

**Dynegy Midwest Generation,
Inc.
Havana Power Station**

**National Pollutant Discharge Elimination
System (NPDES) Permit
Responsiveness Summary**

Regarding

November 8, 2011 Public Hearing

Illinois Environmental Protection Agency
Office of Community Relations
September 14, 2012



Dynegy Midwest Generation Havana, Mason County, Illinois NPDES Responsiveness Summary

Table of Contents

Agency Decision	2
Pre-hearing Public Outreach	3
Public Hearing of November 8, 2011	3
Background Information.....	4
Responses to Comments, Questions and Concerns	
NPDES Permit.....	5
Characterization of Affected Water Bodies.....	5
Water Quality.....	6
Ash Ponds.....	9
Mercury.....	11
Community Safety/Best Management Practices.....	13
Wildlife.....	14
Comments.....	15
Acronyms and Initials.....	18
Distribution of Responsiveness Summary.....	19
Who to Contact for Answers.....	19

Final September 14, 2012

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Dynegy Midwest Generation)
Havana, Illinois)
NPDES Permit No.: IL0001571)

AGENCY DECISION

On September 11, 2012, the Interim Director of the Illinois Environmental Protection Agency (Illinois EPA or IEPA or Agency) approved the reissuance of the NPDES permit for Dynegy Midwest Generation, Inc. for the Havana Power Station.

The following modifications have been made to the proposed project.

Special Condition 8 has been modified to require quarterly sampling for Mercury throughout the length of the permit rather than after twelve samples have been completed.

The approximate flow for the Unit 6 Auxiliary Heat Exchangers are now correctly listed at 10 MGD as listed in Form 2C.

The approximate flow for the Non-Contact Air Compressor Cooling Water is now correctly listed as 22 MGD as listed in Form 2C.

Special Condition 19 has been revised to include updated Stormwater Pollution Prevention Plan requirements.

Special Condition 21 has been modified to require additional testing at outfall 003.

PRE-HEARING PUBLIC OUTREACH

The entire public hearing notice was published on (September 21, 28 and October 5, 2011) in *The Mason County Democrat*. In September, the public hearing notice was mailed to persons on a hearing service list maintained by the Illinois EPA. The notice was mailed to state legislators, county, township and municipal officials, environmental organizations and interested citizens. The public hearing notice was also posted electronically on the Illinois EPA website, <http://www.epa.state.il.us>. One or more groups not associated with the Illinois EPA also publicized the public hearing through fliers and a website.

November 8, 2011 PUBLIC HEARING

Illinois EPA Hearing Officer Dean Studer opened the hearing at 6 p.m. in the Occasions banquet facility in Havana, Illinois.

Bob Mosher and Mark Liska from the Illinois EPA provided an overview of the NPDES Permit process and the specifics for this site.

Comments and questions were received from the audience.

Hearing Officer Dean Studer closed the hearing at 7:45 p.m. on November 8, 2011.

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

Approximately 25 persons representing neighbors, Prairie Rivers Network, Heart of Illinois Chapter of the Sierra Club, Dynegy and a reporter from the Mason County Democrat newspaper attended the hearing. A court reporter prepared a transcript of the public hearing which is posted on the Illinois EPA website.

The hearing record closed on December 8, 2011.

BACKGROUND INFORMATION

The facility applied for a NPDES permit to discharge into Segment ID D-31 of the Illinois River. The applicant is engaged in the operation of a fossil fuelled steam electric generating station, SIC 4911. The IEPA held a public hearing to accept comments on the draft re-issued NPDES permit with modifications. Issues considered at the hearing included compliance with the federal Clean Water Act and with the Illinois Environmental Protection Act as they relate to the reissuance of this permit.

Additional discharges to outfall 001 are expected from non-contact cooling water to be used in new air pollution control facilities and the addition of outfall 007 which is for storm water on the north side of facility. Outfall 002 will receive additional wastewater from deep well acid cleaning, low-volume scrubber system, and the lime slurry overflow. The east ash pond, with discharge outfall 005 will receive additional wastes consisting of lime slurry and diatomaceous earth, intermittent discharges of sulfuric acid waste, nonchemical metal cleaning waste, and fluorescent powder from bag house leak detection.

Segment D-31 of the Illinois River is listed on the Illinois Integrated Water Quality Report and Section 303(d) partially approved 2008 List for impairments of fish consumption use, with causes of mercury and PCBs, and for primary contact use impairment from fecal coliform. Segment D-31 of the Illinois River is not listed by the Illinois Department of Natural Resources (IDNR) as a biologically significant stream and is not classified as enhanced water by the Illinois EPA pursuant to the dissolved oxygen water quality standard. The IDNR WIRT system does not list any state threatened or endangered aquatic species as residing in the receiving water body.

The IEPA made the determination to reissue this five-year NPDES permit for discharge into waters of the state in accordance with 35 Illinois Administrative Code Subtitle C (Water Pollution), the Illinois Environmental Protection Act and the federal Clean Water Act.

The May 11, 2011 public notice/fact sheet which contains the draft antidegradation assessment and the draft re-issued NPDES permit with modifications can be viewed on the IEPA website:

<http://www.epa.state.il.us/public-notice/2011/dynergy-havana/index.pdf>

Responses to Comments, Questions and Concerns

NPDES Permit

1. Modifications to the Havana Power Plant NPDES permit allow for the discharge of additional pollutant-laden wastewaters from Dynegy's Havana Power Station into the Illinois River. Is the additional pollution that is proposed to go into the Illinois River the result of cleaning up the air pollution from the Havana Power Plant? (T-1)

The new or modified wastewaters that constitute the added loading to Outfalls 002, 005 and 007 are primarily, but not entirely, related to air pollution emissions control efforts at this facility. Air emissions controls for mercury and the addition of the spray dryer absorber will cause the fly ash disposed of in the ash pond (overflow to Outfall 005) to increase by about 5%. In addition, a gypsum material, about 58 tons per day, will be generated from the spray dryer absorber and deposited in the ash pond. The new loading that is actually discharged to the Illinois River will be minimal, consisting mostly of dissolved salts with the rest settling in the ash pond. The Agency has considered the environmental impacts of this additional loading as part of its antidegradation analysis review.

2. How is it that air pollutants such as mercury, arsenic, cadmium, chromium, and lead can simply be moved to the water? (T-2)

The new air pollution equipment uses activated carbon to remove mercury and a spray-dryer absorber and baghouse to remove the other listed parameters. The activated carbon sorbent and spray dryer absorber residue is hauled to the ash pond where it is placed at the bottom. The metal-laden residue stays at the bottom of the lined ash pond and no significant amount of metals discharge to the Illinois River.

3. When did Dynegy first apply for the ash pond permits? (T-29)

The East Ash Pond and its liner were permitted by the Agency on August 15, 1997. The previous ash ponds have no permit because they were built prior to the existence of the IEPA.

Characterization of Affected Water Bodies

4. Is the Agency aware of any downstream communities that draw water from the Illinois River for use in their public water supplies? (T-4)

The nearest downstream public water supply below the Dynegy Havana Plant discharge is at Alton on the Mississippi River below the confluence of the Illinois River.

5. Is the Agency aware of any downstream industries that draw water from the Illinois River? (T-5)

There may be downstream industries on the Illinois River that draw water from the river for cooling or other industrial purposes. Illinois EPA does not regulate or track water withdrawal for industrial purposes.

6. Has the Agency evaluated how additional pollutant loading might impact these industries and their need for clean water? (T-6)

The increases in loading of effluent constituents resulting from the permitted changes in the Dynegy discharges are minimal. The Illinois River has a 7Q10 drought flow of 3195 cfs at the point where Dynegy's Outfall 005 (East Ash Pond) maximum discharge of 16.8 cfs enters the river resulting in a dilution ratio of over 190:1. The minute increases in concentration of all effluent constituents will not be detectable in water withdrawn downstream.

7. Has the Agency looked at the additional pollutant loading that might be discharged into the Illinois River that won't be detected or is likely not to be detected by Dynegy? (T-51)

The Agency has studied what is likely to be in the effluent from the coal ash ponds including any new parameters coming from the new treatment equipment. Dynegy is required by the permit to monitor for an extensive list of parameters that may be in the effluent from the coal ash ponds.

Water Quality

8. Won't the additional pollutants that are proposed to be discharged into the Illinois River basin adversely impact the water quality? (T-3)

The additional pollutant loading resulting from the modifications covered by the NPDES permit is minimal. All water quality standards will continue to be met in the Illinois River. Additionally, it is predicted that the increases in pollutant loading will not result in detectable increases in river concentrations of these parameters.

9. From multiple sources we know that water softener backwash, deep well acid cleaning water, lime slurry, scrubber system wastewater, and coal combustion waste streams typically include toxic metals. Has any analyses been conducted for those potential pollutants to ensure that water quality standards are being met? (T-8)

Any metals in the current or new discharges to the ash ponds will settle out in the ash ponds. The analysis of the additional pollutant loading of salts and metals from this facility found that all water quality standards will continue to be met in the Illinois River.

10. Has the Agency looked at any other waste streams in Illinois or within the region that are similar to this one that could be used as a comparison? (T-9)

Power plants throughout the state and the United States use primarily the same type of treatment units for their wastewater. The Agency does look at other waste streams throughout Illinois and the rest of the nation for a comparison.

11. Whether they are in the ash ponds or the river, minute quantities of toxic heavy metals can build up over time. These toxins could prove hazardous and problematic for future generations. (T-18)

Ash ponds are designed to retain and store suspended materials introduced from fly ash and other wastes. Thus the build-up of metals in the ash pond sediment is intentional and serves to keep metals and other undesirable materials out of the Illinois River. Concentrations of metals in the discharged effluent are minimal and as such cannot cause build-ups in the river environment.

12. The Illinois antidegradation rules prohibit the lowering of water quality without showing that it is necessary to accommodate important economic or social developments. Why was Dynegy not made to demonstrate that a dry ash landfill is more economical in comparison to a wet ash pond? (T-39)

The Havana Plant has always used ash ponds as a means of ash disposal. The changes occurring at the plant resulting in an antidegradation assessment arose because of a new system of air emissions controls and other relatively minor changes in wastewater management. An antidegradation analysis of the existing ash handling system is thus not required under 35 Ill. Adm. Code 302.105. If the plant was starting anew or was proposing a major change in ash handling, the comparison of wet ash handling vs. dry would have been required.

13. Provide evidence that the Agency has evaluated the mixture's discharge for 1) potential pollutant load increases, 2) ability to meet water quality standards in the receiving waterway, 3) the potential impact to water quality, 4) the potential impact on existing uses in the receiving stream and 5) the potential impact on underlying groundwater and potential lateral leaching through the ash pond's walls. (E15-6)

Potential pollutant loading increases were identified by examining the listed changes to the wastewater management system at the plant as provided in the July 29, 2010 antidegradation assessment submitted by Dynegy. Probably the most important change is the addition of mercury containing sorbent from a new air emissions control system. Dynegy submitted a copy of a laboratory study report with the antidegradation assessment. This document is entitled Activated Carbon Injection: Effect on Simulated Fly Ash Sluice Water and was produced by the Electric Power Research Institute, March 2007. The studies described in this report were conducted to aid coal burning electric utilities nation-wide that are or will be required to remove mercury from air emissions. The conclusions of the study are that mercury sorbed to carbon, the basis of the mercury removal system, will settle in ash ponds and that the mercury will stay attached to the carbon and remain sequestered in the bottom sediment of the pond. The antidegradation review conducted by Illinois EPA concluded that while more mercury will now enter the ash pond, almost all of it will remain there. What little increase in mercury (if any at all) that would occur in the discharge to the Illinois River would meet the water quality standard at end-of-pipe and is minimal.

Another new and significant addition to the ash pond (but not a significant contributor to effluent constituents) is gypsum from the sulfur air emissions spray dryer absorber. Gypsum is a poorly soluble compound of calcium or magnesium and sulfur and will largely remain in the ash pond as settled solids. The other increases in loading from the new wastewaters including deep well cleaning acid rinse solution, absorber nozzle cleaning solution, spray dryer absorber cleaning solutions and sulfuric acid to control total suspended solids, consist of acids (that will be neutralized, usually by alkaline materials already in the ponds), lime (naturally occurring in groundwater and part of the reason that cleaning acids must be used) and salts. Minimal amounts of other metals may be associated with these wastewaters because metals are naturally found in groundwater and commercial acids at very low concentrations. The spray dryer absorber will contribute calcium/magnesium sulfate mixed with additional fly ash to the ash pond. Fly ash will make up between 5 and 15% of the spray dryer absorber residue, in effect increasing fly ash disposal in the ash pond by about 4% at maximum. Metals are associated with fly ash, but this addition to the existing amount of fly ash going to the East Ash Pond and will not significantly raise effluent concentrations as these metals will settle in the ash pond.

Also included is an increased flow of compressor cooling water and other relatively clean waters to the ash ponds that will serve to dilute concentrations. The overall conclusion of the Illinois EPA was that the ash pond discharges to the Illinois River would increase in loading of salts and fly ash constituents including metals. The increases are characterized as minimal. Final effluent concentrations are not expected to increase measurably and will remain within applicable water quality standards for the Illinois River. Therefore, no detectable increase in Illinois River concentrations of any parameter is anticipated and no impact on the overall water quality or existing uses of the Illinois River will result from these changes. Given the pollutants removed from the air, the environment will greatly benefit from the changes. Based on groundwater monitoring results, the concentrations of monitored constituents have not changed appreciably since monitoring was initiated after construction of the first two cells of the East Pond System. Since the groundwater quality has not changed, it is evident that impact to groundwater due to leaching has not occurred.

14. We respectfully ask the Agency to provide evidence into the record of such a review and how the findings of the review were employed in order to fully inform the proposed increase of, fate and transport of additional pollutants to and in the Illinois River. (E15-6)

The record contains the antidegradation assessment, dated July 29, 2010 submitted by Dynegy and the September 1, 2010 antidegradation review memo produced by Illinois EPA. The response to the previous comment summarizes the process of determining the anticipated magnitude of increased loading of pollutants. The complexity of existing and future inputs to the ash ponds, and the treatment provided in the ash ponds, precludes more detailed conclusions regarding final effluent concentrations. Effluent monitoring requirements in the permit will allow Illinois EPA to track any changes in effluent concentrations and verify the current conclusion that no significant difference will result from the wastewater management changes noted.

15. Why is it that a power plant should have fecal coliform listed on its outfall 004? (T-52)

Outfall 004 consists of effluent from their sewage treatment plant. The on-site sewage treatment plant treats the domestic sewage discharge from the workers at the plant. The plant is much like a plant that would treat municipal domestic sewage (bathroom and sink waste) from a town and contains no industrial discharges. Much like at any municipal sewage treatment plant throughout the country, the domestic sewage contains fecal coliform and is treated primarily through the addition of chlorine. Also, like domestic sewage discharge permits throughout the state, the treated waste stream is tested for fecal coliform to ensure that it has been treated effectively.

Ash Ponds

16. Could you explain how the Agency evaluates all of the waste streams that are going directly into the ash ponds including how they mix and what their ultimate impact will be? (T-7)

The Agency conducts a mass balance of all parameters going into a discharge stream, take into account any treatment processes or any other factors that could affect the discharge, and calculate its effect on ash pond effluent quality.

17. It has been shown that disposal in ash ponds with wet slurry is considered to be unsafe. Spills have been most recently cited in Lake Michigan and also in the TVA Authority in Kingston. Has Dynegy been made to do any type of study that would provide information to the public that they will be safe from any such incidents? (T10)

Both spills listed above were caused by structural failures of the ash pond. The structural integrity of the ash pond is regulated by the IDNR Office of Dam Safety and is not regulated by this NPDES Permit. Please refer back to question # 18.

18. If ever there were a failure in the ash pond construction, all of the toxins could be released onto the community. With this being a possibility, why is it that Dynegy has not been required to institute procedures to go to a dry ash pond? (T-19)

The structural stability of the ash pond is not regulated by the IEPA, but by the Illinois Department of Natural Resources (IDNR) Office of Dam Safety.

19. Instead of dumping the coal ash into a wet pond, has Dynegy had any thought as to what uses this coal ash otherwise could be used for? It could be used in a dry form with concrete and used on highways. (T-20)

This plant has a significant beneficial reuse program and makes an effort to use as much coal ash as possible for beneficial reuse.

20. The integrity of the ash pond walls has come into question. Some people say that the walls of these ponds are lined and others say that they are not. The community is concerned with this and with the possibility that other events could breach these ponds having devastating results on the community. (T-22) (T-31)

The pond walls do have a clay liner and a synthetic liner which will prevent leaching of materials to the surrounding community. The ash ponds themselves have been inspected by the IDNR Office of Dam Safety and are considered safe.

21. What is the plan for Dynegy once these ponds are full? Will they build another pond?
(T-23)

The permittee has not currently filed a construction permit for any new structure to replace the ponds once they are full. The Agency has no knowledge of Dynegy's future plans regarding this matter.

22. What keeps the metals and other contaminants that are in these ponds from leaching in to the soil? (T-24)

The ponds were constructed with a clay liner in conjunction with a synthetic liner.

23. In reference to the monitoring wells, if they are located under the ash ponds, in sandy soil, there is the possibility that contamination from the ash ponds could spread out into our drinking water aquifer. Exactly where are the monitoring wells and how deep are they?
(T-26)

The monitoring wells are not located under the ash pond. They are located both up gradient (the direction groundwater flows from) and down gradient (the direction groundwater flows towards) of the ash ponds. The purpose of the up gradient wells is to determine groundwater quality before it flows beneath the ash ponds. The purpose of the down gradient wells is to determine groundwater quality after it has passed beneath the ash ponds. The down gradient wells are placed so that if contaminants were to escape the ash ponds via groundwater, the contaminants would be detected before leaving Dynegy property and impacting potable wells. The depth of the monitoring wells ranges from 25 to 50 feet below land surface, with most of them approximately 30 feet deep.

24. How is the overflow managed for the ash ponds? (T-27)

Overflow from the ponds discharge to outfalls 002, 003, and/or 005 as listed in the NPDES Permit.

25. Was the risk assessment specific to this site or was it a larger risk assessment for this type of ash pond? (T-32)

The risk assessment would be conducted by the IDNR Office of Dam Safety and is not a part of the NPDES Permit.

26. Is it possible to provide the thickness of the clay liner and if it was compacted to today's engineering standards? (T-33)

The clay liner is one foot thick compacted to a hydraulic conductivity of 1×10^{-6} centimeters per second (cm/sec). In addition to the clay liner, a 45 mil synthetic liner has been installed. Title 35, Part 370.930, states that seals (liners) in waste stabilization ponds must be constructed of two feet of soil material compacted to a hydraulic conductivity of 1×10^{-7} cm/sec or a synthetic material that is equivalent to

that. There are no specifications provided regarding compacted soil used in conjunction with a synthetic liner.

27. In researching the Enforcement and Compliance History Online (ECHO) system, I wasn't able to find any data for the Havana ash ponds. If these ash ponds have been evaluated, what does the data show? (T-34)

The Agency verified that a complete record of discharge data is available for all three ponds (outfalls 002, 003, and 005). There have been no exceedences in any of the ash ponds in the last permit cycle.

28. Have any of the additional waste streams that are proposed under this permit already been created and placed in those ponds? (T-36)

No.

29. Will there be any opportunity to get baseline data before the additional waste streams will start being processed? (T-37)

The current permit does not require this data. We have received data from the renewal application that can be used as baseline data.

30. Lime is being used as the sorbent for scrubbing flue gases and a chemical characterization has been completed for the lime slurry that is proposed under this permit. Why isn't there monitoring for chlorides, sulfates, metals, and boron for the north and east ash pond discharges through 002 and 005? (T-38)

Our analysis shows that there is no reasonable potential for a water quality standard to be exceeded for any of the parameters listed. Metals are required to be monitored in the permit.

31. What would be the cost difference of handling the ash in a dry manner and placing it in a dry lined landfill as opposed to placing it in the ash pond? (T-40)

The computation of costs for the two methods of ash and gypsum disposal was not required because the plant is not altering its approach to ash handling.

32. Could Dynegy summarize how much they are marketing, how much they are reusing their ash material and how much they are diverting from disposal to existing markets? (T-41)

The percentage of beneficial reuse of coal ash is out of the scope of this NPDES Permit. The permittee is trying to market as much of the coal ash as possible, as maximizing beneficial reuse and minimizing disposal costs would make the most sense from a fiscal standpoint.

Mercury

33. Is the Mercury that is supposed to be bonded to the sorbent ever possibly going to be discharged into the Illinois River? (T-11)

Mercury is not anticipated to increase in concentration in the discharged effluent. The permit has a monitoring condition for mercury to ensure that Illinois EPA is alerted to a concentration increase above the water quality standard. Refer to question #13.

34. Will the sorbent be expected to sink to the bottom of the Illinois River or is it carried to the dead zone, and is there any build up over time? (T-12)

The sorbent is expected to settle out into the ash pond. Any sorbent that does discharge will settle in the Illinois River. Mercury is strongly attracted to sediments where it can be transformed into methyl mercury by bacteria. Mercury would remain in the sediments or become methylated. Mercury discharging in the permitted low parts per trillion range will not result in the contamination of sediments. Sediment from other sources dilutes any low level of metals in an effluent such that deposited sediment in rivers does not end up with metals concentrations considered "contaminated".

35. What testing method or information is available to prove how good this sorbent is to attaching to the mercury as to not have to worry about it leaching out into the Illinois River over time? (T-14)

The studies in the Electric Power Research Institute, March 2007 document Activated Carbon Injection: Effect on Simulated Fly Ash Sluice Water were conducted to answer questions concerning settling and leaching of mercury in ash ponds. The studies demonstrate that mercury will settle in the ash pond and that mercury will not leach away from the carbon particle to which it initially attaches.

36. How long will Dynegey be required to do quarterly sampling for Mercury? (T-15)

Special Condition 8 has been modified to require quarterly sampling for Mercury throughout the length of the permit rather than after twelve samples have been completed.

37. With changes in the weather patterns, changes in water levels in the Illinois River from Chicago, and many variables happening in this area, how is it that only 12 samples is will be required and be considered accurate when you are talking about Mercury. (T-16)

Please see answer above.

38. Is there any way for the Agency to evaluate whether the mercury discharges will increase as a result of the additional waste streams that are going to be coming from the ash ponds? (T-35)

The permit requires quarterly sampling for Mercury.

39. Mercury monitoring is done using EPA's method 1631-E. How exactly does that test work? Does it include sediments, is it filtered water? (T-48)

USEPA Method 1631 measures the mercury in aqueous samples and has a laboratory detection level of 0.5 ng/L (parts per trillion). Since the Illinois human health water quality standard is for total mercury, i.e., the sum of both the dissolved

and suspended mercury in a water sample, Illinois EPA requires total mercury reporting. This means that effluent samples must not be filtered and therefore the test measures the mercury that is dissolved in the water and also that which is suspended in the water, including mercury sorbed to sediment particles suspended in the water.

40. How often do they collect mercury samples using the 1631-E method? (T-49)

The permit requires testing on a quarterly basis. All samples will be tested using the 1631-E method.

41. Is Dynegy told when to collect the mercury samples or can they collect them when they want? (T-50)

Dischargers may collect samples whenever they desire during the time period specified in the permit, e.g., a monthly sample may be collected at any time during the month. For a large ash pond such as the East Ash Pond at Dynegy Havana that has a long effluent retention time, it makes very little difference what time of day a sample is collected or what day of the week it is collected on given the blending and retention that occurs in the pond.

42. Is it true that switching the Havana Power Station to dry ash handling and disposal could ultimately reduce loading of over 219 pounds of mercury per year to the Illinois River, as well as several additional pollutants? (E15-11)

No. An estimated maximum of 219 pounds of mercury per year will be placed in the ash pond with the fly ash containing the activated carbon sorbent. Laboratory studies show that virtually all of the mercury will remain attached to the carbon and will settle to the bottom of the ash pond.

Community Safety/Best Management Practices

43. In order to get the coal ash from the plant to the ash pond, a semi truck must pass through a neighborhood where 25 to 30 children play outside. This same semi delivers 3 to 4 loads of coal ash every day. How safe are the children of this neighborhood from this practice, and what happens if one of these semis was to have an accident and ash was released? (T-25) (T-30)

The transportation of coal ash does not fall under the scope of this NPDES permit.

44. There have been instances of non-compliance in the past with the plants current permit at discharge points 002 and 005. Are these instances of non-compliance considered in awarding the new permit? (T-17)

All instances of non-compliance are considered during a permit renewal.

45. Should there be any concern with the ash blowing off of the ponds and getting in to the air? (T-47)

No. The constituents of the ash pond are generally not volatile and therefore would not leave the water and enter the air.

46. A recent letter from Illinois Department of Natural Resources dated November 21, 2011 states that the impoundment at Dynegey Power Plant in Havana is considered a DAM, if in fact this is true than there must be warning alarm system in place surrounding the impoundment (DAM) to notify the residents of Havana of an imminent breach of the wall construction and a threat of life. To my knowledge and the same of the residents of Havana nobody is aware of what it would sound like, what the sound would mean, what is the evacuation plan and the radius of evacuation for the immediate area, what are the safety factors for the aftermath should a disaster of this magnitude occur. Residents of Havana have serious concerns with the disconcert of the safety which Dynegey is showing towards its close and tight knit community. (E16-1)

The structural integrity of the ash ponds as well as any warning alarm systems do not fall under the scope of this NPDES Permit. Please contact IDNR regarding Dam Safety issues.

47. As a parent I am concerned that five years from now my kids might get sick because of where I have chosen to live. (T-45)

The discharges by the permittee meet all state and federal effluent and water quality standards.

Wildlife

48. A commercial fisherman that also duck hunts has made comments that ducks, geese and other waterfowl that frequent the ash ponds have a yellow residue on their bellies. Is this anything to be concerned with and are they still safe to eat? (T-21) (T-42)

Since no hunting is allowed on the power plant property it is difficult to establish that waterfowl with yellow residue on their bellies actually came from the ash ponds. Given the substances present in the water of the ash pond, Illinois EPA knows of nothing that could result in a yellow residue. A phone call was placed to the Illinois Department of Natural Resources Division of Wildlife regarding the issue of yellow residue on waterfowl as a result of birds swimming on coal ash ponds. IDNR responded that no reports of this phenomenon have been reported to IDNR and that they had no knowledge of harm coming to waterfowl from this source.

49. Is there anything that can be done to keep the birds that we hunt and eat, out of the ash ponds? (T-28)

The act of wildlife flying or walking into the ponds does not fall under the scope of this NPDES Permit.

50. With the dry ash being ejected out over the pond, what is being collected onto the waterfowl in the pond and are they transmitting the pollution elsewhere? (T-43)

Concentrations of dissolved or suspended substances in the ash ponds are not high and not, relatively speaking, that much higher than nearby ambient waters. Illinois

EPA does not collect waterfowl and analyze feathers for contamination, however, it is unlikely that waterfowl could be picking up harmful levels of metals or other substances from the dilute concentrations in the ash ponds. Water from the ash ponds clinging to the feet of waterfowl as they fly to other water bodies would be minimal.

51. There are a lot of bottom feeder type fish in the Illinois River. Have any studies been done to show what possible ingestion routes with this new technology are going into the Illinois River? (T-44)

As stated previously, increased loading of mercury or other pollutants from the changes in the waste water management at the plant will result in a minimal pollutant increases in the Illinois River. Bottom feeding fish will not have to contend with changes to the quality of their habitat.

Comments

52. If there is any type of disaster, leak, fissure, or break of the ash pond, it would be this community that would suffer the toxins that are contained in there that could be released, and it is Dynegy's own study that the flow from impact will go possibly five miles and would include hundreds of residences here in the town of Havana. So this is a huge and very serious issue for this community. (C-1)

The Agency understands that the structural integrity of the ash ponds is a serious issue to the people of Havana. However, the structural integrity of the ash ponds does not fall under the scope of this NPDES Permit. Please contact the IDNR Office of Dam Safety for all structural integrity questions.

53. On behalf of the Heart of Illinois Sierra, we respectfully ask that this special condition be revised not to say that the company can cease measuring for Mercury after these 12 samples but that this is a continuing special condition. (C-2)

The condition has been revised to require quarterly sampling for the term of the permit. Please see question #36.

54. The Illinois River is currently listed as impaired for fish consumption uses due to high levels of mercury on the 2006 303(d) list, and considering that the Illinois River is heavily used for both recreation and commercial interests, we feel that it is imperative that reductions in the heavy metal pollution be seriously addressed. (C-3)

By far the primary source of human-sourced mercury in the environment is the air emissions of coal burning power plants. One of the changes at the Havana Plant allowed by the NPDES permit is to allow the implementation of mercury removal from air emissions. The air pollution control requirement states that 90% of the mercury in the air emissions must be removed. Applied on a national basis, the new mercury air pollution rules would have a significant effect on mercury concentrations in fish. The Havana Plant must comply with the air regulations and is removing the mercury in a manner approved by USEPA. The removal and disposal method for mercury will not allow mercury to be discharged to the river after it is removed from the air and therefore, a large net reduction in mercury in the river will

occur assuming that all coal fired power plants conduct similar mercury reduction programs.

55. It is felt that the Agency and the applicant have misapplied the finding of this report and the EPRI report to the proposed situation here at Havana and that the folks of this community and downstream communities deserve better. This report did not specifically address the threats from mercury-enriched residues when managed and disposed of in impoundments such as what is proposed here at the Havana Power Station. (C-4)

One of the reasons for the EPRI study was specifically to see if the disposal of activated carbon would be appropriate for power plant ash ponds. The permit also has mercury monitoring in order to make sure that the new treatment system stays in compliance with current law with water quality standards.

56. We can have clean air, clean water, and are hereby demanding it. Prairie Rivers Network and our members oppose this permit and respectfully ask for it to be denied issuance. (C-5)

The combined new air and water treatment systems added to the power plant greatly reduce the discharge of mercury and other harmful parameters to the Illinois River and surrounding area. The permit application and subsequent permit renewal follow all state and federal laws.

57. As such, we request the permit include monthly water quality monitoring (rather than twice per year as in Special Condition 21). We also request that the agency conduct Reasonable Potential Analyses (RPA) on the following pollutants to determine whether any have the potential to cause or contribute to violations of water quality standards: arsenic, barium, beryllium, boron, cadmium, chlorides, chromium, copper, dissolved iron, lead, manganese, mercury, nickel, radium 226, strontium 90, selenium, sulfate, total dissolved solids. In the alternative, the agency can set concentration limits in the permit for each of these parameters. (E15-9)

The Agency reviewed all available data on all of the parameters listed and have found that none of them pose a threat to exceed water quality standards. As such, it is the decision of the Agency to monitor all of these parameters on a semi-annual basis, except for mercury which is on a quarterly basis. The permit may be modified with public notice to establish effluent limitations if appropriate, based on information obtained through this sampling.

58. The Agency has failed to fully identify and quantify proposed pollutant load increases and the potential impacts of those load increases on the affected waters as required by 35 IAC 302.105 (c) (2) and (f) (1) (B). (E15-5)

Please see response to the above Comment

59. The modified permit should set a limit for mercury discharges from Outfall 001 if the analysis demonstrates a reasonable potential to violate the human health standard. (E15-10)

Outfall 001 consists primarily of condenser cooling water and other non-contact cooling water. These waters come in no contact with coal, coal-related products or ash. Therefore, mercury limits at outfall 001 are not warranted.

60. The Agency must require Dynegy Midwest Generation to evaluate these additional treatment measures in order to address and minimize the proposed increased mercury discharges, discharges of the bioaccumulative selenium, as well as other heavy metals and salts. Additional steps should also be taken to separate, handle and treat waste streams in an effort to reduce pollutant loading or exacerbation of existing loading issues. (E15-10)

The treatment measures proposed allow for less air pollutant emissions. Pollution reduction in the air is being accomplished with a minimal additional pollutant loading to water. Additional analysis of alternatives to pollution reduction of the very minimal additional loading anticipated from the changes to the waste water management system is unwarranted.

Acronyms and Initials

Agency	Illinois Environmental Protection Agency
BMP	Best Management Practice
CFR	Code of Federal Regulations
cfs	Cubic feet per second
Corps	United States Army Corps of Engineers
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
ILCS	Illinois Compiled Statutes
Ill. Adm. Code	Illinois Administrative Code
mg/L	Milligrams per liter
ng/L	Nanograms per liter
MGD	Million Gallons per Day
NPDES	National Pollutant Discharge Elimination System
USEPA	United States Environmental Protection Agency

DISTRIBUTION OF RESPONSIVENESS SUMMARY

An announcement, that the NPDES 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.

WHO CAN ANSWER YOUR QUESTIONS?

Illinois EPA NPDES Permit:

Illinois EPA technical decisions	Mark Liska	217-782-0610
Legal questions	Deborah Williams	217-782-5544
Antidegradation Issues	Bob Mosher	217-785-3950
Public hearing of November 6, 2011	Dean Studer	217-558-8280

The public notice/fact sheet, the public hearing notice, the hearing transcript and this responsiveness summary are available on the Illinois EPA website:

<http://www.epa.state.il.us/public-notices/2011/npdes-notices.html#dynegy-havana>