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October 5, 2009

Ms Jane Powell
Fernald Site Mger
DOE-LM-20.1
10995 Hamilton Cleves Hwy
Harrison, Ohio 45030

RE: COMMENTS - 2008 SITE ENVIRONMENTAL REPORT

Dear Ms Powell,

Ohio EPA has received DOE's "Transmittal of the 2008 Site Environmental Report," on May 27, 2009. Ohio EPA has reviewed the report and our comments are enclosed.

If there are any questions, please contact me.

Sincerely,

for Thomas A. Schneider
Fernald Project Manager
Office of Federal Facilities Oversight

Cc: Tim Fischer, US EPA
Michelle Cullerton, Tetra Tech
Frank Johnston, Stoller
Mark Shupe, Geo Trans, Inc.

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OHIO EPA COMMENTS ON THE FERNALD PRESERVE 2008 SITE ENVIRONMENTAL REPORT

Comments:
2008 Site Environmental Report

Executive Summary

1. Commenting Organization: Ohio EPA
Section #: ES Pg #: xi Line #: na Code: C
Comment: Under the "Groundwater Pathway" title, the first bullet does not make sense. Consider rewording.

2. Commenting Organization: Ohio EPA
Section #: ES Pg #: xii Line #: na Code: C
Comment: 3rd bullet from the top of the page states, "Leak detection monitoring at Cells 1 through 8 of the OSDF indicates that all of the individual cell liner systems are performing as expected and within the specifications outlined in the approved OSDF design." This bullet should be reworded to reflect that the changing uranium concentrations, as evidenced in the water quality monitoring, in the HTW horizon were not expected; however, flow data indicates the cells are performing as designed.

3. Commenting Organization: Ohio EPA
Section #: ES Pg #: xiv Line #: na Code: C
Comment: One of the highlights associated with "Natural Resources" in 2008 was the settlement of the NRDA claim with the State of Ohio.

Section 2.0 Remediation Status and Compliance Summary

4. Commenting Organization: Ohio EPA
Section #: 2.1 Pg #: 2-2 Line #: na Code: C
Comment: The second bullet toward the bottom of the page states, "...and leakage is significantly less that established action levels." This statement suggests that the OSDF is leaking. DOE should consider rewording this statement to reflect that water balance calculations are within the design parameters for the OSDF.

5. Commenting Organization: Ohio EPA
Section #: 2.2.3 Pg #: 2-7 Line #: na Code: E
Comment: The first sentence in this section should reflect that the dose is calculated for ***radioactive*** air emissions (excluding radon-222).

6. Commenting Organization: Ohio EPA
Section #: 2.2.5 Pg #: 2-8 Line #: na Code: C
Comment: A discussion of the Ohio rules governing water quality associated with the OSDF need to be included.

7. Commenting Organization: Ohio EPA
Section #: Table 2-1 Pg #: 2-10 Line #: na Code: C
Comment: The last section, "Natural Resource Requirements under CERCLA and Executive Order 12580", incorrectly states who the natural resource trustees (NRTs) are. The NRTs are the DOE, Ohio EPA, and Department of the Interior (administered by the U.S. Fish and Wildlife Service).

8. Commenting Organization: Ohio EPA
Section #: 5.4 Pg #: 5-8 Line #: na Code: C
Comment: The reason that EPA has agreed to DOE request to discontinue radon monitoring is not because the 0.5 pCi/L limit has not been exceeded. The reason EPA has agreed to discontinuing radon monitoring is that the source, K-65 residues, have been removed from the site, ending DOEs radon monitoring requirements of the FFCA.

2008 Environmental Summary (Appendixes A Through E)
Comments: Appendix A

Attachment A.1
9. Commenting Organization: OEPA
Section #: Attach. A.1 Pg #: A.1-4 Line #: 13 Code: C
Comment: The text states that the Fernald groundwater model predicts the future average pounds of uranium that will be removed from the aquifer. For clarification purposes, the text should discuss the model's assumptions regarding the sorption/desorption of total uranium since these assumptions will significantly influence the model-predicted duration of the pump and treat stage of the aquifer remedy. Specifically, the text should note that model predictions are based on the assumption that an equilibrium linear isotherm accurately describes the partitioning of total uranium between the sorbed and dissolved phases.

10. Commenting Organization: OEPA
Section #: Attach. A.1 Pg #: A.1-4 Line #: 31 Code: C
Comment: Since any realistic assessment of percent completeness would include monitoring well and direct push sampling results, some clarifying text is needed. Change "the estimated percent complete for the pump and treat stage of the aquifer remedy…" to "the extraction well concentration trend-based estimated percent complete for the pump and treat stage of the aquifer remedy…"

Attachment A.5
11. Commenting Organization: Ohio EPA
Section #: General Pg #: na Line #: na Code: C
Comment: The graphs of water quality data should be evaluated for trends for the period after cap closure, as well as, the way the data is currently evaluated.

12. Commenting Organization: Ohio EPA
Section #: Appendix A - A.5.0 Pg #: A.5 - 1 Line #:na Code: C
Comment: The sentence, "Water quality trends observed in the horizontal till wells (HTWs) and GMA wells are attributed to concentration fluctuations taking place beneath the facility and not to a potential leak from the facility," is not supported by the water quality data nor does the statement make any sense. If there was a leak, one would also expect there to be fluctuations in the water quality data. Ohio EPA suggest that a statement such as, "Water quality trends observed in the horizontal till wells (HTWs) and GMA wells indicate changing water conditions beneath the facility. DOE will continue to investigate these conditions through continued monitoring and assessment."

13. Commenting Organization: Ohio EPA
Section #: A.5.4 Pg #: A.5-8 Line #: na Code: C
Comment: Again, DOE makes unsubstantiated claims that fluctuations in water quality data are not from a leak in the facility. See previous comment #12.

14. Commenting Organization: OEPA
Section #: Attach. A.5 Pg #: A.5-3 Line #: 29 Code: C
Comment: Plots of the LCS, LDS, and HTW flows should be revised in future SERs so that they are presented on a common y-axis scale to facilitate comparisons between individual cells. A logarithmic scale is recommended to accommodate the wide range of flows while preserving the ability to discern low end flow variations.

15. Commenting Organization: OEPA
Section #: Attach. A.5 Pg #: A.5-4 Line #: 21 Code: C
Comment: The text states that the plots of LCS flow volumes "are diminishing over time" which is true if current flow rates are compared to the rates initially observed during cell construction and cap installation. However, it incorrectly describes current trends that have been long established over several years of monitoring. This text needs to be revised to reflect what is actually shown by the LCS plots. LCS flows for Cells 1, 2, and 3 have become asymptotic at approximately 2,000 gallons per month (they are NOT diminishing). Cell 4 LCS flows appear to be stabilizing at 3,000 gallons per month and, since July 2007, have remained fairly steady (NOT diminishing). Flows are similarly asymptotic in the several thousand gallons per month range in Cells 5 – 8 (NOT diminishing).

16. Commenting Organization: OEPA
Section #: Attach. A.5 Pg #: A.5-4 Line #: 21 Code: C
Comment: What is the final (say, in 50 years) LCS flow rate that DOE anticipates will occur from each cell? What is (are) the source(s) of this flow if greater than zero?

17. Commenting Organization: OEPA
Section #: Attach. A.5 Pg #: A.5-6 Line #: 6 Code: C
Comment: High HTW purge volumes are observed for Cells 1 through 5 relative to those seen for Cells 6 through 8. The Cell 5 HTW is not purged dry after the extraction of three volumes. Is the difference in purge performance related more to the saturated thickness of the till at each cell or to local coarse-grained heterogeneity?

18. Commenting Organization: OEPA
Section #: Attach. A.5 Pg #: A.5-6 Line #: 19 Code: C
Comment: The text notes that a statistical analysis procedure (aka, the LMICP Volume II Attachment C Appendix E [pages 12 and 13] procedure) of the LCS data for Cells 1, 2, and 3 was conducted in 2007 but not in 2008. As per Variance/Field Change Notice No. LMS-FER-S03496-3.0-02, LCS sampling will resume for the parameters shown in Table 2-1 provided with that document. Statistical analysis of these data to identify any appropriate changes to monitoring parameters is also expected to resume. It is anticipated that the results of this sampling and data evaluation for 2009 will be reported in the 2009 SER.

19. Commenting Organization: OEPA
Section #: Attach. A.5 Pg #: A.5-7 Line #: 1 Code: C
Comment: The term "standardized quarterly sampling" is introduced here but is not defined. The use of standardization in the tabulation, presentation, and evaluation of OSDF data is a significant modification to this report. DOE needs to rigorously define what "standardized quarterly sampling" is, how it is calculated, how it will be used in the statistical analyses of OSDF data, and why DOE believes it is necessary.

20. Commenting Organization: OEPA
Section #: Attach. A.5 Pg #: A.5-7 Line #: 1 Code: C
Comment: It is indicated that data summarized in the cell specific data tables and plots is based on a "standardized quarterly sampling" frequency. Data plots should depict all data (including outliers) without being first subjected to a preprocessing step such as standardization. On data plots, outliers should be flagged as such.

21. Commenting Organization: OEPA
Section #: Attach. A.5 Pg #: A.5-7 Line #: 29 Code: C
Comment: This statement appears to be misplaced and is considered erroneous; it is not associated with any supporting data or analysis.

22. Commenting Organization: Ohio EPA
Section #: A.5.3 Pg #: A.5-8 Line #: na Code: E
Comment: The text states that a report is submitted to DOE after each site inspection, which documents the inspection and findings. However, it is not mentioned that the report is also sent to the Agencies as a follow up providing information gathered by all involved and how findings will be handled.

Sub-Attachment A.5.1 - Cell 1

23. Commenting Organization: Ohio EPA
Section #: A.5.1.1 Pg #: A.5.1 – 1 Line #: na Code: C
Comment: Ohio EPA has not approved the 2009 GWLMP but looks forward to discussing evaluation techniques to assess water quality data.

24. Commenting Organization: OEPA
Section #: Attach. A.5.1 Pg #: A.5.1-1 Line #: 23 Code: C
Comment: As shown by Figure A.5.1-2, Cell 1 LDS flows declined asymptotically from over 150 gallons/month in 2002 to zero in November 2005. Since that time, LDS flows exhibit a seasonal pattern. Measureable flow occurs from January to May in 2006, 2007 and 2008. Flow is zero the rest of the year. No such pattern is observed at any of the other cells. Given the observed seasonal pattern, do these flows originate from groundwater, surface water, precipitation infiltration, a combination of these, or some other source?

25. Commenting Organization: OEPA
Section #: Attach. A.5.1 Pg #: A.5.1-1 Line #: 25 Code: C
Comment: This statement is incorrect. Theoretically, a leak could exist and the associated LDS flow rate could be less than the action level. Removal or rewording of this text is necessary.

26. Commenting Organization: OEPA
Section #: Attach. A.5.1 Pg #: A.5.1-1 Line #: 27 Code: C
Comment: Data evaluation techniques will be in accordance with the 2009 GWLMP as amended by V/F No. LMS-FER-S03496-3.0-02 and associated discussions between Ohio EPA and DOE.

27. Commenting Organization: OEPA
Section #: Attach. A.5.1 Pg #: A.5.1-1 Line #: 32 Code: C
Comment: As per V/F No. LMS-FER-S03496-3.0-02, LCS sampling at Cell 1 will resume for GWLMP Appendix B Table 2-1 analytes.

28. Commenting Organization: Ohio EPA
Section #: A.5.1.1 Pg #: A.5.1 – 1 Line #: na Code: C
Comment: Ohio EPA has not approved the 2009 GWLMP but looks forward to discussing evaluation techniques to assess water quality data.

29. Commenting Organization: Ohio EPA
Section #: Attach. A.5.1 Pg #: A.5.1-5 Line #: 20 Code: C
Comment: Confirmatory sampling should conform to the parameter lists included in V/FC Notice No. LMS-FER-S03496-3.0-02.

30. Commenting Organization: OEPA
Section #: Attach. A.5.1 Pg #: A.5.1-5 Line #: 25 Code: C
Comment: The Common Ion Study analysis cannot be used as a basis for rejecting any monitoring parameter since this study utilized the 4:1 source to target criterion in assessing parameter usefulness. The problems associated with applying this criterion to monitoring parameter selection have been thoroughly documented in previous comments and discussions with DOE.

Sub-Attachment A.5.2 - Cell 2
31. Commenting Organization: OEPA
Section #: Attach. A.5.2 Pg #: A.5.2-1 Line #: 32 Code: C
Comment: This text and associated table are preempted by V/FC Notice No. LMS-FER-S03496-3.0-02.

Sub-Attachment A.5.4 - Cell 4
32. Commenting Organization: OEPA
Section #: Attach. A.5.4 Pg #: A.5.4-3 Line #: 1 Code: C
Comment: The LMICP Volume II Attachment C Appendix E procedure was designed by DOE and Ohio EPA to be applied on a cell by cell basis. In the referenced text, an attempt is made to somehow adopt the results of the statistical testing on Cell 1 into the monitoring approach for Cells 4 through 8. In accordance with V/FC Notice No. LMS-

FER-S03496-3.0-02 and associated discussions between Ohio EPA and DOE, the LMICP Volume II Attachment C Appendix E procedure will need to be applied annually to the LCS data from each cell and the results reported in the SER.

Sub-Attachment A.5.6 - Cell 6
33. Commenting Organization: OEPA
Section #: Attach. A.5.6 Pg #: A.5.6-1 Line #: 3 Code: C
Comment: The text indicates that Figure A.5.6-2 includes precipitation data with the monthly LDS accumulation rates. The precipitation data is missing but should be added to this figure and to the corresponding figures for the other cells.

Appendix C

Attachment C.1
34. Commenting Organization: Ohio EPA
Section #: C.1.1 Pg #: C.1 – 3 Line #: na Code: C
Comment: The explanation for the elevated TSP and uranium concentrations is not necessary, and most likely not correct. In the future, apply appropriate dust control measures to prevent elevated concentrations from fugitive dust.

35. Commenting Organization: Ohio EPA
Section #: C.1.2 Pg #: c.1 – 8 Line #: na Code: C
Comment: Remove the portion of the sentence from the paragraph at the top of the page. "...the locations have essentially the same result, which indicates the remediation of soil achieved the OU5 final remediation levels established for radionuclide contaminants." The fact that the air monitors concentrations are indistinguishable from background has nothing to do with whether soil FRLs were met.

Attachment C.5
36. Commenting Organization: Ohio EPA
Section #: C.5.0 Pg #: C.5 – 1 Line #: na Code: C
Comment: Remove the following phrase from the second paragraph in this section. "As the soil has been certified to contain contaminant levels below the Operable Unit 5 final remediation levels, there is no remaining source to deliver a statistically significant dose to the public." There is an associated risk and dose from the residual contaminants on site, and from a number of smaller areas that have not been remediated as of 2008. There is a source that delivers a dose to the public; however using current measurement techniques this dose is indistinguishable from background.