

SERVICE LIST R14-10

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CERTIFICATE OF SERVICE

The undersigned, an attorney, certifies that a true copy of the foregoing Notice of Filing and Midwest Generation, L.L.C.'s Questions for Environmental Groups' Witness Dr. Keir Soderberg were filed electronically on April 30, 2014 with the following:

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and that true copies were mailed by First Class Mail, postage prepaid, on April 30, 2014 to the parties listed on the foregoing Service List.

/s/ Susan M. Franzetti

ILLINOIS POLLUTION CONTROL BOARD

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

**MIDWEST GENERATION'S QUESTIONS FOR
ENVIRONMENTAL GROUPS' WITNESS DR. KEIR SODERBERG**

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 Dr. Keir Soderberg, submitted on behalf of the Environmental Law & Policy Center, Environmental Integrity Project, Sierra Club, and Prairie Rivers Network ("Environmental Groups"). Midwest Generation requests that the Hearing Officer allow follow-up questioning to be posed based on the answers provided.

I. GENERAL QUESTIONS

1. In the "over 10 years of research and field experience in geochemistry and hydrology" that you reference in page 1 of your testimony, please identify the research and field experience you have concerning "coal combustion waste", as that term is defined in the proposed rules.
2. In the "more than 5 years" in which you have been a consultant, please identify the projects and clients for which you have consulted on matters involving "coal combustion waste," as that term is defined in the proposed rules.
3. Identify prior projects you have worked on as a consultant for any federal or state environmental agency regarding the development of rules or regulations of general applicability that applied to the release of constituents into the environment and corrective action to address any such release.
4. Identify any prior projects which you have worked on as a consultant for an industrial facility.
5. Identify the scope of any work you have been requested to perform on behalf of the clients you are representing here today, including any work related to any coal-fired generating stations.

II. SUBPART A: APPLICABILITY (Section 841.105)

6. The following questions relate to the first paragraph on page 2 of your pre-filed testimony:

a) You refer to the Agency's response to ELPC's questions that states "it cannot in all instances identify specific impoundments that are suspected of causing groundwater contamination." First, the exact language of the Agency's response was "suspected of causing groundwater exceedances", correct? Second, prior to the adoption of these rules, why do you expect the Agency to know about the existence of every impoundment in the state that is causing an exceedance of any groundwater standard?

b) You state that "for sites with groundwater exceedances, it could be warranted for the Agency to conclude that all impoundments at the site are contributing to exceedances." Please explain the basis and justification for this statement.

c) Please explain the basis and justification for your recommendation to expand the scope of the proposed rules to include all stormwater impoundments at a facility?

d) Have you performed any cost-benefit analysis of your recommendation?

e) In addition to coal-fired electric generating stations, would you make the same recommendation for any industrial facility that stores or otherwise handles coal or coal combustion waste materials?

7. In the second paragraph on page 2 of your pre-filed testimony, you state that "[i]t is also unclear whether stormwater runoff that comes in contact with raw coal is considered as containing leachate." You make this same statement on page 3 of your pre-filed testimony regarding the Section 841.110 Definition of "Leachate". Given that the proposed rules definition of "leachate" provides, in relevant part, that leachate is any liquid "that has been or in direct contact with, percolated through or drained from coal combustion waste" and does not mention "raw coal," and similarly the proposed rules' definition of "coal combustion waste" does not include a reference to "raw coal," what is unclear to you regarding the proposed rules' exclusion from the definition of leachate of stormwater runoff that comes in contact with raw coal?

8. Regarding the third paragraph of page 2 of your pre-filed testimony, why do you believe it is reasonable, prior to the adoption of these proposed rules, for the Agency to know "in all instances" the specific impoundments that are suspected of causing groundwater standards exceedances"?

9. In this same paragraph of your pre-filed testimony, explain the basis and justification for your statement that "for sites with groundwater exceedances, it could be warranted for the Agency to conclude that all impoundments at the site are contributing to exceedances"?

a) Do you believe opening up the entire property to assessment is necessary to comply with the proposed rule and if so, why?

b) If this approach were incorporated into the proposed rules, what are you recommending the rules require a site owner or operator would be required to do to adequately address the Agency's conclusion that all existing or former impoundments at the site are contributing to the exceedances?

10. In the first paragraph on page 3 of your pre-filed testimony, you state that the groundwater monitoring plan and annual reports should list all units at a given site. Please specify what you mean by "all units"?

11. In the second paragraph on page 3 of your pre-filed testimony, you state that "the rule could be applicable to all impoundments, active or inactive, for monitoring and corrective action and closure as needed." What is your proposed definition of an "inactive impoundment"?

III. SUBPART A: DEFINITIONS (Section 841.110)

12. On page 2 of your pre-filed testimony and on page 3, under the "Section 841.110 Definitions" heading, you state that the Board should include a definition of "operate". What definition of "operate" are you recommending the Board should include?

13. Also under the "Section 841.110 Definitions" heading, you state that the Board should include a definition of "releases". What definition of "releases" are you recommending the Board should include?

IV. SUBPART B: MONITORING (Sections 841.200 through 841.235)

14. On page 4 of your pre-filed testimony, you state that "[t]he Agency should add requirements in Subpart B for characterizing and monitoring the groundwater-to-surface water pathway, including sampling of the hyporheic zone."

- a) Define what you mean by the "hyporheic zone".
- b) Explain how the monitoring of the "groundwater-to-surface water pathway" would be performed?
- c) What standard applies to the groundwater-to-surface water pathway for determining whether any exceedance exists?

15. In the second paragraph on page 4 of your pre-filed testimony, you state that "[t]he Board should add a provision to subsection 841.205(c) to require that the monitoring system be adequate for assessing the overall groundwater flow and direction at the site as well as changes to the flow regime due to leachate from CCW impoundments."

- a) Explain whether you are recommending a rule that requires daily and/or quarterly monitoring of water levels at each monitoring well and if so, for what period of time?

b) Under your recommended rule for measurement of water levels, what determines when the water level monitoring may cease to be done on either a daily or quarterly basis?

16. In the last sentence on page 4 of your pre-filed testimony, you state that “the rules require more detailed guidance on statistical comparisons to numerical groundwater standards and background values.” Do you agree that each groundwater situation, because of varying conditions and circumstances, such as the presence of a synthetic liner, historical use of the impoundment, and the site’s hydrogeology, are unique and may require flexibility in order to make an accurate assessment of the groundwater situation?

a) Do you agree that rules of general applicability should be flexible enough to allow the Agency to adapt them to a given situation?

17. In the last paragraph on page 4 and, continuing onto page 5 of your pre-filed testimony, you advocate a period of more frequent monitoring when a new well is installed or for instances where a new background value has to be established. Explain why more frequent monitoring is necessary where a new background value has been established.

18. You also suggest that when very few data points are available, the Illinois EPA use “the state-wide background data set for the relevant aquifer system, as established in the Technical Support Document (IEPA 2013, Attachment A, pages 4-18)” for use in establishing “an Upper Tolerance Limit (UTL) or Upper Prediction Limit (UPL) to which a single compliance well sample result could be compared.”

a) Under your proposal, given you are also advocating a period of more frequent monitoring for new wells or new background values, what instance or instances are you contemplating would have “very few data points” as referenced in your testimony?

b) Under your proposal, what happens if the monitoring data shows that an Upper Tolerance Limit or an Upper Prediction Limit is exceeded?

c) How does your suggested approach account for instances where the cause of the level of a constituent being above either the UTL or the UPL being due to causes other than those associated with a CCW impoundment?

19. At the bottom of page 5 and continuing to the top of page 6 of your pre-filed testimony, in connection with the establishment of a site-specific background distribution, you state that a comparison to the state-wide background statistics “would give the Agency necessary information, for instance, with respect to alternative cause demonstrations.” Explain how such a comparison would give the Agency necessary information with respect to alternative cause demonstrations?

20. In the same carryover paragraph at the top of page 6 of your pre-filed testimony, you state that “the Unified Guidance was written to encompass groundwater monitoring statistics at all types of RCRA sites, not only surface impoundments” and you recommend the proposed Part 841 rules “should provide a set of preferred background comparison tools as a starting point

or rank the various options in order of preference based on the Agency's experience with monitoring at surface impoundment sites," instead of relying on the Unified Guidance generally.

a) Why does the fact that the Unified Guidance applies to all type of RCRA sites make its proposed use in these rules less satisfactory than specifying the specific background comparison tools or specifically ranking them?

b) Is it your opinion that the Agency currently has sufficient experience with monitoring at surface impoundment sites on which to specify the specific background comparison tools to be use or to specifically rank them? If so, please explain the basis for your opinion?

21. Regarding the last paragraph on page 7 of your pre-filed testimony, where you discuss why the proposed allowance for reduced monitoring in proposed Sections 841.230(c)(1) and (2) should not be adopted, do you understand these subparagraphs to apply only to instances where there already had been monitoring of the monitoring well in question conducted for a period of the preceding five consecutive years under the requirements of the rules and had not been detected in any of those monitoring events?

22. Do your opinions regarding why sampling every five years is insufficient take into account how long the surface impoundment in question has been used to collect CCW?

23. Explain the basis for your statement that "if a constituent is only monitored once every five years in an upgradient well, and it is subsequently detected in a downgradient well, alternative causes would be much more difficult to demonstrate and evaluate compared to having semi-annual monitoring."

24. Please provide a copy of the relevant pages of the Zheng and Bennett 2002 reference book which you cite and rely on in your testimony regarding reduced monitoring frequency.

25. At the top of page 8 of your pre-filed testimony, you recommend that the Board should prohibit reduced monitoring for a core set of chemical constituents that are known to leach from CCW and you suggest as an example 24 constituents of concern identified in the U.S. EPA's 2010 CCW risk assessment. Do these 24 constituents always leach from all types of CCW? If not, what factors affect whether these constituents will leach from CCW?

26. You reference the EPRI 2006 study in support of your statement that studies of CCW leachate have confirmed the presence of these constituents in leachate. Is it your opinion that the EPRI 2006 study is a reliable study?

27. EPRI has also submitted to the U.S. EPA a report entitled "Evaluation of Coal Combustion Product Damage Cases (Volumes 1 and 2), Draft Report, November 2009," which is referenced in the preamble to the U.S. EPA's Coal Combustion Residual Proposed Rule and on which the U.S. EPA has invited comment in that preamble, have you reviewed this EPRI Report and if so, have you provided any comments on it?

V. SUBPART C: CORRECTIVE ACTION (Sections 841.300 through 841.325)

28. Regarding your testimony on the alternative cause demonstration in section 841.305 of the proposed rules, why is a demonstration that one of these three causes is the reason for the groundwater impact in question not sufficient for purposes of these rules?

29. In your opinion, what is a sufficient demonstration of an alternative cause?

30. At the bottom of page 8 of your testimony, you state that “Section 841.310 should be revised to state that a groundwater collection system is one possible type of short-term solution that would be a necessary part of the overall corrective action.” Please identify other possible types of short-term solutions.

31. In the first full paragraph of page 9 of your pre-filed testimony, you state that “[t]he rule should require that a unit that is out of compliance after an attempt at corrective action be closed pursuant to Part 841, Subpart D, because of this ongoing threat.”

a) What constitutes an “attempt at corrective action” within the meaning of your testimony?

b) What criteria, if any, are you recommending be applied to determine when such a “unit that is out of compliance after an attempt at corrective action” be closed?

c) Identify any precedent under existing federal or state laws or regulations for the approach you are recommending here.

VI. SUBPART D: CLOSURE (Sections 841.400 through 841.450)

32. On page 9 of your pre-filed testimony regarding the technical feasibility of closure by removal, you reference examples of 21 impoundments, 14 of which were closed by removal and the remaining 7 were capped or re-graded with fill. Do you know why in the 7 cases, the decision was made not to close by removal and to instead close the impoundment by capping or re-grading it with fill?

33. Is it your opinion that the only appropriate means of closing a CCW impoundment is by removal of the CCW?

34. Under what circumstances, if any, do you believe it is appropriate not to require closure by removal of CCW?

35. Does a cost benefit analysis have any role to play in the determination of whether an impoundment is closed by removal versus by capping or re-grading it with fill?

36. When you state in your testimony that “[t]he Board should consider closure by removal to be the best practice with respect to protecting groundwater and surface water from CCW impacts,” what language, if any, are you recommending that the Board include in these rules?

37. Do different types of CCW have different characteristics?
38. Is there any type of CCW that you believe could be used in creating the final grade and slope of the impoundment?
39. You state that subsection 841.415(d) could be interpreted to allow for CCW to be exposed on the earthen berms surrounding the unit, but subsection 841.415(a) provides that the slopes need to be able to support vegetation, is the requirement to support vegetation consistent with your interpretation that CCW may be exposed on the earthen berms?
40. Why is it necessary to specify in the rules whether a field demonstration or a laboratory demonstration is sufficient?

VII. SURFACE WATER

41. On page 11 of your pre-filed testimony, explain what type of monitoring system you mean by your statement that the “monitoring should include conventional monitoring wells sufficient to establish the hydraulic gradient between CCW impoundments and area where groundwater may discharge to surface water.”
- a) Explain the frequency and scope of monitoring that you are recommending would be performed on this type of monitoring system.
- b) Explain whether any statistical analysis requirements would also apply to this monitoring system as they apply under the proposed rules to the impoundment monitoring well system?
42. On page 11 of your pre-filed testimony, what information will the “mini-piezometers (or similar)” equipment to assess the hydrology of the hyporheic zone provide?
43. What standards are you recommending be applied to the monitoring results obtained from the hyporheic zone?

Respectfully submitted,

MIDWEST GENERATION, L.L.C.

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

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