

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
) R14-10
COAL COMBUSTION WASTE (CCW))
SURFACE IMPOUNDMENTS AT POWER) (Rulemaking- Water)
GENERATING FACILITIES: PROPOSED)
NEW 35 ILL. ADM. CODE 841)

NOTICE OF FILING

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S PREFILED QUESTIONS FOR THE ENVIRONMENTAL GROUPS, a copy of which is herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/Joanne M. Olson
Joanne M. Olson
Assistant Counsel
Division of Legal Counsel

Date: April 30, 2014

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THIS FILING IS SUBMITTED ELECTRONICALLY AND SERVED ON RECYCLED PAPER

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**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S
PREFILED QUESTIONS FOR THE ENVIRONMENTAL GROUPS**

NOW COMES the ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, (Illinois EPA or Agency) by and through its counsel, and hereby submits prefiled questions for KEIR SODERBERG and TRACI BARKLEY. Illinois EPA requests that the Hearing Officer allow follow-up questioning to be posed based on the answers provided.

I. QUESTIONS FOR KEIR SODERBERG

1. On how many remediation projects have you have been the project manager or lead worker (directly involved).
 - 1.1 Approximately how many of the remediation projects were located in Illinois?
 - 1.2 For each remediation project located in Illinois, can you please identify the regulated entity and site location?
 - 1.3 How many of the remediation projects were located in other states or countries?
2. Of the remediation projects where you have been the project manager or lead worker, how many included inorganic chemicals as contaminants of concern (COCs)?
 - 2.1 Please list the inorganic COCs at remediation projects where you have been directly involved.
 - 2.2 Was any treatment (other than aeration) applied to the groundwater to reduce the concentration of inorganic COCs?
 - 2.3 If yes, please describe the treatment(s) that were used to reduce inorganic COCs.

3. Of the remediation projects where you have been the project manager or lead worker involving inorganic COCs, did any of the projects use groundwater collection of any type to control the migration of COCs?
 - 3.1 If yes, was the collected groundwater treated (other than aeration) prior to disposal?
 - 3.2 If the collected groundwater was treated, what treatment method(s) was/were applied before disposal?
 - 3.3 Was the collected groundwater disposed via a National Pollutant Discharge Elimination System (NPDES) permit or by some other means of disposal?
 - 3.4 If disposal of the collected groundwater was not by NPDES permit, what means of disposal was used?
4. How many of the remediation projects where you have been the project manager or lead worker have met the remediation objectives for the inorganic COCs as of April 15, 2014?
5. Of the remediation projects in Illinois in which you have been directly involved, that have met the remediation objectives for the inorganic COCs, were the remediation objectives met by reducing inorganic COC concentrations to the numerical values in 35 Ill. Adm. Code 620.410 or 620.420, or were the remediation objectives met by exclusion of receptor pathways?
 - 5.1 For the projects where the remediation objectives were met by reducing the COC concentrations to the numerical values in 35 Ill. Adm. Code 620, please identify all the COCs for each remediation project, the beginning concentrations and the amount of time to complete the remediation.
6. On page 2 of your testimony you state: "It is also unclear whether storm water runoff that comes in contact with raw coal is considered as containing leachate."
 - 6.1 Are you aware of any definition of coal combustion waste (CCW) that includes raw coal in the definition?
 - 6.2 If yes, please provide the definition and the source of the definition.
7. On Page 5 of your testimony you state: "Under the proposed rules, it would take four years of semi-annual monitoring to generate 8 data points." Are you aware of any of the electrical generating stations listed in Exhibit 5 with Exhibits A-P, 3/4/2014, Page 141, table in Figure 1 that do not have existing groundwater monitoring data?
8. On Page 5 of your testimony you state: "To be most protective of human health and the environment, the Board should require a period of more frequent monitoring when a new well is installed or for instances where a new background value has to be established."

Proposed section 841.130 requires that background values be established for any unit within one year of the effective date of this Part, if the unit was in operation on or before the effective date of this Part. Further, proposed section 841.220 requires that the number and kinds of samples collected to establish background must be appropriate for the type of statistical test employed.

- 8.1 Is it possible for the owner or operator of a regulated unit to adjust the monitoring schedule to meet these requirements?
- 8.2 Is it possible for the owner or operator of a regulated unit to combine data collected after the effective date of this Part with groundwater quality data that was collected prior to the effective date of this Part to be in compliance with Sections 841.130 and 841.220?
9. On Page 5 of your testimony you state: “The rule should also specify what to do when very few data points are available to characterize site-specific background concentrations and/or the potentially impacted groundwater concentrations.”
 - 9.1 Do statistical methods determine how non-detects should be considered for the application of that statistical method?
 - 9.2 Would inclusion of a requirement to treat non-detects in a specific manner limit the statistical methods allowed to be considered by the owner or operator?
10. Would a state-wide background concentration that was developed from community water supply wells all across the state, from aquifers of various depths and compositions provide a better representation of site specific background data than monitoring wells installed at a site to monitor groundwater within specific geologic units that exist at a site?
11. Does the selection of appropriate statistical methods depend on a number of site specific circumstances, such as the number of non-detects for a particular chemical, the presence or absence of other regulated and/or unregulated sources, monitoring purpose (e.g. compliance versus assessment, corrective action or closure)?
12. Do you believe this proposed Part should be a rule of general applicability, which applies to regulated units at sites with variable hydrogeologic conditions, variable site geometries, variable modes of operation and are at various stages in their operational life cycle?
 - 12.1 Do you think that providing a professional with the latitude to use new approaches and scientific methods which may be developed is more effective than a prescriptive approach?
13. On Page 6 of your testimony you state: “If two different statistical procedures are used, however, it could lead to a conflict. The rule therefore should provide what will happen

when two viable statistical procedures disagree.” Later in the same paragraph you state: “Alternatively, the Board could require that several statistical tests be performed...”

Please explain further why the Board should add additional requirements to proposed Part 841 that may create a conflict that you have warned against.

14. If an up-gradient well has a higher concentration of a particular contaminant than a down-gradient well, is it true that one possible explanation is that some unidentified up-gradient source exists?
15. On Page 6 of your testimony you state: “Fifth, under section 841.215, the Agency excludes radium-226 and radium-228 from the list of chemical constituents to be monitored. These radioactive constituents are not present in very high concentrations in CCW leachate, and their transport via groundwater can be retarded relative to constituents such as boron. However, in sample results presented by the Agency as part of these hearings (IEPA 2014a, Attachment 4, pages 493 and 517), concentrations were reported that exceeded the federal MCL for drinking water of 5 pCi/L (for the combined Ra-226 + Ra-228) in two locations (City Power & Light sample AP-2 at 10.2 pCi/L, and City Power & Light sample AP-5 at 12.2 pCi/L).
 - 15.1 Is monitoring well AP-5 up-gradient or down-gradient from the ash impoundment?
 - 15.2 Is monitoring well AP-2 up-gradient or down-gradient from the ash impoundment?
16. On Page 7 of your testimony you state: “However, the prohibition, “[r]educed monitoring is prohibited when the unit or units associated with monitoring well does not have a liner...,” assumes that a given monitoring well can be associated with a specific unit.” Later in the same paragraph you state: “A better provision would be to prohibit a reduction in monitoring for any facility with unlined impoundments that are subject to the proposed rule.”
 - 16.1 Does proposed section 841.230(c) prohibit reduced monitoring when all units associated with a monitoring well have not been lined?
 - 16.2 Does proposed Section 841.230(d) require Agency approval pursuant to Subpart E before a monitoring schedule can be reduced?
 - 16.3 Does Subpart E give the Agency the authority to deny any proposed plan modification that does not contain adequate data supporting the proposed modification?
 - 16.4 Does proposed Section 841.230(c) require a chemical constituent to be below the limit of detection for at least five years before the monitoring frequency may be reduced?

- 16.5 Does proposed Section 841.230(c) require monitoring at least every five years of any chemical constituent for which monitoring has been reduced?
- 16.6 Does proposed Section 841.230(c) permit the Agency to arbitrarily select other monitoring frequencies?
17. On Page 7 of your testimony you state: "First, if a constituent is only monitored once every five years in an up gradient well, and it is subsequently detected in a down gradient well, alternative causes would be much more difficult to demonstrate and evaluate compared to having semi-annual monitoring."
- 17.1 Under the proposed rules, who do you believe has the burden of proof to make an alternative cause demonstration?
- 17.2 Under the proposed rules, what happens when an alternative cause demonstration cannot be made because of the lack of supporting evidence?
18. On Page 7 of your testimony you state: "Second, late detection of contamination will make remediation more difficult and costly, and will unnecessarily threaten human health and the environment. Third, monitoring once every five years would place a large amount of statistical weight on one individual sample. Individual samples can be affected by seasonal variations, sampling errors, and analytical problems such as matrix interference. Fourth, it is likely that CCW leachate plumes will have multiple concentration fronts based on variability in infiltration due to the use of different impoundments at different times, precipitation pulses, and changes to the type of waste deposited in a given impoundment. . . . Fifth, chemical constituents in CCW leachate travel at different rates in the subsurface due to conditions in the groundwater (pH, redox potential) and the type of soil or aquifer material to which they are exposed. Thus, the first rise in concentration and the peak concentration will be seen at different times for different chemical constituents (e.g. Zheng and Bennett 2002)."
- Does proposed Section 841.235(e) require any detection of a chemical constituent for which monitoring has been reduced be considered statistically significant and require investigation pursuant to proposed Section 841.235(c)?
19. Does proposed Section 841.235(e) require any chemical constituent for which monitoring has been reduced, but exceeds a numerical standard to be monitored pursuant to proposed Section 841.235(b)(1)?
20. Do you believe it likely that the concentration of any of the chemical constituents required to be monitored pursuant to this proposed Part would increase from less than detection to a concentration in excess of a numerical groundwater standard, at a given monitoring point, in less than five years?
- 20.1 What are typical velocities associated with groundwater flow?

21. What is the relevance of the peak chemical constituent concentration when compliance is based on a comparison to either a background concentration that is unit specific or a fixed numerical value?
22. On page 9 of your testimony you state “The Board should revise the corrective action plan requirements (section 841.310) to include a requirement for long term source control, such as permanent removal of CCW from the impoundment or relining with a liner that meets U.S. EPA design criteria for a double walled liner and a leachate collection system (U.S. EPA 2010b).”
 - 22.1 Please describe the process by which an owner or operator would remove coal combustion waste (CCW) from an impoundment for permanent removal?
 - 22.2. How would an owner or operator move the CCW?
 - 22.3. How would an owner or operator move saturated CCW?
23. Is it true that the volume of liquid contained in one cubic foot of saturated CCW could be as high as 0.25 cubic feet or more?
 - 23.1 Where would an owner or operator place the liquid component of the CCW?
 - 23.2 Is it true that an owner or operator may need to dispose of the liquid component of the CCW?
 - 23.3 Is it true that contaminants in the liquid component of the CCW could include suspended solids as well as dissolved constituents?
 - 23.4 Is it true that the liquid component of the CCW would require treatment prior to disposal into a water of the United States?
 - 23.5 What type of treatment is required to remove suspended solids and dissolved constituents from the liquid component of the CCW?
 - 23.6 Is it true that contaminants in the liquid component of the CCW could be separated by evaporating the liquid from the liquid component of the CCW?
 - 23.7 Would evaporating the liquid from the liquid component of the CCW be a heat intensive process?
 - 23.8 Could this heat intensive energy intensive process be costly?
 - 23.9 Is it true that contaminants in the liquid component of the CCW could be separated by utilizing water treatment process such as reverse osmosis?

- 23.10 Is it true that the reverse osmosis process is a costly method to remove dissolved constituents from the liquid component of CCW?
- 23.11 What is the nature of the waste that is produced by the reverse osmosis process?
- 23.12 How would an owner or operator of a reverse of osmosis unit dispose of the concentrate which is it produces?
- 23.13 Is it likely that the concentrate produced by the reverse osmosis process can be discharged to waters of the United States and meet discharge effluent limitations?
- 23.14 Is it true that there may need to be a mixing zone established in the receiving stream in order to discharge the concentrate?
- 23.15 If a mixing zone is not an option what other disposal options are available?
- 23.16 Could the concentrate produced by the reverse osmosis unit have to be disposed of in a deep injection well?
24. Does the United States Environmental Protection Agency's (USEPA) proposed regulation in 40 C.F.R. Part 257 require permanent removal of CCW from existing impoundments by an owner or operator?
25. Does the USEPA's proposed regulation in 40 C.F.R. Part 257 allow for closure with ash left in place?
26. Does the USEPA's proposed regulation in 40 C.F.R. Part 257 allow for corrective actions to be implemented?
27. Does the USEPA's proposed regulation in 40 C.F.R. Part 257 require that a unit that is out of compliance after an attempt at a corrective action be closed?
28. Does proposed 40 C.F.R. §257.97(e) allow an owner or operator to determine that the remediation of a release from a surface impoundment is not necessary?
 - 28.1 Does the corrective action section of proposed 40 C.F.R. §257.97(e)(3) allow an owner or operator to determine that the remediation of a release from a surface impoundment is not necessary if the remediation of the release is technically impracticable?
29. Does the corrective action section of the proposed Part 841 preclude a corrective ction plan from having both long term and short term source control?
30. On Page 10 of your testimony you state: "Modeling of contaminant transport for U.S. EPA's risk assessment predicted even longer timeframes for peak concentrations to appear in drinking water wells off-site (e.g. the median time to peak boron concentration was 74 years

from unlined impoundments and 90 years from clay-lined impoundments) (U.S. EPA 2010a).”

- 30.1 Are the modeled peak concentrations in U.S. EPA 2010a normally distributed?
 - 30.2 If not, does the median time to peak concentration represent a meaningful statistic with regard to the shortest or longest time to peak concentration?
 - 30.3 Do the modeling results in (U.S. EPA 2010a) as presented, represent any particular power generating facility in Illinois?
 - 30.4 For those Illinois generating facilities that were included in the U.S. EPA assessment, was site specific data used for all modeling variables?
 - 30.5 In your experience, are models using site specific data more or less accurate than models using generalized data, that uses typical or average values?
31. On page 10 of your testimony you state “Section 841.415 Final Slope and Stabilization should include a prohibition on using CCW to establish the final grade and slope of the impoundments. As written subsection 841.415(d) could be interpreted to allow for CCW to be exposed on the earthen berms surrounding the unit. CCW exposed in this way would come in to contact with storm water and become part of eroded sediment transported away from the closed unit. Section 841(d) should be clarified to prevent this exposure.”
- 31.1 Does proposed Section 841.420 specify the requirements for the final cover of an impoundment?
 - 31.2 What are the requirements in the proposed Section 841.420 for the final cover on an impoundment?
 - 31.3 Is it true that that proposed Section 841.420 requires an owner or operator to design and construct a final cover system for an impoundment if the unit is not closed by removal of all coal combustion waste?
 - 31.4 Is it true that that proposed Section 841.420 requires an owner or operator to design and construct a final cover system which includes a low permeability layer and a final protective layer?
 - 31.5 Is it true that that proposed Section 841.420(b)(1)(A) requires an owner or operator to design and construct a final cover system with a compacted earth layer which is three feet thick?
 - 31.6 Is it true that that proposed Section 841.420(b)(1)(A) requires an owner or operator to design and construct a compacted earth layer which is 3 feet thick and has a hydraulic conductivity of 1×10^{-7} centimeters per second or less?

- 31.7 Is it true that that proposed Section 841.420 requires a final protective layer?
- 31.8 Is it true that that proposed Section 841.420 requires a final protective layer which is three feet thick and must be sufficient to protect the low permeability layer from freezing and minimize root penetration of the low permeability layer?
32. Could you describe the process by which an owner or operator would remove CCW from an impoundment and reline that impoundment with a liner which meets the U.S. EPA design criteria for a double walled liner and leachate collection system (U.S. EPA 2010b) and then place the CCW back into the newly lined impoundment?
- 32.1 Is the USEPA's proposed design criteria for a double walled liner and a leachate collection system found in proposed 40 C.F.R. §257.71?
- 32.2 Are you familiar with the USEPA design criteria for a double walled liner and a leachate collection system found in proposed 40 C.F.R. §257.71?
- 32.3 Do you know whether USEPA's design criteria for a double walled liner and a leachate collection system found in proposed 40 C.F.R. §257.71 has been used for any waste disposal applications?
- 32.4 Can you list the applications or sites where this design has been used?
- 32.5 Have you worked on any projects where this design has been used?
- 32.6 Would the relining option involve the removal of the CCW, construction of the liner using the USEPA design criteria for a double walled liner and a leachate collection system found in proposed 40 C.F.R. §257.71 ?
- 32.7 What type of the structure would the CCW be placed in temporarily before being moved back to the newly lined impoundment which meets the USEPA design criteria for a double walled liner and leachate collection system found in proposed 40 C.F.R. §257.71?
- 32.8 Would this temporary storage area be required to meet the USEPA design criteria for a double walled liner and leachate collection system found in proposed 40 C.F.R. §257.71?
- 32.9 Could you describe the composite liner design contained in proposed 40 C.F.R. §257.71(a) (1) and(2)?
- 32.10 Dose proposed 40 C.F.R. §257.71(a)(2) require two membranes.
- 32.11 Is it true that proposed 40 C.F.R. §257.71(a)(2) requires at least a two foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec?

- 32.12 Is it true that proposed 40 C.F.R. §257.71(a)(2) requires the 30-mil flexible membrane liner must be installed in direct and uniform contact with the compacted soil?
- 32.13 Is it true that section 257.71(a)(1) requires that the composite liner system to be constructed with a leachate collection system between the upper and lower components of the composite liner specified in proposed 40 C.F.R. §257.71(a)(2)?
- 32.14 Could you explain how a 30-mil flexible membrane liner can be installed in direct and uniform contact with the compacted soil and comply with proposed 40 C.F.R. §257.71(a)(1) which requires a leachate collection system be placed between these two components?
- 32.15 Is it true that the liner design which you advocate, the USEPA design found in proposed 40 C.F.R. §257(a)(1) for a double walled liner and a leachate collection system cannot be built?
33. Does the proposed Section 841.305(a) require that a demonstration of alternative cause be made within 180 days?
34. Does Proposed Section 841.305(b) require the Agency to provide a written response of concurrence or non-concurrence to the demonstration of alternative cause provided by the owner or operator?
35. On page 8 of your testimony, you reference a 2010 letter from Ameren to the Agency regarding arsenic at the Venice facility. Do you believe this letter alone would constitute an alternative cause demonstration under the proposed rules?
- 35.1 Are you aware of any other documentation Ameren provided to the Agency regarding the source of the arsenic?
36. Does the proposed rule require the Agency to approve the use of previous submittals to fulfill the obligations under the proposed rule?
37. May the Agency request submittal of additional information if previous submittals are found be inadequate under the proposed rules?
38. Does the proposed rule require an alternative cause demonstration show that a specific source other than the unit be identified if the exceedence is not due natural causes, or an error in sampling, analysis or evaluation?

II. QUESTIONS FOR TRACI BARKLEY

39. On Page 1 of your pre-filed testimony you state: "Corrective action plans as proposed by IEPA are insufficient to address pollution problems." Is it possible that the corrective performed at one site with CCW surface impoundments might be different than the corrective action preformed at another site with CCW surface impoundments?

- 39.1 When there has been exceedence of the groundwater quality standards at a CCW surface impoundment, is it possible that the groundwater quality standards could be met through two different types of corrective action?
- 39.2 Did Illinois EPA propose in Part 841 a corrective action plan or a corrective action process?
- 39.3 Please explain how proposed Section 841.310 is insufficient.
- 39.4 Did Prairie Rivers Network recommend a public participation element be included in proposed Part 841?
- 39.5 Does proposed Section 841.165 require the Agency to post on its website corrective action plans and closure plans and any modification thereto, for public review?
- 39.6 Does proposed Section 841.165 require to Agency to accept and consider comments from the public with regard to corrective action plans and closure plans and any modifications thereto, in its final decisions regarding such plans?
- 39.7 Do you plan to participate when the Agency posts corrective action and closure plans on its website for public comment?
40. On page 2 of your testimony you state: "According to the Human Health and Ecological Risk Assessment completed by U.S. EPA in 2010, the excess cancer risk for people drinking groundwater contaminated with arsenic from unlined coal ash ponds is estimated to be as high as 1 in 50.3 For context, U.S. EPA in its Assessment viewed cancer risk as significantly high when environmental exposures resulted in more than one additional cancer per 100,000 people. Consequently, a lifetime cancer risk of 1 in 50 represents a risk 2000 times U.S. EPA's level of significance. This is an especially high risk when the impoundment is located in a shallow aquifer recharge area such as at Will County, Joliet 9, Joliet 29, Powerton, Meredosia, Venice, and Wood River facilities." Does the USEPA assessment specifically identify the health risk associated with the generating facilities you've listed or is the assessment speaking in general terms about potential risks under certain circumstances?
41. On page 2 of your testimony you state: "Dr. Dennis Lemly, Ph.D., U.S. Fish and Wildlife Service Biologist, recently submitted a report that discloses \$2.3 billion in monetary damages from coal ash to the sports recreation industry at 22 waterways due to the absence of the safeguards needed to protect the adjacent game fish habitat at these impoundment sites." How many of the waterways and what percentage of the damages are in Illinois?
42. On page 3 of your testimony you state: "Two important points stand out: 1) for most sites, IEPA only has about 2 years of data upon which it has based its regulatory proposal" Do you believe the Agency should not have proposed Part 841 until additional data had been collected?

43. On page 3 of your testimony you state: “2) even looking at only these limited data, contamination by coal ash pollutants has been demonstrated at every coal-fired power plant in Illinois.” Please describe which chemical constituents being monitored at the Havana east ash pond system exceed the applicable groundwater quality standard?
44. On pages 3 and 4 of your testimony you state: “The data that IEPA have reviewed do not present an accurate characterization of how leaching progresses over time. According to the Human Health and Ecological Risk Assessment completed by the EPA in 2010, peak pollution from dump sites can occur long after the waste is placed. For example, peak exposures from unlined coal ash ponds are projected to occur approximately 70 to 76 years after the ponds first began operation—thus retired sites still pose very significant threats¹⁰.” (The superscript refers the reader to a footnote citing the USEPA risk assessment Table 4-7). The second paragraph below Table 4-7 in the USEPA risk assessment states: “The arrival times presented in Table 4-7 correspond to the arrival of the maximum estimated risks for each model run. However, for model runs where the risk range or HQ criterion was exceeded, the first exceedence would sometimes occur earlier than the maximum risk arrivals reported in Table 4-7. This is consistent with the appearance of damage cases described in U.S. EPA (2007), which were sometimes observed sooner than the time-to-peak estimates in Table 4-7.” Does proposed Part 841 require that the maximum modeled concentration of monitored chemical constituents be exceeded before preventive response or corrective action is required?
- 44.1 When does proposed Part 841 require the owner or operator to develop a preventative response plan?
- 44.2 When does proposed Part 841 require the owner or operator to develop a corrective action plan or a closure plan?
45. Can you please describe the rating system used by the USEPA structural integrity assessments which you reference on page 5 of your testimony.
- 45.1 How many categories are there in the rating system used in the USEPA structural integrity assessments.
- 45.2 Please list the categories in the rating system used in the USEPA structural integrity assessments and how each category is defined.
46. Does the USEPA regulation proposed in 40 C.F.R. Part 257 utilize the rating system result found in the USEPA structural integrity assessments to require the owner or operator of an impoundment to implement closure by removal of coal ash from an impoundment.
- 46.1 Does the USEPA regulation proposed in 40 C.F.R. Part 257 utilize the rating system result found in the USEPA structural integrity assessments to require any action by the owner or operator of an impoundment.

47. On page 5 of your testimony, you reference CCW surface impoundments "with maximum embankment heights of six (6) feet." Please list the surface impoundments located in Illinois containing coal combustion residuals and with a maximum embankment height of six (6) feet.
48. Do you know when the USEPA structural integrity assessment was completed for each of the impoundments listed in response to question 48.0 above? Please provide the date, if known.
49. Do you know of any impoundments in Illinois where the USEPA has completed studies to assess the structural integrity of the surface impoundments and provided a final report condition rating for the impoundment?
 - 49.1 Please identify each surface impoundment of which you are aware.
 - 49.2 What was the final report condition rating for each impoundment?
 - 49.3 Can you explain what the final report condition rating for each impoundment identified in question 6.0 based on?
50. Do you know whether any impoundments in Illinois received a final report condition rating of poor because a management unit (impoundment) safety deficiency is recognized for a required loading condition (static, hydrologic, seismic) in the USEPA structural integrity assessment?
 - 50.1 If yes, please identify each impoundment.
51. Do you know whether any impoundments in Illinois received a final report condition rating of poor in the USEPA structural integrity assessment because further critical studies or investigations are needed to identify any potential dam safety deficiencies.
 - 51.1 If yes, please identify each impoundment.
52. Please identify all impoundments in Illinois where site specific conditions predict declining stability of the CCW surface impoundment.
53. Do you know whether mercury, selenium, arsenic, chromium, cadmium groundwater quality standards violations have been documented in groundwater sampling results related to CCW surface impoundments in Illinois?
 - 53.1 Please describe how site specific conditions predict declining stability .of coal ash impounding structures.
54. On top of page 4 in your testimony, what do you mean by "those data have shown contamination "progressing" in nearly every instance."?

- 54.1 Can you give specifics on what the instances are to which you refer?
55. Do you believe more accurate results are obtained when you base your professional opinion on site-specific information or on information gathered from generally applicable scholarly resources?
56. On page 4 in your testimony where you refer to Vermilion River. Does the surface water of the Middle Fork of the Vermilion River show impairment of the water quality standards found in 35 Ill. Adm. Code 309?
57. Does the Edwards plant have an NPDES permit to pump into the IL River?
58. Is the Meredosia plant permitted to have stormwater flow through the coal ash impoundments?
59. When closure is by removal, where would you recommend moving the coal ash? Please explain how this new location would not pose a hazard to humans or the environment.
60. Please elaborate on your training or background regarding the structural integrity of CCW surface impoundments.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/Joanne M. Olson
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CERTIFICATE OF SERVICE

Joanne M. Olson, Assistant Counsel for the Illinois EPA, herein certifies that she has served a copy of the foregoing NOTICE OF FILING and ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S PREFILED QUESTIONS FOR THE ENVIRONMENTAL GROUPS upon persons listed on the Service List by mailing, unless otherwise noted on the Service List, a true copy thereof in an envelope duly addressed bearing proper first class postage and deposited in the United States mail at Springfield, Illinois on March 25, 2014.

By: /s/Joanne M. Olson

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