

Illinois Power Holding Company, LLC

E.D. Edwards Power Station

(formerly owned and operated by Ameren Energy Resources Generating Company)

National Pollutant Discharge Elimination System (NPDES) Permit Responsiveness Summary

Regarding

August 7, 2013 Public Hearing

Illinois Environmental Protection Agency
Office of Community Relations
April 22, 2015



Illinois Power Holding Company, LLC E.D. Edwards Power Station

National Pollutant Discharge Elimination System (NPDES) Permit Responsiveness Summary

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April 22, 2015

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Illinois Power Holding Company, LLC
E.D. Edwards Power Station
Renewed Permit
Permit Number IL001970

ILLINOIS EPA PERMIT DECISION

On April 22, 2015 the Illinois Environmental Protection Agency approved an NPDES permit for Illinois Power Holding Company, L.L.C.

The following changes were made to the draft permit:

1. The name has been changed to reflect an ownership change.
2. The compliance schedule in Special Condition 4 has been updated. The compliance schedule outlines a single compliance date and pathway.
3. Special Condition 17 has been updated to include the requirements of the new 316(b) final rule that became effective August 15, 2014.
4. The monitoring for mercury at Outfall 001 has been changed from 2/Year to 1/Month.
5. Special Condition 22 was added to the permit to allow the Permittee to pump ash pond water from the outlet control riser to the Illinois River during periods of time when the ash pond cannot discharge through Outfall 001.
6. The Illinois EPA has required the Permittee to develop a new procedure to determine the Illinois River flow data in Special Condition 4 Part J.

PRE-HEARING PUBLIC OUTREACH

The notice of the NPDES permit public hearing was published in the *Pekin Daily Times* on June 17, 24 and July 1, 2013.

The hearing notice was mailed or e-mailed to:

- a) Peoria county officials;
- b) municipal officials in: Bartonville, Peoria, and Pekin as well as state and federal representatives;
- c) Illinois Chapter of the Sierra Club, Prairie Rivers Network, Natural Resources Defense Council, and the Environmental Law and Policy Center as well as private citizens (hearing requestors); and,
- d) Those who have requested to be notified of water hearings.

The hearing notice was posted on the Illinois EPA website:

<http://www.epa.illinois.gov/public-notices/2013/npdes-notices/index#ameren-edwards>.

Hearing notices were posted at the Illinois EPA headquarters in Springfield.

August 7, 2013 PUBLIC HEARING

Hearing Officer Dean Studer opened the hearing August 7, 2013, at 6:00 p.m. at the Pekin Public Library, 301 South 4th Street, Pekin, Illinois.

E.D. Edwards Energy Center

James Luckey

Illinois EPA Hearing Participants:

Deborah Williams, Assistant Counsel, Division of Legal Counsel
Scott Twait, Standards Section, Bureau of Water
Jamie Cowles, Permit writer, Permits Section, Bureau of Water

Illinois EPA Permit Engineer, Jamie Cowles, gave a brief overview of the draft permit.

Comments and questions were received from the audience.

Hearing Officer Dean Studer closed the hearing at approximately 7:45 p.m. on August 7, 2013.

Illinois EPA personnel were available before, during and after the hearing to meet with elected officials, news media and concerned citizens.

Approximately 75 persons representing neighbors, local government, businesses, elected officials, environmental groups, interested citizens, Illinois Power Holding Company, LLC, and the former plant owner, Ameren Energy Resources Generating Company, participated at and/or attended the hearing. A court reporter prepared a transcript of the public hearing which was posted on the Illinois EPA website <http://www.epa.state.il.us/public-notice/2013/ameren-edwards/index.pdf>

The hearing record remained open through September 20, 2013.

BACKGROUND OF ILLINOIS POWER HOLDING COMPANY, LLC E.D. Edwards Power Station

NPDES Permit **IL0001970**

The Illinois Power Holding Company – E.D. Edwards Power Plant is an electric generating facility (SIC 4911) that initially commenced operation in 1960. The plant is located in Peoria County, at Illinois River mile 154.6. The plant is approximately 220 acres. The plants three coal fired boilers produce steam generation of approximately 750 MW.

The existing E.D. Edwards Power Plant NPDES Permit contains five designated outfalls; each described below.

Outfall 001 Ash Pond - This is the discharge from the plant's wastewater treatment pond. The pond provides treatment for fly ash and bottom ash sluice water, other low volume wastes and storm water runoff.

Outfall 002 Condenser Colling Water - This discharge is from the condenser cooling water tunnel. Non-contact water used for cooling the condensers and other heat exchangers is combined with the boiler blowdown and storm water runoff prior to discharge. This is a discharge from once-through cooling water systems. Water is withdrawn from the Illinois River, passed through condensers and other heat exchangers, and returned to the River.

Outfall B02 Boiler Blowdown - This is the discharge from the periodic blowdown of the boilers.

Outfall 003 Intake Screen Backwash - This outfall consists of wastewater from the intake screen backwash. Screened Illinois River water is used to wash traveling screens at the intake structure at periodic intervals. This outfall is considered to be non-process as it is a return of river water.

Outfall 004 Storm Water Runoff - Outfall 004 is the NPDES Permit designation for the discharge composed solely of storm water. The drainage area that discharges storm water into Outfall 004 consists of the northern portion of the E.D. Edwards property, including drainage ditches adjacent to the plant access road and a portion of the plant rail spur. The majority of the storm water is routed to a settling basin prior to discharge. Periodic documented inspections of the storm water drainage areas are performed by the staff.

Plant operation results in an average discharge of 5.24 MGD of Ash Pond Discharge from outfall 001, 351 MGD of condenser cooling water from outfall 002, 0.03 MGD of boiler blowdown from outfall B02, 0.05 MGD of intake screen backwash from outfall 003, and an intermittent discharge of storm water from outfall 004.

Responses to Comments, Questions and Concerns

Comments, Questions and Concerns in regular text
Illinois EPA responses in bold text

NPDES PERMIT

1. On the discharges, when there's flooding, are they required to let you know when their coal ash pond is breached or the levee is breached there? Then there's runoff, how much runoff is brought back into the river?

The coal ash pond is not adjacent to the Illinois River and does not utilize the Illinois River flood control levee as a containment structure. The coal ash pond is approximately 200 yards from the Illinois River and is surrounded by a separate berm for containment. Discharge from the pond to the Illinois River travels underground and under the levee in a 36-inch pipe that receives treated effluent from a raised outlet structure in the pond.

All stormwater runoff from industrial activity is directed to the ash pond for treatment prior to discharge back into the Illinois River. The ash pond has a backflow preventer on the end of the discharge pipe and in addition a valve box that can be closed to prevent any backflow of the Illinois River into the ash pond during flood conditions.

If conditions poise the threat of the levee or ash pond berm breaching, the Permittee is required to notify the Illinois EPA as outlined in Special Condition 22.

2. Is the impact assessment scheduled to be updated, and if so, when?

On May 19, 2014 the United States Environmental Protection Agency (USEPA) issued final rules under Section 316(b) of the Clean Water Act for existing facilities that (a) use cooling water intake structures designed to withdraw at least 2 million gallons of water per day from waters of the U.S.; (b) have or are required to have a National Pollutant Discharge Elimination System (NPDES) permit; and (c) use at least 25 percent of the water they withdraw exclusively for cooling purposes. The rule became effective August 15, 2014 and will be implemented through the NPDES permit program.

Special Condition 17 has been updated to reflect the requirements of the USEPA 316(b) rule for cooling water intake structures at existing facilities. The new rule requires various types of information collection as part of the

NPDES permit application. In general, the information would be used to identify both how the facility plans to meet the rule requirements and if the facility is meeting the rule requirements. The Special Condition is based on the information outlined in the new rule, and requires the applicant to submit to the Illinois EPA the current intake structure conditions at this facility, including a detailed description of the current intake structure operation and design, description of any operational or structural modifications from original design parameters, source waterbody flow information, or other information as necessary.

The Illinois EPA will evaluate the intake structure design and operation procedures utilizing the guidance and regulations set forth in the new rule. The facility will comply with 316(b) rules for existing facilities.

3. I see in the resource sheet that's provided, that there are 4 different levels or areas of discharge, and that they are listed as average discharges. But there's no discussion about the highs, the frequencies, the numbers of violations given to measurements during the year. But I would like to be able to find that information and then be able to comment more intelligently.

When reviewing the permit application the Illinois EPA considers among other things, current and past flow values, as well as the Permittee's compliance with the current permit limits and special conditions. Since the last permit renewal, the facility has not had any significant violation or flow variations.

Detailed information can be found using Enforcement and Compliance History Online (ECHO) or by requesting the information using the Freedom of Information Act (FOIA).

The public can access all the compliance and enforcement information regarding the NPDES Permit (including DMR Data) using ECHO. The link is as follows: <http://echo.epa.gov/?redirect=echo>. Currently, the ECHO database shows no formal USEPA or state IEPA enforcement action.

Further detailed information can be requested through a Freedom of Information Act request. That can be done online at the following web address using the interactive web form. <http://www.epa.state.il.us/foia/>

Information can also be submitted via fax, US Mail, or Special carrier using the following number or address.

**Illinois EPA FOIA #16
Division of Records Management
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217) 558-5101 (Voice)
(217) 782-9290 (Fax)**

4. I believe the 6th was a notice that the Internal Outfall A02 was removed from the permit, but there was no discussion as to why, and I would like to find out what that was about and be able to address that.

The permit public notice fact sheet on Page two second sentence addresses the removal of outfall A02. Per the Public Notice Fact Sheet “Internal Outfall A02 was removed from the permit because the sewage treatment plant effluent is now directed to the Greater Peoria Sanitary District POTW.”

5. There’s also been discussion about the discharge water being cleaner than the intake. Where’s the documentation for that? I assume that it’s all available, but again on the information provided I haven’t been able to determine that.

The statement by the Permittee at the Public Hearing in regards to total suspended solids concentration was based on sampling conducted for the revised NPDES renewal application submitted July 27th, 2010. A sample result from the Illinois River for Total Suspended Solids (TSS) measured 200 mg/L. Based on DMR monitoring data provided from 1,446 samples taken from the ash pond discharge (Outfall 001), the maximum daily value reported was 24 mg/L. The information is provided on NPDES Form 2C, Page V-1 for Outfall 001.

A complete copy of NPDES application is available to the public and can be obtained through a Freedom of Information Act request as outlined in response #3.

6. What data does Illinois EPA or the Permittee have regarding impingement and/or entrainment at this facility? I am looking for accounts or lists of organisms that are impinged or entrained at these intake structures and accounts. A closed cycle cooling system must be implemented in order to prevent significant impingement and entrainment, and as such, eliminate unnecessary harm to aquatic life. Closed-cycle cooling represents BTA necessary to comply with the requirements of the CWA and ensure reduction in impingement and entrainment.

In accordance with the suspended 2004 USEPA 316(b) Phase II rulemaking a “Proposal for Information Collection” was submitted to the Illinois Environmental Agency on May 9th, 2005 for conducting an updated assessment of impingement mortality and entrainment at the Edwards Station cooling water structure.

The 2005-2006 study concluded that approximately 97.3% of the impinged organisms collected were gizzard shad, threadfin shad, and freshwater drum. The 2005 entrainment study similarly concluded 88.5% of entrained organisms collected were gizzard shad and drum.

A summary of the 2005-2006 impingement and entrainment data collection effort, including estimated annual impingement and entrainment data, is

provided in Table G1 and G2 of the revised NPDES Renewal Application submitted July 27th, 2010.

A complete copy of Phase II Proposal for Information Collection and NPDES application is available to the public and can be obtained through a Freedom of Information Act request as outlined in response #3.

Closed-cycle systems are a Best Available Technology (BTA) recognized by the USEPA and IEPA for coming into compliance with the impingement mortality standard. The USEPA and IEPA also recognize reduced design intake velocity, reduced actual intake velocity, and existing offshore velocity caps as viable alternatives for meeting the standard. The Illinois EPA will evaluate the Edwards Plant intake structure and determine if their design and/or operations meet the BTA requirements in the new rule as explained in response to question #2.

7. I also understand that as part of Special Condition 17 that there may have been some materials submitted or – It's not clear whether they have been submitted or will need to be submitted. And I guess my question is why weren't materials required to be submitted prior to – or as part of the permit application so that your folks could evaluate them and write a permit in response to what's actually happening there, so that it is progressive and moving forward. So, I think the way that Special Condition 17 is written is that the day it will be sent in after the fact, after you have issued the permit, and then you will respond to it. But we all know that you guys work too hard and there are too few of you doing this work, and this permit will never be reopened based on that. So, I was just wondered why that wasn't done as part of the permit application?

Special Condition 17 has been updated based on the USEPA rule in 316(b) of Clean Water Act that outlines requirements for cooling water intake structures at existing facilities. The rule requires several types of information collection as part of the NPDES permit application. In general, the information would be used to identify both how the facility plans to meet the rule requirements and if the facility is meeting the rule requirements. The Special Condition is based on the information outlined in the new rule, and requires the applicant to submit to the Illinois EPA the current intake structure conditions at this facility, including a detailed description of the current intake structure operation and design, description of any operational or structural modifications from original design parameters, source water body flow information, or other information as necessary

8. I also see that there's a preliminary plan for Biomonitoring, same question under Special Condition 21, why wasn't this conducted before, and I would also like to know if there has been biomonitoring done in the past what the results were?

Biomonitoring was not conducted in the previous permit based on past Illinois EPA biomonitoring results. Biomonitoring is now being conducted in this

permit to evaluate the use of a new molluscicide. If toxicity is detected, the facility must stop using the new molluscicide and demonstrate to the Illinois EPA that the molluscicide will be applied in a manner and at a quantity and feed rate that will not cause toxicity.

Biomonitoring has been conducted, by the Illinois EPA, on Outfall 001, ash pond discharge, on October 18, 1988, May 25, 1993, and May 7, 1999. No toxicity to *Ceriodaphnia* or to fathead minnow has been observed in three bioassays conducted on Outfall 001.

9. I also understand there's a mixing zone for temperature for thermal fluid from the power plant, and the temperature must be 60 degrees. The temperature was 90 degrees April through November. So, I believe by law you are supposed to lay out and describe to the public the dimensions and the size of the mixing zones, and I would like to know about that.

The temperature at the edge of the mixing zone must comply with 35 Ill. Adm. Code 302.211. 35 Ill. Adm. Code 302.211 is the temperature water quality standard. Per 35 Ill. Adm. Code 302.211 the temperature at the edge of the mixing zone is required to be 90 °F for the months of April through November and 60 °F for December through March, except that it may be exceeded by 3 °F by no more than one percent of the hours in the 12-month period ending with any month.

Special Condition 4 requires the facility to determine the size of the mixing zone and determine the best way to monitor temperature at the edge of the mixing zone for reporting on the DMR. This can be accomplished through direct monitoring in the river or modeling of the effluent.

10. What is the water temperature coming out of Outfall 002 at the point of the discharge?

As required by the previous permit, the Permittee is required to submit the "Maximum River Temperature" on the Discharge Monitoring Reports (DMR) according to the equation listed in Special Condition 4 Part J of the permit. That temperature must meet applicable temperature limits as explained in the second paragraph of response #9. As explained in response #2, the Permittee has had no violations for the thermal limits set forth in the permit.

11. There's also a compliance that needs to be measured with Special Condition 4 based on the natural temperatures of the Illinois River and the natural fluctuations of the River. I would like to know what the Illinois EPA uses as that natural temperature, and what you consider natural fluctuation so that we can determine compliance with Ameren discharges related to Special Condition 4.

The language of Special Condition 4 is exactly the same as the regulation at 35 Ill. Adm. Code 302.211(c), which states: “The normal daily and seasonal temperature fluctuations which existed before the addition of heat due to other than natural causes shall be maintained.” The purpose of this regulation and subsequent special condition is to ensure that the aquatic life is protected from changes in the natural temperature fluctuations. Based on the size and temperature of the discharge and the conditions in this permit, the Illinois EPA determined that this requirement will be met.

12. I also note that Special Condition 14 says that the best available technology and best control technology are to be used for the ash pond. It says no storm water management or future prevention plan is required. I cannot believe that is the case, given that they are taking 250,000 tons of fly ash per year and wetting it down and handling it in a wet manner, when we all know that dry handling is the best available technology right now.

Special Condition 14 refers to stormwater discharge management. The purpose of the condition is to acknowledge that the facility’s ash pond treats the “stormwater runoff” directed to Outfall 001 in a treatment system that is considered best available technology and best control technology. Since the facility directs the stormwater out of a controlled or monitored outfall, the plant is not required to have a Stormwater Pollution Prevention Plan for the area tributary to Outfall 001.

The Edwards Station has the capability to manage fly ash either wet or dry. When fly ash is managed wet (no longer commonly done), all three units utilize the original United Conveyor handling system. When fly ash is handled dry (the current most commonly used method), a Cycloneaire system retrofitted to the two existing silos is used. Each silo has a capacity of 500 tons and both silos have truck loading capability. In the year 2013 the Edwards Plant produced 103,600 tons of fly ash, of that 100,100 (97%) tons was managed dry. As for 2014 the facility has currently handled approximately 98% of fly ash in a dry manner.

13. A follow-up comment, and I appreciate this, because I did have a question during my earlier comment. On the report that was handed in this evening as an exhibit, and the title is “Closing the Flood Gates. How the Coal Industry is Poisoning Our Water and How We Can Stop It”, did find that of the 274 coal plants that discharge coal ash like Edwards does, 17 are in Illinois, and that none of these coal fired power plants have limits on the amounts of toxic metals, like arsenic, boron, cadmium, mercury, and selenium, and those go to the waters. We are really asking the Illinois EPA -- it is high time to set limits on these heavy metals, and it was stated that it is measured twice a year on the mercury. Twice a year! It just seems unbelievably infrequent and inadequate. The fact that that river is utilized for fishing many months of the year and with other activities here that really the amount of testing and monitoring and limits really needs to be increased greatly.

The Edwards station does not discharge coal ash into the Illinois River. The coal ash is sluiced to the pond where the coal ash is settled out. The pond discharges the treated effluent water into the Illinois River after the coal ash is settled out.

A reasonable potential analysis was completed on May 14, 2014 on the effluent data for Outfall 001. Based on the data, there is no reasonable potential to exceed water quality standards for any of the constituents that were sampled. In Special Condition 18 of the NPDES permit the Permittee is required to sample and report 22 constituents (which include the metals that are listed above). The Illinois EPA will evaluate the data and ensure the discharge will comply with effluent and water quality standards.

Mercury monitoring for outfall 001 has been updated from 2/Year to 1/Month, and is listed on Effluent Limitation and Monitoring page for Outfall 001. The Illinois EPA has determined that Mercury needs to be monitored at a higher frequency than proposed based on improved testing methods and variation in coal supply.

- 14. This coal ash pond is unlined and very close to the Illinois River. It is a continuing toxic hazard to our area. Ameren should be required to clean up that coal ash pond and convert to a dry system. What safety systems are in place to keep the coal ash pond from breaching into the Illinois River given the heightened flood conditions that are created due to climate change?**

The Edwards Station has the capability to manage fly ash either wet or dry. When fly ash is managed wet (no longer commonly done), all three units utilize the original United Conveyor handling system. When fly ash is handled dry (the current most commonly used method), a Cycloneaire system retrofitted to the two existing silos is used. Each silo has a capacity of 500 tons and both silos have truck loading capability. In the year 2013 the Edwards Plant produced 103,600 tons of fly ash, of that 100,100 (97%) tons was managed dry. As for 2014 the facility has currently handled approximately 98% of fly ash in a dry manner.

As explained in response #1 the ash pond does not utilize the Illinois River levee as containment. If the ash pond berm breaches, water will have to flow overland approximately 1 mile until it reaches a drainage ditch along Illinois Route 9. If conditions pose the threat of the levee or ash pond berm breaching, the Permittee is required to notify the Illinois EPA as outlined in Special Condition 22. In Special Condition 22 as a safety requirement, the Permittee must inspect the quality of the berm when the pond is filling up because of the inability to discharge due to Illinois River flood conditions. The special condition also allows for emergency pumping of the ash pond to ensure the ash pond berm integrity is maintained.

15. Why can we not require the best technology to stop the once use cycle for water cooling at the plant? If this better technology exists to prevent harm to the ecology from high temperatures and trapped aquatic life, why do we not require it?

The permit requires the Edwards Plant to show compliance with applicable regulations. If the Permittee can demonstrate compliance, as outlined in the following paragraphs, with impingement and thermal regulations standards by an approved practice or technology then the need to alter operations and management practices or specific technology will not be required.

On August 15, 2014 the United States Environmental Protection Agency (USEPA) new final rules under Section 316(b) of the Clean Water Act for existing facilities became effective. Within the rule the facility is required to demonstrate they meet the BTA impingement mortality standard. The new rule identifies technologies that will generally comply with the BTA impingement mortality standard. Implementing the recommended BTA based on guidance in the rule will satisfy the 316(b) requirement. As required in Special Condition 17, the applicant is required to submit the necessary information to make a BTA determination. The Illinois EPA will make a new BTA determination based on final rule guidance.

Special Condition 4 requires compliance with thermal standards. Ecology will be maintained (not impacted) if the Edwards Station is in compliance with the water quality regulations or can demonstrate in a thermal relief plan that the thermal effects of the discharge are not harmful to aquatic organisms.

16. When I learned that the 50 year old Edward's Coal plant has an 89 acre unlined coal ash pond through which millions of gallons of water flow through daily into our Illinois River, I was shocked. I was horrified to then learn that the plant's current water discharge permit is virtually a free ticket to pass to and dump, with impunity, as much toxic materials as mercury and lead into the Illinois River as it wants to. In addition it has a once through cooling system that first traps aquatic life in the intake system from the Illinois River and then dumps the plant's hot cooling water back into the river. The hot water then causes further ecologic damage. They must be required to install the most current water discharge pollution controls and cooling system that does not harm the Illinois River. I expect that a new NPDES permit will not be issued with a new assessment of the environment, something that has not been updated since 1979.

In order to meet the thermal temperature regulations the Permittee will have to perform a site specific thermal environmental assessment or meet the applicable water quality limits that ensure environmental protection.

Please refer to response to question #15 that explains that the facility must meet newly established 316(b) regulations and meet applicable water quality thermal limits or perform a 316(a) thermal relief demonstration.

The Illinois EPA monitors and limits the discharge from the pond outfall. The Illinois EPA also performed a reasonable potential analysis on May 14, 2014 on the effluent data for the ash pond outfall. Based on the data, there is no reasonable potential to exceed the water quality standards for any of the constituents that were sampled. In Special Condition 18 of the NPDES permit, the Permittee is required to sample and report 22 constituents.

Antidegradation Assessment/Water Quality Standards

17. I have been inspecting the permit here, and I see under Special Condition 4, that the temperature of the discharged waters are quite high permissible during the Summer up to 90 degrees. My assessment of this is that this is a very high temperature. Our water monitoring of the Illinois River upstream has shown that during the Summer, the dissolved concentrations can get quite low to such levels that the fish are no longer viable at those temperatures and low oxygen conditions. So, I am quite concerned that what's happening here is that we are permitting too high a temperature for the water discharge, and what we need is actually some data to either say that they are not harming the environment or we may be. So, I am asking you before you allow this permit to go forward, that you provide or have the company provide an updated environmental impact assessment to see if we are adversely affecting aquatic life.

The temperature at the edge of the mixing zone must comply with 35 Ill. Adm. Code 302.211. 35 Ill. Adm. Code 302.211 is the temperature water quality standard. Per 35 Ill. Adm. Code 302.211 the temperature at the edge of the mixing zone is required to be 90 °F or below for the months of April through November and 60 °F or below for December through March, except that it may be exceeded by 3 °F by no more than one percent of the hours in the 12-month period ending with any month.

Please refer to response #2 for impact assessment on intake structure.

18. You heard earlier that their best available technology assessment has not been updated since the 1970's. That's inexcusable. Let's look at the changes that should have happened in the operation of this plant. We know the bank house was not updated. We know this plant has been a sorry stepchild in the Ameren fleet of plants for too long and has dumped unregulated heavy metals and pollution into the river. I specifically would like to refer to the Clean Water Act. Water quality standards are a cornerstone of that Act, and a part of that that is essential is water quality based effluent limits. I would like specifically to ask Mr. Scott Twait about mercury. I am very concerned about the cumulative health impact, negative

environmental impact, and societal costs and health costs for generations of mercury and its poisonings. And I would like to know from Scott, Sir, if you could please comment, will the Illinois EPA be requiring water quality based effluent limits for mercury and will it require regular testing for mercury?

The Illinois EPA will not be implementing a water quality based permit limit for mercury. The water quality standard for mercury is 12 ng/L based on an annual average of at least 8 samples. Twelve samples were taken monthly from February of 2006 to January 2007. The highest sample was 16.1 ng/L sampled in April 2006, however the average of the twelve samples was 3.65 ng/L. The average times the multiplier ($3.65 \text{ ng/L} \times 1.6 = 5.84 \text{ ng/L}$) is less than the human health water quality standard for mercury of 12 ng/L. Therefore, there is no reasonable potential to exceed the human health water quality standard for mercury. There will be regular testing for mercury. The Effluent Limitations and Monitoring page for Outfall 001 requires the facility to sample mercury once per month. Also, see response to question #23 for further details.

18(a). I contest that. I protest. I ask you to please reassess your consideration as proof and submission of documents tonight. I have the Federal EPA, Enforcement and Compliance History Online documents that show a violations history at the plant. There are numerous substances listed. I believe as recently as February of a few years ago, there was an exceedance of mercury in nanograms per liter that was 4 points over the base standards. There is documented evidence of a need for mercury testing because of known. We are out of time.

Since compliance with the mercury water quality standard is based on an annual average with at least 8 samples, no single sample will demonstrate a violation of the water quality standard. Twelve samples were taken monthly from February of 2006 to January 2007. The highest sample was 16.1 ng/L sampled in April 2006, however the average of the twelve samples was 3.65 ng/L. The average times the multiplier ($3.65 \text{ ng/L} \times 1.6 = 5.84 \text{ ng/L}$) is less than the human health water quality standard for mercury of 12 ng/L. Therefore, there is no reasonable potential to exceed the human health water quality standard for mercury. Also, see response to question #23 for further details.

19. We are concerned about the coal ash pond discharges that have no limits, the damage to aquatic life at the clean water intakes and by hot water discharges. My questions, and first of all I would like to say to the gentleman who said there's no bad fish kills at Edwards. There are fish kills every single day at each of your power plants, because of the intake structures. They kill fish as they are coming in for the water for the coal power usage. So, I would like to correct that. First, there's a memo from Ameren's Illinois EPA dated July 15, 2010 that refers to the back house units, and asserts that there will be little, if any, direct impact on wastewater discharges. And I would like to know from the panel how mercury removal equipment will not have an impact on wastewater discharges to the river.

The facility currently does not have an air pollution control treatment system installed for the removal of mercury. In the event that the facility would install an air pollution control treatment system to remove mercury, the facility stated it would install a “dry” system that would have no net increase to the wastewater to the pond.

The Permittee is required under Standard Condition 8 in Attachment H to notify the Illinois EPA of any changes that would create or increase wastewater to the discharge outfall. If the applicant installs a wet system the applicant must notify the Illinois EPA. The Illinois EPA can evaluate the new waste stream and set new limits or conditions in order for the discharge to comply with applicable effluent and water quality standards.

20. Two, there's also in that letter, Ameren states, “The ash pond discharge is influenced by high receiving stream at the Illinois River elevation which causes river water to back up into the pond. When necessary to fulfill dam safety requirements for ash pond berm integrity protection, Edwards will pump the treated ash pond directly to the river at a point parallel to the outfall structure. As this is a non-routine event that is predicated on river flood conditions, we would like the Agency to formally authorize this practice.” I would be appalled to see the Illinois EPA allow direct discharges just because they built their ash ponds in the floodplain, and the river floods every Spring and every Fall. There's no way that there should be an emergency overflow directed to the river, a river that people rely on for clean water in many different ways.

The ash pond discharges out of a riser pipe that protrudes approximately 5 feet from the bottom of the pond with the opening parallel to the surface of the water. Water cascades into the pipe, and flows to the bottom where the pipe turns at 90 degrees and extends approximate 200 yards through a valve box and under the flood levee to the Illinois River.

The Permittee is requesting the emergency practice in order to prevent the ash pond from overflowing during periods when the Illinois River elevation prevents the riser pipe from discharging. If the ash pond breached it could potentially flood the adjacent land and discharge to an unnamed ditch along Route 9 that is tributary to the Illinois River. The pond does have additional storage in case the ash pond cannot discharge, however once the pond reaches a height that is 2 feet from top of berm, there is a safety concern in regards to the berms integrity. From the top of riser pipe to the critical depth there is three feet of storage or approximately 37 million gallons of storage.

In order to prevent the pond from over topping the berm the Permittee and Illinois EPA have developed a set of procedures outlined in Special Condition 22 that would allow the emergency pumping. The special condition includes best management practices and additional monitoring requirements. Please see Special Condition 22 in the attached permit for complete details. As outlined in the special condition the pumping practice and discharge will be

monitored by the Illinois EPA and Permittee to ensure the discharge is meeting applicable effluent standards.

21. Pollution Standards to apply to water discharge. I ask that you enforce the current and best technology for the national Clean Water standards that will protect citizens from harmful discharges of mercury, lead and other toxic materials listed in the water discharge (E-11)

A reasonable potential analysis was completed on May 14, 2014 on the effluent data for Outfall 001. The data was provided in the application and one sample that was taken by the Illinois EPA. Based on the data, there is no reasonable potential to exceed water quality standards for any of the constituents that were sampled. In Special Condition 18 of the NPDES permit the Permittee is required to sample and report 22 constituents. The Illinois EPA will evaluate the data and ensure the discharge will comply with water quality standards.

22. Special Condition 12 states that no effluent shall contain settleable solids, floating debris, scum, etc. The Edwards plant currently violates this standard. You can see that via the pictures submitted by Robin Garlish at the 8/7/13 public hearing. Please do not renew this permit unless that problem is solved.

To address the concern the Illinois EPA has re-evaluated best management practices at the raised outfall riser pipe and determined that the booms and outlet control structure in place are acceptable.

The raised outlet riser pipe is located at a point which allows sufficient settling time for suspended solids, and the raised entry aids in settling efficiency. The floating outlet control structure in place does not allow direct surface water to discharge out the riser pipe. The structure surrounds the riser and forces water to flow under the structure in order to be discharged, thus preventing floating debris from reaching the riser. The boom(s) prevent scum from reaching the discharge structure.

23. Heavy metal testing should occur every month and be made public immediately. At least twice more per year, as determined by IEPA, an independent group should conduct the testing.

The Effluent Limitations and Monitoring page for Outfall 001 requires the facility to sample mercury once per month. The Illinois EPA has determined that mercury needs to be monitored at a higher frequency than proposed based on improved testing methods and variation in coal supply.

The Illinois EPA also performed a reasonable potential analysis on May 14, 2014 on the effluent data for the ash pond outfall. Based on the data, there is no reasonable potential to exceed the water quality standards for any of the constituents that were sampled. In Special Condition 18 of the NPDES permit

the Permittee is required to sample and report 22 constituents. The Illinois EPA will evaluate the data and ensure the discharge will comply with water quality limits.

The public can access all the compliance and enforcement information regarding NPDES Permits (including DMR Data) using ECHO. The link is as follows: <http://echo.epa.gov/?redirect=echo>. Currently, the ECHO database shows no formal USEPA or state IEPA enforcement action.

24. In Special Condition 4, the permit allows Ameren to choose one of two tracks for compliance. The first track is to be followed if Ameren makes a determination to come into compliance with the thermal standards without seeking a variance. This track – “Schedule A” – allows Ameren 36 months to achieve compliance, an appropriate timeframe under EPA guidelines per 40 CFR 122.47(a)(1)(2). The second track, however – “Schedule B” – is to be followed if Ameren decides to seek a variance under CWA § 316(a). Schedule B is not consistent with the CWA for two main reasons. First, a Permittee is required to apply for a variance in a permit renewal application, which Ameren has not done. Second, the milestone dates provided in Schedule B effectively enable Ameren to achieve compliance only if it is actually granted a thermal variance – which is wholly inappropriate given that IEPA has no actual basis to assume that a variance should or will be granted by the Pollution Control Board (“PCB”). The schedule allows Ameren a full 36 months to file a variance petition, but then requires full compliance only 12 months later. It is probably safe to say, as a practical matter, that if the PCB does not grant the variance sometime within that 12 months, Ameren will not be able to comply with the thermal limits in its permit. Yet the aquatic life studies that may or may not support such a variance have not even been done yet – Schedule B allows 30 months for their completion. Schedule B thus does not allow for the possibility that either Ameren or the PCB may conclude that the study results do not, in fact, support a finding under § 316(a) that thermal standards in the permit are more stringent than necessary to protect aquatic life, and hence that a § 316(a) variance is not warranted.

Schedule A reflects the only approach to a schedule of compliance that is appropriate under the CWA and EPA policy. It specifies a time frame for compliance, and sets milestone dates for the steps necessary to achieve it without a variance. Even assuming Ameren could apply for a variance before its next permit cycle, it would need to pursue the variance in tandem with its efforts toward compliance with the permit limit, to allow for the possibility that the variance may not be granted. In this regard, commenters would not object to a 60-month compliance schedule so long as it did not include the Schedule B milestones assuming that a variance will be available.

Special Condition 4 has been revised and the compliance schedule now outlines a single pathway to compliance. The Permittee is required to submit an Implementation Plan that details the steps that the facility will take to

achieve compliance. The Implementation Plan will be reviewed and approved by the Illinois EPA. The special condition also states that the discharge shall achieve compliance with the water quality limits no later than 48 months after issuance of permit.

Please see the attached permit, Special Condition 4 Part J, for a complete description of the compliance requirements.

25. IEPA must follow USEPA guidance for coal ash effluent discharges. Upon review of low level mercury monitoring performed at the Outfall 001 ash pond discharge (Attachment D), it is clear that there is reasonable potential for the mercury human health water quality standard of 0.012 ug/L (35 Ill. Adm. Code § 302.208(f)) to be exceeded. It is also clear that there are high levels of mercury in the Illinois River, as 5 of 12 samples exceed the human health standard. We have concerns regarding the information provided in the October 17, 2011 Reasonable Potential Analysis. This memo states a conclusion that “no regulation of mercury is necessary and no monitoring beyond the routine requirements is needed,” and further concludes that there was “no reasonable potential” for breaching water quality standards. (PRN written comments)

The water quality standard for mercury is 12 ng/L based on an annual average of at least 8 samples. Twelve samples were taken monthly from February 2006 to January 2007. The highest sample was 16.1 ng/L sampled in April 2006, however the average of the twelve samples was 3.65 ng/L. The average times the multiplier ($3.65 \text{ ng/L} \times 1.6 = 5.84 \text{ ng/L}$) is less than the human health water quality standard for mercury of 12 ng/L. Therefore, there is no reasonable potential to exceed the human health water quality standard for mercury. There will be regular testing for mercury. The Effluent Limitations and Monitoring page for Outfall 001 requires the facility to sample mercury once per month.

26. Further, we object to the IEPA’s plans to sanction pumping from the coal ash pond to the Illinois River during times of flood which Ameren reported and justified in a July 15, 2010 letter (Attachment G) to IEPA, explaining, “The ash pond discharge is influenced by high receiving stream (Illinois River) elevation which causes river water to back up into the pond. When necessary to fulfill dam safety requirements for ash pond berm integrity protection, Edwards will pump the treated ash pond water directly to the river at a point parallel to the outfall structure. As this is a non-routine event that is predicated on river flood conditions, we would like the Agency to formally authorize this practice.” (PRN written comments)

The Illinois EPA has evaluated the potential effects of the pond berm breaching and has decided to allow the pumping of effluent from the coal ash pond only during periods when the pond depth is reaching a critical level and the pond cannot discharge because of the Illinois River elevation.

The Illinois EPA worked diligently with the Permittee in developing a comprehensive plan. That plan is outlined in Special Condition 22 of the attached permit. Please see Special Condition 22 in attached permit for complete details.

The special condition includes best management practices and additional monitoring requirements. The Illinois EPA will monitor and evaluate the pumping procedure and discharge. If required the Illinois EPA will modify practices or procedures as needed to address any concerns observed or reported.

Additional Comments

The Illinois EPA received the following issues and comments at the hearing and during the comment period.

27. It would be hard to deny that the Edwards Coal Fired Power Plant is a polluter to both air and water. And is, therefore, a threat to our health and environment. So, in my opinion, this permit should be denied.

The Illinois EPA thanks you for the comment and concerns. The Illinois EPA has drafted a permit that follows regulations set forth in the Illinois Environmental Protection Act, Illinois Administrative Code Title 35 Subtitle C Chapter I Part 309 Permits, and Federal Clean Water Act. These laws and regulations are written to protect the environment and health of humans.

28. In addition it has a once-through cooling system that first traps aquatic life in the intake system from the river and then dumps the plant's hot cooling water back into the river. The hot water then causes further ecological damage. In my opinion, we need to be not allowing Ameren to operate their business in a manner that passes on harmful health impact of toxic heavy metals to residents or the hot cooling waters to the Illinois River's ecological system. I ask the EPA to please protect the Illinois River which is a partial source of our drinking water. And to do that, they need to require the decrease of the discharge of heavy metals and other toxins into the river to help restore it and make it a healthier and safer environment. I expect that the EPA would enforce the highest standards of pollution control, and that a new NPDES permit will not be issued without a new assessment of the environment, something that I believe has not happened since 1979. Please enforce the really toughest and strictest pollution control standards that we can have. If we have them, let's enforce them.

The Illinois EPA thanks you for the comment and has addressed the above mentioned concerns in response to questions 2, 15, 16, 23, and 25.

29. I am especially concerned about children and pregnant women who eat fish from the river. The Illinois River is heavily fished and hunted in this area for both recreational and commercial interests. And it is imperative that mercury and other heavy metal pollution are monitored and limited. The Illinois River is currently listed as impaired for fish consumption due to high levels of mercury in fish tissue. I think it is very short sided to say well, it costs a lot to do all of this, because in the long term, if we have people who have physical issues and neurological issues because of consuming the fish, we have the health costs. And just as a society, the repercussions for our economy are very great.

The Illinois EPA thanks you for the comment and has addressed those concerns in response to questions 23 and 25.

30. We are all Central Illinoisans. The EPA's job is to monitor the quality of the water in the Illinois River. I am sure everyone working for Ameren does an excellent job in terms of what their responsibilities are. This isn't a we versus they or an us versus them situation. It's a situation where we all drink the water, and we are all members of Illinois. We need to be responsible for standards. They are actually higher than what we are looking at now. The last testing from the information that I have of the impact assessment was in 1979. The ecological damage assessment has not been done in 34 years. We need to update. We need to come into 2013 to make sure that our children, our grandchildren, and the future generations have the quality of water we grew up with.

The Illinois EPA thanks you for the comment and has addressed those concerns in response to questions 2, 15, 16, 23, and 25.

31. I am concerned, personally, for the residents of this area and around the river. And I am concerned for the employees also as a whole. I am one of many residents in this area with children and other family members who struggle with a lot of the health conditions that are known from these chemicals, the mercury, lead, arsenic and so on. Families that were fishing on the Illinois River just right over here a few blocks, and they don't have a clue about any fish eating limits.

The Illinois EPA thanks you for the comment. The Illinois Department of Public Health has released a statewide mercury report and details can be found at the website given below. There are no additional advisories in the Illinois River surrounding the Edwards Plant for mercury outside normal levels.

<http://www.idph.state.il.us/envhealth/fishadvisory/index.htm>

32. I don't think the Edwards Power Plant should be allowed to continue using old processes that release pollution to the Illinois River when there is much better technology they could use. This plant should be required to upgrade and keep their coal ash pond outfall on site, until it is treated and mercury and other pollutants are

removed. Please protect public health and healthy Illinois River and require this plant to do a study on upgrading to the best available technology.

The Illinois EPA thanks you for the comment and has addressed those concerns in response to questions 14, 15, and 16.

33. I am concerned about the health of the Illinois River, which reflects on the health of the community. And I am concerned about the amount of toxic wastewater that's dumped directly into the Illinois River. Water is vital to all forms of life, and I think it should be better monitored. Thank you for sitting here and listening today. I would like to also say that I support Ameren transition to cleaner, renewable energy so that everyone can keep their jobs, and we can keep the economy strong and the community healthy.

The Illinois EPA thanks you for the comment and has addressed those concerns in response to questions 24 and 25.

34. When I learned that the 50 year old Edward's Coal plant has an 89 acre unlined coal ash pond through which millions of gallons of water flow through daily into our Illinois River, I was shocked. I was horrified to then learn that the plant's current water discharge permit is virtually a free ticket to pass to and dump, with impunity, as much toxic materials as mercury and lead into the Illinois River as it wants to. In addition it has a once through cooling system that first traps aquatic life in the intake system from the Illinois River and then dumps the plant's hot cooling water back in to the river. The hot water then causes further ecologic damage. They must be required to install the most current water discharge pollution controls and cooling system that does not harm the Illinois River. I expect that a new NPDES permit will be issued with a new assessment of the environment, something that has not been updated since 1979.

The Illinois EPA thanks you for the comment and has addressed those concerns in response to questions 14, 15, and 16.

Acronyms and Initials

303(d)	Section of federal Clean Water Act dealing with impaired waters.
7Q10	Lowest continuous seven-day flow during a 10-year period
BOD	Biochemical oxygen demand
COD	Chemical oxygen demand
CFR	Code of Federal Regulations
DMR	Discharge Monitoring Report
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
Ill. Adm. Code	Illinois Administrative Code
mg/L	Milligrams per liter
MGD	Million gallons per day
NPDES	National Pollutant Discharge Elimination System
pH	A measure of acidity or alkalinity of a solution
TDS	Total dissolved solids
TMDL	Total maximum daily load
TSS	Total suspended solids

DISTRIBUTION OF RESPONSIVENESS SUMMARY

An announcement, that the NPDES permit decision and accompanying responsiveness summary is available on the Agency website, was 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, Illinois EPA, 217-524-3038, e-mail: Barb.Lieberoff@illinois.gov.

WHO CAN ANSWER YOUR QUESTIONS

Illinois EPA NPDES Permit:

Illinois EPA NPDES technical decisions:	Jamie Cowles.....	217-782-0610
Legal questions	Stephanie Flowers ...	217-782-5544
Water quality issues	Scott Twait	217-782-3362
Groundwater Issues	Lynn Dunaway	217-785-2762
Public hearing of July 31, 2013.....	Dean Studer.....	217-558-8280

The public hearing notice, the hearing transcript, the NPDES permit and the responsiveness summary are available on the Illinois EPA website (please cut and paste this address into your internet browser):

<http://www.epa.illinois.gov/public-notices/2013/npdes-notices/index#ameren-edwards>