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Department of Energy

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Fernald Closure Project
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DOE-0005-05

Mr. Paul Pardi, RCRA Group Leader
and FFCA Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
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Dear Mr. Schneider and Mr. Pardi:

FINAL REMEDIATION LEVEL DEVELOPMENT AND RESOURCE CONSERVATION AND RECOVERY ACT HAZARDOUS WASTE MANAGEMENT UNIT CLOSURE

Representatives of the Department of Energy (DOE) and Fluor Fernald, Inc. (Fluor Fernald) met with Ohio Environmental Protection Agency (OEPA) on September 21, 2004 in Dayton to discuss the items referenced above. The DOE was appreciative of the discussion and believes that the current approved Comprehensive Environmental Response, Compensation, and Liability Action (CERCLA) remedy implementation and certification/closeout process will provide the information needed and demonstrate protectiveness of public health and the environment at the end of soil remediation and certification activities. This letter responds to a commitment Fluor Fernald made in the meeting to provide a clarified path forward for demonstrating closure of the remaining Hazardous Waste Management Units (HWMUs) being addressed through the CERCLA process at Fernald.

As was discussed at the meeting, we started the site-specific soil final remediation levels (FRLs) development process in 1993 through the CERCLA Remedial Investigation/ Feasibility Study (RI/FS) activities involving full regulatory reviews and approvals as well as incorporating public input. The result of that process was the Record of Decision (ROD) issued in January 1996 for Operable Unit 5 (OU5) that encompasses all of the soil and groundwater remediation at Fernald. Both the U.S. Environmental Protection Agency (EPA) and DOE signed the ROD, and OEPA provided formal concurrence. In the process, a baseline risk assessment and a residual risk assessment were completed to determine risks from existing site conditions and future site conditions. Various land use scenarios were evaluated for the on-site area including unrestricted

use (represented by the residential/farming scenario) and restricted uses such as the undeveloped park scenario. The baseline risk assessment demonstrated that the "no action" alternative was unacceptable. However, the public and the regulatory agencies agreed that the appropriate future land use for the on-site area was an undeveloped park, and for the off-site area, unrestricted use (residential/farming) was selected. The soil FRLs for the on-site area were developed based on the approved future land use and undeveloped park exposure scenario using a target residual risk of 10^{-6} Incremental Lifetime Cancer Risk (ILCR) for individual carcinogenic constituents of concern (COCs) and a Hazard Quotient (HQ) of 0.2 when applicable. Additionally, potential cross media impacts were considered when developing the soil FRLs so they can be protective of Great Miami Aquifer as a drinking water source at any location beneath the site. It was also verified that the on-site soil FRLs for the undeveloped park exposure scenario would also be protective of off-site residents from the airborne pathway across the property line.

As explained in our meeting, the main drivers for soil remediation at Fernald are radiological COCs such as uranium, radium, thorium, and technetium. Although 20 Resource Conservation and Recovery Act (RCRA) COCs were identified from evaluations of all the data associated with HWMUs and considered throughout the soil FRL development and remediation process (i.e., they were not "screened out" during the COC selection process), the extent of impacted soils that had to be removed because of the radiological contaminations dwarfed that from soil impacted by these RCRA COCs. Usually when soil excavation is completed to achieve all the FRLs, most of the RCRA COCs can no longer be detected in remaining soil within the projected HWMU footprint deep below the original ground surface.

Initially there were 54 HWMUs at Fernald. Of these, 25 were reclassified as Solid Waste Management Units (SWMUs) or were closed prior to the integration of the CERCLA and RCRA process. The Directors Findings and Orders, dated June 6, 1996, identified two types of HWMUs, those "clean-closed" under RCRA and those with potential for media contamination or large/complex units to be closed under the integrated RCRA/CERCLA facility D&D and soil remediation process. The OU5 RI and FS then identified the HWMUs with potential soil contamination concerns. However, in the approved Sitewide Excavation Plan (SEP), developed after the OU5 ROD, that guides the soil remediation at Fernald, six of the HWMUs previously identified in OU5 RI and FS as having potential for media contamination were listed as "clean-closure." These six HWMUs are listed below, and they were originally planned to be closed as part of the above-grade facility D&D process without the need for further soil sampling. As discussed at the meeting, DOE agrees to close these units as part of the joint RCRA/CERCLA process and the footprints of these units will be specifically sampled during soil certification to verify that the HWMU-specific COCs meet approved soil FRLs similar to the first 14 units listed in Table 2-1 of the SEP.

Additional Area 4B HWMUs to be Closed by the Soils Project as Part of the Joint RCRA/CERCLA Process

HWMU #	Unit
28	Trane Incinerator
46	UNH Tanks – NFS Storage Area
47	UNH Tanks - North of Plant 2
48	UNH Tanks - Southeast of Plant 2
49	UNH Tanks – Digestion Area
50	UNH Tanks – Raffinate Building

Another significant point discussed during the September 21, 2004 meeting is that the actual residual levels of RCRA COCs in HWMU footprints are expected to be non-detect or at background levels because of the amount of soil that must be removed to meet all the radiological soil FRLs. Therefore, an "unrestricted closure" for individual HWMUs is likely to be the normal outcome at the end of soil remediation. However, if there are any HWMUs where the measurements indicate that the residual RCRA COCs are above unrestricted FRLs (while still achieving the undeveloped park restricted FRLs), DOE understands that final approval of closure of any such HWMU will not occur until the site's Institutional Controls Plan for the final on-site land use (undeveloped park and OSDF "off-limits" area) is approved by the agencies. This plan is currently under regulatory review and comment resolution process as a formal agency submittal.

The use of a risk-based closure approach for the HWMUs, as allowed by OEPA/DHWM's Closure Plan Review Guidance, was also cited as a "To-be-Considered" (TBC) item in the final Applicable or Relevant and Appropriate Requirements (ARARs) contained in Appendix B of the OU5 ROD. The health-protective risk-based FRLs adopted for the undeveloped park user in the OU5 ROD, coupled with the appropriate institutional controls, were used to satisfy the intent of this TBC item in the development of the remedial actions for the site and accompanying closure approach for the HWMUs with associated environmental media contamination.

We appreciated the opportunity to meet with the OEPA staff and if you have any further questions or need additional information, please contact Ed Skintik at 246-1369 or Johnny Reising at (513) 648-3139.

Sincerely,

William J Taylor
Director

cc:
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