL, 23:9.
[19] *Id.* at 26: 10-14.
[20] *Id.* at 23: 9-16.

via groundwater.[21] This finding is consistent with decades of EPA guidance documents issued on the subject.[22]

Without first knowing whether or not the detention pond will be lined or unlined, it is impossible for IL EPA to fully understand the circumstances of the proposed facility sufficiently enough to determine whether or not an additional NPDES permit is needed. IL EPA and Jackson Generation, LLC should be required to provide more information as to the physical description of the proposed detention pond, just as it was required to provide information and analyses of the other pollution control equipment the facility will utilize. This information is directly related to material considerations in the NPDES permit and without the full picture the resulting NPDES permit will be legally and environmentally inadequate.

Comment Five: The draft NPDES permit was not supported by any biological information and IL EPA's failure to utilize all options afforded to it to obtain such information represents an abdication of the duty to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

This NPDES permit in particular seems like the exact situation in which a special condition pertaining to mixing zone studies or biological monitoring is necessary. As conceived, the JEC will discharge wastewater from the detention pond into the unnamed tributary of Cedar Creek via Outfall 001.[23] As the unnamed tributary is a "7Q1.1 stream, which means 9 out of 10 years it wouldn't have a flow during -- through a 7-day period, [IL EPA doesn't] require a biological

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[21] *See Tennessee Clean Water Network v. Tennessee Valley Auth.*, No. 3:15-cv-00424, 2017 WL 3476069 (M.D. Tenn. 2017); *Tri-Realty Co. v. Ursinus Coll.*, 124 F.Supp.3d 418 (E.D. Pa. 2015); *Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC*, 141 F.Supp.3d 428 (M.D.N.C. 2015); *Sierra Club v. Virginia Elec. and Power Co.*, 145 F.Supp.3d 601 (E.D. Va. 2015); *Hawai'i Wildlife Fund v. Cnty. of Maui*, 24 F.Supp.3d 980 (D. Haw. 2014); *Raritan Baykeeper, Inc. v. NL Indus., Inc.*, No. 09-CV-4117 (JAP), WL 103880 (D.N.J. 2013); *Ass'n Concerned Over Rec. & Nature, Inc. v. Tennessee Aluminum Processors, Inc.*, No. 1:10-00084, 2011 WL 1356690 (M.D. Tenn. 2011); *Hernandez v. Esso Standard Oil Co.*, 599 F.Supp.2d 175 (D.P.R. 2009); *Nw. Envtl. Def. Ctr. v. Grabhorn, Inc.*, No. CV-08-548-ST, 2009 WL 35772895 (D. Or. 2009); *Mut. Life Ins. Co. of New York v. Mobil Corp.*, No. 96-CV1781, 1998 WL 160820 (N.D.N.Y. 1998); *Williams Pipe Line Co. v. Bayer Corp.*, 964 F.Supp. 1300 (S.D. Iowa 1997), and; *Friends of Sante Fe Cnty. v. LAC Minerals, Inc.*, 892 F.Supp. 1333 (D.N.W. 1995).

[22] *See, e.g.*, U.S. EPA, NPDES Permit Writers' Manual: Chapter 1: Development of the Clean Water Act and the NPDES Program, EPA-833-K-10-001, U.S. EPA, Office of Water (Sept. 2010) ("If a discharge of pollutants to ground water reaches waters of the United States, however, it could be a discharge to the surface waters (albeit indirectly via a direct hydrological connection, i.e., the ground water) that needs an NPDES permit."), *available at* https://www.epa.gov/sites/production/files/2015-09/documents/pwm_chapt_01.pdf; Nat'l Pollutant Discharge Elimination Sys. Permit Regulation and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations, 66 Fed. Reg. 2960, 3017 (Jan. 12, 2001) ("As a legal and factual matter, EPA has made a determination that, in general, collected or channeled pollutants conveyed to surface waters via ground water can constitute a discharge subject to the Clean Water Act."); Reissuance of NPDES General Permits for Storm Water Discharges from Constr. Activities, 63 Fed. Reg. 7858, 7881 (Feb. 17, 1998) ("EPA interprets the CWA's NPDES permitting program to regulate discharges to surface water via groundwater where there is a direct and immediate hydrologic connection"); Amendments to the Water Quality Standards Regulation That Pertain to Standards on Indian Reservations, 56 Fed. Reg. 64876, 64892 (Dec. 12, 1991) ("[T]he Act requires NPDES permits for discharges to groundwater where there is a direct hydrological connection between groundwaters and surface waters. In these situations, the affected groundwaters are not considered 'waters of the United States' but discharges to them are regulated because such discharges are effectively discharges to the directly connected surface waters.").

[23] NPDES Permit No. IL0080134, Draft New NPDES Permit to Discharge into Waters of the State (Ill. Envtl. Prot. Agency Aug. 2, 2018).

assessment . . . for this stream."[24] This means that, as there will generally be no flowing water apart from that which will be discharged via Outfall 001, the unnamed tributary, for which no biological assessment was completed, will consist almost exclusively of wastewater from the JEC. Additionally, when asked whether there has "been any evaluation of how aquatic life in Cedar Creek would be affected . . .[,]" Ms. Brokaw, IL EPA Water Quality Standards Section, responded: "So Cedar Creek has not been assessed . . ."[25] As a result, no biological assessment has been done on either the unnamed tributary, to which wastewater will be directly discharged, or Cedar Creek, where the wastewater will inevitably end up.

This conclusion would not be as alarming if no pollutants would make their way to Cedar Creek, or even if IL EPA had no reason to believe that pollutants would migrate to Cedar Creek. This, however, is not the case. The permit itself states that the "increased loadings of metals and phosphorus to the receiving stream would persist in the downstream continuum. Phosphorus would remain in the water column until utilized by aquatic organisms."[26] Which "aquatic organisms" will be utilizing the increased phosphorus resulting from JEC's discharges? The answer to this is uncertain because no biological assessments have been done for either the unnamed tributary or Cedar Creek.

Further, although phosphorus is a nutrient that can be utilized by aquatic organisms as a food source, it is also known that too much phosphorus can be bad for waterways. "Too much . . . phosphorus in the water causes algae to grow faster than ecosystems can handle. Significant increases in algae harm water quality, food resources and habitats, and decrease the oxygen that fish and other aquatic life need to survive."[27] So, exactly how much phosphorus will be added into the "downstream continuum" as anticipated by IL EPA? Again, the answer to this is uncertain because there are no phosphorus limitations or phosphorus monitoring requirements imposed in the draft NPDES permit.

IL EPA has the authority to impose special conditions on NPDES permits which "require the permittee to undertake activities designed to reduce the overall quantity of pollutants being discharged to waters of the United States, to reduce the potential for discharges of pollutants, or to collect information that could be used in determining future permit requirements."[28] "Additional monitoring requirements, beyond those required under the effluent limitations section of the permit, and special studies are *useful for collecting data that were not available to the permit writer for consideration during permit development.*"[29] One example of a special condition that may be imposed is a mixing zone study.

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[24] In Re The Matter Of: Issuance of an NPDES Permit Jackson Generating, LLC, Elwood, IL, 16:7-12.
[25] *Id.* at 25:17-22.
[26] NPDES Permit No. IL0080134, Draft New NPDES Permit to Discharge into Waters of the State, 4-5 (Ill. Envtl. Prot. Agency Aug. 2, 2018).
[27] U.S. EPA, Nutrient Pollution, epa.gov, https://www.epa.gov/nutrientpollution/problem (last visited Dec. 17, 2018).
[28] U.S. EPA, NPDES Permit Writers' Manual: Chapter 9: Special Conditions, EPA-833-K-10-001, U.S. EPA, Office of Water (Sept. 2010), *available at* https://www.epa.gov/sites/production/files/2015-09/documents/pwm_chapt_09.pdf.
[29] *Id.* (emphasis added).

"A mixing zone is a limited area or volume of water where initial dilution of a discharge takes place and where certain numeric water quality criteria may be exceeded."[30] Further, mixing zone studies "[m]ight be required in a permit to assist in determining how effluent and receiving water mix[.]"[31] Thus, requiring Jackson Generation, LLC to conduct mixing zone studies would enable IL EPA to *collect data that were not available to the permit writer for consideration during permit development* in terms of useful biological data about what organisms are present in Cedar Creek in general, but at the confluence of where the unnamed tributary meets Cedar Creek in particular. It would also provide a better understanding about just how far down the downstream continuum the phosphorus and metal loadings would continue, how much and how quickly these constituents are being utilized, and what aquatic organisms are using them—this would be *useful information that could be used in determining future permit requirements*. This type of information also falls under biological monitoring methods as explicitly provided for in the administrative code.[32]

As mixing zone studies assist in determining how effluent and receiving water mix, imposing a mixing zone requirement only where Outfall 001 discharges into the unnamed tributary would be wholly inadequate. Namely because 9 out of 10 years there is no stream flow for a 7-day period, thus rendering the unnamed tributary more of a conduit and less an actual receiving water—there would, in essence, be no mixing that takes place at Outfall 001. To be as informative as possible, the mixing zone study needs to focus on the confluence of the unnamed tributary and Cedar Creek, where there will actually be receiving water to mix with and aquatic organisms to monitor.

IL EPA must clarify: whether or not the imposition of a special condition requiring a mixing zone study was considered; if it was considered, then why it wasn't included in the permit; if it wasn't considered, then why it was not considered as an option, and; how it is furthering the goals of the CWA to restore and maintain the chemical, physical, and biological integrity of the Nation's waters by not requiring a mixing zone study when no biological information about the unnamed tributary or Cedar Creek was utilized in the development of this permit.

Conclusion

For the foregoing reasons, Citizens Against Ruining the Environment urge IL EPA to acknowledge the permit's fundamental flaws and deny its issuance altogether. In the alternative, IL EPA must, at a minimum, make the requisite changes necessary to bring the permit into compliance with the applicable regulations. The various material omissions in the permit have led to inaccurate applications of law and policy and resulted in a legally insufficient permit that fails to comply with the NPDES permit program requirements and the Clean Water Act at large.

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[30] U.S. EPA, Water Quality Standards Handbook: Chapter 5: General Policies, EPA-823-B-17-001, U.S. EPA, Office of Water, Office of Science and Technology (Sept. 2014), *available at* https://www.epa.gov/sites/production/files/2014-09/documents/handbook-chapter5.pdf.

[31] U.S. EPA, NPDES Permit Writers' Manual: Chapter 9: Special Conditions, EPA-833-K-10-001, U.S. EPA, Office of Water (Sept. 2010), *available at* https://www.epa.gov/sites/production/files/2015-09/documents/pwm_chapt_09.pdf.

[32] *See* 35 IAC 309.146(a)(4), (d).

Sincerely,

Daryl Grable, Attorney at Law
Chicago Legal Clinic, Inc.
211 W. Wacker, Suite 750
Chicago, IL 60606
(312) 726-2938
dgrable@clclaw.org

Exhibit D

Consumer Confidence Report

Annual Drinking Water Quality Report

ELWOOD

IL1970350

Annual Water Quality Report for the period of January 1 to December 31, 2017

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

The source of drinking water used by ELWOOD is Ground Water

For more information regarding this report contact:

Name Scott Starkey

Phone 815-423-5011

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

Source of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPAs Safe Drinking Water Hotline at (800) 426-4791.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Source Water Information

Source Water Name	Type of Water	Report Status	Location
WELL 10 (01620)	GW		26307 Elwood International Port Road
WELL 9 (01619)	GW		26702 Elwood International Port Road

Source Water Assessment

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by City Hall or call our water operator at 815-423-5011 . To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl.

Source of Water: ELWOODBased on information obtained in a Well Site Survey, published in 1990 by the Illinois EPA, three potential sources or possible problem sites were identified within the survey area of Elwood wells. Furthermore, information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA indicated several additional sites with ongoing remediation which may be of concern. The Illinois EPA has determined that the Elwood Community Water Supply's source water is not susceptible to contamination. This determination is based on a number of criteria including: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydrogeologic data on the wells.Furthermore, in anticipation of the U.S. EPA's proposed Ground Water Rule, the Illinois EPA has determined that the Elwood Community Water Supply is not vulnerable to viral contamination. This determination is based upon the evaluation of the following criteria during the Vulnerability Waiver Process: the village's wells are properly constructed with sound integrity and proper site conditions; a hydrogeologic barrier exists which should prevent pathogen movement; all potential routes and sanitary defects have been mitigated such that the source water is adequately protected; monitoring data did not indicate a history of disease outbreak; and the sanitary survey of the water supply did not indicate a viral contamination threat. Because the village wells are constructed in a confined aquifer, which should prevent the movement of pathogens into the wells, well hydraulics were not considered to be a significant factor in this vulnerability determination. Hence, well hydraulics were not evaluated for this groundwater supply.

Lead and Copper

Definitions:
Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.
Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	06/30/2015	1.3	1.3	0.124	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

Water Quality Test Results

Definitions:	The following tables contain scientific terms and measures, some of which may require explanation.
Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
Level 1 Assessment:	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment:	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
Maximum Contaminant Level or MCL:	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal or MCLG:	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Maximum residual disinfectant level or MRDL:	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Maximum residual disinfectant level goal or MRDLG:	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
na:	not applicable.
mrem:	millirems per year (a measure of radiation absorbed by the body)
ppb:	micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
ppm:	milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
Treatment Technique or TT:	A required process intended to reduce the level of a contaminant in drinking water.

Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	12/31/2017	0.7	0.5 - 0.89	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	08/13/2015	0.00625	0.00625 - 0.00625	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	08/13/2015	1.21	1.21 - 1.21	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Sodium	08/13/2015	186	186 - 186			ppm	N	Erosion from naturally occuring deposits. Used in water softener regeneration.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	2017	6	0 - 5.6	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	2017	8	8.2 - 8.2	0	15	pCi/L	N	Erosion of natural deposits.

CERTIFICATE OF SERVICE

I, Daryl Grable, hereby certify that I have filed the attached **NOTICE OF FILING, APPEARANCE OF DARYL GRABLE** and **PETITION FOR ADMINISTRATIVE REVIEW OF AN NPDES PERMIT ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY** upon the parties named below, by depositing said documents in the United States Mail, postage prepaid, in Chicago, Illinois on April 2, 2019.

Respectfully Submitted,

Daryl Grable
Baum Senior Legal Fellow
Chicago Legal Clinic, Inc.
211 W. Wacker Drive, Suite 750
Chicago, IL 60606
(312) 726-2938
dgrable@clclaw.org

Service List:

Jackson Generation, LLC
1900 East Golf Road, Suite 1030
Schaumburg, IL 60173

Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276