

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

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

**NOTICE OF ELECTRONIC FILING**

To: **Service List**

PLEASE TAKE NOTICE that on February 5, 2014, I electronically filed with the Clerk of the Pollution Control Board of the State of Illinois, the **Pre-Filed Questions of Environmental Groups to Richard P. Cobb, Pre-Filed Questions of Environmental Groups to William E. Buscher, Pre-Filed Questions of Environmental Groups to Lynn E. Dunaway, and Pre-Filed Questions of Environmental Groups to Amy L. Zimmer**, copies of which are attached hereto and herewith served upon you.

Dated: February 5, 2014

Respectfully submitted,



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**PRE-FILED QUESTIONS OF ENVIRONMENTAL GROUPS TO RICHARD P. COBB**

1. On page 2 of the Statement of Reasons, the Agency states that dry coal combustion waste (“CCW”) can be disposed of in a landfill. Could you please identify the power generating facilities in Illinois that utilize a dry ash handling system?
2. On page 2 of the Statement of Reasons, the Agency states that some power generating facilities remove ash from surface impoundments and dispose it off-site. Could you please identify the power generating facilities in Illinois that remove CCW from impoundments for disposal elsewhere?
3. On page 3 of the Statement of Reasons, the Agency states that is aware of 89 CCW impoundments at power generating facilities in Illinois. However, on page 1 of the Technical Support Document, the Agency states that there are “approximately” 83 CCW impoundments in Illinois. Could you please provide a list of all of the CCW impoundments of which the Agency is aware, and the year in which they commenced operation?
4. On pages 2 and 3 of the Statement of Reasons, the Agency states that some CCW impoundments are dammed. Could you please provide a list of all such CCW impoundments, along with the acreage of the enclosure and the height of the dike for each impoundment?
5. On page 3 of the Statement of Reasons, the Agency states that “Some of the surface impoundments are lined with impermeable materials, while others are not.” Could you please identify which CCW impoundments are lined, and with what type of lining?
6. On page 3 of the Statement of Reasons, the Agency states that “When the CCW surface impoundments are not lined with impermeable material, these contaminants may leach into the groundwater, affecting the potential use of the groundwater.”
  - a) Could you please identify all CCW impoundments from which contaminants currently are, or are suspected by the Agency to be, leaching into groundwater?

- b) Is the Agency aware of any lined CCW impoundments from which contaminants are, or are suspected by the Agency to be, leaching into groundwater?
  - c) Is the Agency aware of any CCW impoundments at which a liner was installed after the impoundment had commenced operation? If so, what was done with the coal ash already in the impoundment prior to the installation of the liner? Did the Agency require operators to evaluate the potential for contamination from those impoundments prior to lining them?
  - d) Is the Agency aware of any CCW impoundments that have caused contamination of groundwater that is connected hydrologically to surface waters?
  - e) Is the Agency aware of any CCW impoundments that are at times directly connected to surface waters, such as during flood events?
7. Could you please identify all CCW impoundments that are operated under a solid waste landfill permit issued by the Agency?
8. Could you please identify all CCW impoundments that are operated pursuant to procedural requirements for a landfill exempt from permits under 35 Ill. Adm. Code 815?
9. Could you please identify all CCW impoundments known by the Agency to have been constructed:
- a) Over a mine void?
  - b) Over a groundwater recharge area?
  - c) Over a wetland?
  - d) Over a shallow aquifer?
  - e) Over a site with manmade aquifer-like conditions?
10. What is the basis for the following statement on page 10 of the Technical Support Document?: “The two facilities that have the potential to impact off-site drinking water are Havana East Pond, which is lined, and currently in compliance, and Edwards, which is unlined, but currently in compliance.”
11. In assessing whether any CCW impoundments threaten off-site potable water supplies, has the Agency considered water supplies that may be needed in the future, due to the construction of new wells to meet demand from existing or expanded populations?
12. On pages 2 to 3 of your pre-filed testimony, you state: “Corrective actions were implemented at surface impoundments where groundwater contamination resulted from CCW prior to the TVA event under consent orders that included approved groundwater

management zones . . . at Havana, Wood River, and Hennepin. The corrective action conducted under the consent order GMZ at Dynegey's Havana Station has restored contaminated groundwater to meet the numerical groundwater standards." Have numerical groundwater standards been met at Wood River and Hennepin?

13. On page 3 of your pre-filed testimony, you state that "since the early 1990s, new surface impoundments have been required to be lined and groundwater monitoring wells have been installed to monitor the effectiveness of the technology controls used to prevent groundwater contamination."
  - a) Are these two requirements—1) lining for new impoundments and 2) groundwater monitoring—set out in any Illinois law?
  - b) Is there any requirement, either in existing law or in the proposed rule, that a hydrogeological site characterization be completed prior to building a new CCW impoundment?
14. Under the "ash impoundment strategy" referenced on page 3 of your pre-filed testimony, has the Agency assessed the potential for groundwater flow from impoundments to surface waters?
15. Under the "ash impoundment strategy" referenced on page 3 of your pre-filed testimony, has the Agency assessed the potential for unpermitted surface water contamination due to direct connections of impoundments to surface waters under flood conditions?
16. Under what legal authority did the Agency adopt its "ash impoundment strategy"?
17. Is the Agency aware of any studies that have found that what you refer to in your prefiled testimony as "acid groundwater" (pH < 4.5) is a precondition for the groundwater transport of heavy metals like mercury? When metals are found in non-"acid groundwater" (pH > 4.5), what is the Agency's understanding of the fate of those metals in the groundwater?
18. On page 9 of your prefiled testimony, you discuss several impacts of contamination of groundwater by total dissolved solids ("TDS"), boron, and sulfate.
  - a) Did you review the evidence of human health risks from TDS, boron, sulfate, or manganese? If so, please describe those impacts.
  - b) Did you review the evidence of the risks to aquatic wildlife from TDS, boron, sulfate, or manganese?
19. On pages 11 and 12 of your prefiled testimony, you state that the hydraulic head on surface impoundments is what drives contaminants into the water table. Will the Agency require the hydraulic head on the impoundment to be factored into any characterization of wells as "upgradient"?

20. With respect to groundwater management zones, does the Agency typically require source removal actions?
21. Attached to your testimony is groundwater monitoring data for fourteen power generating facilities.
  - a) Is this monitoring data the most recent that the Agency has for each of the fourteen facilities? If not, could you please provide all groundwater monitoring data that has been collected from the beginning of the Agency's "ash impoundment strategy" to the present, for each of the fourteen facilities?
  - b) Could you please provide all groundwater monitoring data that has been collected from the beginning of the Agency's "ash impoundment strategy" to the present, for each of the facilities in Illinois not included with your testimony?
  - c) On page 63, Attachment XIII, CWLP Map of CCW Surface Water Impoundments, the map is missing. Could you please provide the map?
22. With respect to proposed Section 841.105(b)(4), are each of the subsections (A), (B), and (C) necessary preconditions to the exemption of a surface impoundment from the rule? Could you please identify all CCW impoundments this exemption would apply to?
23. With respect to proposed Section 841.105(b)(5), does this exemption apply to impoundments that store coal combustion waste (other than stormwater runoff)? Could you please identify all CCW impoundments this exemption would apply to?
24. With respect to the definition of "compliance point" in proposed Section 841.110, is the following rephrased definition equivalent to the Agency's intended meaning?: "any point in groundwater designated at a lateral distance of **no greater than** 25 feet from the outer edge of the unit, or **at the** property line, whichever is **closest to the outer edge of the unit.**"
25. Proposed Section 841.155, pertaining to the Construction Quality Assurance Program, establishes criteria for specific closure options such as placing a final cover or installation of a groundwater collection and discharge system. Did the Agency consider including criteria that would need to be met for closure by removal of CCW?
26. With respect to proposed Section 841.200, what information would the Agency view as necessary for inclusion within the required hydrogeologic site characterization?
27. What is the definition of a "resource groundwater," as that term is used in the proposed rules, *e.g.* proposed Section 841.235(c)(2)(C)?
28. Under proposed Section 841.240(a), who is to conduct the unit inspections once every seven days, and after each storm?

29. Proposed Section 841.240(c) requires the owner or operator of a CCW impoundment to notify the Agency when a visual inspection shows that the level of liquids in the unit has suddenly and unexpectedly dropped and the drop is not caused by changes in influent or effluent flow. What does the Agency intend to do in response to receiving such a notification?
30. Proposed Section 841.400(c)(1) would require the owner or operator to “[e]liminate free liquids by removing liquid waste or solidifying the remaining waste and waste residues.” What methods does the Agency expect to be used to remove and dispose of free liquids? Would the Agency propose to require any tracking and accountability measures for disposal of liquid waste?
31. Do the proposed rules allow for the further use of CCW impoundments that are causing violations of groundwater and/or surface water standards?
32. In Ameren’s proposed site-specific rulemaking (PCB R13-19), Ameren attached site characterizations for five of its facilities. Has the Agency received similar site characterizations for any other Illinois power generating facilities? If so, could you please provide them?
33. Has the composition of coal ash deposited in Illinois CCW impoundments changed in any way over the past five decades? If so, in what manner?
34. What requirements in the proposed rules would assure that owners and operators of CCW impoundments will have the resources needed to responsibly close impoundments and address groundwater contamination?
35. While developing these proposed rules, did the Agency consult with any other state or federal regulatory agencies? If so, please identify those state or federal regulatory agencies.
36. Does the Agency intend that groundwater quality standards will remain enforceable for the entire life of the unit, through the post-closure period? Does the Agency also intend that groundwater quality standards will remain enforceable after the end of the post-closure period?

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**PRE-FILED QUESTIONS OF  
ENVIRONMENTAL GROUPS TO WILLIAM E. BUSCHER**

1. On page 5 of your pre-filed testimony, you state that “The discharge of waste water from groundwater collection systems must be handled properly. In some instances, the owner or operator may have a permit to discharge treated waste water to waters of the United States. This permit would need to be modified in order to receive the waste water from a groundwater collection system.” At what point relative to the corrective action process must a NPDES permit be modified or obtained?
2. How does the risk of future groundwater contamination associated with impoundment closure with CCW left “in place” compare to the risk of contamination associated with closure by complete removal of CCW?
3. On page 7 of your pre-filed testimony, you state that the State’s 24 facilities with ash impoundments have “conducted hydrogeologic investigations . . . and assessed groundwater quality.” Could you please provide the results of these investigations?
4. On page 7 of your pre-filed testimony, you state that “Prioritization of the work to be completed at these Units is necessary due to the large number of existing impoundments. The Agency anticipates that significant capital resources will be required to address issues at these Units.” How did the Agency calculate the amount of capital resources necessary to address CCW issues?
5. Has the Agency considered requiring every owner or operator of a CCW impoundment to submit a closure plan at the inception of the rules, to provide information regarding the costs of closure and post-closure activities?
6. On page 9 of your prefiled testimony, you discuss several impacts of contamination of groundwater by total dissolved solids (“TDS”), boron, and sulfate.
  - a) Did you review the evidence of human health risks from TDS, boron, sulfate, or manganese? If so, please describe those impacts.

- b) Did you review the evidence of the risks to aquatic wildlife from TDS, boron, sulfate, or manganese?
- 7. Which CCW impoundments would be placed in each of the categories (I, II, III, and IV) for closure prioritization outlined in proposed Section 841.405?
- 8. On page 9 of your pre-filed testimony, you discuss the steps in a closure plan in which the CCW remains in place. Under what conditions does the Agency envision that a closure plan would need to include removal of the CCW from the impoundment?
- 9. How did the Agency arrive at the proposed post-closure care period of 10 years?



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**PRE-FILED QUESTIONS OF ENVIRONMENTAL GROUPS TO LYNN E. DUNAWAY**

1. On page 3 of your pre-filed testimony, you cite U.S. EPA's 2009 Unified Guidance as having been incorporated by reference into the proposed rules. However, the Unified Guidance is an interpretation of U.S. EPA's RCRA regulations. Is it the Agency's intention that U.S. EPA's RCRA regulations also are incorporated by reference into the proposed rules?
2. Why has the Agency proposed to require owner or operators to recalculate background chemical concentrations in groundwater no less every five years, instead of every one to three years, as recommended by the Unified Guidance?
3. How will the Agency ensure that wells affected by groundwater mounding, or radial flow away from an impoundment, are not mischaracterized as "upgradient?"

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**PRE-FILED QUESTIONS OF ENVIRONMENTAL GROUPS TO AMY L. ZIMMER**

1. On page 5 of your pre-filed testimony, you describe computer modeling of groundwater. The U.S. EPA has modeled groundwater contamination from coal ash disposal sites and found that peak groundwater contamination levels may sometimes occur several decades after a site begins operation. What would the Agency do if your modeling showed a peak in offsite groundwater contamination 30-40 years after closure, and therefore beyond the proposed 10-year post-closure period?
2. How are nearby surface water features to be evaluated in the hydrogeologic site characterization?

Dated: February 5, 2014

Respectfully Submitted,




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**CERTIFICATE OF SERVICE**

I, Andrew Armstrong, hereby certify that I have filed the attached **Notice of Filing, Pre-Filed Questions of Environmental Groups to Richard P. Cobb, Pre-Filed Questions of Environmental Groups to William E. Buscher, Pre-Filed Questions of Environmental Groups to Lynn E. Dunaway, and Pre-Filed Questions of Environmental Groups to Amy L. Zimmer** on behalf of the Environmental Law & Policy Center, Environmental Integrity Project, Sierra Club, and Prairie Rivers Network in R14-10 upon the attached service list by depositing said documents in the United States Mail, postage prepaid, in Chicago, Illinois on February 5, 2014.

Respectfully submitted,



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R14-10

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