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MAY 29 2001

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

DOE-0607-01

Dear Mr. Pardi:

**REVISION 6.1 OF THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT'S  
RESOURCE CONSERVATION AND RECOVERY ACT PART A/B PERMIT APPLICATION**

Reference: Letter from S. McCracken, DOE-FEMP to P. Pardi, OEPA, "Re-Establishment of Hazardous Waste Storage Area in Pilot Plant Warehouse (Building 68)," dated November 27, 2000

Enclosed is Revision 6.1 of the Fernald Environmental Management Project's (FEMP) Resource Conservation and Recovery Act (RCRA) Part A/B Permit Application. As indicated in the above referenced letter, the FEMP has re-established the hazardous waste storage area in Building 68 for the temporary storage of hazardous waste samples prior to undergoing segregation/consolidation through the Sample Disposition Project. The submittal of these revisions is in accordance with the January 31, 2001 date established in the referenced letter.

The following sections of the FEMP's RCRA Part A/B Permit Application are enclosed with this revision:

Part A: Section XII (Storage Capacity); Table A-1 (FEMP Hazardous Waste Management Units [HWMU]). Table A-1 has also been revised to remove the Sludge Drying Beds (HWMU #41) from the list of HWMUs. This unit was closed under the Integrated RCRA/CERCLA process in accordance with the Certification Report for Area I, Phase II (October 2000).

Section B: Table B-1 (Container Storage Areas to be Permitted at the FEMP).

Section D: Entire section (text portion) provided with this revision; Table D-1 (RCRA Storage Units); Figure D-49 (Pilot Plant Warehouse Layout); Attachment D-2 (Secondary Containment Calculations).

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Section F: Entire section (text portion) provided with this revision

Section G: Pages 1 - 4 and 13 - 30 of text; Pages 1, 2, 7 - 10, 30, and 36 of Attachment G-1 (Emergency Provisions and Equipment Information). Note that Section G has also been revised to indicate that Buildings 60, 64, and 65 will continue to be used for the storage of hazardous waste thorium and to remove the Sludge Drying Beds (HWMU #41) from the list of HWMUs.

A detailed summary of changes is included to aid in your review. All changes have been made using redlines and strikeouts for easy identification. Copies of the revised pages of the Contingency Plan will be transmitted to off-site emergency organizations.

If you have any questions or require additional information, please contact Ed Skintik at (513) 648-3151.

Sincerely,



for Stephen H. McCracken  
Director

FEMP:Skintik

Enclosure: As Stated

cc w/enclosure:

T. Crepeau, OEPA-Columbus

D. Ulrich, USEPA-5

AR Coordinator, Fluor Fernald, Inc. MS/78

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T. Poff, Fluor Fernald, Inc. MS/65-2

RCRA Operating Record, Fluor Fernald, Inc. MS/28

**SUMMARY OF CHANGES  
TO THE  
FEMP'S RCRA PART A/B PERMIT APPLICATION  
(REVISION 7.0)**

**SECTION A**

1. The list of environmental permits provided in Section XA (Other Environmental Permits) and Attachment A-1 has been updated.
2. Three new EPA waste codes have been added to Section XIV (DESCRIPTION OF Hazardous Wastes): P041, U041 and U056. These waste codes are associated with small quantities of lab-packed chemicals
3. Figure A-1 (Facility Location Map) and Table A-1 (FEMP Hazardous Waste Management Units) have been updated to indicate that the Sludge Drying Beds (#41) and the UNH Tanks - Trane Thermal Liquid Incinerator (#28), and Uranyl Nitrate Tanks - NFS Storage Area (#46) have been closed under the Integrated RCRA/CERCLA process. Replacement pages for the photographs of these units are provided as Attachment A-2.
4. Changes have been made to the list of NPDES outfalls and an internal outfall has been added to Item X (Other Environmental Permits) in Attachment A-1.
5. Minor editorial changes have been made to Item XV (Maps) for clarification.

**SECTION B - FACILITY DESCRIPTION**

- 1) Information on FEMP legal agreements and orders in Section B-1 (General Description) has been revised for clarification and to include the 1993 Director's Final Findings and Orders which established the alternate RCRA Groundwater Monitoring Program.
- 2) Information on the status of the remediation of each of the FEMP's Operable Units has been updated in Sections B-1 (General Description) and B-2 (Topographic Map - Injection and Withdrawal Wells).
- 3) Section B-4 (Traffic Information) has been revised for clarification regarding site access points and to update information on materials used in the construction of FEMP roads.
- 4) An updated Production Area Plot Plan is provided as Figure B-6.

**SECTION C- WASTE CHARACTERISTICS**

- 1) Section 2.0 (Waste Determination) has been revised to clarify that the MEF process described in this section applies to the characterization of containerized waste. Bulk soil and debris and waste waters generated from CERCLA remedial activities are evaluated for disposition in accordance with processes described in CERCLA documents.
- 2) Clarification was added to Section 2.1 (Procedures) to describe the process for characterizing debris. Containerized debris waste streams are characterized using MEFs. References to debris checklists have been removed since these forms are only completed for non-hazardous debris. Figure C-3, which contained copies of these checklists, has also been removed.
- 3) Section 2.2 (Analysis) was revised to address compatibility issues relative to the storage of samples in the Pilot Plant Warehouse (Building 68) and to add references to the Sitewide CERCLA Quality Assurance Project Plan (SCQ) for specific information regarding equipment used to sample containerized waste. These referenced sections of the SCQ replace Table C-7 which has been removed from Section C.
- 4) All references to Ohio's LDR regulations have been updated based on Ohio's adoption of new LDR regulations. In addition, requirements for complying with the California List have been deleted from Section C-2.3 since Ohio has removed these regulations from their LDR program. Records retention requirements for LDR documentation have been revised to reflect the LDR Phase IV standards which Ohio adopted in December 2000.
- 5) Section 3.0 (Waste Acceptance) has been revised to reflect the FEMP's current policy on the receipt of wastes from off-site laboratories. It is the FEMP's policy that off-site laboratories are responsible for the management and disposal of wastes generated from the analyses of FEMP samples. However, information on the receipt of waste from off-site laboratories has been retained in the permit application in case the FEMP would be required to receive this waste.
- 6) Additional clarification has been added to the text regarding the use of process knowledge in the waste characterization process (Sections 2.2 and 2.4), the identification of Underlying Hazardous Constituents (Section 2.3), the use of sample preservation to preserve sample integrity (Section 2.4), to add audit requirements for the on-site laboratory (Section 2.4), and to include information on additional testing which may be conducted to assess waste compatibility (Section 4.0).
- 7) Updated copies of Figures C-1 (Waste Characterization Flowchart) and C-7 (Chain of Custody) are provided.

**SECTION C- WASTE CHARACTERISTICS (Continued)**

- 8) Table C-3 (DOE Waste Categories Descriptions and Analysis Rational) has been updated to include the three new EPA waste codes added to the FEMP's Part A Permit Application and to include the identification of UHCs as a requirement for completing waste characterization (where applicable).
- 9) Table C-4 (RCRA Hazardous Waste Streams) has been updated to include characterizations completed since the last submittal of the FEMP's RCRA Part A/B Permit Application (Revision 6.0).

**SECTION D- PROCESS INFORMATION**

- 1) Section D-1 (Containers) has been revised to 1) incorporate the requirement to update this section as needed prior to re-initiating the storage of hazardous waste in Buildings 56 and 80; 2) describe the types of containers used by the FEMP to address compliance with OAC 3745-55-71 requirements; 3) clarify aisle spacing requirements for both indoor and outdoor storage areas; 4) include additional specifications on the types of vent plugs and their use at the FEMP; 5) include spill response actions based on the requirements of the Stipulated Amendment to the Consent Decree; and 5) reflect minor editorial changes.
- 2) Information on Subpart CC inspections in Section D-11 (Subpart CC) has been revised to include additional exemptions from Subpart CC standards and to clarify the applicability of Subpart CC requirements to the types of containers used by the FEMP.
- 3) Updated information on the types of container which may be used for the storage of hazardous waste at the FEMP is provided in Table D-2 (Container Specifications).
- 4) Specifications for the Flourolast coating applied to the TS-6 sumps and trench drains are provided in Attachment D-2 (Coating Systems/Vendor Specifications).

**SECTION F - PROCEDURES TO PREVENT HAZARDS**

- 1) Section F-1 (Security) has been updated to include information on an additional site access point
- 2) Section F-2 (Inspections) has been revised to clarify inspection requirements for containers of hazardous waste stored on Plant 1 Pad and to include spill response actions based on the requirements of the Stipulated Amendment to the Consent Decree. Information on Subpart CC inspections has been revised to include additional exemptions from Subpart CC standards and to clarify the applicability of Subpart CC inspection requirements to the types of containers used at the FEMP.
- 3) Information on the FEMP's new Domestic and Fire Water Storage Tank and Booster Station was added to Section F-3 (Preparedness and Prevention Requirements). This section was also revised to clarify aisle spacing requirements for both indoor and outdoor storage areas.
- 4) Section F-5 (Prevention of Reaction of Ignitable, Reactive and Incompatible Wastes) has been updated to include additional specifications on the types of vent plugs and their use at the FEMP, to describe the types of containers used by the FEMP to address compliance with OAC 3745-55-71 requirements, to remove outdated references and to correct typographical errors.
- 5) Attachment F-1 (Inspection Schedules) was revised to include inspection requirements for containers of hazardous waste stored on the uncovered areas of Plant 1 Pad and inspections of loading/unloading areas. The requirement to inspect recovery (overpack) containers was removed since this is not a regulatory requirement.
- 6) Updated copies of inspection forms for the five hazardous waste storage units are provided as Attachment F-2.

**SECTION G - CONTINGENCY PLAN**

- 1) Section G has been revised to 1) indicate that all inventory is scheduled to be removed from Building 60 by June 2001 (Section G-1, General Information); 2) update the off-site distribution list for the Contingency Plan (Section G-1b, Distribution) and the on-site list of emergency telephone numbers (Section G-2, Emergency Coordination); 3) reflect changes in site notification procedures during an emergency (Section G-4a, Notification and Section G-4, Reports); 4) update information on the FEMP's fire protection systems, emergency equipment and alarm systems (Section G-5, Emergency Support and Equipment); and 5) to correct typographical errors.

**SECTION G - CONTINGENCY PLAN (Continued)**

- 2) The list of phone numbers for on-site and off-site emergency response organizations has been updated in Table G-1 (Emergency Operation Personnel and Organizations). Table G-2 (The FEMP Emergency Organization Roster) has been revised to identify personnel which are not part of the site's initial emergency response team.
- 3) Attachment G-1 (Emergency Procedures, Site Layout and Equipment Information) has been revised to 1) incorporate changes to the site's spill response procedure; 2) state that all inventory will be removed from Building 60 by June 2001; 3) update information on the location and types of safety and emergency equipment required for each hazardous waste management unit; and 4) identify changes in rally points designated for some of the units. The evacuation map and list of safety and emergency equipment provided for the UNH Tanks – NFS Storage Area (#46) has also been removed since this unit has been closed.
- 4) Maps provided as Attachment G-2 (Location of FEMP Fire Hydrants) have been updated.

**SECTION H - PERSONNEL TRAINING**

- 1) This section has been revised to incorporate changes to job titles, site organizations and the name of the FEMP's system for tracking training and to include minor editorial changes.

## STORAGE/TREATMENT OF FEMP LABORATORY STANDARDS

### INVENTORY

The Fernald Environmental Management Project (FEMP) is currently storing 130 radiological laboratory standards (total volume of approximately 24.3 liters) in Room 180 of the Laboratory. These standards consist of solutions of Plutonium-239, Cesium-137, Barium-133, Ruthenium-106, Polonium-210, Radium-226, Thorium-229, Strontium-90, Americum-241 and 243, and Lead-210 in 1-2 Molar (M) Nitric Acid or 0.1M Hydrochloric Acid. No current need for these standards has been identified although they are in useable form (i.e. have not expired). These standards meet the definition of corrosivity (D002).

### STORAGE

The lab standards are currently stored in volumetric flasks with teflon tape over the cap. The flasks are stored in secondary containment filled with vermiculite and are secured in locked cabinets. Only one analyst in the laboratory has access to the keys to these cabinets.

The FEMP is planning to store these standards in their current configuration in the Laboratory until treated (currently planned to begin in mid-May). In order to minimize potential contact with these standards due to ALARA concerns, hazardous waste labels will not be placed on the individual volumetric flasks. However, signs will be placed on the outside of the cabinets and at the entrance to Room 180 to identify the use of this area to store hazardous waste. A spill kit has been placed inside the room. The FEMP will conduct weekly inspections of the standards and will maintain copies of the inspection logs in the RCRA Operating Record.

### TREATMENT

Treatment of the standards will be conducted as a treatability study. An experimental technology will be used to immobilize the lab standards for subsequent disposal at the Nevada Test Site (NTS). This technology involves the use of Gubka blocks and was developed in Russia (Gubka is Russian for sponge). The blocks are comprised of glass microspheres formed with a silicate binder and have a high surface area. The Gubka is placed on the surface of an open container filled with the laboratory standard. The Gubka floats and absorbs the standard, pulling the liquid into the interstitial voids via capillary action. The liquid evaporates, leaving the radio-metal and salts deposited in the pores. The loaded Gubka is in a final form that meets waste acceptance criteria for disposal at NTS as low-level waste.