



Department of Energy

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6-600-12

OCT 16 1998

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**Mr. Paul Pardi, RCRA Group Leader
and FFCA Project Manager
Ohio Environmental Protection Agency
Division of Hazardous Waste Management
401 East 5th Street
Dayton, Ohio 45402-2911**

DOE-0034-99

Dear Mr. Pardi:

SUBMITTAL OF CROSS-REFERENCE INDEX PURSUANT TO THE DIRECTOR'S FINAL FINDINGS AND ORDERS FILED JUNE 6, 1996

Reference: Letter and Director's Final Findings and Orders (DF&O), Thomas E. Crepeau, OEPA to Phil Hamric, U. S. DOE and John Bradburne, FDF, dated June 6, 1996.

In accordance with Section V, Order #2 of the referenced Director's Final Findings and Orders (DF&O), enclosed is a cross-reference index of Hazardous Waste Management Unit (HWMU) closure components and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) documents for those HWMUs identified in Attachment A of the DF&O. The index links specific components of the Ohio Environmental Protection Agency's (OEPA) Interim Final Closure Plan Review Guidance for RCRA Facilities related to substantive closure requirements with the appropriate CERCLA document which addresses those components. The list is cumulative and provides page numbers and sections for those CERCLA documents which have already been submitted.

The submittal of this cross-reference index meets the requirement in Section V to provide this document following the submittal of a CERCLA document identified in the cross-reference index. The Final Miscellaneous Small Structures Implementation Plan for Above-Grade Decontamination and Dismantlement was submitted to the OEPA and U.S. Environmental Protection Agency (U.S. EPA) on October 9, 1998. The specific references to this document in the cross-reference table have been highlighted.

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OCT 16 1998

Mr. Paul Pardi

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If you have any questions regarding this matter, please contact Bob Danner at (513) 648-3167.

Sincerely,

Johnny Reising

FEMP:Danner

for

Glenn Griffiths
Acting Director

Enclosure

cc w/enclosure:

R. Fellman, FDF/52-1
L. Goidell, FDF/65-2
L. Hampshire, FDF/52-3
R. Holmes, FDF/3
T. Walsh, FDF/65-2
D. Zdelar-Bush, FDF/52-1
AR Coordinator, FDF/78

cc w/o enclosure:

J. Reising, OH/FEMP
J. Sattler, OH/FEMP
A. Tanner, OH/FEMP
EDC, FDF/52-7

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CROSS-REFERENCE INDEX FOR FEMP HWMU CLOSURE PLAN COMPONENTS UNDER CERCLA

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| <p>1. Description/Detailed Drawing of Waste Management Unit(s) to be Closed (Closure Guidance Item 3.2 and 3.4)</p> <p style="font-size: 2em; font-weight: bold; text-align: center;">2221</p> | <p>OU1 FINAL Remedial Investigation Report, August 1994</p> | <p>Waste Pit 4 (27): Description, pp. 1-23 to 1-24; History, pp. 1-35 to 1-36; Drawings, pp. 1-83, 1-88</p> <p>Waste Pit 5 (42): Description, pp. 1-24 to 1-27; History, pp. 1-36 to 1-37; Drawings, pp. 1-83, 1-89</p> |
| | <p>OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997</p> | <p>HWMU Component Number and Associated D&D Complex: Table 3-10, p. 3-71</p> <p>D&D Complex Locations: Figure 2-2, p. 2-17</p> |
| | <p>OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement</p> <p>FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996</p> <p>FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997</p> <p>FINAL Misc. Small Structures Implementation Plan, October 1998</p> | <p>Drawing of HWMU: To be Submitted for Each D&D Complex</p> <p>Plant 1 Storage Bldg. - Bldg. 67 (25): Figure D-11</p> <p>Plant 9 Warehouse - Bldg. 81 (35): Figure D-10, D-11</p> <p>Waste Oil Decant Shelter (component of Trane Incinerator) (28): No drawing available for this unit</p> <p>KC-2 Warehouse - Bldg. 83 (34): Figure D-22, D-23</p> <p>UNH Tanks - NPS Storage Area (46): Figure D-1</p> |
| | <p>OU5 FINAL Remedial Investigation Report, March 1995</p> | <p>General Location Map of HWMUs to be Closed Under CERCLA: Figure 4-112</p> <p>Size and Dimensions of HWMUs: Table 1-12</p> <p>FEMP Topographic Map: Figure 3-1</p> <p>General HWMU Information and Locations Within OU5 Areas, Appendix D:</p> <p>Plant 1 Storage Pad (20): Plant 1 Area, Section D.2.1, p. D.2-2</p> <p>UNH Tanks (46-50), NAR System (10), Trane Incinerator (28): Plant 2/3 Area, Section D.2.2, p. D.2-19</p> <p>Plant 8 East and West Drum Storage Pads (17, 18), Box Furnace (14): Plant 8 Area, Section D.2.5, p. D.2-33</p> <p>Sludge Drying Beds (41): Sewage Treatment Plant Area, Section D.2.7, p. D.2-41</p> <p>Abandoned Sump West of Pilot Plant (22): Pilot Plant Area, Section D.2.8, p. D.2-45</p> <p>Tank Farm Sump (11): Tank Farm and Boiler House Area, Section D.2.13, p. D.2-69</p> <p>Fire Training Facility (1): Fire Training Area, Section D.2.18, p. D.2-86</p> |

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| <p>2. List of Hazardous Waste(s) Managed in Unit(s) (Closure Guidance Item 3.5)</p> <p style="font-size: 2em; transform: rotate(-90deg); position: absolute; left: -100px; top: 50px;">2221</p> | <p>OU1 FINAL Remedial Investigation Report, August 1994</p> | <p>Waste Managed in Unit: Waste Pit 4 (27): pp. 4-60 to 4-70, pp 1-35 to 1-36 Waste Pit 5 (42): pp. 4-70 to 4-77, pp 1-36 to 1-37</p> |
| | <p>OU3 FINAL Remedial Investigation/Feasibility Study Report</p> | <p>Waste Managed in HWMU: Table K-1</p> |
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| | <p>3. Removal of Waste and Contaminated Media (Closure Guidance Item 3.6)</p> | <p>OU1 FINAL Remedial Design Documents Package, August 1998</p> |

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| <p>4. Schedule for Closure (Closure Guidance Item 3.7)</p> | <p>OU1 FINAL Remedial Action Work Plan, January 1997</p> | <p>Schedule Summary for Remedial Design/Remedial Action Packages; Closure of Waste Pit 4 (27), Waste Pit 5 (42): Table 2-1, p. 2-16</p> |

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| | <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p> | <p>Schedule for Submitting Remedial Design Documents: Table 1-5</p> |
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| <p>OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997</p> | | <p>Health and Safety Plan: Appendix E</p> |
| <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p> | | <p>Health and Safety Plan: Section 6.0, Project Health and Safety; Table 6-1, Occupational Monitoring and Action Levels</p> |

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| | OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997 | HWMU Decontamination: Section 3.2.3, p. 3-13 HWMU Remediation: Section 3.5.3, pp. 3-69 to 3-73 (use of Safe Shutdown, D&D of complexes) |
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| | OU1 OU1 Remedial Design Pre-Final Design Package II, March 1996 | Waste Pit (27, 42) Area: pp. A-3 to A-7 |
| | OU5 FINAL Record of Decision, January 1996 | Final Remediation Levels (FRLs) for Soil and Groundwater: Table 9-3, p. 9-23 Table 9-4, p. 9-26 |
| | OU5 FINAL Sitewide Excavation Plan, July 1998 | Summary of Contaminant Levels Pertinent to Soil Remediation at the FEMP: Table 1-4; Final Remediation Levels: Section 2.1.3, p. 2-10 Constituents of Ecological Concern: Section 2.1.4, p. 2-13 Preliminary Identification of Primary, Secondary COCs and Ecological COCs Assigned to Remediation Areas: Table 2-7 |
| | OU5 Integrated Remedial Design Packages for Individual Remediation Areas DRAFT Area 1 Phase II Implementation Plan, November 1997 | Area/Phase-Specific FRLs: To be Submitted Sludge Drying Beds (41): Section 3.3.7, HWMU Closure and Certification, p. 3-39 |
| <p>8. Sampling Plan and Analytical Procedures (Closure Guidance Item 3.13) - Includes Sampling to Define the Extent of Contamination and Sampling to Verify the Unit is Clean.</p> | OU1 FINAL Remedial Investigation Report, August 1994 | Procedures for Determining Nature and Extent of Contamination at Waste Pit Area: Waste Pit 4 (27), Waste Pit 5 (42): Chapter 2, pp. 2-1 to 2-161 |
| | OU1 DRAFT Remedial Action Documents Package, September 1998 | Procedures for Sampling and Analysis of Waste Pit Area; Certification of Waste Pit Area Cleanup: Sampling and Analysis Plan |
| | OU5 FINAL Remedial Investigation Report, March 1995 | Procedures for Determining Nature and Extent of Soil Contamination: Chapter 2, pp. 2-1 to 2-83 |
| | OU5 FINAL Sitewide Excavation Plan, July 1998 | Procedures for Certifying Attainment of Soil Cleanup: Section 2.2.2, p. 2-18 to 2-19; Section 2.2.5, p. 2-22 to 2-23; Section 3.4, p. 3-22 to 3-23; Appendix G, Certification Design Rationale |
| | OU5 Integrated Remedial Design Packages (IRDPs) for Individual Remediation Areas DRAFT Area 1 Phase II Implementation Plan, November 1997 | Area/Phase-Specific Procedures for Certifying FRL Attainment: To be Submitted Sludge Drying Beds (41): Section 3.3.7, HWMU Closure and Certification, p. 3-39 |

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| CLOSURE PLAN COMPONENT | CERCLA DOCUMENT | CROSS REFERENCE INDEX |
|---|---|---|
| <p>8. Sampling Plan and Analytical Procedures (Closure Guidance Item 3.13) - Includes Sampling to Define the Extent of Contamination and Sampling to Verify the Unit is Clean - Continued</p> | <p>OU5 Certification Design Letters for Individual Remediation Areas</p> <p>DRAFT Area 1 Phase II Certification Design Letter</p> | <p>Area/Phase-Specific Procedures for Certifying FRL Attainment: To be Submitted</p> <p>Sludge Drying Beds (41): To be Submitted</p> |
| <p>9. Description of Removal Efforts and Treatment Processes (Closure Guidance Item 3.14)</p> <p>221</p> | <p>OU1 FINAL Remedial Design Documents Package, August 1998</p> | <p>Removal and Handling of Waste Pit Waste - Waste Pit 4 (27), Waste Pit 5 (42): Volume 2, Excavation Plan</p> |
| | <p>OU1 DRAFT Remedial Action Documents Package, September 1998</p> | <p>Processing of Waste Pit Waste - Waste Pit 4 (27) , Waste Pit 5 (42): Operations and Maintenance (O & M) Plan for Remediation Facilities</p> |
| | <p>OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement</p> | <p>Removal and Treatment of Waste in HWMU: To be Submitted for Each D&D Complex (where applicable)</p> |
| | <p>OU5 FINAL Feasibility Study Report, June 1995</p> | <p>Evaluation of Technologies and Process Options: Section 3.3, p. 3-5</p> |
| | <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p> | <p>Excavation, Loading, Staging, Storage, Treatment, and/or Disposition of Impacted Material: Section 2.0, Remediation Issues and General Strategies; Section 3.0, General Implementation Approach; Section 4.0, Location Specific Excavation Approaches; Appendix B, Sitewide Sequencing Plan; Appendix F, Implementation of Construction; Appendix I, Sitewide Extent of Contamination by Constituent</p> |
| | <p>OU5 Integrated Remedial Design Packages (IRDPs) for Individual Remediation Areas</p> <p>DRAFT Area 1 Phase II Implementation Plan, November 1997</p> | <p>Area/Phase-Specific Excavation, Loading, Staging, Storage, Treatment, and/or Disposition of Impacted Material: To be Submitted</p> <p>Sludge Drying Beds (41): Section 3.3.5.1, Material Not Meeting On-Site WAC; p. 3-37; Section 3.4.3, Waste Stream Storage, Treatment and Disposal; p. 3-41; Section 3.4.4, Wastewater Management, p. 3-43; and Table 3-2, Waste Stream Disposition</p> |
| <p>10. Landfill Closure Requirements - (if applicable) - (Closure Guidance Item 3.15)</p> | <p>OU1 FINAL Record of Decision, January 1995</p> | <p>ARARs: Relevant and Appropriate as some remedial alternatives may require closure to these standards Tables B-28 to B-29</p> |
| | <p>OU1 FINAL Remedial Design Work Plan, June 1995</p> | <p>Revised ARARs: Tables A-24 to A-25</p> |
| | <p>OU5 FINAL Record of Decision, January 1996</p> | <p>Not Applicable, if Remediation Levels for Soil and Groundwater are Sufficient for a Clean Hazardous Waste Management Unit Closure ? ARARs: Table B-3, p. B.3-10</p> |

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| 10. Landfill Closure Requirements - (if applicable) - (Closure Guidance Item 3.15) - Continued | OU5 Integrated Remedial Design Packages for Individual Remediation Areas DRAFT Area 1 Phase II Implementation Plan, November 1997 | Area/Phase-Specific Landfill Closure Requirements: To be Submitted (if applicable) <div style="text-align: right; font-size: 2em; font-weight: bold;">10</div> Sludge Drying Beds (41): Included within Appendix A, Design Criteria Package, Table A-2, p. A-63, but not anticipated to be applicable since HWMU to be clean (risk-based) closed by removal. (See entry 3 above) |
| 11. Certification (Closure Guidance Item 3.16) <div style="font-size: 2em; font-weight: bold; transform: rotate(-90deg); position: absolute; left: -50px; top: 50px;">2221</div> | OU1 Remedial Action Report | Certification Sampling Results: To be Submitted |
| | OU3 Project Completion Reports FINAL Plant 1 Complex - Phase 1 Project Completion Report, December 1997 | Summary of HWMU Remediation Activities/Statement of Conformance with Requirements and Performance Standards: To be Submitted for Each D&D Complex Plant 1 Storage Bldg. - Bldg. 67 (25): Section 2.1.3, pp. 7 to 8 |
| | OU5 Certification Reports for Individual Remediation Areas DRAFT Area 1 Phase II Certification Report | Area/Phase-Specific Certification Reports: To be Submitted Sludge Drying Beds (41) — Sector 3: To be Submitted |
| | OU5 Remedial Action Report | Summary of Remedial Activities and Statement of Conformance with Requirements and Standards: To be Submitted |

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| CLOSURE PLAN COMPONENT ¹ | CERCLA DOCUMENT | CROSS REFERENCE INDEX |
|--|---|--|
| <p style="font-size: 2em; margin: 0;">2221</p> | OU1 FINAL Record of Decision, January 1995 | Status of Waste Pits After OU1 Remedial Action: pp. 10-1 to 10-9 |
| | OU3 FINAL Record of Decision for Interim Remedial Action, June 1994 | Status of Production Area HWMUs After OU3 Remedial Action: Section 5.4, p. 11 |
| | OU5 FINAL Record of Decision, January 1996 | Status of FEMP After Soil and Groundwater Remediation: Section 4.0, p. 4-1 |
| | OU5 FINAL Sitewide Excavation Plan, July 1998 | Certification Reports: Section 7.4, pp. 7-10 to 7-14 |
| | OU5 Certification Reports for Individual Remediation Areas | Status of those HWMUs That Had Soil Contamination After Soil Remedial Action: To be Submitted |

¹ Closure Guidance Items are from the Closure Plan Review Guidance for RCRA Facilities, Ohio EPA, Interim Final, September 1, 1993.

² The perched water contamination has many sources, only some of which are the HWMUs. Because of this, it is difficult or impossible to identify the degree to which a HWMU may have contributed to perched water contamination. Therefore, the nature and extent of contamination in the perched water, and the most appropriate remedial action method and objectives, are best achieved under the CERCLA process alone.

³ Ohio EPA has two options for clean closure where there are no more RCRA requirements (i.e., no post-closure requirements) for the existing HWMUs: (1) complete removal of waste and impacted environmental media, and (2) complete removal of waste and impacted environmental media to health-based standards (known at the FEMP as Final Remediation Levels, FRLs). Post closure requirements will, however, be applicable to the CERCLA on-property disposal cell as it will take some soil and debris contaminated with RCRA-hazardous waste [see Post Closure Care and Inspection Plan, On-Site Disposal Facility (20100-PL-010, Rev. 1, July 1997)].