Department of Energy
Office of Legacy Management

April 21, 2008

Mr. Tim Fischer, Remedial Project Manager
United States Environmental Protection Agency
Region V-SR-6J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Thomas A. Schneider
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402

Dear Mr. Fischer and Mr. Schneider:

SUBJECT: **Transmittal of Responses to Additional Ohio Environmental Protection Agency Comments on the Draft 2008 Comprehensive Legacy Management and Institutional Controls Plan**

Reference: Letter, T. Schneider to J. Powell, "Comments – Transmittal of Responses to OEPA Comments on the Draft 2008 Legacy Management and Institutional Controls Plan, Volumes I and II," dated April 11, 2008

Enclosed for your review and approval are responses to additional OEPA comments (Reference) on the draft 2008 Comprehensive Legacy Management and Institutional Controls Plan.

If you have any questions or require any additional information, please call me at (513) 648-3148.

Sincerely,

Jane Powell

Jane Powell,
Fernald Site Manager
DOE-LM-20.1

Enclosure

cc w/enclosure:
M. Cullerton, Tetra Tech.
D. DePinho, Stoller
S. Helmer, ODH
C. Jacobson, Stoller
M. Lutz, Stoller
G. Mitchell, FCA
M. Murphy, USEPA-V, A-18J
T. Pauling, DOE-LM-20.1 (electronic)
T. Schneider, OEPA (three copies of enclosure)
M. Shupe, HSI GeoTrans
Project Record File 700.05(A) (thru W. Sumner)
Administrative Records (thru W. Sumner)

cc w/o enclosure: (electronic)
K. Broberg, Stoller
B. Hertel, Stoller
J. Homer, Stoller
F. Johnston, Stoller
G. Lupton, Stoller
L. McHenry, Stoller
M. Sizemore, Stoller
K. Voisard, Stoller
S. Walpole, Stoller
C. White, Stoller

RESPONSES TO ADDITIONAL OHIO ENVIRONMENATL PROTECTION AGENCY COMMENTS ON THE DRAFT COMPREHENSIVE LEGACY MANAGEMENT AND INSTITUTIONAL CONTROLS PLAN, VOLUMES I AND II

APRIL 2008

COMMENTS:

ATTACHMENT C - GROUNDWATER/LEAK DETECTION AND LEACHATE MONITORING PLAN, OSDF

1. Commenting Organization: Ohio EPA Commenter: GeoTrans, Inc.
Section #: 3 Pg #: 3-8 Line #: 5 Code: C
Original Comments#: 31, 38, 42
Comment: The original text and the response suggest that the results of the Common Ion Study will provide the basis for OSDF groundwater monitoring data statistical analysis in accordance with regulatory requirements. As stated in the comment, in order to assess the full range of potential leachate monitoring parameters, annual analysis of Appendix I and PCB parameters should continue at least until DOE defines an approvable statistical approach. At the time of this comment response, however, a complete version of the Common Ion Study Report (including data sets and the attachment) has not yet been received. Since a comprehensive review of the Common Ion Study Report in its entirety is critical to evaluating the merit of DOE's proposal to eliminate annual LCS Appendix I and PCB parameter sampling, our response to DOE's response to our original comment will be deferred until that review has been completed.

Response: Comment acknowledged. DOE agrees OEPA requires time to review the Common Ion Report. The LCS Appendix I and PCB sampling has been completed for 2008. It is DOE's intent to resolve this issue before the next scheduled revision of the LMICP in September 2008.

Action: None

2. Commenting Organization: Ohio EPA Commenter: GeoTrans, Inc.
Section #: 4 Pg #: 4-10 Line #: 22 Code: C
Original Comment#: 32
Comment: Accurate well placement on Figures 4-4 and 4-5 is important for the reader to capture the point that the original text attempts to make. The fact that noticeably different well locations are shown on these figures relative to Figure 4-3 calls that point into question, particularly since neither the text nor the figures provide an explanation for the discrepancy. Which is correct? From a comparison of Figure 4-3 to Figure A.5-2 in the 2006 SER, it appears that the wells are shown in their correct positions on Figure 4-3. If so, a significant gap in down gradient coverage may exist between 22199 and 22204. The potential for this condition to exist is reinforced by the particle tracks traversing Cell 3. As shown on Figure 4-3, they do not intersect any down gradient well. DOE should update the figures with the locations at which the wells have been actually installed and revise the analyses performed in Section 4.3.4.2 to show that the down-gradient GMA monitoring wells are appropriately located for leak detection.

Response: Comment Acknowledged.

Action: Figures will be updated and provided in the final version of the LMICP.

3. Commenting Organization: Ohio EPA Commenter: GeoTrans, Inc.
Section #: App. B Pg #: B-3 Line #: 14 Code: C
Original Comment#: 39
Comment: As stated in the comment, in order to establish an approvable statistical procedure for the OSDF as expeditiously as possible, quarterly HTW/GMA monitoring of OSDF parameters should continue. The response indicates that the Common Ion Study results will provide the justification for the establishment of an acceptable statistical approach. At the time of this comment response, however, a complete version of the Common Ion Study Report (including data sets and the attachment) has not yet been received. Since a comprehensive review of the Common Ion Study Report in its entirety is critical to evaluating the merit of DOE's proposal to transition HTW/GMA monitoring from quarterly to annual, our response to DOE's response to our original comment will be deferred until that review has been completed.

Response: Comment acknowledged. DOE agrees OEPA requires time to review the Common Ion Report. DOE will continue the quarterly monitoring. However, it is DOE's intent to resolve this issue before the next scheduled revision of the LMICP in September 2008.

Action: As indicated in response.

4. Commenting Organization: Ohio EPA Commenter: GeoTrans, Inc.
Section #: App. E Pg #: E-10 Line #: 4 Code: C
Original Comment#: 47
Comment: The response notes that if the OSDF is functioning as designed, ...the assumed benefits will be realized. Verification of proper functioning of the OSDF containment systems is exactly the purpose of leachate monitoring/leachate detection. Consequently, assuming proper containment system functioning in the determination of the list of monitoring parameters is inappropriate. The selection of parameters should be driven by real data, namely, the results obtained from LCS sampling.

Response: DOE agrees that the selection of parameters to monitor for in the OSDF should be driven by real data. DOE is doing just that by monitoring the LCS once a year for Appendix I and PCBs (even though the OSDF has an approved alternate monitoring list consisting of site specific constituents), by conducting a Common Ion Study, and by working with the EPA and Ohio EPA to develop a statistical method of evaluating the usefulness of monitoring parameters in the LCS as potential leak detection monitoring parameters for the OSDF.

DOE realizes that the EPA and OEPA are currently reviewing the Common Ion Study Report and require time to finish their review. It should be noted that DOE has also used the statistical method developed with the EPA and OEPA to evaluate LCS constituents for Cells 1, 2, and 3 and have identified several additional constituents that hold promise for being useful as leak detection parameters for Cells 1, 2, and 3. The results are presented in the upcoming 2007 SER.

The previous statement made by DOE, specifically; "Given the nature of the assumed benefits on engineering controls included in the construction of the OSDF, the effectiveness of the controls is best monitored by flow rates measured in the LCS, LDS, and HTW" was made to highlight that early detection of a leak from the OSDF will be identified through fluid volume monitoring before it is identified through water quality monitoring beneath the facility.

Data presented in the Common Ion Report supports that fluid volume appears to be the key monitoring parameter to indicate the potential for leachate migration from the OSDF, and sampling of and analysis for indicator ions are useful only if hydraulic conditions permit leachate to migrate. A very noticeable breakdown in the operation of the OSDF leak detection system would need to occur in order for fluids to accumulate enough head to allow fluids to migrate from the facility. The regulatory driven, OSDF design established action leakage rate for the OSDF (200 gallons per acre per day) is the maximum design flow rate that the LDS can remove without the fluid head on the bottom liner exceeding 1 foot. The design established initial response leakage rate for the OSDF has been conservatively defined as 1/10 the action leakage rate. 2007 flow monitoring from all 8 Cells comprising the OSDF indicated the maximum flow rate was 32.7% of the initial response leakage rate. The flows from the LDS in all 8 cells are continuing to decline as expected.

It is DOE's intent to resolve this issue before the next scheduled revision of the LMICP in September 2008.

Action: None