

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

**IN THE MATTER OF:** )  
 )  
**COAL COMBUSTION ASH PONDS** )  
**AND SURFACE IMPOUNDMENTS AT** ) **R14-10**  
**POWER GENERATING FACILITIES:** ) **(Rulemaking – Water)**  
**PROPOSED 35 ILL.ADM. CODE PART 841:** )

**NOTICE OF FILING**

TO: John Therriault, Assistant Clerk  
Illinois Pollution Control Board  
James R. Thompson Center  
100 West Randolph Street, Suite 11-500  
Chicago, IL 60601

PLEASE TAKE NOTICE that I have today filed with the Illinois Pollution Control Board Midwest Generation, L.L.C.'s Questions for Illinois EPA's Witnesses and Entry of Appearance, copies of which are herewith served upon you.

Dated: February 5, 2014

MIDWEST GENERATION, L.L.C.

By: /s/ Susan M. Franzetti  
One of Its Attorneys

Susan M. Franzetti  
NIJMAN FRANZETTI LLP  
10 South LaSalle Street, Suite 3600  
Chicago, IL 60603  
(312) 251-5590

**SERVICE LIST R14-10**

James Jennings  
Assistant Counsel  
Illinois Environmental Protection Agency  
Division of Legal Counsel  
1021 N. Grand Ave. East  
P.O. Box 19276  
Springfield, Illinois 62794-9276

Office of Legal Services  
Illinois Dept. of Natural Resources  
One Natural Resources Way  
Springfield, Illinois 62702-1271

Matt Dunn  
Division Chief, Environmental Enforcement  
Office of the Illinois Attorney General  
69 W. Washington, Suite 1800  
Chicago, Illinois 60602

Stephen Sylvester  
Assistant Attorney General  
Office of the Attorney General  
69 W. Washington Street, Suite 1800  
Chicago, Illinois 60602

Faith E. Bugel  
Environmental Law and Policy Center  
35 East Wacker Dr., Suite 1600  
Chicago, Illinois 60601

Jennifer L. Cassel  
Environmental Law and Policy Center  
35 East Wacker Drive, Suite 1600  
Chicago, Illinois 60601

Jack Darin  
Sierra Club  
70 E. Lake Street, Suite 1500  
Chicago, Illinois 60601-7447

Illinois Dept. of National Resources  
One Natural Resources Way  
Springfield, Illinois 62702-1271

Joanne M. Olsen  
Assistant Counsel  
Illinois Environmental Protection Agency  
Division of Legal Counsel  
1021 N. Grand Ave. East  
P.O. Box 19276  
Springfield, Illinois 62794-9276

Timothy J. Fox  
Hearing Officer  
Illinois Pollution Control Board  
100 W. Randolph Street, Suite 11-500  
Chicago, Illinois 60601

Amy Antonioli  
Schiff Hardin LLP  
233 South Wacker Drive  
Suite 6600  
Chicago, Illinois 60606

Christine G. Zeman  
Office of Public Utilities  
City of Springfield  
800 East Monroe, 4<sup>th</sup> Floor  
Springfield, Illinois 62757-0001

Jessica Dexter  
Environmental Law and Policy Center  
35 East Wacker Drive, Suite 1600  
Chicago, Illinois 60601

Andrew Armstrong  
Environmental Law and Policy Center  
35 East Wacker Drive, Suite 1600  
Chicago, Illinois 60601

Ameren Services  
One Ameren Plaza  
P.O. Box 66419  
St. Louis, Missouri 63166

Jason McLaurin  
Southern Illinois Power Cooperative  
11543 Lake of Egypt Road  
Marion, Illinois 62959-8500

Midwest Generation  
440 S. LaSalle Street, Suite 3500  
Chicago, Illinois 60606

Traci Barkley  
Prairie Rivers Network  
1902 Fox Drive, Suite 6  
Champaign, Illinois 61820

Michael Smallwood  
Consulting Engineer  
Ameren  
1901 Chouteau Avenue  
St. Louis, Missouri 63103

Electric Energy, Inc.  
2100 Portland Road  
P.O. Box 165  
Joppa, Illinois 62953

Prairie Power, Inc.  
P.O. Box 10  
Peral, Illinois 62361

Exelon Law Department  
10 South Dearborn, 49<sup>th</sup> Floor  
Chicago, Illinois 60603

Alec Messina  
IERG  
215 E. Adams Street  
Springfield, Illinois 62701

Abel Russ  
Environmental Integrity Project  
1000 Vermont Avenue NW, Suite 1100  
Washington, DC 20005

Dominion  
P.O. Box 260  
Kincaid, Illinois 62540

Prairie State Generating Company  
3190 County Highway 12  
Marissa, Illinois 62257

**CERTIFICATE OF SERVICE**

The undersigned, an attorney, certifies that a true copy of the foregoing Notice of Filing, Midwest Generation, L.L.C.'s Questions for Illinois EPA's Witnesses and Entry of Appearance were filed electronically on February 5, 2014 with the following:

John Therriault, Assistant Clerk  
Illinois Pollution Control Board  
James R. Thompson Center  
100 West Randolph Street, Suite 11-500  
Chicago, IL 60601

and that true copies were mailed by First Class Mail, postage prepaid, on February 5, 2014 to the parties listed on the foregoing Service List.

/s/ Susan M. Franzetti

**ILLINOIS POLLUTION CONTROL BOARD**

**IN THE MATTER OF:** )  
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**COAL COMBUSTION ASH PONDS** ) **R14-10**  
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**POWER GENERATING FACILITIES:** )  
**PROPOSED 35 ILL.ADM. CODE PART 841** )

**MIDWEST GENERATION'S QUESTIONS FOR  
ILLINOIS EPA'S WITNESSES**

Midwest Generation, L.L.C. ("Midwest Generation" or "MWGen"), by and through its attorneys, Nijman Franzetti LLP, submits the following questions based upon the Pre-filed Testimony of Richard P. Cobb, William E. Buscher, Lynn E. Dunaway and Amy L. Zimmer submitted on behalf of the Illinois Environmental Protection Agency ("Illinois EPA" or the "Agency"). Midwest Generation requests that the Hearing Officer allow follow-up questioning to be posed based on the answers provided.

MWGen has set forth below questions for each of the Illinois EPA's witnesses for whom pre-filed testimony was submitted. However, in Section I. below, questions are posed to the Agency's witnesses without specifying a particular witness because it was not clear from the pre-filed testimony which witness was the appropriate person to respond to the question and/or the Agency may prefer to have more than one witness provide the response. MWGen leaves it to the Agency's discretion to designate the appropriate witness or witnesses who should respond on its behalf to the Section 1. questions.

**I. GENERAL QUESTIONS TO THE AGENCY WITNESSES**

1. Do the proposed Part 841 rules establish a new "permit program" under the Board's regulations?

2. At p. 15 of Mr. Cobb's pre-filed testimony, he states that: "If a numerical standard set forth in Section 620.410 or 620.430 is exceeded at an existing or new CCW unit, the appropriate remedy is corrective action under 35 Ill.Adm.Code Section 620.250." What is the

appropriate remedy if the exceedence is caused by a CCW unit that was closed before the effective date of these rules?

3. Is it correct that the purpose of the "Alternate Cause Demonstration" is to remove from the scope and applicability of these proposed Part 841 regulations such alternate causes of impacts to groundwater?

4. The pre-filed testimony of Mr. Cobb, Mr. Buscher and Mr. Dunaway each discusses the applicable compliance standards when a confirmed exceedence of the Part 620 groundwater standards occurs in a monitoring well for a CCW surface impoundment unit. At page 5 of his pre-filed testimony, Mr. Buscher explains that: "The effects of the corrective action will be assessed by monitoring the groundwater quality at a site to determine when groundwater quality standards are met and the corrective action can be terminated." Is it correct that under the proposed rules, as long as an owner or operator has demonstrated compliance with the Part 620 groundwater standards, the corrective action can be terminated?

5. Please explain whether under the proposed rules the applicable groundwater compliance standards are the Part 620 groundwater standards, the background concentrations or both?

6. Section 841.150 of the proposed rules provides that "[t]he owner or operator of the unit must submit to the Agency an application to revise any state operating permits or NPDES permits issued by the Agency as necessary as a result of preventive response, corrective action or closure under this Part." Please provide some examples of how the result of preventive response, corrective action or closure under these proposed rules would require the operator to submit an application to revise an NPDES permit.

a) Given that the preventive response, corrective action or closure activities are subject to the Agency's review or approval, rather than leave it to the owner or operator to try to determine whether the Agency believes that any part of those approved activities trigger the need to modify an existing NPDES permit, isn't it more appropriate to provide that the Agency may require the owner or operator to apply to revise its permit as necessary as a result of any of these actions?

b) If the owner or operator fails to recognize that something in the preventive response, corrective action or closure under these proposed rules may trigger the need to modify an existing NPDES permit, then is the owner or operator out of compliance with proposed Section 841.150 rule and subject to potential enforcement for that noncompliance?

c) Does section 841.150 potentially and unnecessarily duplicate requirements under existing regulations for state operating permits or NPDES permits and/or the provisions of those permits which specify when an application to revise or modify the permit is required?

7. Did the Agency consider reducing the list of chemical constituents that are required to be monitored to match the shorter list of chemical constituents that the proposed

federal rules for CCW surface impoundments require and if so, why did the Agency decide not to reduce the list of chemical constituents for which monitoring is required?

a) If leachate from the unit to be monitored is collected and analyzed by the owner or operator, would the Agency be willing to use that analytical data as a basis to shorten the parameters monitoring list to only those parameters which are shown to be detected within the leachate from the Unit?

b) Is the Agency also willing to consider including a provision in the rules that if a specific parameter is not detected in the monitoring results obtained over the course of several consecutive monitoring events, the parameter can be removed from the list?

## **II. QUESTIONS FOR RICHARD P. COBB**

### **Power Generating Facilities Where GW Standards Exceeded (Prefiled Testimony at pp. 3-4)**

1. MWGen Power Stations Impoundments – Periodic Ash Removal. The following questions refer to Attachment I and specifically, unless otherwise stated, to the MWGen Will County, Waukegan, Powerton, Joliet 29 and Crawford Station portions of Attachment 1 (at p. 21 of Pre-Filed Testimony):

a) Excluding the Crawford Station, because no impoundments are listed for Crawford in Attachment 1, is it correct that none of the impoundments identified on Attachment 1 for the MWGen Stations are used as permanent disposal sites for ash but rather the ash that collects in these impoundments is removed on a periodic basis?

b) Are there other impoundments owned or operated by the entities listed in Attachment 1 which are not used as permanent disposal sites for ash and from which ash is removed on a periodic basis?

2. Regarding the MWGen Will County Surface Impoundments:

a) Attachment 1 to your pre-filed testimony notes that it has four impoundments, but is it also correct that under the terms of the CCA, two of those impoundments, Ponds 1 North and 1 South, are to be removed from service?

b) If the two Will County impoundments are removed from service prior to the enactment of these proposed rules, will they be subject to the proposed closure requirements of these proposed rules?

3. Regarding the MWGen Will County, Joliet 29 and Powerton Stations:

a) As part of the work that was done by MWGen under the Will County Station CCA, is it correct that one of the two remaining impoundments was to have its liner replaced with a new synthetic liner subject to Agency approval of the proposed liner specifications?

b) Is it also correct that one of the impoundments at the Joliet 29 Station, Pond #3, was to have its liner replaced with a new synthetic liner subject to Agency approval of the proposed liner specifications?

c) For Powerton, two of the impoundments had their liners replaced with new synthetic liners and received Agency approval of the proposed liner specifications, correct?

d) Under the proposed rules, at the time of closure of these re-lined ponds, and if the ash is removed from the ponds prior to closure, is it correct that the liners themselves also will have to be removed to complete closure? If your answer is "yes," please explain why it is the Agency's position that even the liners have to be removed to complete closure?

4. Regarding the MWGen Will County, Waukegan & Powerton Stations:

a) For the Will County and Powerton Stations, in addition to the establishment of a GMZ, is it also true that the land owned by MWGen within the GMZ is also subject to an Environmental Land Use Agreement (ELUC) which restricts the use of any groundwater within this area?

b) For the Waukegan Station, in addition to an existing ELUC that ComEd has for an adjacent former Tannery Site, is it also true that the land owned by MWGen within the GMZ is also subject to an ELUC which restricts the use of groundwater within this area?

c) Under the proposed rules, will ELUCs continue to be available as an institutional control to address groundwater impacts?

5. Questions regarding the Groundwater Monitoring Results for MWGen Stations (Attachment 1, pp. 23-36).

a) Will County Station Monitoring Results:

(1) Is it correct that for MW-1 and MW-2 on Attachment 1 at p. 23, antimony has been non-detect in the quarterly sampling conducted since these listed sampling events?

(2) Please review the monitoring results for MW-5 and confirm whether the results listed on Attachment 1 at pp. 24-5 for boron, manganese, sulfate and TDS are instead actually the monitoring results for MW-4?

b) Waukegan Station Monitoring Results:

(1) Is it correct that the antimony exceedence shown on page 29 of Attachment 1 for MW-1 was an initially misreported sampling value and that the subsequently corrected value reported by MWGen's contractor did not show any exceedence for antimony?

c) Powerton Station Monitoring Results (pp. 32-36 of Attach. 1):

(1) Is it correct that the following exceedences shown on pages 32-36 of Attachments 1 were incorrectly reported by MWGen's contractor and that the correct sampling values were not exceedences: MW-1 Boron; MW-7, MW-9 and MW-13 Selenium; and MW-12 mercury?

(2) Is it also correct that for several of the parameters for which an exceedence is shown at a particular monitoring well, it was a one-time exceedence and the subsequent sampling results have all been below the groundwater standard?

6. On Page 4 of your pre-filed testimony, regarding the assessments of CCW surface impoundments either by the Agency or which the Agency requested be performed by the owner or operator, you state that: "The assessments conducted determined that none of these sites with groundwater contamination threatened off-site potable water supply wells." When you refer to "these sites," that includes the MWGen Stations you have identified in Attachment 1 to your testimony?

a) If none of these sites threatens off-site potable water supply wells, why does the Illinois EPA believe these regulations must be adopted now, particularly when there are federal regulations addressing CCW impoundments that are in the rulemaking stage as well?

### **Purpose of the Proposed Rules**

7. On page 4 of your testimony, you state that: "As part of the further development of the Agency ash impoundment strategy, we developed these proposed regulations of general applicability specifically to fill a regulatory gap that exists pertaining to CCW surface impoundments at facilities." Please describe what you mean by the regulatory gap that exists pertaining to CCW surface impoundments at facilities?

8. Is the intended scope of the proposed rules to address threats or impacts to groundwater from CCW surface impoundments?

9. Is it not the intended scope and purpose of these rules to address threats or impacts to groundwater from sources other than CCW surface impoundments at these facilities? Why did the Agency decide to limit the scope of the rules to impacts from CCW surface impoundments? Is it because this is where the "regulatory gap exists" and there are other existing state programs that can address impacts on groundwater from other sources?

### **Metals**

10. On page 7 of your pre-filed testimony, you state that: "Metals in groundwater are most soluble in water with a low pH..." What pH range are you referring to as "low pH?" Is it the "below 4.5" pH range referenced at p. 9 of your testimony?

### **TDS**

11. On page 9 of your pre-filed testimony, you state that TDS can cause “objectionable taste and odor conditions.” At what TDS concentration level do such conditions occur? Is it these types of conditions that the Class I standard of 1,200 mg/l is based on?

### **Sulfate**

12. In the 1999 EPA Study of high levels of sulfate in drinking water referenced on page 9 of your pre-filed testimony, what concentrations of sulfate were reported to cause the bad taste and smell reported by the participants in the study?

### **Boron**

13. On page 9 of your pre-filed testimony, you state that: “Boron contamination may prevent watering of sensitive plants.” Please explain what this statement means, including explaining what types of plants you are referring to as “sensitive plants.”

14. Is the boron GW standard set at a level to protect against such harm to plants?

### **Applicability**

15. On page 10 of your pre-filed testimony, you state that (p. 10) “The proposed rules apply to units: (1) in operation after the effective date of the proposed rules or (2) that have groundwater contamination attributable to the unit prior to the effective date of these rules.” Isn’t your reference in part (2) of this statement to units that have attributable groundwater contamination “prior to the effective date of these rules” inconsistent with the language of proposed section 841.105 which states that for units that are “not operated after the effective date of these rules”, Part 841 applies when CCW or leachate from CCW “causes or contributes to an exceedence of the groundwater quality standards on or after the effective date of these rules?”(emphasis added).

16. On pp. 10-11 of your pre-filed testimony, you describe the exemption from these proposed rules set forth in section 841.105(b)(4)(A) through (C), is it correct that all three requirements set forth in subparagraphs (A) through (C) of this subparagraph (*i.e.*, the liner requirement, the removal of the CCW or the CCW leachate from the unit in a one year or less time period and the maximum volume of no more than 25 cubic yards) must be satisfied in order for the surface impoundment unit to be excluded from these proposed rules?

a) If your answer is “yes,” why isn’t it sufficient for purposes of minimizing the risk of exposure to seasonal recharge from precipitation, to remove all CCW and any associated leachate on an annual basis, even if the quantity is somewhat more than 25 cu. yds., if the unit has the low permeability liner required by this proposed rule?

b) Why is 25 cu.yds. a threshold for additional risk?

c) What is the source or basis of the permeability standard of 1 X 10<sup>-7</sup> centimeters?

17. On page 11 of your pre-filed testimony, you state: "The Agency also excludes units used to only collect stormwater runoff, which does not contain leachate, because this represents a low potential for groundwater contamination." Given that the definition of "leachate" in the proposed regulations is what is "generated from the storage of CCW in a surface impoundment", as explained on p. 12 of your testimony, does this exclusion apply provided the stormwater unit does not collect stormwater from a CCW surface impoundment?

18. At page 11 of your pre-filed testimony, you state that: "Stormwater is a disperse nonpoint source of pollution that does not have a significant hydraulic head." Please explain how this information is relevant to the proposed exclusion for stormwater runoff units?

### **Definitions**

19. Beginning at the bottom of page 11 and continuing to page 12 of your pre-filed testimony, you discuss the "compliance point" definition in Section 841.110 of the proposed rules, which includes language that the compliance point is "a lateral distance of 25 feet from the outer edge of the unit, or property boundary, whichever is less." Please explain the basis for the restriction to a lateral distance of 25 feet even if the location of the facility's property boundary is greater than 25 feet?

a) In the solid waste landfill regulations in Part 810, Section 810.103 defines "Zone of attenuation" to mean "the three dimensional region formed by excluding the volume occupied by the waste placement from the smaller of the volumes resulting from vertical planes drawn to the bottom of the uppermost aquifer at the property boundary or 100 feet from the edge of one or more adjacent units." Why is the Agency proposing here the much shorter distance of 25 feet from the edge of the unit?

b) In the currently proposed federal coal combustion residual (CCR) rules, it is proposed that the compliance boundary be established at 150 meters downgradient of the unit boundary or the facility property line, whichever is closer. Did the Agency consider using the 150 meters distance instead of the lateral distance of 25 feet and if so, why did the Agency reject the use of the 150 meters distance?

c) In the Part 814 landfill regulations, in section 814.402(b)(3), it is provided that upon a petition by the owner or operator, the Board may provide for a zone of attenuation and adjust the compliance boundary. Is it correct that such a provision for petitioning the Board to provide a zone of attenuation and to adjust the compliance boundary is not included in these proposed rules and, if not, why not?

20. Section 811.317 of the Solid Waste Landfill rules addresses groundwater impact assessments and provides for a systematic assessment of the impacts of the seepage of leachate from a solid waste unit, including the use of a groundwater contaminant transport model. Please explain whether, and if so, how, the Agency considered this approach to assessment of impacts from CCW surface impoundments in these proposed rules?

21. At page 12 of your pre-filed testimony, you state that: "Moreover, chemical constituent concentrations may exceed the standards in Section 620.410, but must not exceed existing concentrations, within the boundary of an Agency approved GMZ."

- a) Please explain how the “existing concentrations” of a chemical constituent are to be determined?
- b) Is a statistical analysis applied to make this determination?
- c) If a statistical analysis is applied to make this determination, is it an intrawell statistical analysis that is required for each of the GMZ wells?
- d) Will that be considered the compliance point(s)?

22. On page 12 of your pre-filed testimony, you explain that because it is “the hydraulic head on CCW in a surface impoundment unit that increases the production of leachate migration into the water table”, the proposed leachate definition is leachate that “is generated from the storage of CCW in a surface impoundment, and is not just stormwater runoff that may have come into contact with fugitive ash.” Is it also correct that the proposed leachate definition also excludes, and does not apply to, the ash slurry or combination of ash and wastewater within the conveyance system used to transport it to the surface impoundment unit?

### **Previous Investigations, Plans and Programs**

23. On page 18 of your pre-filed testimony, you note the significant amount of information already available for many of the CCW surface impoundment sites and state: “Therefore, the Agency proposes that previous investigations, plans or programs already in place may be used to meet the requirements of this section, provided all components required in this section are included.” Has the Agency reviewed the previous assessments and the components of the CCAs entered into between it and MWGen for the MWGen stations as shown on Attachment 1 to your testimony and determined that all of the components required in this section are included?

## **III. QUESTIONS FOR WILLIAM E. BUSCHER**

### **Subpart C - Corrective Action**

1. At the bottom of page 3 of your pre-filed testimony, you discuss an owner or operator’s option to demonstrate that an exceedence of the groundwater standards “is not a result of the operation of the Unit.” Is it correct that under the proposed rules, there is a presumption that any confirmed exceedence of the groundwater standards detected in a monitoring well is a result of the operation of a CCW surface impoundment and the burden of proof to show otherwise is on the owner or operator under proposed Section 841.305 Alternate Cause Demonstration?

- a) What if any criteria apply to the review process by which the Agency will make a determination whether the exceedence is not the result of the operation of the unit?
- b) If the groundwater concentrations above the groundwater standards for the particular constituents detected in both upgradient and downgradient monitoring wells for a Unit are substantially the same or if the concentration levels of groundwater

exceedences concentrations for the constituents in the downgradient monitoring well are lower than in the upgradient well, is this sufficient evidence for the Agency to determine that the release is not associated with the Unit? If not, what else is necessary?

c) If the Agency concurs with the owner or operator's alternative cause demonstration that the release is not attributable to a unit but is either due to natural causes or another source, does the owner or operator have to continue thereafter to notify the Agency of confirmed detections of concentrations above any groundwater quality standard for these constituents in the subject monitoring wells?

d) Can the required monitoring list be shortened by those parameters which are determined to no longer be useful in monitoring if a release from a regulated unit has occurred?

2. If the Agency concurs with the owner or operator's alternate cause demonstration that the exceedence is due to a source other than a unit, but that source still exists at the site, such as a source associated with historical plant operations, is it correct that any corrective action regarding that other source is not governed by these proposed rules but instead could be addressed under existing programs such as the Site Remediation Program under Part 740 of 35 Ill. Adm. Code?

3. Do the proposed rules allow for the use of a Tiered Approach to Corrective Action ("TACO") as provided under Part 742 of 35 Ill. Adm. Code and if not, why not?

a) If the Part 742 TACO regulations are not applicable, why is it appropriate to apply TACO standards to ash constituents like boron or sulfate that are impacting groundwater from a historical source but not allow those same standards to apply to a release from an existing CCW surface impoundment unit for the same constituents?

4. On page 4 of your pre-filed testimony, you reference the use of an institutional control prohibiting potable water use as part of an owner or operator's corrective action plan, whether or not it is the Agency's intention under these proposed rules that corrective action plans may incorporate and rely on the provisions for institutional controls that are provided in Subpart J of the Part 742 TACO regulations? And if so, where is that provided in the proposed rules? If not, then how will the Agency make the determination of what is or what is not an acceptable institutional control?

## **Closure**

5. On page 6 of your pre-filed testimony, referring to the closure process for CCW surface impoundments, you state: "This process may be completed with ash left in place or after ash has been removed." If ash is left in place, isn't the situation substantially similar to that of a closed solid waste landfill where the waste has been left in place and if so, why are these CCW-specific closure rules necessary instead of simply applying the same closure rules that already exist for solid waste landfills under Parts 811 and 814?

6. On page 6 of your pre-filed testimony, you state: "If all ash is removed from the impoundment, a final cover system would not be required but the impounding structure would

need to be removed.” If all ash is removed, explain what the “impounding structure” consists of and why it also must be removed in order to complete the closure process?

- a) Has the Agency considered that the same level of protection could be achieved by allowing the alternative of cleaning the liner surface of CCW, compromising its integrity to allow precipitation to pass through it and then backfilling with clean fill?
- b) Has the Agency considered what the potential additional cost is to an owner or operator of have to remove the impounding structure and transport and dispose of it in a landfill?

### **Closure Prioritization**

7. On page 8 of your pre-filed testimony, you state: “A unit is inactive if it has not received coal combustion waste, or leachate from coal combustion waste, within the most recent period of eighteen months. If an impoundment has not received ash for eighteen months it is expected that the power plant has other impoundments it is utilizing.”

- a) If an impoundment is undergoing some type of repair or renovation or ash removal that extends for a period of over 18 months, would it have any means under the proposed rules to request and receive an extension of this eighteen month period so that it was not required to proceed to submit a closure plan given its intent to continue using the Unit?
- b) If such an extension provision is not in the proposed rules, is the Agency willing to consider including one?

8. On page 8 of your pre-filed testimony, regarding closure of an active Category 3 Unit causing an exceedence under Section 841.405(a)(3) of the proposed rules, you state: “If the Unit is active, a closure plan must be submitted to the Agency within two years of confirmation of an exceedence of an applicable groundwater standard attributable to a release from the Unit. The Unit shall be closed within five years of the Agency’s approval of the closure plan, unless the Agency approves a longer time period.” Your testimony seems to indicate that closure under these conditions is mandatory, whereas the introductory paragraph of Section 841.405 contains the language that in addition to a confirmed exceedence, “the owner or operator elects to close the unit(s),” please explain the intended meaning of this provision of Section 841.405(a) and whether and when closure is required under 841.405?

- a) In Section 841.405(a), where an exceedence has been confirmed, other than referencing an exception for an owner or operator making an alternative cause demonstration, it does not appear to allow the owner or operator the opportunity to address the exceedence at a compliance point through a corrective action plan, is this correct?
- b) Does the requirement to close the unit apply to a unit for which a GMZ has been approved by the Agency and the exceedence occurs within the boundaries of the GMZ?

c) Does the requirement to close the unit apply where the exceedance occurs within the boundaries of an ELUC or other institutional control which contains prohibitions on the use of groundwater?

#### IV. QUESTIONS FOR LYNN E. DUNAWAY

1. Will you be the primary person at the Agency to review the owner or operator's statistical methods used and analysis of chemical constituent concentrations in groundwater that are required under the proposed rules?

2. Have you encountered situations where CCW surface impoundments have been in operation at facilities for many years and there is one or more historical sources of impacts to groundwater with similar chemical impacts on the groundwater at the facility?

a) Can the statistical analysis that is conducted in such situations to try to differentiate between the potential sources of groundwater be relatively complex?

b) In such circumstances, is there any concern that the Agency may not have the resources to properly evaluate submittals and make determinations regarding whether the appropriate statistical equations are being both properly used and implemented?

c) Has the Agency given any consideration to, and if not would it consider, allowing for the retention of an experienced professional statistician, at the owner or operator's cost, to provide assistance in reviewing and evaluating such submissions similar to the allowed use of a licensed professional engineer, called a RELPE under the Part 740 regulations, specifically along the lines provided for the professional to perform review and evaluation services under the direction of the Agency?

#### Determining Background Values

3. On page 2 of your pre-filed testimony, you state: "In the proposed Part, the term "background" is applied broadly, because background values must be calculated for all monitoring wells, not just those wells which are up gradient of regulated units." Is the term "background" in the proposed rules interpreted or applied differently here than it is for solid waste landfills under Parts 811 and 814 of the existing Board regulations? If so, please explain what the difference is and why the Agency is proposing to apply the term "background" differently for CCW surface impoundment units versus landfills?

a) Why isn't the requirement to develop background values for all wells, both upgradient, downgradient and or otherwise, limited to those situations where there is high spatial variability in the overall data set or where a representative upgradient data set cannot be generated?

b) If there is a requirement to establish individual background values for each parameter at each individual monitoring well location, why is this necessary other than for those parameters which may be causing an upgradient vs. downgradient statistical issue?

c) Isn't a requirement to prepare intrawell background calculations for each parameter for all monitoring wells, regardless of whether they are upgradient or downgradient, regardless of whether there is an impact or threat to groundwater detected at that well potentially unnecessary, burdensome and costly?

4. Is it reasonable to assume that there could be a situation where the background interference from non-CCW Surface Impoundment Unit sources is so similar to that presented by a release from a CCW Surface Impoundment Unit that it would make statistical monitoring of chemical constituents ineffective for determining whether there may have been a release from the regulated Unit and one would instead have to rely on other physical monitoring such as water levels? If yes, do the proposed rules allow for such reliance on information or data other than statistical methods of evaluation?

5. In the Part 811 regulations for landfills, Section 811.320(d)(1) provides that the initial monitoring to determine background concentrations commences during the hydrogeological assessment required under those rules and is established based on consecutive quarterly sampling of wells for a minimum of one year. Where in these proposed rules is it specified when and on what amount of sampling data the background concentrations are to be determined?

6. How does one calculate a "background" value for a monitoring well immediately down gradient of a regulated unit?

#### **Statistical Methods**

7. On page 3 of your pre-filed testimony, you state: "Any statistical method that is selected must meet the performance criteria of proposed Section 841.225(b)." How will IEPA approach determining whether the performance criteria have been met and what will be the basis of that determination?

8. On page 4 of your pre-filed testimony, you state: "If the chemical constituents' concentrations are nonparametric, then the data must either be transformed (*e.g.*, using the log of the chemical constituent concentration) or a nonparametric statistical method must be used." Is it correct that there are different types of nonparametric statistical analyses, some less complex and some more complex, but the proposed rules allow the owner or operator to choose among those analyses provided that the one selected is appropriate to use based on the data set?

9. On page 5 of your pre-filed testimony, you state: "Proposed Section 841.225 allows the use of control charts if approved by the Agency. The Agency must find that a control chart will monitor chemical constituent concentrations in a manner that will protect human health and the environment." Please explain in more detail what control charts are and how they are to be used under the proposed rules, including what their purpose is, how they are constructed and how they are interpreted?

a) What criteria will the Agency use to determine whether a control chart will monitor chemical constituent concentrations in a manner that will protect human health and the environment?

10. On page 6 of your pre-filed testimony, you state: "If the number of non-detects is large enough they may cause chemical constituent concentrations to be nonparametric. In such an instance, a different statistical method may be required to analyze the particular chemical constituent(s) that are nonparametric."

a) Do you agree that the list of chemical constituents in Section 620.410(a) and (e) that an owner or operator is required under proposed Section 841.215 to monitor for includes certain constituents which are not typically associated with coal ash, such as perchlorate and cadmium?

b) Is there any provision in the proposed rules that allow an owner or operator to stop monitoring for a particular chemical constituent when after a period of time that chemical constituent is not detected, as is allowed after two consecutive quarters of no detections under the assessment monitoring provisions of Part 811 landfill regulations in Section 811.319(b)(5)(G)? If so, please identify where such a provision exists in the proposed rules? If no such provision exists, is the Agency willing to include one that is similar to Section 811.319(b)(5)(G)?

c) What if any benefit is there for the stated purpose of these rules to performing continued detailed nonparametric analyses of constituents which are repeatedly reported to be at non-detect levels in monitoring wells?

### **Sampling Frequency**

11. On page 6 of your pre-filed testimony, you state: "Detections of chemical constituent concentrations that exceed standards of 35 Ill. Adm. Code 620 Subpart D, will require quarterly monitoring for those chemical constituents that exceed those standards, unless a more frequent schedule is already in place." Where the owner or operator has made the alternative cause demonstration pursuant to proposed Section 841.305 for the chemical constituent concentrations exceeding the Part 620 standards, is any monitoring still required or does monitoring cease for those constituents for which the alternative source demonstration has been made showing that the release is not from the Unit?

### **Annual Statistical Analysis**

12. On page 8 of your pre-filed testimony, you state: "If a chemical constituent concentration does not exceed a numerical groundwater standard, the annual statistical analysis must determine if a statistically significant increase, below the numerical groundwater standard, has occurred in any chemical constituent." Does the annual statistical analysis have to include those chemical constituents which have been demonstrated to be from an alternate source pursuant to Section 841.305? Is there any provision in the proposed rules that provides for the removal of such chemical constituents from the required annual statistical analysis?

13. On page 8 of your pre-filed testimony, you state that sampling frequency must be increased from semiannual to quarterly: "If an increase in chemical constituent concentrations is found to be statistically significant and does not exceed a numerical standard, the owner or operator has 60 days after the submission of the annual report to investigate the cause of the

statistically significant increase and notify the Agency in writing stating the cause of the increase, and the means by which the alternative cause was determined.”

a) Do you agree that in certain instances it may be necessary to collect additional information and to perform modeling work in order to show that the increase is due to an alternative cause and that this work may not reasonably be able to be completed within the 60 day period proposed in the rule?

b) Would the Agency be willing to consider including in this section of the rule, which is at Section 841.235(c)(2), a provision which allows the owner or operator to obtain additional time to conduct the alternative cause review where the relevant circumstances reasonably require it before it has to increase the sampling frequency from semi-annual to quarterly and do the additional investigation and other steps required by this proposed section?

14. With regard to proposed Section 841.235(c)(3)(C) and the required contents of a preventive response plan, on page 9 of your pre-filed testimony, you state: “If the statistically significant increasing chemical constituent concentrations persist for more than two years, additional investigation is required since the investigation and resulting actions to date have not resolved the problem.” What was the rationale for selecting the 2 year time period?

a) In the situation where the owner or operator has as part of its corrective action already installed a groundwater control system that is containing the groundwater, such as groundwater extraction wells, or has installed another type of groundwater control or treatment system, isn't it reasonable to assume that this corrective action, particularly in a silty clay or clay unit, will need more than a two-year period to be effective in addressing the statistically significant increasing concentration?

b) Would the Agency consider revising this proposed rule to allow for a period of longer than two-years in such circumstances before the owner or operator is required to conduct a hydrogeologic investigation or additional site investigation?

### **Confirmation Sampling**

15. On page 9 of your pre-filed testimony, you state: “Proposed Section 841.300 does not require confirmation sampling be conducted by the owner or operator when groundwater monitoring detects statistically significant increasing chemical constituent concentrations that are below a numerical standard. However, resampling a monitoring well may be necessary to meet the requirements for preventive response pursuant to proposed Section 841.235 and 35 Ill.Adm.Code 620.”

a) Please explain further when resampling a monitoring well may be necessary to meet the requirements for preventive response in proposed Section 841.235.

b) Please identify with more specificity what requirements in Part 620 you are referring to.

## V. QUESTIONS FOR AMY L. ZIMMER

### Hydrogeologic Site Characterization

1. At the bottom of page 2 of your pre-filed testimony, you note that the Agency “will evaluate the site characterization data for existing sites in relation to monitoring plan and monitoring system design” and that “[a]ny discrepancies noted between the site characterization data and proper designs of the monitoring systems and monitoring plans will be noted and addressed on a site-by-site basis.”

a) Please provide examples of what would constitute the type of discrepancies you are referring to in your testimony, particularly in terms of what will constitute a discrepancy?

b) Section 841.200(b)(3) of the proposed rule provides a general statement that hydrogeologic characterizations need to provide the data necessary to “...develop and perform modeling to assess possible changes and benefits of potential groundwater impact mitigation alternatives.” When do the proposed rules contemplate this hydrogeologic characterization is to be performed – before or after a release from a Unit has been identified?

c) If the hydrogeologic characterization is performed before a release from a Unit has been identified, how does one know in advance what information is going to be needed to evaluate or model potential contaminant transport scenarios and/or to assist in proper development of remedial alternatives?

d) In your experience, do most initial site hydrogeologic characterizations provide all the information required to develop a three-dimensional (“3-D”) numerical groundwater model? Isn’t it more typical to gather additional data once it is determined that a 3-D numerical model is necessary, the model is constructed and any data gaps are identified?

e) Please explain whether this the iterative model development process envisioned by the Agency under the proposed rules, because it is not clear under proposed Section 841.200 if this approach is acceptable or if a large, complex and potentially unnecessary hydrogeologic characterization is needed to be completed before any release attributable to a Unit is identified.

### Groundwater Monitoring System

2. On page 4 of your pre-filed testimony, in a situation where a GMZ has been approved as part of a corrective action, you state that “additional points of compliance in relation to the GMZ boundary and the modeled or monitored extent of contamination may then be required to be monitored.”

a) If a GMZ is approved, is the compliance point or points located at the boundary of the GMZ pursuant to the definition of “compliance point” in Section 841.110 of the proposed rules which provides in relevant part that “compliance point

means any point in the groundwater at which a contaminant released from the unit could pass beyond the Agency approved GMZ boundary”?

b) Please explain what you mean by these “additional points of compliance” – including whether these points could be inside, along and/or outside of the boundary of the GMZ?

c) The definition of “compliance point” in proposed Section 841.110 states that “[t]here may be more than one compliance point for a particular unit(s)/GMZ.” Are these the “additional points of compliance to which you are referring in your testimony?”

d) What criteria will be used to determine whether these additional points of compliance are necessary and if so where they will be located?

e) Can risk-based evaluations be used to establish that the compliance point is appropriately established at a property boundary for the facility such as where there is no downgradient receptor?

### **Groundwater Monitoring Plan**

3. Is it correct that proposed Section 841.210 provides for the development of a groundwater monitoring plan that is to accomplish the following two things: (1) monitor and evaluate groundwater quality to demonstrate compliance with the Part 620 groundwater standards; and (2) determine the presence of any monitored contaminant that is above background concentrations?

4. Please identify where in Section 841.210 or anywhere else in the proposed rules it addresses the question of when the groundwater monitoring plan must be submitted to the Agency by the owner or operator?

5. In the last paragraph on page 5 of your pre-filed testimony, in reference to the required contents of a groundwater monitoring plan, you state: “An explanation of the statistical method for background, assessment, and compliance monitoring must also be included.”

a) Do you agree with the contents of the Unified Guidance that the Agency proposes to incorporate into the proposed rules that provide that the amount of data needed for background depends on the method chosen and sample variability?

b) If the groundwater monitoring plan is required to be submitted before there is an adequate data set to make this determination of what statistical method to use to establish background for each of the chemical constituents to be monitored, how can the owner or operator comply with this requirement?

c) Do you agree that under the Unified Guidance, the minimum data requirements are generally 8 rounds of data, and sometimes more, before an evaluation can be made as to what is the most appropriate statistical method to be applied? If quarterly sampling is being conducted on the monitoring wells, would this indicate that at

least two years of monitoring data should be collected before this explanation regarding the statistical method for background should be required to be submitted to the Agency?

d) After a groundwater monitoring plan is submitted and new data generated for a unit suggests that an alternate statistical method might need to be employed than that originally proposed in the plan, do the proposed rules address the procedure or requirements to follow to modify the plan in such circumstances?

6. In proposed Section 841.210(d) of the proposed rules, it requires that the “[s]ampling and analysis data from groundwater monitoring must be reported to the Agency within 60 days after completion of sampling.” Does this mean that the 60-day deadline begins once the sampling is completed for all of the wells which require quarterly sampling and then there is a separate 60-day deadline for reporting to the Agency after the completion of any sampling at wells for which there is a semi-annual requirement? How does confirmation sampling fit into this timeline? Did the Agency consider alternatively providing that the sampling and analysis data is due within 30 or 60 days of the end of the required sampling frequency period?

#### **Chemical Constituents and Other Data to be Monitored**

7. There does not appear to be any provision in the proposed rules for eliminating the monitoring requirement for a chemical constituent which has repeatedly been undetected in the sampling of monitoring wells, is this correct? If it is correct, what is the Agency’s rationale for requiring continued monitoring of a chemical constituent that is undetected over the many years that a Unit may operate?

#### **Alternative Cause Demonstration**

8. If the Agency concurs with the alternative source demonstration by the owner or operator, will either the monitoring wells or the chemical constituents for those monitoring wells associated with the alternate source impacts be removed from the proposed Part 841 groundwater monitoring program because those wells or parameters cannot be used to demonstrate if there is a release from a Unit?

9. On page 8 of your testimony, you state that a 180-day timeframe for development and submittal of an alternate source demonstration is a reasonable timeframe because of the amount of information that may need to be gathered and included in that demonstration. If it is determined that a 3-D numerical modeling is needed to developing the alternate source demonstration, between the potential additional support characterization work, the modeling, interpretation and reporting, do you agree that the 180-day timeframe may not be sufficient time to complete the demonstration?

a) Is the Agency willing to consider revising the proposed rules to allow for additional time to complete the demonstration when the nature and extent of the information to be submitted warrants it?

Respectfully submitted,

MIDWEST GENERATION, L.L.C.

By: /s/ Susan M. Franzetti  
One of Its Attorneys

Dated: February 5, 2013

Susan M. Franzetti  
NIJMAN FRANZETTI LLP  
10 S. LaSalle St., Suite 3600  
Chicago, IL 60610  
(312) 251-5590

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

**IN THE MATTER OF:** )  
 )  
**COAL COMBUSTION ASH PONDS** )  
**AND SURFACE IMPOUNDMENTS AT** ) **R14-10**  
**POWER GENERATING FACILITIES:** ) **(Rulemaking – Water)**  
**PROPOSED 35 ILL.ADM. CODE PART 841:** )

**APPEARANCE**

The undersigned, as one of its attorneys, hereby enters her appearance on behalf of Midwest Generation, L.L.C.

Midwest Generation, L.L.C.

By: /s/ Susan M. Franzetti  
Susan M. Franzetti

Dated: February 5, 2014

Susan M. Franzetti  
NIJMAN FRANZETTI LLP  
10 South LaSalle Street  
Suite 3600  
Chicago, IL 60603  
(312) 251-5250 (phone)  
(312) 251-4610 (fax)