

# **Midwest Generation L.L.C Joliet 9 and 29 Generation Stations**

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

Regarding

February 27, 2013 Public Hearing

Illinois Environmental Protection Agency  
Office of Community Relations  
September 30, 2014



# **Midwest Generation L.L.C. Joliet 9 and 29 Generating Stations**

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

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**September 30, 2014**

# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Midwest Generation L.L.C  
Joliet 9 and 29 Generating Stations  
Renewed Permits

## AGENCY PERMIT DECISION

On September 30, 2014, the Illinois Environmental Protection Agency reissued the NPDES permits for the Joliet 9 and 29 Generating Stations.

**The following changes were made to the Joliet 29 public noticed permit:**

- 1. The pH limits were moved from the internal outfalls A01, B01, C01, and G01 to outfall 001.**
- 2. The 7-Day concentration limits for BOD<sub>5</sub> and TSS were removed from outfall D01.**
- 3. Special Condition 7 was modified to require that changes in the use of water treatment additives be approved by the Illinois EPA.**
- 4. Special Condition 10 clarifies that the discharger may request a reduction or elimination in dissolved oxygen monitoring after two years.**
- 5. The sampling frequency on page 8 of the permit was changed to read “daily when discharging”.**
- 6. The load limits for TSS and Oil and Grease on page 8 of the permit were erroneous and have been removed from the permit.**
- 7. Intake Screen Backwash is now authorized to be discharged directly in front of the intake screen bar racks rather than the trash basket tributary to outfall 001.**
- 8. The Offensive Discharges language of 35 Ill. Adm. Code 304.106 was added to the permit as Special Condition 17.**
- 9. Special Condition 11 was revised to require submittal of an impingement mortality and entrainment characterization study and a compliance alternatives analysis.**
- 10. Internal monitoring point I01 proposed as a sampling point for coal pile runoff was removed as the discharge is subject to more stringent total suspended solids limits downstream at monitoring points B01 or G01.**
- 11. The monitoring requirements of Special Condition 15 now apply to outfall 004.**
- 12. The discharger address was changed.**
- 13. The mercury monitoring requirements of Special Condition 16 were consolidated into Special Condition 15 and Special Condition 16 was removed. Mercury monitoring at outfalls 001 and 004 is required on a monthly basis for the first two years and quarterly thereafter. Monthly mercury monitoring was added to page 7 of the permit.**

**The following changes were made to the Joliet 9 public noticed permit:**

- 1. The pH limits were moved from the internal outfalls A01, B01, and C01 to outfall 001.**
- 2. The 7-Day concentration limits for BOD<sub>5</sub> and TSS were removed from outfalls B01 and 002.**
- 3. Special Condition 7 was modified to require that changes in the use of water treatment additives be approved by the Illinois EPA.**
- 4. Special Condition 10 clarifies that the discharger may request a reduction or elimination in dissolved oxygen monitoring after two years.**
- 5. The sampling frequency on page 8 of the permit was changed to read “daily when discharging”.**
- 6. The mercury monitoring requirements of Special Condition 16 were consolidated into Special Condition 15 and Special Condition 16 was removed. Mercury monitoring at outfalls 001, 003, 004, and 005 is required on a monthly basis for the first two years and quarterly thereafter.**
- 7. Oil and grease was changed to a grab sample on page 8 of the permit.**
- 8. The Offensive Discharges language of 35 Ill. Adm. Code 304.106 was added to the permit as Special Condition 19.**
- 9. Special Condition 11 was revised to require submittal of an impingement mortality and entrainment characterization study and a compliance alternatives analysis.**
- 10. Internal monitoring point A04 proposed as a sampling point for coal pile runoff was removed and the effluent limits now apply to the combined discharges from outfall 004.**
- 11. The discharger address was changed.**

## PRE-HEARING PUBLIC OUTREACH

The notice of the NPDES permit public hearing was published in the *Joliet Herald News* on January 11, 18 and 25, 2013

The hearing notice was mailed or e-mailed to:

- a) Will and Kendall county officials;
- b) Municipal officials in Joliet and state and federal representatives;
- c) Illinois Chapter of the Sierra Club, Prairie Rivers Network and the Environmental Law and Policy Center (hearing requestors); and,
- d) Those who have requested to be notified of these hearings.

The hearing notice was posted on the Illinois EPA website at:

<http://www.epa.state.il.us/public-notices/2012/npdes-notices.html#midwest-generation-joliet-9>  
<http://www.epa.state.il.us/public-notices/2012/npdes-notices.html#midwest-generation-joliet-29>

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

## February 27, 2013 PUBLIC HEARING

Hearing Officer Dean Studer opened the hearing February 27, 2013, at 6.30 p.m. at the Weitendorf Agricultural Education Center, Joliet Junior College, 17840 Laraway Road Joliet, Illinois.

### **Midwest Generation, L.L.C.**

William Naglosky,

### **Illinois EPA Hearing Participants:**

Deborah Williams, Assistant Counsel, Bureau of Water (She has since left the Agency)  
Scott Twait, Standards Section, Bureau of Water  
Jaime Rabins, Industrial Unit, Permits Section, Bureau of Water  
Darin LeCrone, Industrial Unit, Permits Section, Bureau of Water  
Stephen Nightingale, Manager, Permits Section, Bureau of Land

Illinois EPA Permit Engineer, Jaime Rabins, gave a brief overview of the draft permit.

Comments and questions were received from the audience.

Hearing Officer Dean Studer closed the hearing at 8:08 p.m. on February 27, 2013.

Illinois EPA personnel were available before, during and after the hearing to meet with those in attendance.

Approximately 20 persons representing neighbors, local government, businesses, elected officials, environmental groups, interested citizens, and Prairie State Generating Company, participated in 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-notices/2012/midwest-generation-joliet-9/hearing-transcript.pdf> and <http://www.epa.state.il.us/public-notices/2012/midwest-generation-joliet-29/hearing-transcript.pdf>

The hearing record remained open through April 5, 2013.

## **BACKGROUND of Midwest Generation, L.L.C. Joliet 9 and 29 Generating Stations**

The Illinois EPA Bureau of Water has prepared final reissued National Pollutant Discharge Elimination System (NPDES) permits for Joliet 9 and Joliet 29 Generating Stations. The address of the discharger is Midwest Generation L.L.C., 1800 Channahon Road, Joliet, Illinois 60436.

### **Joliet 9 Generating Station – NPDES Permit Number IL0002216**

The facility is located at 1601 South Patterson Road in Joliet (Will County) with an average discharge of 315.52 million gallons per day (MGD) of condenser cooling water and house service water through outfall 001 into the Des Plaines River. Other permitted discharges in the permit are described in the fact sheet and draft permit available on the Illinois EPA website at <http://www.epa.state.il.us/public-notices/2012/midwest-generation-joliet-9/index.pdf>.

### **Joliet 29 Generating Station – NPDES Permit Number IL0064254**

The facility is located at 1800 Channahon Road in Joliet (Will County) with an average discharge of 1073 MGD of condenser cooling water and house service water through outfall 001 into the Des Plaines River. Other permitted discharges in the permit are described in the fact sheet and draft permit available on the Illinois EPA website at <http://www.epa.state.il.us/public-notices/2012/midwest-generation-joliet-29/index.pdf>.

## Responses to Comments, Questions and Concerns

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

### NPDES PERMIT

1. In regards to the United States Environmental Protection Agency June, 2010 Guidance (USEPA Guidance) for permitting coal ash waste streams, my question is for both these permits, has the agency reviewed and utilized that Guidance?

**The Guidance Document was reviewed and considered when drafting the reissued permit. In fact, the reissued permit has a new monitoring requirement for metals and other pollutants.**

2. As a follow-up to that. In the USEPA Guidance they talk about the pollutants that are expected to be found in coal combustion waste -- coal combustion residues that could be present in concentrations that are greater than water quality criteria. In both permits there is a special condition 15 that requires semi-annual monitoring of effluent from outfalls--1 through 7 in the permit for Joliet 9 and then I believe, as I recall, it's just for outfall 1 in the Joliet 29 draft permit. If you look at that USEPA Guidance some of the pollutants that they're concerned about are not included here in the pollutants that you're requiring semi-annual monitoring. And those include aluminum, thallium chloride, nitrates and nitrites. So that would be a recommendation that you might look back at that Guidance and at least include monitoring for those pollutants in the semi-annual monitoring that you've got in both permits.

**There are currently no water quality standards in Secondary Contact and Indigenous Aquatic Life Use Waters for aluminum, thallium, chloride, nitrates, and nitrites. Therefore, monitoring of these substances is not required for these permits. However, in the future, if the Board adopted water quality standards for any of the above mentioned pollutants, the Agency will evaluate the need to include limits and/or monitoring in the permit.**

3. Special condition 15 applies to a number of outfalls in the permit for Joliet 9. In the permit for Joliet 29, it only applies to outfall 001. And so I question why it didn't also apply for outfalls 003, the abandoned ash disposal area runoff, and outfall 4, the fire sprinkler water, coal conveyor outfall? It seems like in one of the permits it was applied to, numerous outfalls where there would be potential for these types of pollutants, but in the Joliet 29 permit it's only applied to the main outfall. So I would suggest that at least that it should be applied to, in addition to outfalls 003 and 004. The junction tower, I don't know how the junction tower is used. So I don't know



whether we need to have that monitoring done at that outfall or not. I leave that to the Agency's good judgment.

All of the process water discharges regulated by the Steam Electric Regulations of 40 CFR 423, are discharged from outfall 001 at Joliet 29, which is why the semi-annual sampling requirement only applies to that outfall. At the Joliet 9 station, process water is discharged from several outfalls. Outfall 003 discharges stormwater from the former ash disposal area, which is vegetated and covered, and thus not subject to the sampling requirements of Special Condition 15, and instead covered under a Stormwater Pollution Prevention Plan. The final permit requires that fire sprinkler water be monitored in accordance with special condition 15.

4. My next question was about what does the Agency know about the intake structure operation and the design of these facilities? It sounds like you just got that information. Is that something you can readily summarize?

The Joliet 29 intake structure withdraws cooling water and service water at a total design average flow (DAF) rate of approximately 1,037 MGD. The cooling water intake system includes four circulating water (CW) pumps and four house service water (SW) pumps. Units 7 and 8 withdraw water through a shared screenhouse, which contains two 10-foot wide traveling screens in each of four bays, one bay for each pump. The standard screen mesh size is 3/8-inch. The intake has a worst-case design through-screen velocity of 2.32 feet per second (fps, calculated value). The approach velocity would be considerably lower. Bar racks with 2-inch openings are located in front of the traveling screens. An automated trash rake collects about 85% or more of the accumulated material prior to reaching the traveling screens. This collected material is placed in a dumpster and hauled off-site. Sprays are also used to clean off the traveling screens and move the debris collected into a separate trash basket. All debris from the trash basket is removed and disposed of off-site.

The Joliet Station 9 intake structure withdraws cooling water and service water at a total DAF rate of approximately 316 MGD. The screenhouse contains two 10-foot wide traveling screens in each of two bays, one bay for each pump. The standard screen mesh size is 3/8-inch. The worst case design through-screen velocity is 1.8 fps (calculated value). The approach velocity would be considerably lower. A bar rack and trash rake are used to collect large debris and are located before the traveling screens. This collected material is placed in a dumpster for off-site disposal. A barge is permanently placed in front of the intake structure to limit the amount of floating debris into the station. Screen wash water from the traveling screens flows into a single trash basket. All accumulated debris in the trash basket is removed and disposed of off-site.

5. Has the Agency received any studies about impingement or entrainment at these facilities to date? Illinois EPA must make a best professional judgment determination each time it issues an NPDES permit. There is nothing in the law supporting the contention that "it must be assumed" that the current technology was Best Available Technology at the time of construction. Furthermore, Illinois EPA has no facts upon which to base such a determination, as no impingement or entrainment studies or demonstrations have ever been conducted for this facility.

**While no impingement or entrainment studies have been received, both permits in special condition 11 require that the discharger submit a impingement mortality and entrainment characterization study and a compliance alternatives analysis to address potential impacts caused by operation of the cooling water intake structures.**

6. The fact sheet for both permits states that the design of the cooling water intake structures met the equivalent of best technology available at the time of construction in consideration of the designated uses of the receiving streams. And I'm wondering about that last phrase. What does it mean -- or how did Illinois EPA consider the designations -- or the designated uses of the streams in making a specification judgment?

**The stations withdraw water from the lower Des Plaines River designated as a Secondary Contact Water which historically had little aquatic life. The new studies discussed in number 5 above, are being required to analyze and address potential impacts to aquatic life due to intake structure operation, based on current river conditions.**

7. Has the Agency made a best professional judgment determination as to what the best available technology is for thermal pollution at these facilities?

**The reissued permit requires that the discharges from both stations comply with the thermal standards of 35 Ill. Adm. Code 302.408 at the edge of the mixing zone and the adjusted thermal standards at the I-55 bridge in accordance with Illinois Pollution Control Board Order 96-10, dated October 3, 1996 and amended March 16, 2000. The Illinois Pollution Control Board (IPCB) considered the treatment technology during the Adjusted Standard (AS 96-10) proceeding. During that proceeding, the Agency noted that it was technically feasible to reduce the temperature of the effluents by use of cooling towers and spray ponds. However, the Agency also noted in that proceeding that the cost of providing the cooling may not be economically reasonable when compared to the likelihood of no improvement in the aquatic community. The IPCB concurred with that assessment when granting the alternate thermal standards pursuant to the Clean Water Act in the AS 96-10 proceeding.**

8. Did Illinois EPA change the permit effluent limits for conditions based on the Illinois Pollution Control Board variance 79-51? I've seen that referred to in a couple of the review documents, and I wasn't clear how the Agency was using that variance.

**The variance, PCB 79-51 expired on October 19, 1983. The discharger is not reapplying for the variance and thus it was not reinstated. The discharges from outfalls B01 and 002 still must comply with the 30 mg/L monthly average and 60 mg/L daily maximum BOD<sub>5</sub> and TSS limits of 35 Ill. Adm. Code 304.120(a).**

9. The Illinois Environmental Protection Agency needs to implement rules to keep coal ash out of the flood plains, the wetlands and groundwater resources. I believe that the EPA should follow the USEPA guidance for coal ash discharge. An undisclosed amount is discharged every day from Joliet 9 Power Plant coal ash pond. Over two and a half million gallons are discharged daily from Joliet 29 Power Plant coal ash pond. Arsenic, mercury, barium, chromium and lead are to name a few of the hazardous constituents contained in coal ash. These contaminants have been shown to cause birth defects, cancer and neurological damage in humans and similar to wildlife.

**The reissued permits require semi-annual monitoring for arsenic, mercury, barium, chromium, lead and many other pollutants. This data will be reviewed by the Illinois EPA to determine if additional limits are necessary.**

10. Joliet 9 and 29 facilities were unable to comply with the thermal limits in their existing NPDES permits for a protracted period in 2012 and for a shorter period in 2011, resulting in exceedances of the thermal standards mandated by their permits, for significantly longer periods than excursions are allowed under their permits. The routine use of provisional variances is not an appropriate strategy for Midwest Generation or Illinois EPA to address thermal issues arising from wastewater discharges from the Joliet 9 and 29 facilities. The appropriate and legally sufficient approach to address thermal issues is to require these facilities to employ BAT. The requirement to achieve BAT should be imposed as part of the NPDES permit.

**The reissued permits require the discharges to comply with the thermal water quality standards discussed in the response to comment 7. Provisional variances are not granted as part of these permits. Please note that provisional variances were not granted in 2012 or 2013.**

11. On Joliet 29, page 7 of the draft permit talks about how -- page 7 of the draft permit is -- relates to local field ash pond effluent. It states there that some of the subway streams bottom ash and ash sluice water, reverse osmosis filter backwash, that those sub streams can be alternatively routed to the quarry over at Joliet 9. And I just wonder if you could explain how that's done?

**Reverse Osmosis Filter Backwash, Bottom Ash and Economizer Ash Sluice Water may be discharged via outfall 001 of the Joliet 29 permit or can alternatively be piped over the river and discharged to the Joliet Unit 6 (Joliet 9) Station Quarry tributary to outfall 005.**

12. With regards to Joliet 29, has the industrial unit staff within the NPDES division at Illinois EPA been in contact with compliance assurance in the groundwater section so that the NPDES permit addresses -- you know, will address the issues that are being worked out in the CCA?

**The compliance commitment agreement (CCA) commitments have been fulfilled and they are no longer under a CCA. They have an approved groundwater management zone (GMZ) which requires quarterly groundwater monitoring, therefore groundwater monitoring requirements will not be included in the NPDES permit.**

13. I wanted to ask then about outfall 005 for Joliet 9, which is the discharge from the quarry, ash quarry/ash pond discharge. And the permit page 10 says that this is an intermittent discharge. And I wonder, can you explain to me when are there discharges from the quarry?

**The discharge from the quarry is continuous unless the generating units are offline.**

14. In the Joliet 9 permit, special condition 15 applies to outfall 005. So that means that twice a year a sweep of chemicals, pollutants that are found in coal ash will be monitored. So I'm assuming that has to be monitored when they're discharging. But as Steve Nightingale of Bureau of Land just mentioned, my understanding is there are extraction wells that are trying to contain the groundwater pollution, and those extraction wells are pumped back into the quarry. So it's kind of a closed loop system. My concern is, as you may remember the situation down at Duck Creek, when you have a system like that, you -- you know, you're building up pollutants. You know, I guess my questions are, is it really sufficient to only monitor the discharges from the quarry twice a year? That depends on how often it is discharging. And then I think in the long-term we have to be concerned about the concentration of those pollutants through this closed loop system and then are we going to see increasing concentrations in that discharge to the Des Plaines River? And so that's an issue I wanted to make sure you understood our concerns about.

**Collection of the data, twice per year, over the life of the permit will give the Illinois EPA a sufficient amount of data to conduct a reasonable potential analysis when the permit is renewed and allow us to look at long-term trends of the effluent. The Illinois EPA has determined that two samples per year is sufficient to quantify the level of pollutants being discharged through Outfall 005.**

15. Is the Agency requiring best management practices to prevent runoff and dust pollution from coal piles and coal during transport at both these facilities? Specifically, I wonder has the use of silos to store coal been explored?

**Total Suspended Solids from Coal pile runoff is limited to 15 mg/L monthly average and 30 mg/L daily maximum per 35 Ill. Adm. Code 304.124 which is considered BAT/BCT for stormwater and is more stringent than only requiring a stormwater pollution prevention plan.**

**With the huge volume of coal utilized by these stations on a daily basis, storage in silos would be economically prohibitive, as well as impractical, from a logistical standpoint. Coal is always being reconfigured on the pile (as it is delivered, as it is sent into the plant as a fuel source, etc.), such that static storage in silos would be completely unworkable.**

16. There's a new river assessment technology that they're using. I'm wondering how does that differ from the facilities existing de-mineralizers in terms of that technology's ability to remove contaminants from the water?

**Reverse osmosis systems have been installed to replace the existing de-mineralizers which will reduce the total dissolved solids discharged.**

17. The draft permit and fact sheet are inconsistent regarding whether this facility will be permitted to discharge wastes from chemical or non-chemical metal cleaning, and at the hearing Illinois EPA staff were unable to confirm which type is permitted by the draft permit.

**Both the Joliet 9 and 29 permits authorize the discharge of non-chemical metal cleaning wastes and are limited for TSS, oil and grease, iron, and copper per 40 CFR 423.12(b)(5).**

18. There's a lot of conversations back and forth between the discharger and the Agency. I'm wondering if anything has changed about the draft permit or what the Agency plans to do with the draft permits since we last saw the draft?

**All changes to the final permit are listed on pages 3 and 4 of this document.**

19. The draft permit does not sufficiently address pollution from stormwater, including coal pile runoff. At Midwest Generation's Waukegan plant, "the coal piles are sprayed with a protective crust." This prevents emissions from coal dust, which can cause air pollution and nonpoint source water pollution.

**Coal pile runoff at both facilities are required to comply with the TSS effluent limitations. Also, see response to question 15.**

20. Monitoring for PCBs should be required to assure compliance with permit conditions. Segment G-12 of the Des Plaines River is identified on the 2010 Illinois 303(d) list as impaired for Polychlorinated Biphenyls (PCBs). The draft permit appropriately includes a condition that prohibits any discharge of PCBs from the Joliet 9 Generating Station. However, no monitoring for PCBs is required in the permit, making it nearly impossible for Illinois EPA or members of the public to ascertain compliance with this important condition.

**Since the few remaining transformers with PCBs are either located in areas where any incidental leakage or spill would be fully contained, or collected in on-site holding ponds which have oil skimmers and other mechanisms in place to ensure that no PCB drainage would be able to reach any permitted outfall point or waterway, PCB monitoring has been determined to be unnecessary.**

## Antidegradation Assessment/Water Quality Standards

21. USEPA has determined that its current effluent limitation guidelines are insufficient to address all waste streams from power plants and no longer represent the best available technology for power plant discharges. What reasonable potential analysis did Illinois EPA conduct for the coal ash waste streams at both facilities?

**The Illinois EPA conducted a reasonable potential analysis on September 10, 2013, for Outfall 001 at Joliet 29 and Outfalls 001, 002, 003, 004, and 005 at Joliet 9. The facilities discharge to secondary contact waters where all of the water quality standards are greater or equal to the effluent standards with the exception of iron (dissolved), lead, selenium, mercury, and total dissolved solids (TDS). There is no reasonable potential for any of these outfalls to exceed the water quality standards.**

22. Did the Agency consider requiring whole effluent toxicity testing and/or other bio-assessments to determine whether discharges for coal ash waste streams are causing impacts to aquatic life?

**The Illinois EPA considered whole effluent toxicity testing, however, based on past biomonitoring at this facility, and other once-through cooling water facilities, the Illinois EPA determined that additional monitoring was not necessary. Illinois EPA performed biomonitoring at Joliet 9 on October 20, 1988 and at Joliet 29 on January 5, 1989 and June 20, 1989. None of the biomonitoring tests showed any toxicity to flathead minnow or Ceriodaphnia.**

23. What about outfalls other than the main outfall at each of the facilities? What about other outfalls that have coal ash streams contributory to them? Is toxicity testing required there?

**Outfall 005, at Joliet 9, is used for bottom ash only. This plant has a dry disposal system for fly ash. Bottom ash is largely inert and does not leach significant levels of contaminants into sluice water. Based on the amount of dilution available and Illinois EPA's knowledge and experience concerning the lack of leaching of substances in toxic amounts from bottom ash, it is the Illinois EPA's decision to not require toxicity testing from Outfall 005 at the Joliet 9 facility. At the Joliet 29 facility the only ash related discharge is from the main outfall 001.**

24. So specifically, on Joliet 9, Outfall 005, what about discharges from that outfall? Both specifically -- specific to that outfall, has a reasonable potential analysis been done and bio-monitoring?

**The Illinois EPA conducted a reasonable potential analysis on September 10, 2013, for Outfall 001 at Joliet 29 and Outfalls 001, 002, 003, 004, and 005**



**at Joliet 9. The facilities discharge to secondary contact waters where all of the water quality standards are greater or equal to the effluent standards with the exception of iron (dissolved), lead, selenium, mercury, and TDS. There is no reasonable potential for any of these outfalls to exceed the water quality standards. Based on the amount of dilution available and the knowledge that bottom ash does not contribute significant levels of contaminants, it is the Illinois EPA's decision to not require toxicity testing from Outfall 005 at the Joliet 9 facility.**

25. What instream dissolved oxygen monitoring does Midwest Generation currently do in the lower Des Plaines River? On a related note, considering that algae growth can cause diurnal swings in dissolved oxygen, we ask that the Agency clarify how it will interpret the dissolved oxygen data to be collected per Special Condition 10.

**Midwest Generation currently collects dissolved oxygen readings on a continuous basis from May through September at the I-55 bridge. The data from Special Condition 10, which requires collection of dissolved oxygen data in the influent and effluent, will allow the Agency to see what impact, if any, the facility is having on the dissolved oxygen.**

26. It's imperative that mercury and other heavy metal pollution is monitored and limited. The EPA should require the Joliet 9 and 29 facilities to upgrade their cooling water intake structures to protect the health of the Des Plaines ecosystem. The river is heavily fished for recreational and commercial interest.

**Metals and other pollutants are required to be monitored semi-annually in the reissued permits by special condition 15. Special condition 11 was revised to require submittal of an impingement mortality and entrainment characterization study and a compliance alternatives analysis to address impacts caused by operation of the cooling water intake structures.**

27. The Permit should include the standard special condition prohibiting violations of water quality standards. The draft permit does not include the condition found in most Illinois NPDES permits that reads "No effluent from the facility area under this permit shall, alone or in combination with other sources, cause a violation of any applicable water quality standard as set out in the Illinois Pollution Control Board Rules and Regulations, Subtitle C: Water Pollution." NPDES permits are required to include any effluent limits necessary to meet water quality standards, as well as state or federal effluent standards. 35 Ill. Admin. Code 309.141 and 40 CFR 122.44 (d).

**The language of 35 Ill. Adm. Code 304.106 has now been added to both permits.**



## Enforcement/Compliance Issues

28. Going back to the designated uses of the lower Des Plaines River. Illinois EPA has proposed changes to the designated uses of the lower Des Plaines River in a proceeding before the Illinois Pollution Control Board, as I'm sure you're aware. Did Illinois EPA consider those proposed designated uses in writing any of the terms of this permit?

**No, the Illinois EPA did not consider the proposed changes to the designated uses. Those changes have not been finalized by the Illinois Pollution Control Board (IPCB). Illinois EPA cannot apply the proposed changes to the designated uses and water quality standards until they are adopted by the IPCB.**

29. Illinois EPA must incorporate Best Available Technology limits for thermal discharges. Is it the Agency's position that you're granting a 316(a) variance through these permit renewals? And is that because of the adjusted standard is what you considered comply with the thermal issues, ES96.

**Midwest Generation has not applied for, nor received, a 316(a) variance. The only relief applicable at this time is AS 96-10, which provides relief in the transition zone between General Use and Secondary Contact and Indigenous Aquatic Life Use. This relief is applicable at the I-55 bridge.**

## Groundwater Issues

30. What is the current status of groundwater monitoring at both facilities? Why don't we see groundwater monitoring laid out in these permits? We certainly see groundwater monitoring requirements laid out in other NPDES permits.

**At Joliet 9, groundwater monitoring is conducted and reported to the Illinois EPA on a quarterly basis for nineteen constituents and on an annual basis for seven constituents from forty-two groundwater monitoring wells in accordance with a Bureau of Land operating permit for the ash landfill. As the monitoring is required as part of a Bureau of Land operating permit and not as part of the NPDES permit, the monitoring requirements are not included in the NPDES permit. The Bureau of Land operating permit requires quarterly groundwater quality monitoring for pH, specific conductance, temperature, and water level as well as dissolved constituents including: ammonia, arsenic, boron, cadmium, chloride, fluoride, manganese, molybdenum, potassium, selenium, sodium, sulfate, total dissolved solids, total organic carbon, and zinc. Additionally, the operating permit for the facility requires annual groundwater quality monitoring for dissolved nitrate as nitrogen as well as unfiltered (total) analysis for barium, copper, iron, lead, mercury, and nitrate-nitrogen. Results of the groundwater quality monitoring and flow conditions are submitted on a quarterly and annual basis, respectively, in accordance with permit requirements.**

**At Joliet 29, groundwater monitoring is conducted and reported to the Illinois EPA on a quarterly basis for eleven on-site monitoring wells, in accordance with a groundwater management zone. As the monitoring is required as part of a groundwater management zone and not as part of the NPDES permit, the monitoring requirements are not included in the NPDES permit. The constituents that are monitored on a quarterly basis are: arsenic, barium, beryllium, boron, cadmium, chloride, chromium, cobalt, copper, cyanide, fluoride, iron, lead, manganese, mercury, nickel, nitrate, perchlorate, selenium, silver, sulfate, thallium, total dissolved, solids, vanadium, zinc, and groundwater elevation.**

## Other Issues

31. From what was said earlier in the hearing, that authority for the Lincoln Stone Quarry to operate as a monofill is authority that's been granted by the Bureau of Land. My question is then, is Joliet 9 and 29, are those the only two sources of waste that's going into the quarry?

**Coal combustion wastes generated at Joliet Stations 9 and 29 are the only sources of wastes disposed at Lincoln Stone Quarry. This landfill is regulated under the Bureau of Land Permit No. 1994-241-LFM which was issued to Lincoln Stone Quarry, Inc. as the owner and Midwest Generation, LLC as the operator.**

32. What is the current state of the groundwater management zone at Joliet 9 and the Lincoln Stone Quarry?

**The corrective action at Lincoln Stone Quarry, approved December 1, 2009, initially consisted of four groundwater extraction wells that were installed to address the reversal of natural groundwater flow along the south side of the Main Quarry within the lower portion of the Silurian dolomite. The initial extraction system was put into full operation in April 2010. In order to establish a sufficient hydraulic trough between the West Filled Area/Main Quarry and the south property boundary, the groundwater extraction system was subsequently expanded with eight additional extraction wells and was approved August 2011. Currently, the expanded groundwater extraction system, fully operational since February 2012, consists of twelve groundwater extraction wells located along the south perimeter of the West Filled Area and Main Quarry.**

**To define the extent of groundwater migration to the southeast and evaluate the effectiveness of the extraction well system on groundwater quality along the southeast perimeter of the landfill, groundwater quality monitoring is conducted quarterly and annually at on-site and off-site groundwater monitoring wells. Pursuant to Condition 29 of Permit Number 1994-241-LFM, Modification Number 18, results of the groundwater monitoring are submitted on an annual basis for twenty groundwater monitoring wells.**

**The groundwater management zone, located southeast of the Main Quarry, was approved July 2010. However, until the expanded groundwater extraction system became fully operational, the ongoing excavation and associated dewatering operations at an adjacent quarry continued to affect the natural groundwater flow conditions along the south side of the Main Quarry. Therefore, pursuant to Condition 30 of Permit Number 1994-241-LFM, Modification Number 18, field activities to revise the horizontal extent of the groundwater management zone are being conducted south and east of the Main Quarry. Results of the field investigation, including the revised limits of the groundwater management zone were received April 10, 2014 under Application Log No. 2014-126 and contained all information required by**

**Condition 30 of Permit No. 1994-241-LFM, Mod. No. 18. The application, which included revised limits of the GMZ, was approved and Condition 30 was removed from the permit with issuance of Mod. No. 19 (issued July 9, 2014).**

## Acronyms and Initials

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

## 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](mailto:Barb.Lieberoff@illinois.gov).

## WHO CAN ANSWER YOUR QUESTIONS

### Illinois EPA NPDES Permit:

Illinois EPA NPDES technical decisions: .....	Jaime Rabins .....	217-782-0610
Legal questions .....	Stefanie Diers.....	217-782-5544
Water quality issues .....	Scott Twait .....	217-782-3362
Groundwater issues.....	Lynn Dunaway .....	217-785-2762
Public hearing of February 27, 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:

<http://www.epa.state.il.us/public-notices/2012/npdes-notices.html#midwest-generation-joliet-9>  
<http://www.epa.state.il.us/public-notices/2012/npdes-notices.html#midwest-generation-joliet-29>