



**Department of Energy**  
**Ohio Field Office**  
**Fernald Environmental Management Project**  
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OCT 03 2002

Mr. Paul Pardi, Hazardous Waste Group Leader  
 Ohio Environmental Protection Agency  
 401 East 5th Street  
 Dayton, Ohio 45402-2911

DOE-0002-03

Dear Mr. Pardi:

**SUBMITTAL OF CROSS-REFERENCE INDEX PURSUANT TO THE DIRECTOR'S FINAL FINDINGS AND ORDERS FILED JUNE 6, 1996: "DRAFT IMPLEMENTATION PLAN FOR AREA 3B/4B/5"**

Reference: Letter and Director's Final Findings and Orders, T.E. Crepeau to P. Hamric and J. Bradburne, 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 Ohio Environmental Protection Agency's (OEPA) 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 that have already been submitted.

Section V of the DF&O requires the Fernald Environmental Management Project to provide an updated copy of the cross-reference table following the submittal of a referenced CERCLA document. The Draft Implementation Plan for Area 3B/4B/5 was submitted to the United States Environmental Protection Agency and Ohio Environmental Protection Agency on September 30, 2002. The specific references to this document in the cross-reference table have been highlighted.

-- 4498

OCT 03 2002

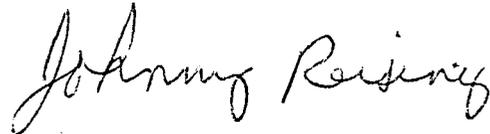
Mr. Paul Pardi

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DOE-0002-03

If you have any questions regarding this matter, please contact Ed Skintik at (513) 648-3151.

Sincerely,



Johnny W. Reising  
Fernald Remedial Action  
Project Manager

FEMP:Skintik

Enclosure

cc w/enclosure:

J. Saric, USEPA, SRF-5J

T. Schneider, OEPA-Dayton

J. D. Chiou, Fluor Fernald, Inc./MS64

T. Hagen, Fluor Fernald, Inc./MS9

T. A. Poff, Fluor Fernald, Inc./MS65-2

AR Coordinator, Fluor Fernald, Inc./MS78

ECDC, Fluor Fernald, Inc./MS52-7

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

| CLOSURE PLAN COMPONENT <sup>1</sup>  | CERCLA DOCUMENT   | CROSS-REFERENCE INDEX   |
|--|---|---|
| <p style="text-align: center;">-- 4498</p> <p>1. Description/Detailed Drawing of Waste Management Unit(s) to be Closed (Closure Guidance Item 3.2 and 3.4)</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, p. 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&amp;D complex:<br/>Table 3-10, p. 3-71</p>                                  |
|  |   | <p>D&amp;D Complex Locations:<br/>Figure 2-2, p. 2-17</p>   |
|  | <p>OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement</p>   | <p>Drawing of HWMU:<br/>To be submitted for Each D&amp;D Complex</p>  |
|  | <p>FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996</p>  | <p>Plant 1 Storage Bldg. - Bldg. 67 (25):<br/>Figure D-11</p>   |
|  | <p>FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997</p>   | <p>Plant 9 Warehouse - Bldg. 81 (35):<br/>Figure D-10, D-11</p>   |
|  | <p>FINAL Misc. Small Structures Implementation Plan, October 1998</p>   | <p>Waste Oil Decant Shelter (component of Trane Incinerator ) (28):<br/>No drawing available for this unit</p>        |
|  | <p>FINAL Implementation Document for HWMUs #28 and #50 , December 1998</p>  | <p>KC-2 Warehouse - Bldg. 63 (34):<br/>Figure D-22, D-23</p> <p>UNH Tanks - NFS Storage Area (46):<br/>Figure D-1</p> |
|  | <p>FINAL Plant 6/East Warehouse Complex Implementation Plan, July 1999</p>  | <p>Trane Incinerator (28):<br/>Attachment 1</p> <p>UNH Tanks - Raffinate Bldg. (50):<br/>Attachment 2</p>             |
| <p>FINAL Multi-Complex Implementation Plan, October 2001</p>   | <p>Plant 6 Warehouse - Bldg. 79 (37):<br/>Appendix D</p> <p>NAR System (10), Box Furnace (14), Oxidation Furnace #1 (15), Plant 8 Warehouse - Building 80 (29), UNH Tanks - North of Plant 2 (47), UNH Tanks - Southeast of Plant 2 (48), UNH Tanks - Digestion Area (49):<br/>Appendix D</p> |   |
| <p>FINAL Laboratory Complex Implementation Plan, April 2002</p>  | <p>Pilot Plant Warehouse - Bldg. 68 (33):<br/>Appendix D</p>  |   |
| <p>DRAFT Plant 1 Complex - Phase II Implementation Plan, June 2002</p>   | <p>CP Warehouse - Building 56 (19), TS-4, 5, and 6 (component of Plant 1 Pad) (20):<br/>Appendix D</p>  |   |

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

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| CLOSURE PLAN COMPONENT <sup>1</sup>  | CERCLA DOCUMENT   | CROSS-REFERENCE INDEX   |
|--|---|---|
| <p>1. Description/Detailed Drawing of Waste Management Unit(s) to be Closed (Closure Guidance Item 3.2 and 3.4) - Continued</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">-- 449b</p> | <p>OU5 FINAL Remedial Investigation Report, March 1995</p>  | <p>General Location Map of HWMUs to be Closed Under CERCLA: Figure 4-112<br/>           Size and Dimensions of HWMUs: Table 1-12<br/>           FEMP Topographic Map: Figure 3-1.<br/>           General HWMU Information and Locations Within OU5 Areas, Appendix D:<br/>           Plant 1 Storage Pad (20):<br/>               Plant 1 Area, Section D.2.1, p. D.2-2<br/>           UNH Tanks (46-50), NAR System (10), Trane Incinerator (28):<br/>               Plant 2/3 Area, Section D.2.2, p. D.2-19<br/>           Storage Pad N of Plant 6 (36):<br/>               Plant 6 Area, Section D.2.4, p. D.2-28<br/>           Plant 8 East and West Drum Storage Pads (17, 18), Box Furnace (14), Oxidation Furnace #1 (15):<br/>               Plant 8 Area, Section D.2.5, p. D.2-33<br/>           Sludge Drying Beds (41):<br/>               Sewage Treatment Plant Area, Section D.2.7, p. D.2-41<br/>           Abandoned Sump West of Pilot Plant (22), Tank T-2 (54):<br/>               Pilot Plant Area Section D.2.8, p. D.2-45<br/>           Drum Storage Area Near Lab Loading Dock (4), Drum Storage Area S of W-26 (5):<br/>               Laboratory Area, Section D.2.9, p. D.2-51<br/>           Tank Farm Sump (11):<br/>               Tank Farm and Boiler House Area, Section D.2.13, p. D.2-69<br/>           Fire Training Facility (1):<br/>               Fire Training Area, Section D.2.18, p. D.2-86</p> |
| <p>2. List of Hazardous Waste(s) Managed in Unit(s) (Closure Guidance Item 3.5)</p>  | <p>OU1 FINAL Remedial Investigation Report, August 1994</p> <p>OU3 FINAL Remedial Investigation/Feasibility Study Report</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>Waste Managed in Unit:<br/>           Waste Pit 4 (27): pp. 4-60 to 4-70, pp. 1-35 to 1-36<br/>           Waste Pit 5 (42): pp. 4-70 to 4-77, pp. 1-36 to 1-37</p> <p>Waste Managed in HWMU:<br/>           Table K-1</p> <p>Waste Managed in HWMU:<br/>           To be Submitted for Each D&amp;D Complex</p> <p>    Plant 1 Storage Bldg. - Bldg. 67 (25):<br/>               Section 3.7, p. 42</p> <p>    Plant 9 Warehouse - Bldg. 81 (35)<br/>               Section 3.13, pp. 39 to 40</p> <p>    Waste Oil Decant Shelter (component of Trane Incinerator) (28):<br/>               Section 3.17, p. 36</p> <p>    KC-2 Warehouse - Bldg. 63 (34)<br/>               Section 3.23, pp. 41 to 43</p> <p>    UNH Tanks - NFS Storage Area (46):<br/>               Section 3.1, p. 23</p>   |

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| CLOSURE PLAN COMPONENT <sup>1</sup>  | CERCLA DOCUMENT  | CROSS-REFERENCE INDEX   |
|--|--|---|
| <p>2. List of Hazardous Waste(s) Managed in Unit(s) (Closure Guidance Item 3.5) - Continued</p> <p style="text-align: center;">-- 4498</p> | <p>FINAL Implementation Document for HWMUs #28 and #50, December 1998</p> <p>FINAL Plant 6/East Warehouse Complex Implementation Plan, July 1999</p> <p>FINAL Multi-Complex Implementation Plan, October 2001</p> <p>FINAL Laboratory Complex Implementation Plan, April 2002</p> <p>DRAFT Plant 1 Complex - Phase II Implementation Plan, June 2002</p> <p>OU5 FINAL Integrated Remedial Investigation Report, March 1995</p> <p>OU5 FINAL Feasibility Study Report, June 1995</p> <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p> | <p>Trane Incinerator (28):<br/>HWMU Decontamination</p> <p>UNH Tanks - Raffinate Bldg. (50):<br/>HWMU Decontamination</p> <p>Plant 6 Warehouse - Bldg. 79 (37):<br/>Section 3.9, p 37</p> <p>NAR System (10):<br/>Section 3.1, pp. 40 to 41</p> <p>Box Furnace (14):<br/>Section 3.16, p. 76</p> <p>Oxidation Furnace #1 (15):<br/>Section 3.16, p. 77</p> <p>Plant 8 Warehouse - Bldg. 80 (29):<br/>Section 3.38, p. 108</p> <p>UNH Tanks - North of Plant 2 (47):<br/>Section 3.1, p. 42</p> <p>UNH Tanks - Southeast of Plant 2 (48):<br/>Section 3.23, p. 88</p> <p>UNH Tanks - Digestion Area (49):<br/>Section 3.1, p. 44</p> <p>Pilot Plant Warehouse - Bldg. 68 (33):<br/>Section 3.4, pp. 36 to 37</p> <p>CP Warehouse - Building 56 (19):<br/>Section 3.3, p. 35</p> <p>Plant 1 Pad Components (20):<br/>TS-4: Section 3.5, p. 39<br/>TS-5: Section 3.6, p. 40<br/>TS-6: Section 3.7, p. 42</p> <p>HWMUs with Potential Soil Contamination:<br/>Tables 4-68 and 4-69</p> <p>HWMU Constituents of Concern (COCs) for Soil:<br/>Tables 4-4, 4-5 and 4-6</p> <p>HWMU COCs:<br/>Table 2-1</p> |

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| CLOSURE PLAN COMPONENT <sup>1</sup>  | CERCLA DOCUMENT   | CROSS-REFERENCE INDEX   |
|--|---|---|
| <p>2. List of Hazardous Waste(s) Managed in Unit(s) (Closure Guidance Item 3.5) - Continued</p> <p align="center" style="writing-mode: vertical-rl; transform: rotate(180deg);">4498</p> | <p>OU5 Integrated Remedial Design Packages for Individual Remediation Areas</p> <p>Area 1, Phase II Supplemental Characterization Package, April 1999</p> <p>FINAL Implementation Plan for Area 3A/4A, May 2001</p> <p>DRAFT Implementation Plan for Area 6 - Solid Waste Landfill and Fire Training Facility, September 2002</p> <p>DRAFT Implementation Plan for Area 3B/4B/5, September 2002</p>   | <p>HWMU COCs:<br/>To be Submitted</p> <p>Sludge Drying Beds (41):<br/>Section 3.0, Disposition of Sludge Cake and Associated Debris, p. 3-1</p> <p>Storage Pad North of Plant 6 (36):<br/>Section 2.3.2.3, Location of HWMUs and USTs, p. 2-12</p> <p>Fire Training Facility (1):<br/>Section 3.5, Identification of Area-Specific Constituents of Concern, p. 3-9</p> <p><del>Drum Storage Area Near Lab Loading Dock (4); Drum Storage Area South of W-26 (5); Nitric Acid (NAR) Recovery System (10); Tank Farm Sump (11); Box Furnace (14); Plant 8 East Pad (17); Plant 8 West Pad (18); Plant 1 Storage Pad (20); Abandoned Sump West of Pilot Plant (22);</del><br/>Table 2.4, p. 2-32</p>   |
| <p>3. Removal of Waste and Contaminated Media (Closure Guidance Item 3.6)</p>  | <p>OU1 FINAL Remedial Design Documents Package, August 1998</p> <p>OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan May 1997</p> <p>OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement</p> <p>FINAL Plant 1 Complex - Phase 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>FINAL Implementation Document for HWMUs #28 and #50, December 1998</p> | <p>Removal of Waste - Waste Pit 4 (27), Waste Pit 5 (42):<br/>Volume 2, Excavation Plan</p> <p>General Methods for Removing and Storing Waste:<br/>HWMU Decontamination, Section 3.2.3, p. 3-13; Materials Management, Section 3.3, pp. 3-30 to 3-63; HWMU Remediation (use of Safe Shutdown, D&amp;D of complexes), Section 3.5.3, pp. 3-69 to 3-73</p> <p>Removing Waste from HWMU Storage, Treatment, and Disposition of Waste:<br/>To be Submitted for Each D&amp;D Complex</p> <p>Plant 1 Storage Bldg. - Bldg. 67 (25):<br/>Section 3.7, p. 42</p> <p>Plant 9 Warehouse - Bldg. 81 (35):<br/>Section 3.13, pp. 39 to 40</p> <p>Waste Oil Decant Shelter (component of Trane Incinerator) (28):<br/>Section 3.17, pp. 36 to 37</p> <p>KC-2 Warehouse - Bldg. 63 (34)<br/>Section 3.23, p. 42</p> <p>UNH Tanks - NFS Storage Area (46):<br/>Section 3.1, pp. 23 to 24</p> <p>Trane Incinerator (28):<br/>Remedial Tasks</p> <p>UNH Tanks - Raffinate Bldg. (50):<br/>Remedial Tasks, HWMU Decontamination</p> |



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|---|--|--|
| <p>3. Removal of Waste and Contaminated Media (Closure Guidance Item 3.6) - Continued</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">4498</p> | <p>FINAL Implementation Plan for Area 3A/4A, May 2001</p> <p>DRAFT Implementation Plan for Area 6 - Solid Waste Landfill and Fire Training Facility, September 2002</p> <p>DRAFT Implementation Plan for Area B/4B/5, September 2002</p>   | <p>Storage Pad North of Plant 6 (36):<br/>Section 3.2.2, Concrete, Asphalt Pads, Roadways and Floors, pp. 3-9 to 3-10;<br/>Section 3.3.3, HWMUs and USTs, p. 3-17; Section 3.3.4, General Excavation, pp. 3-17 to 3-19</p> <p>Fire Training Facility (1):<br/>Section 4.2, At- and Below-Grade Structure Demolition, pp. 4-4 to 4-5; Section 4.3, Soil Excavation, Monitoring and Segregation, pp. 4-5 to 4-9; Section 4.4, Impacted Material Management, pp. 4-9 to 4-12</p> <p>Drum Storage Area Near Lab Loading Dock (4), Drum Storage Area South of W-26 (5), Nitric Acid (NAR) Recovery System (10), Tank Farm Sump (11), Box Furnace (14), Plant 8 East Pad (17), Plant 8 West Pad (18), Plant 1 Storage Pad (20), Abandoned Sump West of Pilot Plant (22):<br/>Section 3.6.2, HWMUs and USTs, pp. 3-16 to 3-18; Section 3.7, Impacted Material Management, pp. 3-21 to 3-23</p>  |
| <p>4. Schedule for Closure (Closure Guidance Item 3.7)</p>  | <p>OU1 FINAL Remedial Action Work Plan, January 1997</p> <p>OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997</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>FINAL Implementation Document for HWMUs #28 and #50, December 1998</p> <p>FINAL Plant 6/East Warehouse Complex Implementation Plan, July 1999</p> | <p>Schedule Summary for Remedial Design/Remedial Action Packages; Closure of Waste Pit 4 (27), Waste Pit 5 (42):<br/>Table 2-1, p. 2-16</p> <p>Accelerated Schedule for Conducting Safe Shutdown Activities at D&amp;D Complexes:<br/>Figure 6-1, p. 6-3</p> <p>Schedule for Submitting D&amp;D Packages:<br/>Table 6-1, p. 6-7</p> <p>Schedule for Removing &amp; Decontaminating Above-Grade Unit Structures and Equipment: To be Submitted for Each D&amp;D Complex</p> <p>Plant 1 Storage Bldg. - Bldg. 67 (25)<br/>Figure 4-1, p. 48</p> <p>Plant 9 Warehouse - Bldg. 81 (35)<br/>Figure 4-1, p. 43</p> <p>Waste Oil Decant Shelter (component of Trane Incinerator) (28); KC-2 Warehouse - Bldg. 63 (34); UNH Tanks - NFS Storage Area (46):<br/>Section 4.0, pp. 45 to 46</p> <p>Trane Incinerator (28); UNH Tanks - Raffinate Bldg. (50):<br/>Letter, J Reising to G. Jablonowski and T. Schneider, "Transmittal of RCRA/CERCLA Integrated Closure Implementation Document for the Trane Incinerator (HWMU No. 28) and UNH Tanks, Hot Raffinate Building (HWMU No. 50)," dated December 22, 1998</p> <p>Plant 6 Warehouse - Bldg. 79 (37):<br/>Figure 4-1, p. 42</p> |

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|---|---|---|
| <p>4. Schedule for Closure (Closure Guidance Item 3.7) - Continued</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">-- 4490</p> | <p>FINAL Multi-Complex Implementation Plan, October 2001</p> <p>FINAL Laboratory Complex Implementation Plan, April 2002</p> <p>DRAFT Plant 1 Complex - Phase II Implementation Plan, June 2002</p> <p>OU5 FINAL Remedial Design Work Plan, August 1996</p> <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p> <p>OU5 Integrated Remedial Design Packages for Individual Remediation Areas</p> <p>Area 1, Phase II Supplemental Characterization Package, April 1999</p> <p>FINAL Implementation Plan for Area 3A/4A, May 2001</p> <p>DRAFT Implementation Plan for Area 6 - Solid Waste Landfill and Fire Training Facility, September 2002</p> <p><del>DRAFT Implementation Plan for Area 3B/4B/5, September 2002</del></p> | <p>NAR System (10), Box Furnace (14), Oxidation Furnace #1 (15), Plant 8 Warehouse - Building 80 (29), UNH Tanks - North of Plant 2 (47), UNH Tanks - Southeast of Plant 2 (48), UNH Tanks - Digestion Area (49):<br/>Figure 4-1, p. 112</p> <p>Pilot Plant Warehouse - Bldg. 68 (33):<br/>Section 4.0, p. 41</p> <p>CP Warehouse - Building 56 (19), TS-4, 5, and 6 (component of Plant 1 Pad) (20):<br/>Figure 4-1, p. 46</p> <p>Schedule for Submitting Remedial Design Documents for Soil:<br/>Table 4-1, p. 4-6</p> <p>Schedule for Submitting Remedial Design Documents:<br/>Table 1-5</p> <p>Area/Project-Specific Schedules:<br/>To be Submitted</p> <p>Sludge Drying Beds (41) - Sector 3D:<br/>Table 7-3</p> <p>Storage Pad North of Plant 6 (36) - Area 4A:<br/>Table 6-3</p> <p>Fire Training Facility (1):<br/>Table 7-3</p> <p><del>Drum Storage Area Near Lab Loading Dock (4), Drum Storage Area South of W-26 (5), Nitric Acid (NAR) Recovery System (10), Tank Farm Sump (11), Box Furnace (14), Plant 8 East Pad (17), Plant 8 West Pad (18), Plant 1 Storage Pad (20), Abandoned Sump West of Pilot Plant (22):<br/>Table 6-3</del></p> |
| <p>5. Health and Safety Issues (Closure Guidance Item 3.9)</p>  | <p>OU1 FINAL Remedial Action Documents Package, April 1999</p> <p>OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997</p> <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p> <p>OU5 Integrated Remedial Design Packages for Individual Remediation Areas</p>   | <p>Health and Safety Plan</p> <p>Health and Safety Plan:<br/>Appendix E</p> <p>Health and Safety Plan:<br/>Section 6.0, Project Health and Safety; Table 6-1, Occupational Monitoring and Action Levels</p> <p>Area/Phase-Specific Health and Safety Requirements:<br/>To be Submitted</p>  |

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|--|---|--|
| <p>5. Health and Safety Issues (Closure Guidance Item 3.9) - Continued</p> <p style="text-align: center; font-size: 2em;">4498</p> | <p>Area 1, Phase II Integrated Remedial Design Package, September 1998</p> <p>FINAL Implementation Plan for Area 3A/4A, May 2001</p> <p>DRAFT Implementation Plan for Area 6 - Solid Waste Landfill and Fire Training Facility, September 2002</p> <p>DRAFT Implementation Plan for Area 3B/4B/5, September 2002</p>  | <p>Sludge Drying Beds (41):<br/>Section 5.0, Project Specific Health and Safety</p> <p>Storage Pad North of Plant 6 (36):<br/>Section 5.0, Project Specific Health and Safety</p> <p>Fire Training Facility (1):<br/>Section 6.0, Project-Specific Health and Safety</p> <p>Drum Storage Area Near Lab Loading Dock (4), Drum Storage Area South of W-26 (5), Nitric Acid (NAR) Recovery System (10), Tank Farm Sump (11), Box Furnace (14), Plant 8 East Pad (17), Plant 8 West Pad (18), Plant 1 Storage Pad (20), Abandoned Sump West of Pilot Plant (22):<br/>Section 5.0, Project-Specific Health and Safety</p>  |
| <p>6. Decontamination Efforts (Closure Guidance Item 3.10)</p>   | <p>OU1 OU1 Complex D&amp;D Implementation Plan</p> <p>OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997</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 Misc. Small Structure Implementation Plan, October 1998</p> <p>FINAL Implementation Document for HWMUs #28 and #50, December 1998</p> <p>FINAL Plant 6/East Warehouse Complex Implementation Plan, July 1999</p> | <p>Decontamination of Equipment<br/>To be Submitted</p> <p>HWMU Decontamination:<br/>Section 3.2.3, p. 3-13</p> <p>HWMU Remediation:<br/>Section 3.5.3, pp. 3-69 to 3-73 (use of Safe Shutdown, D&amp;D of Complexes)</p> <p>Decontamination of Above-Grade Unit Structures and Equipment;<br/>To be Submitted for Each D&amp;D Complex</p> <p>Plant 1 Storage Bldg. - Bldg. 67 (25):<br/>HWMU Decontamination: Section 3.7, pp. 42 to 45<br/>Materials Management: Table 2-1, p. 12</p> <p>Waste Oil Decant Shelter (component of Trane Incinerator) (28):<br/>Section 3.17, pp. 36 to 37</p> <p>KC-2 Warehouse - Bldg. 63 (34)<br/>Section 3.23, pp. 42 to 43</p> <p>UNH Tanks - NFS Storage Area (46):<br/>Section 3.1, pp. 23 to 24</p> <p>Trane Incinerator (28):<br/>HWMU Decontamination</p> <p>UNH Tanks - Raffinate Bldg. (50):<br/>HWMU Decontamination</p> <p>Plant 6 Warehouse - Bldg. 79 (37):<br/>Section 3.9, p. 37</p> |



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|---|---|---|
| <p>6. Decontamination Efforts (Closure Guidance Item 3.10) - Continued</p> <p>4498</p>  | <p>DRAFT Implementation Plan for Area 6 - Solid Waste Landfill and Fire Training Facility, September 2002<br/>           Draft Implementation Plan for Area 3B/4B/5, September 2002</p>   | <p>Fire Training Facility (1):<br/>           Section 4.1.4, Support Facilities, pp. 4-2 to 4-3</p> <p>Drum Storage Area Near Lab Loading Dock (4), Drum Storage Area South of W-26 (5), Nitric Acid (NAR) Recovery System (10), Tank Farm Sump (11), Box Furnace (14), Plant 8 East Pad (17), Plant 8 West Pad (18), Plant 1 Storage Pad (20), Abandoned Sump West of Pilot Plant (22):<br/>           Section 3.4.3.4, Haul Routes, p. 3-10; Appendix A, Section 5.6, Equipment and Personnel Monitoring, Decontamination, p. 13</p>  |
| <p>7. Remediation Standards for Soils and Groundwater<sup>2</sup> (Closure Guidance Items 3.11, 3.11.1, 3.11.2, and 3.13)</p> | <p>OU1 FINAL Record of Decision, January 1995</p> <p>OU1 Remedial Design Pre-Final Design Package II, March 1996</p> <p>OU5 FINAL Record of Decision, January 1996</p> <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p>   | <p>Waste Pit (27, 42) Area: pp. 9-1 to 9-11<br/>           Tables B-5 to B-16</p> <p>Waste Pit (27, 42) Area: pp. A-3 to A-7</p> <p>Final Remediation Levels (FRLs) for Soil and Groundwater:<br/>           Table 9-3, p. 9-23<br/>           Table 9-4, p. 9-26</p> <p>Summary of Contaminant Levels Pertinent to Soil Remediation at the FEMP: Table 1-4;<br/>           Final Remediation Levels: Section 2.1.3, p. 2-10<br/>           Constituents of Ecological Concern: Section 2.1.4, p. 2-13<br/>           Preliminary Identification of Primary, Secondary COCs and Ecological COCs Assigned to Remediation Areas: Table 2-7</p>  |
|   | <p>OU5 Integrated Remedial Design Packages for Individual Remediation Areas</p> <p>Area 1, Phase II Supplemental Characterization Package, April 1999</p> <p>FINAL Implementation Plan for Area 3A/4A, May 2001</p> <p>DRAFT Implementation Plan for Area 6 - Solid Waste Landfill and Fire Training Facility, September 2002</p> <p>DRAFT Implementation Plan for Area 3B/4B/5, September 2002</p> | <p>Area/Phase-Specific FRLs:<br/>           To be Submitted</p> <p>Sludge Drying Beds (41):<br/>           Section 3.3, Material Disposition Sampling Plan, pp. 3-3 to 3-4; Section 5.1, Excavation and Monitoring, pp. 5-1 to 5-2</p> <p>Storage Pad North of Plant 6 (36):<br/>           Soil Final Remediation Levels for HWMUs and USTs, Table 2-6</p> <p>Fire Training Facility (1):<br/>           Soil Final Remediation Levels, Table 3-3</p> <p>Drum Storage Area Near Lab Loading Dock (4), Drum Storage Area South of W-26 (5), Nitric Acid (NAR) Recovery System (10), Tank Farm Sump (11), Box Furnace (14), Plant 8 East Pad (17), Plant 8 West Pad (18), Plant 1 Storage Pad (20), Abandoned Sump West of Pilot Plant (22):<br/>           Soil Final Remediation Levels, Table 2-3</p> |

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| CLOSURE PLAN COMPONENT <sup>1</sup>   | CERCLA DOCUMENT   | CROSS-REFERENCE INDEX   |
|---|---|---|
| <p>8. Sampling Plan and Analytical Procedures (Closure Guidance Item 3.14) – Includes Sampling to Define the Extent of Contamination and Sampling to Verify the Unit is Clean</p> <p style="text-align: center;">4498</p> | <p>OU1 FINAL Remedial Investigation Report, August 1994</p> <p>OU1 FINAL Remedial Action Documents Package, April 1999</p> <p>OU5 FINAL Remedial Investigation Report, March 1995</p> <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p> <p>OU5 Integrated Remedial Design Packages (IRDPs) for Individual Remediation Areas</p> <p>Area 1, Phase II Supplemental Characterization Package, August 1998</p> <p>FINAL Implementation Plan for Area 3A/4A, May 2001</p> <p>DRAFT Implementation Plan for Area 6 - Solid Waste Landfill and Fire Training Facility, September 2002</p> <p><del>DRAFT Implementation Plan for Area 3B/4B/5, September 2002</del></p> <p>OU5 Certification Design Letters for Individual Remediation Areas</p> <p>FINAL Certification Design Letter for Area 1, Phase II, October 1999</p> | <p>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</p> <p>Procedures for Sampling and Analysis of Waste Pit Area; Certification of Waste Pit Area Cleanup:<br/>Sampling and Analysis Plan</p> <p>Procedures for Determining Nature and Extent of Soil Contamination:<br/>Chapter 2, pp. 2-1 to 2-83</p> <p>Procedures for Certifying Attainment of Soil Cleanup:<br/>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</p> <p>Area/Phase-Specific Procedures for Certifying FRL Attainment:<br/>To be Submitted</p> <p>Sludge Drying Beds (41):<br/>Section 3.3, Material Disposition Sampling Plan, p. 3-3; Section 5.0, Excavation Monitoring, pp. 5-1 to 5-2</p> <p>Storage Pad North of Plant 6 (36):<br/>Section 2.3.2.3, Location of HWMUs and USTs, p. 2-12; Section 3.3.3, HWMUs and USTs, p. 3-17; Section 3.3.4, General Excavation, pp. 3-17 to 3-19</p> <p>Fire Training Facility (1):<br/>Section 3.6, Excavation Boundaries, pp. 3-9 to 3-10; Section 4.6, Precertification and Interim Grading, p.4-13</p> <p><del>Drum Storage Area Near Lab Loading Dock (4), Drum Storage Area South of W-26 (5), Nitric Acid (NAR) Recovery System (10), Tank Farm Sump (11), Box Furnace (14), Plant 8 East Pad (17), Plant 8 West Pad (18), Plant 1 Storage Pad (20), Abandoned Sump West of Pilot Plant (22):<br/>Section 2.6, Excavation Boundaries, pp. 2-19 to 2-28; Section 3.9, Precertification and Interim Grading, p. 3-25</del></p> <p>Area/Phase-Specific Procedures for Certifying FRL Attainment:<br/>To be Submitted</p> <p>Sludge Drying Beds (41):<br/>Section 4.1, Certification Design, pp. 4-1 to 4-5; Section 4.3, Sampling, pp. 4-6 to 4-7</p> |
|   | <p>9. Description of Removal Efforts and Treatment Processes (Closure Guidance Item 3.15)</p>   | <p>OU1 FINAL Remedial Design Documents Package, August 1998</p>   |

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| CLOSURE PLAN COMPONENT <sup>1</sup>   | CERCLA DOCUMENT   | CROSS-REFERENCE INDEX  |
|---|---|--|
| <p>9. Description of Removal Efforts and Treatment Processes (Closure Guidance Item 3.15) - Continued</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">4498</p> | <p>OU1 FINAL Remedial Action Documents Package, April 1999</p> <p>OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement</p> <p>OU5 FINAL Feasibility Study Report, June 1995</p> <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p> <p>OU5 Integrated Remedial Design Packages (IRDPs) for Individual Remediation Areas</p> <p>Area 1, Phase II Supplemental Characterization Package, April 1999</p> <p>FINAL Implementation Plan for Area 3A/4A, May 2001</p> <p>DRAFT Implementation Plan for Area 6 - Solid Waste Landfill and Fire Training Facility, September 2002</p> <p><del>DRAFT Implementation Plan for Area 3B/4B/5, September 2002</del></p> | <p>Processing of Waste Pit Waste – Waste Pit 4 (27), Waste Pit 5 (42):<br/>Operations and Maintenance (O &amp; M) Plan for Remediation Facilities</p> <p>Removal and Treatment of Waste in HWMU:<br/>To be Submitted for Each D&amp;D Complex (where applicable)</p> <p>Evaluation of Technologies and Process Options:<br/>Section 3.3, p. 3-5</p> <p>Excavation, Loading, Staging, Storage, Treatment, and/or Disposition of Impacted Material:<br/>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>Area/Phase-Specific Excavation, Loading, Staging, Storage, Treatment, and/or Disposition of Impacted Material:<br/>To be Submitted</p> <p>Sludge Drying Beds (41):<br/>Management of Sludge: Section 3.3, Material Disposition Sampling Plan, p. 3-3;<br/>Management of Soil: Section 5.0, Excavation, pp. 5-1 to 5-4</p> <p>Storage Pad North of Plant 6 (36):<br/>Section 3.2.2, Concrete, Asphalt Pads, Roadways and Floors, pp. 3-9 to 3-10;<br/>Section 3.3.3, HWMUs and USTs, p. 3-17; Section 3.3.4, General Excavation, pp. 3-17 to 3-19</p> <p>Fire Training Facility (1):<br/>Section 4.2, At- and Below-Grade Structure Demolition, pp. 4-4 to 4-5; Section 4.3, Soil Excavation, Monitoring and Segregation, pp. 4-5 to 4-9; Section 4.4, Impacted Material Management, pp. 4-9 to 4-12</p> <p><del>Drum Storage Area Near Lab Loading Dock (4); Drum Storage Area South of W-26 (5); Nitric Acid (NAR) Recovery System (10); Tank Farm Sump (11); Box Furnace (14); Plant 8; East Pad (17); Plant 8 West Pad (18); Plant 1 Storage Pad (20); Abandoned Sump West of Pilot Plant (22);</del><br/>Section 3.6.2, HWMUs and USTs, pp. 3-16 to 3-18; Section 3.7, Impacted Material Management, pp. 3-21 to 3-23</p> |
| <p>10. Landfill Closure Requirements – (if applicable)<sup>3</sup> - (Closure Guidance Item 3.16)</p>   | <p>OU1 FINAL Record of Decision, January 1995</p> <p>OU1 FINAL Remedial Design Work Plan, June 1995</p> <p>OU5 FINAL Record of Decision, January 1996</p>   | <p>ARARs: Relevant and Appropriate as some remedial alternatives may require closure to these standards<br/>Tables B-28 and B-29</p> <p>Revised ARARs: Tables A-24 and A-25</p> <p>Not Applicable, if Remediation Levels for Soil and Groundwater are Sufficient for a Clean Hazardous Waste Management Unit Closure<sup>1</sup>:<br/>ARARs: Table B-3, p. B.3-10</p>  |

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| CLOSURE PLAN COMPONENT <sup>1</sup>   | CERCLA DOCUMENT   | CROSS-REFERENCE INDEX   |
|---|---|---|
| <p>10. Landfill Closure Requirements - (if applicable)<sup>3</sup> - (Closure Guidance Item 3.16) - Continued</p> <p style="text-align: center; font-size: 2em;">4498</p> | <p>OU5 Integrated Remedial Design Packages for Individual Remediation Areas</p> <p>Area 1, Phase II Integrated Remedial Design Package, September 1998</p> <p>FINAL Implementation Plan for Area 3A/4A, May 2001</p> <p>DRAFT Implementation Plan for Area 6 - Solid Waste Landfill and Fire Training Facility, September 2002</p> <p>DRAFT Implementation Plan for Area 3B/4B/5, September 2002</p>  | <p>Area/Phase-Specific Landfill Closure Requirements:<br/>To be submitted (if applicable)</p> <p>Sludge Drying Beds (41):<br/>Included within Appendix A, Design Criteria Package, Table A-2, p. A-32, but not anticipated to be applicable since HWMU to be clean (risk-based) closed by removal.</p> <p>Storage Pad North of Plant 6 (36):<br/>Included within Appendix A, Design Criteria Package, Table A-2, pp. A-69 to A-74, but not anticipated to be applicable since HWMU to be clean (risk-based) closed by removal.</p> <p>Fire Training Facility (1):<br/>Included within Appendix A, Design Criteria Package, Table A-2, pp. A-69 to A-74, But not anticipated to be applicable since HWMU to be clean (risk-based) closed by Removal</p> <p>Drum Storage Area Near Lab Loading Dock (4); Drum Storage Area South of W-26 (5); Nitric Acid (NAR) Recovery System (10); Tank Farm Sump (11); Box Furnace (14); Plant 8 East Pad (17); Plant 8 West Pad (18); Plant 1 Storage Pad (20); Abandoned Sump West of Pilot Plant (22):<br/>Included within Appendix A, Design Criteria Package, Table A-2, pp. A-69 to A-74, But not anticipated to be applicable since HWMUs are to be clean (risk-based) closed by Removal</p> |
| <p>11. Certification (Closure Guidance Item 3.18)</p>   | <p>OU1 Remedial Action Report</p> <p>OU3 Project Completion Reports</p> <p>FINAL Plant 1 Complex - Phase 1 Project Completion Report, December 1997</p> <p>FINAL Thorium/Plant 9 Complex Project Completion Report, April 1999</p> <p>FINAL Miscellaneous Small Structures Decontamination and Dismantlement Project, Task Order #432 Completion Report, October 1999</p> <p>FINAL Miscellaneous Small Structures Decontamination and Dismantlement Project, Task Order #464 Completion Report, December 2000</p> | <p>Certification Sampling Results:<br/>To be Submitted</p> <p>Summary of HWMU Remediation Activities/Statement of Conformance with Requirements and Performance Standards:<br/>To be Submitted for Each D&amp;D Complex</p> <p>Plant 1 Storage Bldg. - Bldg. 67 (25):<br/>Section 2.1.3, pp. 7 to 8</p> <p>Plant 9 Warehouse - Bldg. 81 (35):<br/>Section 2.2.11, pp. 12 to 14</p> <p>Waste Oil Decant Shelter (component of Trane Incinerator) (28):<br/>Section 2.3, pp. 3 to 5</p> <p>KC-2 Warehouse - Bldg. 63 (34)<br/>Section 2.4, pp. 5 to 6</p> <p>UNH Tanks - NFS Storage Area (46):<br/>Section 2.0, p. 1, Component-Specific Remediation Summary; Section 2.5, HWMU No. 46 Decontamination, p. 4</p>   |

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| CLOSURE PLAN COMPONENT <sup>1</sup>   | CERCLA DOCUMENT   | CROSS-REFERENCE INDEX   |
|---|---|---|
| <p>11. Certification (Closure Guidance Item 3.18)<br/>- Continued</p> <p style="font-size: 2em; text-align: center;">4498</p> | <p>OU5 Certification Reports for Individual Remediation Areas:</p> <p>FINAL Certification Report for Area 1, Phase II, October 2000</p> <p>OU5 Remedial Action Report</p>   | <p>Area/Phase-Specific Certification Reports:<br/>To be Submitted</p> <p>Sludge Drying Beds (41):<br/>Section 2.1.5.3, Sector 3 Certification Units, pp. 2-9 to 2-11; Section 2.3, Statistical Analysis, pp. 2-12 to 2-13; Section 3.1, Excavation Activities, p. 3-1; Section 3.2, Changes to Scope of Work, pp. 3-3 to 3-5; Section 5.2, Sludge Drying Bed HWMU Closure, p. 5-3</p> <p>Summary of Remedial Activities and Statement of Conformance with Requirements and Standards:<br/>To be Submitted</p>       |
| <p>12. Status of Facility (or Unit) After Closure (Closure Guidance Item 3.19)</p>  | <p>OU1 FINAL Record of Decision, January 1995</p> <p>OU3 FINAL Record of Decision for Interim Remedial Action, June 1994</p> <p>OU3 Final Record of Decision for Final Remedial Action, September 1996</p> <p>OU5 FINAL Record of Decision, January 1996</p> <p>OU5 FINAL Sitewide Excavation Plan, July 1998</p> <p>OU5 Certification Reports for Individual Remediation Areas</p> | <p>Status of Waste Pits After OU1 Remedial Action:<br/>pp. 10-1 to 10-9</p> <p>Status of Production Area HWMUs After OU3 Remedial Action:<br/>Section 5.4, p. 11</p> <p>Integration of the Interim and Final Remedial Actions, Section 2.1, p. 9</p> <p>Status of FEMP After Soil and Groundwater Remediation:<br/>Section 4.0, p. 4-1</p> <p>Certification Reports:<br/>Section 7.4, pp. 7-10 to 7-14</p> <p>Status of those HWMUs That Had Soil Contamination After Soil Remedial Action:<br/>To be Submitted</p> |

<sup>1</sup> Closure Guidance Items are from the Closure Plan Review Guidance for RCRA Facilities, Ohio EPA, March 1999.

<sup>2</sup> 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.

<sup>3</sup> 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)].